



# The City of Grove City

## AGENDA

### Planning Commission

April 2, 2024

1:30 PM

City Hall

#### A. CALL TO ORDER/ROLL CALL

#### B. MOMENT OF SILENCE AND PLEDGE

#### C. APPROVAL OF MINUTES

1. March 5, 2024

#### D. NEW ITEMS

##### 1. APPLICATION

##### 3575 Grant Avenue - Lot Split

Planner in Charge: Terry Barr, AICP  
Project Number: 202403080016  
Location: 3575 Grant Avenue (Parcel #040-000092).  
Proposal: This proposal is for a Lot Split to split 0.165 acres from a 0.33-acre tract at 3575 Grant Avenue.  
Representative: Brent Goldbach, Gold Tree Ventures, LLC, 3947 Front St., Grove City, OH 43123.

##### 2. APPLICATION

##### Southgate Business Park Lot 2 - Lot Split

Planner in Charge: Terry Barr, AICP  
Project Number: 202403130018  
Location: Haughn Road (Parcel #040-017491).  
Proposal: This proposal is for a Lot Split to split +/-4.7 acres from a +/-15.7-acre tract on Haughn Road.  
Representative: Floyd Wicks, WM1 Corporation, 2699 Fair Ave., Bexley, OH 43209

##### 3. APPLICATION

##### Byers Chevrolet - Development Plan Amendment

Planner in Charge: Terry Barr, AICP  
Project Number: 202402290014  
Location: 5841 North Meadows Drive (Parcel #040-016048).  
Proposal: This proposal is for a Development Plan Amendment for a new parking lot at Byers Chevrolet at 5841 North Meadows Drive.  
Representative: Matthey Stypula, EMH&T, 5500 New Albany Rd., Columbus,

OH., 43054.

#### **4. APPLICATION**

#### **Hoover Road Medical Parking Expansion - Development Plan Amendment**

Planner in Charge: Dash Logan, AICP  
Project Number: 202402280015  
Location: 5775 Hoover Road (Parcel # 040-016671).  
Proposal: This proposal is a Development Plan Amendment to allow for the addition of 23 parking spaces in front of 5775 Hoover Road.  
Representative: Kurt Lape, P.E., Connect CDC, LLC, PO Box 360445, Columbus, OH., 43236

#### **E. ADJOURN**



# MEETING MINUTES

## Planning Commission

March 5, 2024 – City Council Chambers

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The meeting was called to order at 1:30 p.m.

Roll was taken, and the following members were present: Mr. Jim Rauck, Ms. Kim Wemlinger, Mr. Michael Farnsworth, and Mr. Larry Titus, absent Chair Julie Oyster. Staff members present: Kyle Rauch, Development Director; Kim Shields, Community Development Manager; Dash Logan, Senior Planner; Terry Barr, Development Planner; Terry Ellis, Development Assistant; Steven Smith, Law Director; Tami Kelly, Clerk of Council; Laura Scott, Planning and Zoning Coordinator; Matt Dicken, Public Service Superintendent; Council member Jodi Burroughs; Christopher Hite and Ann-Marie McDonald, Jackson Township Fire Department.

Vice Chair Farnsworth asked for a moment of silence and the Pledge of Allegiance.

### Organizational Items:

Vice Chair Farnsworth asked for approval of the February 6, 2024, Planning Commission meeting minutes. Mr. Titus moved to approve the minutes. Ms. Wemlinger seconded the motion, and the minutes were approved 4-0.

### New Items:

#### ITEM #1 – Park and Elm – Rezoning

PID # 202402010010

Ms. Wemlinger recused herself due to a conflict of interest.

Mr. Logan presented the Development Department's findings. He stated the applicant is requesting approval to rezone 0.61 acres from IND-1 (Light Industrial) to PUD-R (Planned Unit Development - Residential) with a zoning text. A Preliminary Development Plan for the construction of a duplex and triplex structure on the site was approved by City Council at the January 16th, 2024, City Council meeting, with two stipulations. A zoning text is included with the rezoning request to establish the standards for the development of the site, noting that the request would not conform with multiple requirements of the standard A-1 multi-family residential district. A Final Development Plan application has been submitted concurrently with the proposed rezoning, showing the site layout, and building architecture in compliance with the proposed PUD zoning text.

The GroveCity2050 Community Plan Land Use and Character Map designates this parcel as a Town Center Core Neighborhood, which lists multi-family residential as a primary use. Town Center Core Neighborhood also promotes a variety of building types and housing, with both on-street and off-street parking. The zoning text permits one (1) duplex structure and one (1)

triplex structure for a total of five (5) dwelling units on site. Each unit is required to have at minimum a one-car attached garage. Setbacks established in the zoning text are identical to those of other area properties. Architectural standards are included in the text to ensure high-quality development on site. The text states that the elevations fronting Park Street and Elm Street must contain at least three architectural elements per elevation. These elements were selected based on other area homes to create a structure in character with existing residences.

The proposed rezoning is in line with the land use identified for the site in the GroveCity2050 Community Plan, and that the standards established in the zoning text for the site will result in a quality development in character with the surrounding area.

Mr. Logan concluded after review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Rezoning as submitted.

Mr. Kerry Ferguson, KAJ Properties, LLC, 1384 Cascade Dr., Grove City, OH., 43123, was present to speak on the item.

Hearing no questions or discussion from Planning Commission or the public, Mr. Titus moved to make a recommendation of approval of the Rezoning to City Council as submitted. Mr. Rauck seconded the motion, and the item was approved 3-0.

## **ITEM #2 – Park and Elm – Final Development Plan**

**PID # 202402010009**

Ms. Wemlinger recused herself due to a conflict of interest.

Mr. Logan presented the Development Department's findings. He stated the applicant is requesting approval of a development plan to construct a duplex and triplex structure on a ±0.61-acre parcel at the southeast corner of Park Street and Elm Street.

City Council approved a Preliminary Development Plan for the site in January of 2024 with two stipulations that stated the roof pitch be changed to a minimum pitch of 8/12 and that the applicant works with the Development Department on the addition of cupolas or other elements to break up the rooflines of proposed structures. Two buildings are proposed on site. A duplex structure is proposed to front Elm Street, and a triplex structure is proposed to front Park Street. Both structures are proposed to be front-loaded, with driveways accessed off the public roadways. Both structures are proposed to have front setbacks of thirty (30) feet. Side yard setbacks from the existing residential to the east are shown at six (6) feet, which is the same side yard setback required in the R-2 (Single Family Residential) properties to the east. The Preliminary Development Plan was approved with two stipulations regarding building architecture that stated the roof should be increased and that the applicant work with the Development staff on the addition of cupolas or other elements to break up the rooflines. The applicant has worked with the city towards addressing these stipulations through the addition of dormers on both structures to break up the massing of the rooflines. Additionally, the applicant has increased the pitch of the roof from a 6/12 pitch shown on the preliminary development plan to a 7/12 pitch. The applicant has stated in application materials that they do not believe the 8/12 pitch stipulated is appropriate for their proposed building, as they believe the 8/12 pitch would present too much roof and result in a design that does not look balanced. The proposed plan is in line with area development and will result in quality development, while also aligning with the goals and objectives outlined in the GroveCity2050 Community plan.

Mr. Logan concluded after review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Final Development as submitted.

Mr. Kerry Ferguson, KAJ Properties, LLC, 1384 Cascade Dr., Grove City, OH., 43123, was present to speak on the item.



Mr. Titus thanked Mr. Ferguson for making improvements to the plan since the Preliminary Development Plan was before Planning Commission.

Mr. Farnsworth asked about the east and south elevations having shutters but not the other elevations. Mr. Ferguson replied that the shutters are on the sides that are exposed to the streets, and the rear elevations do not include shutters because they cannot be seen from the road.

Hearing no further questions or discussion from Planning Commission or the public, Mr. Rauck moved to make a recommendation of approval of the Final Development Plan to City Council as submitted. Mr. Titus seconded the motion, and the item was approved 3-0.

### **ITEM #3 – Frazier Business Center – Final Development Plan**

**PID # 202401300003**

Mr. Logan presented the Development Department's findings. He stated the applicant is requesting approval of a development plan for a 12,000-square-foot flex building and associated site improvements on a 2.24-acre parcel on Haughn Road.

The property was annexed into the City in 2022 with an IND-1 (Light Industry) zoning. If the Development Plan is approved by City Council, the applicant can submit it for Final Engineering Review and all necessary permits. The site will be accessed from Haughn Road, and the entrance drive is to mirror the alignment of a future public roadway to be installed in the area. The parking area is located to the right upon entering the site, between the proposed building and Haughn Road, with a total of 27 spaces provided. A loading area is shown at the rear of the building, accessed off the site entrance drive. A 12,000-square-foot building is proposed on site, measuring approximately 150 feet by 80 feet. The elevations provided indicate the proposed building will have a maximum height of 24 feet. The building will be finished primarily with insulated metal wall panels which include a stucco texture. Vertical accent bands are proposed on the building, and a thin brick water table approximately 4 feet in height is proposed along the northern, western, and southern elevations. Black aluminum doors and windows are proposed along the western and northern elevations. The materials board provided by the applicant shows larger windows and storefront areas around the proposed doors than what is shown on the elevations. The building should utilize the type of door and window system shown on the material board, which will provide more window area and further break up the façade of the building. Additionally, to provide additional architectural interest and further break up the façade of the building, black canopies or awnings should be installed above the building entrances on the northern and western elevations.

A landscaping plan was provided with the application materials, showing landscaping will be installed around the site, generally in compliance with the code requirements. However, the evergreen shrubs proposed to screen the parking lot from Haughn Road are shown at an initial height of 24" where code requires this screening to be a minimum of 36" at the time of planting. To comply with the code requirement, the evergreen shrubs screening the parking lot from the public right-of-way will need to be a minimum of 36" at the time of installation. While proposed trees are currently shown along the south property line, the plantings do not meet the code requirements and should be replaced with evergreen trees meeting code requirements. Additionally, plans show a six-foot-tall wooden fence along the entirety of the southern property line, which should be removed from the plans as it is not necessary, noting that the property to the south is zoned a compatible district in Jackson Township. The proposed development aligns with the goals and objectives outlined in the GroveCity2050 Community plan, while also aligning with the long-range goals for the area outlined in the Southwest Regional Medical and Innovation Gateway.

Mr. Logan concluded after review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Final Development Plan with the four stipulations noted in the staff report.

Mr. Matthew Frazier, Frazier General Contractors, LLC, 5220 Nike Dr., Hilliard, OH., 43026, was present to speak on the item.

Mr. Titus asked if the west elevation faces Haughn Road, and wanted clarification on if the proposed doors would be facing Haughn Road. Mr. Frazier replied that the west elevation does face Haughn Road, but the garage doors are on the east elevation, facing I-71.

Mr. Rauck asked how big the proposed overhead doors would be. Mr. Frazier responded that they measure 14' by 14'.

Mr. Farnsworth asked for clarification on the rear parking and loading area, noting that the area does not include striping or spaces. Mr. Frazier replied that the area will be used more for operational use, like a drive-through to access the rear of the building for things like dropping off equipment for the businesses to operate out of, not for permanent parking.

Mr. Rauck asked what the reserved septic field is for in the drawings. Mr. Frazier replied that it is for a temporary septic field, and that in the future when sanitary is available to the site, a connection will be made to the public line.

Mr. Frazier also stated that they would prefer not to include plantings along the septic field but would install once a connection is made to public sanitary. Mr. Frazier continued that he brought updated building elevations which include the larger storefronts and metal awnings per recommendations.

Ms. Kim Shields, Community Development Manager clarified that she would like to continue conversations with the applicant regarding the request to not plant any landscaping on the south side near the septic field, to ensure all factors are being considered noting the visibility of the south elevation from Haughn Road.

Hearing no further questions or discussion from Planning Commission or the public, Mr. Titus moved to make a recommendation of approval of the Rezoning to City Council with the following stipulations:

1. Metal canopies or awnings shall be installed above the building entrances on the north and west elevations to break up the building façade.
2. Larger windows and storefronts shall be installed around all proposed doors on the north and west elevations.
3. The evergreen shrubs screening the parking lot from Haughn Road shall be a minimum of 36" at the time of installation.
4. The six-foot-tall wood slat privacy fence shown along the southern property line shall be replaced with evergreen trees planted per code requirements.

Mr. Rauck seconded the motion, and the item was approved 4-0.

#### **ITEM #4 – Broadway Fireplace & Decor – Special Use Permit – (Outdoor Sales)**

**PID # 202402050012**

Mr. Barr presented the Development Department's findings. He stated this proposal is for a Special Use Permit for outdoor sales at Broadway Fireplace & Decor at 3827 Broadway. The proposed approximately 280 sq. ft. outdoor sales area will be located on the south side of the building on an existing parking lot island. The sale area will be used to display products for sale including grills, outdoor fire pits, and accessories, and will not have any signs or lighting to draw attention to the products displayed outside. The outdoor sales area will be operating Monday to Sunday 8 am to 7 pm.

The proposed development meets all Special Use Permit Standards and Grove City 2050 guiding principles.

Mr. Barr concluded after review and consideration, the Development Department recommends Planning Commission make

a recommendation of approval to City Council for the Special Use Permit as submitted.

Mr. Jeremy Johnson, Broadway Fireplace & Décor, 3827 Broadway, Grove City, OH., 43123, was present to speak on the item.

Mr. Titus clarified that Mr. Johnson had already been using the space for displaying items and was just getting certification. Mr. Johnson responded yes.

Hearing no further questions or discussion from Planning Commission or the public, Ms. Wemlinger moved to make a recommendation of approval of the Special Use Permit to City Council as submitted. Mr. Titus seconded the motion, and the item was approved 4-0.

#### **ITEM #5 – Plates and Pints – Special Use Permit – (Outdoor Seating)**

**PID # 202401310007**

Mr. Barr presented the Development Department's findings. He stated this proposal is for a Special Use Permit for outdoor seating at Plates and Pints at 4008 Broadway. The proposed approximately 450 sq. ft. seating area will be located on the east side of the building and will be enclosed with 4-foot black aluminum fencing with hanging planter boxes and hanging string lights. Four black decorative bollards are spaced 4 feet between the fence and the parking spaces. The outdoor seating area will be accessed from a non-locking gate near the parking lot and will have 6 black iron tables, each with 4 seats and a black umbrella. The hours of operation for the outdoor seating area will be 11 am to 10 pm Monday to Thursday, 11 am to 12 pm on Friday, 9 am to 12 pm on Saturday, and 9 am to 10 pm on Sunday. Speakers will be in use on Friday from 11 am to 11 pm, Saturday from 9 am to 11 pm, and Sunday from 9 am to 10 pm.

The proposed development meets all Special Use Permit Standards and Grove City 2050 guiding principles.

Mr. Barr concluded after review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Special Use Permit as submitted.

Ms. Victoria Palka, Broadway Plates and Pints, 4008 Broadway, Grove City, OH., 43123, was present to speak on the item.

Mr. Rauck commented that it's a great use of space, and Ms. Wemlinger stated she's happy that they're able to do this.

Mr. Farnsworth asked about the bollard location and if any were needed along the north side of the patio between the parking lot. Ms. Palka responded that they could add some if needed. Mr. Terry Barr, Development Planner responded that based on the staff's review of the angle of the parking spaces and the width of the area directly adjacent to the parking lot, four bollards would be adequate based on the size of the patio.

Ms. Ann-Marie McDonald, Jackson Township Fire Dept. said that based on the fire code, more bollards would be required. She estimated three or possibly four more would be needed, but that once they have measured, they will be able to calculate how many will be needed.

Mr. Titus moved to add a stipulation to work with Jackson Township Fire Dept and the Development Department to add additional bollards to the north side of the patio area. Mr. Rauck seconded the motion. The motion for the stipulation was approved 4-0.

Hearing no further questions or discussion from Planning Commission or the public, Mr. Titus moved to make a recommendation of approval of the Special Use Permit to City Council with the following stipulation:

1. The applicant shall work with Jackson Township Fire and the Development Department to determine the appropriate number of bollards to install on the north side of the patio area.

Mr. Rauck seconded the motion, and the item was approved 4-0.

**ITEM #6 – Moo Moo Express Car Wash – Special Use Permit (Car Wash)**

**PID # 202401300005**

Mr. Barr presented the Development Department's findings. He stated this proposal is a Special Use Permit for a Moo Moo Car Wash at 3019 Turnberry Ct. This application is for the Special Use Permit to review the use. Following will be the final development plan and Site Improvement Plan. The car wash will operate from 7 am to 8 pm Monday to Saturday and from 9 am to 6 pm on Sunday. The car wash is proposed to have two stacking lanes located on the north side of the site that wrap around the building with stacking for 32 vehicles. A "bail-out" lane is located near the entrance to the carwash. Signage on the site will include "Do Not Enter" signs and pavement markings at the exit of the car wash building and the bail-out lane. The car wash will have 21 vacuum stalls along the drive aisle south of the structure that is cylindrical in shape and have a black finish, and the applicant has provided material stating that no speakers projecting music or other noise will be used on the site. The proposed kiosks are like the ones at the Moo Moo Express Car Wash on London Groveport Road with canopies, pay stations, and gates. Canopies will have a brick base with white pillars and a roof. While other area locations include signage on kiosk gates, these signs were not shown on the materials approved with the development plans or special use permits and staff is not supportive of any signs on the kiosk gates.

The proposed development meets all Special Use Permit Standards and Grove City 2050 guiding principles.

Mr. Barr concluded after review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Special Use Permit with the one stipulation noted in the staff report.

Mr. Andy Schall, Kimley-Horn and Associates, Inc., 7965 N. High St., Ste. 200, Columbus, OH., 43235, was present to speak on the item. Mr. Schall added that his clients feel that the kiosk gate advertising is important since they don't have a walk-in store to advertise in and that it's behind the building and well-screened by landscaping.

Mr. Farnsworth asked if the two other Moo Moo sites in the City have gate signage. Mr. Joe Bertucci, Moo Moo Car Wash, 13375 National Rd. S.W., Reynoldsburg, OH., could not verify that the signage was on the kiosk gates.

Ms. Shields, Community Development Manager, responded that from the materials submitted on the two existing washes in the city, no signage was shown, and it was not approved as part of the materials for the other Moo Moo sites in Grove City.

Ms. Wemlinger asked if it was on the gates now. Ms. Shields replied that the existing locations do have signage on the gates, but it was not shown as part of the approved materials, and that staff does not believe them to be appropriate which is why the stipulation is recommended with this application that they not be approved for the proposed location.

Mr. Rauck stated he liked how they softened and opened up the radius on the curbing.

Mr. Christopher Hite, Jackson Township Fire Marshal, asked the height of the overhead arm on the kiosks. He stated they would like it to be no lower than 13'6" so that a ladder truck can go under them in case of emergency. Mr. Bertucci responded they could make it happen. Mr. Titus asked if that bar height is the height limit on what vehicles can go into the car wash. Mr. Bertucci stated they can still have a lower bar on chains that would hit a taller vehicle, warning them it's too high while keeping the kiosk set structure bar high enough for fire trucks to pass through.

Mr. Titus moved to add a stipulation to raise the height of the kiosk bar in the outside lane to 13'6" so that Jackson Township Fire Department could pass a ladder truck through for emergency access with a bar hanging down to alert cars of the car wash height restrictions. Mr. Farnsworth seconded the motion. The motion for the stipulation was approved 4-0.

Hearing no further questions or discussion from Planning Commission or the public, Mr. Titus moved to make a

recommendation of approval of the Special Use Permit to City Council with the following stipulations:

1. No signage or advertising shall be placed on kiosk gates.
2. The kiosk canopy shall be raised on the outside lane to a minimum of 13'6" to allow JTFD apparatus to pass for emergency access, with a bar hanging to alert cars to height restrictions for the carwash.

Mr. Rauck seconded the motion, and the item was approved 4-0.

**ITEM #7 – Moo Moo Express Car Wash – Development Plan**

**PID # 20240130004**

Mr. Barr presented the Development Department's findings. He stated this proposal is a Development Plan for a Moo Moo Car Wash at 3019 Turnberry Ct. This is the development plan to review the building and site layout. Following will be the Site improvement plan to review engineering. The proposed car wash is in the northwestern section of the site. Stacking lanes will start to the right of the access drive and wrap around to the car wash entrance. A photometric plan was provided showing the proposed lighting for the car wash. To create a cohesive appearance with other area developments, all exterior fixtures should match the character and color of the site lighting fixtures used on the Turnberry Retail Center and Sherwin Williams developments. All wall-mounted and site lighting fixtures shall be bell-shaped and finished in black. Additionally, the proposed photometric plan does not meet the 0.5 footcandles for all vehicle and pedestrian areas, and fixtures should be added along the queuing lanes to provide adequate lighting. The proposed building is approximately 3,600 square feet and measures 32'2" at the highest point. The building is finished with hardie board and batten siding (white), a brick water table (reddish brown), and asphalt shingles (grey).

A landscape plan was submitted showing proposed landscaping in compliance with code requirements including trees, parking lot, and service structure screening. The proposed development meets all Grove City 2050 guiding principles.

Mr. Barr concluded after review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Development Plan with the two stipulations noted in the staff report.

Mr. Andy Schall, Kimley-Horn and Associates, Inc., 7965 N. High St., Ste. 200, Columbus, OH., 43235, was present to speak on the item.

Mr. Chirag, of Buckeye Car Wash and Lube, 3118 Broadway, Grove City, OH., stated he's part of a small family-run business operating in a similar industry, asking what things were considered by the Development Department and Planning Commission knowing there's a car wash within less than a half mile away. He feels more business and development is great for the city overall. He wondered if in the future they would be notified or consulted. Ms. Shields responded that in respect to notifications, signage is put out for every application, it is also posted on the city's website. In terms of placement of specific uses, car washes are not permitted by right in any district and require special use permits, and the districts in which you are allowed to apply for a special use permit are limited. In terms of the proximity of one kind of business to another, there's nothing in the code that speaks to that. The staff looks at the appropriateness of the use based on car stacking capacity, any potential negative impact on public right of way, and safety of the surrounding area in the review of the special use permit application, but that the proximity to similar business is market driven.

Hearing no further questions or discussion from Planning Commission or the public, Ms. Wemlinger moved to make a recommendation of approval of the Development Plan to City Council with the following stipulations:

1. All site lighting fixtures shall be bell-shaped with a black finish, like those used in the Turnberry Retail Center to the south.

2. The photometric plan shall be updated with additional fixtures to meet the code requirement of 0.5 footcandles for all vehicle and pedestrian areas.

Mr. Titus seconded the motion, and the item was approved 4-0.

**ITEM #8 – Jackson Township Maintenance Buildings – Development Plan**

**PID # 202401310008**

Mr. Rauck recused himself due to a conflict of interest.

Mr. Barr presented the Development Department’s findings. He stated this proposal is a Development Plan for a new 10,000-square-foot maintenance building at the Jackson Township Complex at 3756 Hoover Road. This is the development plan to review the building and site layout. Following will be the site improvement plan to review engineering. This proposed maintenance building is located behind Jackson Township’s Administration Building and will be in the eastern portion of the site in the same location as an existing 4,336-square-foot building that will be removed. The proposed building is 10,000 square feet and measures 27 feet in height. The building will be finished with similar materials to existing buildings on the site. The building will have four 14’ x 14’ overhead doors allowing full access through the building. A fifth 14’ x 14’ overhead door is located on the south side of the building for a smaller bay along with office and break room areas. The proposed development meets all Grove City 2050 guiding principles.

Mr. Barr concluded after review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Development Plan as submitted.

Mr. Jason Cottrell, 3351 McDowell Rd., Grove City, OH., 43123, was present to speak on the item.

Hearing no further questions or discussion from Planning Commission or the public, Mr. Titus moved to make a recommendation of approval of the Development Plan to City Council as submitted. Mr. Farnsworth seconded the motion, and the item was approved 3-0.

There being no additional discussion, Vice Chair Farnsworth adjourned the meeting at 2:16 p.m.

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Terry Ellis, Development Assistant

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Michael Farnsworth, Vice Chair



## ITEM 1: 202403080016 – 3575 Grant Avenue – Lot Split

### Site Location

3575 Grant Avenue (PID 040-000092).

### Proposal

A lot split to split 0.165 acres from a 0.33-acre parcel.

### Current Zoning

R-2 (Single-family Residential).

### Future Land Use

Town Center Neighborhood.

### Property Owner

Gold Tree Ventures LLC.

### Applicant/Representative

Brent Goldbach, Golden Tree Ventures LLC.

### Applicable Plans, Policies, and Code Section(s)

- Zoning Code Section 1135.08

### Staff Recommendation

Approval as Submitted.

### Contents

|                           | Page |
|---------------------------|------|
| 1. Context Map .....      | 2    |
| 2. Analysis.....          | 3    |
| 3. Recommendations.....   | 3    |
| 4. Detailed History ..... | 3    |

### Case Manager

Terry Barr, AICP, Development Planner  
614-277-3022  
tbarr@grovecityohio.gov

### Summary

This proposal is to split 0.165 acres from a 0.33-acre parcel at 3575 Grant Avenue.

### Zoning Map



### Next Steps

Upon final action from Planning Commission, the Lot Split can move to Franklin County for finalization.



## 1. Context Map

The site is located at 3575 Grant Avenue (PID 040-000092).



202403080016  
3575 Grant Avenue  
Lot Split  
PID# 040-000092

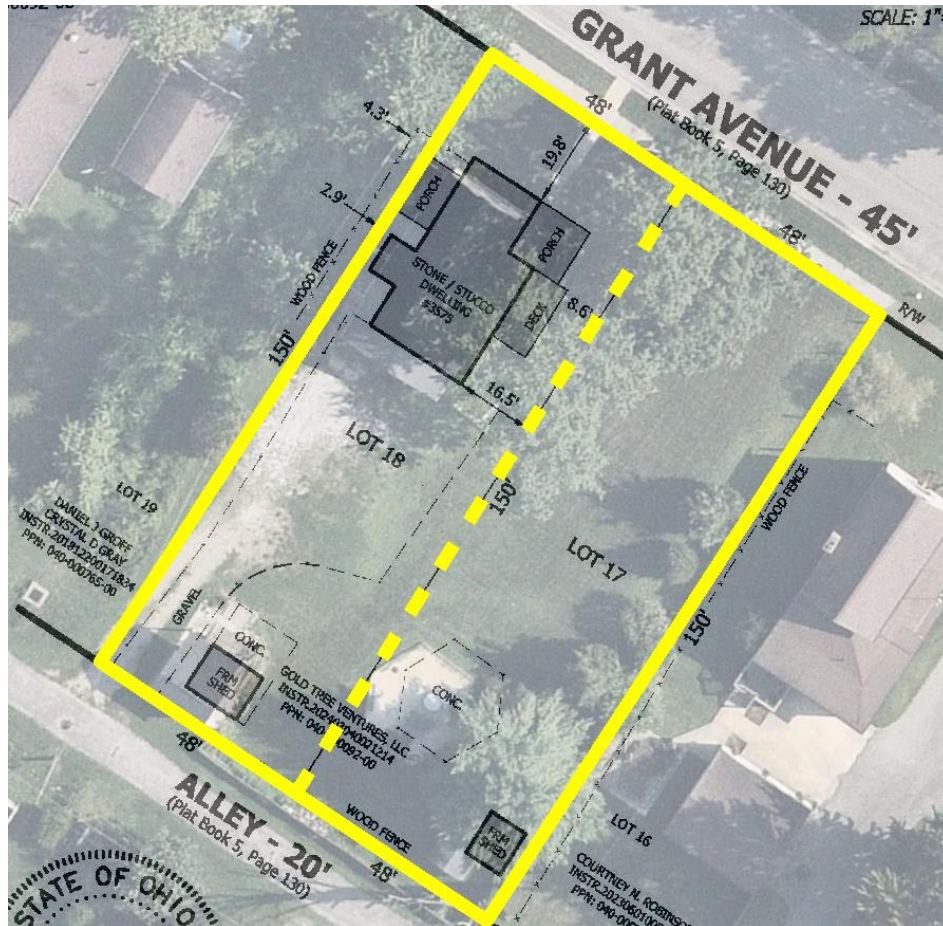
0 50 100 200 Feet





## 2. Analysis

The applicant is requesting approval to split .0165 acres from a 0.33-acre tract at 3575 Grant Ave. The proposed parcels were platted in 1892 as lots 17 and 18 of the Grant's Addition to Beulah subdivision. The parcel is zoned R-2 (Single Family Residential). While the lots created by the proposed split will not meet the minimum lot size of 8,400 square feet for a parcel zoned R-2, staff is supportive of the lot split as the split restores the platted configuration and is like the size of other lots in the area. Noting the lot size differences between the original plat dimensions and the current zoning, staff is supportive of setback variance(s) that may be needed to build a house on the new lot based on the context and existing housing of the area.



## 3. Recommendation

After review and consideration, the Development Department recommends Planning Commission approve the Lot Split as submitted.

## 4. Detailed History

### 1892

The original plat for Grant's Addition to Beulah was approved.



## Grove City Planning Commission LOT SPLIT APPLICATION

Please provide the requested  
information and submit to:

DEVELOPMENT DEPARTMENT  
4035 BROADWAY  
GROVE CITY, OHIO 43123  
614-277-3004

[grovecityohio.gov/development](http://grovecityohio.gov/development)

### PROJECT / PROPERTY INFORMATION

PROJECT NAME: Grant Ave Lot Split

PROJECT LOCATION: 3575 Grant Ave  
STREET ADDRESS (OR NEAREST INTERSECTION WITH DISTANCE AND DIRECTION)

PARCEL ID NUMBER: 040-000092-00 ACREAGE AFFECTED BY THIS APPLICATION: 0.33

EXISTING ZONING: R-2 EXISTING LAND USE: Single Family Home

PROPOSED ZONING: R-2 PROPOSED LAND USE: Single Family + Vacant Lot

### PROPERTY OWNER INFORMATION

Note: Property ownership information is to reflect how the property is held in accordance with the Franklin County Auditor's Office.

Gold Tree Ventures, LLC 3947 Front St. Grove City, OH 43123  
Name Address City, State, Zip  
614-738-2560 N/A Goldtree11c@gmail.com  
Phone Fax Email

### APPLICANT INFORMATION

Note: The applicant is the person(s) or entity seeking approval of this application.

Brent Goldbach Partner Gold Tree Ventures, LLC  
Name Title Company / Organization  
3947 Front St. Grove City Ohio, 43123  
Address City State, Zip  
614-738-2560 N/A Goldtree11c@gmail.com  
Phone Fax Email

Note: The authorized representative is the person(s) or entity representing the applicant. As the authorized representative you have the proper authority to speak, represent and make commitments on behalf of the applicant. The City does not take any responsibility for the lack of communication between the authorized representative, applicant and related parties.

### AUTHORIZED REPRESENTATIVE

Check box if same as Applicant ☒

| Name    | Title | Company / Organization |
|---------|-------|------------------------|
| Address | City  | State, Zip             |
| Phone   | Fax   | Email                  |

Relationship to the Applicant: (e.g. legal counsel, engineer, architect, land planner, contractor, etc.)

### SUBMITTAL REQUIREMENTS

Instructions: All blanks/boxes must be completed or checked in order for the application submittal to be considered complete. The submittal shall include the required number of copies (properly folded and collated) and contain all required supplementary documentation. Submitted materials shall be accurate, measurable and shall address all required checklist items contained within the attached supplemental requirements.

| Fee Calculation           | Submittal Items                                 | (check box)              |
|---------------------------|-------------------------------------------------|--------------------------|
| Application Fee: \$ 50.00 | Completed Application (signed and notarized):   | <input type="checkbox"/> |
|                           | Submittal Fee:                                  | <input type="checkbox"/> |
|                           | Ten (10) copies of plans (folded and collated): | <input type="checkbox"/> |



**PROPERTY OWNER AUTHORIZATION OF APPLICANT SUBMITTAL AND SITE VISIT(S)**

I Brent Goldbach (Partner Gold Fire Ventures, LLC), the current property owner hereby authorize the applicant Brent Goldbach to submit this application. I agree to be bound by all representations and agreements made by the applicant and/or their authorized representative.

Additionally, as the current property owner, knowing that site visits to the property may be necessary, I hereby authorize City representatives to enter, photograph and post notices on the property described in this application.

Signature of Current Property Owner: Brent Goldbach Date: 3/7/2024

STATE OF OHIO, COUNTY OF FRANKLIN

The above individual(s), being first duly sworn, deposes on oath and says that he/she has read the foregoing affidavit subscribed by him/her, knows the contents thereof, and that the statements therein are true.

SUBSCRIBED AND SWORN TO before me this 7 day of March, 2024.

Emily D. Wangler  
Official Seal and Signature of Notary Public



**APPLICANT'S / AUTHORIZED REPRESENTATIVE'S AFFIDAVIT**

I Brent Goldbach, the applicant or authorized representative, have read and understand the contents of this application. The information contained in this application, attached exhibits and other information submitted is complete and in all respects true and correct, to the best of my knowledge and belief.

Signature of Applicant or Authorized Representative: Brent Goldbach Date: 3/7/2024

STATE OF OHIO, COUNTY OF FRANKLIN

The above individual(s), being first duly sworn, deposes on oath and says that he/she has read the foregoing affidavit subscribed by him/her, knows the contents thereof, and that the statements therein are true.

SUBSCRIBED AND SWORN TO before me this 7 day of March, 2024.

Emily D. Wangler  
Official Seal and Signature of Notary Public



**FOR OFFICE USE ONLY**

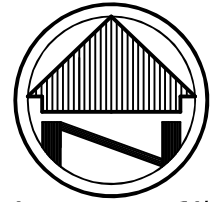
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|----------------------------|--------------------|-----------------|
| DATE RECEIVED:             | RECEIVED BY:       | PAYMENT AMOUNT: |
| TENTATIVE PC MEETING DATE: | PC RECOMMENDATION: | CHECK NUMBER:   |
| PROJECT ID NUMBER:         |                    |                 |

# STATE OF OHIO, COUNTY OF FRANKLIN, CITY OF GROVE CITY

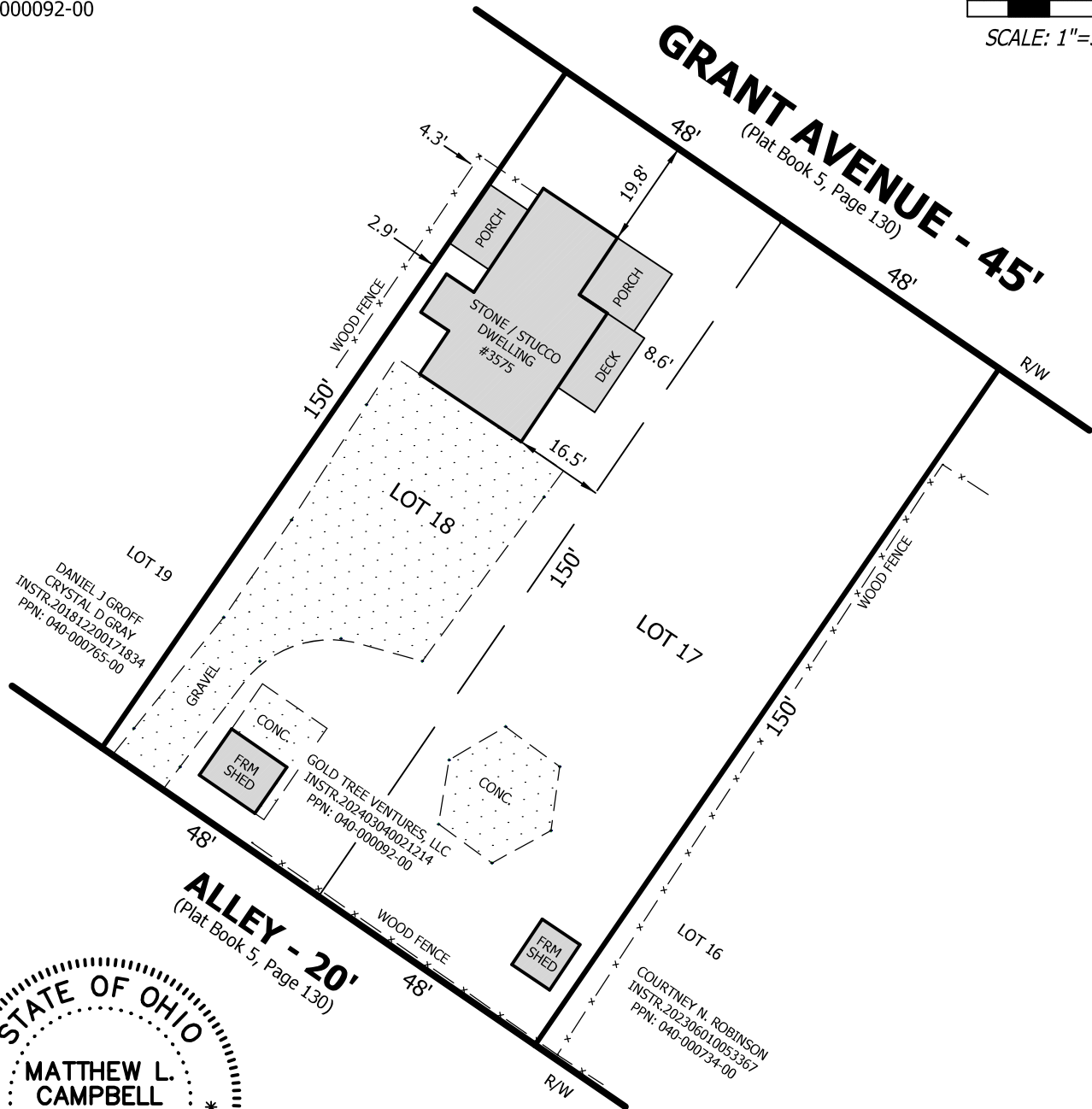
Grant's Addition to Beulah - Plat Book 5, Page 130

Property Address:  
3575 Grant Avenue  
Grove City, Ohio 43123

Franklin Co. PPN:  
040-000092-00



0 30'  
SCALE: 1"=30'



I HEREBY CERTIFY THAT THIS MAP WAS PREPARED FOR GOLD TREE VENTURES FOR AUDITOR'S PARCEL SPLIT PURPOSES USING THE BEST AVAILABLE PUBLIC RECORDS ALONG WITH ACTUAL FIELD MEASUREMENTS.

*Matthew L. Campbell*  
MATTHEW L. CAMPBELL  
CAMPBELL & ASSOCIATES, INC.

REG. NO. 8546

3/6/2024  
DATE

DOCUMENTS USED:  
-deeds and plat of record

Fieldwork  
completed:  
2/29/2024  
Job: CO206196

**CAMPBELL & ASSOCIATES, INC.**  
Land Surveyors  
(800)233-4117  
www.campbellsurvey.com

**Lot 17 of Grant's Addition to Beulah**

Situated in the State of Ohio, County of Franklin, and City of Grove City, being lot number 17 in Grant's Addition to Beulah as the same is numbered and delineated upon the recorded plat thereof, of record in Plat Book 5, Page 130, Recorder's Office, Franklin County, Ohio.

*Part of current Franklin County PPN: 040-000092-00*



3/25/2024

Reference: Lot Split 3575 Grant Ave., Application # 202403080016

Via Email: [tbarr@grovecityohio.gov](mailto:tbarr@grovecityohio.gov)

Dear Mr. Barr,

Thank you for reviewing the materials submitted in reference to the proposed lot split at 3575 Grant Ave., application #202403080016. Below you will find my responses to the comments/recommendations provided by the Development Department:

1. COMMENT: A legal description is required for both parcels being split prepared by a registered surveyor.

RESPONSE: Through conversations with Matt Campbell (Registered Surveyor in Ohio), Franklin County Engineer's office and Terry Barr, it was determined that a metes-and-bounds legal description is not required and is actually not preferred by the Franklin County Engineer's office. This is due to the fact that the lot split being proposed takes the lots back to their original dimensions of the original neighborhood plat. I have submitted an updated legal description for lot 17 that meets the requirements of Franklin County Engineer's office and what has been discussed with Terry Barr, including a stamp from Matt Campbell.

2. COMMENT: Revise location of the property at the top of the survey to say City of Grove City not Village of Urbancrest.

RESPONSE: Updated survey has been submitted which corrects the location to say City of Grove City, not Urbancrest.

Please let me know if there are any other questions or issues.

Thanks,

Brent Goldbach  
Partner of Gold Tree Ventures, LLC



## **Project Narrative for 3575 Grant Avenue Lot Split**

The owners of 3575 Grant Avenue are proposing a lot split for parcel number 040-000092-00 which currently encompasses lot 17 and lot 18 of the original platted Beulah subdivision. Lot 18 currently contains one residential property and lot 17 is vacant except for a storage shed. The proposal would revert lot 17 and lot 18 back to their original/historical lot lines as approved on the original plat. Lot dimensions would be 48' x 150' matching original lots and matching the look and feel of the current neighborhood. No zoning changes are being requested.



## ITEM 2: 202403130018 – Southgate Business Park Lot 2 – Lot Split

### Site Location

Haughn Road (PID 040-017491).

### Proposal

A lot split to split 4.7 acres from a 15.7-acre tract.

### Current Zoning

IND-1 (Light Industry).

### Future Land Use

Flex Employment Center.

### Property Owner

Floyd Wicks, WM1 Corporation.

### Applicant/Representative

Floyd Wicks, WM1 Corporation.

### Applicable Plans, Policies, and Code Section(s)

- Zoning Code Section 1135.08.

### Staff Recommendation

Approval as Submitted.

### Contents

### Page

|                           |   |
|---------------------------|---|
| 1. Context Map .....      | 2 |
| 2. Analysis.....          | 3 |
| 3. Recommendations.....   | 3 |
| 4. Detailed History ..... | 3 |

### Case Manager

Terry Barr, AICP, Development Planner  
614-277-3022  
tbarr@grovecityohio.gov

### Summary

This proposal is to split  $\pm 4.7$  acres from a  $\pm 15.7$ -acre parcel located on the east side, north of 5928 Haughn Road.

### Zoning Map



### Next Steps

Upon final action from Planning Commission, the Lot Split can move to Franklin County for finalization.

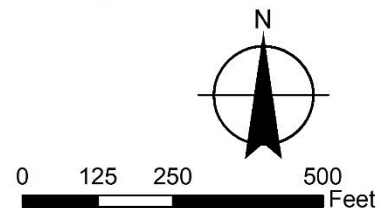


## 1. Context Map

The site is located on Haughn Road, north of 5928 Haughn Road (PID 040-017491).



202403130018  
Southgate Business Park Lot 2  
Lot Split  
PID# 040-017491





## 2. Analysis

The applicant is requesting approval to split 4.7 acres from a 15.7-acre tract of land on the east side of Haughn Road, primarily located north of 5928 Haughn Road. The original 17.988-acre parcel was annexed into Grove City from Jackson Township in June of 2022 with Ordinance C-29-22. A split of 2.20 acres from the 17.988-acre tract of land was approved in March of 2023. The parcel is zoned IND-1 (Light Industry), and the proposed split will create a lot that meets the lot requirements for a Light Industry (IND-1) parcel per zoning code. Materials submitted by the applicant state the reason behind the lot configuration is to accommodate future roadways as shown on the Grove City Thoroughfare Map.



## 3. Recommendation

After review and consideration, the Development Department recommends Planning Commission approve the Lot Split as submitted.

## 4. Detailed History

### 2022

City Council approved an annexation for two parcels totaling 63.02 acres located on the east side of Haughn Road at the June 6<sup>th</sup> meeting with Ordinance C-29-22.

### 2023

A lot split of 2.20 acres from a 17.988-acre tract was approved at the June 6<sup>th</sup> Planning Commission meeting.



## Grove City Planning Commission LOT SPLIT APPLICATION

Please provide the requested  
information and submit to:

DEVELOPMENT DEPARTMENT  
4035 BROADWAY  
GROVE CITY, OHIO 43123  
614-277-3004

[grovecityohio.gov/development](http://grovecityohio.gov/development)

### PROJECT / PROPERTY INFORMATION

PROJECT NAME: Southgate Business Park - Lot 2

PROJECT LOCATION: 5744 Haughn Road

STREET ADDRESS (OR NEAREST INTERSECTION WITH DISTANCE AND DIRECTION)

PARCEL ID NUMBER: 040-017491

ACREAGE AFFECTED BY THIS APPLICATION: 4.7

EXISTING ZONING: Light Industrial

EXISTING LAND USE: Agriculture

PROPOSED ZONING: Light Industrial

PROPOSED LAND USE: Light Industrial

### PROPERTY OWNER INFORMATION

Note: Property ownership information is to reflect how the property is held in accordance with the Franklin County Auditor's Office.

|                 |               |                                                                    |
|-----------------|---------------|--------------------------------------------------------------------|
| WM1 Corporation | 2699 Fair Ave | Bexley OH 43209                                                    |
| Name            | Address       | City, State, Zip                                                   |
| 614-231-5505    |               | <a href="mailto:fwicks@1800topsite.com">fwicks@1800topsite.com</a> |
| Phone           | Fax           | Email                                                              |

### APPLICANT INFORMATION

Note: The applicant is the person(s) or entity seeking approval of this application.

|                |           |                                                                    |
|----------------|-----------|--------------------------------------------------------------------|
| Floyd Wicks    | President | WM1 Corporation                                                    |
| Name           | Title     | Company / Organization                                             |
| 2699 Fair Ave. | Bexley    | OH 43209                                                           |
| Address        | City      | State, Zip                                                         |
| 614231-5505    |           | <a href="mailto:fwicks@1800topsite.com">fwicks@1800topsite.com</a> |
| Phone          | Fax       | Email                                                              |

Note: The authorized representative is the person(s) or entity representing the applicant. As the authorized representative you have the proper authority to speak, represent and make commitments on behalf of the applicant. The City does not take any responsibility for the lack of communication between the authorized representative, applicant and related parties.

### AUTHORIZED REPRESENTATIVE

Check box if same as Applicant ☐

|         |       |                        |
|---------|-------|------------------------|
| Name    | Title | Company / Organization |
| Address | City  | State, Zip             |
| Phone   | Fax   | Email                  |

Relationship to the Applicant: (e.g. legal counsel, engineer, architect, land planner, contractor, etc.)

### SUBMITTAL REQUIREMENTS

Instructions: All blanks/boxes must be completed or checked in order for the application submittal to be considered complete. The submittal shall include the required number of copies (properly folded and collated) and contain all required supplementary documentation. Submitted materials shall be accurate, measurable and shall address all required checklist items contained within the attached supplemental requirements.

|                  |                 |  |
|------------------|-----------------|--|
|                  | Fee Calculation |  |
| Application Fee: | \$ 50.00        |  |

|                                                 |                                     |             |
|-------------------------------------------------|-------------------------------------|-------------|
|                                                 | Submittal Items                     | (check box) |
| Completed Application (signed and notarized):   | <input checked="" type="checkbox"/> |             |
| Submittal Fee:                                  | <input checked="" type="checkbox"/> |             |
| Ten (10) copies of plans (folded and collated): | <input checked="" type="checkbox"/> |             |



**PROPERTY OWNER AUTHORIZATION OF APPLICANT SUBMITTAL AND SITE VISIT(S)**

I, Floyd Wicks, president WM1 Corporation, the current property owner hereby authorize the applicant Floyd Wicks, president WM1 Corporation to submit this application. I agree to be bound by all representations and agreements made by the applicant and/or their authorized representative.

Additionally, as the current property owner, knowing that site visits to the property may be necessary, I hereby authorize City representatives to enter, photograph and post notices on the property described in this application.

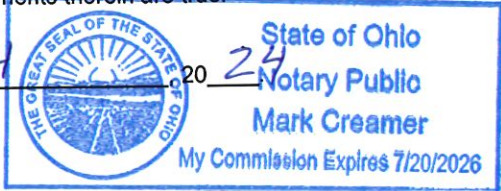
Signature of Current Property Owner: [Signature] Date: 3-8-24

STATE OF OHIO, COUNTY OF FRANKLIN

The above individual(s), being first duly sworn, deposes on oath and says that he/she has read the foregoing affidavit subscribed by him/her, knows the contents thereof, and that the statements therein are true.

SUBSCRIBED AND SWORN TO before me this 8<sup>th</sup> day of MARCH, 2024

[Signature]  
Official Seal and Signature of Notary Public

 State of Ohio  
Notary Public  
Mark Creamer  
My Commission Expires 7/20/2026

**APPLICANT'S / AUTHORIZED REPRESENTATIVE'S AFFIDAVIT**

I, Floyd Wicks, president WM1 Corporation, the applicant or authorized representative, have read and understand the contents of this application. The information contained in this application, attached exhibits and other information submitted is complete and in all respects true and correct, to the best of my knowledge and belief.

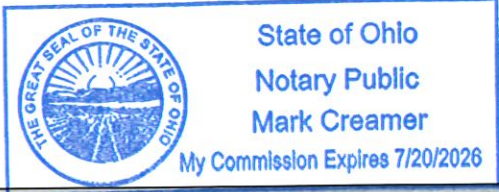
Signature of Applicant or Authorized Representative: [Signature] Date: 3-8-24

STATE OF OHIO, COUNTY OF FRANKLIN

The above individual(s), being first duly sworn, deposes on oath and says that he/she has read the foregoing affidavit subscribed by him/her, knows the contents thereof, and that the statements therein are true.

SUBSCRIBED AND SWORN TO before me this 8<sup>th</sup> day of MARCH, 2024

[Signature]  
Official Seal and Signature of Notary Public

 State of Ohio  
Notary Public  
Mark Creamer  
My Commission Expires 7/20/2026

**FOR OFFICE USE ONLY**

|                                           |                                |                                 |
|-------------------------------------------|--------------------------------|---------------------------------|
| DATE RECEIVED:<br><u>3-13-24</u>          | RECEIVED BY:<br><u>T. Barr</u> | PAYMENT AMOUNT:<br><u>50.00</u> |
| TENTATIVE PC MEETING DATE:                | PC RECOMMENDATION:             | CHECK NUMBER:<br><u>389</u>     |
| PROJECT ID NUMBER:<br><u>202403130018</u> |                                |                                 |

THE CITY OF GROVE CITY  
SUBMITTAL REQUIREMENTS: LOT SPLIT



PLEASE CONTACT STAFF FOR A LINK TO SUBMIT THE FOLLOWING ELECTRONIC FILES FOR INITIAL REVIEW:

- ☒ One signed and notarized application
- ☒ Appropriate fee (\$50) – Please note that either cash, checks or credit card payments will be accepted. For credit card payments call 614-277-3004.
- ☒ A project narrative describing the nature of the project
- ☒ A metes and bounds legal description of the property
- ☒ A survey drawing of the property
- ☒ If applicable, a proposed Development Standards Text *N/A*

**NOTE:** One (1) paper copy (8 1/2 x 11) of all final materials being presented to Planning Commission will be required, as well as one 24 x 36 copy of all plan sheets, if applicable.

For additional information, contact the Grove City Development Department at 614-277-3004 or visit our website at [www.grovecityohio.gov/development](http://www.grovecityohio.gov/development).

**SEI FILE NO. 4263  
GROVE CITY, OHIO**

**PROPERTY DESCRIPTION  
MARCH 11, 2024**

Situated in the State of Ohio, County of Franklin, City of Grove City, being in Virginia Military Survey No. 1434 and being 4.733 acres of land all out of that 17.863 acre (original) tract described in a deed to WM1 Corporation of record in Instrument 201108160101865 (all references in this description are to the records in the Recorder's Office, Franklin County, Ohio) and being more particularly described as follows:

Beginning for reference at found F.C.G.S. Monument #2110 at an angle point in the centerline of Haughn Road (Variable width);

Thence South  $01^{\circ} 27' 21''$  West 1076.49 feet, along the centerline of Haughn Road, to the northwesterly corner of said 17.863 acre tract;

Thence South  $01^{\circ} 27' 21''$  West 345.89 feet, continuing along said centerline and a westerly line of said 17.863 acre tract, to a mag nail set, THE TRUE POINT OF BEGINNING, being on an easterly line of that 0.262 acre tract described in a deed to the City of Grove City in Instrument 200010030200746;

Thence leaving said centerline and crossing said 17.863 acre tract with new division lines, the following three (3) courses and distances:

- 1) South  $88^{\circ} 32' 39''$  East 70.53 feet to an iron pin set at a point of curvature;
- 2) Thence easterly along the arc of a curve to the left, having a radius of 320.00 feet, a central angle of  $40^{\circ} 17' 51''$ , an arc length of 225.06 feet, the chord bearing North  $71^{\circ} 18' 25''$  East 220.45 feet to an iron pin set;
- 3) Thence with a non-radial line, South  $55^{\circ} 02' 33''$  East 692.60 feet, (passing an iron pin set at 82.61 feet) to a 3/4" hollow iron pin found (capped Kleingers) at a corner of that 3.820 acre Parcel 14-WL conveyed to the State of Ohio of record in Instrument 201407230094843;

Thence southwesterly along a westerly Limited Access right-of-way line of Interstate Route I-71 (Variable Width) shown on O.D.O.T Plan FRA-71-6.09, the centerline survey of record in Plat Book 25, Page 72 and Plat Book 112, Page 94, being the arc of a curve to the left, having a radius of 12,024.30 feet, a central angle of  $01^{\circ} 44' 18''$ , an arc length of 364.83 feet, the chord bearing South  $32^{\circ} 36' 03'$  West 364.82 feet to an iron pin set at a common corner of said 17.863 acre tract, that 3.369 acre tract described in a deed to Towlease Properties III, LLC if record in Instrument 202201210013618 and that 3.241 acre tract described in a deed to Richard H. McCall, Trustee of record in Instrument 202208030112267, also being a common corner of said Parcel 14-WL and that 14.859 acre Parcel 18-WL described in same deed to the State of Ohio in Instrument 201407230094843;

Thence North  $46^{\circ} 33' 08''$  West 340.30 feet along a common line between said 17.863 acre tract and said 3.241 acre tract, a corporation line of Grove City and Jackson Township, to a 5/8" rebar found (0.5' below grade) at a corner of said 17.863 acre tract and a corner of that 2.200 acre tract described in a deed to Frazier Haughn, LLC of record in Instrument 202306010053354;

Thence North 23° 49' 39" West 389.32 feet along a line of said 2.200 acre tract, to an iron pin set;

Thence along northerly lines of said 2.200 acre tract, the following two (2) courses and distances:

- 1) Southwesterly along the arc of a curve to the right, having a radius of 400.00 feet, a central angle of 26° 12' 08", an arc length of 182.93 feet, the chord bearing South 78° 21' 17" West 181.34 feet to an iron pin set;
- 2) Thence North 88° 32' 39" West 70.53 feet to a mag nail set on the centerline of Haughn Road, at the northwesterly corner of said 2.200 acre tract and on an easterly line of said 0.262 acre tract;

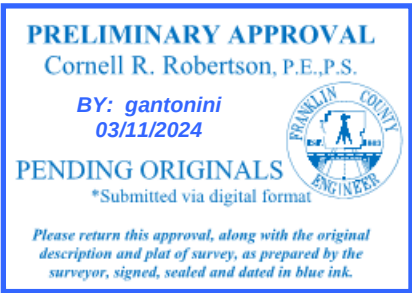
Thence North 01° 27' 21" East 80.00 feet, along said centerline, and a westerly line of said 17.863 acre tract to the True Point of Beginning, containing 4.733 acres of land, more or less (the present road occupies 0.037 acres) subject to any easements, restrictions, or right-of-ways of previous record.

Bearings are used for the determination of angles only. For the purpose of this description, a bearing of South 01° 27' 21" West was assumed on the centerline of Haughn Road from F.C.G.S. #2110 to the northwest corner of 17.863 acre (original tract), and all other bearings were calculated from this meridian. The iron pins set are 5/8" rebars, 30" long with yellow plastic caps stamped "SITE ENG INC".

The above description was prepared from an actual field survey during January, 2023 and March 2024 by Site Engineering, Inc.

SITE ENGINEERING, INC.

By Mark A Hazel, ps 3-11-24  
Mark A. Hazel Date  
Professional Surveyor No. 7039







## Wm1 Corporation

2699 Fair Ave  
Columbus OH 43209

---

February 29, 2024

Mr. Terry Barr, Development Planner  
The City of Grove City  
4035 Broadway  
Grove City OH 43123

### **Lot Split Narrative**

WM1 Corporation has surveyed and received preliminary approval from the Franklin County Engineer, the lot split which has been submitted by application to the City of Grove City. We are to split off approximately 4.7 acres from the approximately 15.7 acre tract on Haughn Rd. (parcel ID: 040-017491), to develop prior to the infrastructure in the immediate area such as sewer and proposed roadway improvements being designed and scheduled.

The boundary of the split was carefully designed, with future development in mind that accommodates Grove City's thoroughfare plan, as discussed with Grove City staff. The current lot split continues with the intent of accommodating a future roadway, as was done last year when we split off a 2.2 acres parcel from the same residual tract. WM1 Corporation will continue to work with the City of Grove City toward platting and developing the residual tract of approximately 11 acres.

It will be the intent of WM1 Corporation to develop the 4.7 acre site with flex office warehouse space. We will utilize a septic system approved by the Franklin County department of Health, and install plumbing in such a way that when sanitary sewer is available, we can pay the apportioned fee and tap into it, redirecting the waste lines into the sewer.

We look forward to working with you!

Sincerely,



**Floyd E Wicks, president**  
**WM1 Corporation**  
**614-231-5505**



## ITEM 3: 202402290014 – Byers Chevrolet – Development Plan Amendment

### Site Location

5841 North Meadows Drive (PID 040-016048).

### Proposal

A development plan amendment for a parking lot addition at Byers Chevrolet.

### Current Zoning

Planned Unit Industrial (PUD-I).

### Future Land Use

Flex Employment Center.

### Property Owner

GWB Realty LLC.

### Applicant/Representative

Paul Gnatt, Byers Chevrolet.  
Matthew Stypula, EMH&T.

### Applicable Plans, Policies, and Code Section(s)

- Zoning Code Section 1135.09.
- Ordinance C-104-08.

### Staff Recommendation

Approval as Submitted.

### Contents

|                                | Page |
|--------------------------------|------|
| 1. Context Map .....           | 2    |
| 2. Analysis.....               | 3    |
| 3. GroveCity2050 Analysis..... | 4    |
| 4. Recommendations.....        | 4    |
| 5. Detailed History .....      | 4    |

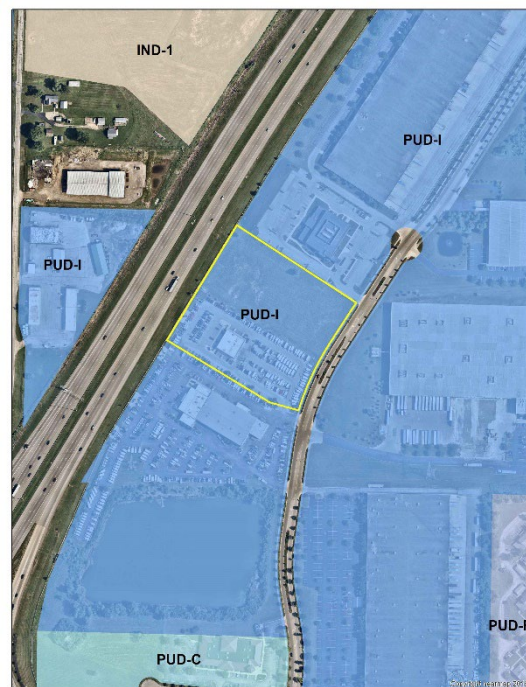
### Case Manager

Terry Barr, AICP, Development Planner  
614-277-3022  
tbarr@grovecityohio.gov

### Summary

This proposal is a Development Plan Amendment for a new parking lot at Byers Chevrolet at 5841 North Meadows Dr.

### Zoning Map



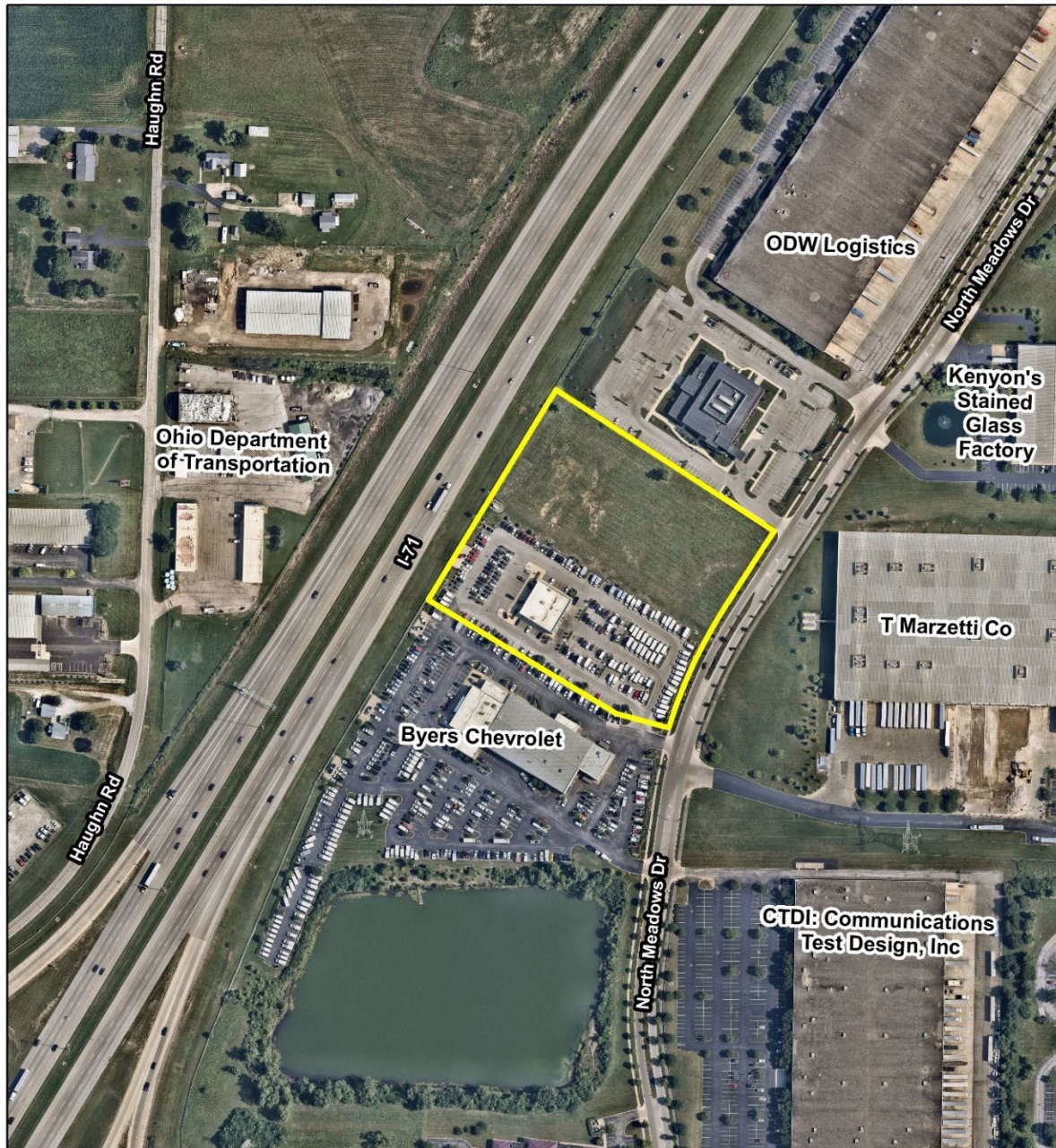
### Next Steps

Upon recommendation from Planning Commission, the Development Plan Amendment will move forward to City Council for approval.

