Washington Office

161040Indus Drive
Suite B
Woodbridge, VA 22191

p 703-216-9029
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Omni
Consulting Services

Feb 25, 2017

City of Allentown
Planning & Engineering Division
435 Hamilton Street
Allentown, PA 18101-1699

Re: 1738 Tilghman Street – LMA 2016-00009

Pursuant to your ordinances and requirements, we are submitting this letter as our written response to the comments for the proposed project.

As part of this package, we are attaching a Revised Hydrology report, Copy of the requested DEP Planning Module, copy of the approval from Lehigh Valley authority, and copy of the already submitted lot consolidation application.

If you have any question, please do not hesitate to call at your convenience.

Sincerely,

Peter Seckinger, PE
Principle

Omni Consulting Services, Inc.
a division of OMNI, INC.

ENGINEERING 610-437-7589:

1. All resubmissions must be accompanied with a written response to each comment referencing the appropriate plan revisions.

This has been Provided

2. As previously noted, provide evidence of approvals the Lehigh County Authority for water and sewer connections. Provide evidence of approval.

See attached Letter

3. A DEP sanitary sewer planning module will need to be prepared, executed by LCA and the City, and submitted to DEP.

This has been submitted to LCA for their review. See attached copy.

4. As previously noted, street trees shall be addressed as per the Shade Tree Commission review. Provide evidence of approval

The plans have been updated per the Commissions review.

5. Per the site plan, sheet #C3.0, the total disturbed area needs to include the work being done is the sidewalk area in the street right-of-way now that it has been depicted on the plans. If this value exceeds one acre, then the Erosion Control Plan, sheet #C5.0 will need to be submitted to the Lehigh County Soil Conservation District Office for their review and approval.
Note: LCCD shall be contacted to see if a permit determination meeting with them is required.

We are leaving some of the site alone and our total disturbed area including ALL of the work in the right of way equals less than one acre.

6. With respect to the Erosion Control Plan, sheet #C5.0 the following items shall be added:
   a. Soil types per the Lehigh County Soil Survey (MeA-made land.)
   b. Contact information for the plan preparer.

This information has been added to Sheets C2.0 and C5.0.

7. With respect to the Utility Plan, sheet #C6.0, the following items shall be addressed;
   a. The pipe material for the sanitary sewer lateral shall be revised to Schedule 40 PVC.
   b. We recommend that the designer consider another way to run the sanitary sewer lateral. It may be advisable to connect to an existing sanitary sewer on Tilghman Street.

This information has been added to Sheets C6.0. We discussed with LCA and no other route can be accomplished due to the many conflicts within the project area.

8. With respect to the stormwater calculations and other corresponding PCSM plans, the following items shall be addressed.
   a. Per item #6.4.4 of Table A-4 – indicate on the plans where the porous pavement within the Infiltration bed is being placed.

Was incorrectly marked on the sheet, corrected.

   b. Per the Infiltration Trench Outlet box trench details
      i. The plan view TG does not match the detail or chart elevation.
      ii. Elaborate as to why the height of the 25 year storm is higher that the calculated 100 year frequency storm event.
      iii. Provide a detail of the WQ device for the downstream end of the proposed 8"
      perforated PVC conduit.

All three of these items have been corrected on Sheet C4.0 and C4.1

9. Per section 1379.08 (A & B) of the City's SALDO, A 10' wide general utility, drainage, and access easement along the southern property line shall be provided.
    a. The access easement will provide a means for the owner of the neighboring building (addressed 602 N St. Cloud Street) access to maintain metal drainage conveyance gutter attached to the north wall.

This has been added to the Sheet C3.0

10. With respect to the Construction Details, sheet #C7.2, the following items shall be addressed;
    a. Re: Sanitary, frame and cover; manhole shall be marked, "City of Allentown".

This has been corrected on Sheet C7.1

11. As previously noted, upon completion and approval of the proposed land development improvements, provide an opinion of construction cost and a color site development plan indicating the proposed public improvements corresponding to the opinion of cost line items. Engineering did not receive this information.

This has been provided to Engineering and is included in the submittal package.

12. As previously noted, the engineering improvements cost estimate for land development escrow must provide at a minimum a 10% contingency cost, a 5% inspection fee, and a 2% as-built Plans and Profiles in AutoCAD format fee. Engineering did not receive this information.

This has been provided to Engineering and is included in the submittal package.

13. Upon completion of addressing all outstanding comments and at the time of record plan mylar signature by the City Engineer, provide three complete sets of signed and sealed land development plans stamped "FOR CONSTRUCTION" for the Engineering Department's use

Once the plans are approved, this will be provided to Engineering.

TRAFFIC 610-437-7735:

1. The designer should submit a response letter addressing all the traffic and lighting comments.

This has been included.

2. As previously stated the developer must submit the as-built lighting construction and electrical wiring diagram plans to City's traffic unit upon completion of the project for City's future references for maintenance. A note must be added committing to this on the general notes sheet C1-1.

Note has been added to C1.1

Traffic and Lighting Comments:

3. As indicated in a previous review letter, the developer must apply and obtain a Highway Occupancy Permit (HOP) for the proposed driveway opening on Tilghman Street. Provide a copy of the HOP to the City prior to mylar signature.

In process per the new design. We will provide once we receive.

4. As previously noted, the applicant must conduct and submit a Traffic Impact Study to evaluate present and future traffic and pedestrian impact surrounding intersections due to this development. Designer should conduct at least 9 – 12 hours manual traffic counts and analysis includes 5 year projection. Study must include the following intersections:

a. 18th Street and Tilghman Street S.R. 1002 (Un-Signalized intersection)
b. 17th Street and Tilghman Street S.R.. 1002 (Signalized intersection)
c. 19th Street and Tilghman Street S.R. 1002 (Signalized intersection)
d. 18th Street and proposed access
e. Tilghman Street S.R. 1002 and proposed access

Alternatively, if PennDOT accepts a TWLTL HOP design, a traffic study will not be required.

PennDOT has accepted our design as presented and by agreement, the city will not require a Traffic Study, so none was provided.

5. As previously required, show the existing striping that crosses N. 18th Street north of West Tilghman Street. This includes the crosswalks, stop bar and double yellow lines.

This has been completed. No other striping existing on site at 18th.

6. The designer has indicated 2 "pedestrian crossing" and "yield to pedestrian at crosswalk" signs at the development entrances. Please omit these at the entrances and instead provide the following on W. Tilghman Street. Provide a "pedestrian crossing" sign at each crossing of W. Tilghman Street. Provide "crosswalk ahead" signs at 100' feet in advance of both crosswalks on W. Tilghman Street.

We have added these as well as leave the other signs onsite as our legal department has indicated their desire to have these signs remain.

7. As previously noted, a two-way (Chevron) gore marking must be added south of the ordering island between the proposed drive thru spaces.

This was completed on the previous set and has been indicated again.

8. As previously stated, please contact Mr. Nelson Varughese at 610-437-7735 for the City's lighting standards specifications and details, these will be emailed to you. All lighting specification and details must be shown on the Sheet L.1.1. Also, one additional light is required on 18th Street just south of theW. Tilghman Street intersection.

This has been completed. We have added three lights onsite to cover the specifications for entrance lights.

ZONING 610-437-7630:

1. On the subdivision/lot consolidation plan, sheet 1 of 1, add a note that the properties are also located in the Traditional Neighborhood Development Overlay (TNDO) District.

This has been added.

2. On site plan C 3.0, show all required clear corner and driveway site triangles and adjust building if necessary (1311.06). Also, under Zoning Data, remove the note "variance requested".

This has been removed.

3. Show length of all building walls.

This has been added.

4. Place a note on the plan that a zoning application & sign package will be submitted at a later date.

Note has been added.

SHADE TREE 610-821-4252:

1. The Shade Tree Commission does not accept the tree layout as proposed. There is plenty of opportunity for trees to be laid out within the right-of-way. In effort to facilitate approval the commission recommends the following layout.

•Tilghman Street – 3 Princeton Elm Trees equally spaced 45-50' apart between the sidewalk and the property line, and centered between the limits of the clear sight triangle for the proposed driveway and 18th St. corner.

• 18th Street – 3 Princeton Sentry Gingko trees planted with 3' x 8' sidewalk pits along the curb line adjacent to the enlarged paved area of the west side of the proposed building. 3 additional Princeton Elm trees planted on the property line approx. 50' apart and centered within the lawn area between the proposed building and the proposed 18th street entrance.
•St. Cloud Street- 2 Princeton Sentry Gingko trees south of the proposed entrance within the lawn area adjacent to the sidewalk. These two trees should be identified on the record plan since they fall outside of the city Right-of-Way. Trees should be noted as "Subject to current and future rules and regulations of the City of Allentown Shade Tree Ordinance.

All of these trees have been added with the one exception to the third Ginkgo on 18th street. Overhead lines, underground utilities prohibit us from doing more than 2 as indicated on our site plan. We added one to the rear to accomidate the total number of tree requested.

2. Applicant shall include a tree planting detail(s) for the two planting applications.

Both details have been added to the Landscape Plan.

LEHIGH COUNTY AUTHORITY 1053 SPRUCE STREET • P.O. BOX 3348 • ALLENTOWN, PA 18106-0348
610-398-2503 • FAX 610-398-8413
email: service@lehighcountyauthority.org

October 25, 2016

Steve Neratko, Director of Planning
City of Allentown Planning Commission
435 Hamilton Street
Allentown, PA 18101

SUBJECT: Burger King
1738 West Tilghman Street
LCA Review #1

Dear Steve:

LCA (Lehigh County Authority) offers the following comments on the proposed public water and sewer service connection plan, dated July 26, 2016, last revised October 23, 2016, for 1738 West Tilghman Street Allentown, Pennsylvania, as shown on the plan titled "Final Plan for Burger King, Allentown, PA".

General

1. LCA is willing to provide public water and sewer service to the property.
2. A Plumbing and Fire Protection System Plan shall be submitted for review and to determine tapping fees. Refer to the Commercial/Industrial Water Meter and Fire Protection System Installation Policy located on the LCA website.
3. A water pressure booster or pressure reducing valve (PRV) system meeting LCA standards and local plumbing codes shall be installed after the backflow preventer if adequate pressures cannot be provided.
4. Developer is responsible for restoration.
5. According to the plans a water tap by LCA will not be required.
6. Contact LCA to schedule tapping of the sewer manhole. It will be the contractor's responsibility to tap the manhole according to LCA standards,

which will be provided. A LCA inspector must be present when the tap is made. This tap will be addressed under the LCA Construction Permit. A LCA Construction Permit and related fees are required prior to the start of any work.

7. The property owner is responsible for obtaining all necessary City or any other applicable permits. This includes a Penn DOT Highway Occupancy Permit, if applicable.
8. Shop drawings of the proposed water and sewer service lines and backflow preventers (both domestic and fire protection lines) must be submitted and approved by LCA prior to obtaining water service.
9. The type of backflow prevention assembly installed and maintained must be adequate for the degree of hazard present. All backflow prevention assemblies shall be approved by LCA prior to installation. A backflow/meter review must be completed by LCA prior to release of the meter.
10. The developer's plumbing designer shall provide the anticipated domestic water usage in order to size the meter. If the meter is inadequately sized based on actual usage, the owner shall bear the cost to replace the existing meter when notified by LCA of the meter's inadequacy.
11. Provide a fixture unit count for the proposed development.
12. It is the responsibility of the contractor to field verify all existing utilities.
13. The applicable distribution and capacity fees must be paid prior to obtaining water service. Provide a fixture unit count in order for LCA to properly size the water meter and calculate the applicable fees.

Comments

1. Any abandoned sanitary sewer laterals connecting to buildings that have been demolished on this site prior to new construction must be capped or sealed to prevent groundwater from entering the sanitary sewer. This would also apply to any unknown sanitary lateral pipes encountered while excavating.
2. Any abandoned water laterals shall be capped at the corporation stop to reduce the chance of leakage.
3. The City of Allentown shall be contacted in regards to a DEP Sewer Planning Module.
4. Tapping fees will be required.

a) Please provide us with a copy of the stamped approved building permit plans from the City of Allentown when available. These plans must be submitted directly from the applicant in a legible pdf format or by hard copy. Once this is provided, we can then confirm the final tapping fee amount. After that, you

may set up an appointment to meet with me at our main office at 1053 Spruce Road in Wescosville to make the total tap fee payment.

b) Once tapping fees are paid in full, we will alert the City of Allentown that they can issue any permits necessary for the modifications.

The following notes shall be added to the plan:

1. All water system construction shall conform to the "General Specifications for Water System Construction" of Lehigh County Authority (LCA) dated June 1976, or as amended.

2. Adequate horizontal and vertical separation shall be maintained between water, sanitary sewer and storm sewer lines in conformance with PA Department of Environmental Protection regulations.

3. Plumbing and fire protection system plans shall be submitted for LCA review and written approval of the proposed installation of meters, detector checks and backflow prevention devices prior to installation.

4. A minimum two (2)-hour 150 psi pressure test shall be performed on a water service lateral.

5. A ten (10)-foot minimum horizontal separation shall be maintained between LCA water lines and tree planting.

6. All water lines shall have a minimum of four (4) feet of cover.

7. The existing valve at the connection point to the water system may not pass a pressure test as required by LCA, NFPA or other agency for new construction. The developer shall bear the cost to repair or replace this valve to meet testing requirements.

8. Contact Lehigh County Authority Capital Works Department at (610) 398-2503 to schedule a proposed connection to/disconnection from the water system. A minimum of 3 business days' notice shall be given. Only Authority personnel shall operate valves in the water system.

9. The Lehigh County Authority Allentown Distribution and Collection Department (610-398-2503) must be notified at least 2 weeks prior to performing a high volume flush of the plumbing or fire protection system, a fire flow test or fire pump test.

10. The Lehigh County Authority Customer Service Department (610-437-7515) shall be notified to schedule an inspection of the meter setting prior to initiation of water service.

11. See plumbing and fire protection system plans for continuation of water service.

12. Megalugs shall be used to restrain mechanical joint fittings and field lock gaskets to restrain push-on joints within 40' of both horizontal and vertical bends in water lines 12" in diameter and smaller.

Please provide the applicable above mentioned items at your earliest convenience. If you have any further questions, feel free to contact me at 610-398-2503, x158, or via e-mail at jacobhunsicker@lehighcountyauthority.org.