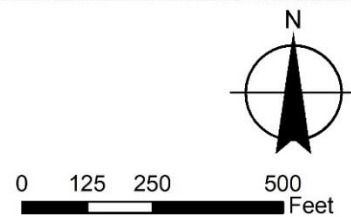


## 1. Context Map

The site is located at 5841 North Meadows Drive (PID 040-016048).



202402290014  
Byers Chevrolet  
Development Plan Amendment  
PID# 040-016048





## 2. Analysis

The applicant is requesting approval of a Development Plan Amendment to allow for the addition of a new parking lot at Byers Chevrolet at 5841 North Meadows Drive. The 6.59-acre parcel is zoned PUD-I (Planned Unit Development Industrial) and is adjacent to other properties zoned PUD-I to the north, south, and east, and Interstate I-71 to the west.

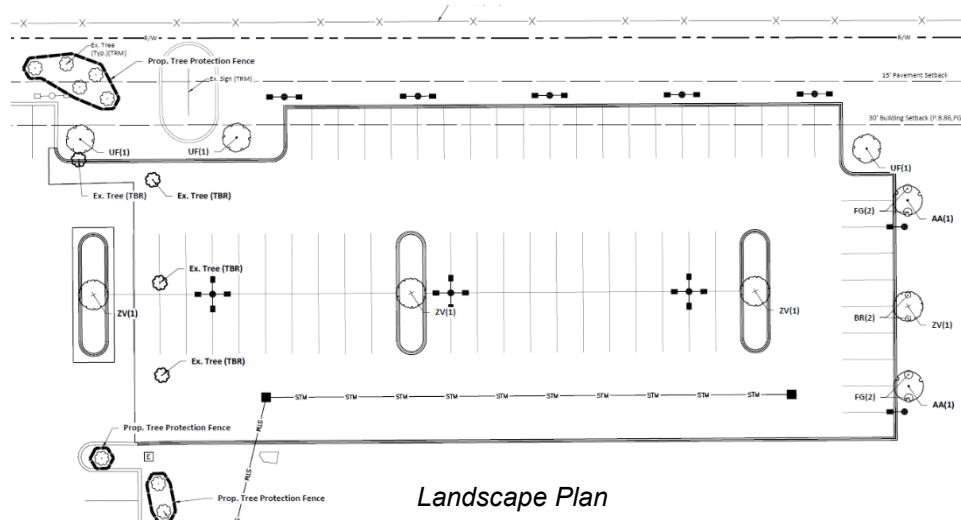
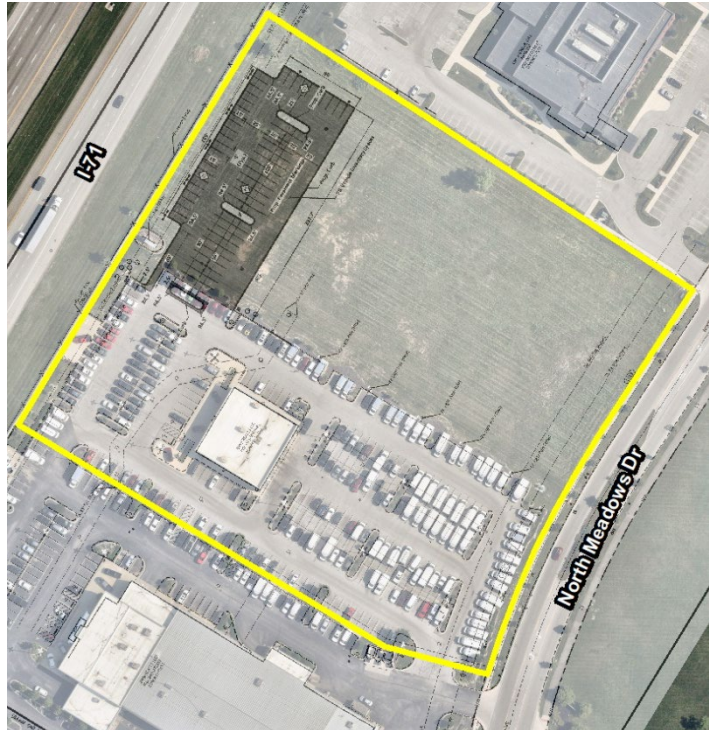
The GroveCity2050 Community Plan and Future Land Use Map designate this site as a Flex Employment Center, and the proposed use of a parking lot extension at Byers Chevrolet meets the recommended primary use of commercial for the district.

### Site Plan

The proposed parking lot addition is located on the north side of the Byers pre-owned building and car lot. The proposed parking lot will be located along the site's I-71 frontage, is approximately 28,000 square feet, and will include 77 spaces. Ten parking spaces will be removed from the existing parking lot to create a connection to the proposed parking lot. A photometric plan was provided showing compliance with the required 0.5 footcandles in all vehicle and pedestrian areas. The proposed lights will be white downcast LED fixtures to match the existing lights on the Byers Chevrolet properties.

### Landscaping

Landscaping will be added to the proposed parking lot in the form of trees and shrubs located around the perimeter. In addition, parking islands are proposed to break up the parking rows and will include one 2" caliper tree.



### 3. GroveCity2050 Analysis

The City of Grove City adopted the GroveCity2050 Community Plan in January 2018 which contains specific goals, objectives, and actions to guide growth in the community. Five (5) guiding principles are identified that articulate Grove City's community values and direct the recommendations in the plan. Applications submitted to Planning Commission are reviewed based on these 5 guiding principles.

- (1) **The City's small-town character is preserved while continuing to bring additional employment opportunities, residents, and amenities to the community.**

**Finding is Met:** The proposed development is in an existing commercial area and will allow Byers Chevrolet to increase their inventory and provide additional services to the community.

- (2) **Quality design is emphasized for all uses to create an attractive and distinctive public and private realm.**

**Finding is Met:** The proposed parking lot area is designed to complement the existing parking lot. Additionally, site fixtures will be similar to those used in the rest of the development. The proposed landscaping will also contribute to an aesthetically pleasing and high-quality development, similar to the existing Byers parking lots.

- (3) **Places will be connected to improve the function of the street network and create safe opportunities to walk, bike, and access public transportation throughout the community.**

**Finding Not Applicable:** The proposed parking lot does not impact transportation access to the site, which will remain unchanged. Additionally, the site has access to sidewalks and public transportation, and a multi-use path along North Meadows Drive.

- (4) **Future development will preserve, protect, and enhance the City's natural and built character through sustainable practices, prioritizing parks, and open space, and emphasizing historic preservation.**

**Finding Not Applicable:** The proposed development is limited in scope to this standard as the development is within a primarily developed commercial area.

- (5) **Development provides the city with a net fiscal benefit.**

**Finding is Met:** The proposed use will allow Grove City to add additional business and services to the City.

### 4. Recommendation

After review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Development Plan Amendment as submitted.

### 5. Detailed History

#### 1996

City Council approved Ordinance C-39-96 to rezone +/- 112.026 acres located on S.R. 665 from SD-3 and C-2 to PUD-C and PUD-I.

**2008**

City Council approved Ordinance C-104-08 to amend the zoning text for +/- 112.026 acres located on S.R. 665 as adopted by Ordinance C-39-96.

**2014**

City Council approved Resolution CR-13-14 to approve the development plan for Byers Chevrolet.

**2018**

City Council approved Resolution CR-47-18 to approve the development plan for Byers pre-owned center at 5887 North Meadows Drive.



## Grove City Planning Commission FINAL DEVELOPMENT PLAN APPLICATION

Please provide the requested  
information and submit to:

DEVELOPMENT DEPARTMENT  
4035 BROADWAY  
GROVE CITY, OHIO 43123  
614-277-3004

[grovecityohio.gov/development](http://grovecityohio.gov/development)

### PROJECT / PROPERTY INFORMATION

**PROJECT NAME:** Byers Chevy Grove City Parking Expansion

**PROJECT LOCATION:** 5841 North Meadows Drive

STREET ADDRESS (OR NEAREST INTERSECTION WITH DISTANCE AND DIRECTION)

**PARCEL ID NUMBER:** 041-016045

**ACREAGE AFFECTED BY THIS APPLICATION:** 0.86

**EXISTING ZONING:** PUD-I

**EXISTING LAND USE:** Car Dealership

**PROPOSED ZONING:** PUD-I

**PROPOSED LAND USE:** Car Dealership

**FUTURE LAND USE DESIGNATION:** Car Dealership

### PROPERTY OWNER INFORMATION

Note: Property ownership information should reflect how the property is held in accordance with the Franklin County Auditor's Office.

GWB Realty LLC      427 S. Hamilton Road      Columbus, OH 43213

Name      Address      City, State, Zip

614-552-5410      pgantt@byersauto.com

Phone      Fax      Email

### APPLICANT INFORMATION

Note: The applicant is the person(s) or entity seeking approval of this application.

Paul Gantt      Byers Chevrolet

Name      Title      Company / Organization

5841 North Meadows Drive      Grove City, OH 43123

Address      City, State, Zip

614-552-5410      pgantt@byersauto.com

Phone      Fax      Email

### AUTHORIZED REPRESENTATIVE

Check box if same as Applicant: ☐

Note: The authorized representative is the person(s) or entity representing the applicant. As the authorized representative, you must have the legal authority to speak, represent and make commitments on behalf of the applicant. The City does not take any responsibility for the lack of communication between the authorized representative, applicant or related parties.

Matthew Stypula      Senior Project Manager      EMH&T

Name      Title      Company / Organization

5500 New Albany Road      Columbus, OH 43054

Address      City, State, Zip

614-775-4369      mstypula@emht.com

Phone      Fax      Email

Engineer

Relationship to the Applicant: (e.g. legal counsel, engineer, architect, land planner, contractor, etc.)

### FOR OFFICE USE ONLY

DATE RECEIVED:

RECEIVED BY:

PAYMENT AMOUNT:

TENTATIVE PC MEETING DATE:

PC RECOMMENDATION:

CHECK NUMBER:

PROJECT ID NUMBER:

CITY'S REVIEW ENGINEER:

CITY'S PLAN REVIEW ENGINEER:

PLANNER IN CHARGE:



ADDITIONAL PROJECT INFORMATION

PROJECT NAME: Byers Chevy Grove City Parking Expansion

DEVELOPMENT TYPE: Commercial Retail ☒ Commercial Office ☐ Residential ☐ Industrial ☐ Mixed ☐ Other ☐

ACREAGE DISTURBED: 0.86 TOTAL FLOOR AREA: N/A

NUMBER OF BUILDINGS: N/A BUILDING HEIGHT: N/A

ESTIMATED NUMBER OF PERMANENT JOBS CREATED (IF APPLICABLE): N/A

ESTIMATED VALUATION OF BUILDING IMPROVEMENTS: N/A ESTIMATED VALUATION OF SITE IMPROVEMENTS: \_\_\_\_\_

PROPERTY OWNER AUTHORIZATION OF APPLICANT SUBMITTAL AND SITE VISIT(S)

I, PAUL GANTT, the current property owner hereby authorize the applicant MATTHEW STYPULA to submit this application. I agree to be bound by all representations and agreements made by the applicant and/or their authorized representative.

Additionally, as the current property owner, knowing that site visits to the property may be necessary, I hereby authorize City representatives to enter, photograph and post notices on the property described in this application.

Signature of Current Property Owner: Paul Gantt Date: 2.21.2024

STATE OF OHIO, COUNTY OF FRANKLIN

The above individual(s), being first duly sworn, deposes on oath and says that he/she has read the foregoing Affidavit subscribed by him/her, knows the contents thereof, and that the statements therein are true.

SUBSCRIBED AND SWORN TO before me this 21 day of FEBRUARY, 2024  
Colleen P. Hall  
Official Seal and Signature of Notary Public



COLLEEN P. HALL  
Notary Public, State of Ohio  
My Commission Expires  
05/17/2024

APPLICANT'S / AUTHORIZED REPRESENTATIVE S AFFIDAVIT

I, MATTHEW STYPULA, the applicant or authorized representative, have read and understand the contents of this application. The information contained in this application, attached exhibits and other information submitted is complete and in all respects true and correct to the best of my knowledge and belief.

Signature of Applicant or Authorized Representative: Matthew Stypula Date: 2-27-24

STATE OF OHIO, COUNTY OF FRANKLIN

The above individual(s), being first duly sworn, deposes on oath and says that he/she has read the foregoing Affidavit subscribed by him/her, knows the contents thereof, and that the statements therein are true.

SUBSCRIBED AND SWORN TO before me this 27<sup>th</sup> day of February, 2024  
Candie K. Lester  
Official Seal and Signature of Notary Public



Public Revised 08/2020

Candie K. Lester  
Notary Public, State of Ohio  
My Commission Expires 02-17-25

## REVIEW FEES

**INSTRUCTIONS:** All blanks/boxes must be completed or checked in order for the application submittal to be considered complete. The engineering review fee and planning review fee is calculated in accordance with the City's [Fee Recovery Policy](#). The submittal shall include the required number of copies (properly folded and collated) and contain all required supplementary documentation. Submitted materials shall be accurate, measurable and shall address all required checklist items contained within the attached supplemental requirements.

Application Processing Fee:     \$        300.00  
Engineering Review Fee:        \$ \_\_\_\_\_  
Planning Review Fee:            \$ \_\_\_\_\_  
Total Submittal Fee:            \$ 500 \_\_\_\_\_

## GROVECITY2050 GUIDING PRINCIPLES

In January 2018, the City of Grove City adopted the [GroveCity2050 Community Plan](#) to update the City's plans and policies to proactively shape where and how the community will grow. The Plan contains specific goals, objectives and actions to guide development in Grove City as well as the following five (5) guiding principles:

1. The City's small-town character shall be preserved while continuing to bring additional employment opportunities, residents and amenities to the community.
2. Quality design shall be emphasized for all uses to create an attractive and distinctive public and private realm.
3. Places shall be connected to improve the function of the street network and create safe opportunities to walk, bike and access public transportation throughout the community.
4. Future development shall preserve, protect and enhance the City's natural and built character through sustainable practices, prioritizing parks and open space and emphasizing historic preservation.
5. Development shall provide the City with a net fiscal benefit.



**THE CITY OF GROVE CITY  
SUBMITTAL REQUIREMENTS: FINAL DEVELOPMENT PLAN**



**PLEASE CONTACT STAFF FOR A LINK TO SUBMIT THE FOLLOWING ELECTRONIC FILES FOR INITIAL STAFF REVIEW:**

- ☒ One signed and notarized application
- ☒ Appropriate fee (\$300 plus applicable engineering and planning review fees – see [Fee Recovery Policy](#)). **Please note that either cash, checks or credit card payments will be accepted. For credit card payments call 614-277-3004.**
- ☐ A project narrative describing the nature of the project as well as how the proposed development relates to existing and future land use in the surrounding area in terms of character, street design, trail connectivity, open space and other improvements
- ☐ A metes and bounds legal description and survey of the property, stamped by a certified surveyor of the proposed Development Standards Text (if applicable) **N/A - amendment only**
- ☒ If applicable, the following scaled plans showing:
  - a. Cover Page with signature block (see image below)
  - b. Site Plan
  - c. Grading Plan
  - d. Landscape Plan
  - ~~e. Irrigation Plan~~ **N/A**
  - f. Utility Plan
  - g. Photometric Plan
  - ~~h. Tree Survey~~ **N/A - Trees < 6"**
  - i. Demolition Plan
  - j. Site Details
  - k. Stormwater Management (per the [Stormwater Design Manual](#))

City Administrator \_\_\_\_\_

Service Director \_\_\_\_\_

Reviewer for the City of Grove City \_\_\_\_\_

Fire Department Jackson Township \_\_\_\_\_
- ☐ If applicable, scaled drawings showing: **N/A**
  - a. Location of sign(s) and sign type (wall, ground, projecting or window)
  - b. Sign dimensions, including letter sizes and proposed distance from sign to grade
  - c. Copy layout and lettering styles (fonts) of signage
  - d. Materials and manufacturer to be used in fabrication
  - e. Total area of sign face (including frame)
  - f. Type of illumination
- ☐ If applicable, architectural elevations – **in color** – with proposed colors and finish materials noted **N/A**
- ☒ If applicable, the preliminary stormwater calculations stamped by a professional engineer
- ☐ A photograph of the finish material/color samples board (swatches, plans or product specifications) **N/A**
- ☐ A materials detail sheet listing material, manufacturer and color for all proposed exterior materials **N/A**
- ☐ If applicable, a traffic study indicating potential traffic generation for the proposed site **N/A**
- ☐ If the project is located in the proximity of existing residential development, it is strongly recommended that the applicant reach out with notifications to neighboring residents. **N/A**

**NOTE:** One (1) paper copy (8 1/2 x 11) of all final materials being presented to Planning Commission will be required, as well as one 24 x 36 copy of all plan sheets, if applicable.

For additional information, contact the Grove City Development Department at 614-277-3004 or visit our website at [www.grovecityohio.gov/development](http://www.grovecityohio.gov/development).



## Grove City Planning Commission Meeting and Deadline Schedule 2024

| Planning Commission                                |                                     | City Council                                                  |
|----------------------------------------------------|-------------------------------------|---------------------------------------------------------------|
| Planning Commission<br>Application Filing Deadline | Planning Commission<br>Meeting Date | Tentative City Council<br>Meeting Date*                       |
| November 29, 2023                                  | January 2, 2024                     | 1st Reading January 16, 2024<br>2nd Reading February 5, 2024  |
| January 3, 2024                                    | February 6, 2024                    | 1st Reading February 20, 2024<br>2nd Reading March 4, 2024    |
| January 31, 2024                                   | March 5, 2024                       | 1st Reading March 18, 2024<br>2nd Reading April 1, 2024       |
| February 28, 2024                                  | April 2, 2024                       | 1st Reading April 15, 2024<br>2nd Reading May 6, 2024         |
| April 3, 2024                                      | May 7, 2024                         | 1st Reading May 20, 2024<br>2nd Reading June 3, 2024          |
| May 1, 2024                                        | June 4, 2024                        | 1st Reading June 17, 2024<br>2nd Reading July 1, 2024         |
| May 29, 2024                                       | July 2, 2024                        | 1st Reading July 15, 2024<br>2nd Reading August 5, 2024       |
| July 3, 2024                                       | August 6, 2024                      | 1st Reading August 19, 2024<br>2nd Reading September 3, 2024  |
| July 31, 2024                                      | September 3, 2024                   | 1st Reading September 16, 2024<br>2nd Reading October 7, 2024 |
| September 3, 2024                                  | October 8, 2024                     | 1st Reading October 21, 2024<br>2nd Reading November 4, 2024  |
| October 2, 2024                                    | November 5, 2024                    | 1st Reading November 18, 2024<br>2nd Reading December 2, 2024 |
| October 30, 2024                                   | December 3, 2024                    | 1st Reading December 16, 2024<br>2nd Reading January 6, 2024  |

Time frames for approval vary based on application type. See approval timelines below for more detail.

- Lot Split applications are approved by Planning Commission and do not require City Council approval.
  - Certificate of Appropriateness, Development Plan and Preliminary Development Plan applications are approved by Resolution and require one reading by City Council.
  - Plat and Special Use Permit applications are approved by Ordinance and require two readings by City Council. A 30-day effective period is required after approval.
  - Rezoning applications are approved by Ordinance and require two readings by City Council. A 30-day notification period is required between readings and a 30-day effective period is required after approval.
- Additional Notes:
1. Planning Commission meetings are held in Council Chambers of City Hall at 1:30 pm, on the first Tuesday following the first Monday of each month, unless otherwise noted.
  2. The complete application packet, including all sets of drawings should be submitted no later than 4:00 pm on the filing date. INCOMPLETE ITEMS WILL NOT BE ACCEPTED FOR REVIEW.
  3. Applications shall be submitted to the Grove City Development Department, located on the first floor of City Hall, 4035 Broadway, Grove City, Ohio. Please contact the Development Department for further information at 614-277-3004 or visit our website at [www.grovecityohio.gov/development](http://www.grovecityohio.gov/development).

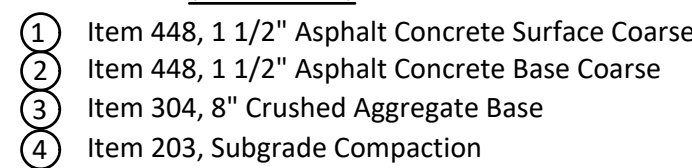


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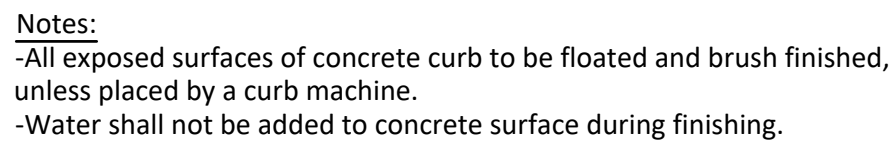




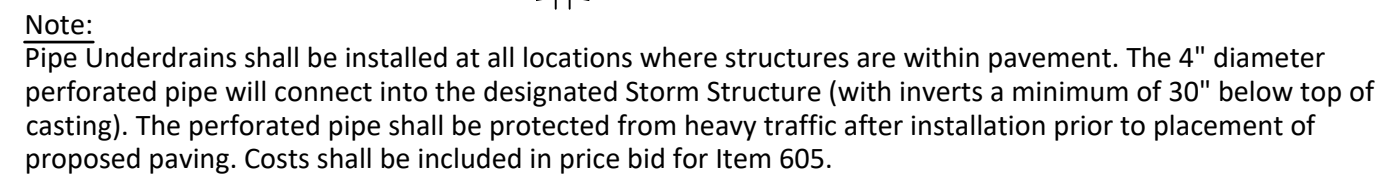
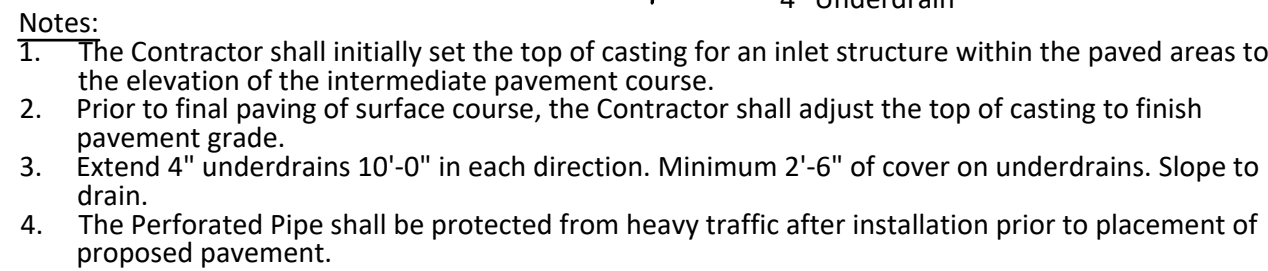




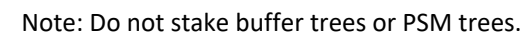
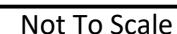
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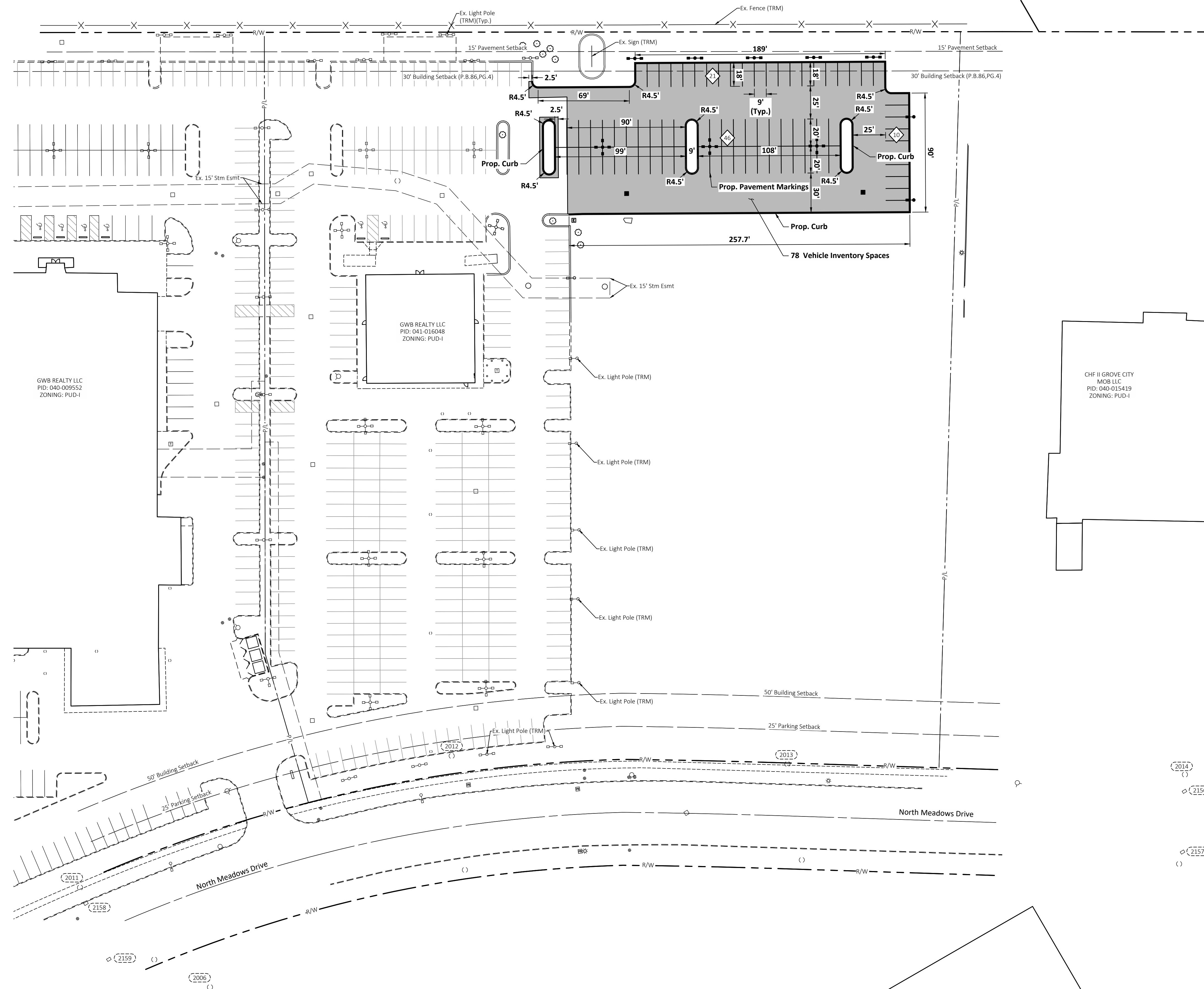
1. Existing vegetation which is to remain shall be protected against unnecessary cutting; breaking or skinning of roots; skinning and bruising of bark; smothering by stockpiling of construction materials or excavated materials; excess foot or vehicular traffic or parking of vehicles within the Tree Protection Zone.
2. Tree protection fence shall be orange laminated plastic fence. Posts shall be 2"x6" steel post or approved equal.
3. Signs to be 12"x18" laminated in plastic and placed every 100' along perimeter of the tree protection fence.
4. All trees to remain shall be protected with a fence. Place fence at limits of Tree Protection Zone as indicated on plan.
5. Existing trees which are to remain in place shall be watered as required to maintain their health during the course of construction operations.
6. Protection shall be provided for roots over 1-1/2" in diameter which are cut during construction operations. Whenever such a root is cut, the cut faces shall be coated with emulsified asphalt or other acceptable coating specially formulated for horticultural use on damaged or cut plant tissues. All exposed roots shall be temporarily covered with wet burlap to prevent the roots from drying out. Exposed roots shall be provided with earth cover as soon as possible.
7. Damaged trees shall be repaired by a certified Arborist. Damaged trees which cannot be repaired and restored to full growth status, as determined by the Arborist, shall be replaced by the contractor with no cost to the Owner. Caliper inches of tree replacement shall equal the DBH of the damaged tree. Owner shall approve location, size and species of tree replacement prior to planting.
8. No construction equipment shall be operated or construction material or excavated material stored inside of the Tree Protection Zone.
9. All tree and brush removal inside and adjacent to Tree Protection Zone shall be done by hand, and all stumps are to be ground out, not bulldozed.
10. DBH = Diameter at Breast Height (4.5 feet from grade) in inches.

SHEET  
3 / 11







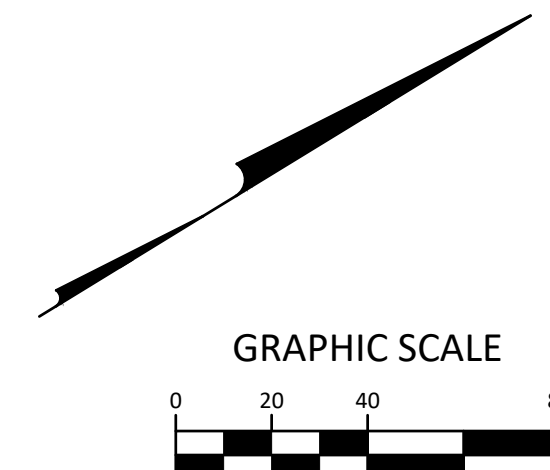


## LEGEND & ABBREVIATIONS

|  |                          |
|--|--------------------------|
|  | Prop. Asphalt Pavement   |
|  | Prop. Curb               |
|  | Prop. Storm Sewer        |
|  | Ex. Water Main           |
|  | Ex. Storm Sewer          |
|  | Ex. Sanitary Sewer       |
|  | Ex. Gas Line             |
|  | Ex. Underground Electric |
|  | Ex. Fence/Gate           |
|  | Ex. Electric Fixture     |
|  | Ex. Pull Box             |
|  | Ex. Fire Hydrant         |
|  | Ex. Water Valve          |
|  | Ex. Sprinkler Control    |
|  | Ex. Sign                 |
|  | Inventory Space Count    |
|  | Ex. Storm Inlet          |
|  | Ex. Light Pole           |
|  | Center Line              |
|  | Easement                 |
|  | Existing                 |
|  | Property Line            |
|  | Right-of-Way             |
|  | To Be Removed            |
|  | To Be Relocated          |
|  | Typical                  |
|  | Water Main               |
|  | Sanitary                 |
|  | Service                  |
|  | Storm                    |
|  | Water Service            |
|  | Domestic Water Service   |
|  | Fire Water Service       |

**NOTES:**

1. The existing utilities on this plan are a combination of survey, record plans and GIS. The contractor shall be responsible for contacting OUPS and field locating existing utilities prior to start of construction.
2. All Striping shall be CMSC Item 640, 4" wide, solid white

[illegible]

GROVE CITY, FRANKLIN COUNTY, OHIO  
FINAL DEVELOPMENT PLAN  
FOR  
**BYERS GROVE CITY CHEVROLET**  
5841 NORTH MEADOWS DRIVE, GROVE CITY, OHIO 43123  
SITE PLAN



DATE  
FEBRUARY 27, 2024

SCALE

1" = 40'

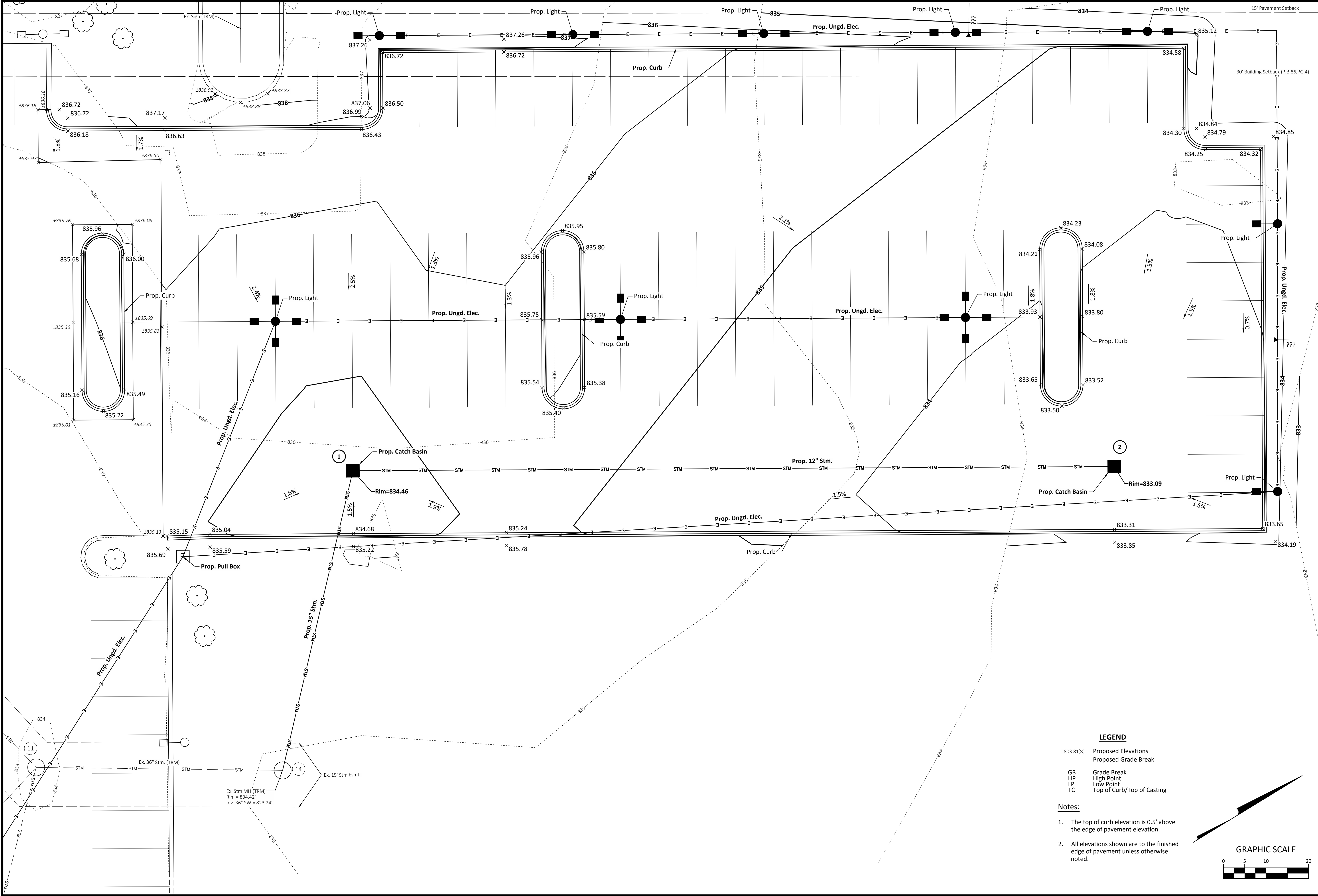
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SHEET

5 / 11



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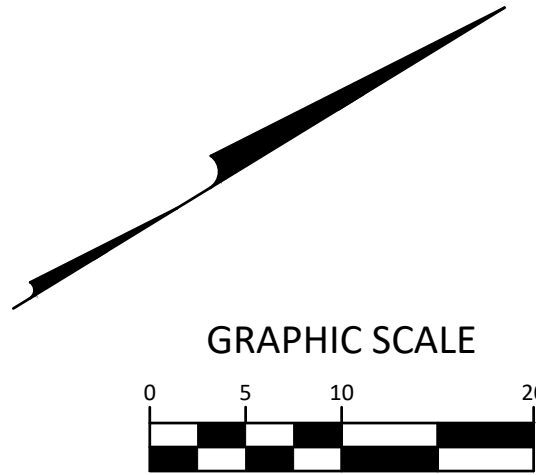


**LEGEND**

803.81x Proposed Elevations  
— Proposed Grade Break

GB Grade Break  
HP High Point  
LP Low Point  
TC Top of Curb/Top of Casting

- Notes:**
1. The top of curb elevation is 0.5' above the edge of pavement elevation.
  2. All elevations shown are to the finished edge of pavement unless otherwise noted.

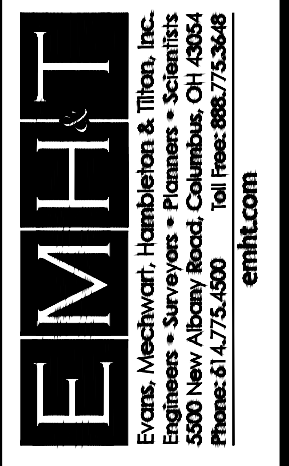


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**BYERS GROVE CITY CHEVROLET**  
5841 NORTH MEADOWS DRIVE, GROVE CITY, OHIO 43123

GROVE CITY, FRANKLIN COUNTY, OHIO  
FINAL DEVELOPMENT PLAN  
FOR  
**BYERS GROVE CITY CHEVROLET**  
5841 NORTH MEADOWS DRIVE, GROVE CITY, OHIO 43123  
STORM SEWER AND GRADING PLAN

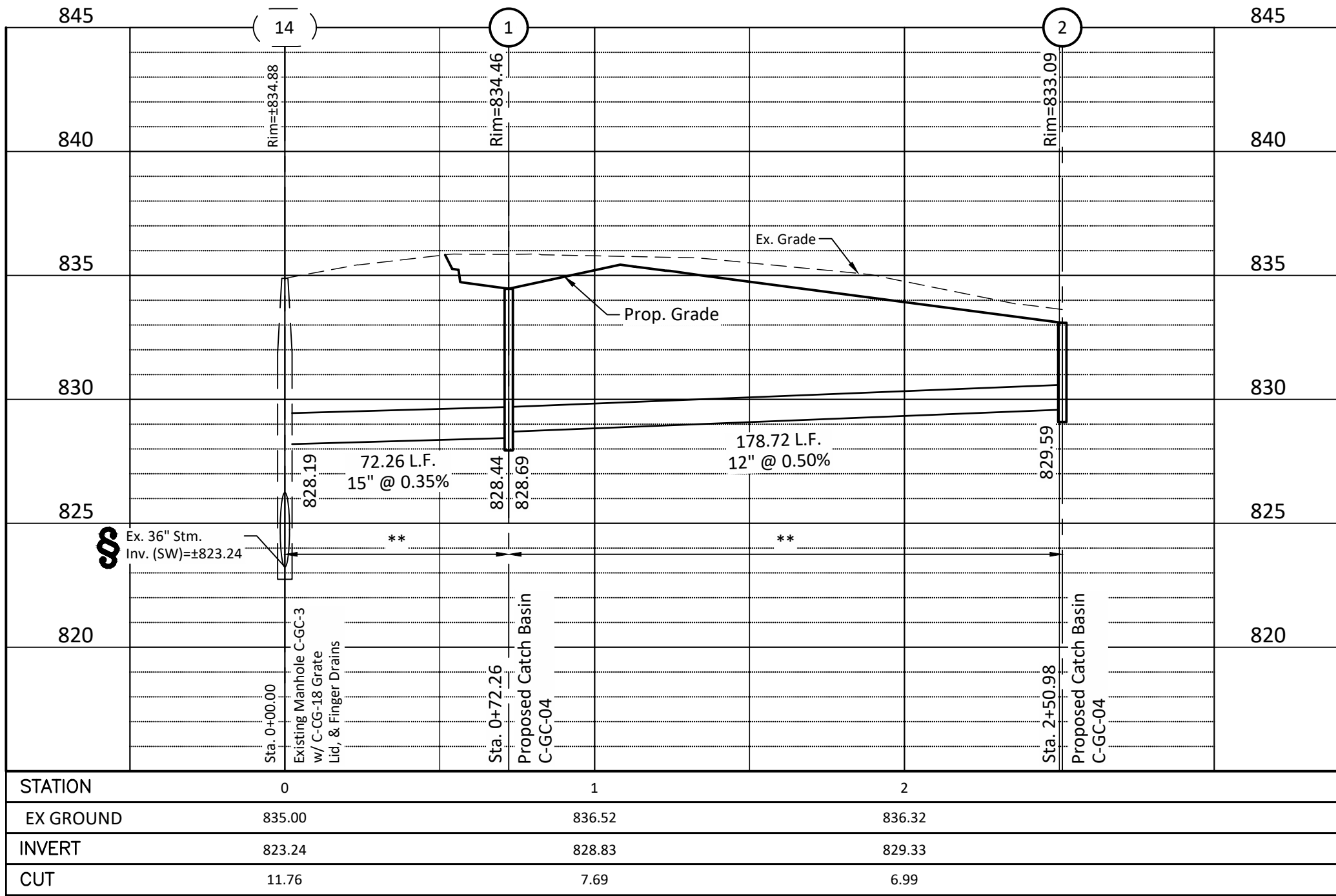


EMHT  
5875 N. MacArthur Blvd., Suite 200, Columbus, OH 43230  
614.775.5500  
www.emht.com

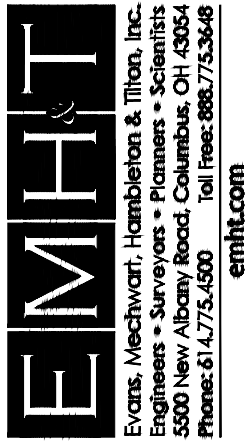
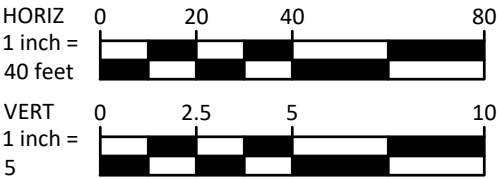
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| JOB NO. | 2023-1056         |
| SHEET   | 6 / 11            |



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| NOTES:                           |                                                                                                                                              |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | All elevations on this plan are based on NAVD 1988 datum, unless otherwise noted.                                                            |
| *                                | Compacted Backfill, Per Item 911                                                                                                             |
| **                               | Compacted Granular Backfill, Per Item 912                                                                                                    |
| ***                              | Pipe runs (denoted with "****") are to be Class A concrete encased per City of Columbus Construction and Materials Specification 901.12.     |
| †                                | Contractor shall maintain a 1.5' minimum clearance from outside of pipe to outside of pipe for all utility crossings unless otherwise noted. |
| §                                | Contractor to verify invert and location of existing utility before construction.                                                            |
| Profile Vertical Datum = NAVD 88 |                                                                                                                                              |



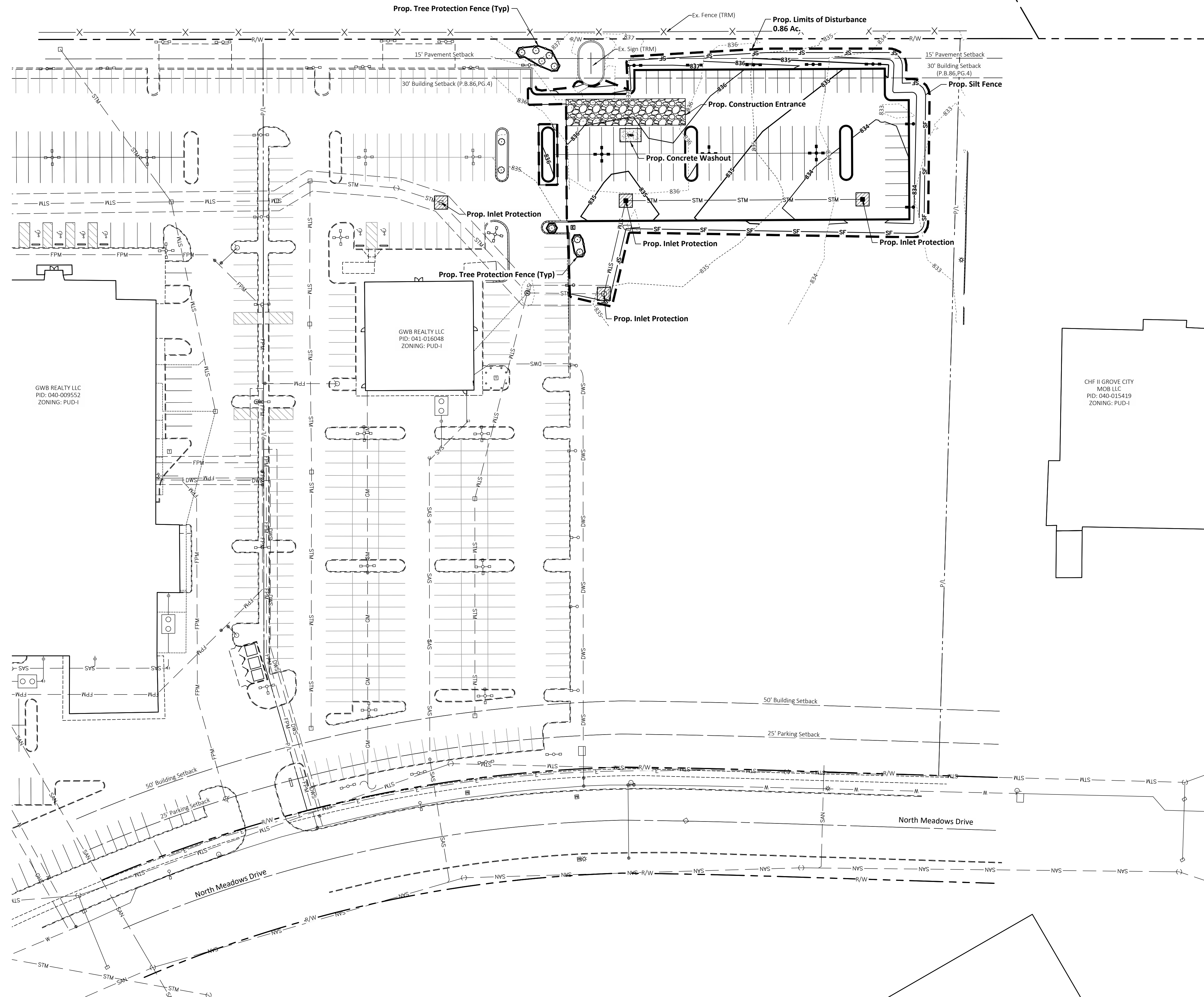
GROVE CITY, FRANKLIN COUNTY, OHIO  
FINAL DEVELOPMENT PLAN  
FOR  
**BYERS GROVE CITY CHEVROLET**  
5841 NORTH MEADOWS DRIVE, GROVE CITY, OHIO 43123  
STORM SEWER PROFILES



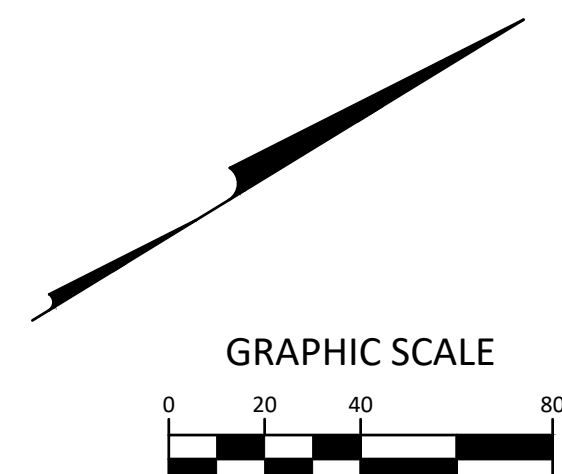
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SHEET  
7 / 11





| <b>LEGEND &amp; ABBREVIATIONS</b> |                              |
|-----------------------------------|------------------------------|
|                                   | Prop. Construction Entrance  |
|                                   | Prop. Concrete Washout Area  |
|                                   | Prop. Inlet Protection       |
|                                   | Prop. Limit of Disturbance   |
|                                   | Prop. Silt Fence             |
|                                   | Prop. Tree Protection Fence, |
|                                   | See Detail, Sheet 3          |
|                                   | Prop. Curb                   |
|                                   | Prop. Storm Sewer            |
|                                   | Prop. Major Contour          |
|                                   | Prop. Minor Contour          |
|                                   | Ex. Major Contour            |
|                                   | Ex. Minor Contour            |
|                                   | Ex. Water Main               |
|                                   | Ex. Storm Sewer              |
|                                   | Ex. Sanitary Sewer           |
|                                   | Ex. Gas Line                 |
|                                   | Ex. Underground Electric     |
|                                   | Ex. Fence/Gate               |
|                                   | Ex. Electric Fixture         |
|                                   | Ex. Pull Box                 |
|                                   | Ex. Fire Hydrant             |
|                                   | Ex. Water Valve              |
|                                   | Ex. Sprinkler Control        |
|                                   | Ex. Sign                     |
|                                   | Ex. Storm Inlet              |
|                                   | Ex. Light Pole               |
| C/L                               | Center Line                  |
| Esmt.                             | Easement                     |
| Ex.                               | Existing                     |
| P/L                               | Property Line                |
| R/W                               | Right-of-Way                 |
| TBR                               | To Be Removed                |
| TBRL                              | To Be Relocated              |
| Typ.                              | Typical                      |
| WM                                | Water Main                   |
| San.                              | Sanitary                     |
| Serv.                             | Service                      |
| Stm.                              | Storm                        |
| WS                                | Water Service                |
| DWS                               | Domestic Water Service       |
| FWS                               | Fire Water Service           |



|                                                                                                                                                                                                                                                                                                                                  |                                      |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--|
|  <p><b>EMHT</b><br/>         Evans, Mechwart, Hombertien &amp; Tilton, Inc.<br/>         5500 New Albany Road, Columbus, OH 43254<br/>         Phone: 614.775.5000    Toll Free: 888.775.3648<br/> <a href="http://emht.com">emht.com</a></p> | <p>DATE</p> <p>FEBRUARY 27, 2024</p> |  |
|                                                                                                                                                                                                                                                                                                                                  | <p>SCALE</p> <p>1" = 40'</p>         |  |
| <p>JOB NO.</p> <p>2023-1056</p>                                                                                                                                                                                                                                                                                                  | <p>SHEET</p> <p>8 / 11</p>           |  |



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|                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PLAN DESIGNER:                            |  | EMH&T<br>Matthew Stypula, PE<br>5500 New Albany Road<br>Columbus, Ohio 43054<br>Tel: (614) 775-4369<br>Fax: (614) 775-4800<br>Email: mstypula@emht.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| OWNER:                                    |  | Byers Chevrolet<br>Paul Gantt<br>5841 North Meadows Drive<br>Grove City, Ohio 43123<br>Tel: (614) 552-5410<br>Email: pgantt@byersauto.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| PROJECT DESCRIPTION:                      |  | Parking Lot Expansion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| AREA OF PROJECT SITE:                     |  | Estimated Disturbed Area: 0.90 Ac.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| EXISTING SITE CONDITIONS:                 |  | Ex. Sales Building, Parking & Undeveloped Land                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| RECEIVING STREAM:                         |  | The site drains into a detention and water quality system which drains to Grant Run and ultimately the Scioto River.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SOILS:                                    |  | The soil borings revealed a generalized soil profile overlying a thin clay-silt cap underlain by natural pre-consolidated glacial till deposits. Topsoil thickness ranged from approximately 0.5 to 1.0 feet.                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EROSION AND SEDIMENT MEASURES:            |  | Silt Fence and Inlet Protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| POST CONSTRUCTION STORM WATER MANAGEMENT: |  | Existing detention and water quality basin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SCHEDULE:                                 |  | The Contractor shall provide a schedule of operations to the owner. Sedimentation and erosion control features shall be placed in accordance with this schedule.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CONSTRUCTION SEQUENCE:                    |  | 1. Install construction entrance and establish a designated concrete washout area.<br>2. Install perimeter controls and inlet protection.<br>3. Complete site demolition and clearing required for construction<br>4. Complete clearing, grubbing, and mass grading activities.<br>5. Temporary stabilize the site as required.<br>6. Construction new storm facilities.<br>7. Install new inlet protection as inlets are constructed.<br>8. Install remaining utilities and site improvements.<br>9. Fine Grade site and install landscape improvements.<br>10. Permanently stabilize site.<br>11. Remove the temporary sediment controls. |
| OHIO EPA NPDES FACILITY PERMIT NUMBER:    |  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| ESTIMATED QUANTITIES |                                   |          |             |
|----------------------|-----------------------------------|----------|-------------|
| CMSC ITEM            | DESCRIPTION                       | QUANTITY | UNIT        |
| 207                  | Construction Seeding and Mulching | 900      | Square Yard |
| 207                  | Sediment Basin and Traps          | 0        | Cubic Foot  |
| 207                  | Riser Pipe for Sediment Basin     | 0        | Linear Foot |
| 207                  | Filter Fabric Fence               | 620      | Linear Foot |
| 207                  | Stabilized Construction Entrance  | 1        | Cubic Yard  |
| 207                  | Bale Filter Dike                  | 0        | Linear Foot |
| 207                  | Inlet Protection                  | 3        | Each        |

| TABLE 1: PERMANENT STABILIZATION                                            |                                                            |
|-----------------------------------------------------------------------------|------------------------------------------------------------|
| AREA REQUIRING PERMANENT STABILIZATION                                      | TIME FRAME TO APPLY EROSION CONTROL                        |
| Any areas that will lie dormant for one year or more                        | Within seven days of the most recent disturbance           |
| Any areas within 50 feet of a surface water of the state and at final grade | Within two days of reaching final grade                    |
| Any areas at final grade                                                    | Within seven days of reaching final grade within that area |

| TABLE 2: TEMPORARY STABILIZATION                                                                                                                                               |                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| AREA REQUIRING PERMANENT STABILIZATION                                                                                                                                         | TIME FRAME TO APPLY EROSION CONTROL                                                                                                                 |
| Any areas within 50 feet of a surface water of the state and at final grade                                                                                                    | Within two days of the most recent disturbance if the area will remain idle for more than fourteen days                                             |
| For all construction activities, any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a surface water of the state | Within seven days of the most recent disturbance within the area                                                                                    |
| For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s)                            | For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s) |
| Disturbed areas that will be idle over winter                                                                                                                                  | Prior to the onset of winter weather                                                                                                                |

**SEDIMENT AND EROSION CONTROL NOTES**

Prior to Construction Operations in a particular area, all sedimentation and erosion control features shall be in place. Field adjustments with respect to locations may be made by the Engineer as requested.

Details have been provided on the plans in an effort to help the Contractor provide erosion and sedimentation control.

The details shown on the plan shall be considered a minimum. Additional or alternate details may be found in the O.D.N.R. Manual "Rainwater and Land Development." The Contractor shall be solely responsible for providing necessary and adequate measures for proper control of erosion and sediment runoff from the site along with proper maintenance and inspection in compliance with the NPDES General Permit for Storm Discharges Associated with Construction Activity.

Field adjustments with respect to locations and dimensions may be made by the Engineer, Grove City and the Ohio EPA.

A temporary sediment basin must be provided for all sites that have a common disturbed drainage area of ten acres or more. The temporary sediment basin shall remain in place until the site is permanently stabilized.

The Contractor shall place inlet protection for the sedimentation control immediately after the construction of catch basins or inlets which are not tributary to a sediment basin or trap.

It may become necessary to remove portions of sedimentation controls during construction to facilitate the grading operations in certain areas. However, the controls shall be replaced upon completion of grading or during any inclement weather.

The Contractor shall be responsible to have the current Storm Water Pollution Plan immediately available or posted on site.

The Contractor shall be responsible to ensure that off-site tracking of sediments by vehicles and equipment is minimized. All such off-site sediment shall be cleaned up as necessary.

The Contractor shall be responsible to ensure that no solid or liquid waste is discharged into storm water runoff. Untreated sediment-laden runoff shall not flow off of site without being directed through a control practice. Concrete trucks will not be allowed to wash out or discharge surplus concrete into or alongside rivers, streams, or creeks or into natural or man-made channels or swales leading thereto. Concrete wash water and surplus concrete shall be confined to approved areas after solidifying, these water materials shall be removed from the site.

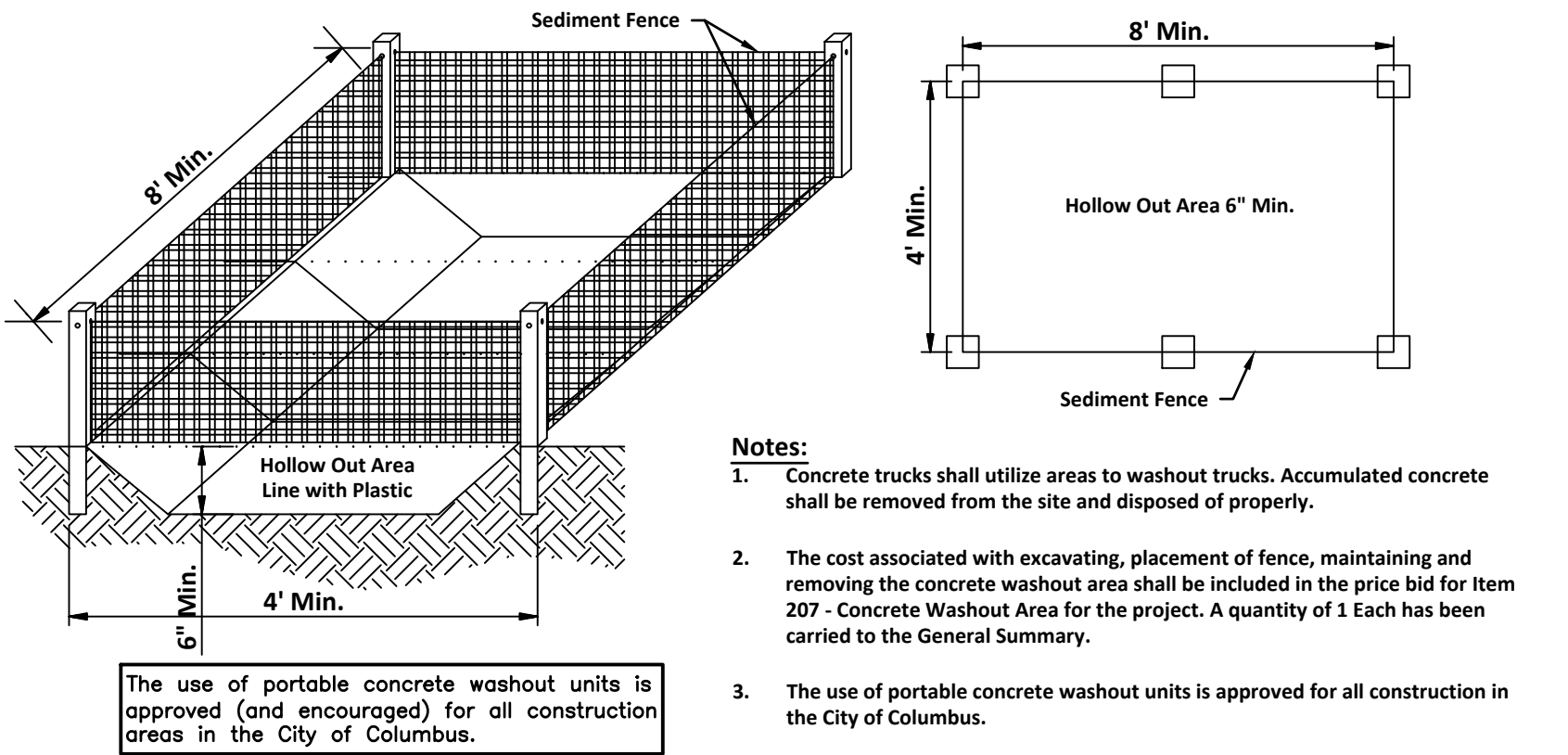
The Contractor shall remove all temporary erosion and sedimentation controls upon permanent stabilization of the site.

The cost for temporary channels, sediment basins and other appurtenant earth-moving operations shall be included in the price bid for erosion and sedimentation quantities.