Sincerely,

Jacob Hunsicker

Jacob Hunsicker
Capital Works Project Specialist

Cc: Ted Brennen – GPS Hospitality
Robert Argust - LCA

3850-FM-BCW0362A 6/2016

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

DEP Code #:

SEWAGE FACILITIES PLANNING MODULE
COMPONENT 4A - MUNICIPAL PLANNING AGENCY REVIEW

Note to Project Sponsor: To expedite the review of your proposal, one copy of your completed planning module package and one copy of this *Planning Agency Review Component* should be sent to the local municipal planning agency for their comments.

SECTION A. PROJECT NAME (See Section A of instructions)

Project Name Burger King - Allentown

SECTION B. REVIEW SCHEDULE (See Section B of instructions)

1. Date plan received by municipal planning agency 3/15/17
2. Date review completed by agency 4/12/17

SECTION C. AGENCY REVIEW (See Section C of instructions)

Yes	No		
☒	☐	1.	Is there a municipal comprehensive plan adopted under the Municipalities Planning Code (53 P.S. 10101, *et seq.*)?
☒	☐	2.	Is this proposal consistent with the comprehensive plan for land use?
			If no, describe the inconsistencies _____
☒	☐	3.	Is this proposal consistent with the use, development, and protection of water resources?
			If no, describe the inconsistencies _____
☒	☐	4.	Is this proposal consistent with municipal land use planning relative to Prime Agricultural Land Preservation?
☐	☒	5.	Does this project propose encroachments, obstructions, or dams that will affect wetlands?
			If yes, describe impacts _____
☐	☒	6.	Will any known historical or archaeological resources be impacted by this project?
			If yes, describe impacts _____
☐	☒	7.	Will any known endangered or threatened species of plant or animal be impacted by this project?
			If yes, describe impacts _____
☒	☐	8.	Is there a municipal zoning ordinance?
☒	☐	9.	Is this proposal consistent with the ordinance?
			If no, describe the inconsistencies _____
☐	☒	10.	Does the proposal require a change or variance to an existing comprehensive plan or zoning ordinance?
☒	☐	11.	Have all applicable zoning approvals been obtained?
☒	☐	12.	Is there a municipal subdivision and land development ordinance?

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

INSTRUCTIONS FOR COMPLETING COMPONENT 4A MUNICIPAL PLANNING AGENCY REVIEW

Remove and recycle these instructions prior to mailing component to the approving agency.

Background

This component, Component 4, is used to obtain the comments of planning agencies and/or health departments having jurisdiction over the project area. It is used in conjunction with other planning module components appropriate to the characteristics of the project proposed.

Who Should Complete the Component?

The component should be completed by any existing municipal planning agency, county planning agency, planning agency with areawide jurisdiction, and/or health department having jurisdiction over the project site. It is divided into sections to allow for convenient use by the appropriate agencies.

The project sponsor must forward copies of this component, along with supporting components and data, to the appropriate planning agency(ies) and health department(s) (if any) having jurisdiction over the development site. These agencies are responsible for responding to the questions in their respective sections of Component 4, as well as providing whatever additional comments they may wish to provide on the project plan. After the agencies have completed their review, the component will be returned to the applicant. The agencies have 60 days in which to provide comments to the applicant. If the agencies fail to comment within this 60 day period, the applicant may proceed to the next stage of the review without the comments. The use of registered mail or certified mail (return receipt requested) by the applicant when forwarding the module package to the agencies will document a date of receipt.

After receipt of the completed Component 4 from the planning agencies, or following expiration of the 60 day period without comments, the applicant must submit the entire component package to the municipality having jurisdiction over the project area for review and action. If approved by the municipality, the proposed plan, along with the municipal action, will be forwarded to the approving agency (Department of Environmental Protection or delegated local agency). The approving agency, in turn, will either approve the proposed plan, return it as incomplete, or disapprove the plan, based upon the information provided.

Instructions for Completing Planning Agency and/or Health Department Review Component

Section A. Project Name

Enter the project name as it appears on the accompanying sewage facilities planning module component (Component 2, 2m, 3, 3s or 3m).

Section B. Review Schedule

Enter the date the package was received by the reviewing agency, and the date that the review was completed.

Section C. Agency Review

1. Answer the yes/no questions and provide any descriptive information necessary on the lines provided. Attach additional sheets, if necessary.

2. Complete the name, title, and signature block.

Section D. Additional Comments

The Agency may provide whatever additional comment(s) it deems necessary, as described in the form. Attach additional sheets, if necessary.

SECTION C. AGENCY REVIEW (continued)

Yes	No		
☒	☐	13.	Is this proposal consistent with the ordinance? If no, describe the inconsistencies _____
☒	☐	14.	Is this plan consistent with the municipal Official Sewage Facilities Plan? If no, describe the inconsistencies _____
☐	☒	15.	Are there any wastewater disposal needs in the area adjacent to this proposal that should be considered by the municipality? If yes, describe _____
☐	☒	16.	Has a waiver of the sewage facilities planning requirements been requested for the residual tract of this subdivision?
☐	☐		If yes, is the proposed waiver consistent with applicable ordinances? If no, describe the inconsistencies

17. Name, title and signature of planning agency staff member completing this section:

Name: Steve Neratko

Title: Interim Director

Signature: [signature]

Date: 4/12/17

Name of Municipal Planning Agency: City of Allentown Planning and Zoning

Address 435 Hamilton St, Allentown, PA 18101

Telephone Number: (610) 435-7613

SECTION D. ADDITIONAL COMMENTS (See Section D of instructions)

This component does not limit municipal planning agencies from making additional comments concerning the relevancy of the proposed plan to other plans or ordinances. If additional comments are needed, attach additional sheets.

The planning agency must complete this component within 60 days.

This component and any additional comments are to be returned to the applicant.

LEHIGH COUNTY AUTHORITY 1053 SPRUCE STREET • P.O. BOX 3348 • ALLENTOWN, PA 18106-0348
610-398-2503 • FAX 610-398-8413
email: service@lehighcountyauthority.org

October 25, 2016

Steve Neratko, Director of Planning
City of Allentown Planning Commission
435 Hamilton Street
Allentown, PA 18101

SUBJECT: Burger King
1738 West Tilghman Street
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4. Developer is responsible for restoration.
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6. Contact LCA to schedule tapping of the sewer manhole. It will be the contractor's responsibility to tap the manhole according to LCA standards,

which will be provided. A LCA inspector must be present when the tap is made. This tap will be addressed under the LCA Construction Permit. A LCA Construction Permit and related fees are required prior to the start of any work.

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Comments

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may set up an appointment to meet with me at our main office at 1053 Spruce Road in Wescosville to make the total tap fee payment.

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Please provide the applicable above mentioned items at your earliest convenience. If you have any further questions, feel free to contact me at 610-398-2503, x158, or via e-mail at jacobhunsicker@lehighcountyauthority.org.

Sincerely,

Jacob Hunsicker
Capital Works Project Specialist

Cc: Ted Brennen – GPS Hospitality
Robert Argust - LCA

LVPC
Lehigh Valley Planning Commission

LIESEL DREISBACH
Chair

STEPHEN REPASCH
Vice Chair

JOHN DIACOGIANNIS
Treasurer

BECKY A. BRADLEY, AICP
Executive Director

Planning for the Future of Lehigh and Northampton Counties at 961 Marcon Blvd., Ste 310, Allentown, PA 18109 ■ (610) 264-4544 ■ lvpc@lvpc.org ■ www.lvpc.org

April 6, 2017

Mr. Tom Daniel, CEO
Omni Consulting
401 Westpark Court, Suite 200
Peachtree City, GA 30269

Re: ***Act 537 Review - Sewage Facilities Planning Module for the Burger King Land Development in the City of Allentown, Lehigh County, DEP Code No. 2-3900193-3***

Dear Mr. Daniel:

The Lehigh Valley Planning Commission (LVPC) reviewed the above-referenced planning module pursuant to the requirements of Act 537, the Pennsylvania Sewage Facilities Act. We offer the following comments.

This sewage facilities planning module is intended for a proposed commercial development on 0.9573 acres. The development is proposed to be served by public sewage disposal. This planning module is consistent with the county comprehensive plan. According to the county plan, the proposed development is located in an area recommended for public sewer service.

Enclosed please find an executed Module Component 4b. Please call me if you have any questions regarding this review.

Sincerely,

Susan L. Rockwell
Senior Environmental Planner

Enclosure

cc: Steve Neratko, Chief Planner, City of Allentown
Robert Corby, PA Department of Environmental Protection

3800-FM-BPNPSM0362B 1/2013

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

DEP Code #
2-3900193-3

SEWAGE FACILITIES PLANNING MODULE
COMPONENT 4B - COUNTY PLANNING AGENCY REVIEW
(or Planning Agency with Areawide Jurisdiction)

Note to Project Sponsor: To expedite the review of your proposal, one copy of your completed planning package and one copy of this ***Planning Agency Review Component*** should be sent to the existing county planning agency or planning agency with areawide jurisdiction for their comments.

SECTION A. PROJECT NAME (See Section A of instructions)

Project Name

Burger King (Tilghman Street)

SECTION B. REVIEW SCHEDULE (See Section B of instructions)

1. Date plan received by county planning agency. ----

2. Date plan received by planning agency with areawide jurisdiction April 4, 2017

   Agency name Lehigh Valley Planning Commission

3. Date review completed by agency April 6, 2017

SECTION C. AGENCY REVIEW (See Section C of instructions)

Yes	No		
☒	☐	1.	Is there a county or areawide comprehensive plan adopted under the Municipalities Planning Code (53 P.S. 10101 *et seq.*)?
☒	☐	2.	Is this proposal consistent with the comprehensive plan for land use? See attached Act 247 Review letter dated 8/17/16
☒	☐	3.	Does this proposal meet the goals and objectives of the plan?
			If no, describe goals and objectives that are not met ----
☒	☐	4.	Is this proposal consistent with the use, development, and protection of water resources?
			If no, describe inconsistency ----
☒	☐	5.	Is this proposal consistent with the county or areawide comprehensive land use planning relative to Prime Agricultural Land Preservation?
			If no, describe inconsistencies: ----
☐	☒	6.	Does this project propose encroachments, obstructions, or dams that will affect wetlands?
			If yes, describe impact ----
☐	☒	7.	Will any known historical or archeological resources be impacted by this project?
			If yes, describe impacts ----.
☐	☒	8.	Will any known endangered or threatened species of plant or animal be impacted by the development project?
☐	☒	9.	Is there a county or areawide zoning ordinance?
☐	☐	10.	Does this proposal meet the zoning requirements of the ordinance? N/A
			If no, describe inconsistencies ----

Yes	No	SECTION C. AGENCY REVIEW (continued)
☐	☐	11. Have all applicable zoning approvals been obtained? N/A
☒	☐	12. Is there a county or areawide subdivision and land development ordinance? Not applicable to City of Allentown
☐	☐	13. Does this proposal meet the requirements of the ordinance? N/A
		If no, describe which requirements are not met ----
☐	☐	14. Is this proposal consistent with the municipal Act 537 Official Sewage Facilities Plan? See municipal interpretation
		If no, describe inconsistency ----
☐	☒	15. Are there any wastewater disposal needs in the area adjacent to this proposal that should be considered by the municipality?
		If yes, describe ----
☐	☐	16. Has a waiver of the sewage facilities planning requirements been requested for the residual tract of this subdivision? N/A
☐	☐	If yes, is the proposed waiver consistent with applicable ordinances.
		If no, describe the inconsistencies ----
☒	☐	17. Does the county have a stormwater management plan as required by the Stormwater Management Act?
☐	☒	If yes, will this project plan require the implementation of storm water management measures?
		18. Name, Title and signature of person completing this section:
		Name: Susan L. Rockwell
		Title: Senior Environmental Planner Signature: S L Rockwell
		Date: April 6, 2017
		Name of County or Areawide Planning Agency: Lehigh Valley Planning Commission
		Address: 961 Marcon Blvd, Suite 310, Allentown PA 18109
		Telephone Number: 610-264-4544

SECTION D. ADDITIONAL COMMENTS (See Section D of instructions)

This Component does not limit county planning agencies from making additional comments concerning the relevancy of the proposed plan to other plans or ordinances. If additional comments are needed, attach additional sheets.

The county planning agency must complete this Component within 60 days.

This Component and any additional comments are to be returned to the applicant.

LVPC
Lehigh Valley Planning Commission

LIESEL DREISBACH
Chair

STEPHEN REPASCH
Vice Chair

JOHN DIACOGIANNIS
Treasurer

BECKY A. BRADLEY, AICP
Executive Director

Planning for the Future of Lehigh and Northampton Counties at 961 Marcon Blvd., Ste 310, Allentown, PA 18109 ■ (610) 264-4544 ■ lvpc@lvpc.org ■ www.lvpc.org

August 17, 2016

Mr. Steve Neratko, Planning Director
City of Allentown
City Hall, 435 Hamilton Street
Allentown, Pennsylvania 18101

RE: Burger King (Tilghman Street) – Land Development Plan
City of Allentown
Lehigh County

Dear Mr. Neratko:

The subject application is consistent with the County Comprehensive Plan. The proposed development supports the County Plan's city and borough related policy to "[p]romote reuse of properties that are considered under utilized or under valued" (p. 47).

Our transportation review for this project yielded the following findings:

- The regional Comprehensive Plan recommends a Traffic Impact Study be prepared and reviewed for projects that equal or exceed 1,500 ADT and/or are located within a congested corridor. This project exceeds the 1,500 count threshold and is listed as both a current and future congested corridor. Accordingly, the LVPC strongly recommends that a TIS be prepared and reviewed to assure congestion relief improvements are considered and implemented.
- The Applicant/City should work with LANta to design and provide for appropriate corridors between the facility entrance and current transit stop(s).
- The City should strongly encourage a non-corporate building design that embraces the gateway offered at the intersection of Tilghman and 18th Street and that complements the 19th Street Theater District redevelopment occurring nearby.
- At least 3 curb cuts currently exist (2 on Tilghman and 1 on 18th Street). The LVPC supports the proposal to reduce this to 2 cuts and further supports the alignment which locates them further from the Tilghman and 18th Street intersection. The City may wish to look at counts related to Utica Street to determine whether the 18th Street access should be located opposite the Utica Street ingress/egress.

The City and applicant should be advised of two project that are planned for the immediate vicinity. They include:

- MPMS #102155 15th Street Corridor signal improvements from Hamilton Street to Tilghman Street estimated to begin construction in 2017.
- MPMS #101488 Tilghman Street Resurfacing from Front Street to 10th Street estimated to begin construction in 2016.

Our review does not include an in-depth examination of the plan relative to subdivision design standards or ordinance requirements since these items are covered in the municipal review.

Feel free to call me if you have any questions about this review.

Sincerely,

John von Kerczek
Senior Community Planner

cc: Craig Messinger, PE, City of Allentown
Peter Seckinger, PE, Omni Group, Inc.

3800-FM-BPNPSM0353 Rev. 2/2015
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Code No.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

SEWAGE FACILITIES PLANNING MODULE

Component 3. Sewage Collection and Treatment Facilities

(Return completed module package to appropriate municipality)

DEP USE ONLY				
DEP CODE #	CLIENT ID #	SITE ID #	APS ID #	AUTH ID #

This planning module component is used to fulfill the planning requirements of Act 537 for the following types of projects: (1) a subdivision to be served by sewage collection, conveyance or treatment facilities, (2) a tap-in to an existing collection system with flows on a lot of 2 EDU's or more, or (3) the construction of, or modification to, wastewater collection, conveyance or treatment facilities that will require DEP to issue or modify a Clean Streams Law permit. Planning for any project that will require DEP to issue or modify a permit cannot be processed by a delegated agency. Delegated agencies must send their projects to DEP for final planning approval.

This component, along with any other documents specified in the cover letter, must be completed and submitted to the municipality with jurisdiction over the project site for review and approval. All required documentation must be attached for the Sewage Facilities Planning Module to be complete. Refer to the instructions for help in completing this component.

REVIEW FEES: Amendments to the Sewage Facilities Act established fees to be paid by the developer for review of planning modules for land development. These fees may vary depending on the approving agency for the project (DEP or delegated local agency). Please see section R and the instructions for more information on these fees.

NOTE: All projects must complete Sections A through I, and Sections O through R. Complete Sections J, K, L, M and/or N if applicable or marked ☒.

A. PROJECT INFORMATION (See Section A of instructions)

1. Project Name Burger King - Allentown

2. Brief Project Description Construct a new Burger King Restaurant at the intersection of 18th and Tilghman Road. Provisions of a public sanitary sewer laterial connection

B. CLIENT (MUNICIPALITY) INFORMATION (See Section B of instructions)

Municipality Name	County	City	Boro	Twp
City of Allentown	Lehigh	☒	☐	☐

Municipality Contact Individual - Last Name	First Name	MI	Suffix	Title
Hanion	Michael			City Clerk
Additional Individual Last Name	First Name	MI	Suffix	Title

Municipality Mailing Address Line 1	Mailing Address Line 2
435 Hamilton Street	

Address Last Line -- City	State	ZIP+4
Allentown	PA	18101

Area Code + Phone + Ext.	FAX (optional)	Email (optional)
(610) 437-7539		

C. SITE INFORMATION (See Section C of instructions)

Site (Land Development or Project) Name
Burger King - Allentown

Site Location Line 1	Site Location Line 2			
1738 West Tilghman				
Site Location Last Line -- City	**State**	**ZIP+4**	**Latitude**	**Longitude**
Allentown	PA	18102	40.605	-75.498

Detailed Written Directions to Site The site is located in the S.E. Intersection of W. Tilghman St. and N. 18th St.

Description of Site Site is currently an unoccupied car sales lot. It is currently fully paved and will be developed into a free standing BK Restaurant with its associated parking.

Site Contact (Developer/Owner)

Last Name	First Name	MI	Suffix	Phone	Ext.
Brennen	Ted			770-712-3000	

Site Contact Title	Site Contact Firm (if none, leave blank)
Project Manager	
FAX	Email
	ted.brennen@gpshospitality.com
Mailing Address Line 1	Mailing Address Line 2
2100 Riveredge Parkway	Suite 850
Mailing Address Last Line -- City	State ZIP+4
Atlanta	GA 30328

D. PROJECT CONSULTANT INFORMATION (See Section D of instructions)

Last Name	First Name	MI	Suffix
Brennen	Ted		
Title	Consulting Firm Name		
Project Manager			
Mailing Address Line 1	Mailing Address Line 2		
2100 Riveredge Parkway	Suite 850		
Address Last Line – City	State ZIP+4	Country	
Atlanta	GA 30328	USA	
Email	Area Code + Phone Ext.	Area Code + FAX	
ted.brennen@gpshospitality.com	770-312-3000		

E. AVAILABILITY OF DRINKING WATER SUPPLY

The project will be provided with drinking water from the following source: (Check appropriate box)

☐ Individual wells or cisterns.

☐ A proposed public water supply.

☒ An existing public water supply.

If existing public water supply is to be used, provide the name of the water company and attach documentation from the water company stating that it will serve the project.

Name of water company: _____

F. PROJECT NARRATIVE (See Section F of instructions)

☒ A narrative has been prepared as described in Section F of the instructions and is attached.

The applicant may choose to include additional information beyond that required by Section F of the instructions.

G. PROPOSED WASTEWATER DISPOSAL FACILITIES (See Section G of instructions)

Check all boxes that apply, and provide information on collection, conveyance and treatment facilities and EDU's served. This information will be used to determine consistency with Chapter 93 (relating to wastewater treatment requirements).

1. **COLLECTION SYSTEM**

a. Check appropriate box concerning collection system

☐ New collection system ☐ Pump Station ☐ Force Main

☐ Grinder pump(s) ☒ Extension to existing collection system ☐ Expansion of existing facility

Clean Streams Law Permit Number _____

b. Answer questions below on collection system

Number of EDU's and proposed connections to be served by collection system. EDU's 5

Connections 1

Name of:

existing collection or conveyance system City of Allentown - 18th Street

owner City of Allentown

existing interceptor Jordon Creek Interceptor

owner City of Allentown

2. **WASTEWATER TREATMENT FACILITY**

Check all boxes that apply, and provide information on collection, conveyance and treatment facilities and EDU's served. This information will be used to determine consistency with Chapter(s) 91 (relating to general provisions), 92 (relating to national Pollution Discharge Elimination System permitting, monitoring and compliance) and 93 (relating to water quality standards).

a. Check appropriate box and provide requested information concerning the treatment facility

☐ New facility ☒ Existing facility ☐ Upgrade of existing facility ☐ Expansion of existing facility

Name of existing facility Kline Island Waste Water Treatment Plant

NPDES Permit Number for existing facility 2600

Clean Streams Law Permit Number _____

Location of discharge point for a new facility. Latitude 403607 Longitude 752709

b. The following certification statement must be completed and signed by the wastewater treatment facility permitee or their representative.

As an authorized representative of the permittee, I confirm that the City of Allentown (Name from above) sewage treatment facilities can accept sewage flows from this project without adversely affecting the facility's ability to achieve all applicable technology and water quality based effluent limits (see Section I) and conditions contained in the NPDES permit identified above.

Name of Permittee Agency, Authority, Municipality City of Allentown-Lehigh County Authority- Agent

Name of Responsible Agent Liesel M. Gross

Agent Signature _____ Date _____

(Also see Section I. 4.)

G. PROPOSED WASTEWATER DISPOSAL FACILITIES (Continued)

3. PLOT PLAN

The following information is to be submitted on a plot plan of the proposed subdivision.

a. Existing and proposed buildings.
b. Lot lines and lot sizes.
c. Adjacent lots.
d. Remainder of tract.
e. Existing and proposed sewerage facilities. Plot location of discharge point, land application field, spray field, COLDS, or LVCOLDS if a new facility is proposed.
f. Show tap-in or extension to the point of connection to existing collection system (if applicable).
g. Existing and proposed water supplies and surface water (wells, springs, ponds, streams, etc.)
h. Existing and proposed rights-of-way.
i. Existing and proposed buildings, streets, roadways, access roads, etc.
j. Any designated recreational or open space area.
k. Wetlands - from National Wetland Inventory Mapping and USGS Hydric Soils Mapping.
l. Flood plains or Flood prone areas, floodways, (Federal Flood Insurance Mapping)
m. Prime Agricultural Land.
n. Any other facilities (pipelines, power lines, etc.)
o. Orientation to north.
p. Locations of all site testing activities (soil profile test pits, slope measurements, permeability test sites, background sampling, etc. (if applicable).
q. Soils types and boundaries when a land based system is proposed.
r. Topographic lines with elevations when a land based system is proposed

4. WETLAND PROTECTION

	YES	NO	
a.	☐	☒	Are there wetlands in the project area? If yes, ensure these areas appear on the plot plan as shown in the mapping or through on-site delineation.
b.	☐	☒	Are there any construction activities (encroachments, or obstructions) proposed in, along, or through the wetlands? If yes, Identify any proposed encroachments on wetlands and identify whether a General Permit or a full encroachment permit will be required. If a full permit is required, address time and cost impacts on the project. Note that wetland encroachments should be avoided where feasible. Also note that a feasible alternative **MUST BE SELECTED** to an identified encroachment on an exceptional value wetland as defined in Chapter 105. Identify any project impacts on streams classified as HQ or EV and address impacts of the permitting requirements of said encroachments on the project.

5. PRIME AGRICULTURAL LAND PROTECTION

YES	NO	
☐	☒	Will the project involve the disturbance of prime agricultural lands? If yes, coordinate with local officials to resolve any conflicts with the local prime agricultural land protection program. The project must be consistent with such municipal programs before the sewage facilities planning module package may be submitted to DEP. If no, prime agricultural land protection is not a factor to this project.
☐	☐	Have prime agricultural land protection issues been settled?

6. HISTORIC PRESERVATION ACT

YES	NO	
☐	☐	Sufficient documentation is attached to confirm that this project is consistent with DEP Technical Guidance 012-0700-001 *Implementation of the PA State History Code* (available online at the DEP website at www.dep.state.pa.us, select "subject" then select "technical guidance"). As a minimum this includes copies of the completed Cultural Resources Notice

(CRN), a return receipt for its submission to the PHMC and the PHMC review letter.

7. **PROTECTION OF RARE, ENDANGERED OR THREATENED SPECIES**

Check one:

☒ The "Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Receipt" resulting from my search of the PNDI database and all supporting documentation from jurisdictional agencies (when necessary) is/are attached.

☐ A completed "Pennsylvania Natural Diversity Inventory (PNDI) Project Planning & Environmental Review Form," (PNDI Form) available at www.naturalheritage.state.pa.us , and all required supporting documentation is attached. I request DEP staff to complete the required PNDI search for my project. I realize that my planning module will be considered incomplete upon submission to the Department and that the DEP review will not begin, and that processing of my planning module will be delayed, until a "PNDI Project Environmental Review Receipt" and all supporting documentation from jurisdictional agencies (when necessary) is/are received by DEP.

Applicant or Consultant Initials _____.

H. ALTERNATIVE SEWAGE FACILITIES ANALYSIS (See Section H of instructions)

☒ An alternative sewage facilities analysis has been prepared as described in Section H of the attached instructions and is attached to this component.

The applicant may choose to include additional information beyond that required by Section H of the attached instructions.

I. COMPLIANCE WITH WATER QUALITY STANDARDS AND EFFLUENT LIMITATIONS (See Section I of instructions) (Check and complete all that apply.)

1. **Waters designated for Special Protection**

☐ The proposed project will result in a new or increased discharge into special protection waters as identified in Title 25, Pennsylvania Code, Chapter 93. The Social or Economic Justification (SEJ) required by Section 93.4c. is attached.

2. **Pennsylvania Waters Designated As Impaired**

☐ The proposed project will result in a new or increased discharge of a pollutant into waters that DEP has identified as being impaired by that pollutant. A pre-planning meeting was held with the appropriate DEP regional office staff to discuss water quality based discharge limitations.

3. **Interstate and International Waters**

☐ The proposed project will result in a new or increased discharge into interstate or international waters. A pre-planning meeting was held with the appropriate DEP regional office staff to discuss effluent limitations necessary to meet the requirements of the interstate or international compact.

4 **Tributaries To The Chesapeake Bay**

☐ The proposed project result in a new or increased discharge of sewage into a tributary to the Chesapeake Bay. This proposal for a new sewage treatment facility or new flows to an existing facility includes total nitrogen and total phosphorus in the following amounts: _____ pounds of TN per year, and _____ pounds of TP per year. Based on the process design and effluent limits, the total nitrogen treatment capacity of the wastewater treatment facility is _____ pounds per year and the total phosphorus capacity is _____ pounds per year as determined by the wastewater treatment facility permitee. The permitee has determined that the additional TN and TP to be contributed by this project (as modified by credits and/or offsets to be provided) will not cause the discharge to exceed the annual total mass limits for these parameters. Documentation of compliance with nutrient allocations is attached.

Name of Permittee Agency, Authority, Municipality _____

Initials of Responsible Agent (See Section G 2.b) _____

See *Special Instructions* (Form 3800-FM-BPNPSM0353-1) for additional information on Chesapeake Bay watershed requirements.

☐ J. CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 900 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

   When providing "treatment facilties" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

   a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.

   b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.

   c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

   To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	Peak	Average	Peak	Average	Peak
Collection						
Conveyance						
Treatment						

3. Collection and Conveyance Facilities

   The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

   YES NO

   a. ☐ ☒ This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

   If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

   If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

   b. Collection System

   Name of Agency, Authority, Municipality City of Allentown - LeHigh County Authority, Agent

   Name of Responsible Agent Liesel M. Gross

   Agent Signature _____ Date _____

☐ J. CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality City of Allentown - Lehigh County Authority - Agent

Name of Responsible Agent Liesel M. Gross

Agent Signature _____

Date _____

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

	YES	NO	
a.	☐	☒	This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

b. Name of Agency, Authority, Municipality City of Allentown - Lehigh County Authority - Agent

Name of Responsible Agent Liesel M. Gross

Agent Signature _____

Date _____

☐ K. TREATMENT AND DISPOSAL OPTIONS (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may **NOT** receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

☐ 1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.

☐ 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.

☐ 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.

☐ 4 A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

☐ L. PERMEABILITY TESTING (See Section L of instructions)

☐ The information required in Section L of the instructions is attached.

☐ M. PRELIMINARY HYDROGEOLOGIC STUDY (See Section M of instructions)

☐ The information required in Section M of the instructions is attached.

☐ N. DETAILED HYDROGEOLOGIC STUDY (See Section N of instructions)

☐ The detailed hydrogeologic information required in Section N. of the instructions is attached.

O. SEWAGE MANAGEMENT (See Section O of instructions)

(1-3 for completion by the developer(project sponser), 4-5 for completion by the non-municipal facility agent and 6 for completion by the municipality)

Yes No

1. ☐ ☒ Is connection to, or construction of, a DEP permitted, non-municipal sewage facility or a local agency permitted, community onlot sewage facility proposed.

If Yes, respond to the following questions, attach the supporting analysis, and an evaluation of the options available to assure long-term proper operation and maintenance of the proposed non-municipal facilities. If No, skip the remainder of Section O.

2. Project Flows 900 gpd

Yes No

3. ☐ ☒ Is the use of nutrient credits or offsets a part of this project?