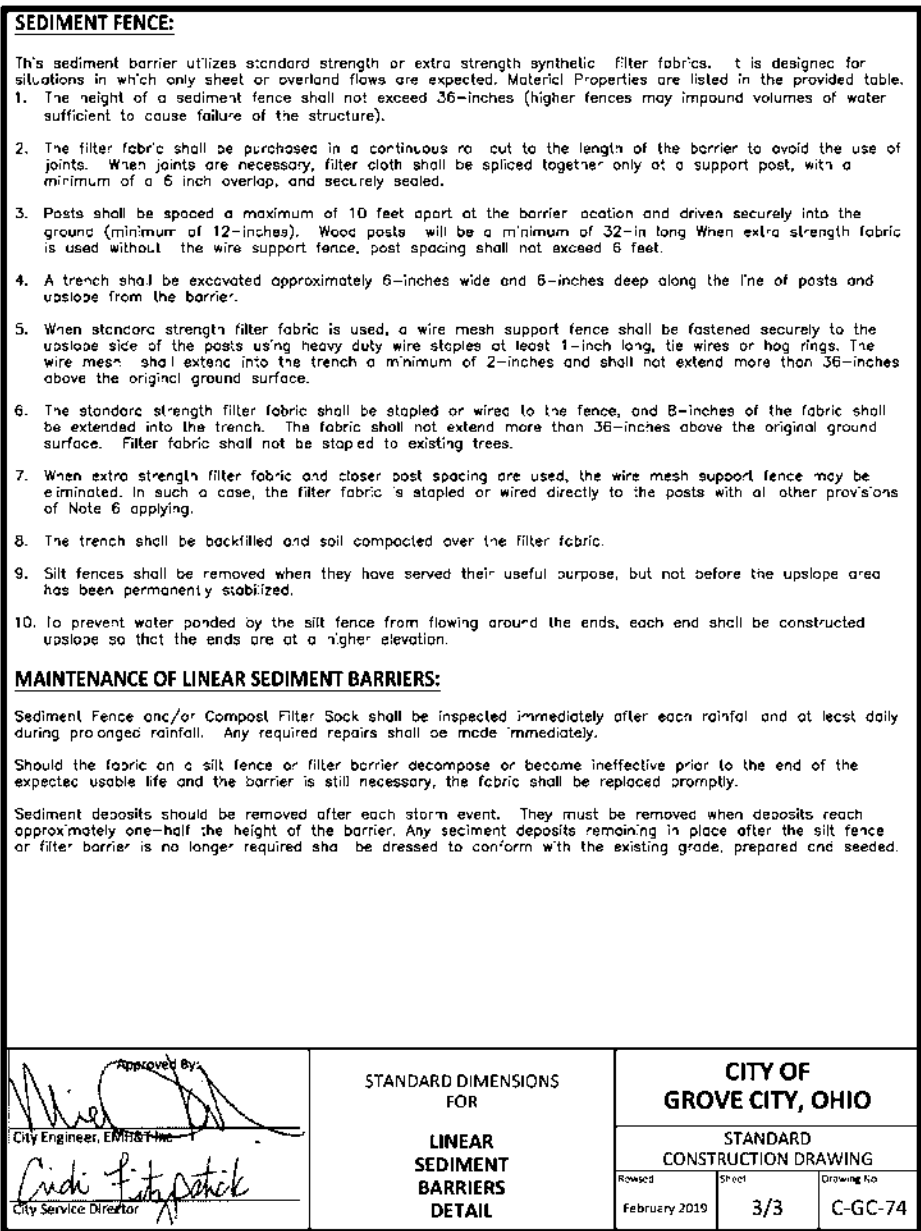
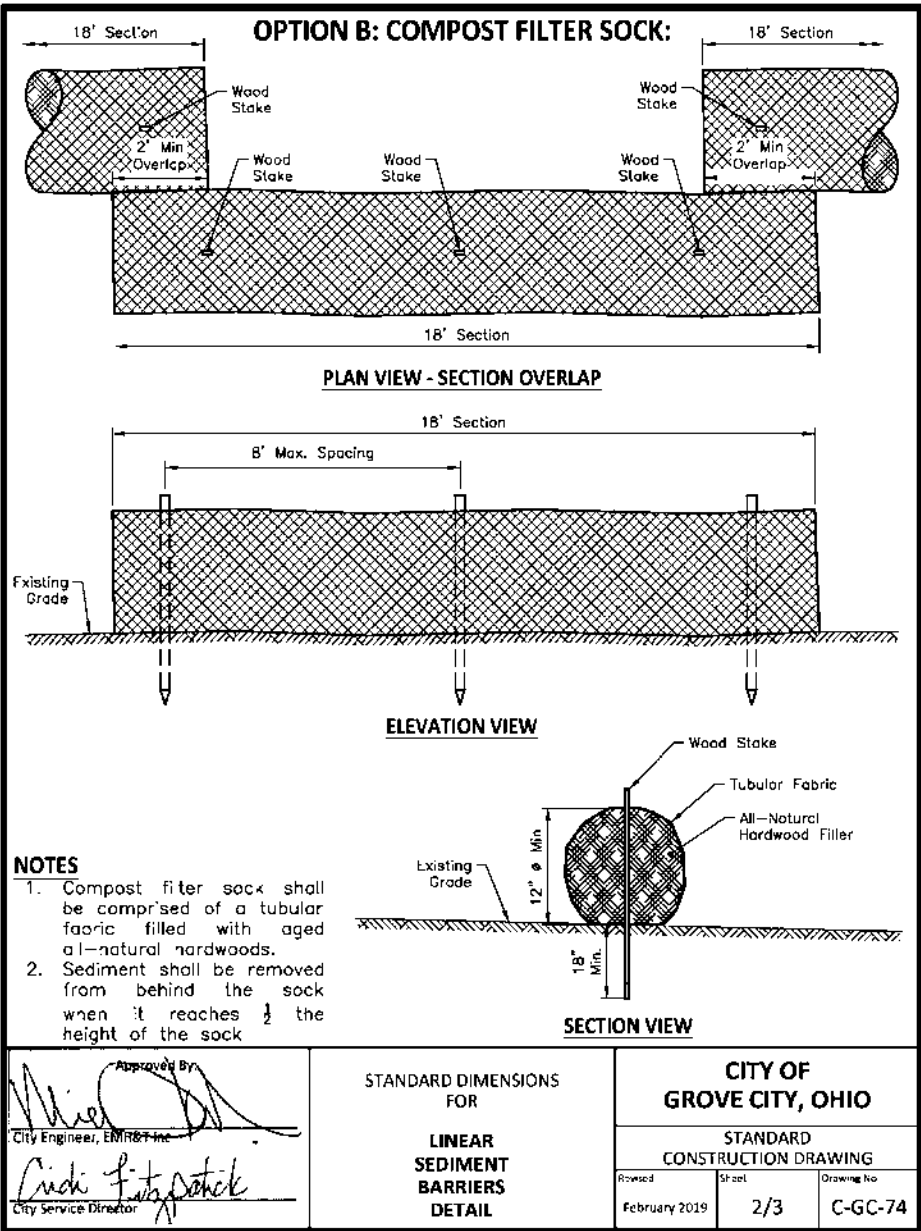
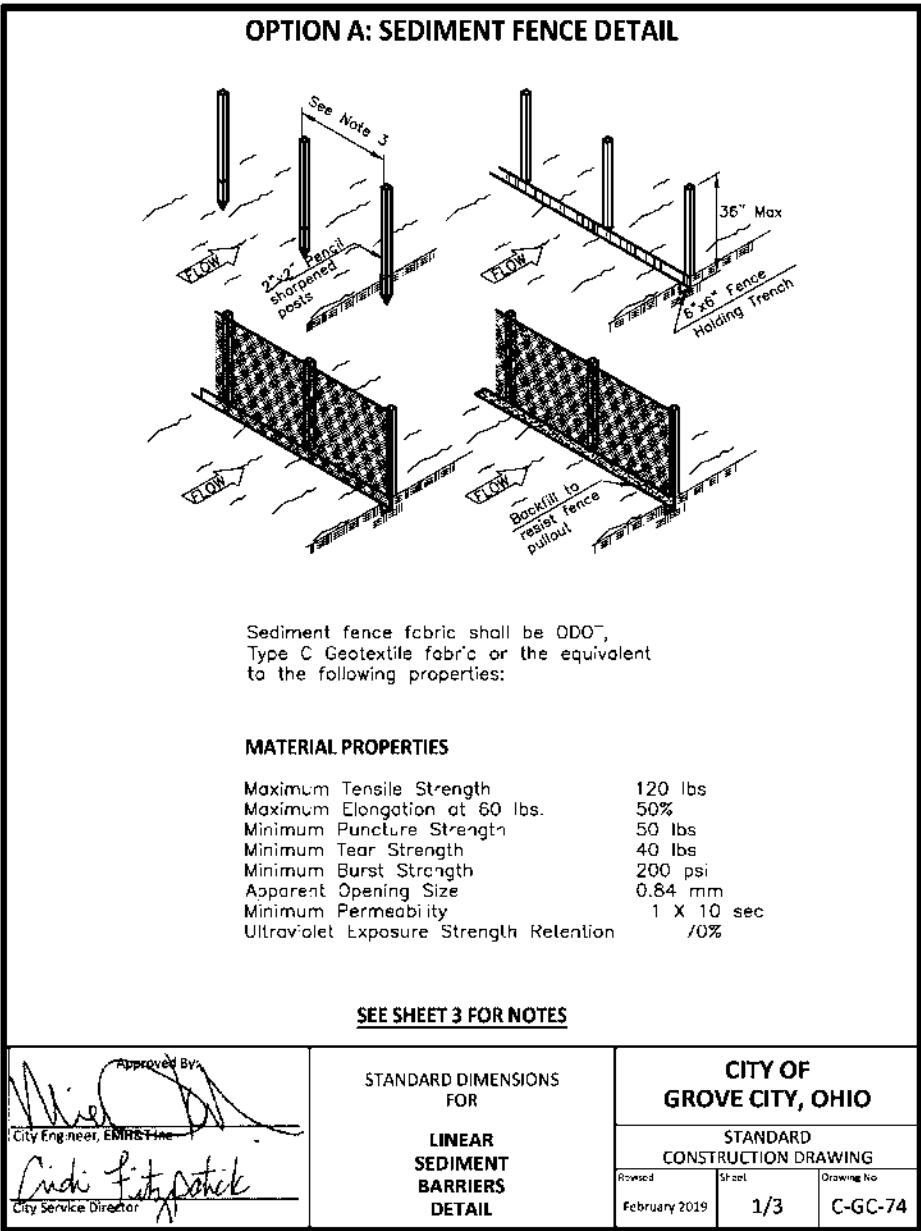
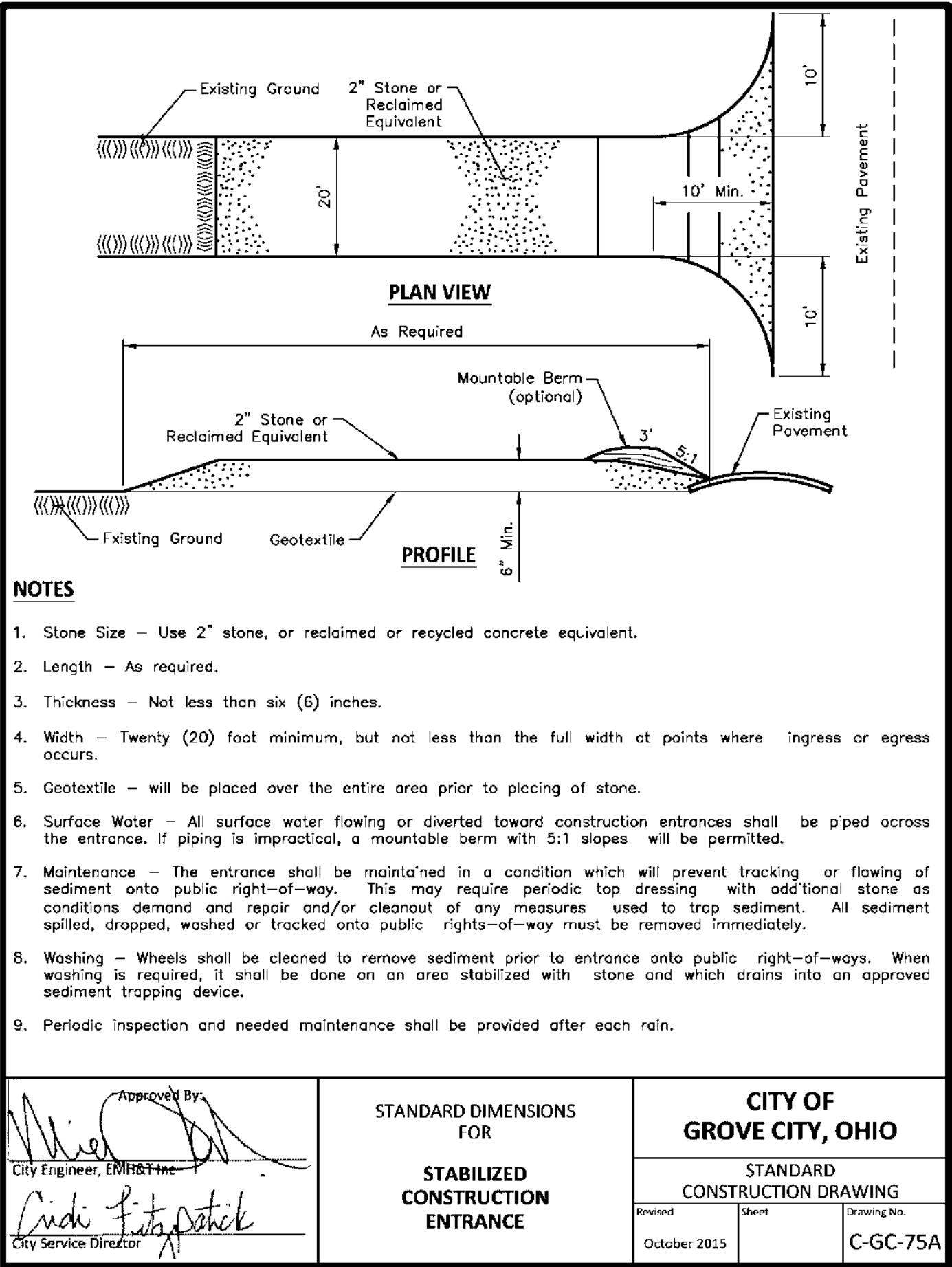
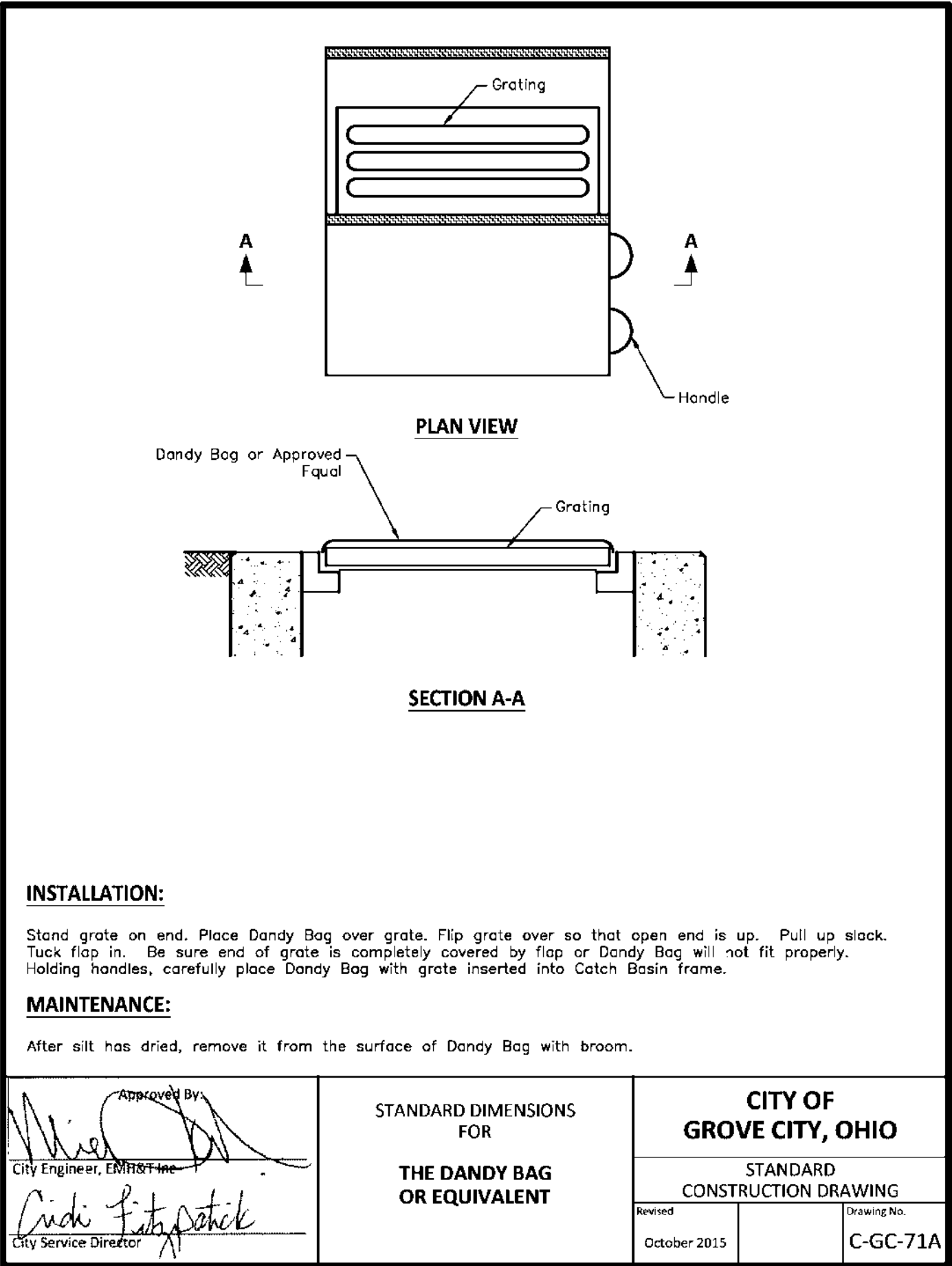
**TEMPORARY AND PERMANENT SEEDING:**

The limits of seeding and mulching are shown on the plan. Seeding has been assumed to be 5' outside the work limits or right-of-way, whichever is greater. All areas not designated to be seeded shall remain under natural ground cover. Those areas disturbed outside the seeding limits shall be seeded and mulched at the Contractor's expense.

Temporary and Permanent Seeding shall be applied per the requirements identified within the City of Grove City General Notes and the ODNR "Rainwater and Land Development" manual.



CONCRETE WASHOUT AREA  
Not To Scale



REVISIONS

| MARK | DATE | DESCRIPTION |
|------|------|-------------|
|      |      |             |
|      |      |             |
|      |      |             |
|      |      |             |

Byers CHEVROLET

GROVE CITY, FRANKLIN COUNTY, OHIO  
FINAL DEVELOPMENT PLAN  
FOR  
BYERS GROVE CITY CHEVROLET  
5841 NORTH MEADOWS DRIVE, GROVE CITY, OHIO 43123

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

EMH&T

5841 North Meadows Drive, Grove City, Ohio 43123  
Engineers - Surveyors - Planners - Scientists  
5500 New Albany Road, Columbus, OH 43254  
Phone: 614.775.5500 Fax: 614.775.5500 emht.com

DATE  
FEBRUARY 27, 2024

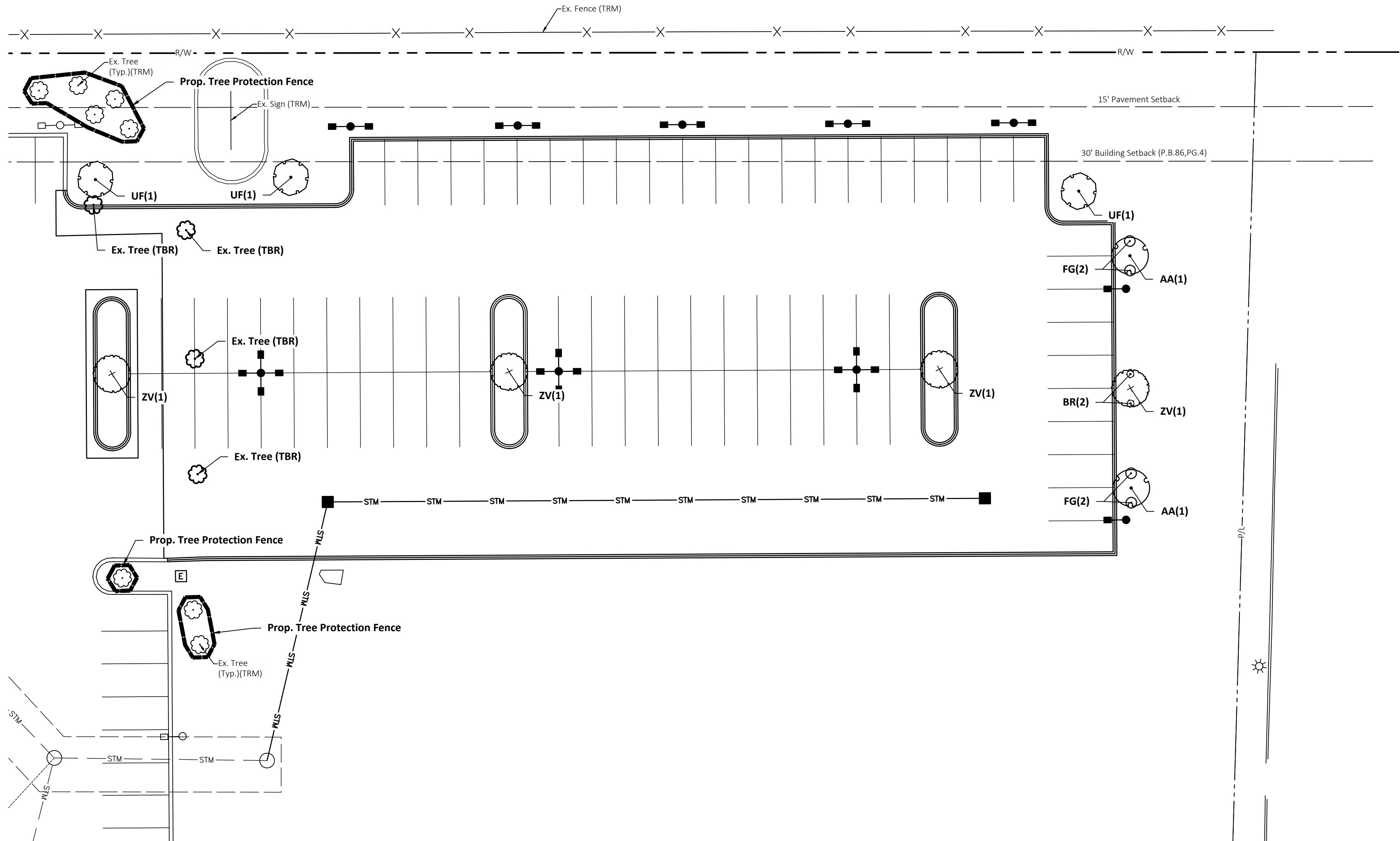
SCALE  
NONE

JOB NO.  
2023-1056

SHEET  
9 / 11



\\cmhdata01\Project01\20231056\Draw\CSheets\Site Improvement\SCP - Landscape Plan.dwg, LAST SAVED BY: mstypula, 3/21/2024 1:00 PM, LAST PRINTED BY: Stypula, Math, 3/22/2024 9:33 AM (NO XREFS)

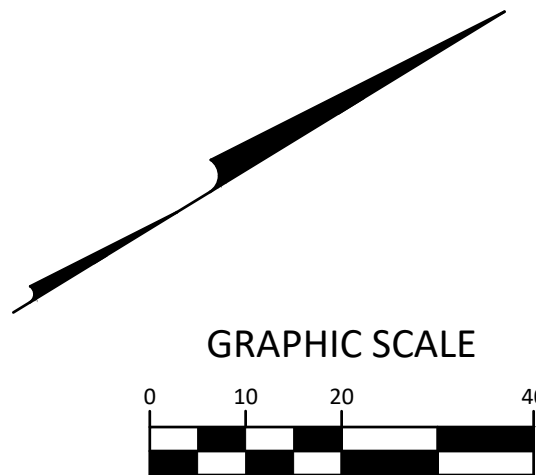


LEGEND & ABBREVIATIONS

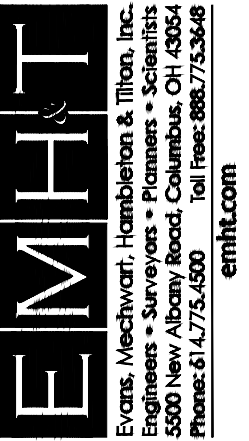
- Manhole Catch Basin Curb & Gutter Inlet
  - Prop. Curb
  - Prop. Storm Sewer
  - Prop. Tree Protection Fence, See Detail, Sheet 3
  - Ex. Valve
  - Ex. Water Main
  - Ex. Storm Sewer
  - Ex. Sanitary Sewer
  - Ex. Gas Line
  - Ex. Underground Electric
  - Ex. Fence/Gate
  - Ex. Electric Fixture
  - Ex. Pull Box
  - Ex. Fire Hydrant
  - Ex. Water Valve
  - Ex. Sprinkler Control
  - Ex. Sign
  - Ex. Storm Inlet
  - Ex. Light Pole
  - Ex.
  - P/L
  - R/W
  - TBR
- NOTES:
- The existing utilities on this plan are a combination of survey, record plans and GIS. The contractor shall be responsible for contacting OUPS and field locating existing utilities prior to start of construction.
  - All trees shown for removal have a diameter of less than 6" at 24" above ground elevation.

PLANT SCHEDULE

| TREES  | QTY | BOTANICAL NAME                                      | SIZE      | CONDITION |
|--------|-----|-----------------------------------------------------|-----------|-----------|
| AA     | 2   | ACER x. freemanii 'Autumn Blaze' Autumn Blaze Maple | 2.0" Cal. | B&B       |
| UF     | 3   | Ulmus x 'Frontier' American Elm                     | 2.0" Cal. | B&B       |
| ZV     | 4   | Zelkova serrata 'Village Green' Sawleaf Zelkova     | 2.0" Cal. | B&B       |
| SHRUBS | QTY | BOTANICAL NAME                                      | SIZE      | CONDITION |
| BR     | 2   | Berberis thunbergii 'Rose Glow' Rosy Glow Barberry  | 18" Ht.   | B&B       |
| UF     | 4   | Fothergilla gardenii Dwarf Fothergilla              | 18" Ht.   | B&B       |



GROVE CITY, FRANKLIN COUNTY, OHIO  
FINAL DEVELOPMENT PLAN  
FOR  
BYERS GROVE CITY CHEVROLET  
5841 NORTH MEADOWS DRIVE, GROVE CITY, OHIO 43123  
LANDSCAPE PLAN



| DATE              |
|-------------------|
| FEBRUARY 27, 2024 |
| SCALE             |
| 1" = 20'          |
| JOB NO.           |
| 2023-1056         |
| SHEET             |
| 10 / 11           |

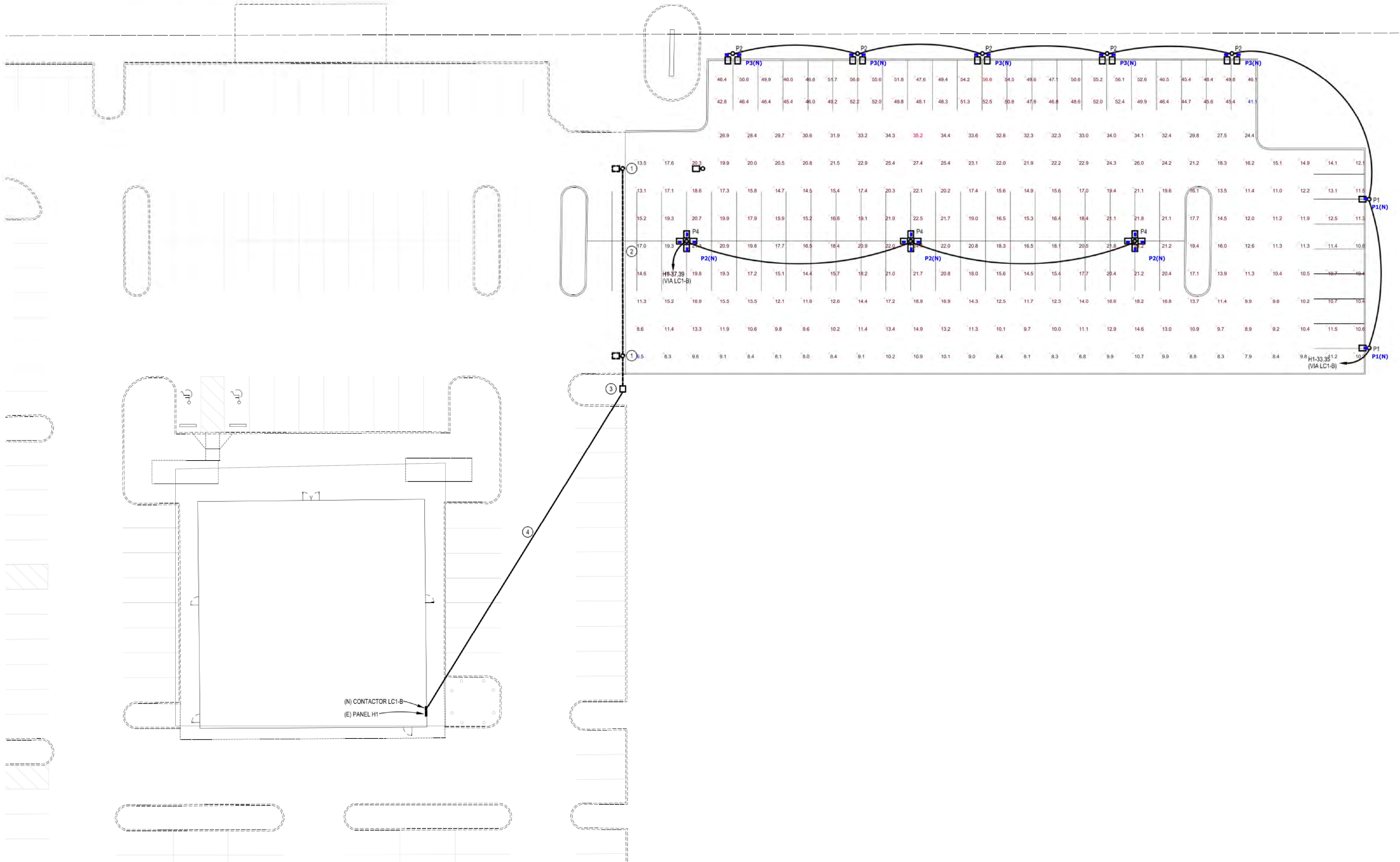


\\cmhdata01\Project01\20231056\Draws\ASheets\Site Improvement\SCP - Photometric Plan.dwg, LAST SAVED BY: msypulis, 3/22/2024, 9:18 AM, LAST PRINTED BY: Sypulis, Matt, 3/22/2024, 9:33 AM (NO XREFS)

| Schedule                                                                          |       |     |                   |                             |                                                                                       |              |             |                 |
|-----------------------------------------------------------------------------------|-------|-----|-------------------|-----------------------------|---------------------------------------------------------------------------------------|--------------|-------------|-----------------|
| Symbol                                                                            | Label | QTY | Manufacturer      | Catalog                     | Description                                                                           | Number Lamps | Lamp Output | LLF Input Power |
|  | P1(N) | 2   | Lithonia Lighting | RSX3 LED P4 50K R4          | RSX Area Fixture Size 3 P4 Lumen Package 5000K CCT Type R4 Distribution               | 1            | 40976       | 0.92 311.92     |
|  | P2(N) | 3   | Lithonia Lighting | RSX3 LED P4 50K R4          | RSX Area Fixture Size 3 P4 Lumen Package 5000K CCT Type R4 Distribution               | 1            | 40976       | 0.92 1247.68    |
|  | P3(N) | 5   | Lithonia Lighting | RSX3 LED P4 40K AFR L908R90 | RSX Area Fixture Size 3 P4 Lumen Package 4000K CCT Type AFR Left & Right Distribution | 1            | [...]       | 0.92 623.8426   |

| Statistics                       |                                                                                   |         |         |         |         |         |
|----------------------------------|-----------------------------------------------------------------------------------|---------|---------|---------|---------|---------|
| Description                      | Symbol                                                                            | Avg     | Max     | Min     | Max/Min | Avg/Min |
| EXPANSION LOT (FRONT ROW SPACES) |  | 49.3 fc | 56.6 fc | 41.1 fc | 1.4:1   | 1.2:1   |
| EXPANSION LOT                    |  | 16.7 fc | 35.2 fc | 6.5 fc  | 5.4:1   | 2.6:1   |

- LIGHT POLE NOTES
- Light fixtures shall be finished in white to match existing site lighting.



Plan View  
Scale - 1" = 20ft



BYERS CHEVY RETROFIT & EXPANSION LOT  
SITE LIGHTING LAYOUT

Designer  
Date 01/17/2024  
Summary

4 of 4



GROVE CITY, FRANKLIN COUNTY, OHIO  
FINAL DEVELOPMENT PLAN  
FOR  
BYERS GROVE CITY CHEVROLET  
5841 NORTH MEADOWS DRIVE, GROVE CITY, OHIO 43123  
PHOTOMETRIC PLAN



EMH  
Engineering & Management, Inc.  
Engineers • Surveyors • Planners • Scientists  
5500 New Albany Road, Columbus, OH 43254  
Phone: 614.775.5500 Fax: 614.775.5501  
emh.com

|         |                   |
|---------|-------------------|
| DATE    | FEBRUARY 27, 2024 |
| SCALE   | NONE              |
| JOB NO. | 2023-1056         |
| SHEET   | 11 / 11           |

| REVISIONS |      |             |
|-----------|------|-------------|
| MARK      | DATE | DESCRIPTION |
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Engineers, Surveyors, Planners, Scientists

March 21, 2024

Terry Barr, AICP  
Development Planner  
The City of Grove City  
4035 Broadway  
Grove City, Ohio 43123

Subject: Byers Chevrolet, Application #202402290014

Dear Mr. Barr,

Listed below are your comments for the Byers Chevrolet Parking Lot Expansion project. Our responses to your comments are shown in *red italics*.

1. Revise the quantities in the lighting schedule. Schedule shows a quantity of 73 fixtures; the plans show 10 fixtures. Light fixtures are required to be finished in white to match the existing lights on site.  
*Response: Table has been revised to only show the new fixtures and note has been added noting the finish.*
2. Revise tree planting typical stating 50% of the wire cage and 50% of burlap will be removed from root ball of all trees being planted.  
*Response: Complied with Comment.*
3. Tree bark protector is not required on the tree after planting. Please remove from tree planting detail.  
*Response: Complied with Comment.*
4. Proposed parking rows exceed the maximum number of consecutive spaces of 21 and will require division with a parking island. The parking islands will require one 2" caliper tree be planted in each.  
*Response: Island with Tree has been added to the plan providing a break in the parking. 2" caliper tree is provided in each.*
5. Shrubs need to be a minimum of 18" in height at time of installation. Update Plant Schedule to say the size in height, not container size.  
*Response: Complied with Comment.*
6. Need to have a Tree Preservation Plan added that shows that the existing trees to the West and the East of the new parking lot will be protected with orange snow fencing and signage stating that the area is not to be crossed.  
*Response: Complied with Comment. See sheet 3 and E&S and Landscape Plan*
7. O&M agreement updates will be required.  
*Response: Agreement will be revised.*
8. Revise note #1 on page to add the revision date of the latest specifications.  
*Response: Complied with Comment.*

9. Provided inlet protection for the grate lid south of the proposed parking lot and extend limits of disturbance and silt fence. Page 8.

*Response: Complied with Comment.*

10. If grass area south of the propose parking lot is going to be paved in the future, consider using 912 backfill for the run between the catch basin and manhole to the south.

*Response: Plans for the future are not known at this time, but there is potential for expansion so plan has been revised to 912 backfill.*

Please review and contact me at (614) 775-4369 if you have any further questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'M. Stypula', with a stylized flourish at the end.

Matthew J. Stypula, PE  
Senior Project Manager | Associate

Copies: file



**Byers Grove City Chevrolet**  
5841 North Meadows Drive  
Project Description  
February 27, 2024  
EMH&T Job No. 2023-1056

**Side Description**

The project will remove ten (10) parking spaces and associated curb, four (4) trees, all of which are less than 6" caliper, to construct an 80 space parking area for vehicle inventory. Drainage from the proposed lot will drain to the existing storm sewer system and utilize the existing detention basin which was designed to accommodate this area. The project will also plant eight (8) trees and six (6) shrubs.



## ITEM 4: 202402280015 – Hoover Road Medical Parking Expansion – Development Plan Amendment

### Site Location

5775 Hoover Road (PID 040-016671).

### Proposal

A Development Plan Amendment to allow for the addition of 23 parking spaces.

### Current Zoning

PUD-C (Planned Unit Development – Commercial).

### Future Land Use

Mixed Use Employment Center.

### Property Owner

Hoover Road Medical LLC.

### Applicant/Representative

Kurt Lape, Connect CDC LLC.

### Applicable Plans, Policies, and Code Section(s)

- Zoning Code Section 1135.14.
- GroveCity2050 Future Land Use and Character Map.
- C-41-20 (Zoning Text).

### Staff Recommendation

Approval with one deviation.

### Contents

### Page

|                                |   |
|--------------------------------|---|
| 1. Context Map .....           | 2 |
| 2. Analysis.....               | 3 |
| 4. GroveCity2050 Analysis..... | 6 |
| 5. Recommendation.....         | 7 |
| 6. Detailed History .....      | 7 |

### Case Manager

Dash Logan, AICP, Senior Planner  
614-277-3024  
dlogan@grovecityohio.gov

### Summary

This proposal is a Development Plan amendment to allow for the addition of 23 parking spaces in front of 5775 Hoover Road.

### Zoning Map



### Next Steps

Upon recommendation from Planning Commission, the Development Plan Amendment can move forward to City Council.



## 1. Context Map

This property is located at 5775 Hoover Road (PID 040-016671).



202402280015  
Hoover Road Medical Parking Expansion  
Development Plan Amendment  
PID: 040-016671

0 50 100 200 300 400 500  
Feet



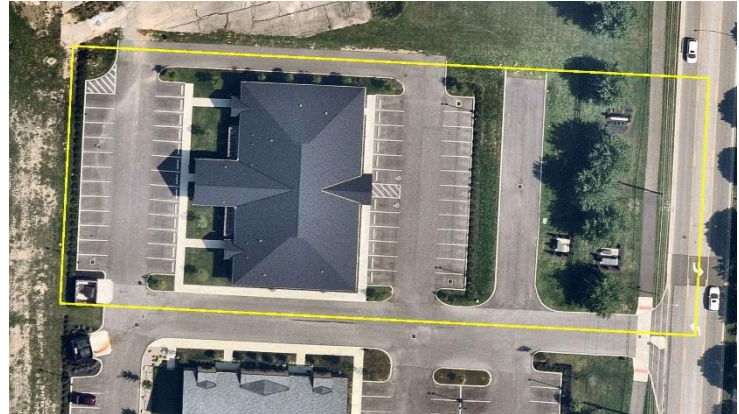


## 2. Analysis

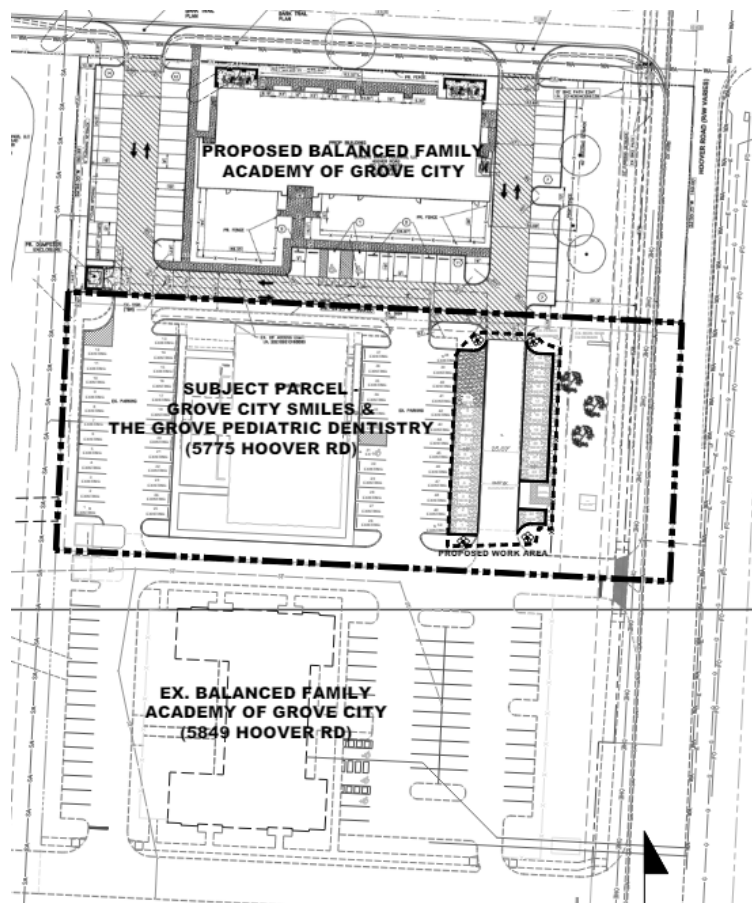
The applicant is requesting approval of a Development Plan amendment to allow for the addition of 23 parking spaces in front of 5775 Hoover Road. In 2021, City Council approved a Development Plan for an 8,898-square-foot one-story medical office building with Ordinance CR-25-21. The approved development plan included a 24-foot-wide drive aisle running between the parking area and Hoover Road, intending to provide connectivity to the parcel to the north. The approved plan included no parking spaces along this drive aisle, as the zoning text for the site (C-41-20) allows for only one double-loaded parking aisle in front of the building along Hoover Road for all out parcels except the southernmost out parcel in the Subarea.

The proposed development plan amendment would require a deviation from Section V(B)(c)(iv) in order to install a second double-loaded parking aisle between the building and Hoover Road; however, the proposed parking would align with the Balanced Family Academy parcel to the south which includes a second row of parking, and the future Balanced Family Academy addition to the north which also includes a parking aisle along Hoover Road. The addition of parking spaces along this drive aisle will match the built character of the adjacent parcels while increasing the parking capacity for the existing medical tenants, as materials indicate that the site currently experiences parking difficulties that impact neighboring properties.

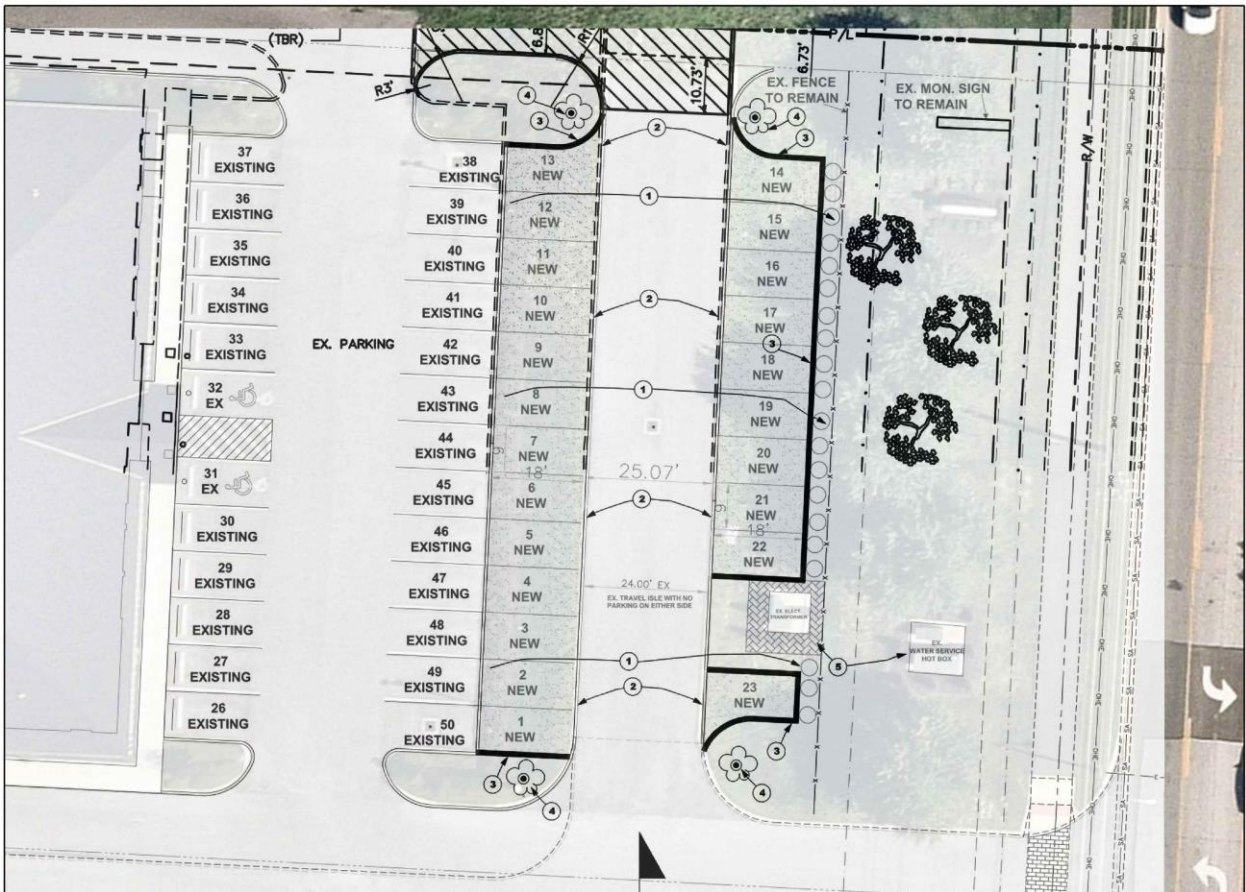
The zoning text for the site (C-41-20) allows deviations to the standards and requirements of the text to be approved by City Council through a Development Plan, provided that the deviations are consistent and harmonious with the overall intent of the development and do not diminish, detract, or weaken the overall compatibility between the uses within or proximity of the property.



*5775 Hoover Road as approved*



*Proposed Parking Addition with Adjacent Outparcels*



*Proposed Parking Addition*

The proposed amendment would add 23 parking spaces along the existing drive aisle. Each space will measure 9' by 18', matching both the size required by the zoning text and the existing spaces on site. Materials indicate that the existing plantings that screen the east side of the parking area will be relocated between the new parking row and Hoover Road to provide the required screening. The two new end peninsulas created by the parking rows will each contain a 2.5" caliper tree, which will be the same species as those used elsewhere on site.

### Stormwater

Materials indicate that the parking spaces will utilize the existing stormwater infrastructure on site. The site utilizes a regional stormwater basin to the west to manage stormwater on-site. The stormwater report for the regional basin assumed that this parcel would have an impervious area of 0.961 acres, which could be accommodated by the regional basin. While the addition of 23 spaces will result in an additional 3,800 square feet of impervious area, the site will still only have an impervious area of 0.867 acres, which is less than the regional basin accounted for in calculating capacity.

### 3. GroveCity2050 Analysis

The City of Grove City adopted the GroveCity2050 Community Plan in January 2018 which contains specific goals, objectives, and actions to guide growth in the community. Five (5) guiding principles are identified that articulate Grove City's community values and direct the recommendations in the plan. Applications submitted to Planning Commission are reviewed based on these 5 guiding principles.

- (1) **The City's small-town character is preserved while continuing to bring additional employment opportunities, residents, and amenities to the community.**

**Finding is Met:** The proposed parking lot addition, while not providing additional employment opportunities or amenities, will allow for existing medical office space to continue to serve the healthcare needs of Grove City residents.

- (2) **Quality design is emphasized for all uses to create an attractive and distinctive public and private realm.**

**Finding is Met:** The additional parking spaces will be screened with the required landscaping and will act as an extension of the existing parking lot. Additionally, the proposed parking spaces will match the built character of the parcels to the north and south.

- (3) **Places will be connected to improve the function of the street network and create safe opportunities to walk, bike, and access public transportation throughout the community.**

**Finding Not Applicable:** No changes are proposed to the street or sidewalk network.

- (4) **Future development will preserve, protect, and enhance the City's natural and built character through sustainable practices, prioritizing parks, and open space, and emphasizing historic preservation.**

**Finding Not Applicable:** The scope of the development is limited in applicability to this principle.

- (5) **Development provides the city with a net fiscal benefit.**

**Finding is Met:** The proposed parking lot expansion will not provide the city with a fiscal benefit but will also not detract from the city's finances. The expansion will provide existing medical office tenants with additional parking spaces to provide residents with quality healthcare options.

### 4. Recommendation

After review and consideration, the Development Department recommends Planning Commission make a recommendation of approval to City Council for the Development Plan Amendment with the following deviation:

1. A deviation to section V(B)(c)(iv) of the approved zoning text shall be approved to allow for a second double-loaded parking aisle to be located between the building and Hoover Road.



## **5. Detailed History**

### **1975**

The portion of the site part of Parcel 040-004974 was annexed into Grove City in March 1975 under Ordinance C-14-75 as part of a comprehensive annexation including areas along the west side of Hoover Road and east of I-71 and then zoned to its current SD-1 district in May 1975 under Ordinance C-17-75.

### **1993**

The main portion of the site (Parcel 040-008056) was annexed into Grove City in March 1993 under Ordinance C-10-93, and the site was zoned to R-1.

### **1997**

The main site was rezoned from R-1 to SD-1 to accommodate the construction of the Buckeye Ranch Equestrian Center. The Development Plan for construction on the site was approved with Resolution CR-47-97.

### **2018**

The Buckeye Ranch ceased operation of the Equestrian Center, and the site became available for sale and redevelopment.

### **2019**

Planning Commission approved two Lot Splits at the March 5 meeting for the site, including the creation of two lots (22 acres and 7.3 acres) from the main site (former equestrian site) and 2.5 acres from the Buckeye Ranch site to be added to the proposed development.

A Preliminary Development Plan was heard at the September 3, 2019, City Council meeting. Due to concerns with unknowns with the proposed roadway alignment and the amount of residential proposed versus commercial, City Council voted to disapprove the plan.

### **2020**

Planning Commission approved three lot splits of 1.521, 1.544, and 1.548 acres out of the main 22.380-acre tract of land, creating three out parcels along Hoover Road.

City Council Approved the rezoning of the site from SD-1 to PUD-R and PUD-C with a zoning text (C41-20).

City Council approved the Development Plan for Balanced Family Academy, on the out parcel to the south, with Resolution CR-50-20.

### **2021**

City Council approved a Development Plan for an 8,898 square one-story medical office building with Ordinance CR-25-21.



## Grove City Planning Commission FINAL DEVELOPMENT PLAN APPLICATION

Please provide the requested  
information and submit to:

DEVELOPMENT DEPARTMENT  
4035 BROADWAY  
GROVE CITY, OHIO 43123  
614-277-3004

[grovecityohio.gov/development](http://grovecityohio.gov/development)

### PROJECT / PROPERTY INFORMATION

PROJECT NAME: Hoover Road Medical Parking Expansion

PROJECT LOCATION: 5775 Hoover Road; Grove City, OH 43123

STREET ADDRESS (OR NEAREST INTERSECTION WITH DISTANCE AND DIRECTION)

PARCEL ID NUMBER: 040-016671-00

ACREAGE AFFECTED BY THIS APPLICATION: 1.41

EXISTING ZONING: PUD

EXISTING LAND USE: B-Professional Office

PROPOSED ZONING: PUD

PROPOSED LAND USE: B-Professional Office

FUTURE LAND USE DESIGNATION: to remain as-is

### PROPERTY OWNER INFORMATION

Note: Property ownership information should reflect how the property is held in accordance with the Franklin County Auditor's Office.

Hoover Road Medical, LLC PO Box 360445

Columbus, Ohio 43236

| Name                | Address             | City, State, Zip                   |
|---------------------|---------------------|------------------------------------|
| <u>740-407-9376</u> | <u>800-866-9725</u> | <u>hooverroadmedical@gmail.com</u> |
| Phone               | Fax                 | Email                              |

### APPLICANT INFORMATION

Note: The applicant is the person(s) or entity seeking approval of this application.

Kurt Lape, P.E.

Owner / Engineer

Connect CDC, LLC

| Name                 | Title                       | Company / Organization          |
|----------------------|-----------------------------|---------------------------------|
| <u>PO Box 360445</u> | <u>Columbus, Ohio 43236</u> |                                 |
| <u>740-407-9376</u>  | <u>800-866-9725</u>         | <u>kurt@connectdesign.build</u> |
| Phone                | Fax                         | Email                           |

### AUTHORIZED REPRESENTATIVE

Check box if same as Applicant: ☐

Note: The authorized representative is the person(s) or entity representing the applicant. As the authorized representative, you must have the legal authority to speak, represent and make commitments on behalf of the applicant. The City does not take any responsibility for the lack of communication between the authorized representative, applicant or related parties.

Kurt Lape, P.E.

Owner / Engineer

Connect CDC, LLC

| Name                 | Title                       | Company / Organization          |
|----------------------|-----------------------------|---------------------------------|
| <u>PO Box 360445</u> | <u>Columbus, Ohio 43236</u> |                                 |
| <u>740-407-9376</u>  | <u>800-866-9725</u>         | <u>kurt@connectdesign.build</u> |
| Phone                | Fax                         | Email                           |

Engineer

Relationship to the Applicant: (e.g. legal counsel, engineer, architect, land planner, contractor, etc.)

### FOR OFFICE USE ONLY

|                            |                         |                              |
|----------------------------|-------------------------|------------------------------|
| DATE RECEIVED:             | RECEIVED BY:            | PAYMENT AMOUNT:              |
| TENTATIVE PC MEETING DATE: | PC RECOMMENDATION:      | CHECK NUMBER:                |
| PROJECT ID NUMBER:         | CITY'S REVIEW ENGINEER: | CITY'S PLAN REVIEW ENGINEER: |
| PLANNER IN CHARGE:         |                         |                              |



**ADDITIONAL PROJECT INFORMATION**PROJECT NAME: Hoover Road Medical Parking ExpansionDEVELOPMENT TYPE: Commercial Retail ☐ Commercial Office ☒ Residential ☐ Industrial ☐ Mixed ☐ Other ☐ACREAGE DISTURBED: 0.10 acres TOTAL FLOOR AREA: to remain as-is (9,000sf)NUMBER OF BUILDINGS: to remain as-is (1) BUILDING HEIGHT: to remain as-is (26')ESTIMATED NUMBER OF PERMANENT JOBS CREATED (IF APPLICABLE): 10ESTIMATED VALUATION OF BUILDING IMPROVEMENTS: 1,597,600 ESTIMATED VALUATION OF SITE IMPROVEMENTS: 613,800**PROPERTY OWNER AUTHORIZATION OF APPLICANT SUBMITTAL AND SITE VISIT(S)**

I, Kurt Lape (Hoover Road Medical, LLC), the current property owner hereby authorize the applicant Kurt Lape, P.E. (Connect CDC, LLC) to submit this application. I agree to be bound by all representations and agreements made by the applicant and/or their authorized representative.

Additionally, as the current property owner, knowing that site visits to the property may be necessary, I hereby authorize City representatives to enter, photograph and post notices on the property described in this application.

Signature of Current Property Owner: *Kurt Lape* Date: 2-28-24

STATE OF OHIO, COUNTY OF FRANKLIN

The above individual(s), being first duly sworn, deposes on oath and says that he/she has read the foregoing Affidavit subscribed by him/her, knows the contents thereof, and that the statements therein are true.

SUBSCRIBED AND SWORN TO before me this 28<sup>th</sup> day of February, 2024.

*Kaitlyn A. Rose*  
Official Seal and Signature of Notary Public



KAITLYN A ROSE  
Notary Public  
State of Ohio  
My Comm. Expires  
January 11, 2029

**APPLICANT'S / AUTHORIZED REPRESENTATIVE AFFIDAVIT**

I, Kurt Lape, P.E., the applicant or authorized representative, have read and understand the contents of this application. The information contained in this application, attached exhibits and other information submitted is complete and in all respects true and correct, to the best of my knowledge and belief.

Signature of Applicant or Authorized Representative: *Kurt Lape* Date: 2-28-24

STATE OF OHIO, COUNTY OF FRANKLIN

The above individual(s), being first duly sworn, deposes on oath and says that he/she has read the foregoing Affidavit subscribed by him/her, knows the contents thereof, and that the statements therein are true.

SUBSCRIBED AND SWORN TO before me this 28<sup>th</sup> day of February, 2024.

*Kaitlyn A. Rose*  
Official Seal and Signature of Notary



KAITLYN A ROSE  
Notary Public  
State of Ohio  
My Comm. Expires  
January 11, 2029



## REVIEW FEES

**INSTRUCTIONS:** All blanks/boxes must be completed or checked in order for the application submittal to be considered complete. The engineering review fee and planning review fee is calculated in accordance with the City's [Fee Recovery Policy](#). The submittal shall include the required number of copies (properly folded and collated) and contain all required supplementary documentation. Submitted materials shall be accurate, measurable and shall address all required checklist items contained within the attached supplemental requirements.

Application Processing Fee:     \$         300.00  
Engineering Review Fee:         \$ \_\_\_\_\_  
Planning Review Fee:             \$ \_\_\_\_\_  
Total Submittal Fee:             \$ \_\_\_\_\_

## GROVECITY2050 GUIDING PRINCIPLES

In January 2018, the City of Grove City adopted the [GroveCity2050 Community Plan](#) to update the City's plans and policies to proactively shape where and how the community will grow. The Plan contains specific goals, objectives and actions to guide development in Grove City as well as the following five (5) guiding principles:

1. The City's small-town character shall be preserved while continuing to bring additional employment opportunities, residents and amenities to the community.
2. Quality design shall be emphasized for all uses to create an attractive and distinctive public and private realm.
3. Places shall be connected to improve the function of the street network and create safe opportunities to walk, bike and access public transportation throughout the community.
4. Future development shall preserve, protect and enhance the City's natural and built character through sustainable practices, prioritizing parks and open space and emphasizing historic preservation.
5. Development shall provide the City with a net fiscal benefit.



THE CITY OF GROVE CITY  
SUBMITTAL REQUIREMENTS: FINAL DEVELOPMENT PLAN



PLEASE CONTACT STAFF FOR A LINK TO SUBMIT THE FOLLOWING ELECTRONIC FILES FOR INITIAL STAFF REVIEW:

- ☒ One signed and notarized application
- ☒ Appropriate fee (\$300 plus applicable engineering and planning review fees – see [Fee Recovery Policy](#)). Please note that either cash, checks or credit card payments will be accepted. For credit card payments call 614-277-3004.
- ☒ A project narrative describing the nature of the project as well as how the proposed development relates to existing and future land use in the surrounding area in terms of character, street design, trail connectivity, open space and other improvements
- ☒ A metes and bounds legal description and survey of the property, stamped by a certified surveyor of the proposed Development Standards Text (if applicable)

- ☒ If applicable, the following scaled plans showing:

- a. Cover Page with signature block (see image below)
- b. Site Plan
- c. Grading Plan
- d. Landscape Plan
- e. Irrigation Plan
- f. Utility Plan
- g. Photometric Plan
- h. Tree Survey
- i. Demolition Plan
- j. Site Details
- k. Stormwater Management (per the [Stormwater Design Manual](#))

|                                     |       |
|-------------------------------------|-------|
| City Administrator                  | _____ |
| Service Director                    | _____ |
| Reviewer for the City of Grove City | _____ |
| Fire Department Jackson Township    | _____ |

- ☐ If applicable, scaled drawings showing:

- a. Location of sign(s) and sign type (wall, ground, projecting or window)
- b. Sign dimensions, including letter sizes and proposed distance from sign to grade
- c. Copy layout and lettering styles (fonts) of signage
- d. Materials and manufacturer to be used in fabrication
- e. Total area of sign face (including frame)
- f. Type of illumination

- ☐ If applicable, architectural elevations – **in color** – with proposed colors and finish materials noted
- ☐ If applicable, the preliminary stormwater calculations stamped by a professional engineer
- ☐ A photograph of the finish material/color samples board (swatches, plans or product specifications)
- ☐ A materials detail sheet listing material, manufacturer and color for all proposed exterior materials
- ☐ If applicable, a traffic study indicating potential traffic generation for the proposed site

- ☒ If the project is located in the proximity of existing residential development, it is strongly recommended that the applicant reach out with notifications to neighboring residents.

NOTE: One (1) paper copy (8 1/2 x 11) of all final materials being presented to Planning Commission will be required, as well as one 24 x 36 copy of all plan sheets, if applicable.

For additional information, contact the Grove City Development Department at 614-277-3004 or visit our website at [www.grovecityohio.gov/development](http://www.grovecityohio.gov/development).



THIS PROJECT CONSISTS OF THE EXPANSION OF AN EXISTING PARKING LOT AT 5775 HOOVER ROAD. THE BUILDING AND EXISTING PARKING SHALL REMAIN AS-IS, THE PROPOSED WORK CONSISTS OF AN ADDITION OF 23 PARKING SPACES ON THE EAST SIDE OF THE EXISTING PARKING LOT. AN EXISTING PAVED TRAVEL ISLE EXISTS AT THIS LOCATION CURRENTLY (DUE TO BEING REQUIRED BY CODE FOR CONNECTIVITY TO THE NORTH AND SOUTH PARCELS) HOWEVER CURRENT PUD TEXT DOES NOT ALLOW FOR PARKING TO EXIST ON THIS TRAVEL ISLE.

WE ARE PROPOSING A DEVELOPMENT PLAN AMENDMENT THAT WOULD ALLOW 23 PARKING SPACES TO BE ADDED, INCREASING THE CAPACITY OF THE BUILDING'S EXISTING TENANTS TO SERVE THE HEALTHCARE NEEDS OF THE GROVE CITY COMMUNITY. THE CURRENT TENANTS HAVE BEEN WELCOMED BY GROVE CITY WITH A LARGE INFLUX OF PATIENTS, WHICH HAS CAUSED PARKING DIFFICULTIES THAT HAVE AFFECTED THE

NEIGHBORING PROPERTIES. ALLOWING THIS DEVELOPMENT PLAN AMENDMENT WOULD ALLEVIATE THIS PROBLEM WHILE ALLOWING THE DOCTORS TO CONTINUE TO PROVIDE THE GROVE CITY COMMUNITY WITH FIRST-CLASS HEALTHCARE.