If yes, attach a letter of intent to puchase the necessary credits and describe the assurance that these credits and offsets will be available for the remaining design life of the non-municipal sewage facility;

(For completion by non-municipal facility agent)

4. Collection and Conveyance Facilities

The questions below are to be answered by the organization/individual responsible for the non-municipal collection and conveyance facilities. The individual(s) signing below must be legally authorized to make representation for the organization.

Yes No

a. ☐ ☐ If this project proposes sewer extensions or tap-ins, will these actions create a hydraulic overload on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until this issue is resolved.

If no, a representative of the organization responsible for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with Chapter 71 §71.53(d)(3) and that this proposal will not affect that status.

b. Collection System
Name of Responsible Organization _____
Name of Responsible Agent _____
Agent Signature _____
Date _____

c. Conveyance System
Name of Responsible Organization _____
Name of Responsible Agent _____
Agent Signature _____
Date _____

5. Treatment Facility

The questions below are to be answered by a representative of the facility permittee. The individual signing below must be legally authorized to make representation for the organization.

	Yes	No	
a.	☐	☐	If this project proposes the use of an existing non-municipal wastewater treatment plant for the disposal of sewage, will this action create a hydraulic or organic overload at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this issue is resolved.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with §71.53(d)(3) and that this proposal will not impact that status.

b. Name of Facility _____

Name of Responsible Agent _____

Agent Signature _____

Date _____

(For completion by the municipality)

6. ☐ The **SELECTED OPTION** necessary to assure long-term proper operation and maintenance of the proposed non-municipal facilities is clearly identified with documentation attached in the planning module package.

P. PUBLIC NOTIFICATION REQUIREMENT (See Section P of instructions)

This section must be completed to determine if the applicant will be required to publish facts about the project in a newspaper of general circulation to provide a chance for the general public to comment on proposed new land development projects. This notice may be provided by the applicant or the applicant's agent, the municipality or the local agency by publication in a newspaper of general circulation within the municipality affected. Where an applicant or an applicant's agent provides the required notice for publication, the applicant or applicant's agent shall notify the municipality or local agency and the municipality and local agency will be relieved of the obligation to publish. The required content of the publication notice is found in Section P of the instructions.

To complete this section, each of the following questions must be answered with a "yes" or "no". Newspaper publication is required if any of the following are answered "yes".

	Yes	No	
1.	☐	☒	Does the project propose the construction of a sewage treatment facility ?
2.	☐	☒	Will the project change the flow at an existing sewage treatment facility by more than 50,000 gallons per day?
3.	☐	☒	Will the project result in a public expenditure for the sewage facilities portion of the project in excess of $100,000?
4.	☐	☒	Will the project lead to a major modification of the existing municipal administrative organizations within the municipal government?
5.	☐	☒	Will the project require the establishment of *new* municipal administrative organizations within the municipal government?
6.	☐	☒	Will the project result in a subdivision of 50 lots or more? (onlot sewage disposal only)
7.	☐	☒	Does the project involve a major change in established growth projections?
8.	☐	☒	Does the project involve a different land use pattern than that established in the municipality's Official Sewage Plan?

P. PUBLIC NOTIFICATION REQUIREMENT cont'd. (See Section P of instructions)

9. ☐ ☒ Does the project involve the use of large volume onlot sewage disposal systems (Flow > 10,000 gpd)?
10. ☐ ☒ Does the project require resolution of a conflict between the proposed alternative and consistency requirements contained in §71.21(a)(5)(i), (ii), (iii)?
11. ☐ ☒ Will sewage facilities discharge into high quality or exceptional value waters?

☐ Attached is a copy of:
- ☐ the public notice,
- ☐ all comments received as a result of the notice,
- ☐ the municipal response to these comments.

☐ No comments were received. A copy of the public notice is attached.

Q. FALSE SWEARING STATEMENT (See Section Q of instructions)

I verify that the statements made in this component are true and correct to the best of my knowledge, information and belief. I understand that false statements in this component are made subject to the penalties of 18 PA C.S.A. §4904 relating to unsworn falsification to authorities.

Ted Brennen	
Name (Print)	Signature
Project Manager	
Title	Date
2100 Riveredge Parkway, Suite 850, Atlanta, GA 30328	770-712-3000
Address	Telephone Number

R. REVIEW FEE (See Section R of instructions)

The Sewage Facilities Act establishes a fee for the DEP planning module review. DEP will calculate the review fee for the project and invoice the project sponsor **OR** the project sponsor may attach a self-calculated fee payment to the planning module prior to submission of the planning package to DEP. (Since the fee and fee collection procedures may vary if a "delegated local agency" is conducting the review, the project sponsor should contact the "delegated local agency" to determine these details.) Check the appropriate box.

☐ I request DEP calculate the review fee for my project and send me an invoice for the correct amount. I understand DEP's review of my project will not begin until DEP receives the correct review fee from me for the project.

☒ I have calculated the review fee for my project using the formula found below and the review fee guidance in the instructions. I have attached a check or money order in the amount of $250.00 payable to "Commonwealth of PA, DEP". Include DEP code number on check. I understand DEP will not begin review of my project unless it receives the fee and determines the fee is correct. If the fee is incorrect, DEP will return my check or money order, send me an invoice for the correct amount. I understand DEP review will NOT begin until I have submitted the correct fee.

☐ I request to be exempt from the DEP planning module review fee because this planning module creates **only** one new lot and is the **only** lot subdivided from a parcel of land as that land existed on December 14, 1995. I realize that subdivision of a second lot from this parcel of land shall disqualify me from this review fee exemption. I am furnishing the following deed reference information in support of my fee exemption.

County Recorder of Deeds for LeHigh County, Pennsylvania

Deed Volume _____ Book Number _____

Page Number _____ Date Recorded _____

R. REVIEW FEE (continued)

Formula:

1. For a new collection system (with or without a Clean Streams Law Permit), a collection system extension, or individual tap-ins to an existing collection system use this formula.

   #5_____ Lots (or EDUs) X $50.00 = $ 250_____

   The fee is based upon:

   - The number of lots created or number of EDUs whichever is higher.
   - For community sewer system projects, one EDU is equal to a sewage flow of 400 gallons per day.

2. For a surface or subsurface discharge system, use the appropriate one of these formulae.

   A. A new surface discharge greater than 2000 gpd will use a flat fee:

   $ 1,500 per submittal (non-municipal)
   $ 500 per submittal (municipal)

   B. An increase in an existing surface discharge will use:

   #_____ Lots (or EDUs) X $35.00 = $ _____

   to a maximum of $ 1,500 per submittal (non-municipal) or $ 500 per submittal (municipal)

   The fee is based upon:

   - The number of lots created or number of EDUs whichever is higher.
   - For community sewage system projects one EDU is equal to a sewage flow of 400 gallons per day.
   - For non-single family residential projects, EDUs are calculated using projected population figures

   C. A sub-surface discharge system that requires a permit under The Clean Streams Law will use a flat fee:

   $ 1,500 per submittal (non-municipal)
   $ 500 per submittal (municipal)

STORMWATER CALCULATIONS
(Site Plan)

Burger King Restaurant – Allentown, PA
Tilghman Ave.

Rev Feb. 2017

Prepared By:

Omni Consulting Services, Inc.
16104 Indus Drive
Woodbridge, VA 22191

Project No. 16206.00

1.1 EXISTING CONDITIONS

The existing site is an abandoned car dealership lot and small building. The site is completely impervious and drains in a northwestern direction and divides into two separate drop inlets located on site. These drop inlets both drain into the public MS4 system located on 18th Street then into the MS4 system located in the center of Tilghman Avenue.

The entire site will be demolished and removed leaving only the shared area vacated by Utica Street on the Eastern portion adjacent to North St. Cloud and the existing Bike Shop.
For purposes of this study, we have divide the site into two separate sub basins to adequately study the pre-and post-development characteristics and implement the Post Construction Storm Water Management devices for each sub basin.

Basin 1 of the BK site drains to the NW and is 0.376 acres in size. It drains into an existing drop inlet with a 15" outlet pipe draining directly into the MS4 system on 18th street. The entire basin is impervious with a CN of 98.
Basin 2 drains westerly to a drop inlet located along the western boundary of the site near 18th Street. The runoff is conveyed from the inlet with an 18" outlet pipe connected to the City's drainage system. The basin has is 0.698 acres in size and is totally impervious with a CN of 98.

The pre-developed peak runoff rates were calculated using the SCS Method. Rainfall was taken from Tables in the Pennsylvania Storm water BMP Manual. A five (5) minute will be used for onsite pipe design.
The runoff rates were determined using SCS methodology as calculated using HydroCAD Software. The backup information for the site is attached. The table that follows provides the results from the analysis.

Existing Peak Rates for Basin 1 and 2 are as follows:

Basin	2 Yr. /24 hr. (cfs)	25 yr. /24hr. (cfs)	100 yr. /24hr. (cfs)
1	1.40	2.61	3.52
2	2.60	4.84	6.54
Total	4.00	7.45	10.06

Phase I – Existing Conditions

Onsite – Basin 1

a. Existing Conditions

Total Area = 0.376 acres
Hydrologic Soil Group: **A**

GROUND COVER	AREA (acres)	CN-Factor	Composite CN
Pavement	0.376	98	**98**
Grass (Fair Condition)	0.00	79	**0**
COMPOSITE	0.376		**98**

Overall CN = 98
Tc = 5 min.

Onsite – Basin 2

a. Existing Conditions

Total Area = 0.698 acres
Hydrologic Soil Group: **A**

GROUND COVER	AREA (acres)	CN-Factor	Composite CN
Pavement	0.698	98	**98**
Grass (Fair Condition)	0.00	79	**0**
COMPOSITE	0.698		**98**

Overall CN = 98
Tc = 5 min.

1.2 POST-DEVELOPMENT CONDITIONS

The proposed development project will consist of a new Burger King Restaurant and its associated parking areas, storm drain system, utilities and newly created landscape areas. The new project will encompass 0.973 acres of the overall 1.0744 total site.
A result of this re-development will be the reduction of the impervious area by 0.237 acres. This reduction reduces the peak runoff rates below those of the predevelopment rates. Attenuation is achieved by reducing the impervious area by 22%. The existing discharge points will be maintained by the new project. The new development site impervious area is 75.64%. Furthermore, we will maintain the existing flow patterns for Site, as well as, add two "Infiltration" trenches for Water Quality treatment.

Water Quality Volume

The site improvements will include two treatment areas. The water quality volume is calculated as follows:

Basin No. 1

$WQ_v = (C \times P \times A)/12$

C= 0.79

P= 100-88 = 12%

A= 0.376 Ac.

WQ_v = .003 ac ft. (129 cf)

Basin No. 2

WQ_v = .0044 ac ft (193 cf)

The primary water quality volume will be provided by two ponds with trench basin infiltration trenches. Recovery will be obtained very quickly with onsite infiltration rates at 4 in/hr. Pond slopes will be grassed to provide a ground cover that will be facilitate maintenance and improve operations.

Basin	WQ_v Required (cf)	WQ_v Provided (cf)
1	129	200
2	193	500

Developed Conditions

b. ***Onsite-Basin 1***
Total Area = 0.709 acres
Hydrologic Soil Group: **A**

GROUND COVER	AREA (acres)	CN-Factor	Composite CN
Pavement	0.569	98	**55.76**
Grass (Fair Condition)	0.14	49	**6.86**
COMPOSITE	0.709		**88**

- Overall CN = 88
- Tc = 5.0 min

b. ***Onsite-Basin 2***
Total Area = 0.363 acres
Hydrologic Soil Group: **A**

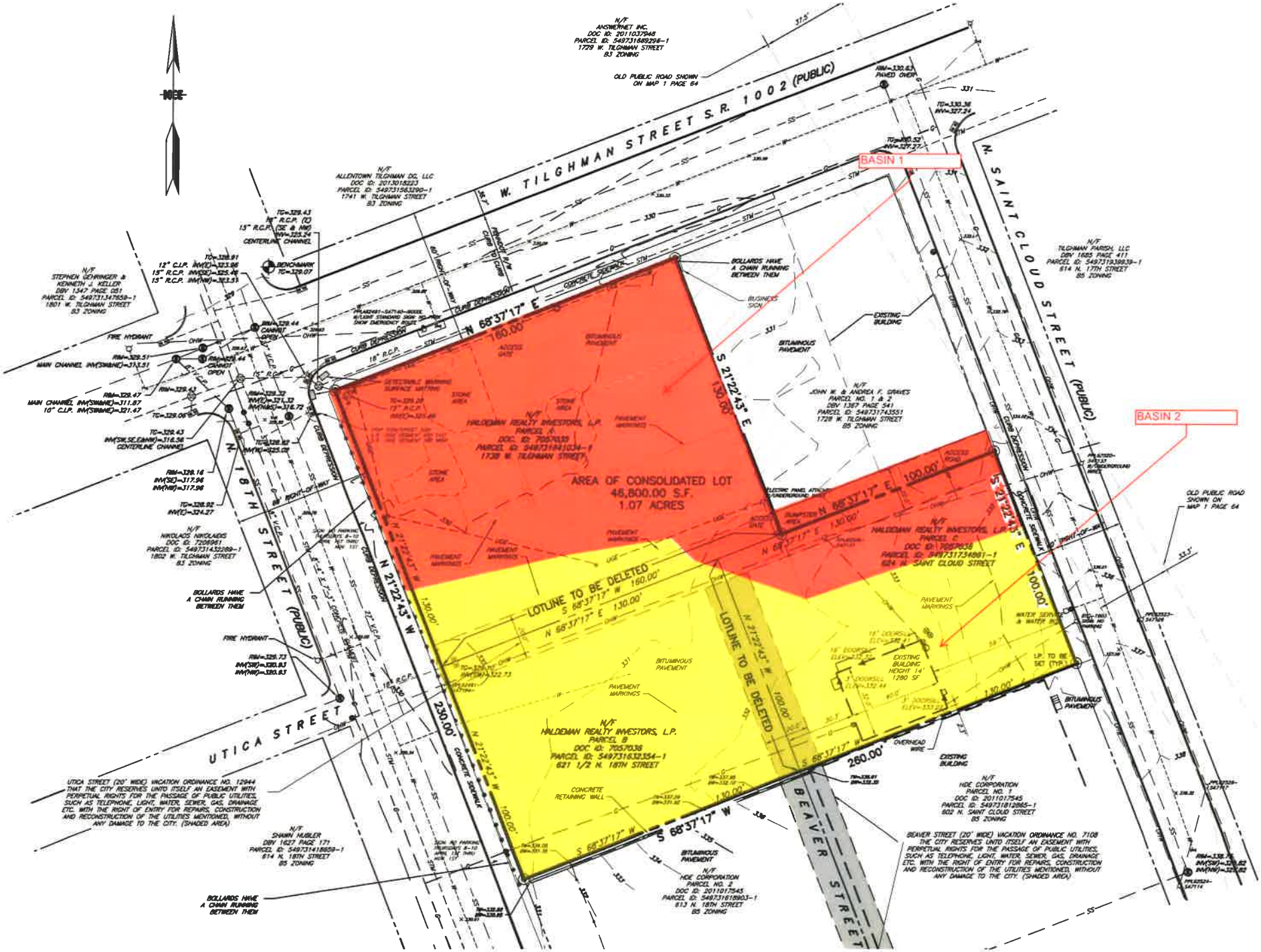
GROUND COVER	AREA (acres)	CN-Factor	Composite CN
Pavement	0.266	98	**26.06**
Grass (Fair Condition)	0.097	49	**4.753**
COMPOSITE	0.363		**85**

- Overall CN = 88
- Tc = 5.0 min

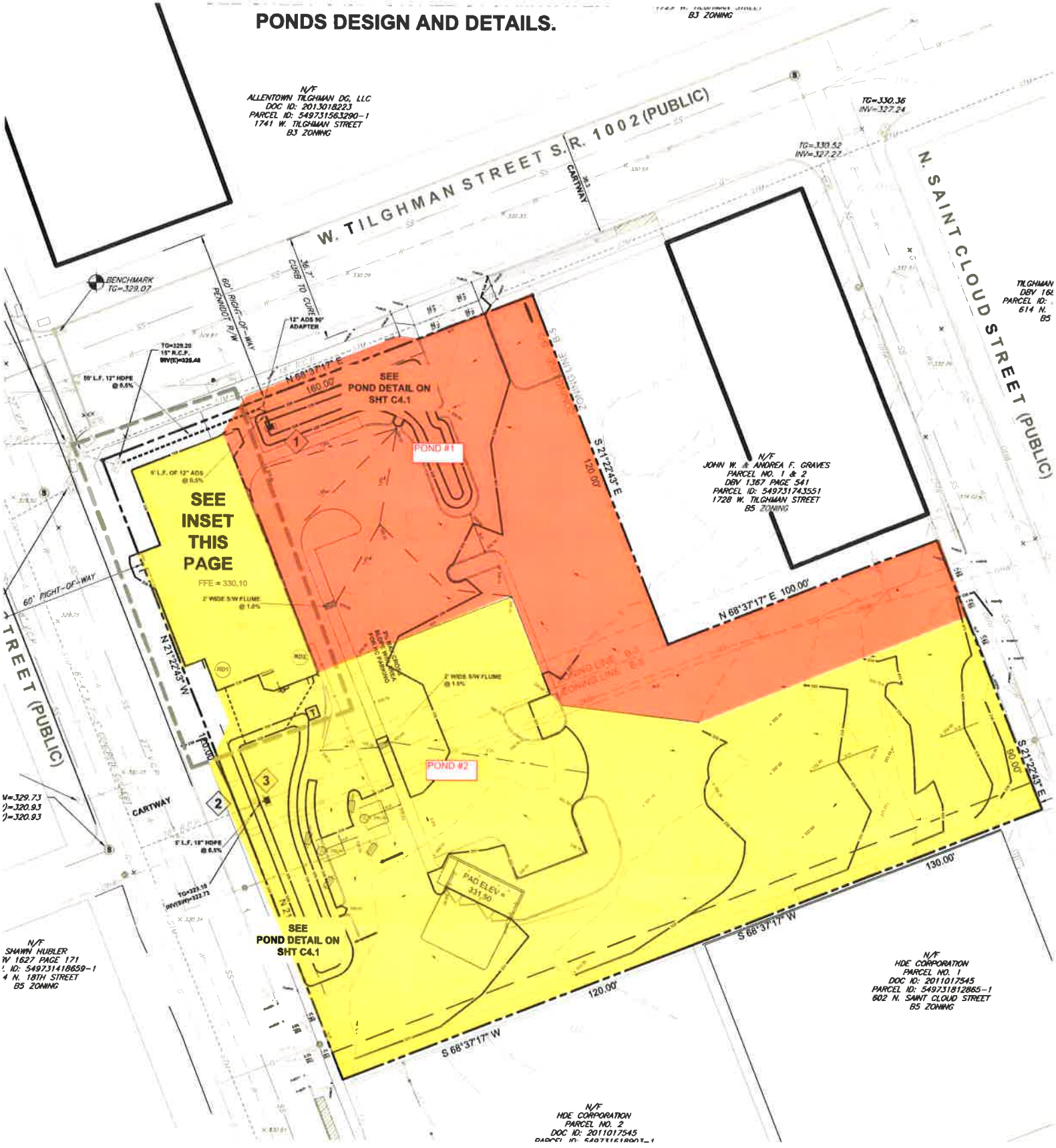
Pre vs. Post Storm Water Flow Summary

Storm	Existing Flow Rates @ Property Line (cfs) **TOTAL SITE**	Developed Flow Rates @ Property Line (cfs) **TOTAL SITE**	**TOTAL DIFFERENCE**
2-yr	4.00	2.54	**-1.46**
25-yr	7.55	5.92	**-1.63**
100-yr	10.06	8.25	**-1.81**

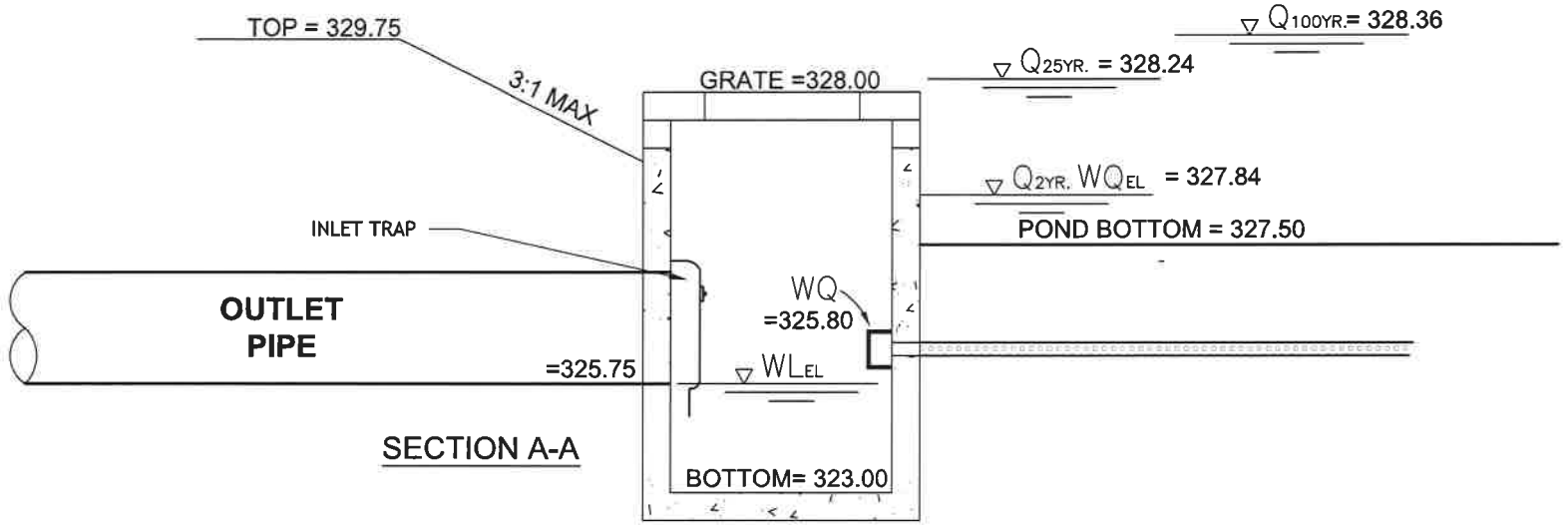
BASIN MAPS


W. TILGHMAN STREET S.R. 1002 (PUBLIC)
N. SAINT CLOUD STREET (PUBLIC)
N. 18TH STREET (PUBLIC)
UTICA STREET
BEAVER STREET
BASIN 1
BASIN 2
AREA OF CONSOLIDATED LOT
46,800.00 S.F.
1.07 ACRES
LOTLINE TO BE DELETED
N 68°37'17" E 160.00'
S 21°22'43" E 130.00'
N 21°22'43" W 230.00'
S 68°37'17" W 260.00'
N/F HALDEMAN REALTY INVESTORS, L.P. PARCEL A DOC ID: 7057035 PARCEL ID: 549731841034-1 1738 W. TILGHMAN STREET
N/F HALDEMAN REALTY INVESTORS, L.P. PARCEL B DOC ID: 7057036 PARCEL ID: 549731632354-1 621 1/2 N. 18TH STREET
N/F HALDEMAN REALTY INVESTORS, L.P. PARCEL C DOC ID: 7057038 PARCEL ID: 549731734061-1 624 N. SAINT CLOUD STREET
N/F ANSWERNET INC. DOC ID: 2011037948 PARCEL ID: 549731685256-1 1779 W. TILGHMAN STREET B3 ZONING
N/F ALLENTOWN TILGHMAN DG, LLC DOC ID: 2013018223 PARCEL ID: 549731563290-1 1741 W. TILGHMAN STREET B3 ZONING
N/F STEPHEN UEHRINGER & KENNETH J. KELLER DBV 1347 PAGE 051 PARCEL ID: 549731347650-1 1801 W. TILGHMAN STREET B3 ZONING
N/F TILGHMAN PARISH, LLC DBV 1685 PAGE 411 PARCEL ID: 549731939939-1 614 N. 17TH STREET B5 ZONING
N/F JOHN W. & ANDREA F. GRAVES PARCEL NO. 1 & 2 DBV 1367 PAGE 541 PARCEL ID: 549731743551 1728 W. TILGHMAN STREET B5 ZONING
N/F NIKOLAOS NIKOLAIDIS DOC ID: 7206961 PARCEL ID: 549731432289-1 1802 W. TILGHMAN STREET B3 ZONING
N/F SHAWN HUBLER DBV 1627 PAGE 171 PARCEL ID: 549731418659-1 614 N. 18TH STREET B5 ZONING
N/F HDE CORPORATION PARCEL NO. 1 DOC ID: 20110117545 PARCEL ID: 549731812865-1 602 N. SAINT CLOUD STREET B5 ZONING
N/F HDE CORPORATION PARCEL NO. 2 DOC ID: 20110117545 PARCEL ID: 549731618903-1 613 N. 18TH STREET B5 ZONING
OLD PUBLIC ROAD SHOWN ON MAP 1 PAGE 64
BOLLARDS HAVE A CHAIN RUNNING BETWEEN THEM
EXISTING BUILDING
BITUMINOUS PAVEMENT
CONCRETE RETAINING WALL
FIRE HYDRANT
UTICA STREET (20' WIDE) VACATION ORDINANCE NO. 12944 THAT THE CITY RESERVES UNTO ITSELF AN EASEMENT WITH PERPETUAL RIGHTS FOR THE PASSAGE OF PUBLIC UTILITIES, SUCH AS TELEPHONE, LIGHT, WATER, SEWER, GAS, DRAINAGE ETC. WITH THE RIGHT OF ENTRY FOR REPAIRS, CONSTRUCTION AND RECONSTRUCTION OF THE UTILITIES MENTIONED, WITHOUT ANY DAMAGE TO THE CITY. (SHADED AREA)
BEAVER STREET (20' WIDE) VACATION ORDINANCE NO. 7108 THE CITY RESERVES UNTO ITSELF AN EASEMENT WITH PERPETUAL RIGHTS FOR THE PASSAGE OF PUBLIC UTILITIES, SUCH AS TELEPHONE, LIGHT, WATER, SEWER, GAS, DRAINAGE ETC. WITH THE RIGHT OF ENTRY FOR REPAIRS, CONSTRUCTION AND RECONSTRUCTION OF THE UTILITIES MENTIONED, WITHOUT ANY DAMAGE TO THE CITY. (SHADED AREA)

PONDS DESIGN AND DETAILS.