THIS SUBJECT PARCEL WAS CONSIDERED "PARCEL 2 OF THE E.P. FERRIS DRAINAGE ANALYSIS (PHASES 1 & 2) DATED 11/16/2020 AND SUBSEQUENTLY UPDATED ON 1/8/21 AND 3/4/21. IN THIS REPORT THE SUBJECT PARCEL WAS ASSUMED TO HAVE AN IMPERVIOUS AREA OF 0.961ac THAT WAS ACCOUNTED FOR IN THE REGIONAL DETENTION BASIN.

AS SHOWN ON THE ORIGINAL SUBMITTAL FOR THIS SUBJECT  
PARCEL (SIGNED OFF ON IN LATE AUGUST/EARLY SEPTEMBER 2021)  
THE ORIGINAL DEVELOPED IMPERVIOUS AREA WAS 0.78 AC.

THESE PLANS ARE PROPOSING AN ADDITIONAL 3,800sf (0.087ac) OF IMPERVIOUS AREA BRING THE TOTAL TO 0.867ac - WHICH IS STILL LESS THAN THE 0.961 ACCOUNTED FOR BY E.P. FERRIS.

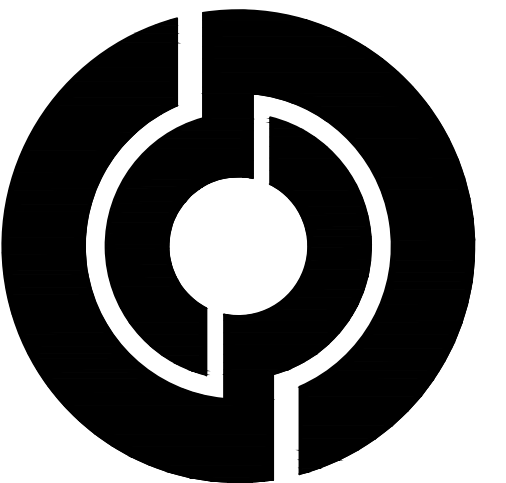


1" = 30' AT 24" X 36"

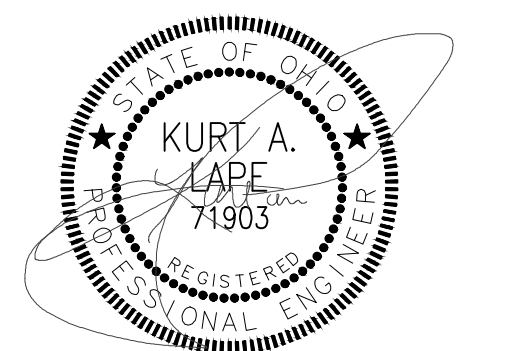
**Received By:**  
Grove City Development  
3/22/24

HOOVER ROAD MEDICAL  
PARKING LOT EXPANSION  
5775 HOOVER ROAD  
GROVE CITY, OH 43123

**CONNECT**  
Conceptualize. Design. Construct.



| MARK        | DATE     |
|-------------|----------|
| 1st RELEASE | 02/28/24 |
| REVISED     | 03/25/24 |
|             |          |
|             |          |
|             |          |



KURT A. LAPE  
LICENSE No 71903

COVER  
PAGE

SHEET NUMBER

T-1



SITE PLAN CODED NOTES

- 1

EXISTING PARKING LOT SCREENING VEGETATION TO BE BE RELOCATED. BETWEEN PROPOSED PARKING AND EXISTING FENCE. IF PLANTS ARE ALREADY DEAD OR WILL NOT SURVIVE THE TRANSPLANT, NEW PLANTS OF THE SAME SPECIES SHALL BE PLANTED TO REPLACE.
- 2

EXISTING 18" STRAIGHT CURB TO BE CUT HORIZONTALLY ALONG ITS LENGTH AT AN ELEVATION THE SAME AS THE SURROUNDING ASPHALT.
- 3

NEW 18" STRAIGHT CURB PER C-GC-58
- 4

INSTALL (4) NEW GLEDITSIA TRIACANTHOS F. INERMIS 'SKYCOLE' SKYLINE (SKYLINE HONELOCUST) TO MATCH EXISTING. SHALL BE 2.5" CALIPER AT TIME OF PLANTING.
- 5

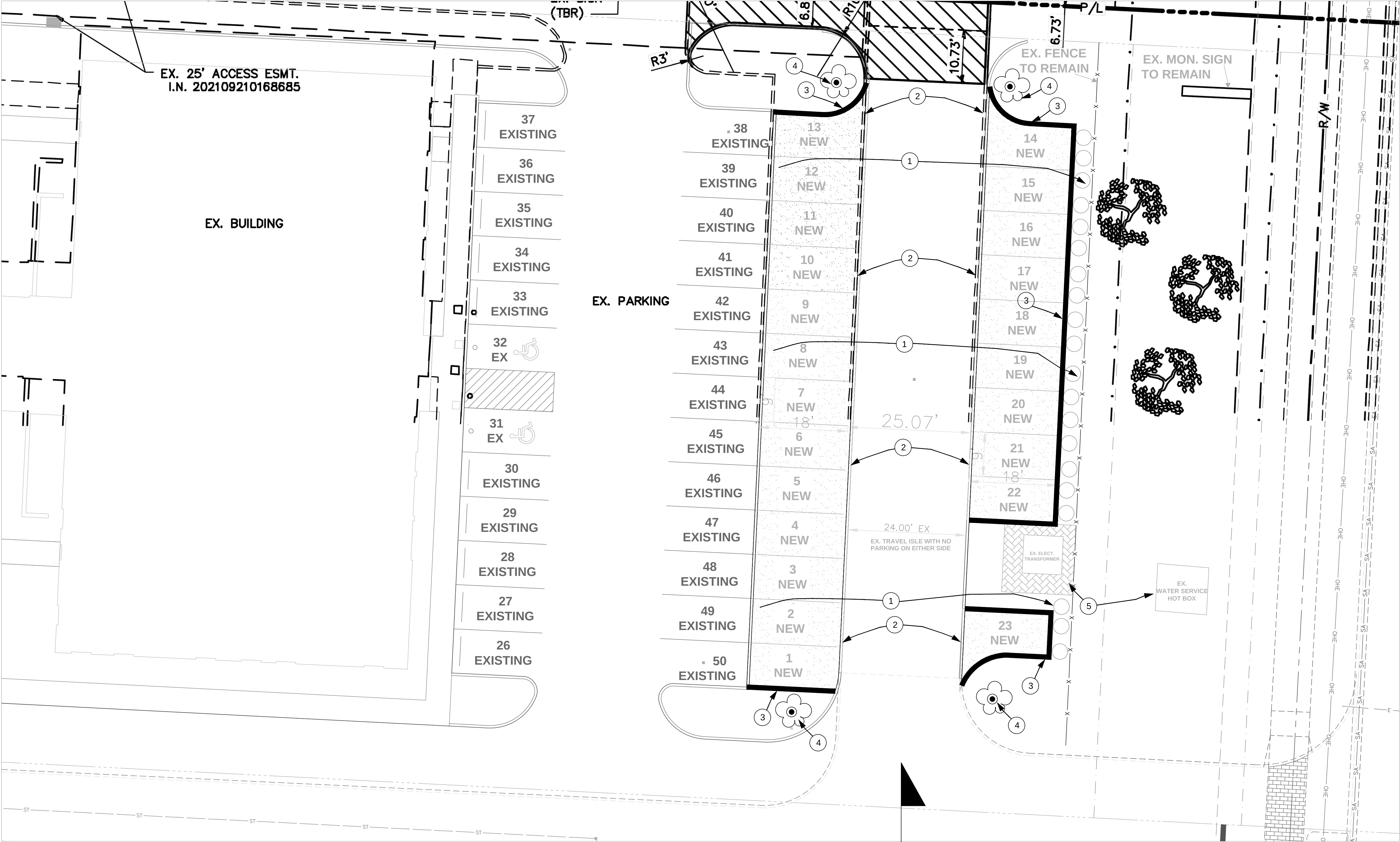
IF EXISTING SHRUBS SCREENING THESE EXISTING UTILITIES ARE NO LONGER ALIVE THEY SHALL BE REPLACED WITH THE SAME SPECIES AS A PART OF THESE PLANS.

| SITE DATA TABLE                     |             |
|-------------------------------------|-------------|
| EXISTING IMPERVIOUS AREA            | 0.78 ACRES  |
| PROPOSED ADDITIONAL IMPERVIOUS AREA | 0.087 ACRES |
| TOTAL IMPERVIOUS AFTER IMPROVEMENTS | 0.867 ACRES |

Received By:

Grove City Development

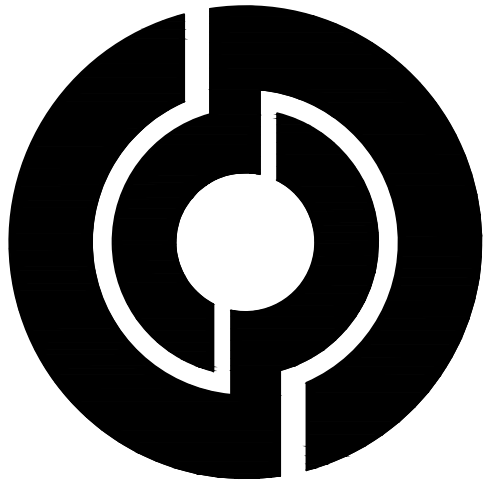
3/22/24



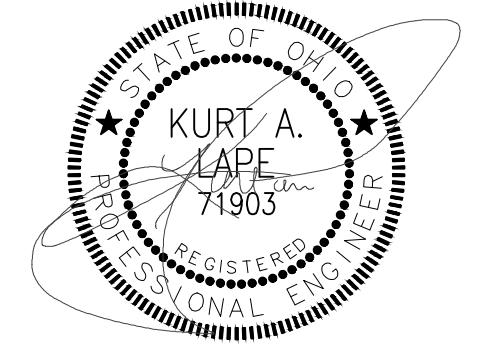
A PROPOSED SITE PLAN  
1" = 10' AT 24" X 36"

HOOVER ROAD MEDICAL  
PARKING LOT EXPANSION  
5775 HOOVER ROAD  
GROVE CITY, OH 43123

**CONNECT**  
Conceptualize. Design. Construct.



| MARK        | DATE     |
|-------------|----------|
| 1st RELEASE | 02/28/24 |
| REVISED     | 03/25/24 |
|             |          |
|             |          |



KURT A. LAPE  
LICENSE No 71903

PROPOSED  
SITE PLAN

SHEET NUMBER  
SP-1

22 March 2024

Dash Logan, AICP  
Senior Planner  
The City of Grove City  
4035 Broadway  
Grove City, Ohio 43123

RE: Hoover Road Medical Parking Lot Expansion  
5775 Hoover Road; Grove City, OH 43123

Mr. Logan;

In response to your letter dated 3/18/24 for the above referenced project, please find the attached information and revised plans. In particular, you will find the following responses to your comments;

#### Site Plan

- 1) Coded note 2 has been added to sheet SP-1 indicating that the existing curbs on both sides of the existing drive isle shall have a horizontal cut performed that leaves the top of the curb level with the surrounding existing and proposed asphalt pavement.
- 2) Coded note 3 has been added to sheet SP-1 indicating that a new curb will be places around the perimeter of the new parking. A thicker line has been added to the drawing showing these locations.

#### Landscaping

- 3) Coded note 4 has been added to sheet SP-1 notating the 4 locations at the end of the new parking rows where a 2.5" caliper tree shall be planted matching the species of the trees planted during the original improvements.

#### Stormwater

- 4) A site data table has been added to sheet SP-1. Also see response #5 below
- 5) The title sheet T-1 has had a stormwater site data section added explaining the original regional detention pond was design accounting for 0.961acres of impervious area for this site. The original improvements to this parcel created 0.78acres of impervious area and the proposed improvements for this submittal add 0.087acres of impervious area for a total of 0.867acres, which is still less than the accounted 0.961acres in the original pond design. The original design paperwork is attached to this submittal for your reference.

#### Additional Comments

- 6) Coded note 5 was added to sheet SP-1. Hopefully it was a seasonal issue with the shrubs, but if not they will be replaced as a part of this improvement. Also, coded 1 was updated on sheet SP-1 stating that if the plants being relocated seem to already be dead or will not survive the transplant, they are to be replaced.

Respectfully submitted,

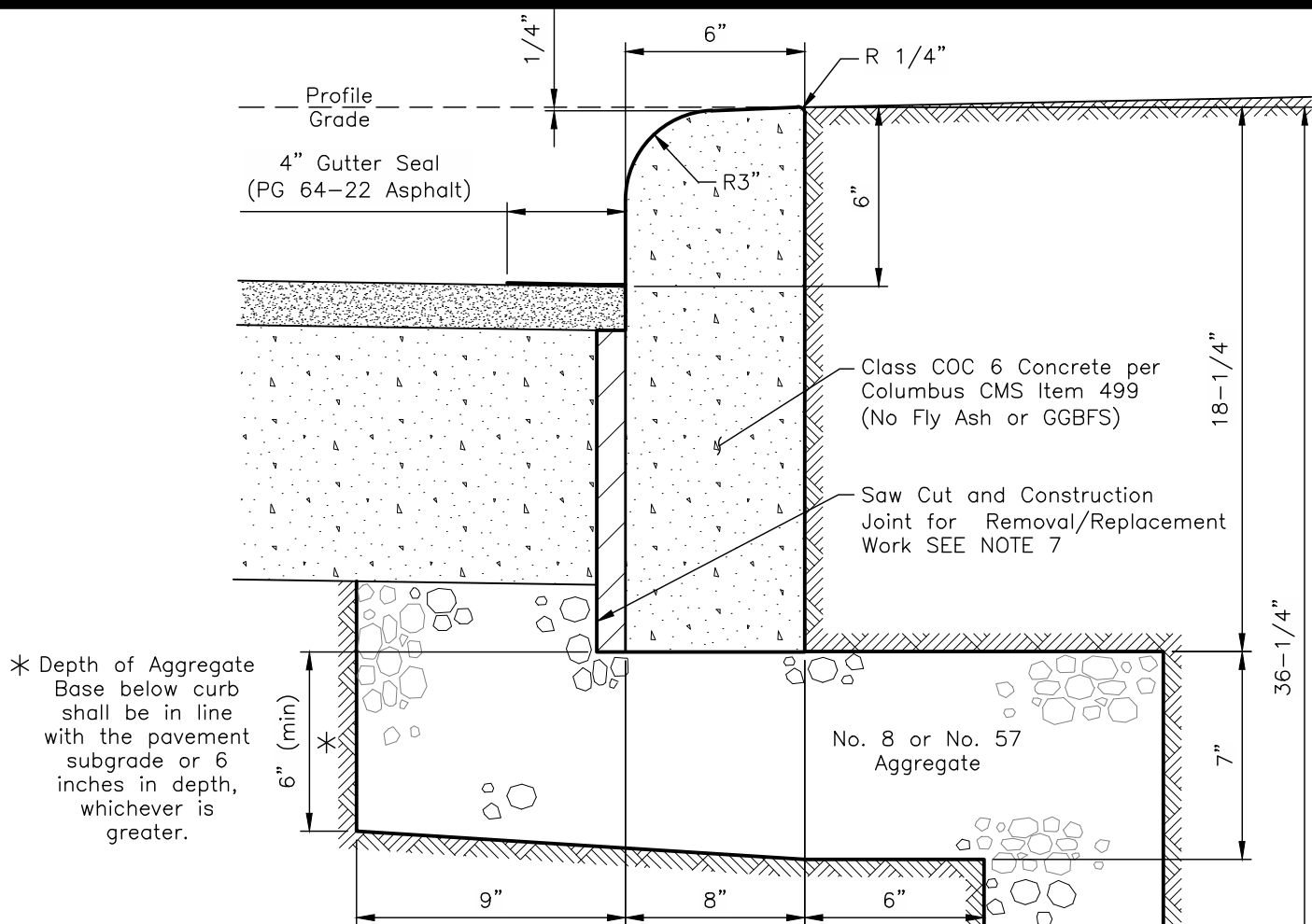


Kurt Lape, P.E.  
Owner / Engineer









#### DETAIL NOTES

1. Straight 18 inch Concrete Curb shall consist of 0.70 C.F. of concrete per linear foot.
2. All exposed surfaces of concrete curb shall have a brush finish and be completely covered with concrete cure and seal, including the backside of curb.
3. 3/4 inch expansion joints shall be installed at right angles to the curb line within 5 feet and 10 feet of all immovable structures and at points of curvature. For replacement work, at an existing joint or no closer than 5 feet from an existing joint.
4. Contraction joints shall be saw cut at 10 foot intervals, not less than 2 inches deep, and as soon as possible without causing damage to the concrete.
5. Tolerances shall not exceed 1/4 inch for section, grade, surface variation, or alignment.
6. The letter "W" shall be imprinted into the curb directly opposite all water service boxes and the letter "M" shall be imprinted opposite all water line valves, including hydrant watch valves. Letters shall be 3 inches high/wide with 1/4 inch thick bars, imprinted 1/2 inch into the face of the curb, 2-1/2 inches above the gutter.
7. For removal/replacement work, the Contractor shall neatly sawcut & remove existing curb. The void between existing pavement and proposed curb shall be filled up to the elevation of the milled roadway surface with Columbus Class COC 6, COC 5, or COC MS Concrete.

Approved By:

*[Signature]*

City Engineer, EMH&T Inc

*[Signature]*

City Service Director

STANDARD DIMENSIONS  
FOR

**STRAIGHT 18"  
CONCRETE CURB**

**CITY OF  
GROVE CITY, OHIO**

STANDARD  
CONSTRUCTION DRAWING

Revised

May 2022

Drawing No.

C-GC-58



# Drainage Analysis (Phases 1&2)

## Balanced Family Academy

Hoover Road  
Grove City, Ohio

Prepared By:



880 King Ave.  
Columbus, Ohio 43212

EP Ferris # 1163.002

Date: 11/16/2020

Revised: 1/8/2021

Revised: 3/4/2021

I hereby certify that the calculations contained herein are accurate to the best of my knowledge and belief.



By: Michael J. Overstreet, P.E.

4/21/21  
Date



## **EXECUTIVE SUMMARY:**

**Table 1 – Critical Storm Summary Table**

|                                         |          |
|-----------------------------------------|----------|
| 1Yr. Pre-Developed Storm Runoff Volume  | 0.056 AF |
| 1Yr. Post-Developed Storm Runoff Volume | 0.487 AF |
| Volume Increase                         | 770%     |
| Critical Storm                          | 100 Year |

**Table 2 – Storm Water Runoff Summary Table**

| <b>Storm Event</b> | <b>Parcel 1&amp;2 Pre-Dev. Peak (CFS)</b> | <b>Parcel 1 Post-Dev. Peak (CFS)</b> | <b>Parcel 2 Post-Dev. Peak (CFS)</b> | <b>Ex. Offsite Peak (CFS)</b> | <b>Un-Detained Peak (CFS)</b> | <b>Allowable Release Rate (CFS)</b> | <b>Actual Release (CFS)</b> | <b>Ponding Elevation</b> |
|--------------------|-------------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|-------------------------------|-------------------------------------|-----------------------------|--------------------------|
| <b>1 Yr.</b>       | 0.10                                      | 0.71                                 | 0.34                                 | 1.36                          | 0.11                          | 1.35                                | 0.56                        | 807.00                   |
| 2 Yr.              | 0.17                                      | 0.91                                 | 0.43                                 | 1.84                          | 0.14                          | 1.80                                | 0.82                        | 807.27                   |
| 5 Yr.              | 0.28                                      | 1.21                                 | 0.55                                 | 2.60                          | 0.19                          | 2.51                                | 1.19                        | 807.65                   |
| 10 Yr.             | 0.39                                      | 1.54                                 | 1.54                                 | 3.27                          | 0.22                          | 3.15                                | 1.43                        | 808.00                   |
| 25 Yr.             | 0.55                                      | 1.95                                 | 1.95                                 | 4.26                          | 0.28                          | 4.08                                | 1.71                        | 808.52                   |
| 50 Yr.             | 0.69                                      | 2.30                                 | 2.30                                 | 5.14                          | 0.33                          | 4.91                                | 2.53                        | 808.88                   |
| <b>100 Yr.</b>     | 0.85                                      | 2.68                                 | 2.68                                 | 6.10                          | 0.38                          | <b>5.82</b>                         | 4.24                        | 809.07                   |

**Table 3 – Detention Summary Table**

|                                | <b>Total</b> |
|--------------------------------|--------------|
| Water Quality Volume Required  | 26,679 CF    |
| Water Quality Volume Provided  | 27,034 CF    |
| Water Quantity Volume Required | 91,931 CF    |
| Water Quantity Volume Provided | 125,395 CF   |

## **INTRODUCTION:**

The above Executive Summary represents the preliminary analysis and proposal of storm water management for Balanced Family Academy, Grove City, Ohio. A new commercial development with asphalt parking being proposed.

This project will use the critical storm method associated with The City of Grove City Storm Water Manual guidelines to determine allowable release rates and the requirements for storm water management.

The total tributary area to the retention system is approximately 12.86 Ac.+/-, including the phases 1&2 of the new development, including approximately 8.75 Ac. considered offsite tributary area, see Appendix "C" Tributary Map. The offsite area will be allowed to pass through without detention. Areas developed but not tributary to the pond will be classified as un-detained and deducted from the allowable release rate. See Executive Summary Table 2 from above.

A critical storm calculation was performed from HydroCAD hydrographs which can be found at the beginning of Appendix "A". The areas used are a predeveloped area of 1.49 Ac. (CN=74) previously tributary to the exiting storm outfall and the part of the development in the location of the proposed pond. The developed area is approximately 4.11 Ac. (CN=91) including phases 1&2.

## **HYDROLOGIC ANALYSIS:**

All hydrologic parameters were determined using methodology described in The City of Grove City, Ohio Storm Water Manual Revised May 25, 2016. HydroCAD 10.00 software was used to develop peak flow rates using rainfall distributions from the Huff 2<sup>nd</sup> quartile, 0-10 square mile, and 12 hr. duration.

## **PRE-DEVELOPED CONDITIONS:**

The pre-developed condition of the 1.37 Ac. consists of a mostly grass area with no impervious area, yielding a CN= 74. The time of concentration used was 10 minutes.

## **POST-DEVELOPED CONDITIONS:**

The post developed condition of the site will consist of a commercial area with asphalt parking lots and green space. The developed site was found to have a curve number CN = 91. The time of concentration was found to be 13 minutes accounting for the time to the proposed storm pipe system and open channel flow in the pipe to the retention system.

The proposed site drains to the proposed retention pond located at the western portion of the site. The outlet release rates were limited to the parameters set forth by the Grove City Drainage Manual.

### **Critical Storm Calculation:**

The critical storm is determined by comparing the increase in runoff volume of the 1-year 24-hour rainfall event using a depth of 2.20 inches from the pre-developed condition to that of the post-developed.

Pre-Development 1-Year Storm Event: 0.056 af

Post-Development 1-Year Storm Event: 0.487 af

$((0.487\text{af} - 0.056\text{af}) / 0.056\text{af}) \times 100\% = 770\%$  **(100-year critical storm)**

### **WATER QUALITY:**

Water quality volume will be provided inside the retention pond. See (Appendix “B”) for calculations.

### **SUMMARY:**

The developed site runoff is controlled by the retention pond and outlet system. The system uses an orifice and an emergency weir to control flow. The final outlet drains to an existing storm sewer to the east.

From the above Executive Summary, the retention system’s limits of release rate are found not to exceed the parameters set forth from the above design criteria.

HydroCAD calculations can be found in Appendix “A” with the Water Quality Calculations found in Appendix “B” followed by a Tributary Map in Appendix “C”.

The emergency spillway calculation below is to pass the developed 50 yr. storm (9.20 cfs) is from the following weir equation;  $Q=3.3(w)(h)^{1.5}$

Where:

w (width) = 15 feet

h (height) = 0.75 feet (809.50 – 808.75)

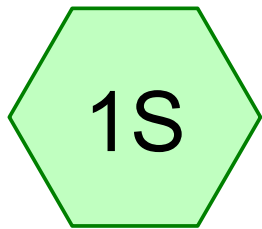
$$Q=3.3(15)(0.75)^{1.5}$$

$$Q=32.15 \text{ cfs} > 9.20 \text{ cfs ok}$$

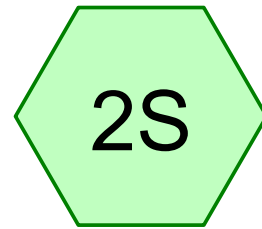


## **APPENDIX A**

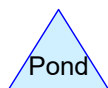
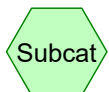
(HydroCAD Reports)



Predeveloped



Developed



**Routing Diagram for BFA Critical StormRev.**  
Prepared by Microsoft, Printed 4/27/2021  
HydroCAD® 10.00-20 s/n 05053 © 2017 HydroCAD Software Solutions LLC

**Summary for Subcatchment 1S: Predeveloped**

Runoff = 0.16 cfs @ 5.72 hrs, Volume= 0.056 af, Depth= 0.45"

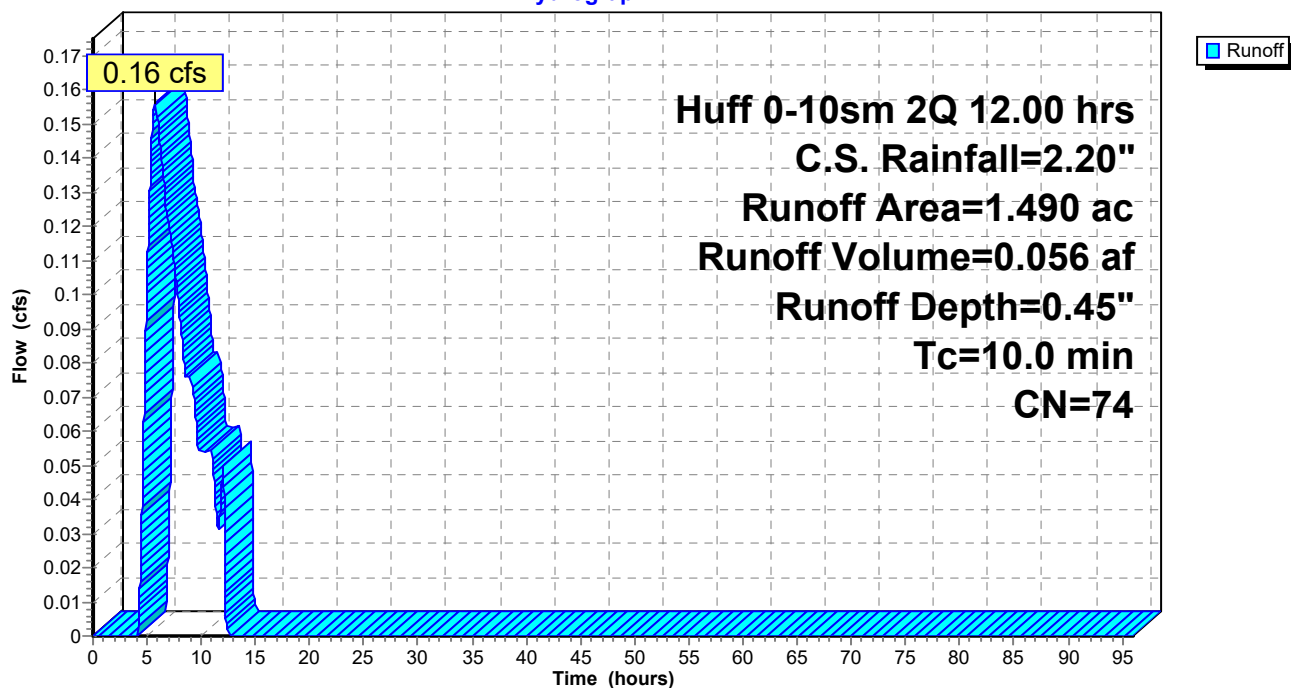
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
Huff 0-10sm 2Q 12.00 hrs C.S. Rainfall=2.20"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 1.490     | 74 | >75% Grass cover, Good, HSG C |
| 1.490     |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description                 |
|-------------|------------------|------------------|----------------------|-------------------|-----------------------------|
| 10.0        |                  |                  |                      |                   | Direct Entry, Time to start |

**Subcatchment 1S: Predeveloped**

Hydrograph





**Summary for Subcatchment 2S: Developed**

Runoff = 1.31 cfs @ 5.21 hrs, Volume= 0.487 af, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
Huff 0-10sm 2Q 12.00 hrs C.S. Rainfall=2.20"

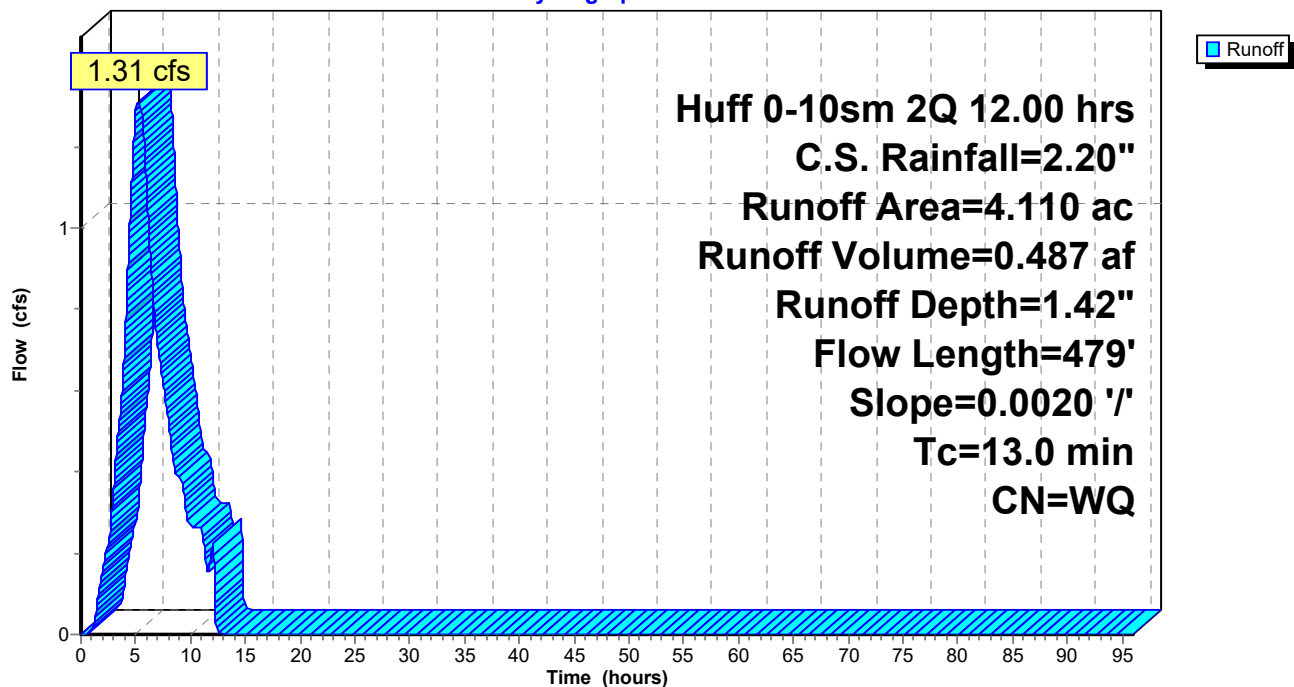
| Area (ac) | CN | Description                               |
|-----------|----|-------------------------------------------|
| * 0.790   | 74 | >75% Grass cover around pond, Good, HSG C |
| 0.580     | 98 | Water Surface, HSG C                      |
| 2.740     | 94 | Urban commercial, 85% imp, HSG C          |
| 4.110     |    | Weighted Average                          |
| 1.201     |    | 29.22% Pervious Area                      |
| 2.909     |    | 70.78% Impervious Area                    |

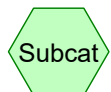
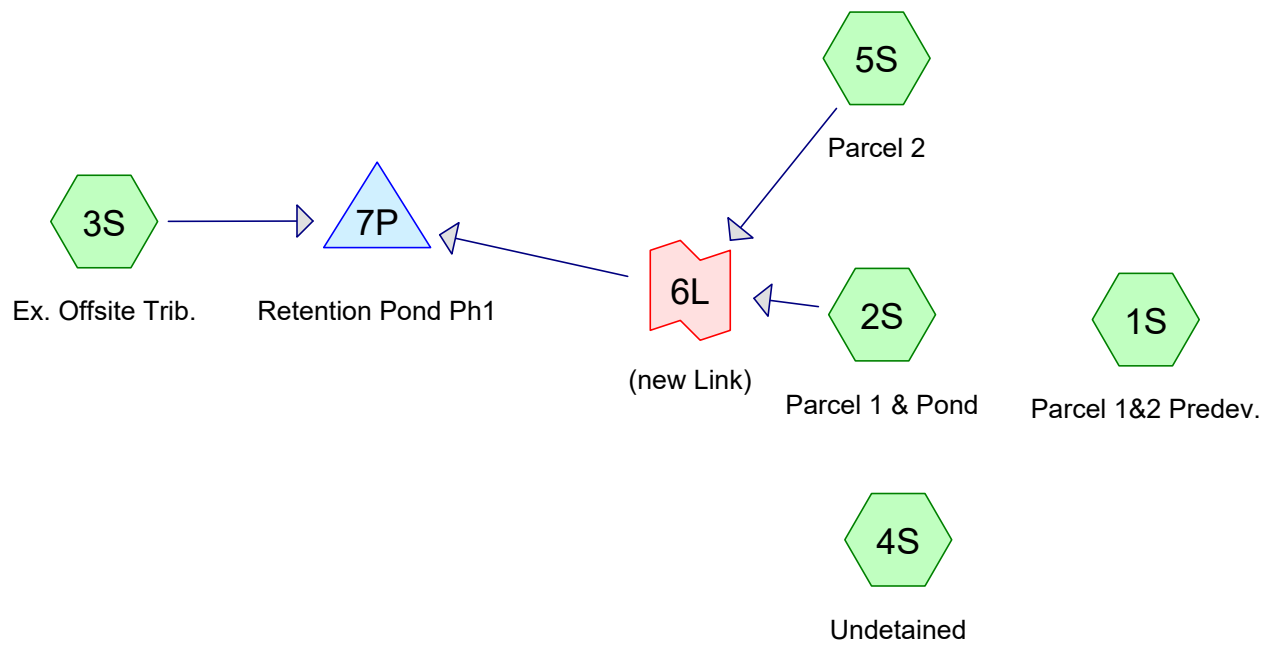
  

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                   |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------------------|
| 10.0     |               |               |                   |                | <b>Direct Entry, Time to start</b>            |
| 3.0      | 479           | 0.0020        | 2.66              | 4.70           | <b>Pipe Channel, Travel in pipe</b>           |
|          |               |               |                   |                | 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' |
|          |               |               |                   |                | n= 0.013                                      |
| 13.0     | 479           | Total         |                   |                |                                               |

**Subcatchment 2S: Developed**

Hydrograph

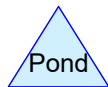




Subcat



Reach



Pond



Link

**Routing Diagram for Balanced Family Academy Parcel 1&2 Trial**

Prepared by Microsoft, Printed 5/11/2021

HydroCAD® 10.00-20 s/n 05053 © 2017 HydroCAD Software Solutions LLC

### Summary for Subcatchment 1S: Parcel 1&2 Predev.

Runoff = 0.10 cfs @ 5.88 hrs, Volume= 0.037 af, Depth= 0.30"

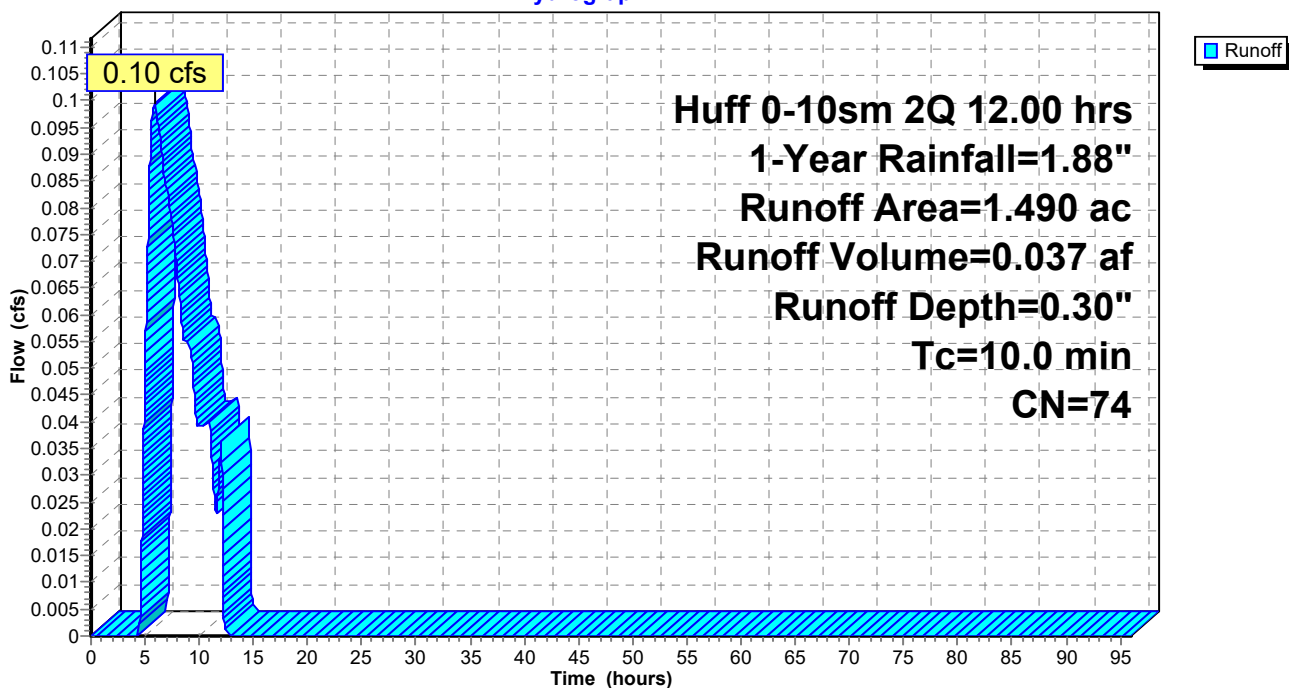
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 1-Year Rainfall=1.88"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 1.490     | 74 | >75% Grass cover, Good, HSG C |
| 1.490     |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description   |
|-------------|------------------|------------------|----------------------|-------------------|---------------|
| 10.0        |                  |                  |                      |                   | Direct Entry, |

### Subcatchment 1S: Parcel 1&2 Predev.

Hydrograph





### Summary for Subcatchment 2S: Parcel 1 & Pond

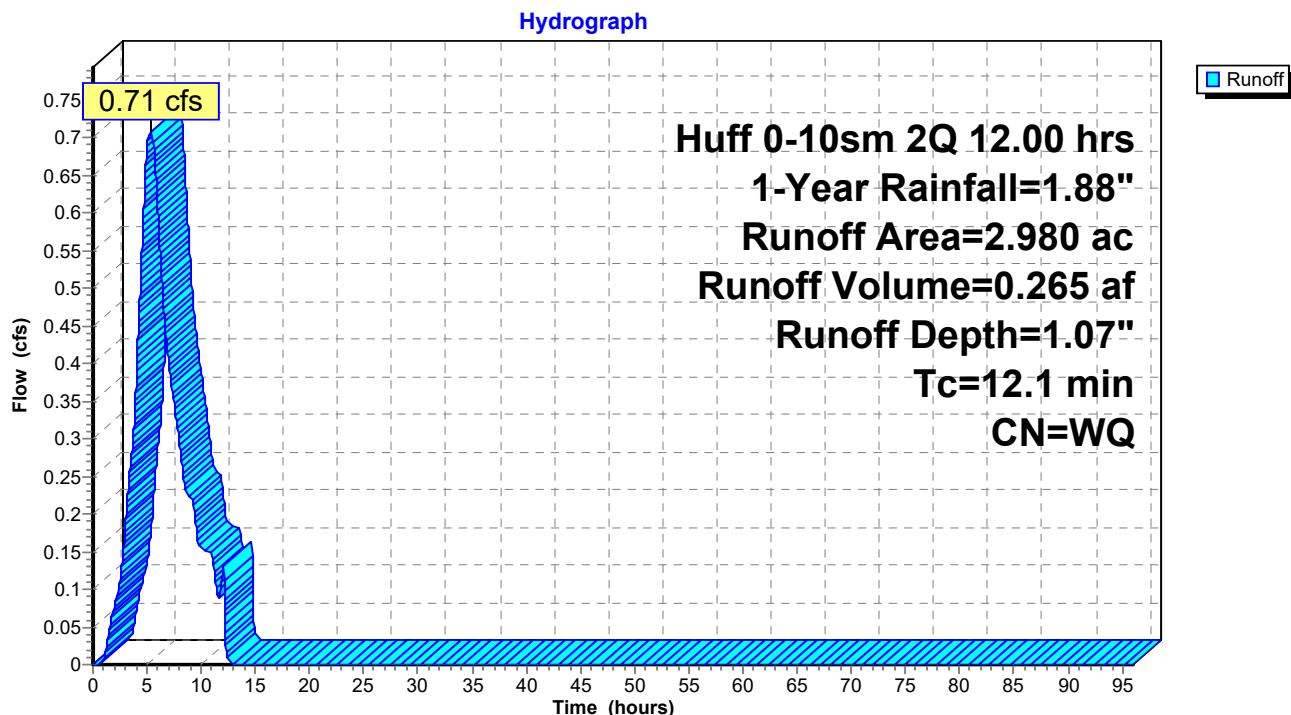
Runoff = 0.71 cfs @ 5.39 hrs, Volume= 0.265 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 1-Year Rainfall=1.88"

| Area (ac) | CN | Description                                |
|-----------|----|--------------------------------------------|
| 1.330     | 94 | Urban commercial, 85% imp, HSG C           |
| * 0.280   | 90 | Access Road                                |
| 0.580     | 98 | Water Surface, HSG C                       |
| * 0.790   | 74 | >75% Grass cover, Good, around pond, HSG C |
| 2.980     |    | Weighted Average                           |
| 1.269     |    | 42.60% Pervious Area                       |
| 1.711     |    | 57.40% Impervious Area                     |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 2S: Parcel 1 & Pond



### Summary for Subcatchment 3S: Ex. Offsite Trib.

Runoff = 1.36 cfs @ 5.56 hrs, Volume= 0.549 af, Depth= 0.75"

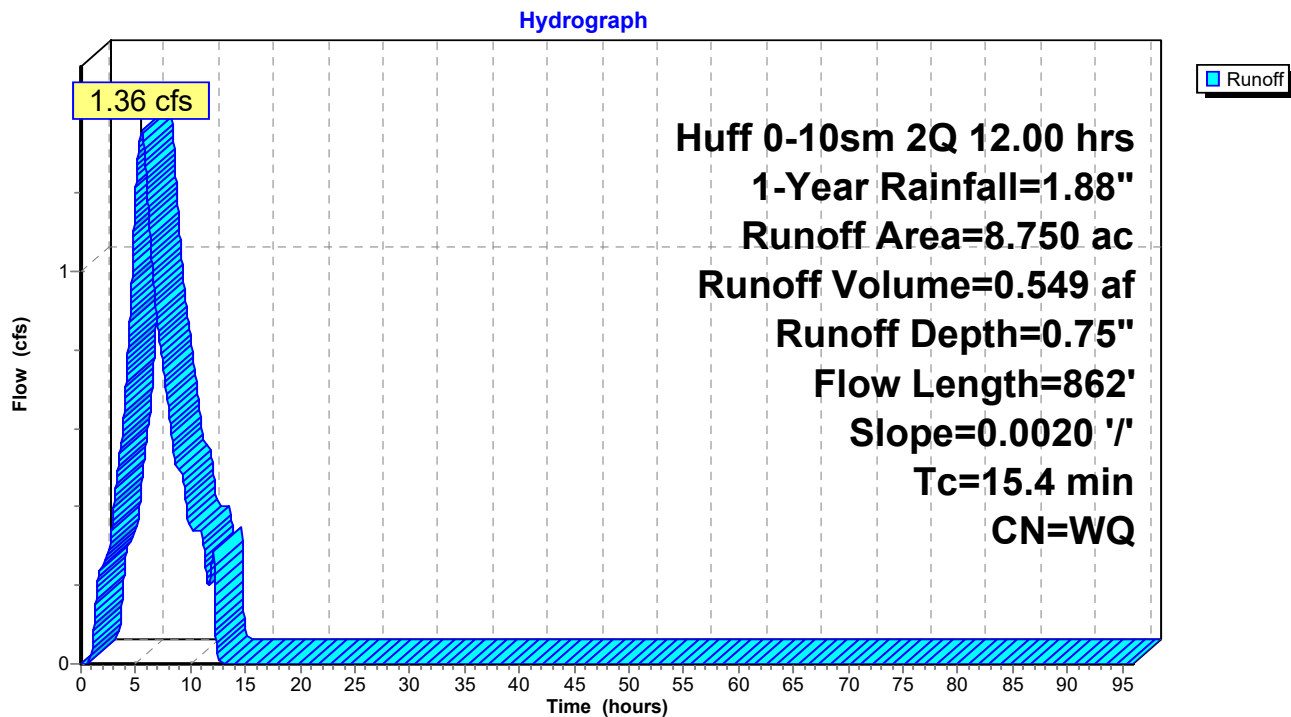
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 1-Year Rainfall=1.88"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 2.940     | 98 | Paved parking, HSG C          |
| 5.810     | 74 | >75% Grass cover, Good, HSG C |
| 8.750     |    | Weighted Average              |
| 5.810     |    | 66.40% Pervious Area          |
| 2.940     |    | 33.60% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                   |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------------------|
| 10.0     |               |               |                   |                | <b>Direct Entry, Start time</b>               |
| 5.4      | 862           | 0.0020        | 2.66              | 4.70           | <b>Pipe Channel, Travel Time in Pipe</b>      |
|          |               |               |                   |                | 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' |
|          |               |               |                   |                | n= 0.013                                      |
| 15.4     | 862           | Total         |                   |                |                                               |

### Subcatchment 3S: Ex. Offsite Trib.



### Summary for Subcatchment 4S: Undetained

Runoff = 0.11 cfs @ 5.17 hrs, Volume= 0.043 af, Depth= 1.15"

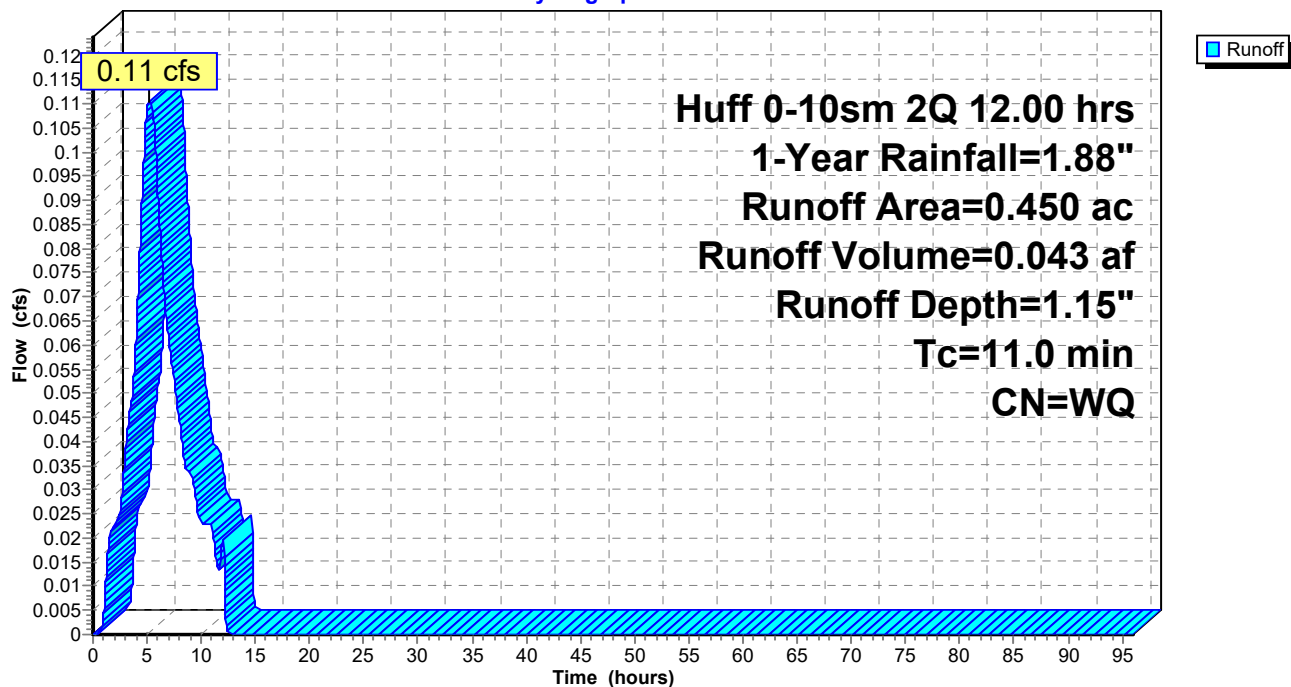
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 1-Year Rainfall=1.88"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.190     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.260     | 98 | Paved parking, HSG C            |
| 0.450     |    | Weighted Average                |
| 0.190     |    | 42.22% Pervious Area            |
| 0.260     |    | 57.78% Impervious Area          |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description          |
|----------|---------------|---------------|-------------------|----------------|----------------------|
| 11.0     |               |               |                   |                | Direct Entry, Direct |

### Subcatchment 4S: Undetained

Hydrograph





### Summary for Subcatchment 5S: Parcel 2

Runoff = 0.34 cfs @ 5.20 hrs, Volume= 0.121 af, Depth= 1.28"

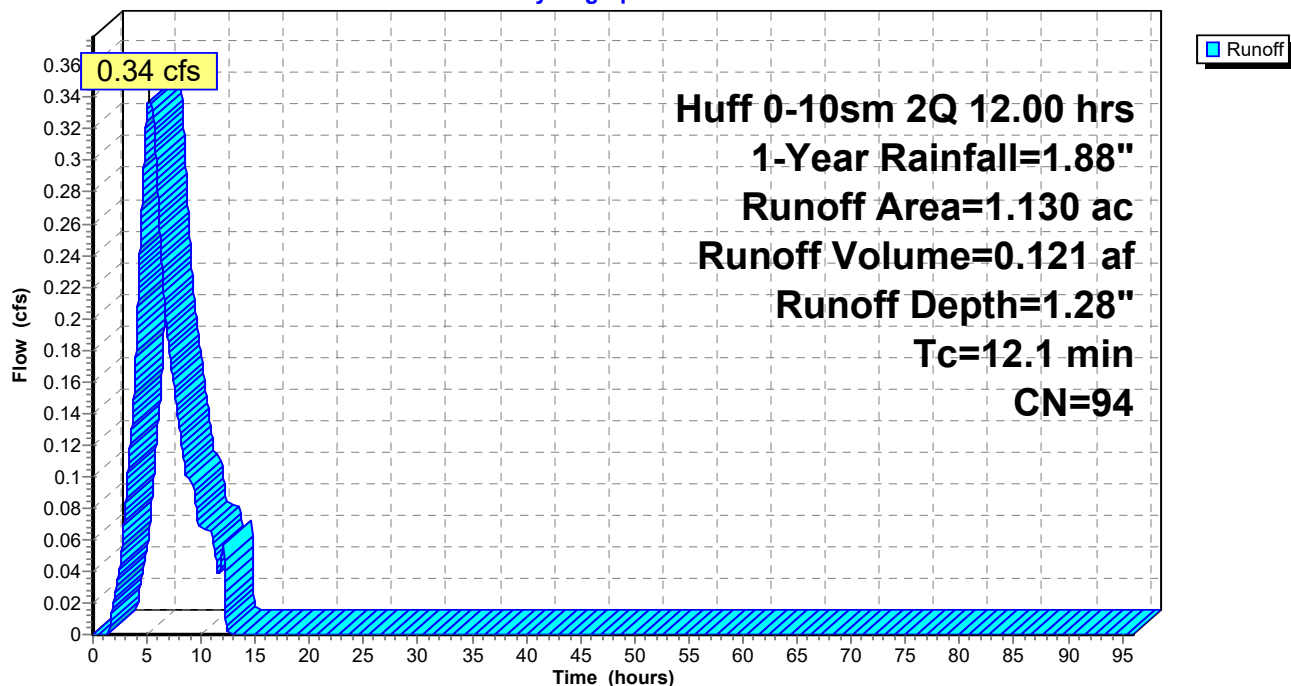
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 1-Year Rainfall=1.88"

| Area (ac) | CN | Description                      |
|-----------|----|----------------------------------|
| 1.130     | 94 | Urban commercial, 85% imp, HSG C |
| 0.169     |    | 15.00% Pervious Area             |
| 0.961     |    | 85.00% Impervious Area           |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 5S: Parcel 2

Hydrograph



### Summary for Pond 7P: Retention Pond Ph1

Inflow Area = 12.860 ac, 43.63% Impervious, Inflow Depth = 0.87" for 1-Year event  
 Inflow = 2.40 cfs @ 5.53 hrs, Volume= 0.935 af  
 Outflow = 0.56 cfs @ 9.89 hrs, Volume= 0.916 af, Atten= 77%, Lag= 261.9 min  
 Primary = 0.56 cfs @ 9.89 hrs, Volume= 0.916 af  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs / 3  
 Peak Elev= 807.00' @ 9.89 hrs Surf.Area= 28,431 sf Storage= 26,949 cf

Plug-Flow detention time= 732.1 min calculated for 0.916 af (98% of inflow)  
 Center-of-Mass det. time= 725.1 min ( 1,107.0 - 381.9 )

| Volume | Invert  | Avail.Storage | Storage Description                                        |
|--------|---------|---------------|------------------------------------------------------------|
| #1     | 806.00' | 125,002 cf    | <b>Pond (Prismatic)</b> Listed below (Recalc)              |
| #2     | 805.00' | 393 cf        | <b>12.0" Round Pipe Storage</b><br>L= 500.0' S= 0.0050 '/' |
|        |         | 125,395 cf    | Total Available Storage                                    |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) |
|---------------------|----------------------|---------------------------|---------------------------|
| 806.00              | 25,315               | 0                         | 0                         |
| 810.00              | 37,186               | 125,002                   | 125,002                   |

| Device | Routing   | Invert  | Outlet Devices                                                                                                                                                                                                                                                                    |
|--------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary   | 803.26' | <b>18.0" Round Culvert</b><br>L= 113.5' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 803.26' / 801.66' S= 0.0141 '/ Cc= 0.900<br>n= 0.013, Flow Area= 1.77 sf                                                                                                |
| #2     | Device 1  | 806.00' | <b>4.9" Vert. Orifice</b> C= 0.600                                                                                                                                                                                                                                                |
| #3     | Device 1  | 807.00' | <b>5.0" Vert. Orifice/Grate</b> C= 0.600                                                                                                                                                                                                                                          |
| #4     | Device 1  | 808.75' | <b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)                                                                                                                                                                                                              |
| #5     | Secondary | 809.25' | <b>15.0' long x 4.0' breadth Broad-Crested Rectangular Weir</b><br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00<br>2.50 3.00 3.50 4.00 4.50 5.00 5.50<br>Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66<br>2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32 |

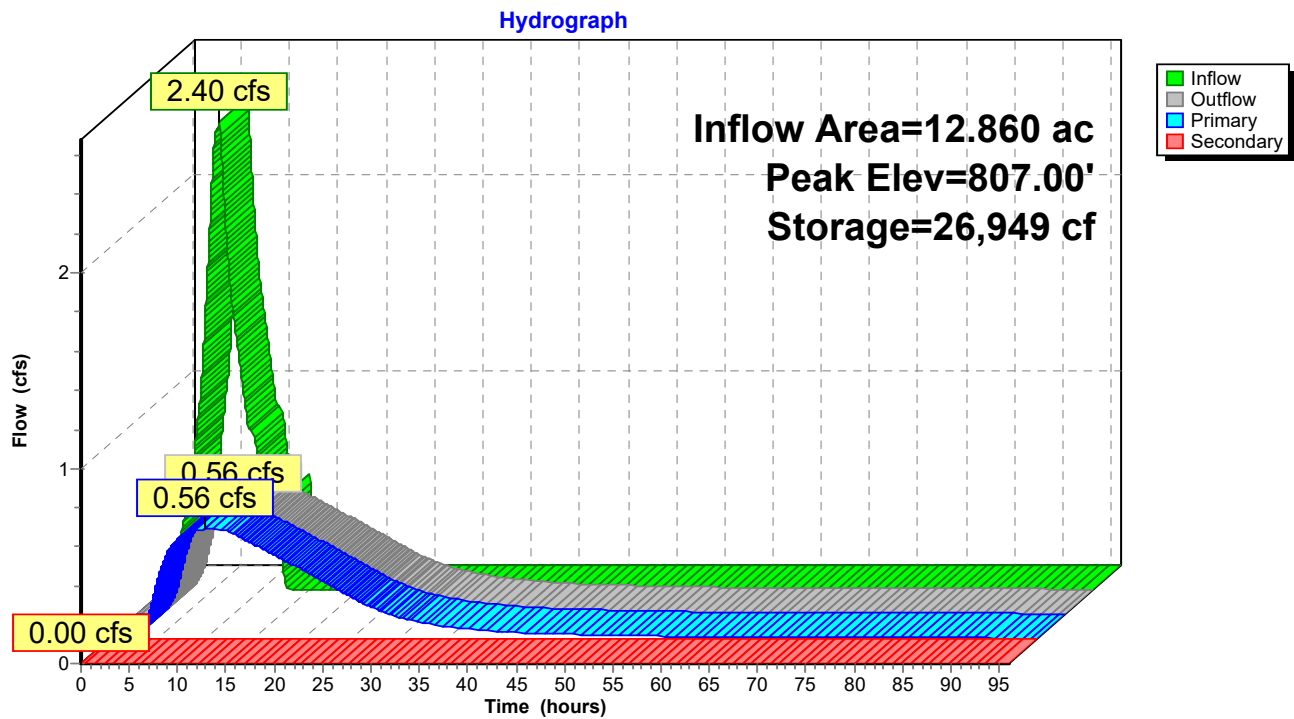
**Primary OutFlow** Max=0.56 cfs @ 9.89 hrs HW=807.00' (Free Discharge)

- ↑ **1=Culvert** (Passes 0.56 cfs of 11.61 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.56 cfs @ 4.29 fps)
- ↑ **3=Orifice/Grate** ( Controls 0.00 cfs)
- ↑ **4=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

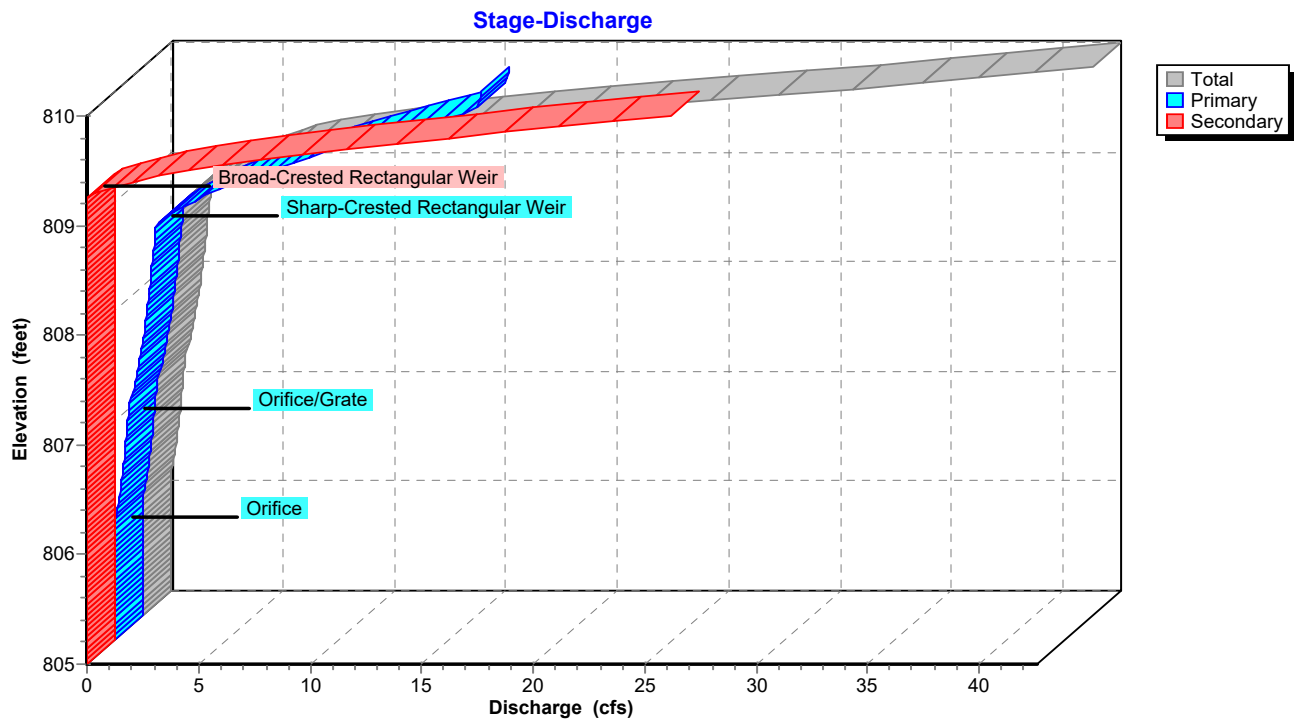
**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=805.00' (Free Discharge)

- ↑ **5=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)