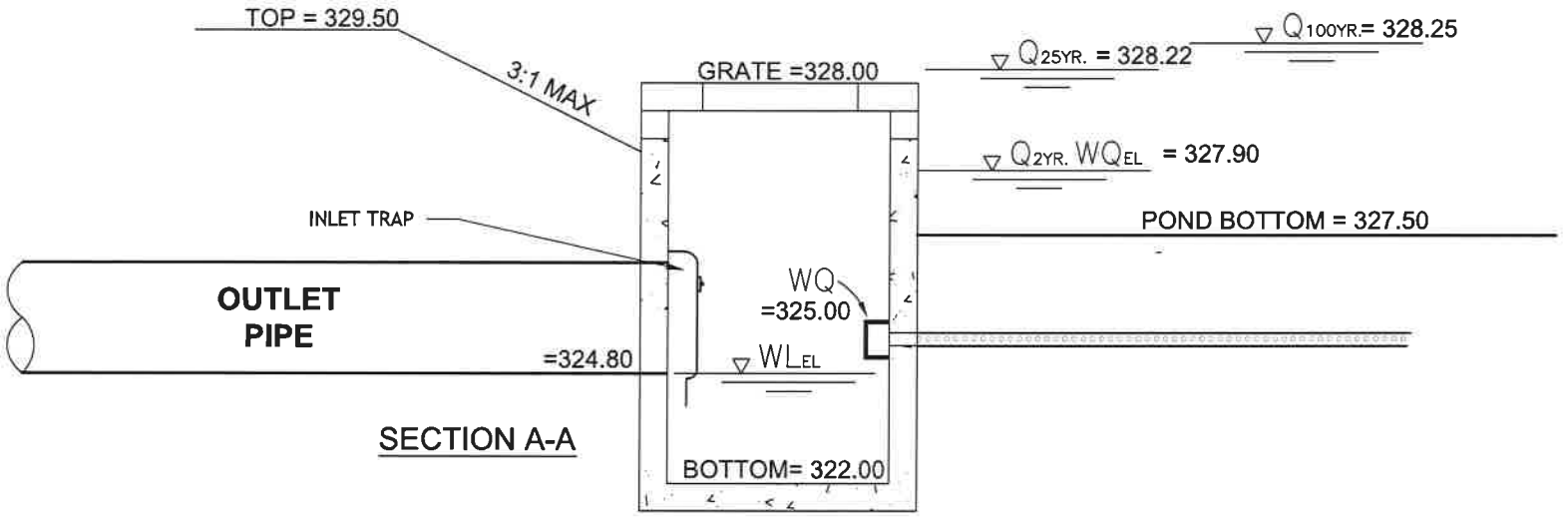
MISC. EXHIBITS



3
4.1

OUTLET BOX POND "1" DETAIL

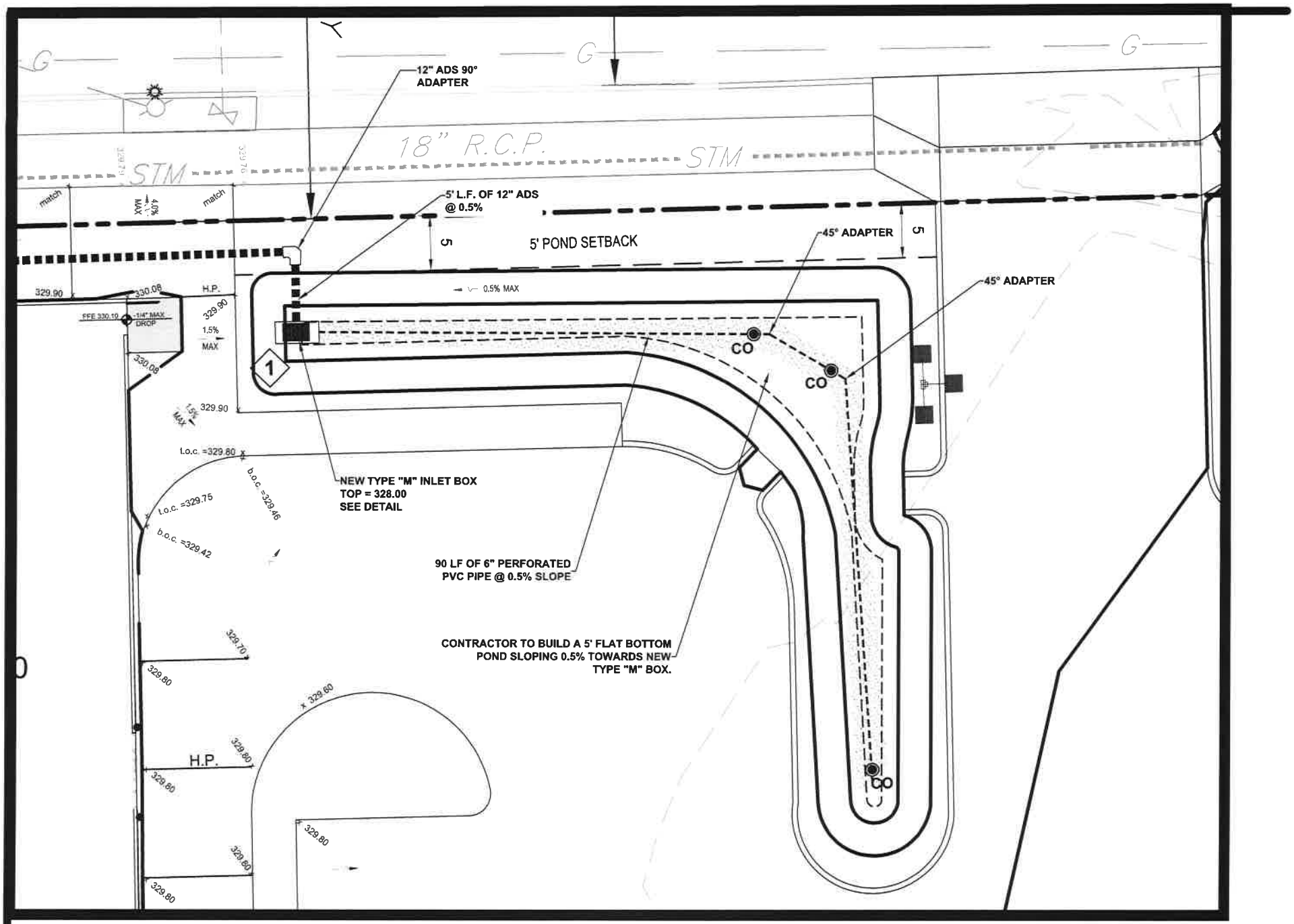
N.T.S.



4
4.1

OUTLET BOX POND "2" DETAIL

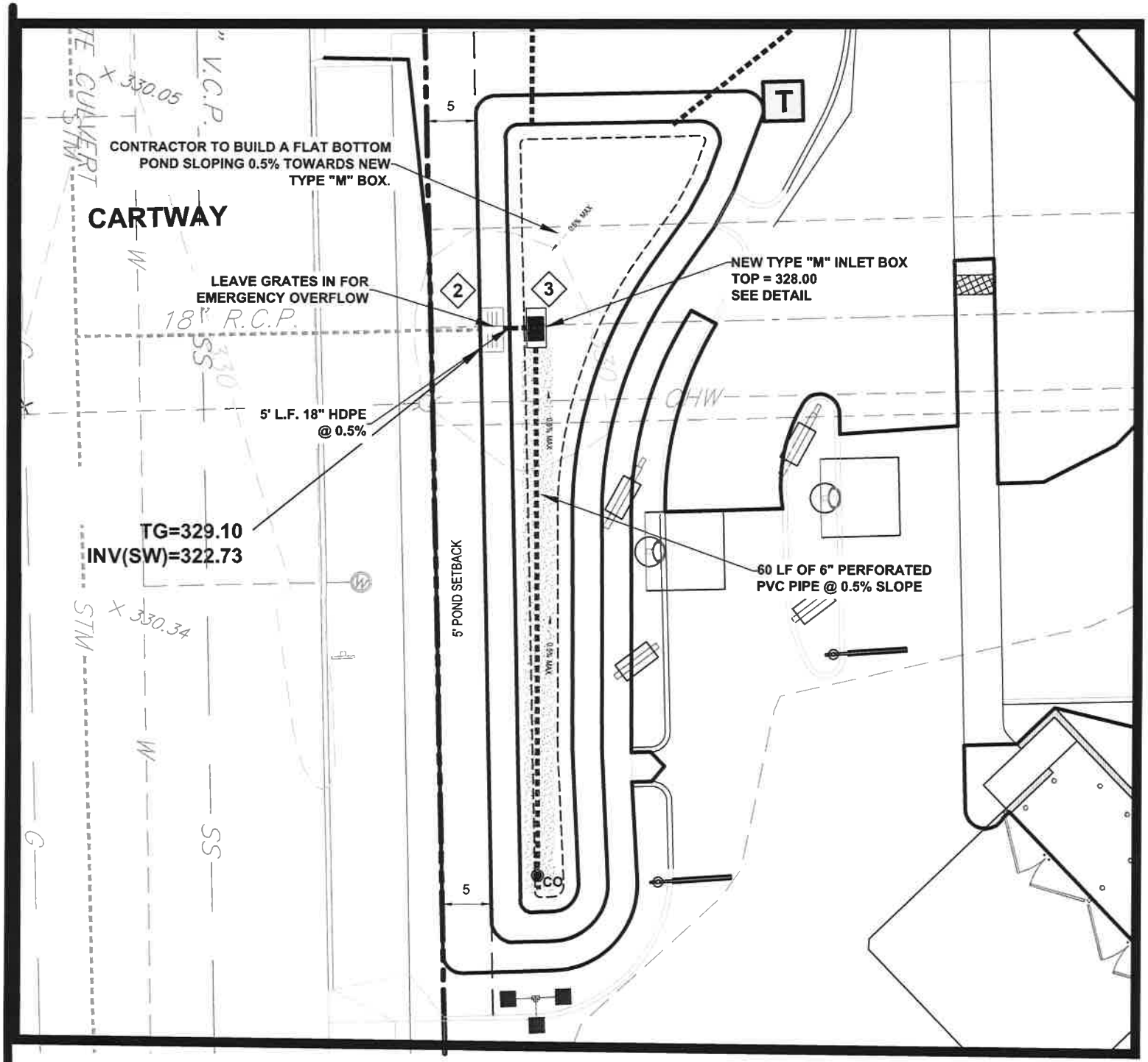
N.T.S.



BIOFILTRATION/BIORETENTION POND #1

1
4.1

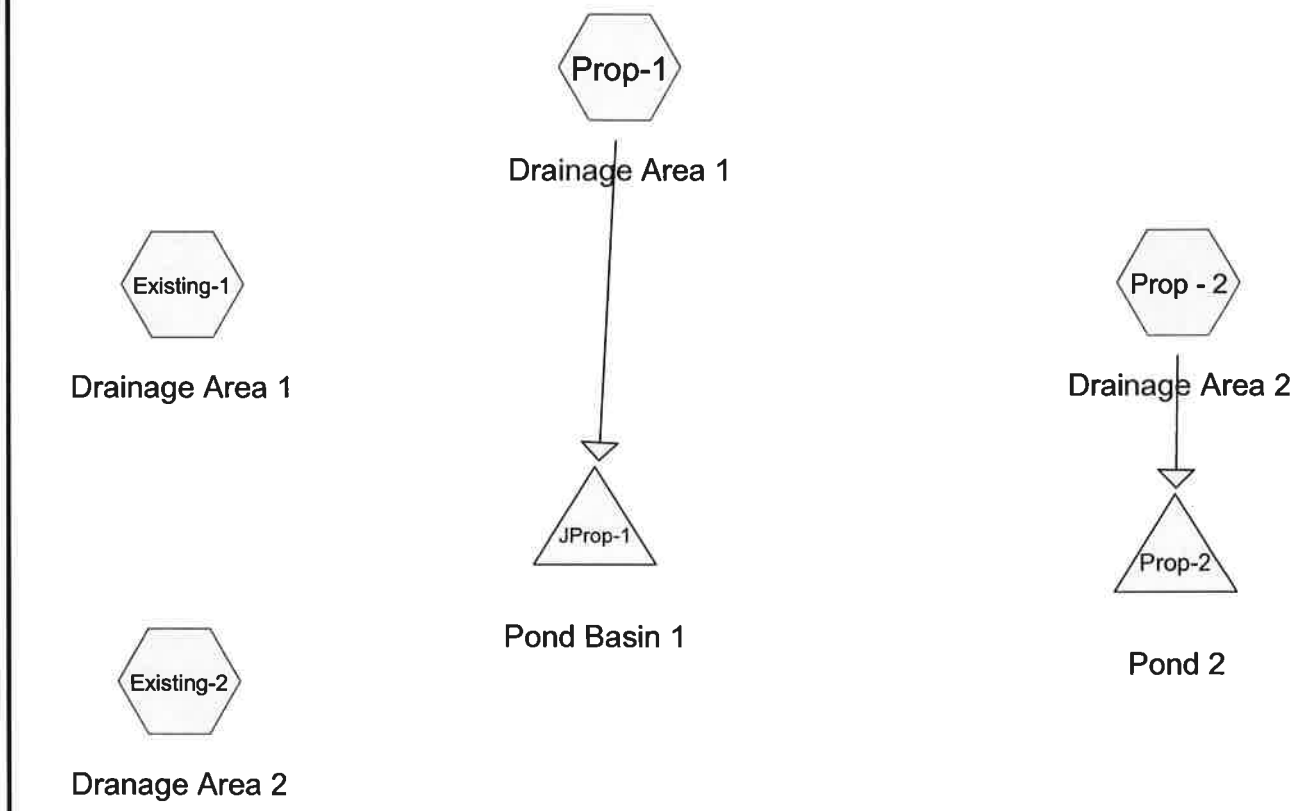
SCALE: 1" = 10'-0"



2
4.1

BIOFILTRATION/BIORETENTION POND #2

SCALE: 1" = 10'-0"



Subcat Reach Pond Link

Routing Diagram for Allentown 10-21-16
Prepared by {enter your company name here}, Printed 3/9/2017

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.263	49	50-75% Grass cover, Fair, HSG A (Prop - 2, Prop-1)
0.486	98	Paved parking, HSG A (Prop-1)
1.394	98	Water Surface, HSG A (Existing-1, Existing-2, Prop - 2)
2.143	**92**	**TOTAL AREA**

Summary for Subcatchment Existing-1: Drainage Area 1

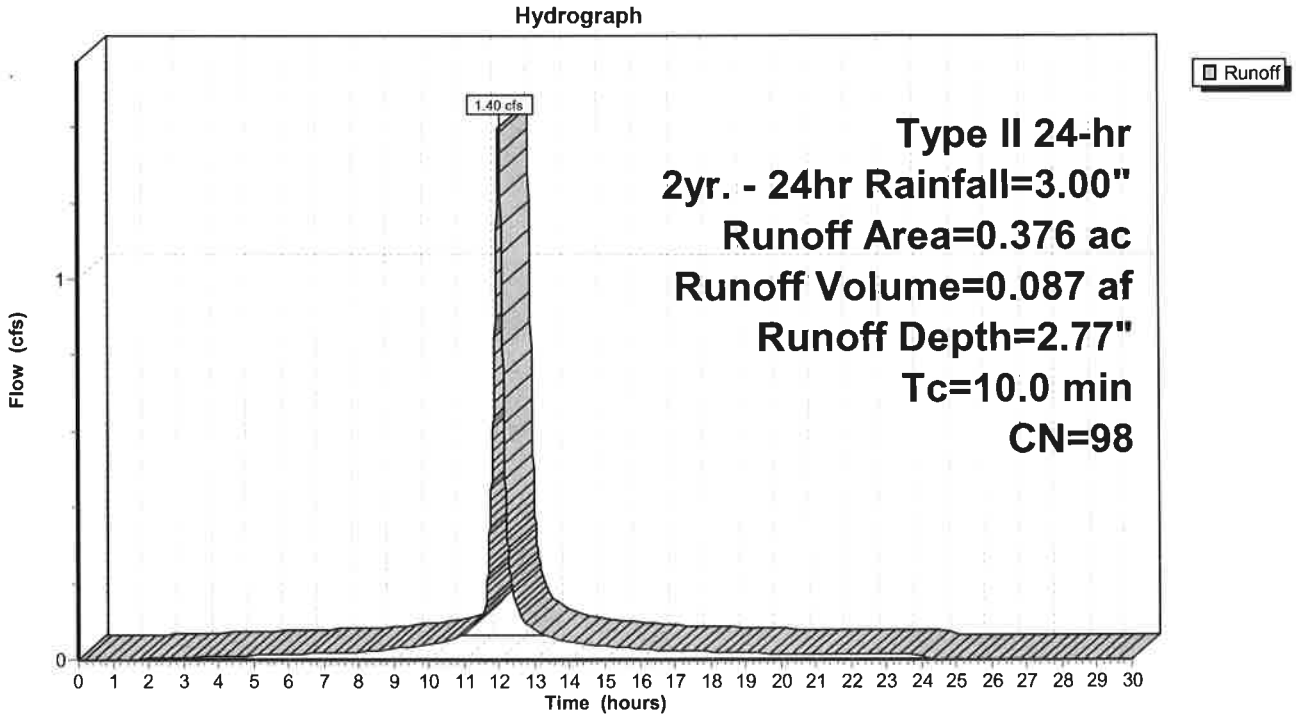
Runoff = 1.40 cfs @ 12.01 hrs, Volume= 0.087 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 2yr. - 24hr Rainfall=3.00"