### Pond 7P: Retention Pond Ph1

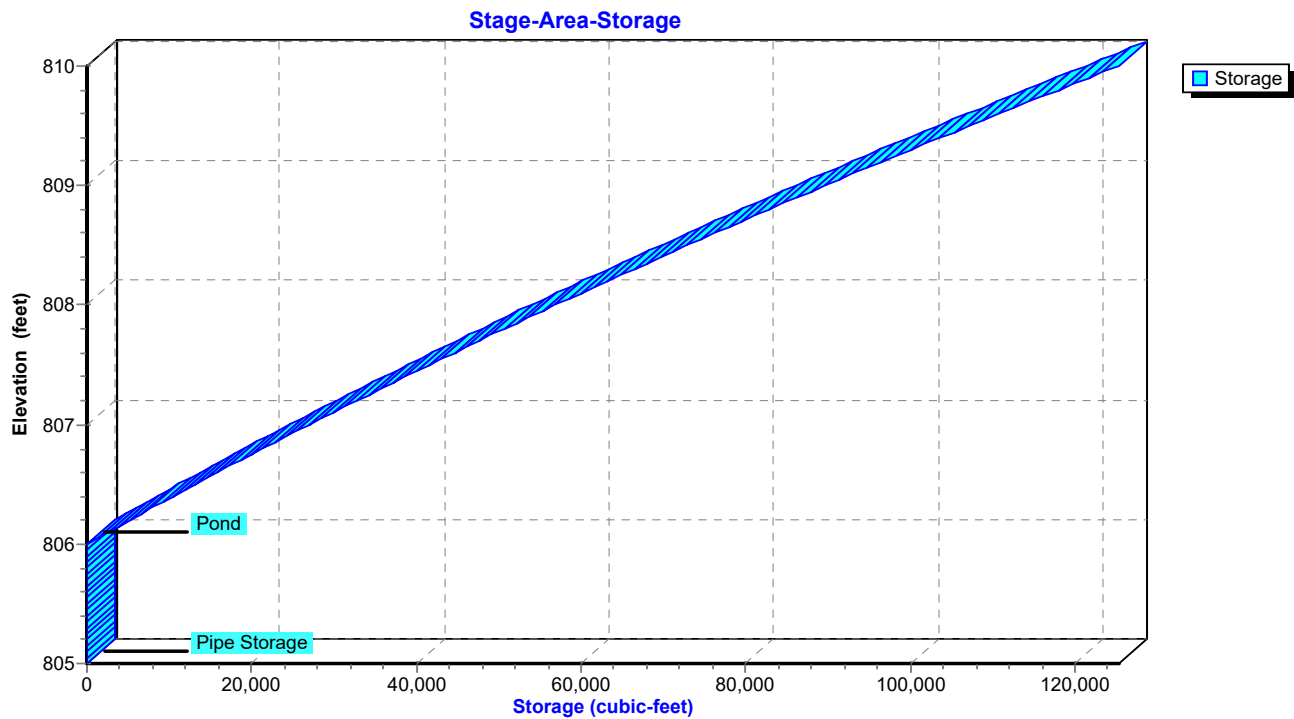


### Pond 7P: Retention Pond Ph1





### Pond 7P: Retention Pond Ph1



**Stage-Area-Storage for Pond 7P: Retention Pond Ph1**

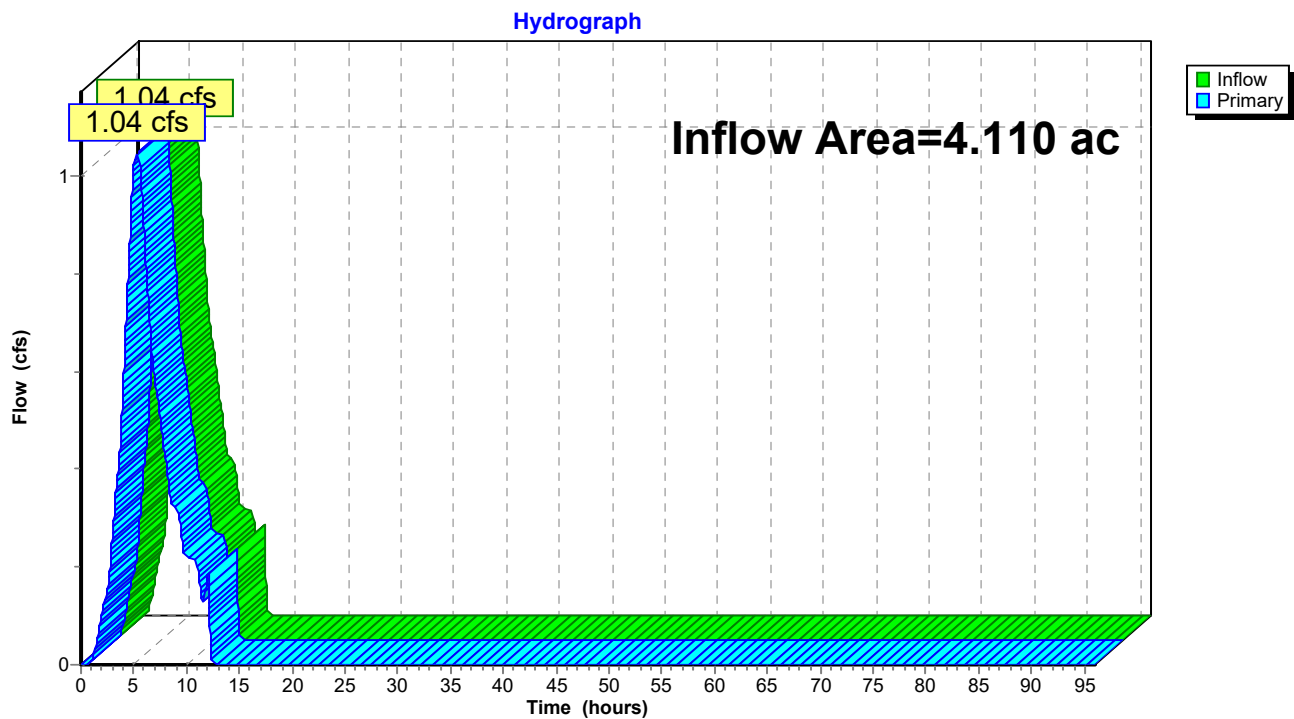
| Elevation<br>(feet) | Storage<br>(cubic-feet) | Elevation<br>(feet) | Storage<br>(cubic-feet) |
|---------------------|-------------------------|---------------------|-------------------------|
| 805.00              | 0                       | 807.65              | 46,146                  |
| 805.05              | 0                       | 807.70              | 47,668                  |
| 805.10              | 0                       | 807.75              | 49,196                  |
| 805.15              | 1                       | 807.80              | 50,731                  |
| 805.20              | 2                       | 807.85              | 52,273                  |
| 805.25              | 3                       | 807.90              | 53,822                  |
| 805.30              | 5                       | 807.95              | 55,379                  |
| 805.35              | 7                       | 808.00              | 56,942                  |
| 805.40              | 10                      | 808.05              | 58,511                  |
| 805.45              | 13                      | 808.10              | 60,088                  |
| 805.50              | 17                      | 808.15              | 61,672                  |
| 805.55              | 21                      | 808.20              | 63,263                  |
| 805.60              | 26                      | 808.25              | 64,860                  |
| 805.65              | 31                      | 808.30              | 66,465                  |
| 805.70              | 36                      | 808.35              | 68,077                  |
| 805.75              | 42                      | 808.40              | 69,695                  |
| 805.80              | 49                      | 808.45              | 71,321                  |
| 805.85              | 56                      | 808.50              | 72,954                  |
| 805.90              | 63                      | 808.55              | 74,595                  |
| 805.95              | 71                      | 808.60              | 76,243                  |
| 806.00              | 79                      | 808.65              | 77,898                  |
| 806.05              | 1,356                   | 808.70              | 79,561                  |
| 806.10              | 2,641                   | 808.75              | 81,231                  |
| 806.15              | 3,933                   | 808.80              | 82,908                  |
| 806.20              | 5,232                   | 808.85              | 84,593                  |
| 806.25              | 6,539                   | 808.90              | 86,286                  |
| 806.30              | 7,854                   | 808.95              | 87,985                  |
| 806.35              | 9,176                   | 809.00              | 89,693                  |
| 806.40              | 10,505                  | 809.05              | 91,407                  |
| 806.45              | 11,841                  | 809.10              | 93,129                  |
| 806.50              | 13,186                  | 809.15              | 94,859                  |
| 806.55              | 14,537                  | 809.20              | 96,596                  |
| 806.60              | 15,896                  | 809.25              | 98,340                  |
| 806.65              | 17,262                  | 809.30              | 100,092                 |
| 806.70              | 18,636                  | 809.35              | 101,851                 |
| 806.75              | 20,017                  | 809.40              | 103,617                 |
| 806.80              | 21,406                  | 809.45              | 105,391                 |
| 806.85              | 22,802                  | 809.50              | 107,173                 |
| 806.90              | 24,205                  | 809.55              | 108,961                 |
| 806.95              | 25,616                  | 809.60              | 110,758                 |
| 807.00              | 27,034                  | 809.65              | 112,561                 |
| 807.05              | 28,460                  | 809.70              | 114,372                 |
| 807.10              | 29,893                  | 809.75              | 116,191                 |
| 807.15              | 31,334                  | 809.80              | 118,017                 |
| 807.20              | 32,782                  | 809.85              | 119,850                 |
| 807.25              | 34,237                  | 809.90              | 121,691                 |
| 807.30              | 35,700                  | 809.95              | 123,539                 |
| 807.35              | 37,170                  | 810.00              | <b>125,395</b>          |
| 807.40              | 38,648                  |                     |                         |
| 807.45              | 40,133                  |                     |                         |
| 807.50              | 41,625                  |                     |                         |
| 807.55              | 43,125                  |                     |                         |
| 807.60              | 44,632                  |                     |                         |

### Summary for Link 6L: (new Link)

Inflow Area = 4.110 ac, 64.99% Impervious, Inflow Depth = 1.13" for 1-Year event  
Inflow = 1.04 cfs @ 5.31 hrs, Volume= 0.386 af  
Primary = 1.04 cfs @ 5.31 hrs, Volume= 0.386 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

### Link 6L: (new Link)





### Summary for Subcatchment 1S: Parcel 1&2 Predev.

Runoff = 0.17 cfs @ 5.70 hrs, Volume= 0.059 af, Depth= 0.47"

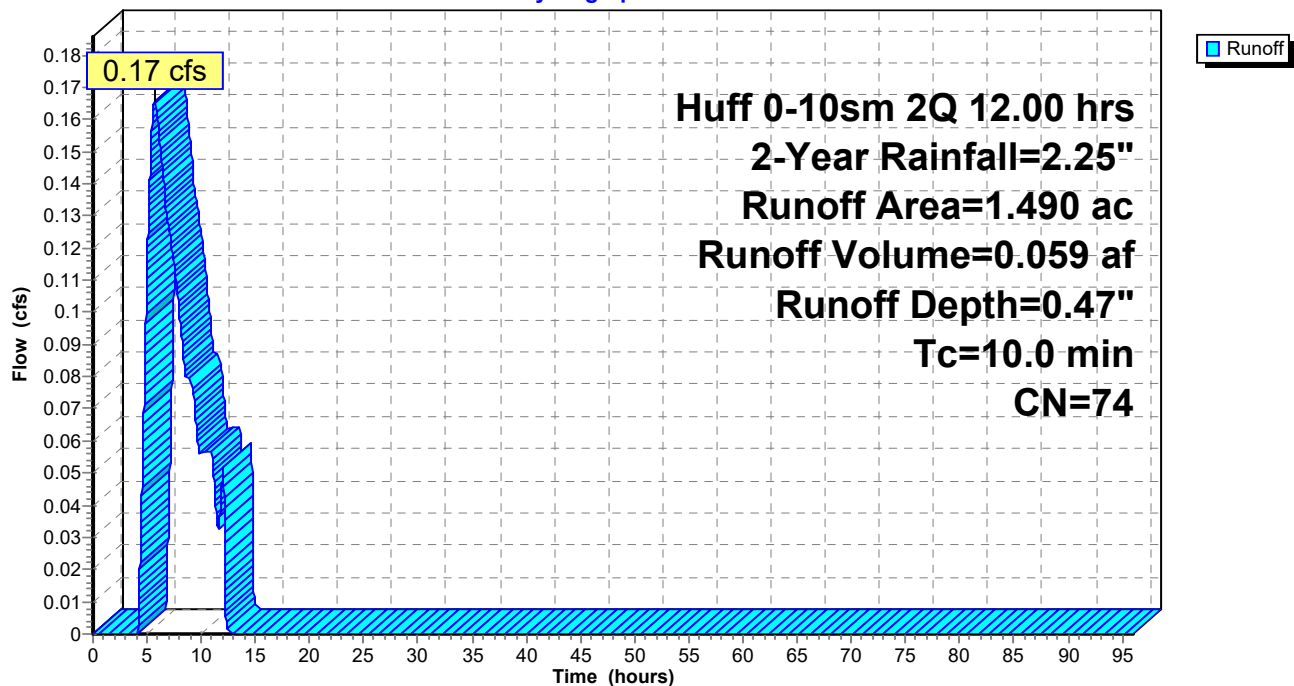
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 2-Year Rainfall=2.25"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 1.490     | 74 | >75% Grass cover, Good, HSG C |
| 1.490     |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description   |
|-------------|------------------|------------------|----------------------|-------------------|---------------|
| 10.0        |                  |                  |                      |                   | Direct Entry, |

### Subcatchment 1S: Parcel 1&2 Predev.

Hydrograph



### Summary for Subcatchment 2S: Parcel 1 & Pond

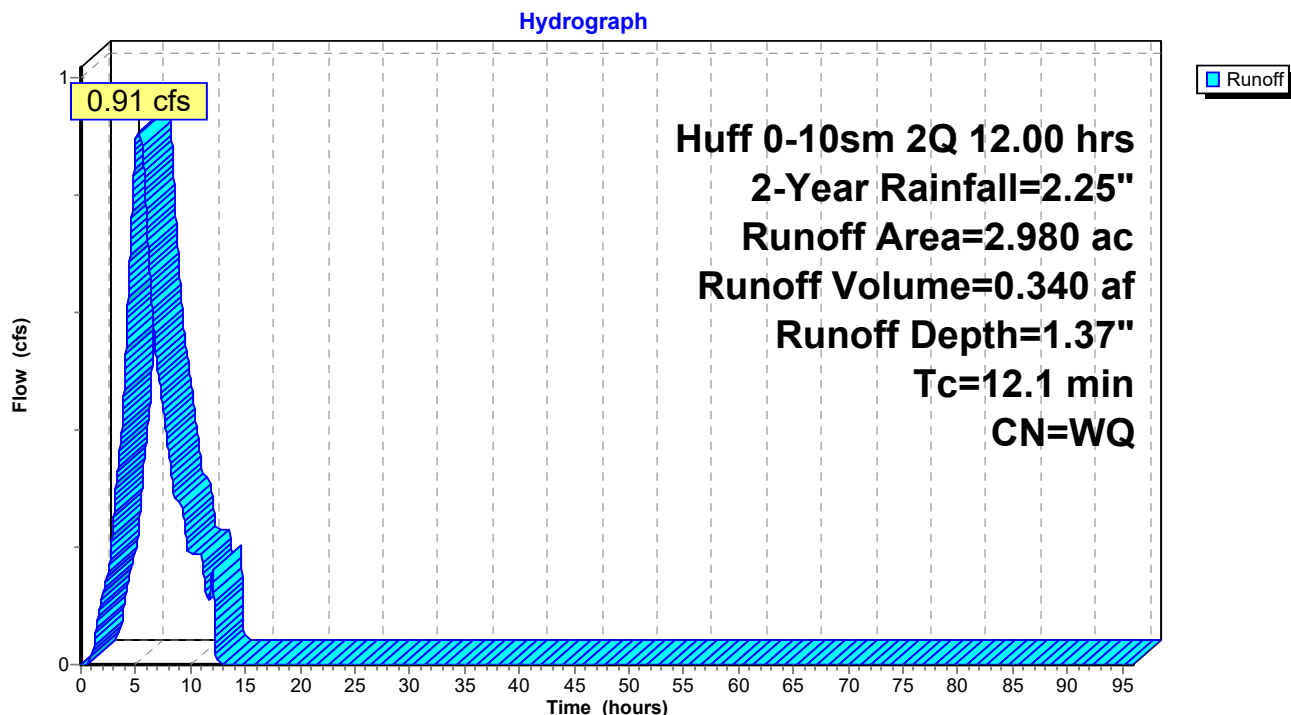
Runoff = 0.91 cfs @ 5.26 hrs, Volume= 0.340 af, Depth= 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 2-Year Rainfall=2.25"

| Area (ac) | CN | Description                                |
|-----------|----|--------------------------------------------|
| 1.330     | 94 | Urban commercial, 85% imp, HSG C           |
| * 0.280   | 90 | Access Road                                |
| 0.580     | 98 | Water Surface, HSG C                       |
| * 0.790   | 74 | >75% Grass cover, Good, around pond, HSG C |
| 2.980     |    | Weighted Average                           |
| 1.269     |    | 42.60% Pervious Area                       |
| 1.711     |    | 57.40% Impervious Area                     |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 2S: Parcel 1 & Pond



### Summary for Subcatchment 3S: Ex. Offsite Trib.

Runoff = 1.84 cfs @ 5.56 hrs, Volume= 0.725 af, Depth= 0.99"

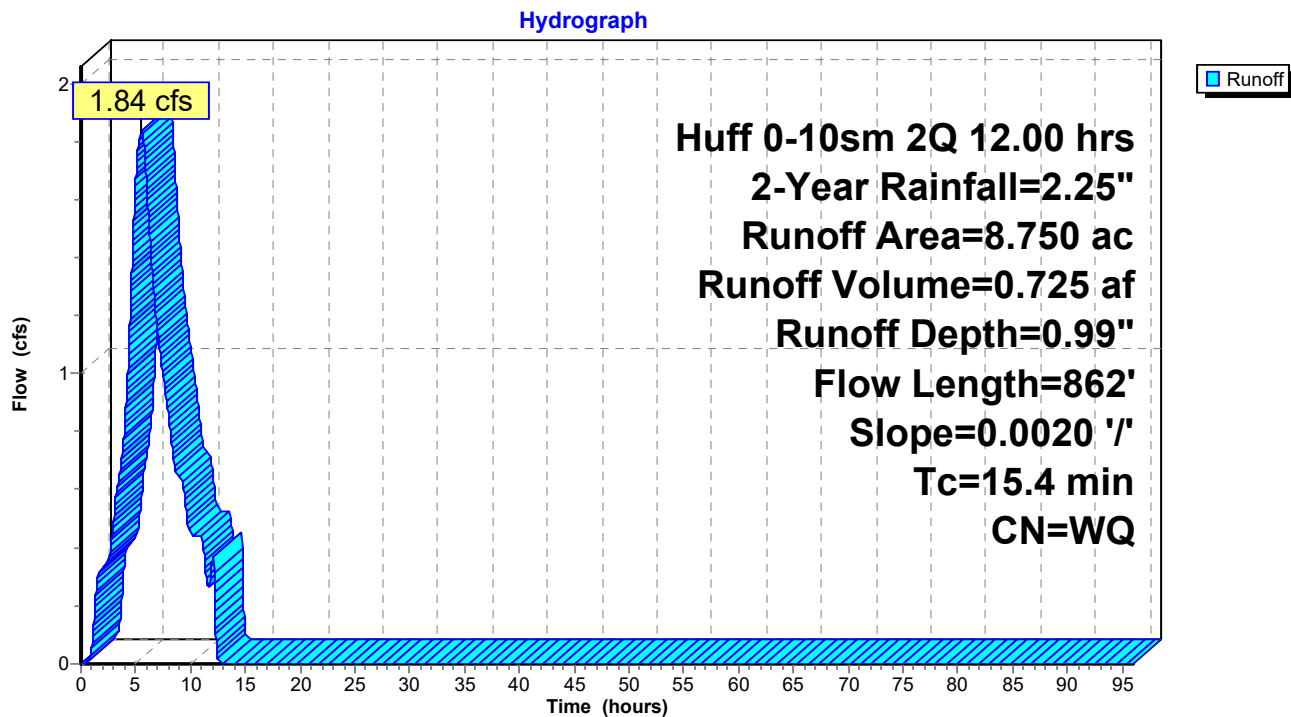
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 2-Year Rainfall=2.25"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 2.940     | 98 | Paved parking, HSG C          |
| 5.810     | 74 | >75% Grass cover, Good, HSG C |
| 8.750     |    | Weighted Average              |
| 5.810     |    | 66.40% Pervious Area          |
| 2.940     |    | 33.60% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                   |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------------------|
| 10.0     |               |               |                   |                | <b>Direct Entry, Start time</b>               |
| 5.4      | 862           | 0.0020        | 2.66              | 4.70           | <b>Pipe Channel, Travel Time in Pipe</b>      |
|          |               |               |                   |                | 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' |
|          |               |               |                   |                | n= 0.013                                      |
| 15.4     | 862           | Total         |                   |                |                                               |

### Subcatchment 3S: Ex. Offsite Trib.





### Summary for Subcatchment 4S: Undetained

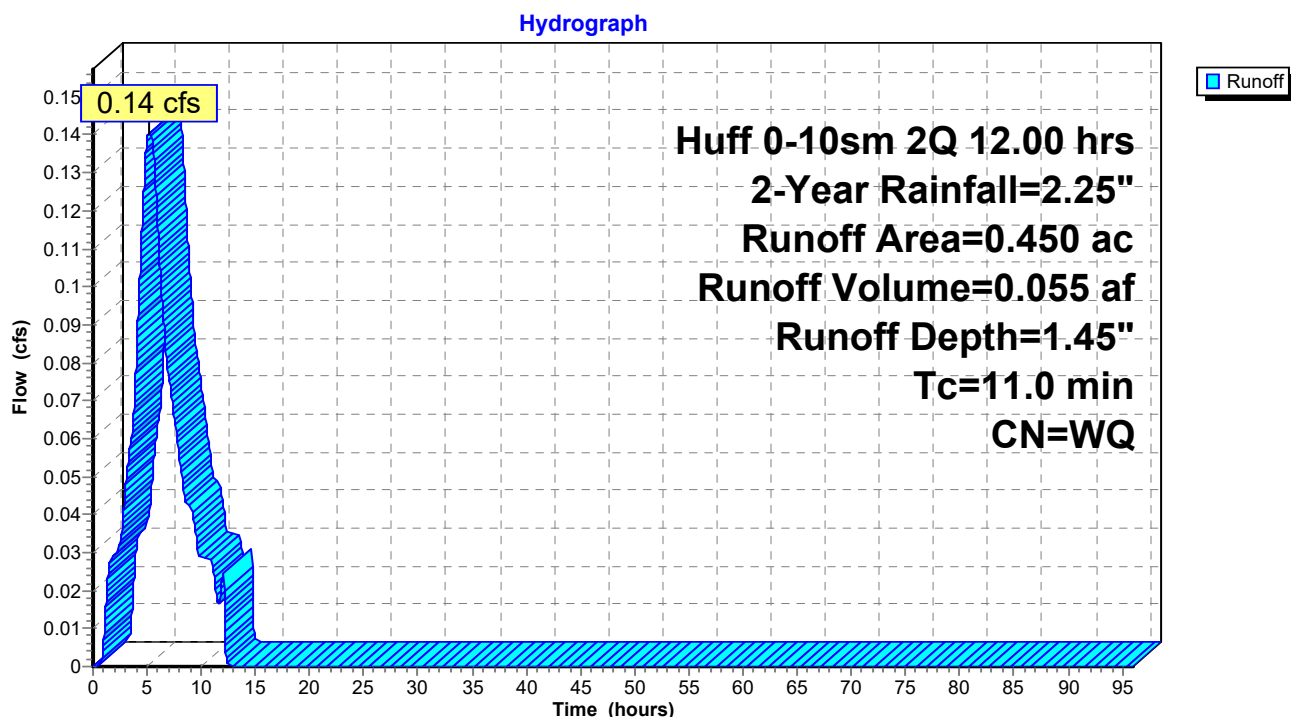
Runoff = 0.14 cfs @ 5.17 hrs, Volume= 0.055 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 2-Year Rainfall=2.25"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.190     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.260     | 98 | Paved parking, HSG C            |
| 0.450     |    | Weighted Average                |
| 0.190     |    | 42.22% Pervious Area            |
| 0.260     |    | 57.78% Impervious Area          |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description          |
|----------|---------------|---------------|-------------------|----------------|----------------------|
| 11.0     |               |               |                   |                | Direct Entry, Direct |

### Subcatchment 4S: Undetained



### Summary for Subcatchment 5S: Parcel 2

Runoff = 0.43 cfs @ 5.12 hrs, Volume= 0.154 af, Depth= 1.63"

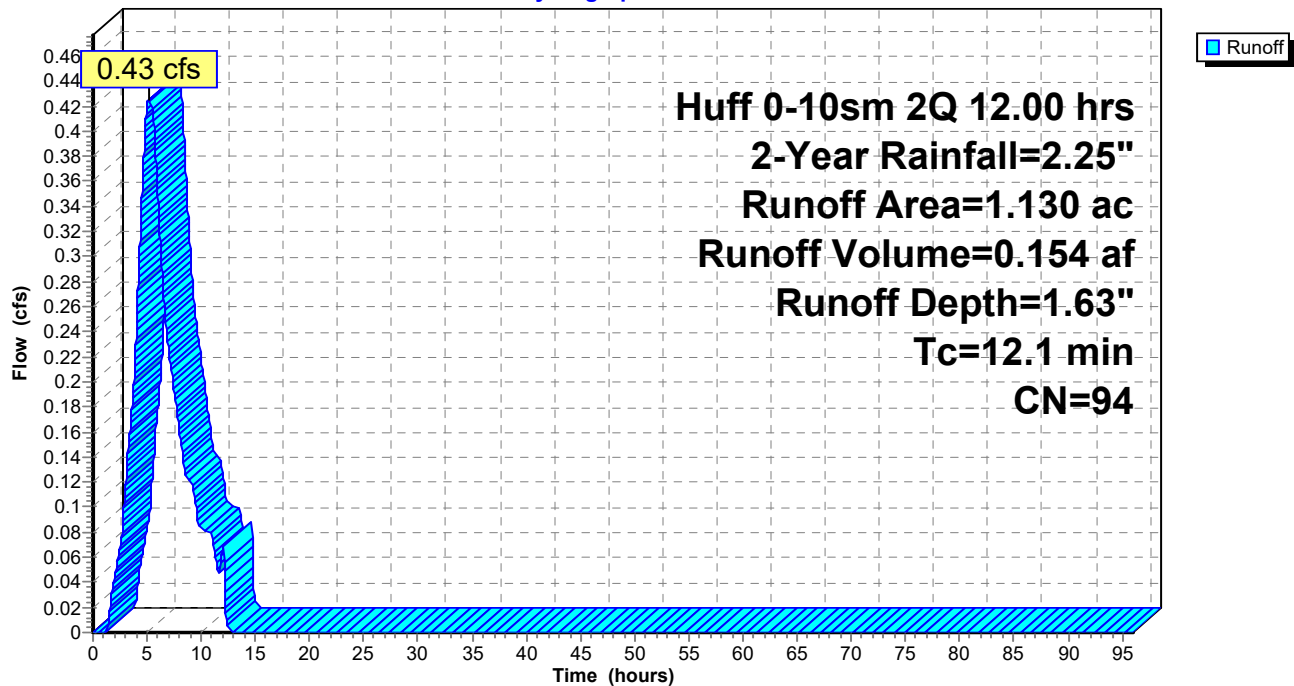
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 2-Year Rainfall=2.25"

| Area (ac) | CN | Description                      |
|-----------|----|----------------------------------|
| 1.130     | 94 | Urban commercial, 85% imp, HSG C |
| 0.169     |    | 15.00% Pervious Area             |
| 0.961     |    | 85.00% Impervious Area           |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 5S: Parcel 2

Hydrograph



### Summary for Pond 7P: Retention Pond Ph1

Inflow Area = 12.860 ac, 43.63% Impervious, Inflow Depth = 1.14" for 2-Year event  
 Inflow = 3.16 cfs @ 5.50 hrs, Volume= 1.218 af  
 Outflow = 0.82 cfs @ 9.62 hrs, Volume= 1.198 af, Atten= 74%, Lag= 247.5 min  
 Primary = 0.82 cfs @ 9.62 hrs, Volume= 1.198 af  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs / 3  
 Peak Elev= 807.27' @ 9.62 hrs Surf.Area= 29,249 sf Storage= 34,900 cf

Plug-Flow detention time= 722.4 min calculated for 1.198 af (98% of inflow)  
 Center-of-Mass det. time= 717.1 min ( 1,097.0 - 379.9 )

| Volume | Invert  | Avail.Storage | Storage Description                                        |
|--------|---------|---------------|------------------------------------------------------------|
| #1     | 806.00' | 125,002 cf    | <b>Pond (Prismatic)</b> Listed below (Recalc)              |
| #2     | 805.00' | 393 cf        | <b>12.0" Round Pipe Storage</b><br>L= 500.0' S= 0.0050 '/' |
|        |         | 125,395 cf    | Total Available Storage                                    |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) |
|---------------------|----------------------|---------------------------|---------------------------|
| 806.00              | 25,315               | 0                         | 0                         |
| 810.00              | 37,186               | 125,002                   | 125,002                   |

| Device | Routing   | Invert  | Outlet Devices                                                                                                                                                                                                                                                                    |
|--------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary   | 803.26' | <b>18.0" Round Culvert</b><br>L= 113.5' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 803.26' / 801.66' S= 0.0141 '/ Cc= 0.900<br>n= 0.013, Flow Area= 1.77 sf                                                                                                |
| #2     | Device 1  | 806.00' | <b>4.9" Vert. Orifice</b> C= 0.600                                                                                                                                                                                                                                                |
| #3     | Device 1  | 807.00' | <b>5.0" Vert. Orifice/Grate</b> C= 0.600                                                                                                                                                                                                                                          |
| #4     | Device 1  | 808.75' | <b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)                                                                                                                                                                                                              |
| #5     | Secondary | 809.25' | <b>15.0' long x 4.0' breadth Broad-Crested Rectangular Weir</b><br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00<br>2.50 3.00 3.50 4.00 4.50 5.00 5.50<br>Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66<br>2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32 |

**Primary OutFlow** Max=0.82 cfs @ 9.62 hrs HW=807.27' (Free Discharge)

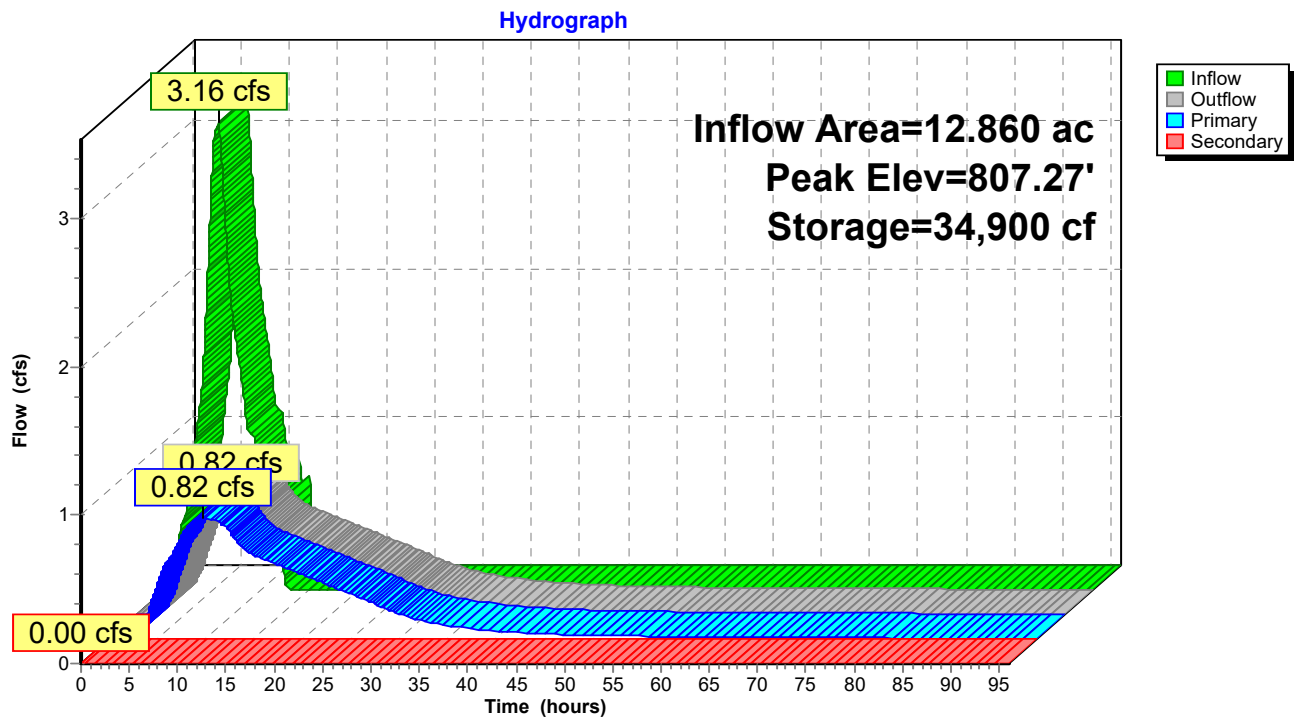
- 1=Culvert (Passes 0.82 cfs of 12.13 cfs potential flow)
- 2=Orifice (Orifice Controls 0.65 cfs @ 4.98 fps)
- 3=Orifice/Grate (Orifice Controls 0.17 cfs @ 1.78 fps)
- 4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=805.00' (Free Discharge)

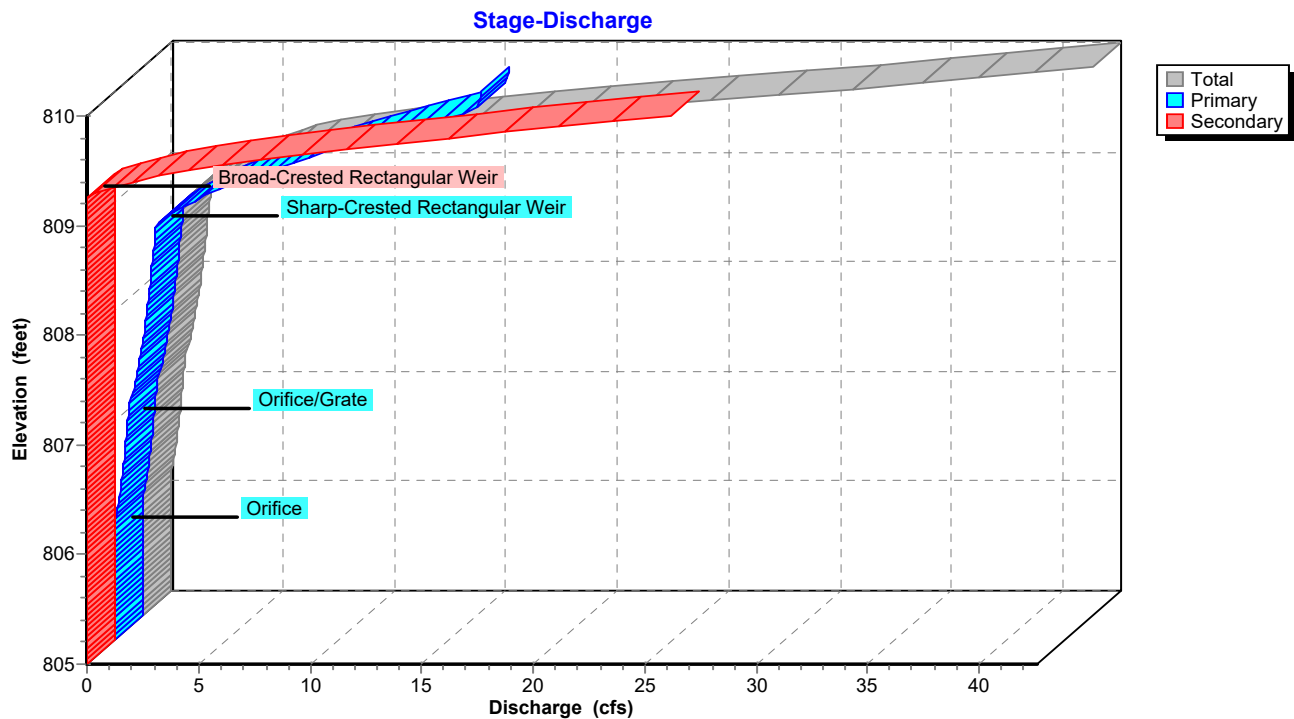
- 5=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)



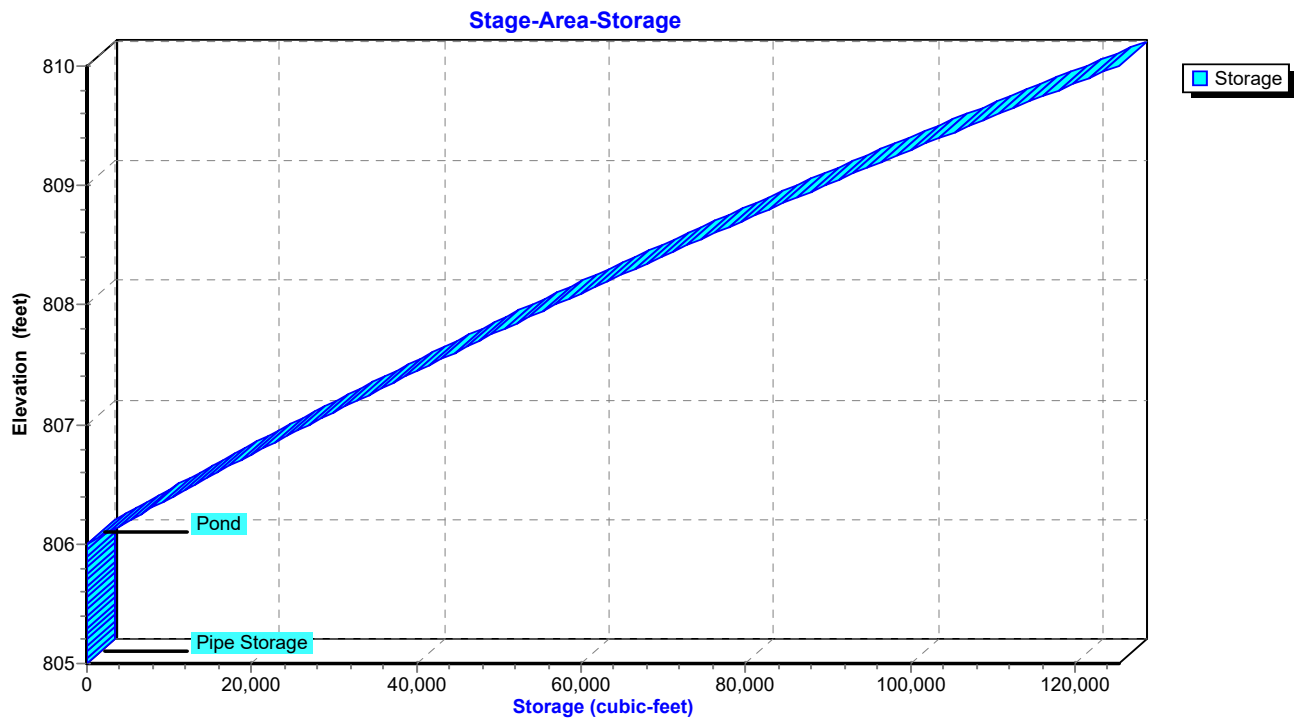
### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



**Stage-Area-Storage for Pond 7P: Retention Pond Ph1**

| Elevation<br>(feet) | Storage<br>(cubic-feet) | Elevation<br>(feet) | Storage<br>(cubic-feet) |
|---------------------|-------------------------|---------------------|-------------------------|
| 805.00              | 0                       | 807.65              | 46,146                  |
| 805.05              | 0                       | 807.70              | 47,668                  |
| 805.10              | 0                       | 807.75              | 49,196                  |
| 805.15              | 1                       | 807.80              | 50,731                  |
| 805.20              | 2                       | 807.85              | 52,273                  |
| 805.25              | 3                       | 807.90              | 53,822                  |
| 805.30              | 5                       | 807.95              | 55,379                  |
| 805.35              | 7                       | 808.00              | 56,942                  |
| 805.40              | 10                      | 808.05              | 58,511                  |
| 805.45              | 13                      | 808.10              | 60,088                  |
| 805.50              | 17                      | 808.15              | 61,672                  |
| 805.55              | 21                      | 808.20              | 63,263                  |
| 805.60              | 26                      | 808.25              | 64,860                  |
| 805.65              | 31                      | 808.30              | 66,465                  |
| 805.70              | 36                      | 808.35              | 68,077                  |
| 805.75              | 42                      | 808.40              | 69,695                  |
| 805.80              | 49                      | 808.45              | 71,321                  |
| 805.85              | 56                      | 808.50              | 72,954                  |
| 805.90              | 63                      | 808.55              | 74,595                  |
| 805.95              | 71                      | 808.60              | 76,243                  |
| 806.00              | 79                      | 808.65              | 77,898                  |
| 806.05              | 1,356                   | 808.70              | 79,561                  |
| 806.10              | 2,641                   | 808.75              | 81,231                  |
| 806.15              | 3,933                   | 808.80              | 82,908                  |
| 806.20              | 5,232                   | 808.85              | 84,593                  |
| 806.25              | 6,539                   | 808.90              | 86,286                  |
| 806.30              | 7,854                   | 808.95              | 87,985                  |
| 806.35              | 9,176                   | 809.00              | 89,693                  |
| 806.40              | 10,505                  | 809.05              | 91,407                  |
| 806.45              | 11,841                  | 809.10              | 93,129                  |
| 806.50              | 13,186                  | 809.15              | 94,859                  |
| 806.55              | 14,537                  | 809.20              | 96,596                  |
| 806.60              | 15,896                  | 809.25              | 98,340                  |
| 806.65              | 17,262                  | 809.30              | 100,092                 |
| 806.70              | 18,636                  | 809.35              | 101,851                 |
| 806.75              | 20,017                  | 809.40              | 103,617                 |
| 806.80              | 21,406                  | 809.45              | 105,391                 |
| 806.85              | 22,802                  | 809.50              | 107,173                 |
| 806.90              | 24,205                  | 809.55              | 108,961                 |
| 806.95              | 25,616                  | 809.60              | 110,758                 |
| 807.00              | 27,034                  | 809.65              | 112,561                 |
| 807.05              | 28,460                  | 809.70              | 114,372                 |
| 807.10              | 29,893                  | 809.75              | 116,191                 |
| 807.15              | 31,334                  | 809.80              | 118,017                 |
| 807.20              | 32,782                  | 809.85              | 119,850                 |
| 807.25              | 34,237                  | 809.90              | 121,691                 |
| 807.30              | 35,700                  | 809.95              | 123,539                 |
| 807.35              | 37,170                  | 810.00              | <b>125,395</b>          |
| 807.40              | 38,648                  |                     |                         |
| 807.45              | 40,133                  |                     |                         |
| 807.50              | 41,625                  |                     |                         |
| 807.55              | 43,125                  |                     |                         |
| 807.60              | 44,632                  |                     |                         |

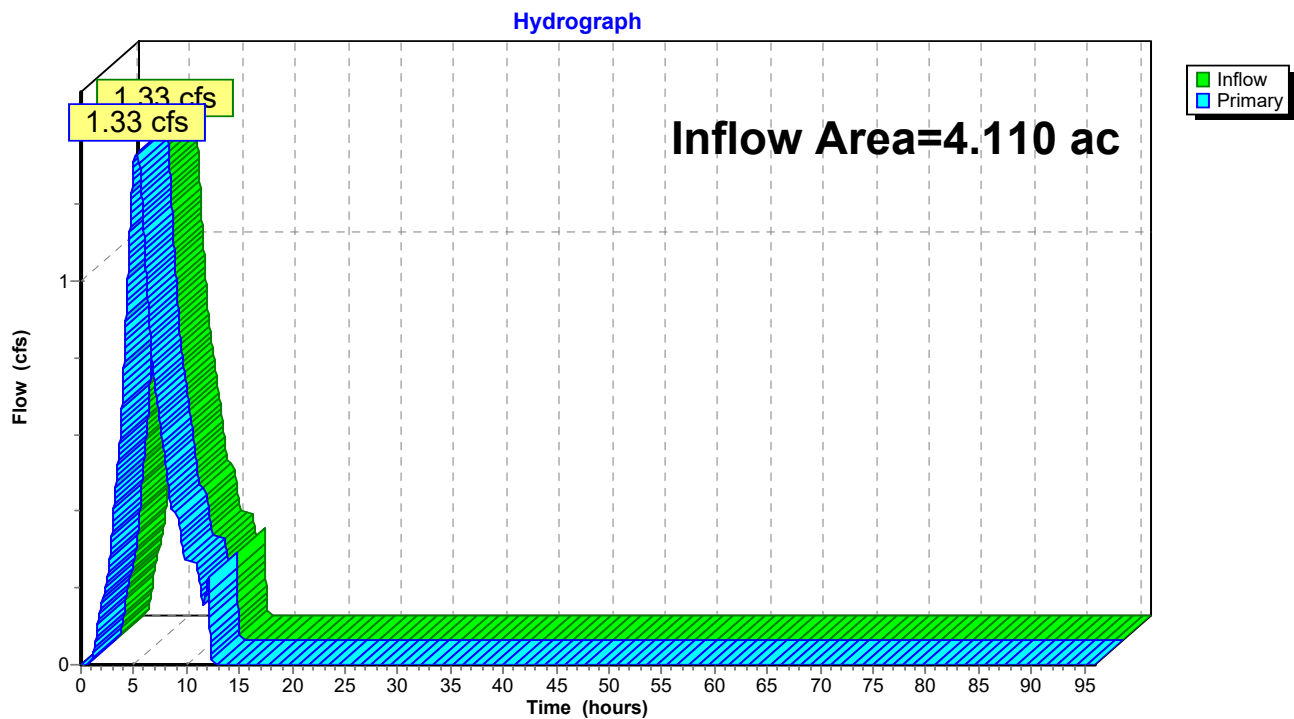


### Summary for Link 6L: (new Link)

Inflow Area = 4.110 ac, 64.99% Impervious, Inflow Depth = 1.44" for 2-Year event  
Inflow = 1.33 cfs @ 5.23 hrs, Volume= 0.494 af  
Primary = 1.33 cfs @ 5.23 hrs, Volume= 0.494 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

### Link 6L: (new Link)



### Summary for Subcatchment 1S: Parcel 1&2 Predev.

Runoff = 0.28 cfs @ 5.59 hrs, Volume= 0.097 af, Depth= 0.78"

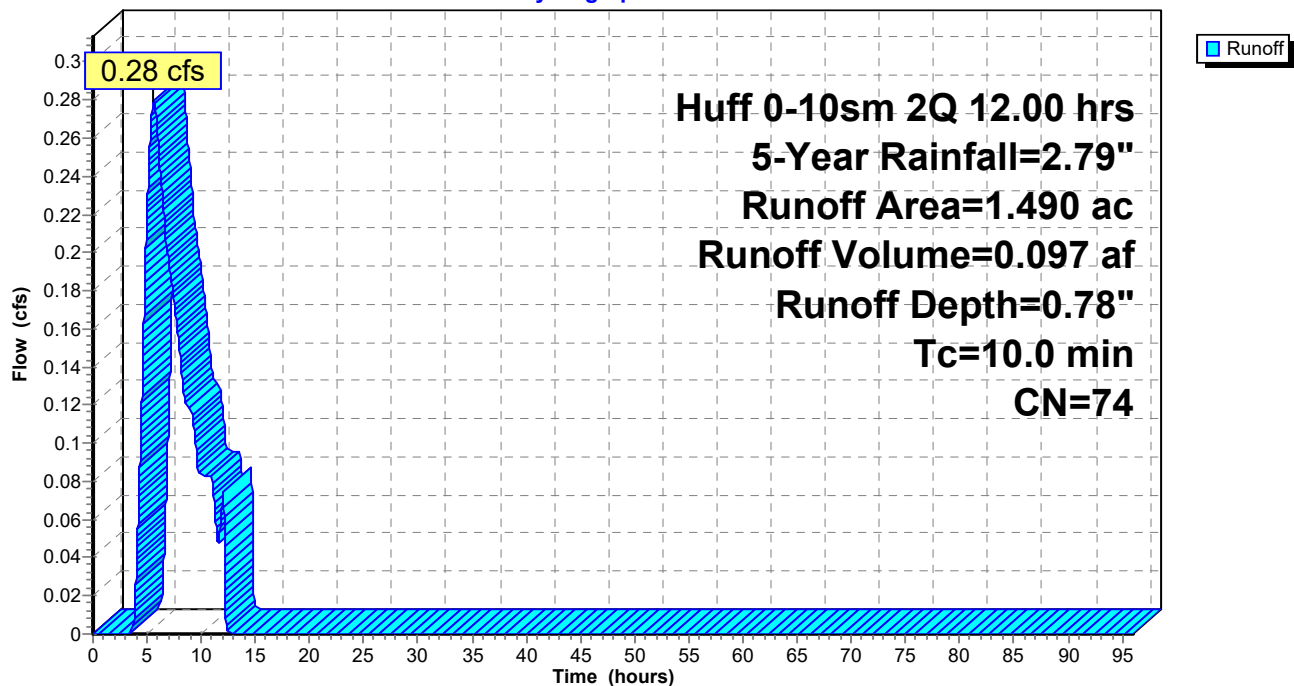
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 5-Year Rainfall=2.79"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 1.490     | 74 | >75% Grass cover, Good, HSG C |
| 1.490     |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description   |
|-------------|------------------|------------------|----------------------|-------------------|---------------|
| 10.0        |                  |                  |                      |                   | Direct Entry, |

### Subcatchment 1S: Parcel 1&2 Predev.

Hydrograph



### Summary for Subcatchment 2S: Parcel 1 & Pond

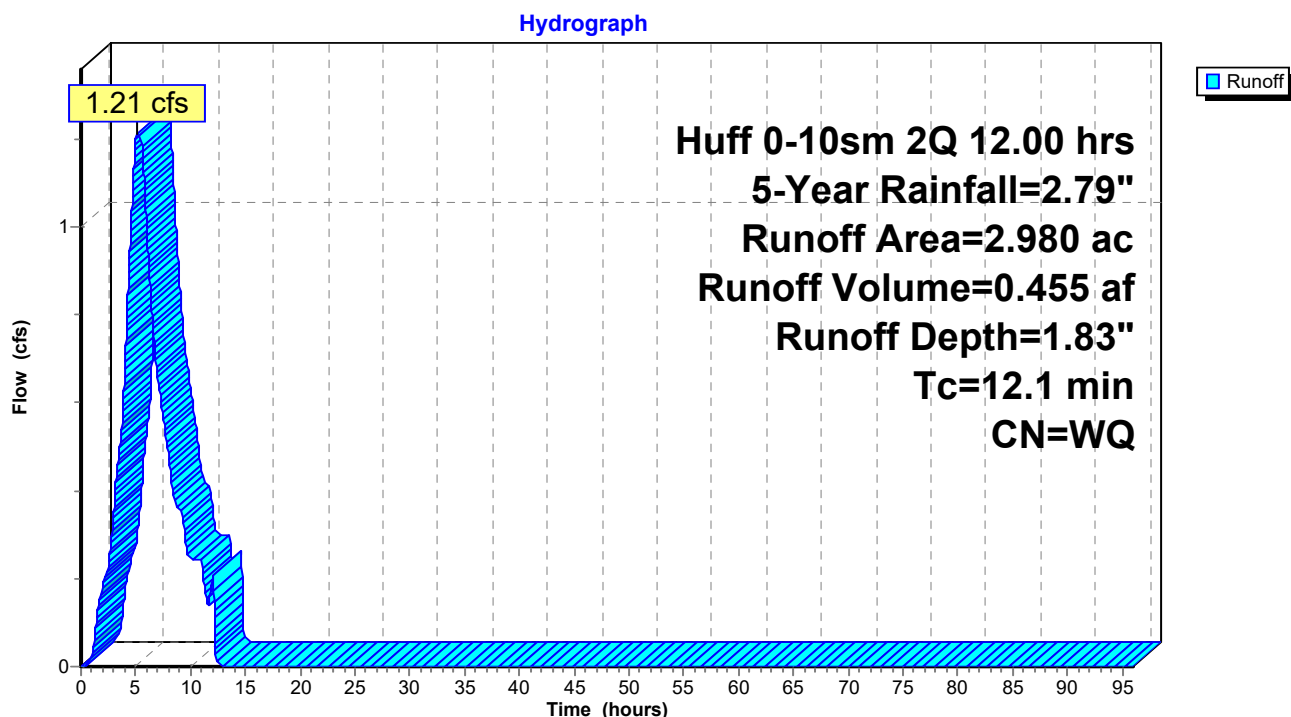
Runoff = 1.21 cfs @ 5.15 hrs, Volume= 0.455 af, Depth= 1.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 5-Year Rainfall=2.79"

| Area (ac) | CN | Description                                |
|-----------|----|--------------------------------------------|
| 1.330     | 94 | Urban commercial, 85% imp, HSG C           |
| * 0.280   | 90 | Access Road                                |
| 0.580     | 98 | Water Surface, HSG C                       |
| * 0.790   | 74 | >75% Grass cover, Good, around pond, HSG C |
| 2.980     |    | Weighted Average                           |
| 1.269     |    | 42.60% Pervious Area                       |
| 1.711     |    | 57.40% Impervious Area                     |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 2S: Parcel 1 & Pond





### Summary for Subcatchment 3S: Ex. Offsite Trib.

Runoff = 2.60 cfs @ 5.53 hrs, Volume= 1.004 af, Depth= 1.38"

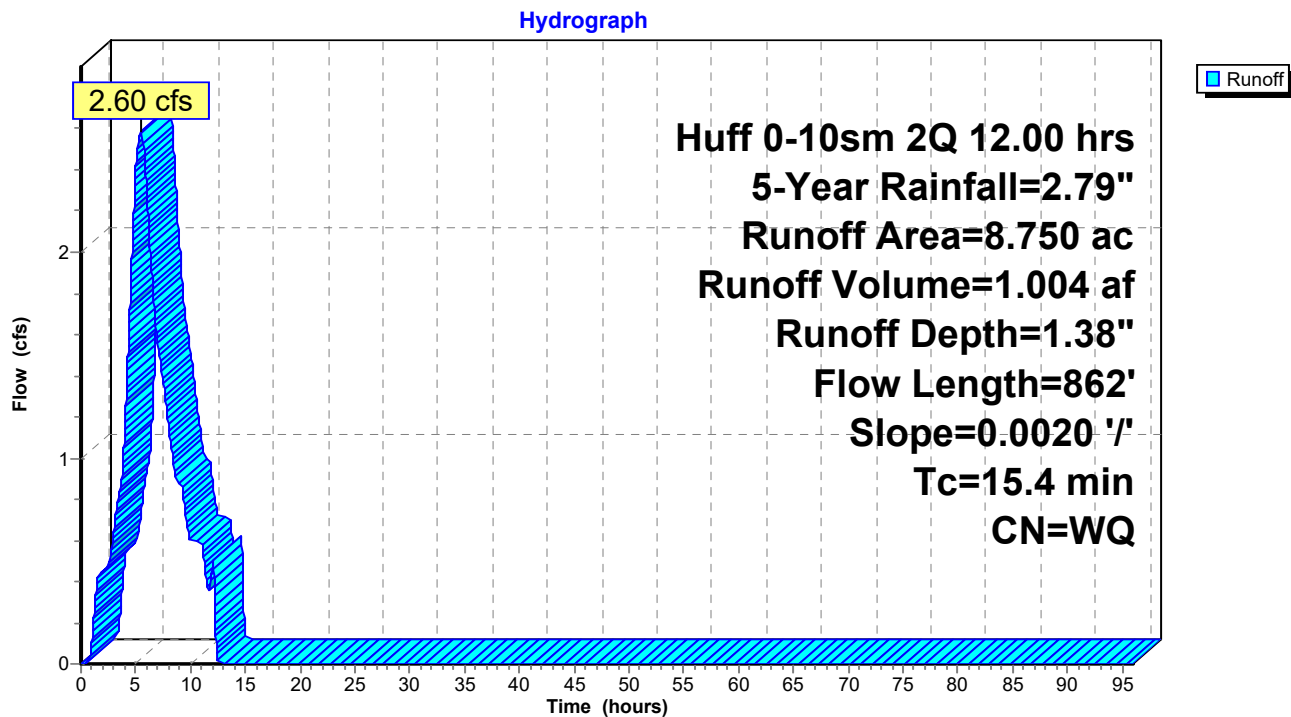
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 5-Year Rainfall=2.79"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 2.940     | 98 | Paved parking, HSG C          |
| 5.810     | 74 | >75% Grass cover, Good, HSG C |
| 8.750     |    | Weighted Average              |
| 5.810     |    | 66.40% Pervious Area          |
| 2.940     |    | 33.60% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                   |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------------------|
| 10.0     |               |               |                   |                | <b>Direct Entry, Start time</b>               |
| 5.4      | 862           | 0.0020        | 2.66              | 4.70           | <b>Pipe Channel, Travel Time in Pipe</b>      |
|          |               |               |                   |                | 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' |
|          |               |               |                   |                | n= 0.013                                      |
| 15.4     | 862           | Total         |                   |                |                                               |

### Subcatchment 3S: Ex. Offsite Trib.



### Summary for Subcatchment 4S: Undetained

Runoff = 0.19 cfs @ 5.12 hrs, Volume= 0.072 af, Depth= 1.92"

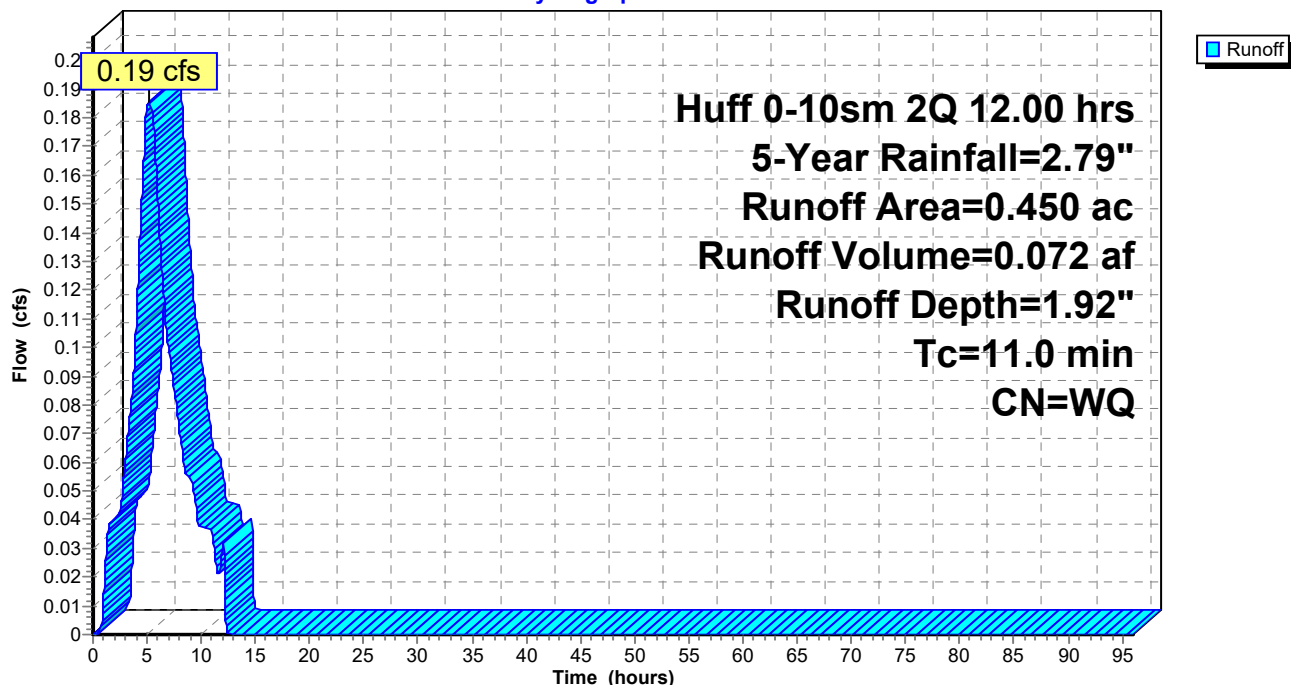
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 5-Year Rainfall=2.79"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.190     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.260     | 98 | Paved parking, HSG C            |
| 0.450     |    | Weighted Average                |
| 0.190     |    | 42.22% Pervious Area            |
| 0.260     |    | 57.78% Impervious Area          |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description          |
|----------|---------------|---------------|-------------------|----------------|----------------------|
| 11.0     |               |               |                   |                | Direct Entry, Direct |