Area (ac)	CN	Description
0.376	98	Water Surface, HSG A
0.376		100.00% Impervious Area

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

Subcatchment Existing-1: Drainage Area 1



Summary for Subcatchment Existing-2: Dranage Area 2

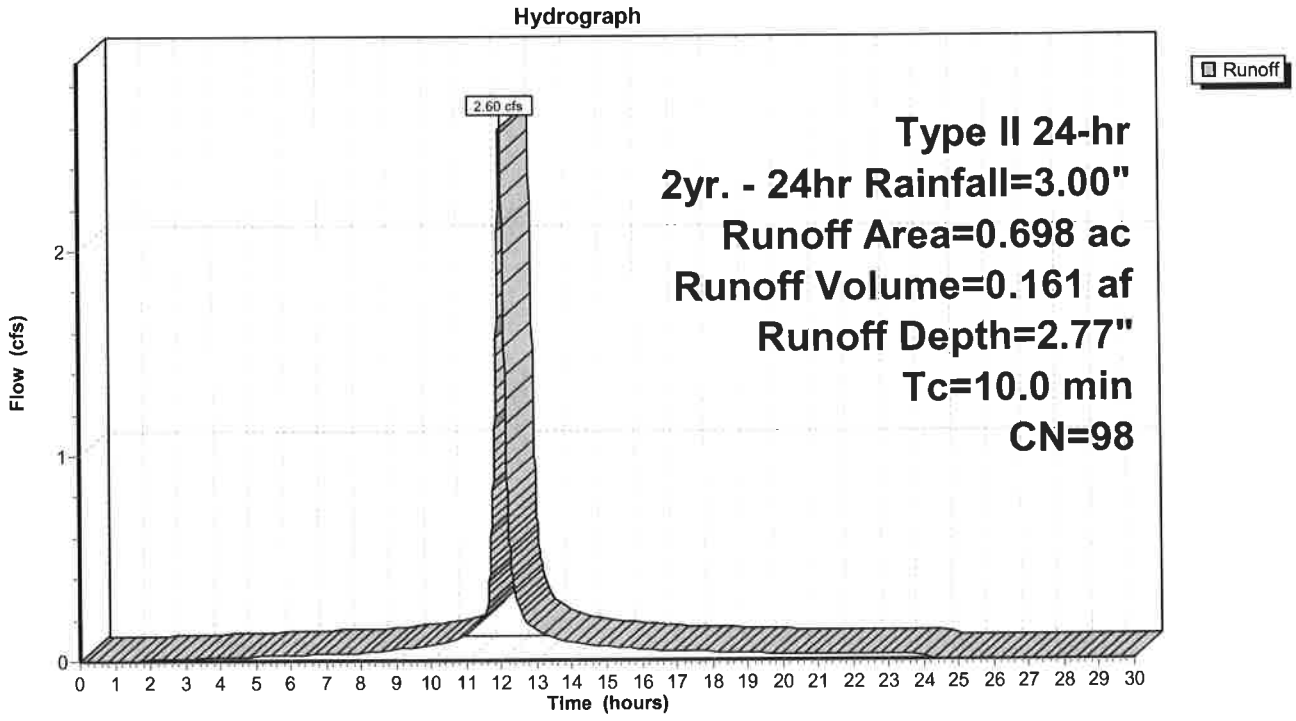
Runoff = 2.60 cfs @ 12.01 hrs, Volume= 0.161 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 2yr. - 24hr Rainfall=3.00"

Area (ac)	CN	Description
0.698	98	Water Surface, HSG A
0.698		100.00% Impervious Area

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

Subcatchment Existing-2: Dranage Area 2



Summary for Subcatchment Prop - 2: Drainage Area 2

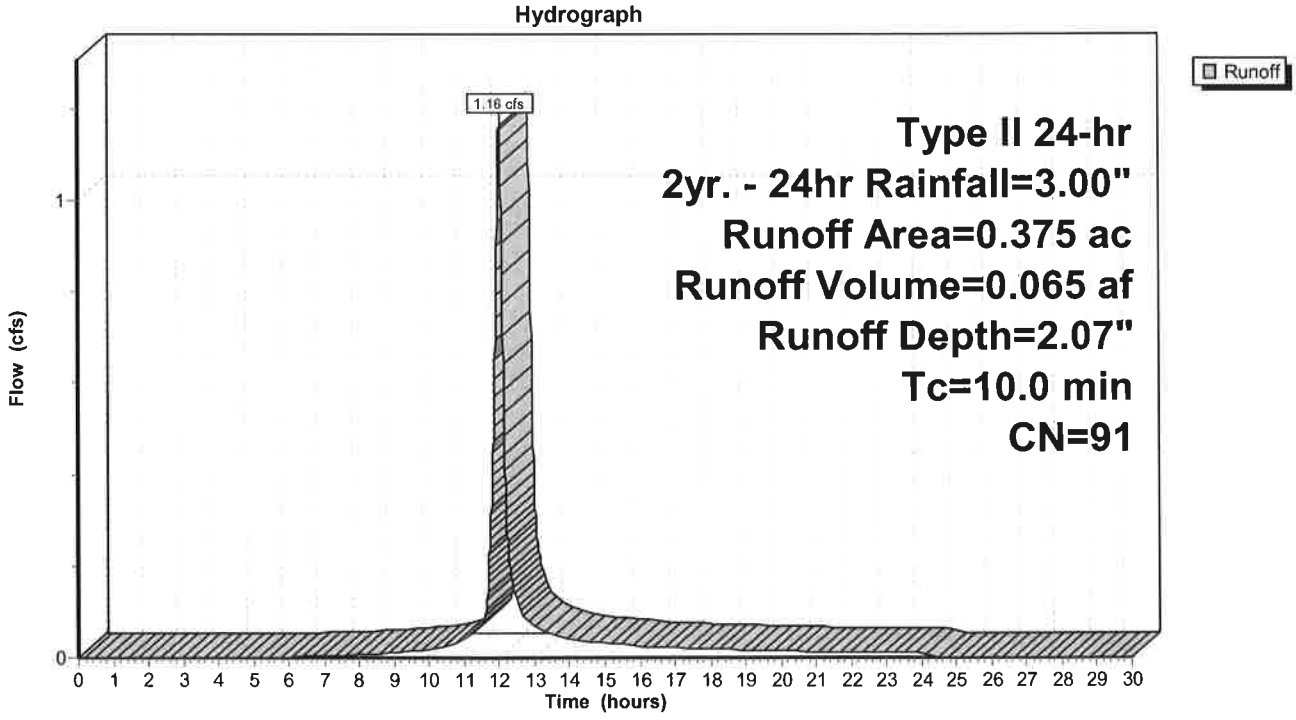
Runoff = 1.16 cfs @ 12.01 hrs, Volume= 0.065 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 2yr. - 24hr Rainfall=3.00"

Area (ac)	CN	Description
0.320	98	Water Surface, HSG A
0.055	49	50-75% Grass cover, Fair, HSG A
0.375	91	Weighted Average
0.055		14.67% Pervious Area
0.320		85.33% Impervious Area

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

Subcatchment Prop - 2: Drainage Area 2



Summary for Subcatchment Prop-1: Drainage Area 1

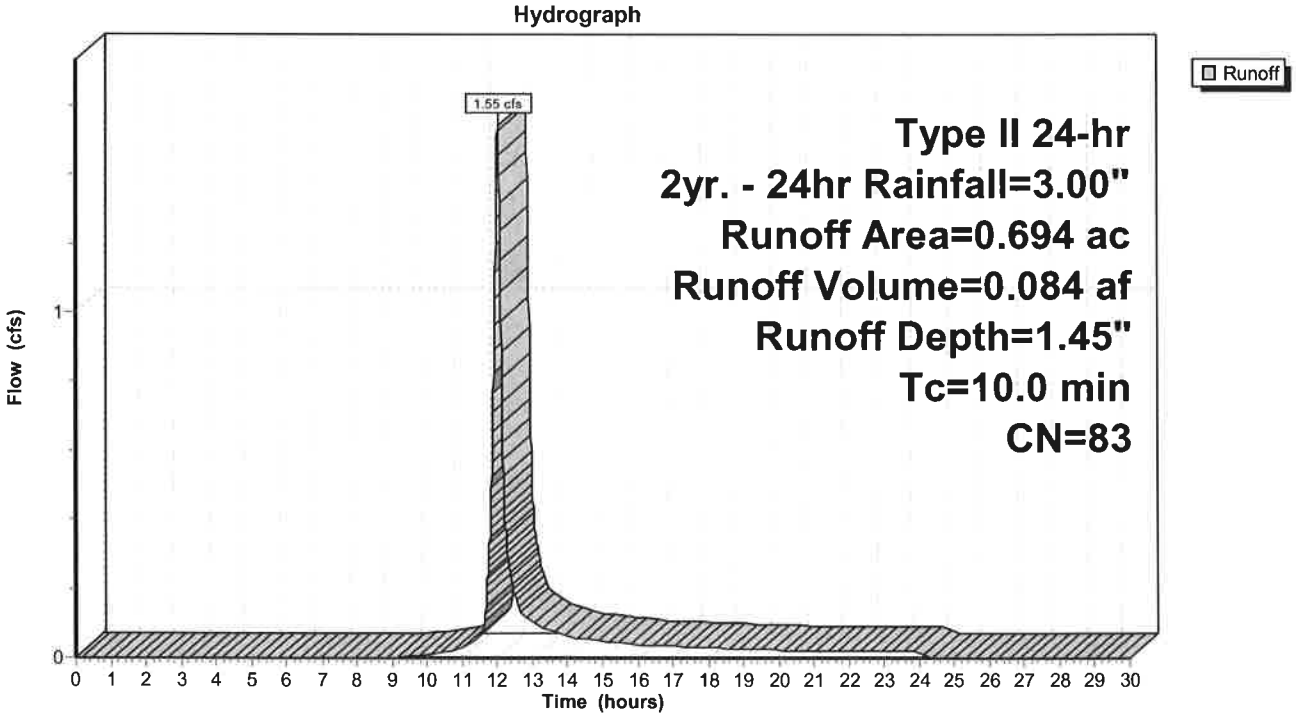
Runoff = 1.55 cfs @ 12.02 hrs, Volume= 0.084 af, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 2yr. - 24hr Rainfall=3.00"

Area (ac)	CN	Description
0.486	98	Paved parking, HSG A
0.208	49	50-75% Grass cover, Fair, HSG A
0.694	83	Weighted Average
0.208		29.97% Pervious Area
0.486		70.03% Impervious Area

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

Subcatchment Prop-1: Drainage Area 1



Summary for Pond JProp-1: Pond Basin 1

Inflow Area = 0.694 ac, 70.03% Impervious, Inflow Depth = 1.45" for 2yr. - 24hr event
Inflow = 1.55 cfs @ 12.02 hrs, Volume= 0.084 af
Outflow = 1.51 cfs @ 12.04 hrs, Volume= 0.084 af, Atten= 2%, Lag= 1.2 min
Primary = 1.51 cfs @ 12.04 hrs, Volume= 0.084 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 327.84' @ 12.04 hrs Surf.Area= 446 sf Storage= 119 cf

Plug-Flow detention time= 0.7 min calculated for 0.084 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (837.3 - 836.5)

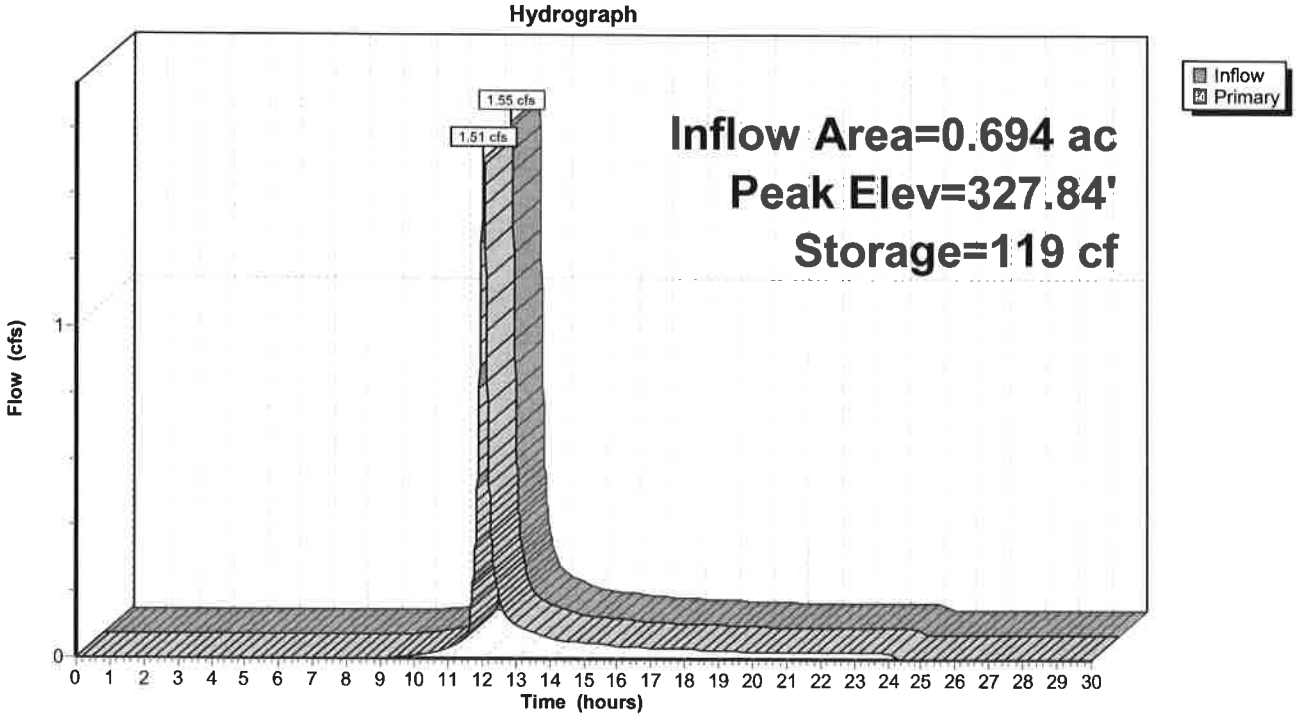
Volume	Invert	Avail.Storage	Storage Description
#1	327.50'	1,046 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
327.50	251	0	0
328.00	536	197	197
329.00	1,162	849	1,046