### Subcatchment 4S: Undetained

Hydrograph



### Summary for Subcatchment 5S: Parcel 2

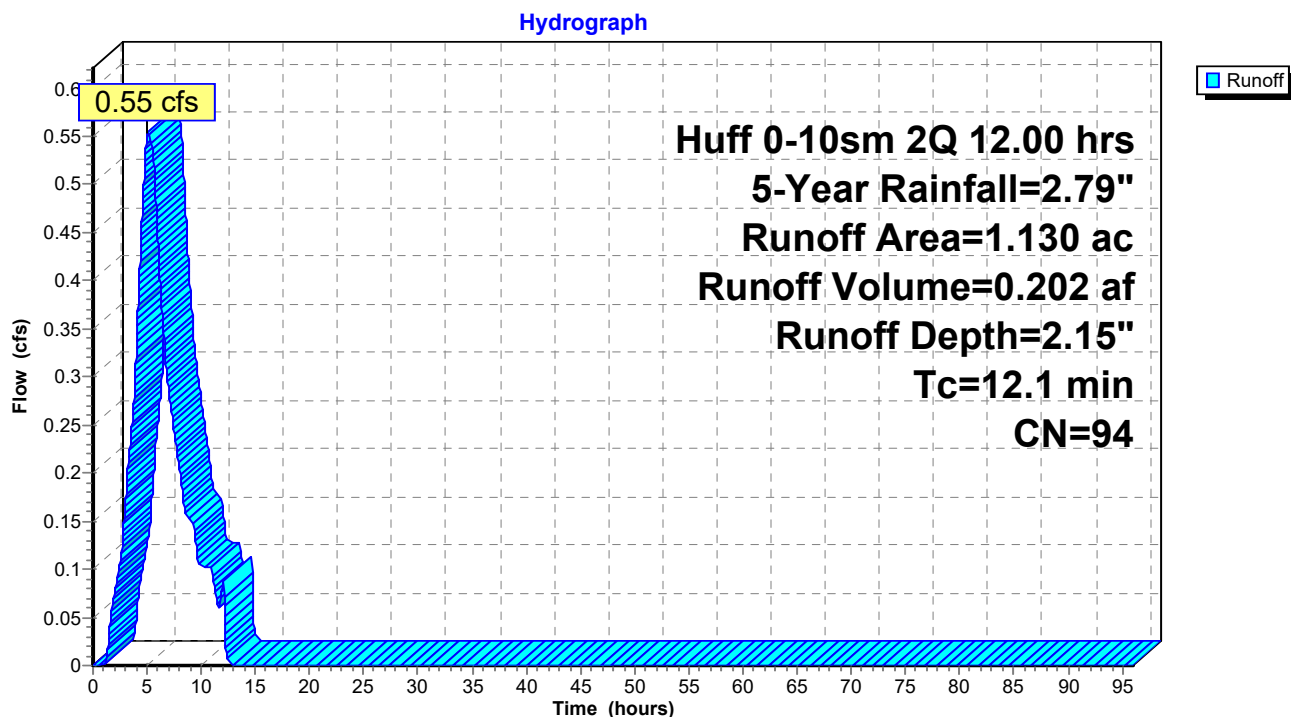
Runoff = 0.55 cfs @ 5.07 hrs, Volume= 0.202 af, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 5-Year Rainfall=2.79"

| Area (ac) | CN | Description                      |
|-----------|----|----------------------------------|
| 1.130     | 94 | Urban commercial, 85% imp, HSG C |
| 0.169     |    | 15.00% Pervious Area             |
| 0.961     |    | 85.00% Impervious Area           |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 5S: Parcel 2



### Summary for Pond 7P: Retention Pond Ph1

Inflow Area = 12.860 ac, 43.63% Impervious, Inflow Depth = 1.55" for 5-Year event  
 Inflow = 4.33 cfs @ 5.46 hrs, Volume= 1.661 af  
 Outflow = 1.19 cfs @ 9.49 hrs, Volume= 1.639 af, Atten= 72%, Lag= 241.5 min  
 Primary = 1.19 cfs @ 9.49 hrs, Volume= 1.639 af  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs / 3  
 Peak Elev= 807.65' @ 9.49 hrs Surf.Area= 30,349 sf Storage= 46,088 cf

Plug-Flow detention time= 682.5 min calculated for 1.639 af (99% of inflow)  
 Center-of-Mass det. time= 678.4 min ( 1,055.6 - 377.2 )

| Volume | Invert  | Avail.Storage | Storage Description                                        |
|--------|---------|---------------|------------------------------------------------------------|
| #1     | 806.00' | 125,002 cf    | <b>Pond (Prismatic)</b> Listed below (Recalc)              |
| #2     | 805.00' | 393 cf        | <b>12.0" Round Pipe Storage</b><br>L= 500.0' S= 0.0050 '/' |
|        |         | 125,395 cf    | Total Available Storage                                    |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) |
|---------------------|----------------------|---------------------------|---------------------------|
| 806.00              | 25,315               | 0                         | 0                         |
| 810.00              | 37,186               | 125,002                   | 125,002                   |

| Device | Routing   | Invert  | Outlet Devices                                                                                                                                                                                                                                                                    |
|--------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary   | 803.26' | <b>18.0" Round Culvert</b><br>L= 113.5' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 803.26' / 801.66' S= 0.0141 '/ Cc= 0.900<br>n= 0.013, Flow Area= 1.77 sf                                                                                                |
| #2     | Device 1  | 806.00' | <b>4.9" Vert. Orifice</b> C= 0.600                                                                                                                                                                                                                                                |
| #3     | Device 1  | 807.00' | <b>5.0" Vert. Orifice/Grate</b> C= 0.600                                                                                                                                                                                                                                          |
| #4     | Device 1  | 808.75' | <b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)                                                                                                                                                                                                              |
| #5     | Secondary | 809.25' | <b>15.0' long x 4.0' breadth Broad-Crested Rectangular Weir</b><br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00<br>2.50 3.00 3.50 4.00 4.50 5.00 5.50<br>Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66<br>2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32 |

**Primary OutFlow** Max=1.19 cfs @ 9.49 hrs HW=807.65' (Free Discharge)

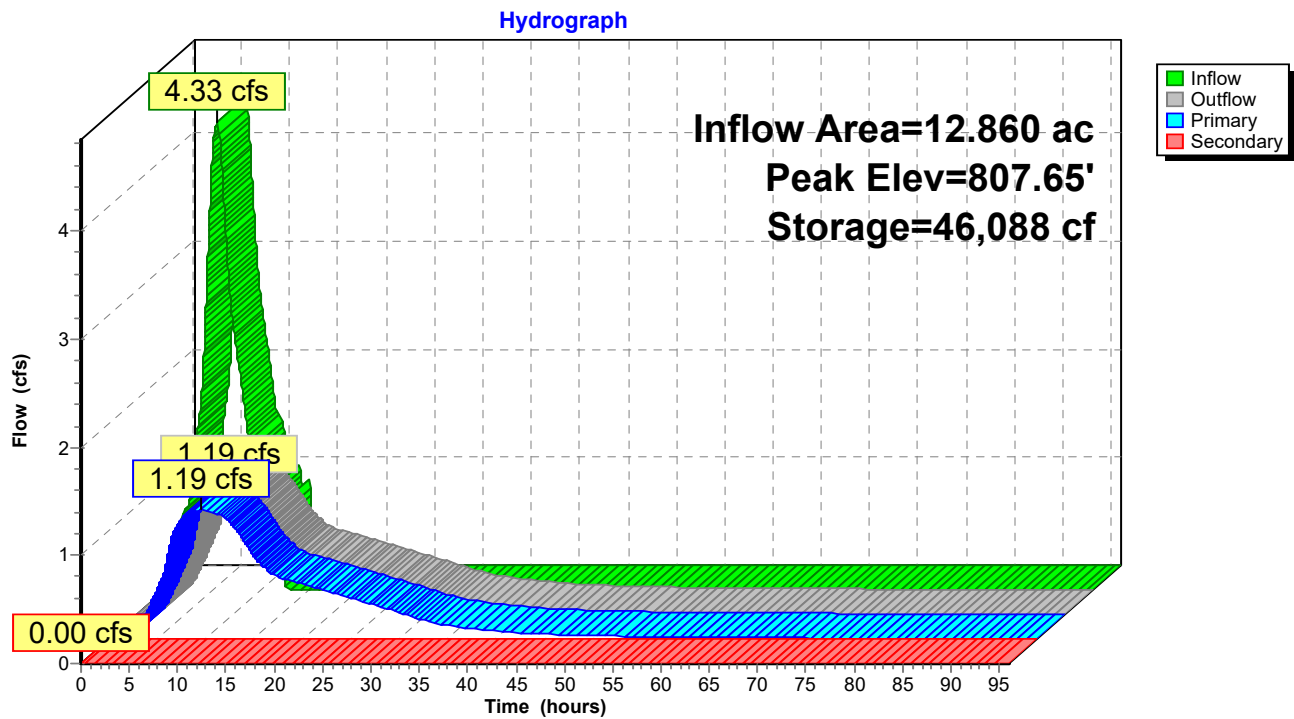
- ↑ **1=Culvert** (Passes 1.19 cfs of 12.81 cfs potential flow)
- ↑ **2=Orifice** (Orifice Controls 0.76 cfs @ 5.79 fps)
- ↑ **3=Orifice/Grate** (Orifice Controls 0.44 cfs @ 3.19 fps)
- ↑ **4=Sharp-Crested Rectangular Weir** ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=805.00' (Free Discharge)

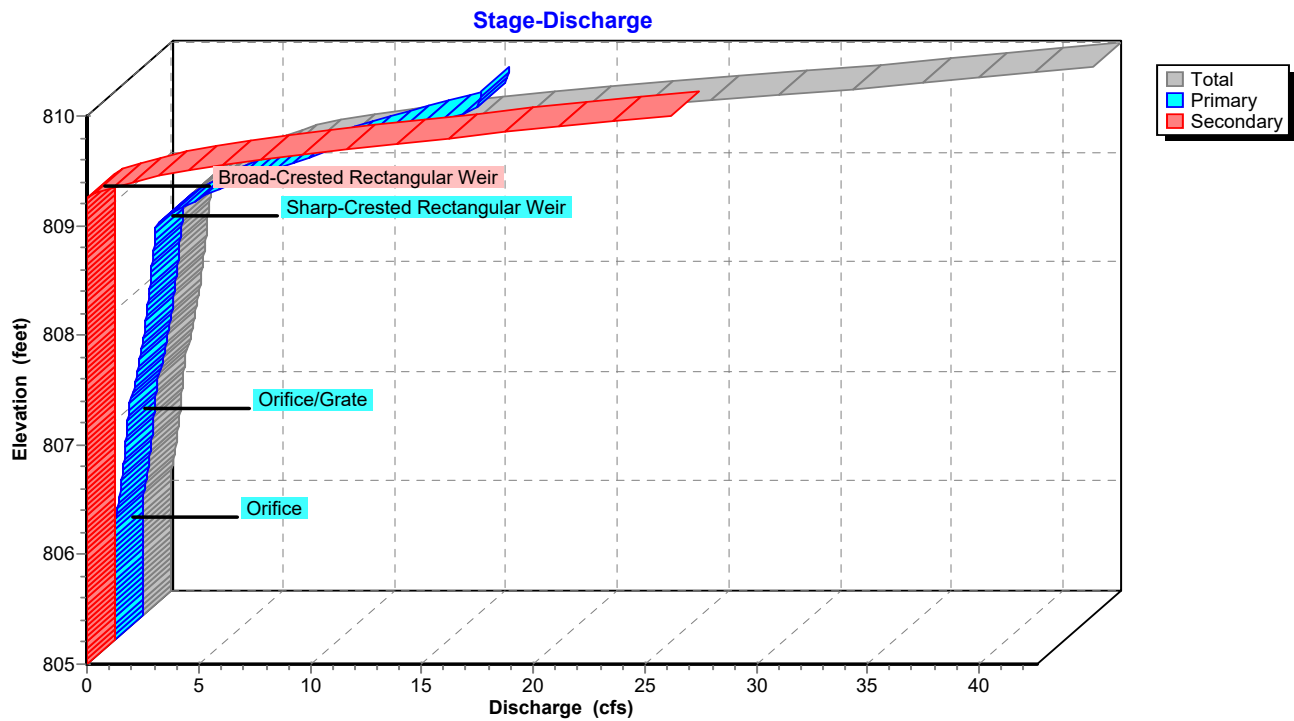
- ↑ **5=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)



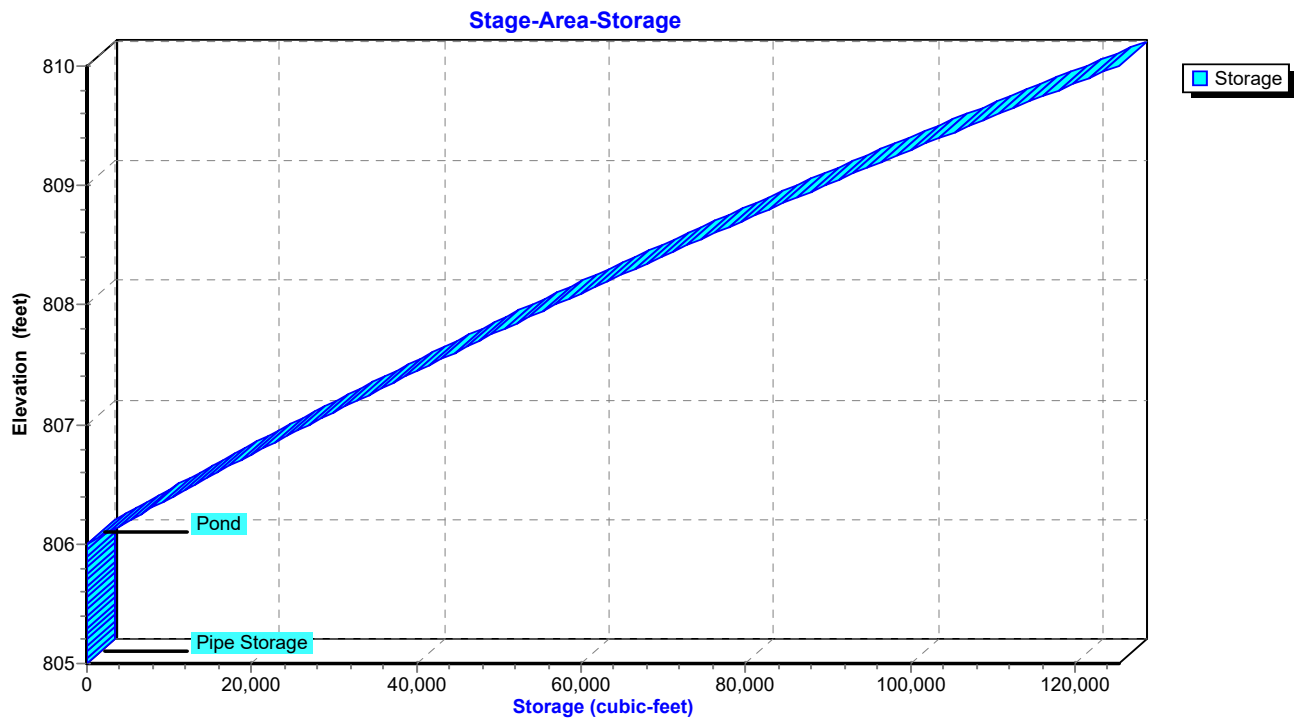
### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



**Stage-Area-Storage for Pond 7P: Retention Pond Ph1**

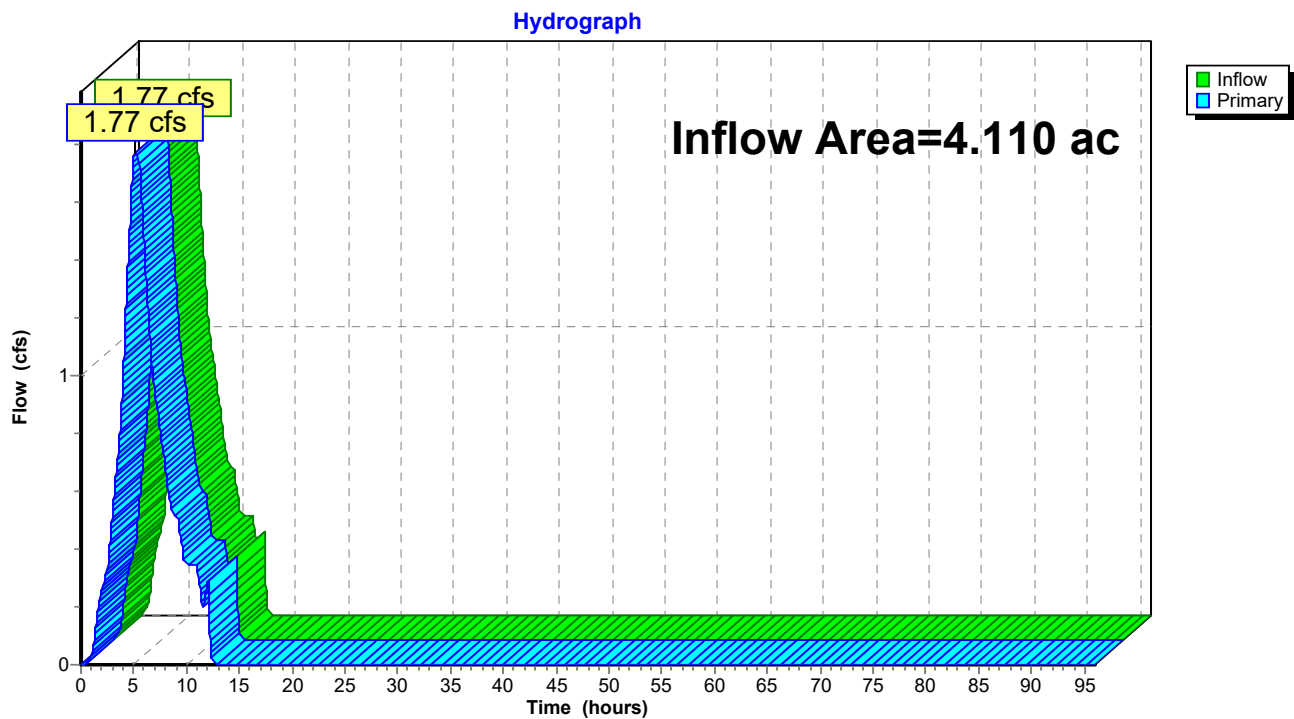
| Elevation<br>(feet) | Storage<br>(cubic-feet) | Elevation<br>(feet) | Storage<br>(cubic-feet) |
|---------------------|-------------------------|---------------------|-------------------------|
| 805.00              | 0                       | 807.65              | 46,146                  |
| 805.05              | 0                       | 807.70              | 47,668                  |
| 805.10              | 0                       | 807.75              | 49,196                  |
| 805.15              | 1                       | 807.80              | 50,731                  |
| 805.20              | 2                       | 807.85              | 52,273                  |
| 805.25              | 3                       | 807.90              | 53,822                  |
| 805.30              | 5                       | 807.95              | 55,379                  |
| 805.35              | 7                       | 808.00              | 56,942                  |
| 805.40              | 10                      | 808.05              | 58,511                  |
| 805.45              | 13                      | 808.10              | 60,088                  |
| 805.50              | 17                      | 808.15              | 61,672                  |
| 805.55              | 21                      | 808.20              | 63,263                  |
| 805.60              | 26                      | 808.25              | 64,860                  |
| 805.65              | 31                      | 808.30              | 66,465                  |
| 805.70              | 36                      | 808.35              | 68,077                  |
| 805.75              | 42                      | 808.40              | 69,695                  |
| 805.80              | 49                      | 808.45              | 71,321                  |
| 805.85              | 56                      | 808.50              | 72,954                  |
| 805.90              | 63                      | 808.55              | 74,595                  |
| 805.95              | 71                      | 808.60              | 76,243                  |
| 806.00              | 79                      | 808.65              | 77,898                  |
| 806.05              | 1,356                   | 808.70              | 79,561                  |
| 806.10              | 2,641                   | 808.75              | 81,231                  |
| 806.15              | 3,933                   | 808.80              | 82,908                  |
| 806.20              | 5,232                   | 808.85              | 84,593                  |
| 806.25              | 6,539                   | 808.90              | 86,286                  |
| 806.30              | 7,854                   | 808.95              | 87,985                  |
| 806.35              | 9,176                   | 809.00              | 89,693                  |
| 806.40              | 10,505                  | 809.05              | 91,407                  |
| 806.45              | 11,841                  | 809.10              | 93,129                  |
| 806.50              | 13,186                  | 809.15              | 94,859                  |
| 806.55              | 14,537                  | 809.20              | 96,596                  |
| 806.60              | 15,896                  | 809.25              | 98,340                  |
| 806.65              | 17,262                  | 809.30              | 100,092                 |
| 806.70              | 18,636                  | 809.35              | 101,851                 |
| 806.75              | 20,017                  | 809.40              | 103,617                 |
| 806.80              | 21,406                  | 809.45              | 105,391                 |
| 806.85              | 22,802                  | 809.50              | 107,173                 |
| 806.90              | 24,205                  | 809.55              | 108,961                 |
| 806.95              | 25,616                  | 809.60              | 110,758                 |
| 807.00              | 27,034                  | 809.65              | 112,561                 |
| 807.05              | 28,460                  | 809.70              | 114,372                 |
| 807.10              | 29,893                  | 809.75              | 116,191                 |
| 807.15              | 31,334                  | 809.80              | 118,017                 |
| 807.20              | 32,782                  | 809.85              | 119,850                 |
| 807.25              | 34,237                  | 809.90              | 121,691                 |
| 807.30              | 35,700                  | 809.95              | 123,539                 |
| 807.35              | 37,170                  | 810.00              | <b>125,395</b>          |
| 807.40              | 38,648                  |                     |                         |
| 807.45              | 40,133                  |                     |                         |
| 807.50              | 41,625                  |                     |                         |
| 807.55              | 43,125                  |                     |                         |
| 807.60              | 44,632                  |                     |                         |

### Summary for Link 6L: (new Link)

Inflow Area = 4.110 ac, 64.99% Impervious, Inflow Depth = 1.92" for 5-Year event  
Inflow = 1.77 cfs @ 5.15 hrs, Volume= 0.657 af  
Primary = 1.77 cfs @ 5.15 hrs, Volume= 0.657 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

### Link 6L: (new Link)





### Summary for Subcatchment 1S: Parcel 1&2 Predev.

Runoff = 0.39 cfs @ 5.57 hrs, Volume= 0.132 af, Depth= 1.06"

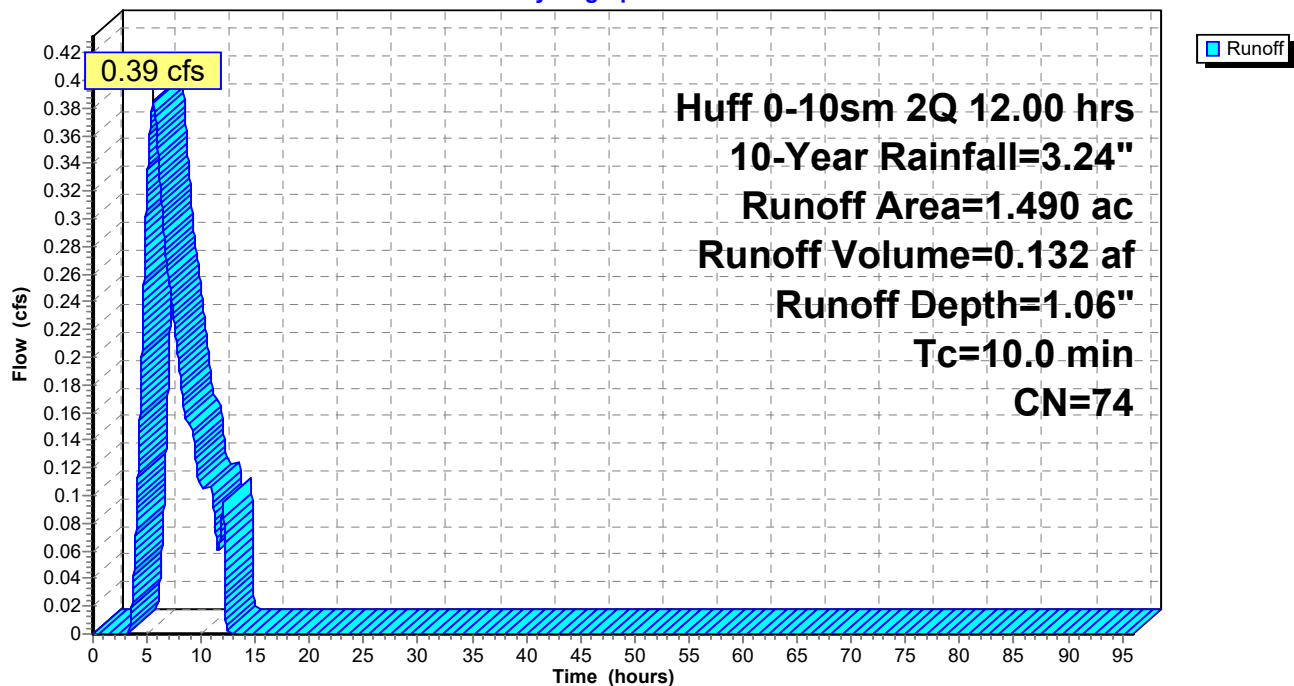
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 10-Year Rainfall=3.24"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 1.490     | 74 | >75% Grass cover, Good, HSG C |
| 1.490     |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description   |
|-------------|------------------|------------------|----------------------|-------------------|---------------|
| 10.0        |                  |                  |                      |                   | Direct Entry, |

### Subcatchment 1S: Parcel 1&2 Predev.

Hydrograph



### Summary for Subcatchment 2S: Parcel 1 & Pond

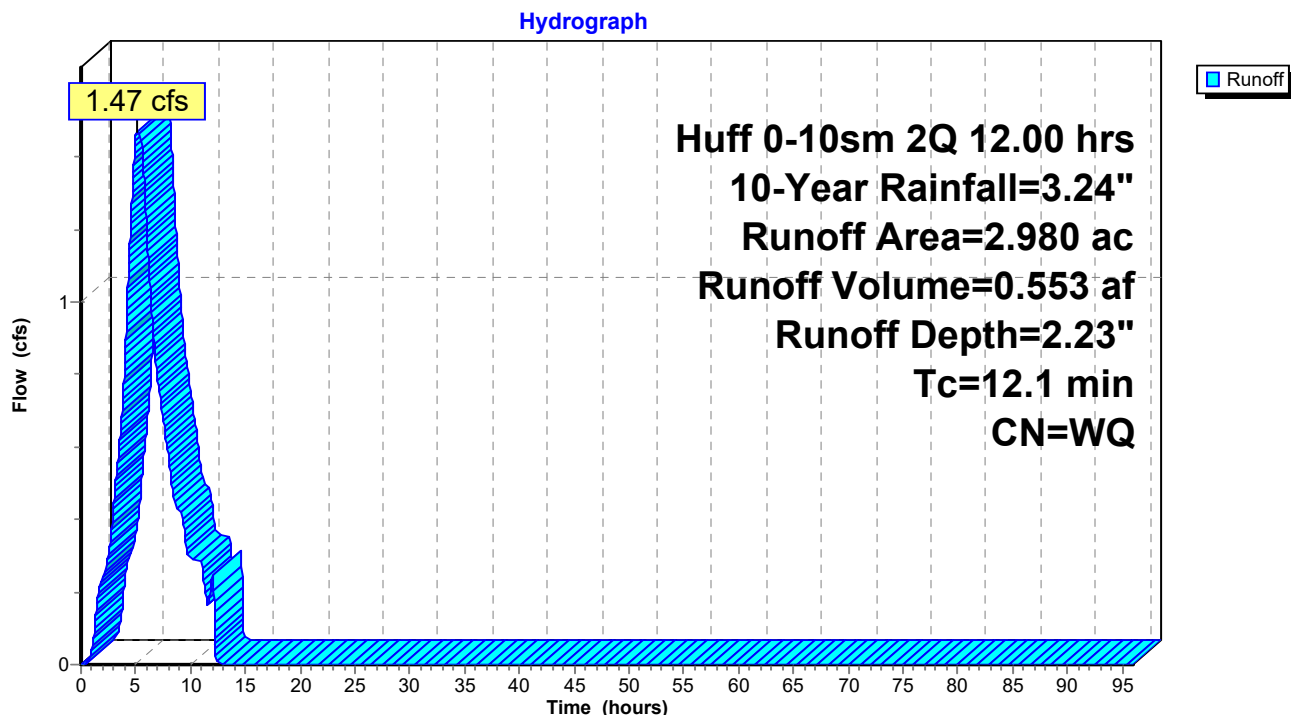
Runoff = 1.47 cfs @ 5.15 hrs, Volume= 0.553 af, Depth= 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 10-Year Rainfall=3.24"

| Area (ac) | CN | Description                                |
|-----------|----|--------------------------------------------|
| 1.330     | 94 | Urban commercial, 85% imp, HSG C           |
| * 0.280   | 90 | Access Road                                |
| 0.580     | 98 | Water Surface, HSG C                       |
| * 0.790   | 74 | >75% Grass cover, Good, around pond, HSG C |
| 2.980     |    | Weighted Average                           |
| 1.269     |    | 42.60% Pervious Area                       |
| 1.711     |    | 57.40% Impervious Area                     |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 2S: Parcel 1 & Pond



### Summary for Subcatchment 3S: Ex. Offsite Trib.

Runoff = 3.27 cfs @ 5.53 hrs, Volume= 1.252 af, Depth= 1.72"

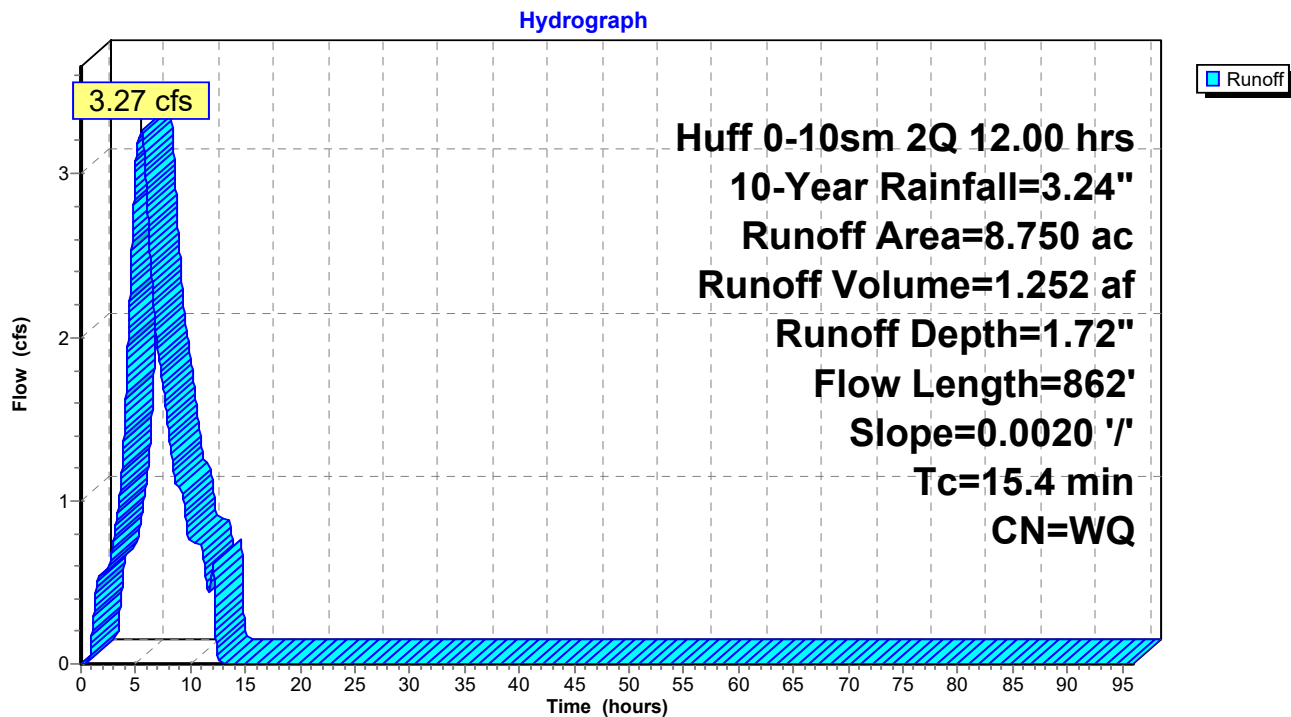
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 10-Year Rainfall=3.24"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 2.940     | 98 | Paved parking, HSG C          |
| 5.810     | 74 | >75% Grass cover, Good, HSG C |
| 8.750     |    | Weighted Average              |
| 5.810     |    | 66.40% Pervious Area          |
| 2.940     |    | 33.60% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                   |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------------------|
| 10.0     |               |               |                   |                | <b>Direct Entry, Start time</b>               |
| 5.4      | 862           | 0.0020        | 2.66              | 4.70           | <b>Pipe Channel, Travel Time in Pipe</b>      |
|          |               |               |                   |                | 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' |
|          |               |               |                   |                | n= 0.013                                      |
| 15.4     | 862           | Total         |                   |                |                                               |

### Subcatchment 3S: Ex. Offsite Trib.



### Summary for Subcatchment 4S: Undetained

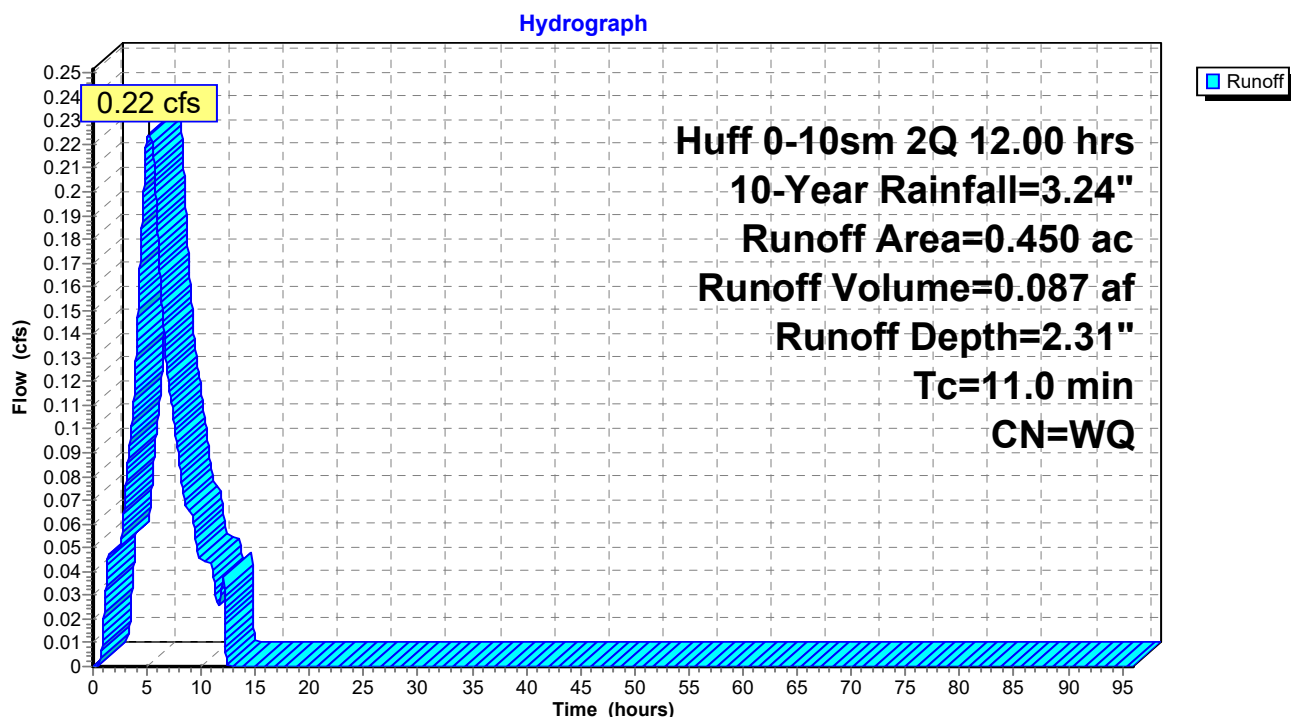
Runoff = 0.22 cfs @ 5.10 hrs, Volume= 0.087 af, Depth= 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 10-Year Rainfall=3.24"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.190     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.260     | 98 | Paved parking, HSG C            |
| 0.450     |    | Weighted Average                |
| 0.190     |    | 42.22% Pervious Area            |
| 0.260     |    | 57.78% Impervious Area          |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description          |
|----------|---------------|---------------|-------------------|----------------|----------------------|
| 11.0     |               |               |                   |                | Direct Entry, Direct |

### Subcatchment 4S: Undetained





### Summary for Subcatchment 5S: Parcel 2

Runoff = 0.66 cfs @ 5.07 hrs, Volume= 0.243 af, Depth= 2.58"

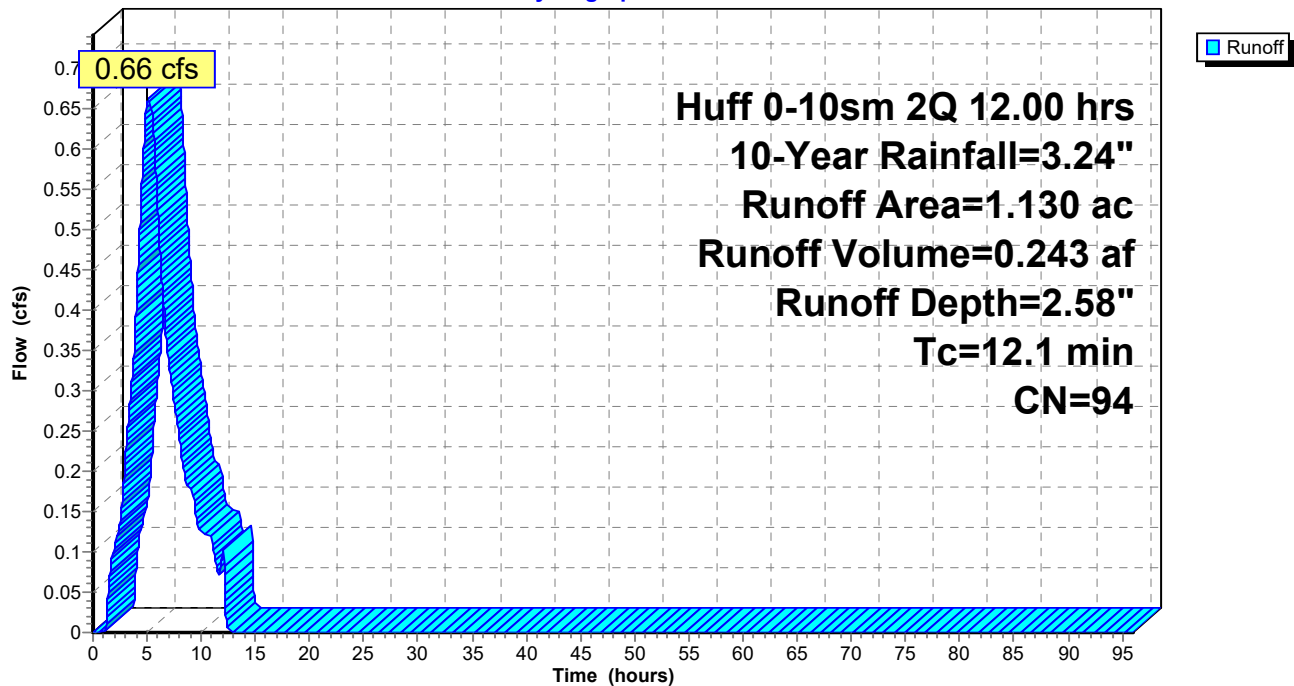
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 10-Year Rainfall=3.24"

| Area (ac) | CN | Description                      |
|-----------|----|----------------------------------|
| 1.130     | 94 | Urban commercial, 85% imp, HSG C |
| 0.169     |    | 15.00% Pervious Area             |
| 0.961     |    | 85.00% Impervious Area           |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 5S: Parcel 2

Hydrograph



### Summary for Pond 7P: Retention Pond Ph1

Inflow Area = 12.860 ac, 43.63% Impervious, Inflow Depth = 1.91" for 10-Year event  
 Inflow = 5.36 cfs @ 5.39 hrs, Volume= 2.048 af  
 Outflow = 1.43 cfs @ 9.51 hrs, Volume= 2.026 af, Atten= 73%, Lag= 246.9 min  
 Primary = 1.43 cfs @ 9.51 hrs, Volume= 2.026 af  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs / 3  
 Peak Elev= 808.00' @ 9.51 hrs Surf.Area= 31,320 sf Storage= 56,840 cf

Plug-Flow detention time= 675.3 min calculated for 2.026 af (99% of inflow)  
 Center-of-Mass det. time= 671.9 min ( 1,047.0 - 375.1 )

| Volume | Invert  | Avail.Storage | Storage Description                                        |
|--------|---------|---------------|------------------------------------------------------------|
| #1     | 806.00' | 125,002 cf    | <b>Pond (Prismatic)</b> Listed below (Recalc)              |
| #2     | 805.00' | 393 cf        | <b>12.0" Round Pipe Storage</b><br>L= 500.0' S= 0.0050 '/' |
|        |         | 125,395 cf    | Total Available Storage                                    |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) |
|---------------------|----------------------|---------------------------|---------------------------|
| 806.00              | 25,315               | 0                         | 0                         |
| 810.00              | 37,186               | 125,002                   | 125,002                   |

| Device | Routing   | Invert  | Outlet Devices                                                                                                                                                                                                                                                                    |
|--------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary   | 803.26' | <b>18.0" Round Culvert</b><br>L= 113.5' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 803.26' / 801.66' S= 0.0141 '/' Cc= 0.900<br>n= 0.013, Flow Area= 1.77 sf                                                                                               |
| #2     | Device 1  | 806.00' | <b>4.9" Vert. Orifice</b> C= 0.600                                                                                                                                                                                                                                                |
| #3     | Device 1  | 807.00' | <b>5.0" Vert. Orifice/Grate</b> C= 0.600                                                                                                                                                                                                                                          |
| #4     | Device 1  | 808.75' | <b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)                                                                                                                                                                                                              |
| #5     | Secondary | 809.25' | <b>15.0' long x 4.0' breadth Broad-Crested Rectangular Weir</b><br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00<br>2.50 3.00 3.50 4.00 4.50 5.00 5.50<br>Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66<br>2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32 |

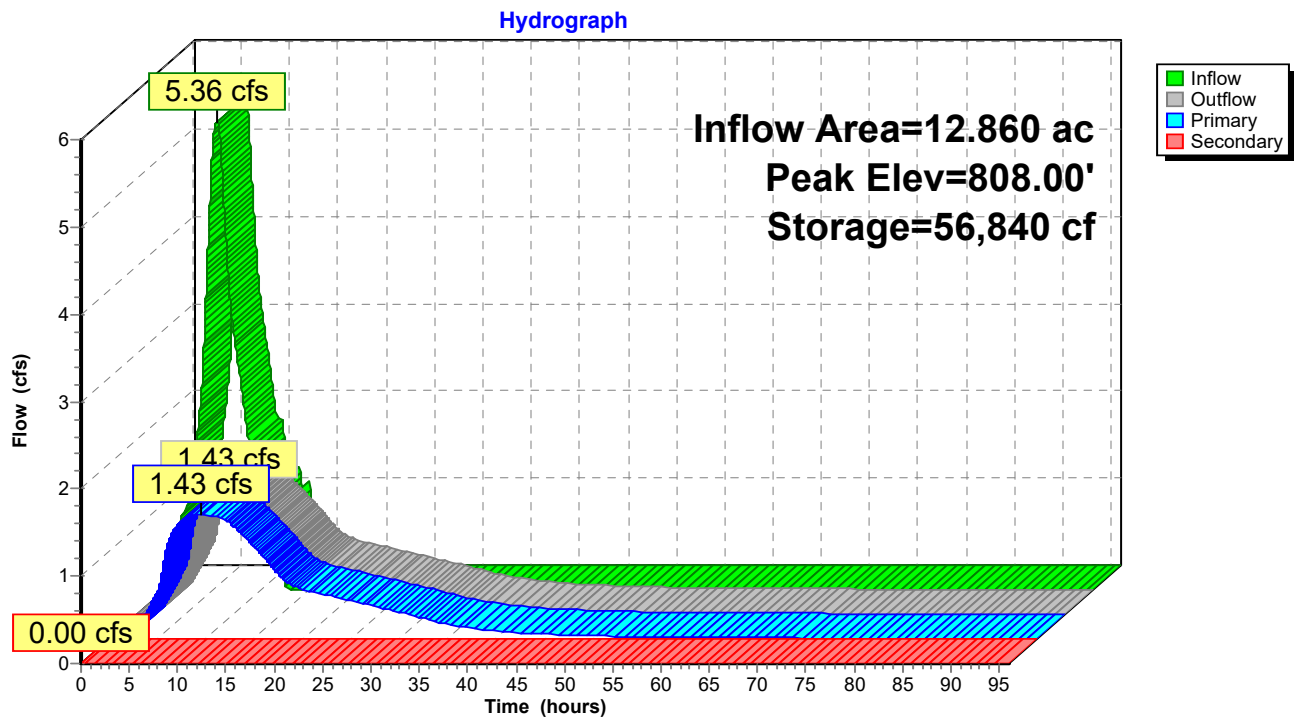
**Primary OutFlow** Max=1.43 cfs @ 9.51 hrs HW=808.00' (Free Discharge)

- 1=Culvert (Passes 1.43 cfs of 13.41 cfs potential flow)
- 2=Orifice (Orifice Controls 0.84 cfs @ 6.45 fps)
- 3=Orifice/Grate (Orifice Controls 0.58 cfs @ 4.28 fps)
- 4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

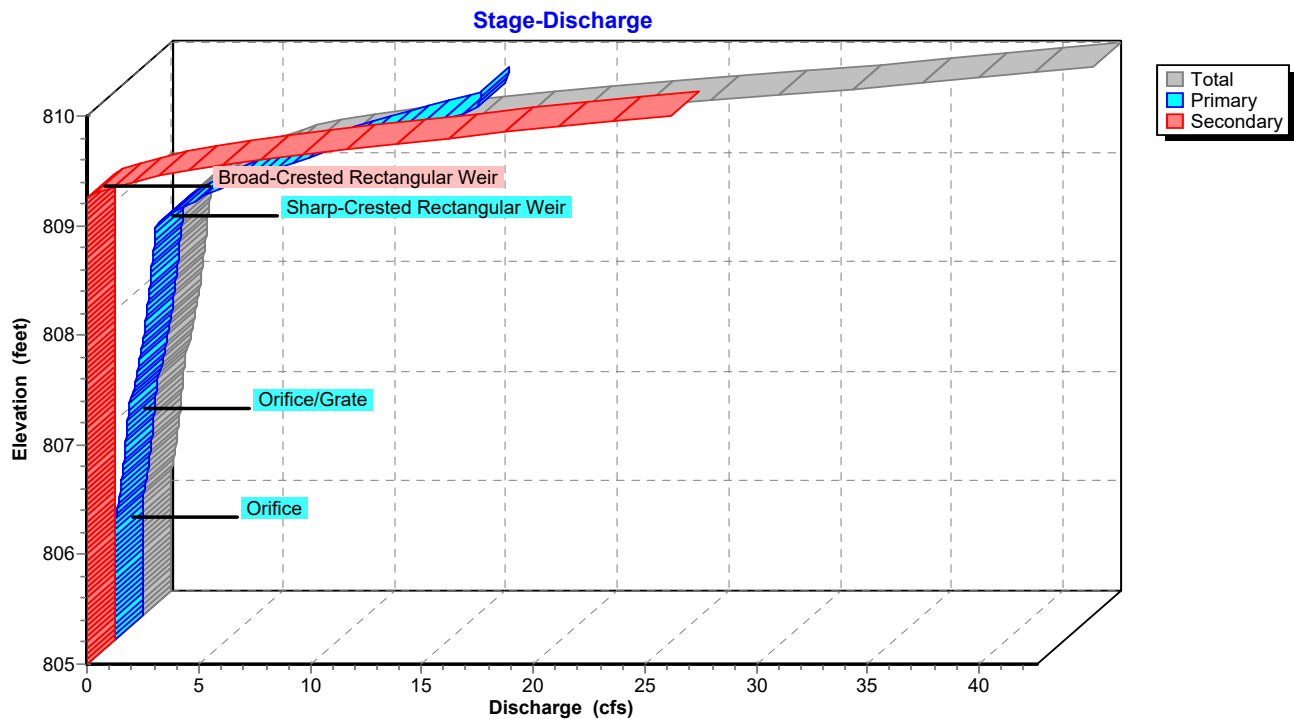
**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=805.00' (Free Discharge)

- 5=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

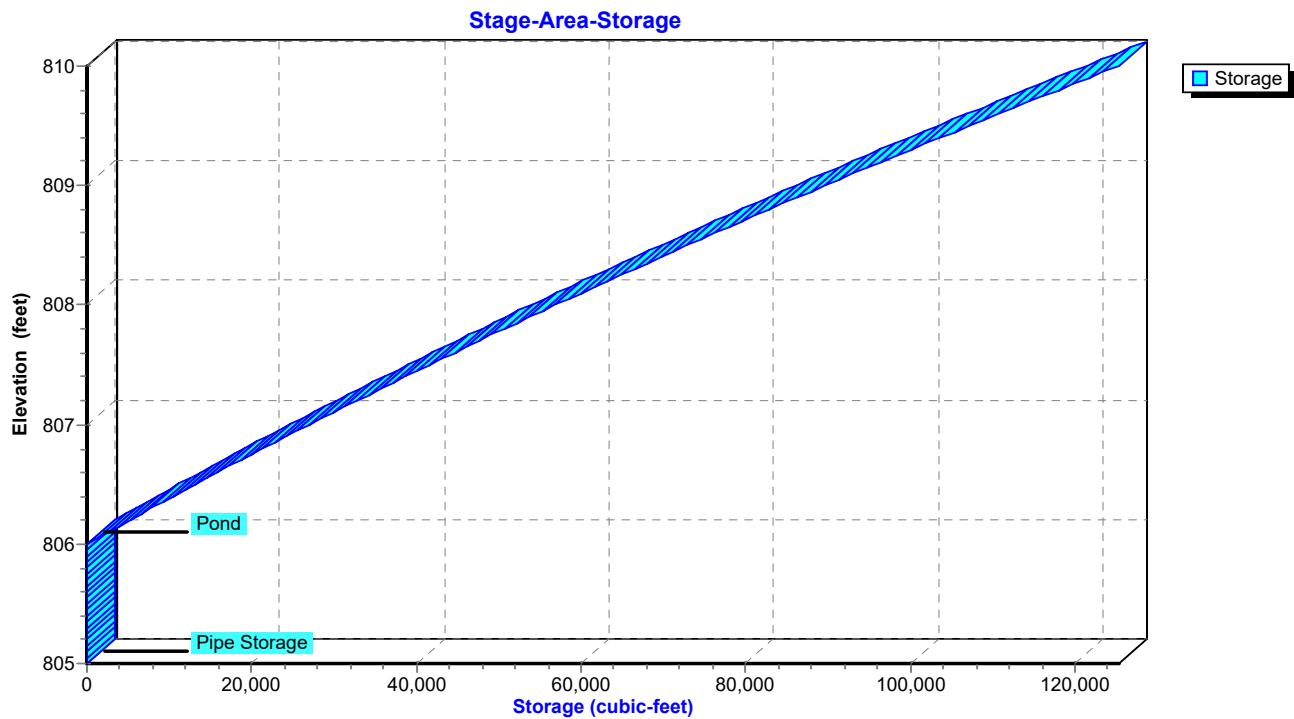
### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1





**Stage-Area-Storage for Pond 7P: Retention Pond Ph1**

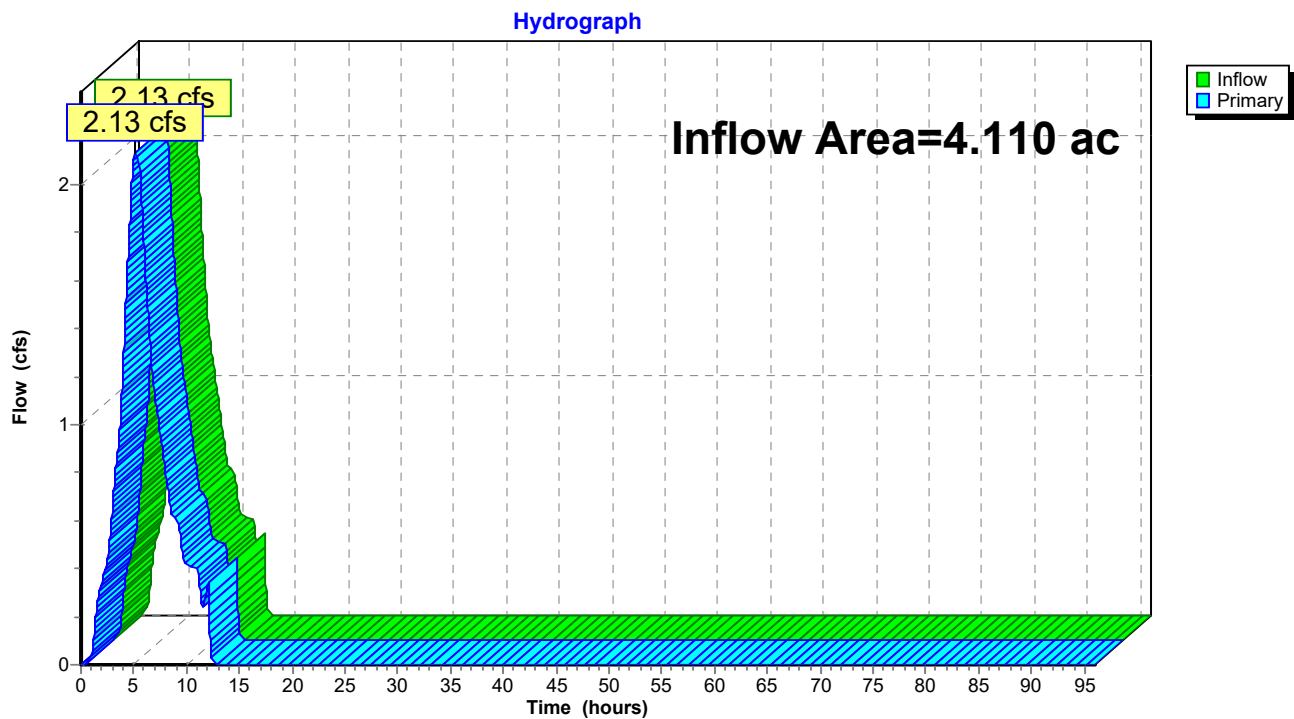
| Elevation<br>(feet) | Storage<br>(cubic-feet) | Elevation<br>(feet) | Storage<br>(cubic-feet) |
|---------------------|-------------------------|---------------------|-------------------------|
| 805.00              | 0                       | 807.65              | 46,146                  |
| 805.05              | 0                       | 807.70              | 47,668                  |
| 805.10              | 0                       | 807.75              | 49,196                  |
| 805.15              | 1                       | 807.80              | 50,731                  |
| 805.20              | 2                       | 807.85              | 52,273                  |
| 805.25              | 3                       | 807.90              | 53,822                  |
| 805.30              | 5                       | 807.95              | 55,379                  |
| 805.35              | 7                       | 808.00              | 56,942                  |
| 805.40              | 10                      | 808.05              | 58,511                  |
| 805.45              | 13                      | 808.10              | 60,088                  |
| 805.50              | 17                      | 808.15              | 61,672                  |
| 805.55              | 21                      | 808.20              | 63,263                  |
| 805.60              | 26                      | 808.25              | 64,860                  |
| 805.65              | 31                      | 808.30              | 66,465                  |
| 805.70              | 36                      | 808.35              | 68,077                  |
| 805.75              | 42                      | 808.40              | 69,695                  |
| 805.80              | 49                      | 808.45              | 71,321                  |
| 805.85              | 56                      | 808.50              | 72,954                  |
| 805.90              | 63                      | 808.55              | 74,595                  |
| 805.95              | 71                      | 808.60              | 76,243                  |
| 806.00              | 79                      | 808.65              | 77,898                  |
| 806.05              | 1,356                   | 808.70              | 79,561                  |
| 806.10              | 2,641                   | 808.75              | 81,231                  |
| 806.15              | 3,933                   | 808.80              | 82,908                  |
| 806.20              | 5,232                   | 808.85              | 84,593                  |
| 806.25              | 6,539                   | 808.90              | 86,286                  |
| 806.30              | 7,854                   | 808.95              | 87,985                  |
| 806.35              | 9,176                   | 809.00              | 89,693                  |
| 806.40              | 10,505                  | 809.05              | 91,407                  |
| 806.45              | 11,841                  | 809.10              | 93,129                  |
| 806.50              | 13,186                  | 809.15              | 94,859                  |
| 806.55              | 14,537                  | 809.20              | 96,596                  |
| 806.60              | 15,896                  | 809.25              | 98,340                  |
| 806.65              | 17,262                  | 809.30              | 100,092                 |
| 806.70              | 18,636                  | 809.35              | 101,851                 |
| 806.75              | 20,017                  | 809.40              | 103,617                 |
| 806.80              | 21,406                  | 809.45              | 105,391                 |
| 806.85              | 22,802                  | 809.50              | 107,173                 |
| 806.90              | 24,205                  | 809.55              | 108,961                 |
| 806.95              | 25,616                  | 809.60              | 110,758                 |
| 807.00              | 27,034                  | 809.65              | 112,561                 |
| 807.05              | 28,460                  | 809.70              | 114,372                 |
| 807.10              | 29,893                  | 809.75              | 116,191                 |
| 807.15              | 31,334                  | 809.80              | 118,017                 |
| 807.20              | 32,782                  | 809.85              | 119,850                 |
| 807.25              | 34,237                  | 809.90              | 121,691                 |
| 807.30              | 35,700                  | 809.95              | 123,539                 |
| 807.35              | 37,170                  | 810.00              | <b>125,395</b>          |
| 807.40              | 38,648                  |                     |                         |
| 807.45              | 40,133                  |                     |                         |
| 807.50              | 41,625                  |                     |                         |
| 807.55              | 43,125                  |                     |                         |
| 807.60              | 44,632                  |                     |                         |

### Summary for Link 6L: (new Link)

Inflow Area = 4.110 ac, 64.99% Impervious, Inflow Depth = 2.33" for 10-Year event  
Inflow = 2.13 cfs @ 5.12 hrs, Volume= 0.796 af  
Primary = 2.13 cfs @ 5.12 hrs, Volume= 0.796 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

### Link 6L: (new Link)



### Summary for Subcatchment 1S: Parcel 1&2 Predev.

Runoff = 0.55 cfs @ 5.52 hrs, Volume= 0.187 af, Depth= 1.51"

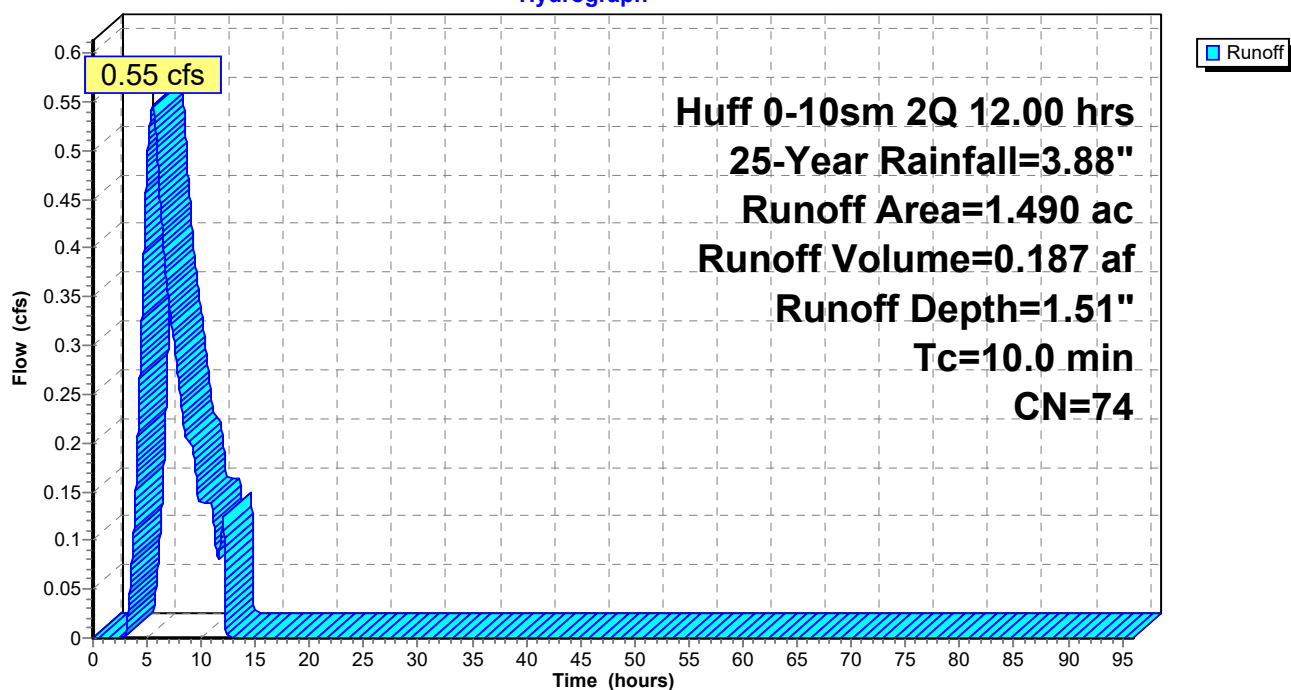
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 25-Year Rainfall=3.88"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 1.490     | 74 | >75% Grass cover, Good, HSG C |
| 1.490     |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description   |
|-------------|------------------|------------------|----------------------|-------------------|---------------|
| 10.0        |                  |                  |                      |                   | Direct Entry, |

### Subcatchment 1S: Parcel 1&2 Predev.

Hydrograph



### Summary for Subcatchment 2S: Parcel 1 & Pond

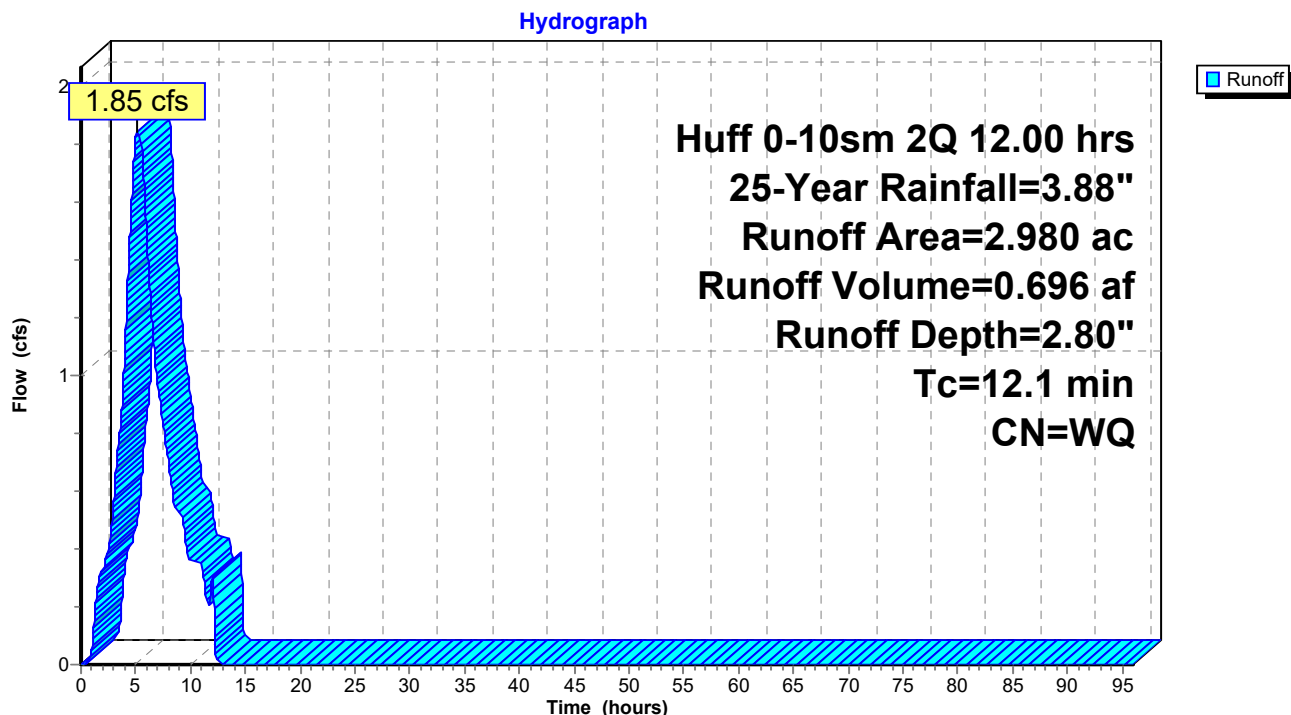
Runoff = 1.85 cfs @ 5.12 hrs, Volume= 0.696 af, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 25-Year Rainfall=3.88"

| Area (ac) | CN | Description                                |
|-----------|----|--------------------------------------------|
| 1.330     | 94 | Urban commercial, 85% imp, HSG C           |
| * 0.280   | 90 | Access Road                                |
| 0.580     | 98 | Water Surface, HSG C                       |
| * 0.790   | 74 | >75% Grass cover, Good, around pond, HSG C |
| 2.980     |    | Weighted Average                           |
| 1.269     |    | 42.60% Pervious Area                       |
| 1.711     |    | 57.40% Impervious Area                     |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 2S: Parcel 1 & Pond





### Summary for Subcatchment 3S: Ex. Offsite Trib.

Runoff = 4.26 cfs @ 5.49 hrs, Volume= 1.624 af, Depth= 2.23"

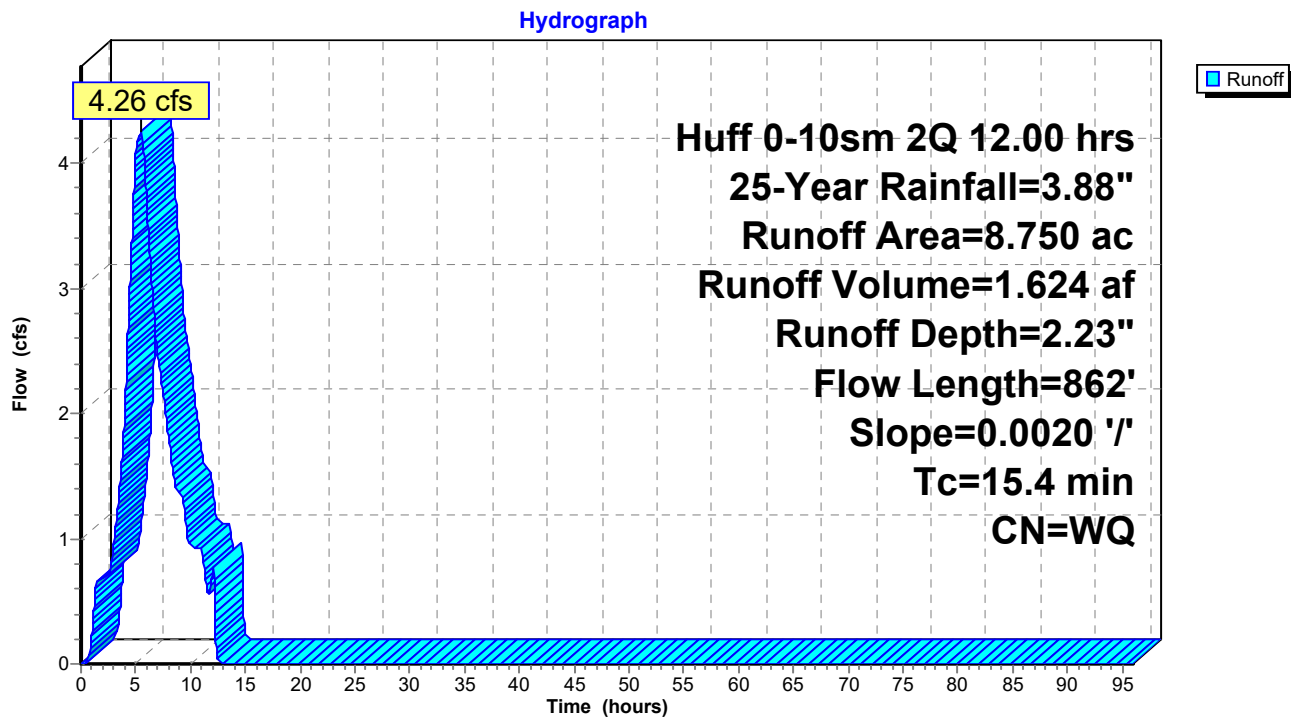
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 25-Year Rainfall=3.88"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 2.940     | 98 | Paved parking, HSG C          |
| 5.810     | 74 | >75% Grass cover, Good, HSG C |
| 8.750     |    | Weighted Average              |
| 5.810     |    | 66.40% Pervious Area          |
| 2.940     |    | 33.60% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                   |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------------------|
| 10.0     |               |               |                   |                | Direct Entry, Start time                      |
| 5.4      | 862           | 0.0020        | 2.66              | 4.70           | Pipe Channel, Travel Time in Pipe             |
|          |               |               |                   |                | 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' |
|          |               |               |                   |                | n= 0.013                                      |
| 15.4     | 862           | Total         |                   |                |                                               |

### Subcatchment 3S: Ex. Offsite Trib.



### Summary for Subcatchment 4S: Undetained

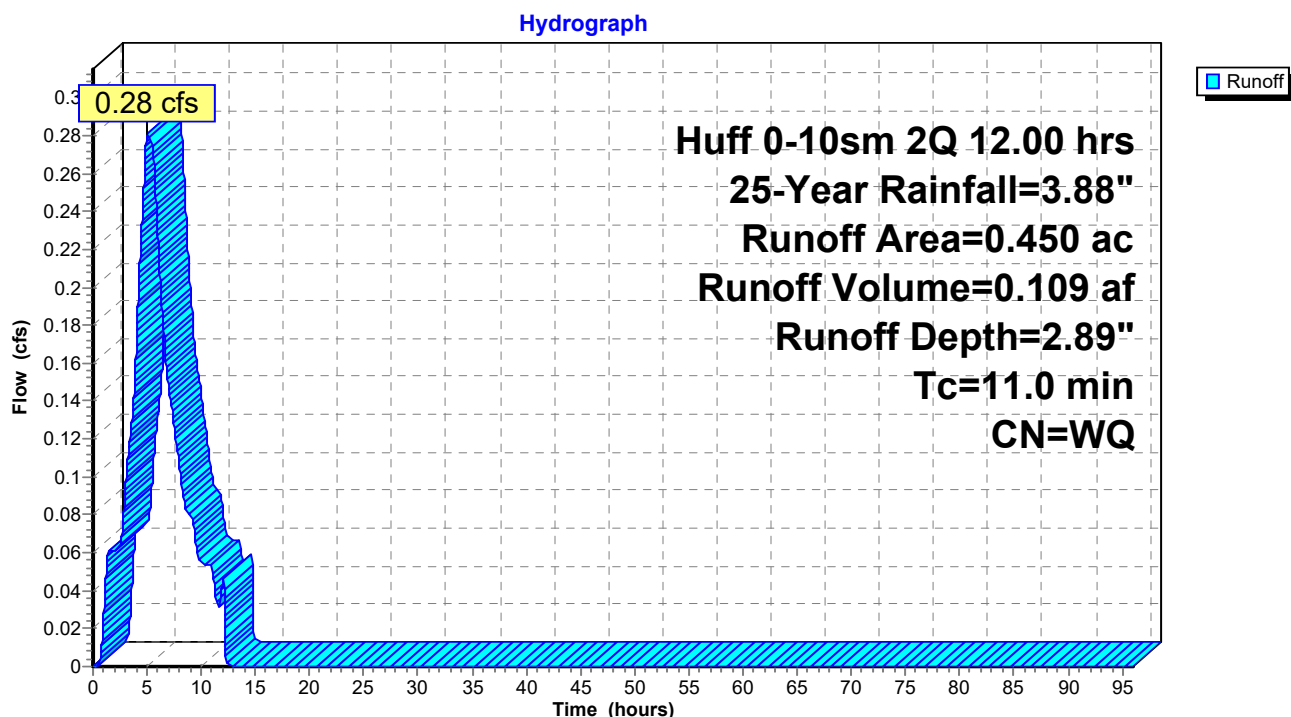
Runoff = 0.28 cfs @ 5.07 hrs, Volume= 0.109 af, Depth= 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 25-Year Rainfall=3.88"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.190     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.260     | 98 | Paved parking, HSG C            |
| 0.450     |    | Weighted Average                |
| 0.190     |    | 42.22% Pervious Area            |
| 0.260     |    | 57.78% Impervious Area          |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description          |
|----------|---------------|---------------|-------------------|----------------|----------------------|
| 11.0     |               |               |                   |                | Direct Entry, Direct |

### Subcatchment 4S: Undetained



### Summary for Subcatchment 5S: Parcel 2

Runoff = 0.81 cfs @ 5.04 hrs, Volume= 0.302 af, Depth= 3.21"

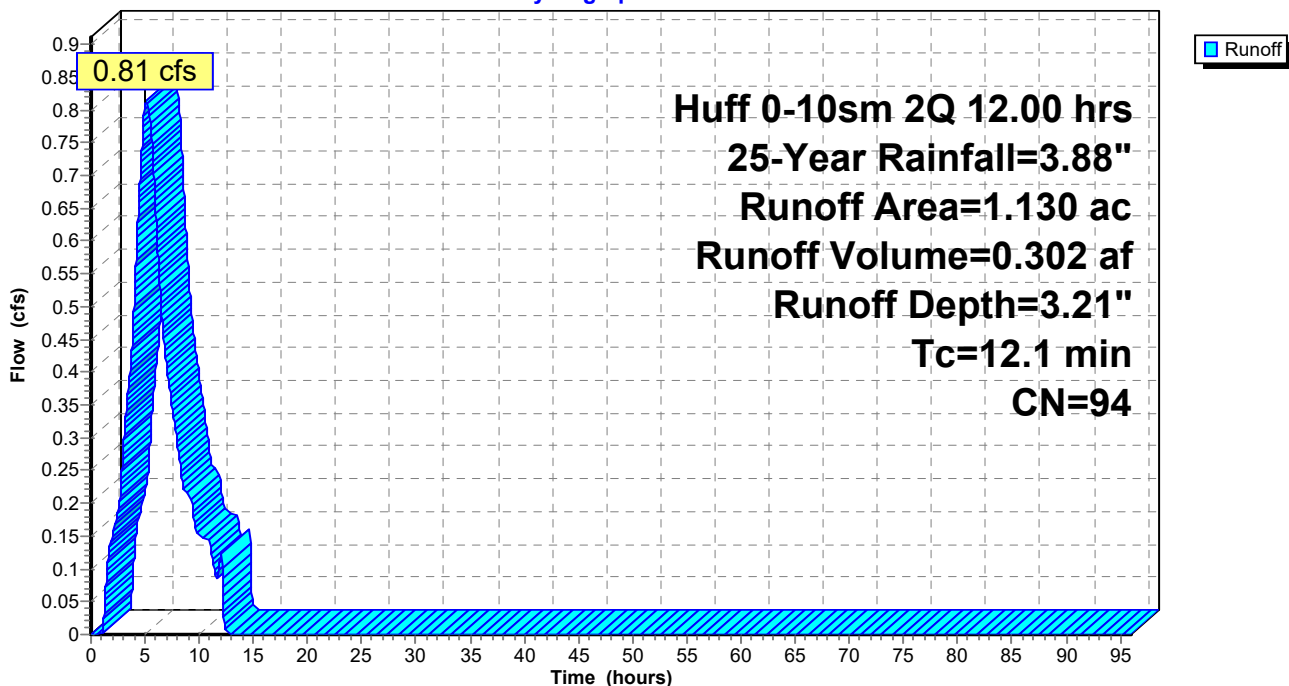
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 25-Year Rainfall=3.88"

| Area (ac) | CN | Description                      |
|-----------|----|----------------------------------|
| 1.130     | 94 | Urban commercial, 85% imp, HSG C |
| 0.169     |    | 15.00% Pervious Area             |
| 0.961     |    | 85.00% Impervious Area           |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 5S: Parcel 2

Hydrograph



### Summary for Pond 7P: Retention Pond Ph1

Inflow Area = 12.860 ac, 43.63% Impervious, Inflow Depth = 2.45" for 25-Year event  
 Inflow = 6.87 cfs @ 5.36 hrs, Volume= 2.622 af  
 Outflow = 1.71 cfs @ 9.57 hrs, Volume= 2.599 af, Atten= 75%, Lag= 252.7 min  
 Primary = 1.71 cfs @ 9.57 hrs, Volume= 2.599 af  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs / 3  
 Peak Elev= 808.52' @ 9.57 hrs Surf.Area= 32,807 sf Storage= 73,759 cf

Plug-Flow detention time= 685.3 min calculated for 2.598 af (99% of inflow)  
 Center-of-Mass det. time= 682.5 min ( 1,054.9 - 372.4 )

| Volume | Invert  | Avail.Storage | Storage Description                                        |
|--------|---------|---------------|------------------------------------------------------------|
| #1     | 806.00' | 125,002 cf    | <b>Pond (Prismatic)</b> Listed below (Recalc)              |
| #2     | 805.00' | 393 cf        | <b>12.0" Round Pipe Storage</b><br>L= 500.0' S= 0.0050 '/' |
|        |         | 125,395 cf    | Total Available Storage                                    |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) |
|---------------------|----------------------|---------------------------|---------------------------|
| 806.00              | 25,315               | 0                         | 0                         |
| 810.00              | 37,186               | 125,002                   | 125,002                   |

| Device | Routing   | Invert  | Outlet Devices                                                                                                                                                                                                                                                                    |
|--------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary   | 803.26' | <b>18.0" Round Culvert</b><br>L= 113.5' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 803.26' / 801.66' S= 0.0141 '/ Cc= 0.900<br>n= 0.013, Flow Area= 1.77 sf                                                                                                |
| #2     | Device 1  | 806.00' | <b>4.9" Vert. Orifice</b> C= 0.600                                                                                                                                                                                                                                                |
| #3     | Device 1  | 807.00' | <b>5.0" Vert. Orifice/Grate</b> C= 0.600                                                                                                                                                                                                                                          |
| #4     | Device 1  | 808.75' | <b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)                                                                                                                                                                                                              |
| #5     | Secondary | 809.25' | <b>15.0' long x 4.0' breadth Broad-Crested Rectangular Weir</b><br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00<br>2.50 3.00 3.50 4.00 4.50 5.00 5.50<br>Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66<br>2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32 |

**Primary OutFlow** Max=1.71 cfs @ 9.57 hrs HW=808.52' (Free Discharge)

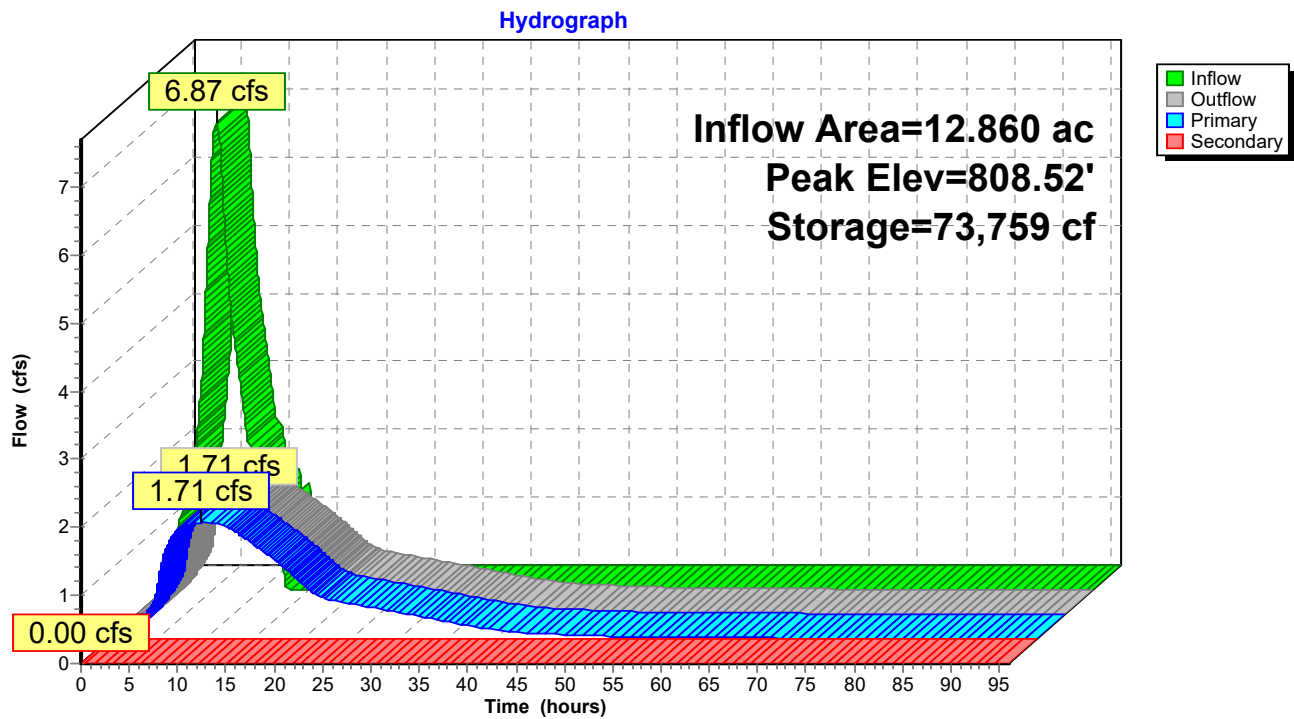
- 1=Culvert (Passes 1.71 cfs of 14.27 cfs potential flow)
- 2=Orifice (Orifice Controls 0.96 cfs @ 7.33 fps)
- 3=Orifice/Grate (Orifice Controls 0.75 cfs @ 5.52 fps)
- 4=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=805.00' (Free Discharge)

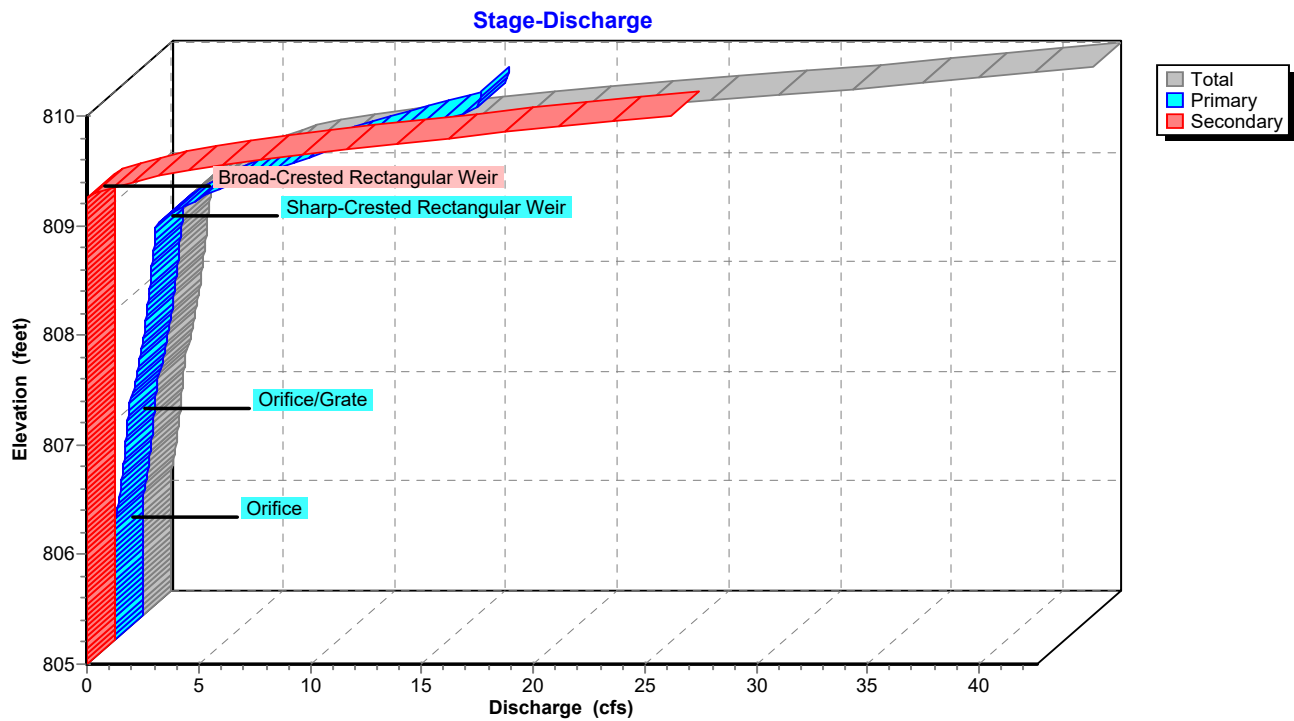
- 5=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)



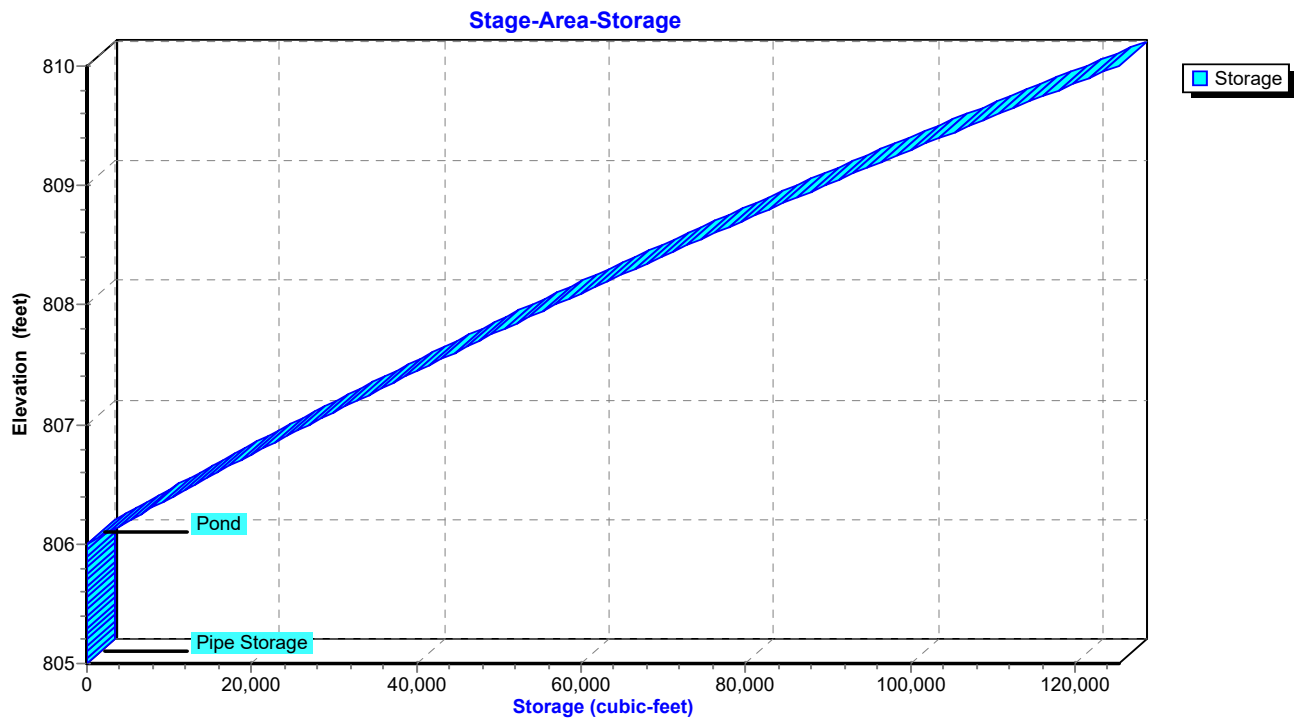
### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



**Stage-Area-Storage for Pond 7P: Retention Pond Ph1**

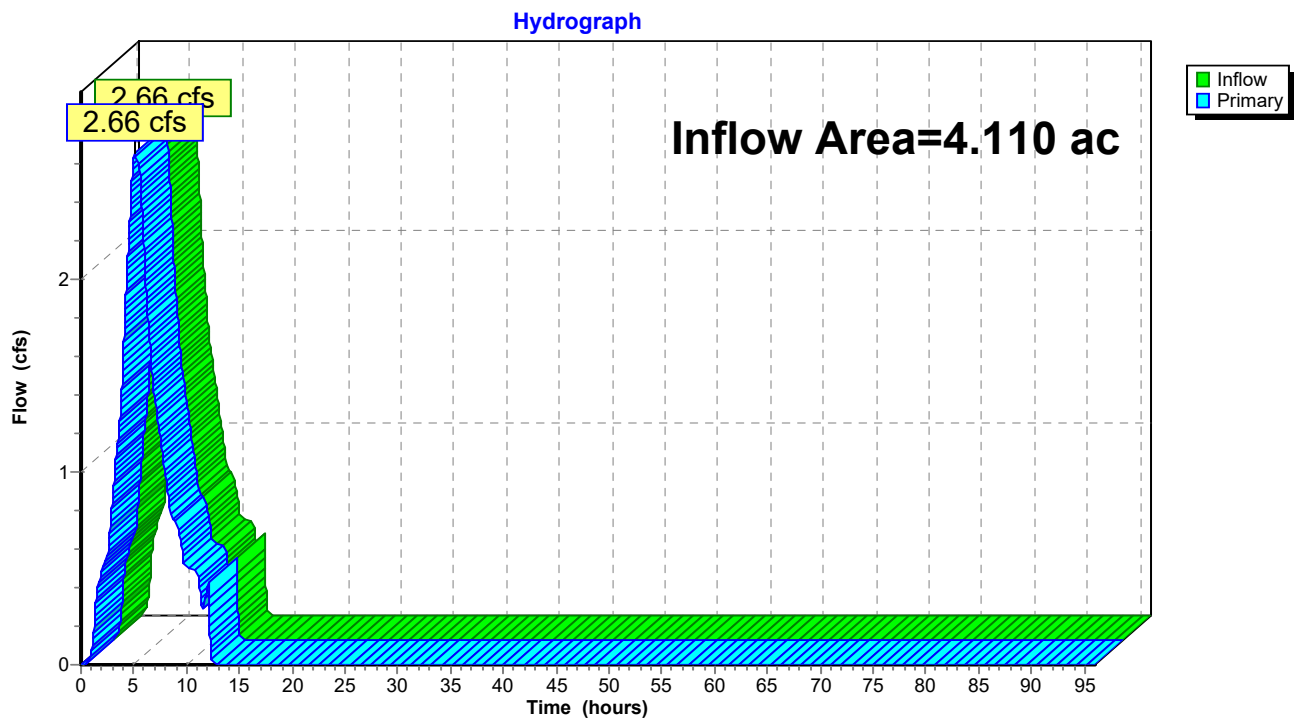
| Elevation<br>(feet) | Storage<br>(cubic-feet) | Elevation<br>(feet) | Storage<br>(cubic-feet) |
|---------------------|-------------------------|---------------------|-------------------------|
| 805.00              | 0                       | 807.65              | 46,146                  |
| 805.05              | 0                       | 807.70              | 47,668                  |
| 805.10              | 0                       | 807.75              | 49,196                  |
| 805.15              | 1                       | 807.80              | 50,731                  |
| 805.20              | 2                       | 807.85              | 52,273                  |
| 805.25              | 3                       | 807.90              | 53,822                  |
| 805.30              | 5                       | 807.95              | 55,379                  |
| 805.35              | 7                       | 808.00              | 56,942                  |
| 805.40              | 10                      | 808.05              | 58,511                  |
| 805.45              | 13                      | 808.10              | 60,088                  |
| 805.50              | 17                      | 808.15              | 61,672                  |
| 805.55              | 21                      | 808.20              | 63,263                  |
| 805.60              | 26                      | 808.25              | 64,860                  |
| 805.65              | 31                      | 808.30              | 66,465                  |
| 805.70              | 36                      | 808.35              | 68,077                  |
| 805.75              | 42                      | 808.40              | 69,695                  |
| 805.80              | 49                      | 808.45              | 71,321                  |
| 805.85              | 56                      | 808.50              | 72,954                  |
| 805.90              | 63                      | 808.55              | 74,595                  |
| 805.95              | 71                      | 808.60              | 76,243                  |
| 806.00              | 79                      | 808.65              | 77,898                  |
| 806.05              | 1,356                   | 808.70              | 79,561                  |
| 806.10              | 2,641                   | 808.75              | 81,231                  |
| 806.15              | 3,933                   | 808.80              | 82,908                  |
| 806.20              | 5,232                   | 808.85              | 84,593                  |
| 806.25              | 6,539                   | 808.90              | 86,286                  |
| 806.30              | 7,854                   | 808.95              | 87,985                  |
| 806.35              | 9,176                   | 809.00              | 89,693                  |
| 806.40              | 10,505                  | 809.05              | 91,407                  |
| 806.45              | 11,841                  | 809.10              | 93,129                  |
| 806.50              | 13,186                  | 809.15              | 94,859                  |
| 806.55              | 14,537                  | 809.20              | 96,596                  |
| 806.60              | 15,896                  | 809.25              | 98,340                  |
| 806.65              | 17,262                  | 809.30              | 100,092                 |
| 806.70              | 18,636                  | 809.35              | 101,851                 |
| 806.75              | 20,017                  | 809.40              | 103,617                 |
| 806.80              | 21,406                  | 809.45              | 105,391                 |
| 806.85              | 22,802                  | 809.50              | 107,173                 |
| 806.90              | 24,205                  | 809.55              | 108,961                 |
| 806.95              | 25,616                  | 809.60              | 110,758                 |
| 807.00              | 27,034                  | 809.65              | 112,561                 |
| 807.05              | 28,460                  | 809.70              | 114,372                 |
| 807.10              | 29,893                  | 809.75              | 116,191                 |
| 807.15              | 31,334                  | 809.80              | 118,017                 |
| 807.20              | 32,782                  | 809.85              | 119,850                 |
| 807.25              | 34,237                  | 809.90              | 121,691                 |
| 807.30              | 35,700                  | 809.95              | 123,539                 |
| 807.35              | 37,170                  | 810.00              | <b>125,395</b>          |
| 807.40              | 38,648                  |                     |                         |
| 807.45              | 40,133                  |                     |                         |
| 807.50              | 41,625                  |                     |                         |
| 807.55              | 43,125                  |                     |                         |
| 807.60              | 44,632                  |                     |                         |

### Summary for Link 6L: (new Link)

Inflow Area = 4.110 ac, 64.99% Impervious, Inflow Depth = 2.92" for 25-Year event  
 Inflow = 2.66 cfs @ 5.07 hrs, Volume= 0.998 af  
 Primary = 2.66 cfs @ 5.07 hrs, Volume= 0.998 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

### Link 6L: (new Link)





### Summary for Subcatchment 1S: Parcel 1&2 Predev.

Runoff = 0.69 cfs @ 5.50 hrs, Volume= 0.237 af, Depth= 1.91"

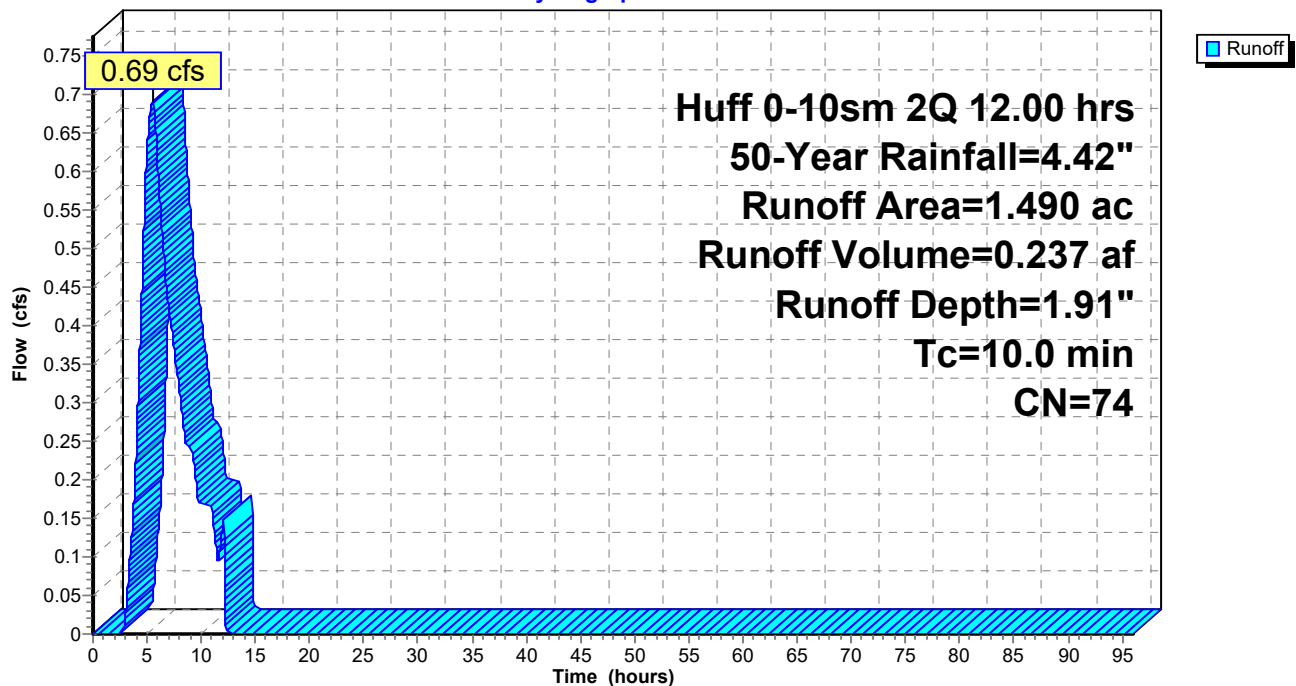
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 50-Year Rainfall=4.42"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 1.490     | 74 | >75% Grass cover, Good, HSG C |
| 1.490     |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description   |
|-------------|------------------|------------------|----------------------|-------------------|---------------|
| 10.0        |                  |                  |                      |                   | Direct Entry, |

### Subcatchment 1S: Parcel 1&2 Predev.

Hydrograph



### Summary for Subcatchment 2S: Parcel 1 & Pond

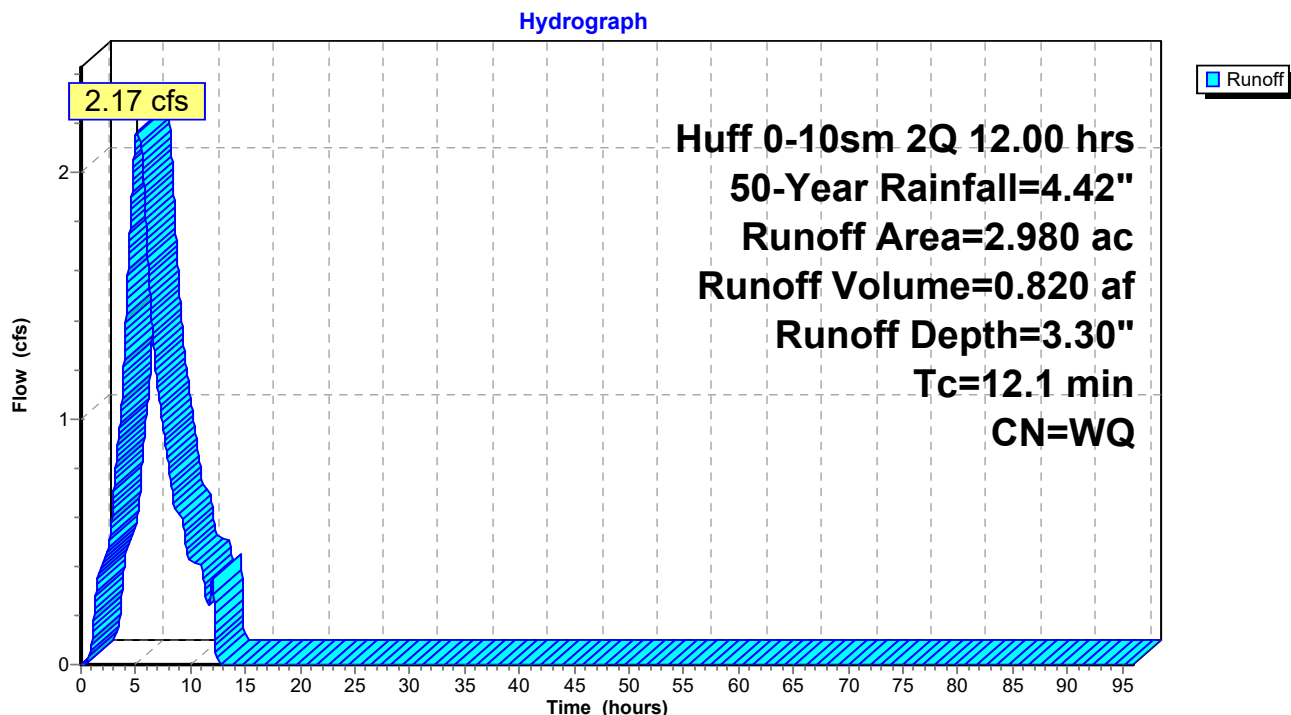
Runoff = 2.17 cfs @ 5.07 hrs, Volume= 0.820 af, Depth= 3.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 50-Year Rainfall=4.42"

| Area (ac) | CN | Description                                |
|-----------|----|--------------------------------------------|
| 1.330     | 94 | Urban commercial, 85% imp, HSG C           |
| * 0.280   | 90 | Access Road                                |
| 0.580     | 98 | Water Surface, HSG C                       |
| * 0.790   | 74 | >75% Grass cover, Good, around pond, HSG C |
| 2.980     |    | Weighted Average                           |
| 1.269     |    | 42.60% Pervious Area                       |
| 1.711     |    | 57.40% Impervious Area                     |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 2S: Parcel 1 & Pond



### Summary for Subcatchment 3S: Ex. Offsite Trib.

Runoff = 5.14 cfs @ 5.46 hrs, Volume= 1.950 af, Depth= 2.67"

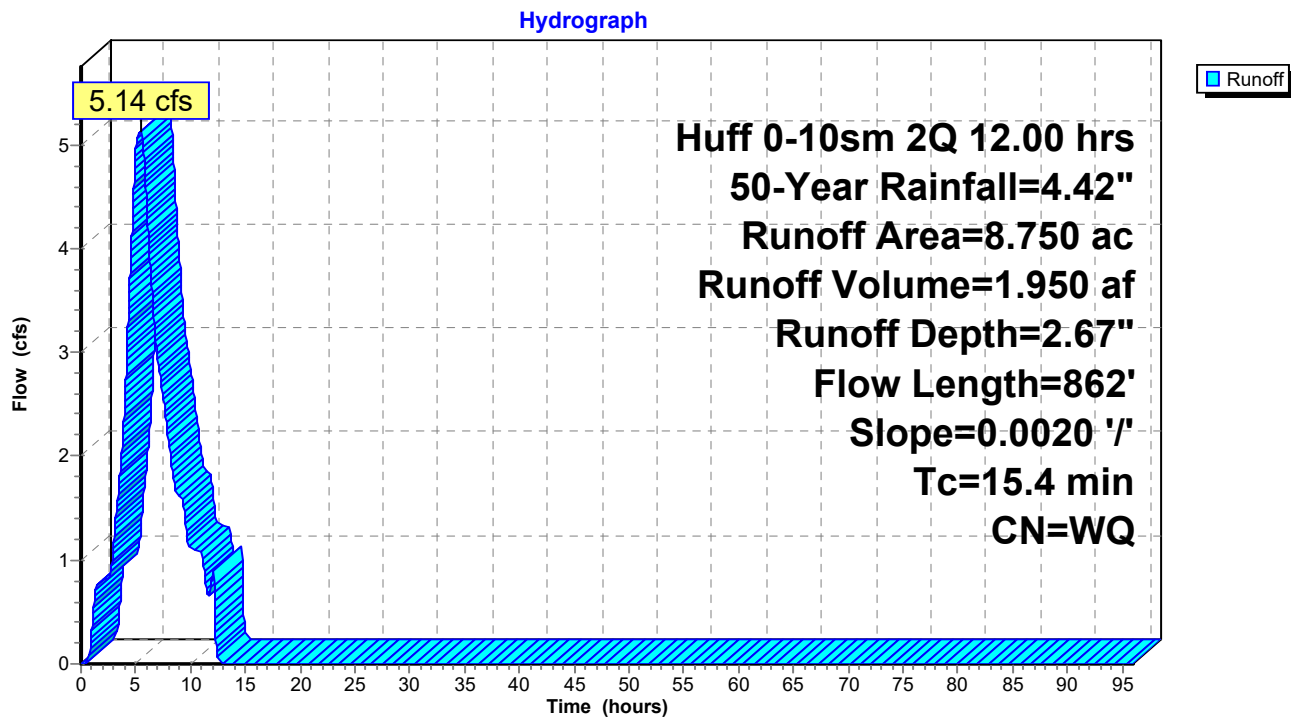
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 50-Year Rainfall=4.42"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 2.940     | 98 | Paved parking, HSG C          |
| 5.810     | 74 | >75% Grass cover, Good, HSG C |
| 8.750     |    | Weighted Average              |
| 5.810     |    | 66.40% Pervious Area          |
| 2.940     |    | 33.60% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                   |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------------------|
| 10.0     |               |               |                   |                | <b>Direct Entry, Start time</b>               |
| 5.4      | 862           | 0.0020        | 2.66              | 4.70           | <b>Pipe Channel, Travel Time in Pipe</b>      |
|          |               |               |                   |                | 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' |
|          |               |               |                   |                | n= 0.013                                      |
| 15.4     | 862           | Total         |                   |                |                                               |

### Subcatchment 3S: Ex. Offsite Trib.



### Summary for Subcatchment 4S: Undetained

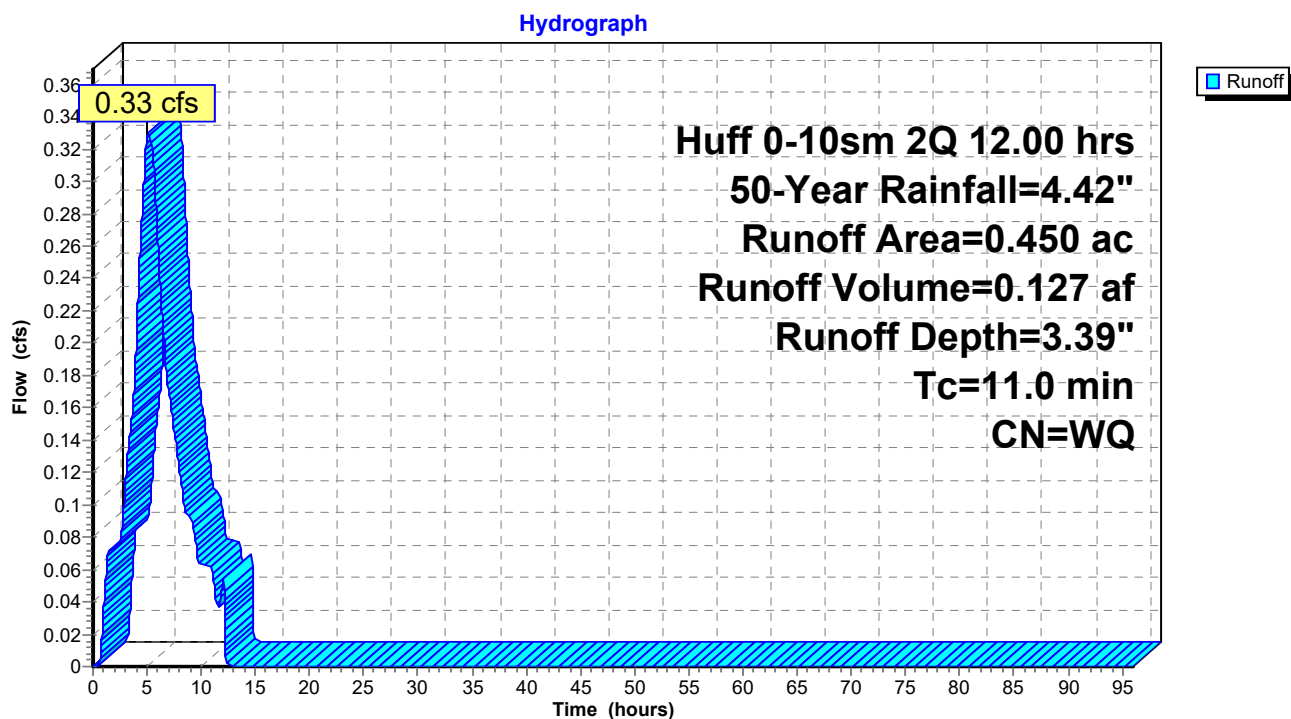
Runoff = 0.33 cfs @ 5.07 hrs, Volume= 0.127 af, Depth= 3.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 50-Year Rainfall=4.42"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.190     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.260     | 98 | Paved parking, HSG C            |
| 0.450     |    | Weighted Average                |
| 0.190     |    | 42.22% Pervious Area            |
| 0.260     |    | 57.78% Impervious Area          |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description          |
|----------|---------------|---------------|-------------------|----------------|----------------------|
| 11.0     |               |               |                   |                | Direct Entry, Direct |

### Subcatchment 4S: Undetained





### Summary for Subcatchment 5S: Parcel 2

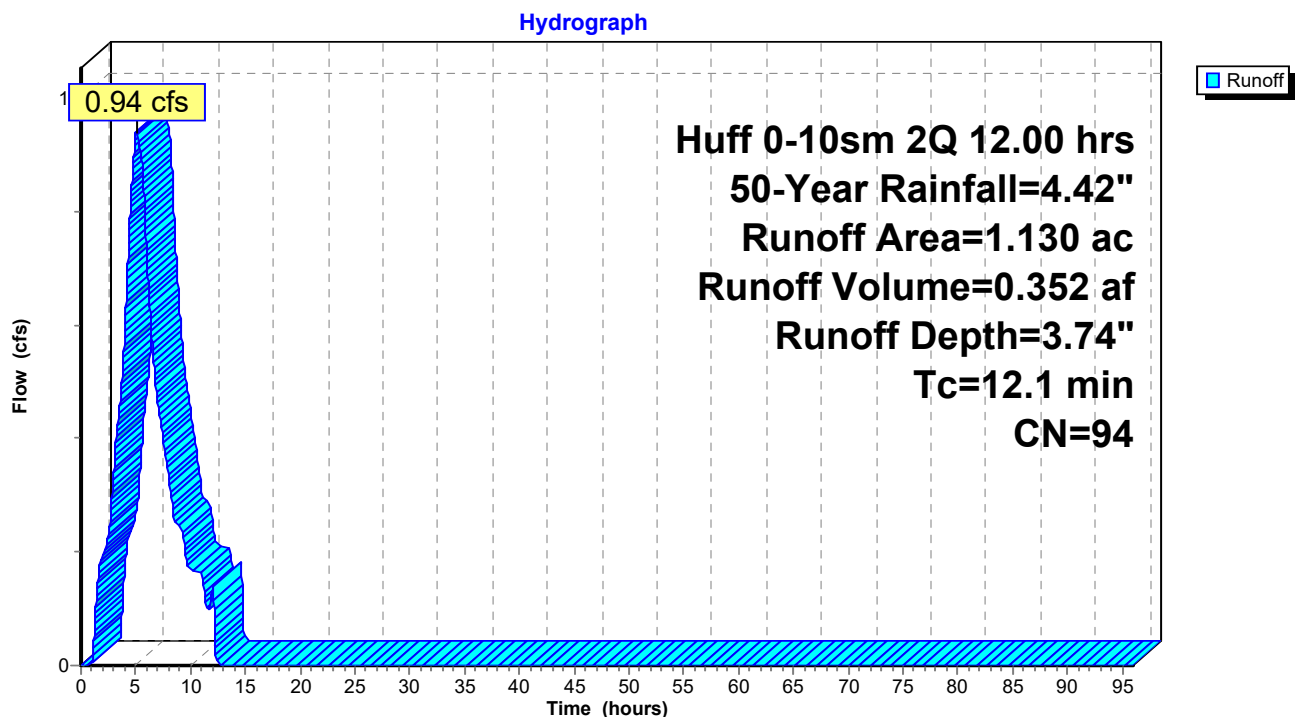
Runoff = 0.94 cfs @ 5.04 hrs, Volume= 0.352 af, Depth= 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 50-Year Rainfall=4.42"

| Area (ac) | CN | Description                      |
|-----------|----|----------------------------------|
| 1.130     | 94 | Urban commercial, 85% imp, HSG C |
| 0.169     |    | 15.00% Pervious Area             |
| 0.961     |    | 85.00% Impervious Area           |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 5S: Parcel 2



### Summary for Pond 7P: Retention Pond Ph1

Inflow Area = 12.860 ac, 43.63% Impervious, Inflow Depth = 2.91" for 50-Year event  
 Inflow = 8.20 cfs @ 5.29 hrs, Volume= 3.122 af  
 Outflow = 2.53 cfs @ 8.61 hrs, Volume= 3.098 af, Atten= 69%, Lag= 199.2 min  
 Primary = 2.53 cfs @ 8.61 hrs, Volume= 3.098 af  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs / 3  
 Peak Elev= 808.88' @ 8.61 hrs Surf.Area= 33,875 sf Storage= 85,759 cf

Plug-Flow detention time= 669.7 min calculated for 3.098 af (99% of inflow)  
 Center-of-Mass det. time= 666.9 min ( 1,037.2 - 370.3 )

| Volume | Invert  | Avail.Storage | Storage Description                                        |
|--------|---------|---------------|------------------------------------------------------------|
| #1     | 806.00' | 125,002 cf    | <b>Pond (Prismatic)</b> Listed below (Recalc)              |
| #2     | 805.00' | 393 cf        | <b>12.0" Round Pipe Storage</b><br>L= 500.0' S= 0.0050 '/' |
|        |         | 125,395 cf    | Total Available Storage                                    |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) |
|---------------------|----------------------|---------------------------|---------------------------|
| 806.00              | 25,315               | 0                         | 0                         |
| 810.00              | 37,186               | 125,002                   | 125,002                   |

| Device | Routing   | Invert  | Outlet Devices                                                                                                                                                                                                                                                                    |
|--------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary   | 803.26' | <b>18.0" Round Culvert</b><br>L= 113.5' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 803.26' / 801.66' S= 0.0141 '/' Cc= 0.900<br>n= 0.013, Flow Area= 1.77 sf                                                                                               |
| #2     | Device 1  | 806.00' | <b>4.9" Vert. Orifice</b> C= 0.600                                                                                                                                                                                                                                                |
| #3     | Device 1  | 807.00' | <b>5.0" Vert. Orifice/Grate</b> C= 0.600                                                                                                                                                                                                                                          |
| #4     | Device 1  | 808.75' | <b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)                                                                                                                                                                                                              |
| #5     | Secondary | 809.25' | <b>15.0' long x 4.0' breadth Broad-Crested Rectangular Weir</b><br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00<br>2.50 3.00 3.50 4.00 4.50 5.00 5.50<br>Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66<br>2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32 |

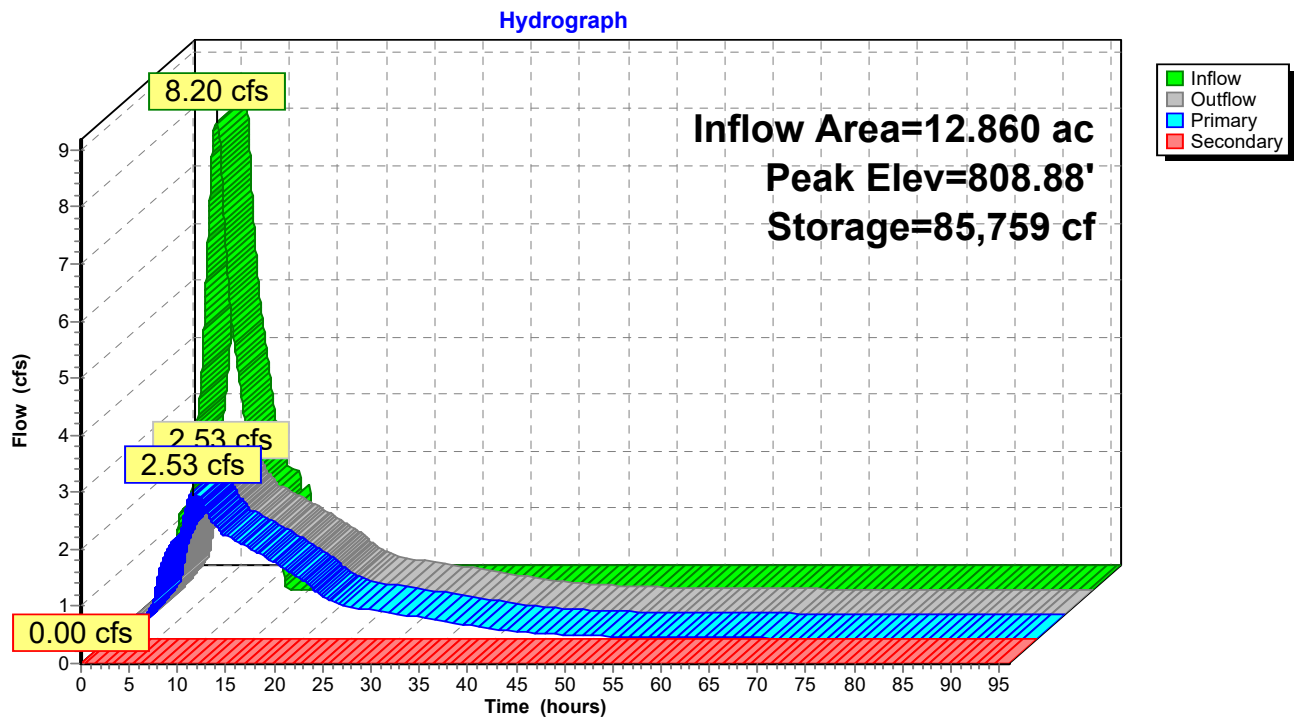
**Primary OutFlow** Max=2.52 cfs @ 8.61 hrs HW=808.88' (Free Discharge)

- 1=Culvert (Passes 2.52 cfs of 14.83 cfs potential flow)
- 2=Orifice (Orifice Controls 1.03 cfs @ 7.88 fps)
- 3=Orifice/Grate (Orifice Controls 0.85 cfs @ 6.23 fps)
- 4=Sharp-Crested Rectangular Weir (Weir Controls 0.64 cfs @ 1.20 fps)

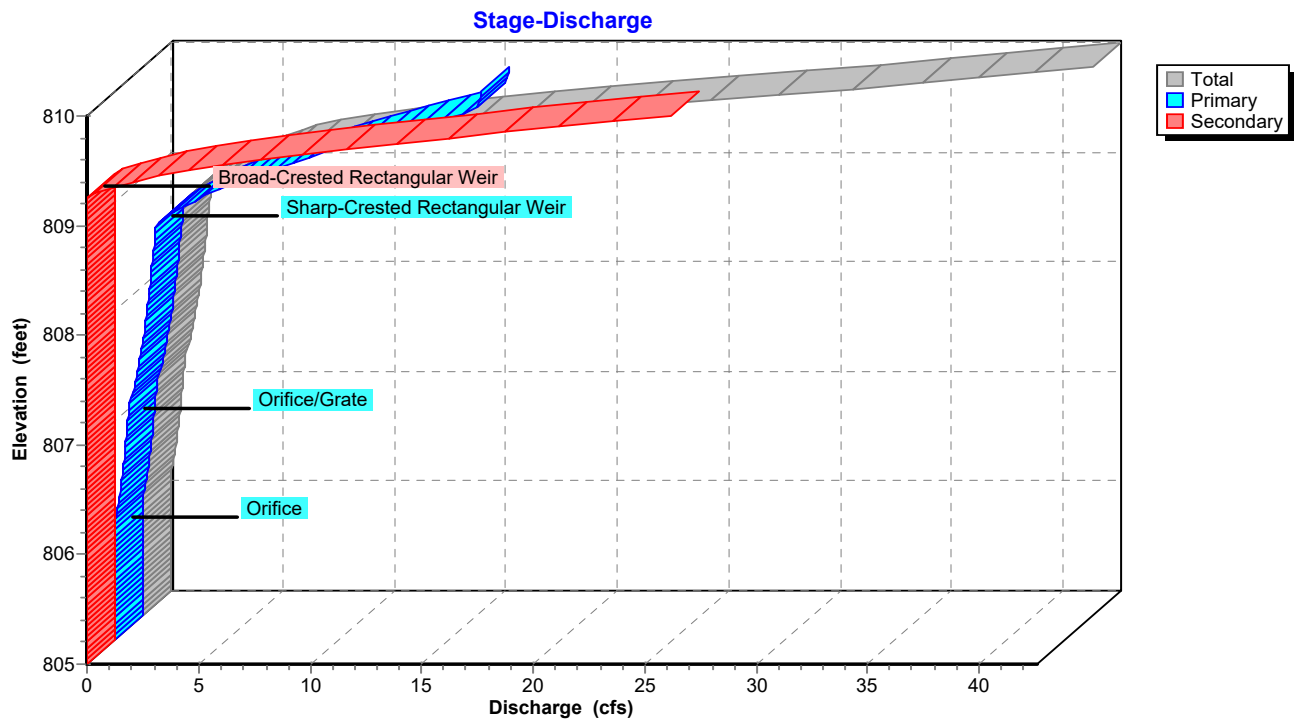
**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=805.00' (Free Discharge)

- 5=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

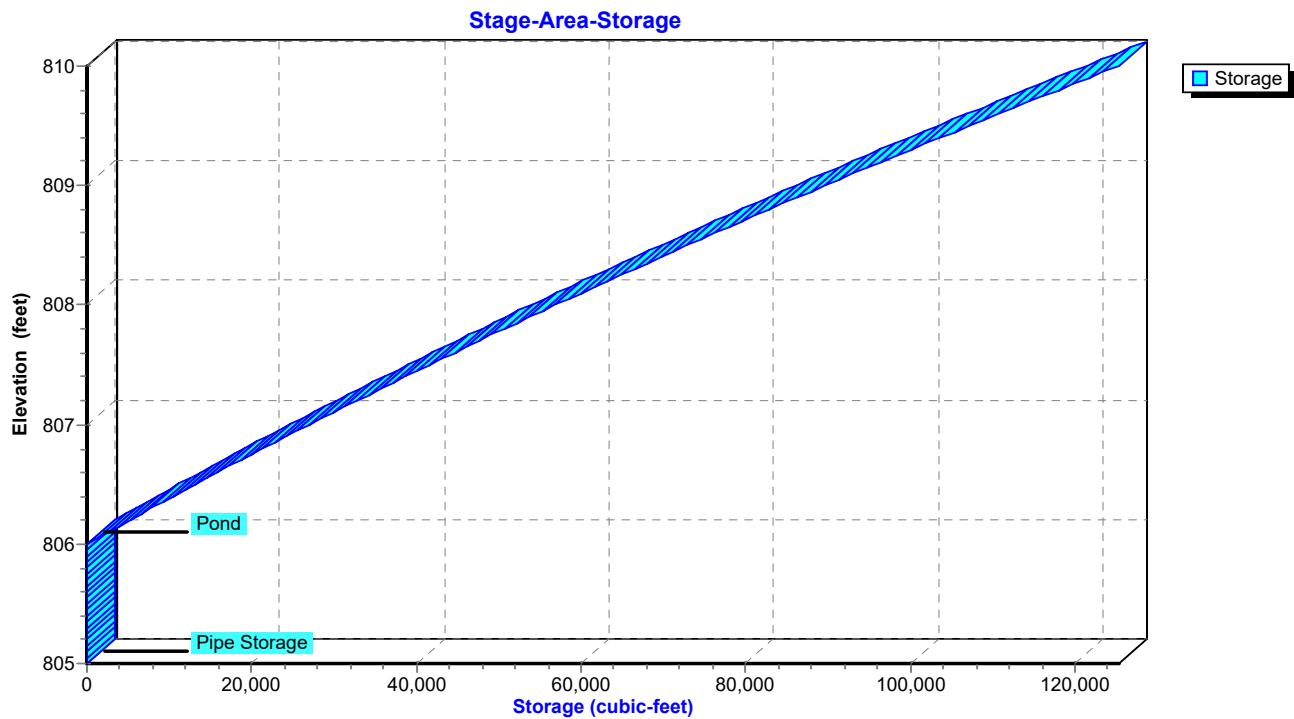
### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1





**Stage-Area-Storage for Pond 7P: Retention Pond Ph1**

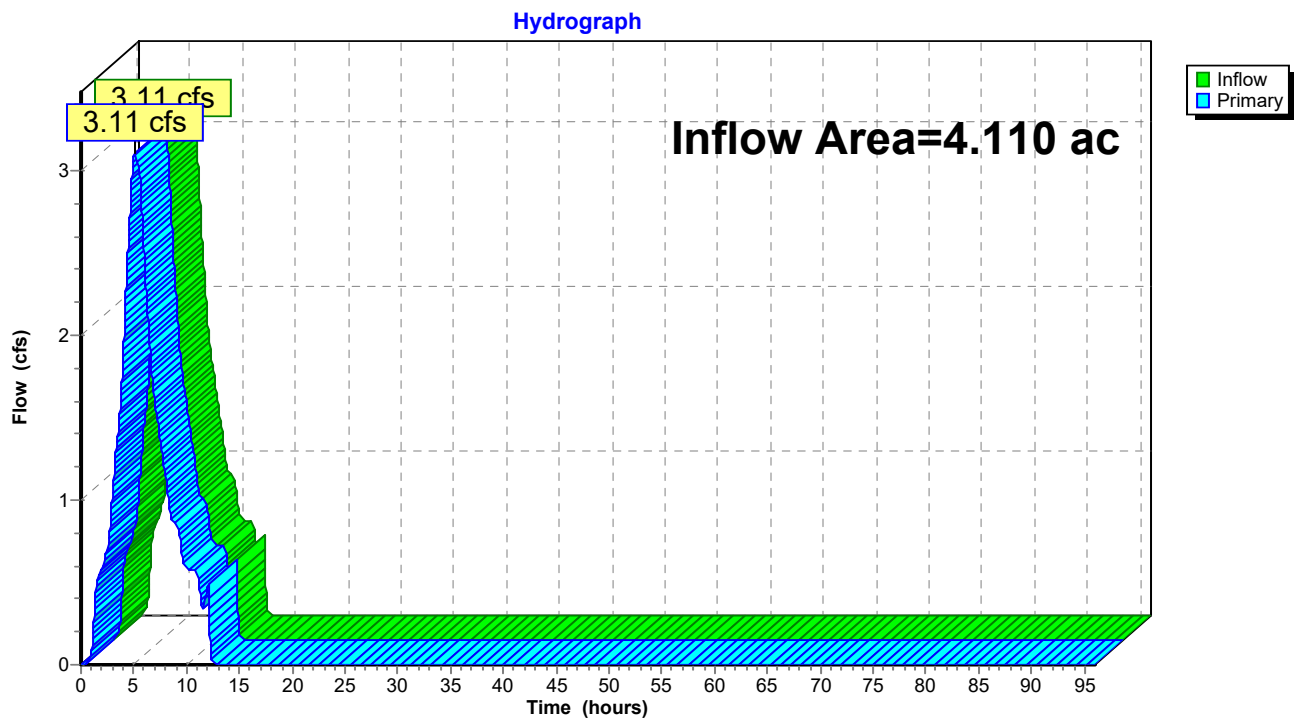
| Elevation<br>(feet) | Storage<br>(cubic-feet) | Elevation<br>(feet) | Storage<br>(cubic-feet) |
|---------------------|-------------------------|---------------------|-------------------------|
| 805.00              | 0                       | 807.65              | 46,146                  |
| 805.05              | 0                       | 807.70              | 47,668                  |
| 805.10              | 0                       | 807.75              | 49,196                  |
| 805.15              | 1                       | 807.80              | 50,731                  |
| 805.20              | 2                       | 807.85              | 52,273                  |
| 805.25              | 3                       | 807.90              | 53,822                  |
| 805.30              | 5                       | 807.95              | 55,379                  |
| 805.35              | 7                       | 808.00              | 56,942                  |
| 805.40              | 10                      | 808.05              | 58,511                  |
| 805.45              | 13                      | 808.10              | 60,088                  |
| 805.50              | 17                      | 808.15              | 61,672                  |
| 805.55              | 21                      | 808.20              | 63,263                  |
| 805.60              | 26                      | 808.25              | 64,860                  |
| 805.65              | 31                      | 808.30              | 66,465                  |
| 805.70              | 36                      | 808.35              | 68,077                  |
| 805.75              | 42                      | 808.40              | 69,695                  |
| 805.80              | 49                      | 808.45              | 71,321                  |
| 805.85              | 56                      | 808.50              | 72,954                  |
| 805.90              | 63                      | 808.55              | 74,595                  |
| 805.95              | 71                      | 808.60              | 76,243                  |
| 806.00              | 79                      | 808.65              | 77,898                  |
| 806.05              | 1,356                   | 808.70              | 79,561                  |
| 806.10              | 2,641                   | 808.75              | 81,231                  |
| 806.15              | 3,933                   | 808.80              | 82,908                  |
| 806.20              | 5,232                   | 808.85              | 84,593                  |
| 806.25              | 6,539                   | 808.90              | 86,286                  |
| 806.30              | 7,854                   | 808.95              | 87,985                  |
| 806.35              | 9,176                   | 809.00              | 89,693                  |
| 806.40              | 10,505                  | 809.05              | 91,407                  |
| 806.45              | 11,841                  | 809.10              | 93,129                  |
| 806.50              | 13,186                  | 809.15              | 94,859                  |
| 806.55              | 14,537                  | 809.20              | 96,596                  |
| 806.60              | 15,896                  | 809.25              | 98,340                  |
| 806.65              | 17,262                  | 809.30              | 100,092                 |
| 806.70              | 18,636                  | 809.35              | 101,851                 |
| 806.75              | 20,017                  | 809.40              | 103,617                 |
| 806.80              | 21,406                  | 809.45              | 105,391                 |
| 806.85              | 22,802                  | 809.50              | 107,173                 |
| 806.90              | 24,205                  | 809.55              | 108,961                 |
| 806.95              | 25,616                  | 809.60              | 110,758                 |
| 807.00              | 27,034                  | 809.65              | 112,561                 |
| 807.05              | 28,460                  | 809.70              | 114,372                 |
| 807.10              | 29,893                  | 809.75              | 116,191                 |
| 807.15              | 31,334                  | 809.80              | 118,017                 |
| 807.20              | 32,782                  | 809.85              | 119,850                 |
| 807.25              | 34,237                  | 809.90              | 121,691                 |
| 807.30              | 35,700                  | 809.95              | 123,539                 |
| 807.35              | 37,170                  | 810.00              | <b>125,395</b>          |
| 807.40              | 38,648                  |                     |                         |
| 807.45              | 40,133                  |                     |                         |
| 807.50              | 41,625                  |                     |                         |
| 807.55              | 43,125                  |                     |                         |
| 807.60              | 44,632                  |                     |                         |

### Summary for Link 6L: (new Link)

Inflow Area = 4.110 ac, 64.99% Impervious, Inflow Depth = 3.42" for 50-Year event  
Inflow = 3.11 cfs @ 5.07 hrs, Volume= 1.172 af  
Primary = 3.11 cfs @ 5.07 hrs, Volume= 1.172 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

### Link 6L: (new Link)



### Summary for Subcatchment 1S: Parcel 1&2 Predev.

Runoff = 0.85 cfs @ 5.50 hrs, Volume= 0.294 af, Depth= 2.36"

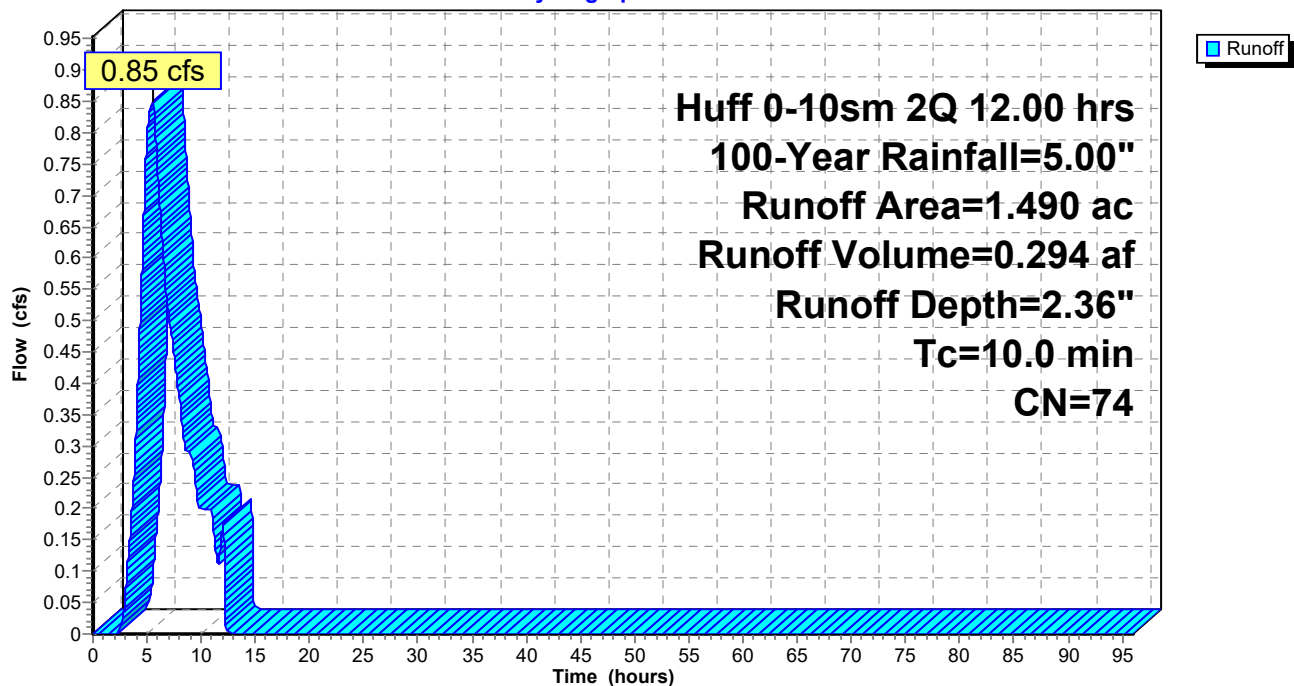
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 100-Year Rainfall=5.00"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 1.490     | 74 | >75% Grass cover, Good, HSG C |
| 1.490     |    | 100.00% Pervious Area         |

| Tc<br>(min) | Length<br>(feet) | Slope<br>(ft/ft) | Velocity<br>(ft/sec) | Capacity<br>(cfs) | Description   |
|-------------|------------------|------------------|----------------------|-------------------|---------------|
| 10.0        |                  |                  |                      |                   | Direct Entry, |

### Subcatchment 1S: Parcel 1&2 Predev.

Hydrograph



### Summary for Subcatchment 2S: Parcel 1 & Pond

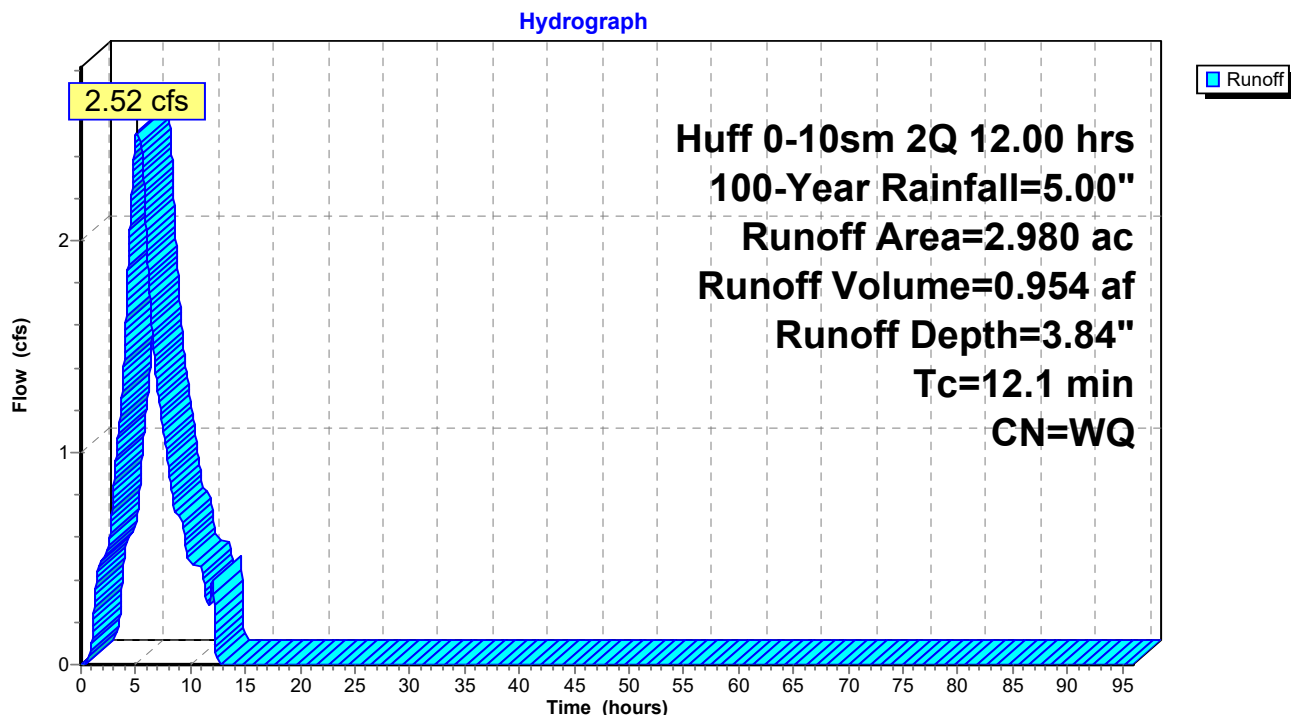
Runoff = 2.52 cfs @ 5.07 hrs, Volume= 0.954 af, Depth= 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 100-Year Rainfall=5.00"

| Area (ac) | CN | Description                                |
|-----------|----|--------------------------------------------|
| 1.330     | 94 | Urban commercial, 85% imp, HSG C           |
| * 0.280   | 90 | Access Road                                |
| 0.580     | 98 | Water Surface, HSG C                       |
| * 0.790   | 74 | >75% Grass cover, Good, around pond, HSG C |
| 2.980     |    | Weighted Average                           |
| 1.269     |    | 42.60% Pervious Area                       |
| 1.711     |    | 57.40% Impervious Area                     |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 2S: Parcel 1 & Pond





### Summary for Subcatchment 3S: Ex. Offsite Trib.

Runoff = 6.10 cfs @ 5.39 hrs, Volume= 2.312 af, Depth= 3.17"

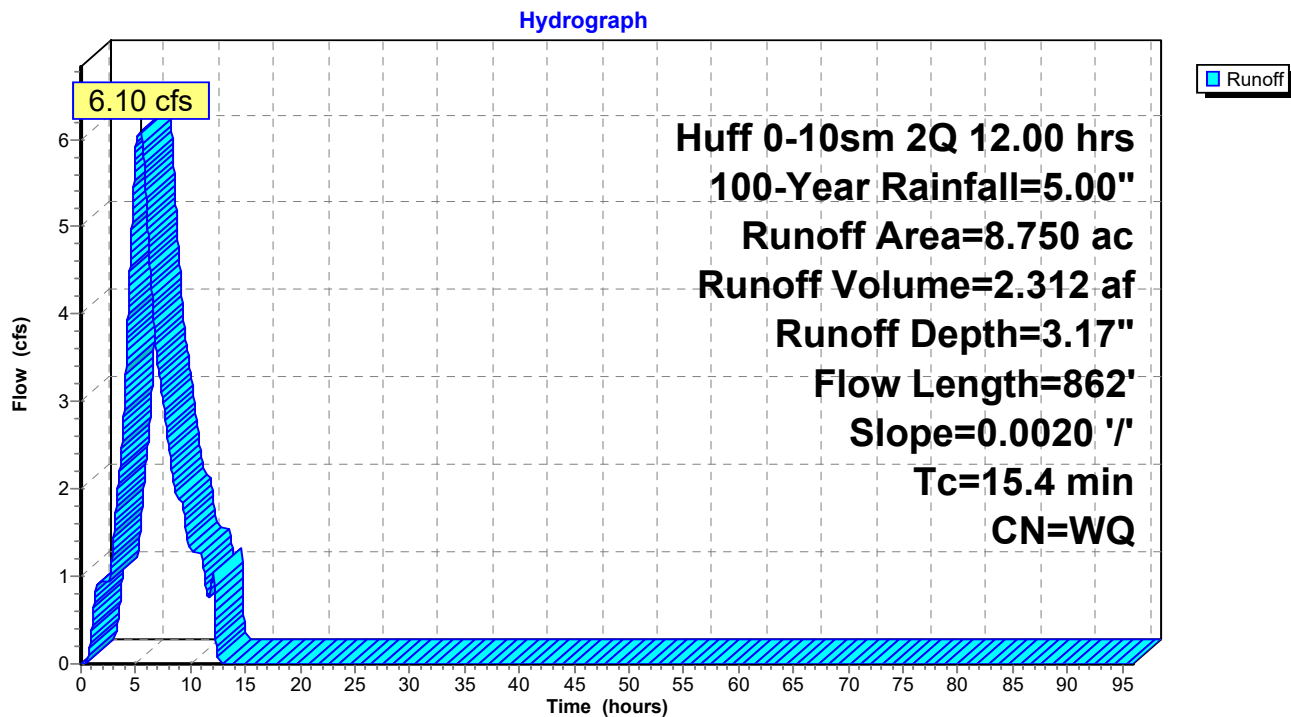
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 100-Year Rainfall=5.00"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 2.940     | 98 | Paved parking, HSG C          |
| 5.810     | 74 | >75% Grass cover, Good, HSG C |
| 8.750     |    | Weighted Average              |
| 5.810     |    | 66.40% Pervious Area          |
| 2.940     |    | 33.60% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                   |
|----------|---------------|---------------|-------------------|----------------|-----------------------------------------------|
| 10.0     |               |               |                   |                | Direct Entry, Start time                      |
| 5.4      | 862           | 0.0020        | 2.66              | 4.70           | Pipe Channel, Travel Time in Pipe             |
|          |               |               |                   |                | 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' |
|          |               |               |                   |                | n= 0.013                                      |
| 15.4     | 862           | Total         |                   |                |                                               |

### Subcatchment 3S: Ex. Offsite Trib.



### Summary for Subcatchment 4S: Undetained

Runoff = 0.38 cfs @ 5.05 hrs, Volume= 0.148 af, Depth= 3.93"

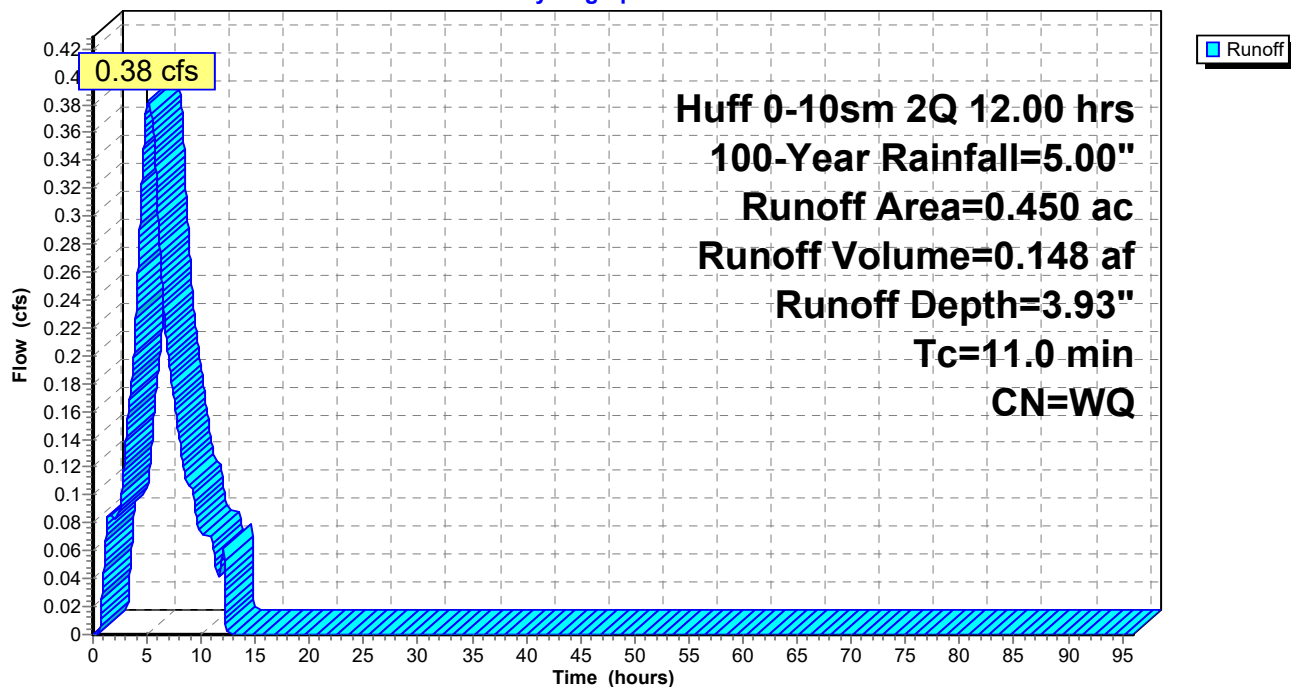
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 100-Year Rainfall=5.00"

| Area (ac) | CN | Description                     |
|-----------|----|---------------------------------|
| 0.190     | 79 | 50-75% Grass cover, Fair, HSG C |
| 0.260     | 98 | Paved parking, HSG C            |
| 0.450     |    | Weighted Average                |
| 0.190     |    | 42.22% Pervious Area            |
| 0.260     |    | 57.78% Impervious Area          |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description          |
|----------|---------------|---------------|-------------------|----------------|----------------------|
| 11.0     |               |               |                   |                | Direct Entry, Direct |

### Subcatchment 4S: Undetained

Hydrograph



### Summary for Subcatchment 5S: Parcel 2

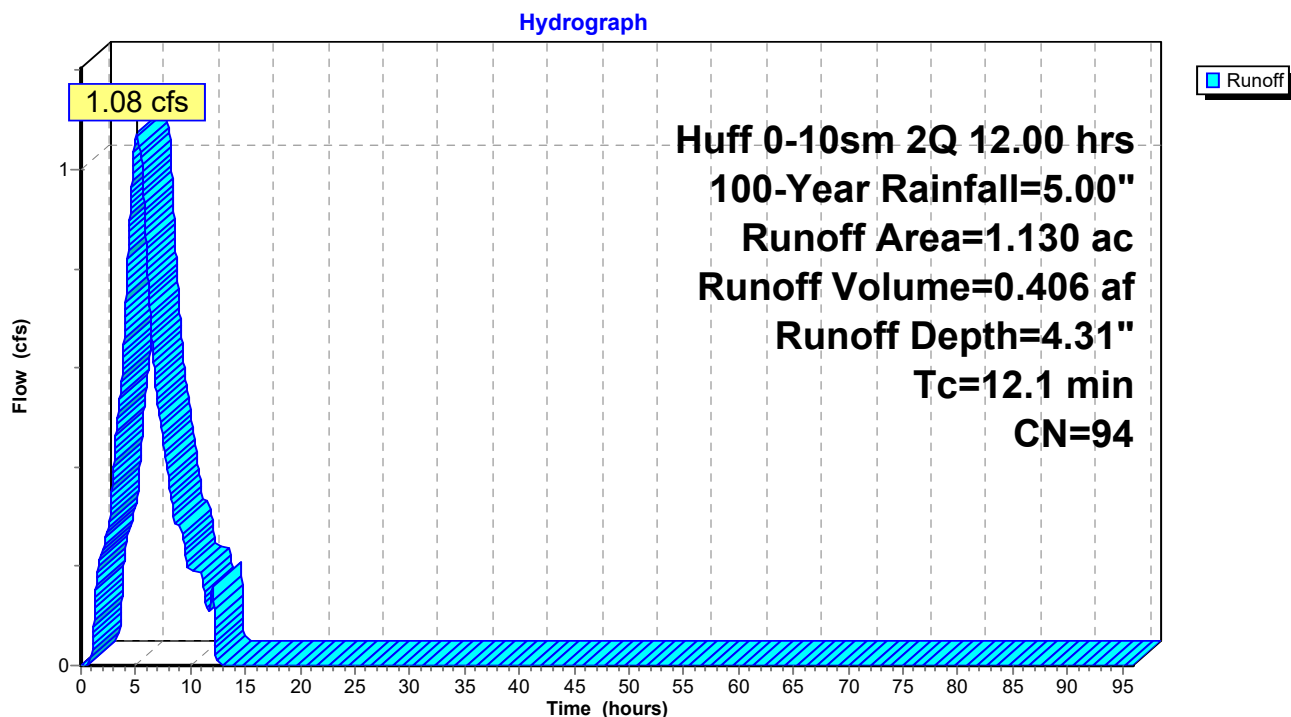
Runoff = 1.08 cfs @ 5.04 hrs, Volume= 0.406 af, Depth= 4.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs  
 Huff 0-10sm 2Q 12.00 hrs 100-Year Rainfall=5.00"

| Area (ac) | CN | Description                      |
|-----------|----|----------------------------------|
| 1.130     | 94 | Urban commercial, 85% imp, HSG C |
| 0.169     |    | 15.00% Pervious Area             |
| 0.961     |    | 85.00% Impervious Area           |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                                 |
|----------|---------------|---------------|-------------------|----------------|---------------------------------------------|
| 12.1     |               |               |                   |                | Direct Entry, Direct from storm pipe calcs. |

### Subcatchment 5S: Parcel 2



### Summary for Pond 7P: Retention Pond Ph1

Inflow Area = 12.860 ac, 43.63% Impervious, Inflow Depth = 3.43" for 100-Year event  
 Inflow = 9.64 cfs @ 5.25 hrs, Volume= 3.671 af  
 Outflow = 4.24 cfs @ 7.71 hrs, Volume= 3.647 af, Atten= 56%, Lag= 147.5 min  
 Primary = 4.24 cfs @ 7.71 hrs, Volume= 3.647 af  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs / 3  
 Peak Elev= 809.07' @ 7.71 hrs Surf.Area= 34,412 sf Storage= 91,931 cf

Plug-Flow detention time= 597.6 min calculated for 3.647 af (99% of inflow)  
 Center-of-Mass det. time= 595.6 min ( 964.0 - 368.4 )

| Volume | Invert  | Avail.Storage | Storage Description                                        |
|--------|---------|---------------|------------------------------------------------------------|
| #1     | 806.00' | 125,002 cf    | <b>Pond (Prismatic)</b> Listed below (Recalc)              |
| #2     | 805.00' | 393 cf        | <b>12.0" Round Pipe Storage</b><br>L= 500.0' S= 0.0050 '/' |
|        |         | 125,395 cf    | Total Available Storage                                    |

| Elevation<br>(feet) | Surf.Area<br>(sq-ft) | Inc.Store<br>(cubic-feet) | Cum.Store<br>(cubic-feet) |
|---------------------|----------------------|---------------------------|---------------------------|
| 806.00              | 25,315               | 0                         | 0                         |
| 810.00              | 37,186               | 125,002                   | 125,002                   |

| Device | Routing   | Invert  | Outlet Devices                                                                                                                                                                                                                                                                    |
|--------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1     | Primary   | 803.26' | <b>18.0" Round Culvert</b><br>L= 113.5' CPP, projecting, no headwall, Ke= 0.900<br>Inlet / Outlet Invert= 803.26' / 801.66' S= 0.0141 '/ Cc= 0.900<br>n= 0.013, Flow Area= 1.77 sf                                                                                                |
| #2     | Device 1  | 806.00' | <b>4.9" Vert. Orifice</b> C= 0.600                                                                                                                                                                                                                                                |
| #3     | Device 1  | 807.00' | <b>5.0" Vert. Orifice/Grate</b> C= 0.600                                                                                                                                                                                                                                          |
| #4     | Device 1  | 808.75' | <b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)                                                                                                                                                                                                              |
| #5     | Secondary | 809.25' | <b>15.0' long x 4.0' breadth Broad-Crested Rectangular Weir</b><br>Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00<br>2.50 3.00 3.50 4.00 4.50 5.00 5.50<br>Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66<br>2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32 |

**Primary OutFlow** Max=4.24 cfs @ 7.71 hrs HW=809.07' (Free Discharge)

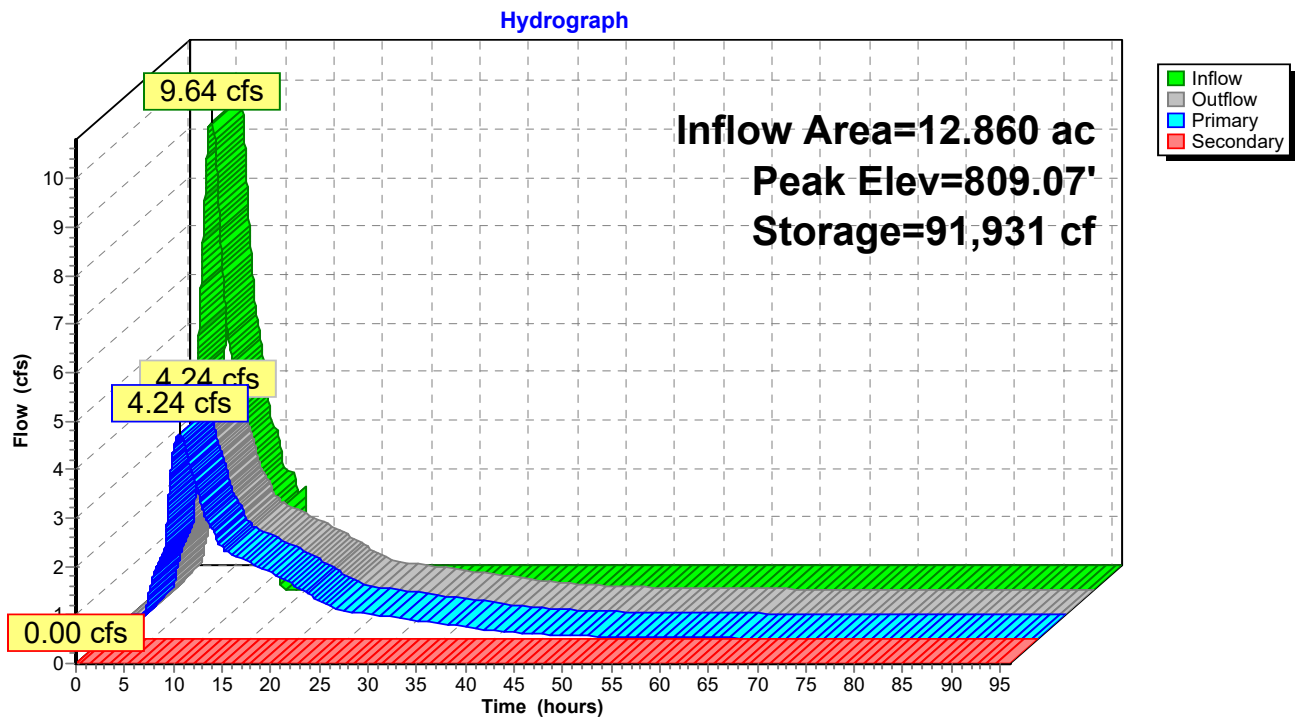
- 1=Culvert (Passes 4.24 cfs of 15.10 cfs potential flow)
- 2=Orifice (Orifice Controls 1.07 cfs @ 8.14 fps)
- 3=Orifice/Grate (Orifice Controls 0.89 cfs @ 6.56 fps)
- 4=Sharp-Crested Rectangular Weir (Weir Controls 2.28 cfs @ 1.84 fps)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=805.00' (Free Discharge)

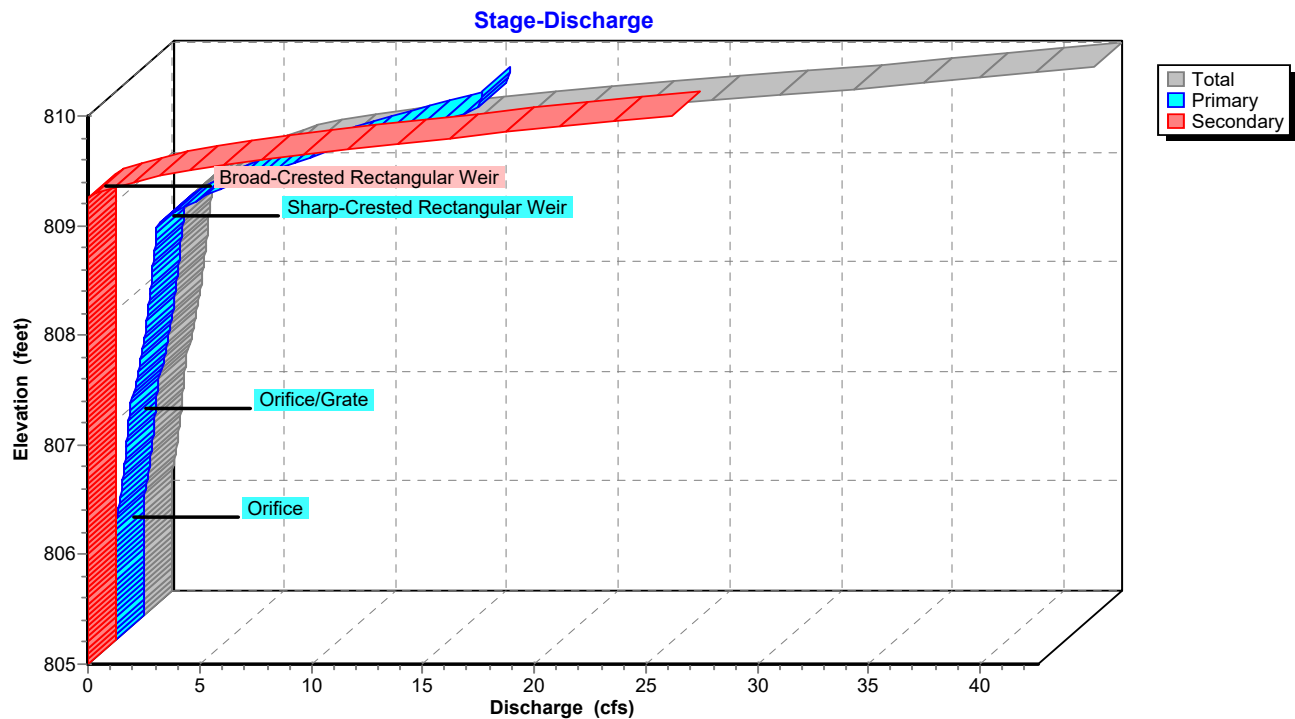
- 5=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)



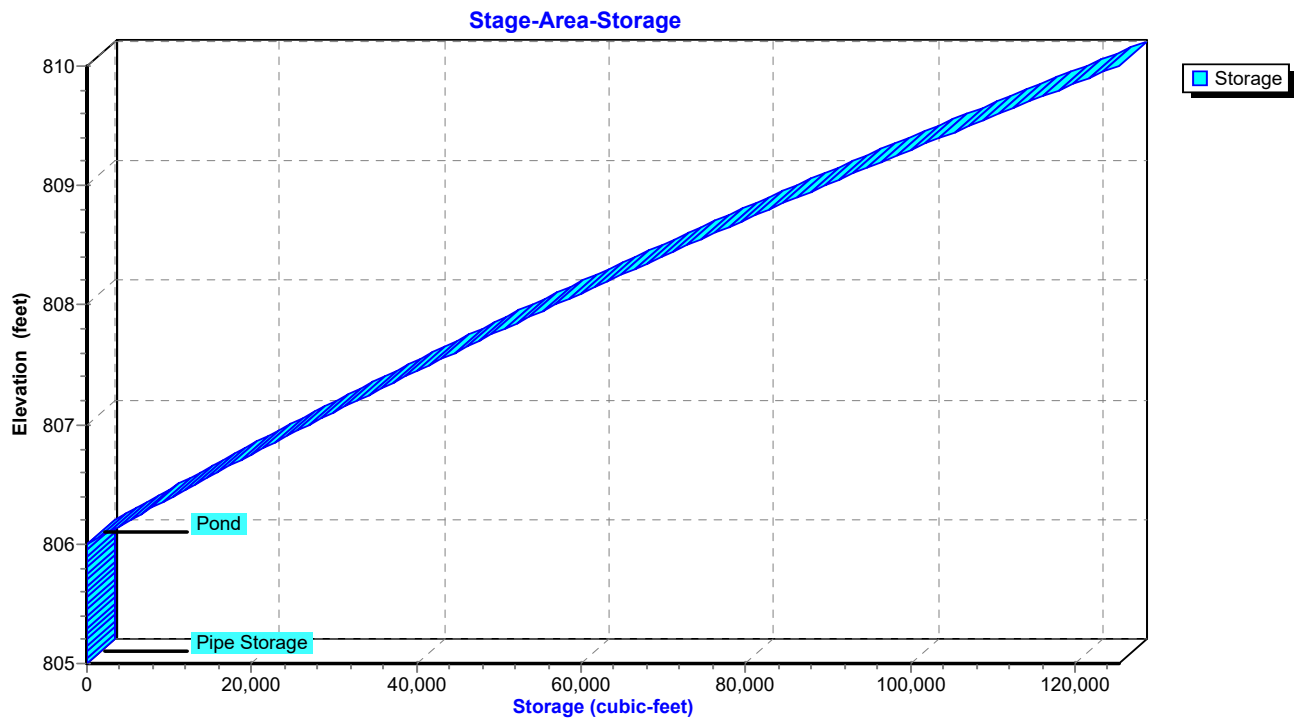
### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



### Pond 7P: Retention Pond Ph1



**Stage-Area-Storage for Pond 7P: Retention Pond Ph1**

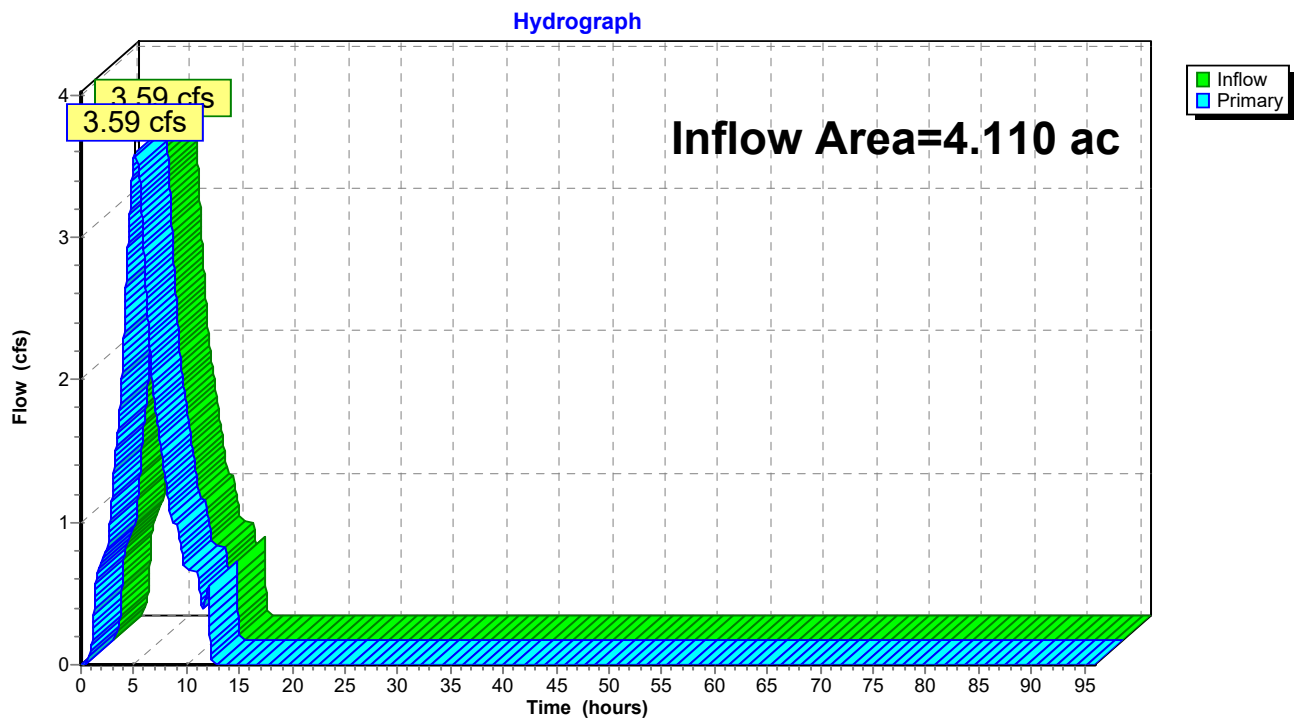
| Elevation<br>(feet) | Storage<br>(cubic-feet) | Elevation<br>(feet) | Storage<br>(cubic-feet) |
|---------------------|-------------------------|---------------------|-------------------------|
| 805.00              | 0                       | 807.65              | 46,146                  |
| 805.05              | 0                       | 807.70              | 47,668                  |
| 805.10              | 0                       | 807.75              | 49,196                  |
| 805.15              | 1                       | 807.80              | 50,731                  |
| 805.20              | 2                       | 807.85              | 52,273                  |
| 805.25              | 3                       | 807.90              | 53,822                  |
| 805.30              | 5                       | 807.95              | 55,379                  |
| 805.35              | 7                       | 808.00              | 56,942                  |
| 805.40              | 10                      | 808.05              | 58,511                  |
| 805.45              | 13                      | 808.10              | 60,088                  |
| 805.50              | 17                      | 808.15              | 61,672                  |
| 805.55              | 21                      | 808.20              | 63,263                  |
| 805.60              | 26                      | 808.25              | 64,860                  |
| 805.65              | 31                      | 808.30              | 66,465                  |
| 805.70              | 36                      | 808.35              | 68,077                  |
| 805.75              | 42                      | 808.40              | 69,695                  |
| 805.80              | 49                      | 808.45              | 71,321                  |
| 805.85              | 56                      | 808.50              | 72,954                  |
| 805.90              | 63                      | 808.55              | 74,595                  |
| 805.95              | 71                      | 808.60              | 76,243                  |
| 806.00              | 79                      | 808.65              | 77,898                  |
| 806.05              | 1,356                   | 808.70              | 79,561                  |
| 806.10              | 2,641                   | 808.75              | 81,231                  |
| 806.15              | 3,933                   | 808.80              | 82,908                  |
| 806.20              | 5,232                   | 808.85              | 84,593                  |
| 806.25              | 6,539                   | 808.90              | 86,286                  |
| 806.30              | 7,854                   | 808.95              | 87,985                  |
| 806.35              | 9,176                   | 809.00              | 89,693                  |
| 806.40              | 10,505                  | 809.05              | 91,407                  |
| 806.45              | 11,841                  | 809.10              | 93,129                  |
| 806.50              | 13,186                  | 809.15              | 94,859                  |
| 806.55              | 14,537                  | 809.20              | 96,596                  |
| 806.60              | 15,896                  | 809.25              | 98,340                  |
| 806.65              | 17,262                  | 809.30              | 100,092                 |
| 806.70              | 18,636                  | 809.35              | 101,851                 |
| 806.75              | 20,017                  | 809.40              | 103,617                 |
| 806.80              | 21,406                  | 809.45              | 105,391                 |
| 806.85              | 22,802                  | 809.50              | 107,173                 |
| 806.90              | 24,205                  | 809.55              | 108,961                 |
| 806.95              | 25,616                  | 809.60              | 110,758                 |
| 807.00              | 27,034                  | 809.65              | 112,561                 |
| 807.05              | 28,460                  | 809.70              | 114,372                 |
| 807.10              | 29,893                  | 809.75              | 116,191                 |
| 807.15              | 31,334                  | 809.80              | 118,017                 |
| 807.20              | 32,782                  | 809.85              | 119,850                 |
| 807.25              | 34,237                  | 809.90              | 121,691                 |
| 807.30              | 35,700                  | 809.95              | 123,539                 |
| 807.35              | 37,170                  | 810.00              | <b>125,395</b>          |
| 807.40              | 38,648                  |                     |                         |
| 807.45              | 40,133                  |                     |                         |
| 807.50              | 41,625                  |                     |                         |
| 807.55              | 43,125                  |                     |                         |
| 807.60              | 44,632                  |                     |                         |

### Summary for Link 6L: (new Link)

Inflow Area = 4.110 ac, 64.99% Impervious, Inflow Depth = 3.97" for 100-Year event  
 Inflow = 3.59 cfs @ 5.07 hrs, Volume= 1.359 af  
 Primary = 3.59 cfs @ 5.07 hrs, Volume= 1.359 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

### Link 6L: (new Link)



## **APPENDIX B**

(Water Quality Calculations)



# WATER QUALITY CALCULATIONS

E. P. FERRIS and ASSOCIATES INC.  
880 King Avenue  
Columbus, Ohio 43212  
614-299-2999  
614-299-2992 (Fax)

BFA Phase 1&2  
Grove City, Ohio

Prepared by MJO  
Checked: CLL

Date: 4/26/2021

Project: 1163.002

Water Quality Calculation - Per Ohio EPA requirements

$$WQv = Rv \times P \times A$$

Rv - Volumetric Runoff Coefficient

P - precepitation depth (usually 0.90 inches)

A - Area draining to BMP(acres)

Table 1 C Values:

Industrial/Commercial 0.8

High Density residential (>8dw/ac) 0.5

Medium Density res. (4 to 8 dw/ac) 0.4

Low Density res (<4 dw/ac) 0.3

Open Space and Recreation Area 0.2

Rv: 0.635

P: 0.9 0.90 inches is EPA

A: 12.86 Acres

560182 Sq-Ft

i: 0.65

Formula:

$$Rv = 0.9i + 0.05$$

i - watershed imperviousness ratio, the percent imperviousness divided by 100

$$Rv = 0.635$$

WQv: 7.34949 acre-inches (units for pourous pavement calcs)

26679 cubic feet REQUIRED for treatment of disturbed area

0.6124575 acre-feet

5336 cubic feet of sediment volume (not required for pervious pavement)

WQv

Total: 32014

Note: Impervious (i) = Ph(1) & Pond 2.98 Ac @ 0.57 + Ph (2) 1.13 Ac @ 0.85 + Offsite 8.75 Ac @ 0.66 = 0.65

INPUT

OUTPUT

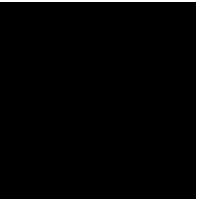
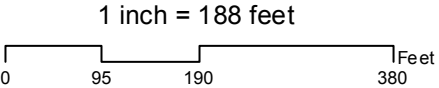
## Hydrograph for Pond 8P: Retention Pond Ph1

| Time<br>(hours) | Inflow<br>(cfs) | Storage<br>(cubic-feet) | Elevation<br>(feet) | Primary<br>(cfs) |
|-----------------|-----------------|-------------------------|---------------------|------------------|
| 0.00            | 0.00            | 27,034                  | 807.00              | 0.56             |
| 2.00            | 0.00            | 23,167                  | 806.86              | 0.51             |
| 4.00            | 0.00            | 19,667                  | 806.74              | 0.46             |
| 6.00            | 0.00            | 16,540                  | 806.62              | 0.41             |
| 8.00            | 0.00            | 13,790                  | 806.52              | 0.36             |
| 10.00           | 0.00            | 11,422                  | 806.43              | 0.30             |
| 12.00           | 0.00            | 9,434                   | 806.36              | 0.25             |
| 14.00           | 0.00            | 7,851                   | 806.30              | 0.19             |
| 16.00           | 0.00            | 6,638                   | 806.25              | 0.15             |
| 18.00           | 0.00            | 5,706                   | 806.22              | 0.11             |
| 20.00           | 0.00            | 4,981                   | 806.19              | 0.09             |
| 22.00           | 0.00            | 4,403                   | 806.17              | 0.07             |
| 24.00           | 0.00            | 3,938                   | 806.15              | 0.06             |
| 26.00           | 0.00            | 3,557                   | 806.14              | 0.05             |
| 28.00           | 0.00            | 3,235                   | 806.12              | 0.04             |
| 30.00           | 0.00            | 2,965                   | 806.11              | 0.03             |
| 32.00           | 0.00            | 2,736                   | 806.10              | 0.03             |
| 34.00           | 0.00            | 2,543                   | 806.10              | 0.03             |
| 36.00           | 0.00            | 2,370                   | 806.09              | 0.02             |
| 38.00           | 0.00            | 2,216                   | 806.08              | 0.02             |
| 40.00           | 0.00            | 2,078                   | 806.08              | 0.02             |
| 42.00           | 0.00            | 1,955                   | 806.07              | 0.02             |
| 44.00           | 0.00            | 1,844                   | 806.07              | 0.01             |
| 46.00           | 0.00            | 1,746                   | 806.07              | 0.01             |
| 48.00           | 0.00            | 1,657                   | 806.06              | 0.01             |
| 50.00           | 0.00            | 1,578                   | 806.06              | 0.01             |
| 52.00           | 0.00            | 1,507                   | 806.06              | 0.01             |
| 54.00           | 0.00            | 1,444                   | 806.05              | 0.01             |
| 56.00           | 0.00            | 1,387                   | 806.05              | 0.01             |
| 58.00           | 0.00            | 1,336                   | 806.05              | 0.01             |
| 60.00           | 0.00            | 1,287                   | 806.05              | 0.01             |
| 62.00           | 0.00            | 1,241                   | 806.05              | 0.01             |
| 64.00           | 0.00            | 1,196                   | 806.04              | 0.01             |
| 66.00           | 0.00            | 1,153                   | 806.04              | 0.01             |
| 68.00           | 0.00            | 1,111                   | 806.04              | 0.01             |
| 70.00           | 0.00            | 1,071                   | 806.04              | 0.01             |
| 72.00           | 0.00            | 1,033                   | 806.04              | 0.01             |
| 74.00           | 0.00            | 996                     | 806.04              | 0.01             |
| 76.00           | 0.00            | 961                     | 806.03              | 0.00             |
| 78.00           | 0.00            | 927                     | 806.03              | 0.00             |
| 80.00           | 0.00            | 894                     | 806.03              | 0.00             |
| 82.00           | 0.00            | 863                     | 806.03              | 0.00             |
| 84.00           | 0.00            | 832                     | 806.03              | 0.00             |
| 86.00           | 0.00            | 803                     | 806.03              | 0.00             |
| 88.00           | 0.00            | 775                     | 806.03              | 0.00             |
| 90.00           | 0.00            | 748                     | 806.03              | 0.00             |
| 92.00           | 0.00            | 723                     | 806.03              | 0.00             |
| 94.00           | 0.00            | 698                     | 806.02              | 0.00             |
| 96.00           | 0.00            | 674                     | 806.02              | 0.00             |

## **APPENDIX C**

(Tributary Maps)

|                          |                           |
|--------------------------|---------------------------|
| <b>Network Structure</b> | <b>Manhole</b>            |
| Blind                    | Public                    |
| Bulkhead                 | <b>Gravity Main</b>       |
| Pump Station             | Public                    |
| Special Structure        | <b>Network Structure</b>  |
| Change                   | Enclosed Storage Facility |
| Cleanout                 | Manhole                   |
| <b>Manhole</b>           | Meter Pit                 |
| Public                   | Special Structure         |
| Pressurized Main         | Hydrant                   |
| <b>Gravity Main</b>      | <b>Valve</b>              |
| Public                   | Public                    |
| <b>Network Structure</b> | <b>Lateral</b>            |
| Blind                    | Public                    |
| Bulkhead                 | <b>Fitting</b>            |
| Special Structure        | Public                    |
| Discharge Point          | <b>Main</b>               |
| Change                   | Public                    |
| Cleanout                 | Addresses                 |
| <b>Inlet</b>             | Parcels (May 2018)        |
| Public                   |                           |



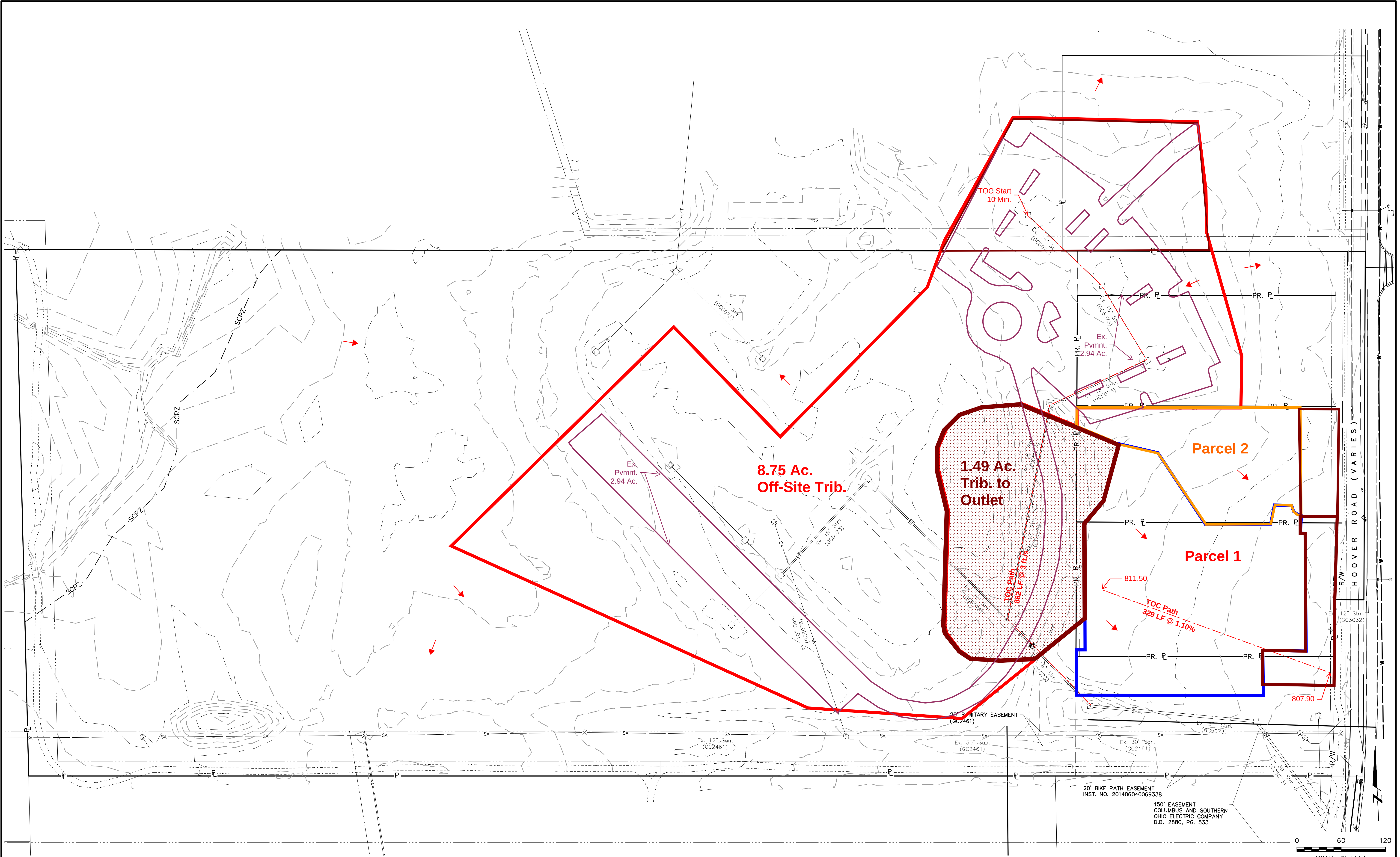
This map was generated by Grove City's ArcGIS Online web mapping site.

The information on this map was derived from Grove City's Geographic Information System (GIS). Extensive detail and attention was given to the creation of this map to maximize its accuracy but is provided "as is." Grove City cannot accept responsibility for any errors, omissions, or positional inaccuracies that may have occurred before, during, or after production. Therefore, no warranties accompany this product.

Although information from land/field surveys may have been utilized during the creation of this product, in no way does this product represent or constitute a Land Survey. Users are cautioned to field verify information on this product prior to making any decisions.



C:\Users\jmcunningham\Desktop\Projects\1163002\_BalancedFamilyAcademy\DWG\Exhibits\Development Agreement Exhibits\Full Site Utility and Basin Exhibit.dwg --Existing conditions LAST EDITED BYCUNNINGHAM ON 4/27/21

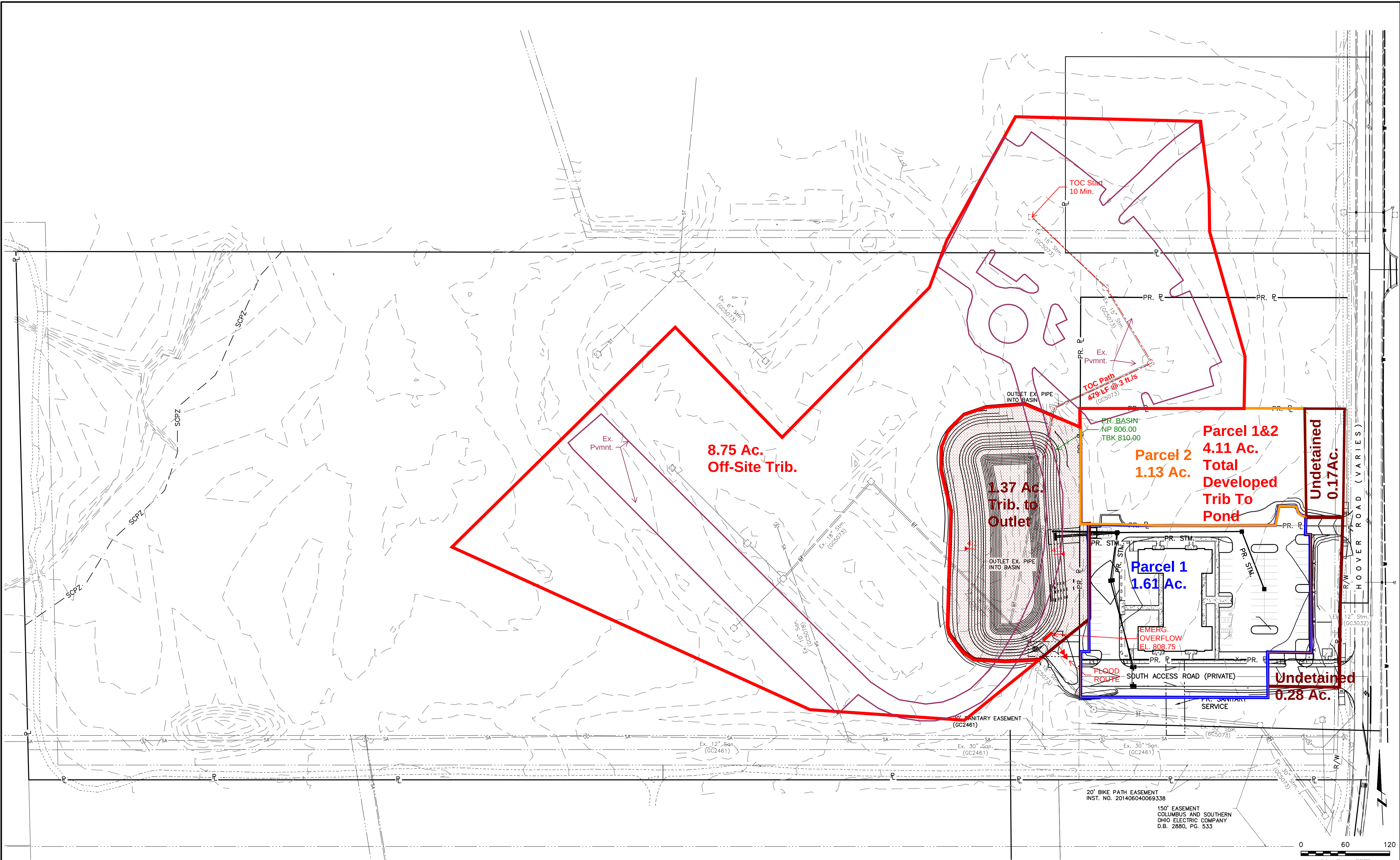


| REVISIONS |  |  |  | DATE | BY | CHK. |
|-----------|--|--|--|------|----|------|
|           |  |  |  |      |    |      |
|           |  |  |  |      |    |      |
|           |  |  |  |      |    |      |
|           |  |  |  |      |    |      |

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| REVISIONS |  |  |  | DATE | BY | CHK. |
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| <b>E. P. FERRIS</b><br>AND<br><b>ASSOCIATES</b><br>INC.<br><br>Consulting Civil Engineers and Surveyors | 880 KING AVENUE<br>COLUMBUS, OHIO 43212<br>(614) 299-2999<br>(614) 299-2992 (Fax)<br>www.EPFERRIS.com |
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| GROVE CITY, OHIO               |  |
| <b>SUBAREA A, B1, &amp; B2</b> |  |
| BBR VENTURES, LLC              |  |

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| JOB NO.      | 1163.002  |
| DESIGNED BY: | JLC       |
| DRAWN BY:    | JLC       |
| CHECKED BY:  | MJA       |
| APPROVED BY: |           |
| DATE:        | 4/27/2021 |

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| <b>SUBAREA PLAN (A, B1, &amp; B2)</b><br><b>UTILITY EXHIBIT</b> |  |
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| SCALE:<br>1" = 60' |    |
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