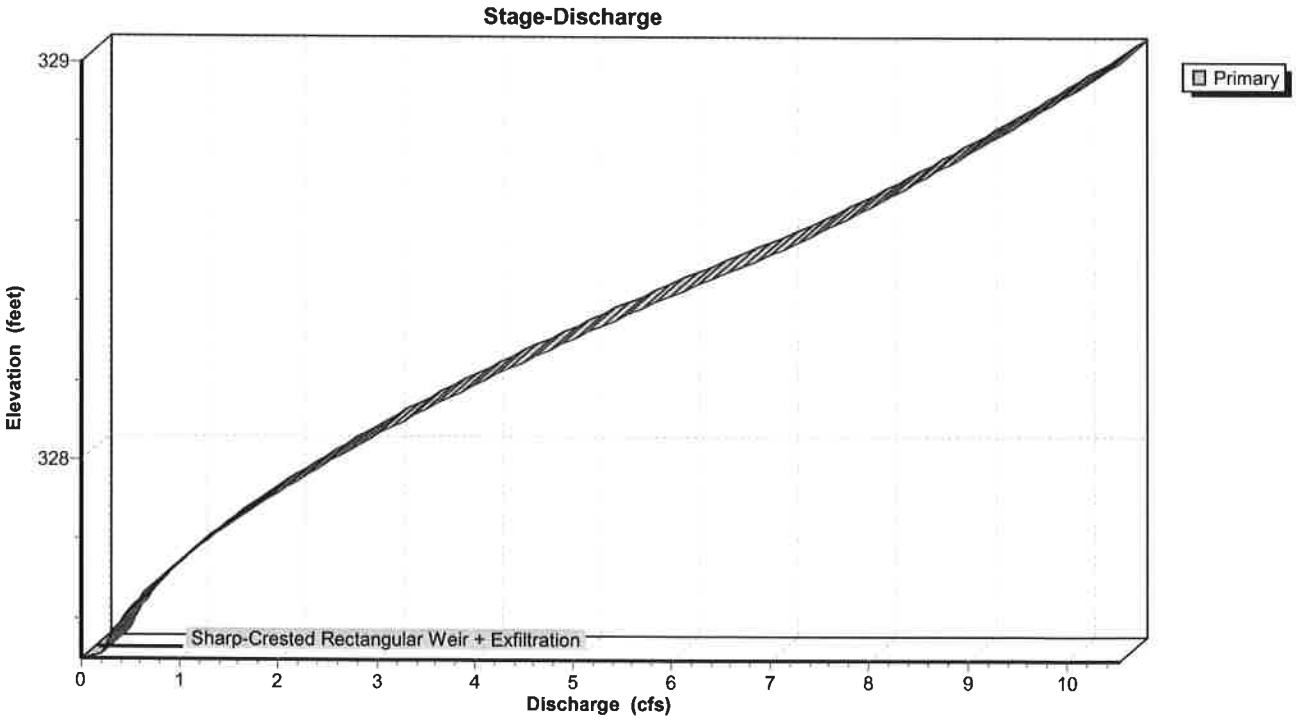
Device	Routing	Invert	Outlet Devices
#1	Primary	327.50'	**2.0' long x 1.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height
#2	Device 1	326.50'	**18.0" Round Culvert** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 326.50' / 325.50' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#3	Primary	327.50'	**0.20 cfs Exfiltration at all elevations**

Primary OutFlow Max=1.51 cfs @ 12.04 hrs HW=327.84' (Free Discharge)
↑**1=Sharp-Crested Rectangular Weir** (Weir Controls 1.31 cfs @ 1.99 fps)
↑**2=Culvert** (Passes 1.31 cfs of 3.94 cfs potential flow)
3=Exfiltration (Exfiltration Controls 0.20 cfs)

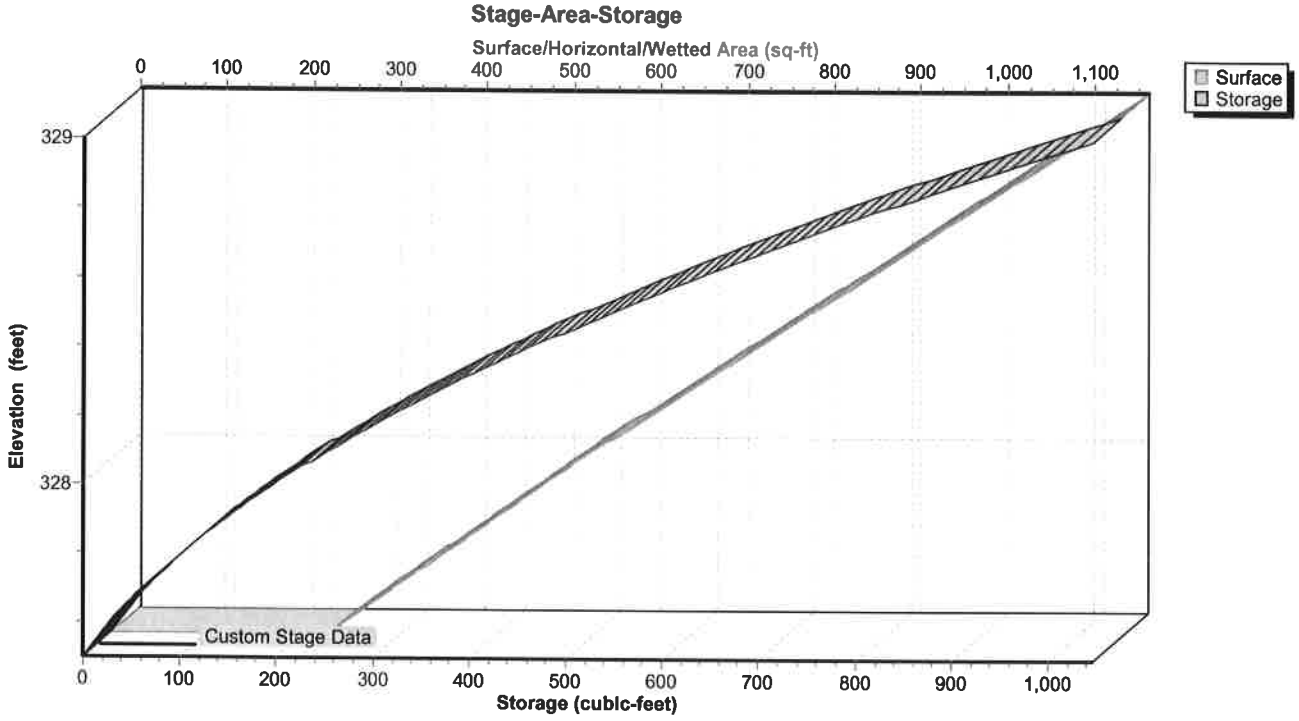
Pond JProp-1: Pond Basin 1



Pond JProp-1: Pond Basin 1



Pond JProp-1: Pond Basin 1



Summary for Pond Prop-2: Pond 2

Inflow Area = 0.375 ac, 85.33% Impervious, Inflow Depth = 2.07" for 2yr. - 24hr event
Inflow = 1.16 cfs @ 12.01 hrs, Volume= 0.065 af
Outflow = 1.03 cfs @ 12.06 hrs, Volume= 0.065 af, Atten= 12%, Lag= 2.8 min
Primary = 1.03 cfs @ 12.06 hrs, Volume= 0.065 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 327.83' @ 12.06 hrs Surf.Area= 928 sf Storage= 268 cf

Plug-Flow detention time= 3.1 min calculated for 0.065 af (100% of inflow)
Center-of-Mass det. time= 3.1 min (808.6 - 805.5)

Volume	Invert	Avail.Storage	Storage Description
#1	327.50'	1,749 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

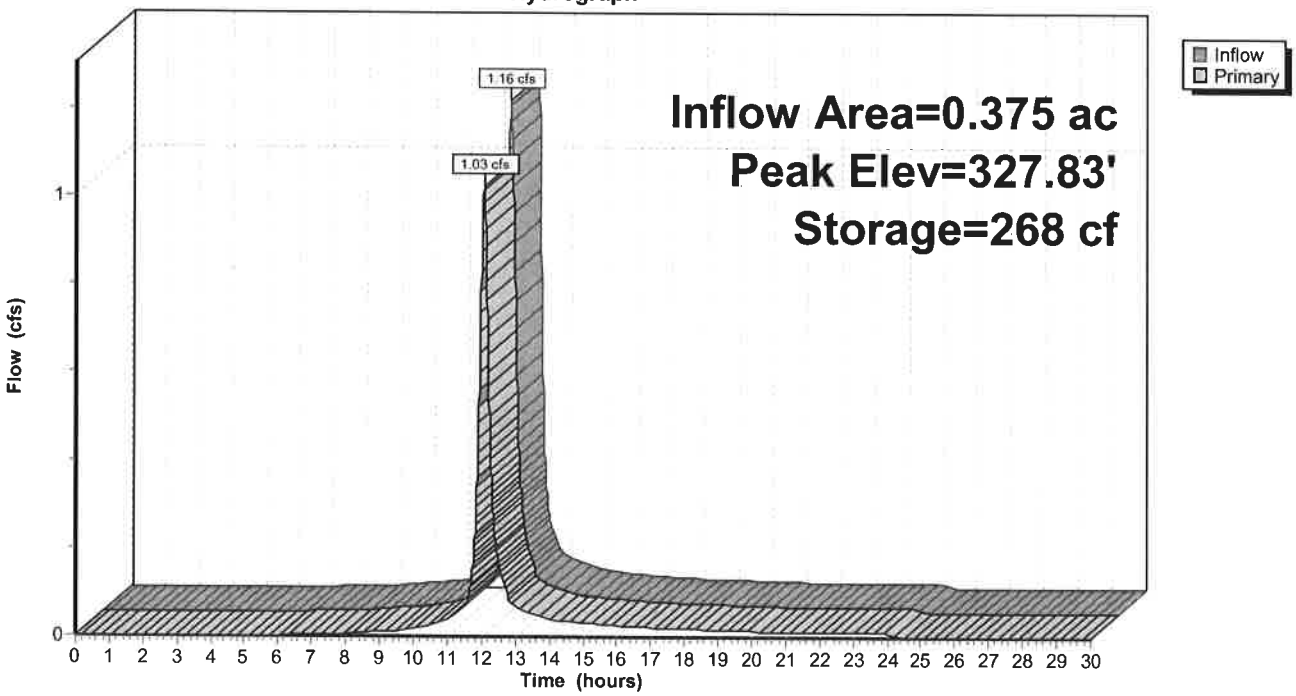
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
327.50	698	0	0
328.00	1,046	436	436
329.00	1,580	1,313	1,749

Device	Routing	Invert	Outlet Devices
#1	Primary	327.50'	**1.5' long x 1.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height
#2	Device 1	326.50'	**12.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 326.50' / 325.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Primary	327.50'	**0.10 cfs Exfiltration at all elevations**

Primary OutFlow Max=1.03 cfs @ 12.06 hrs HW=327.83' (Free Discharge)
↑1=**Sharp-Crested Rectangular Weir** (Weir Controls 0.93 cfs @ 1.95 fps)
↑2=**Culvert** (Passes 0.93 cfs of 1.87 cfs potential flow)
3=**Exfiltration** (Exfiltration Controls 0.10 cfs)

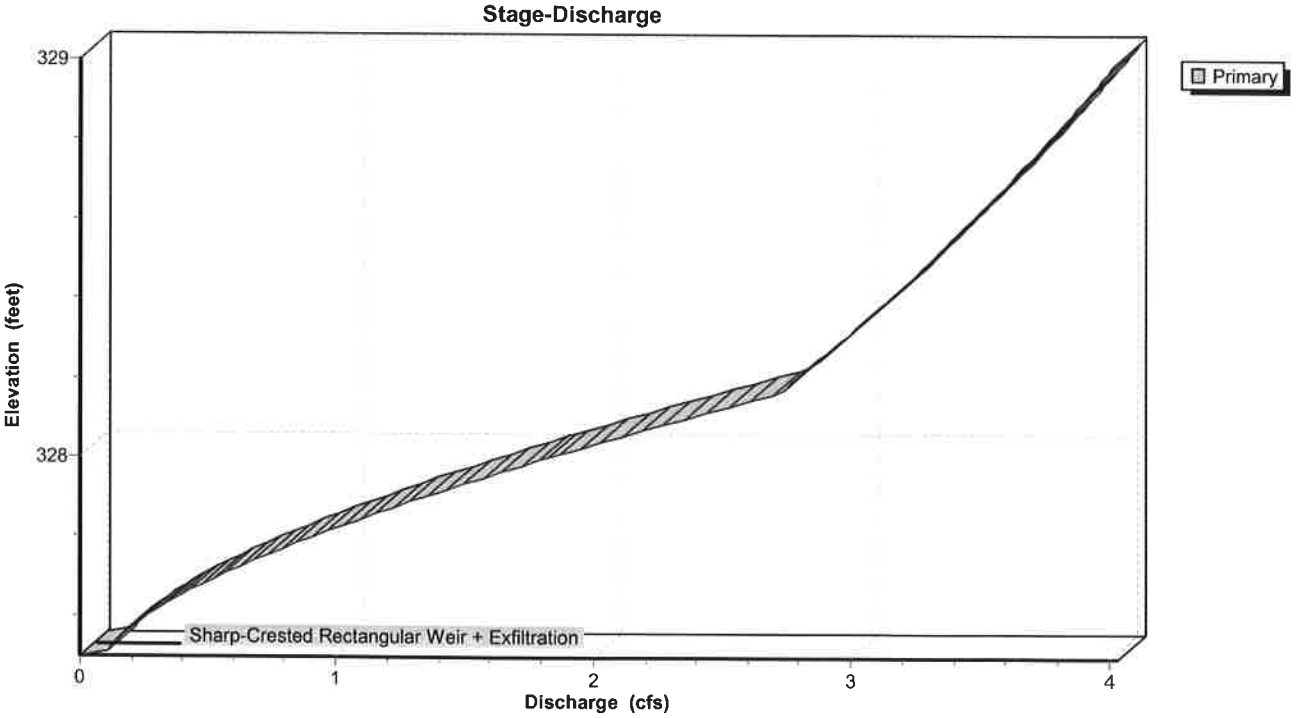
Pond Prop-2: Pond 2

Hydrograph

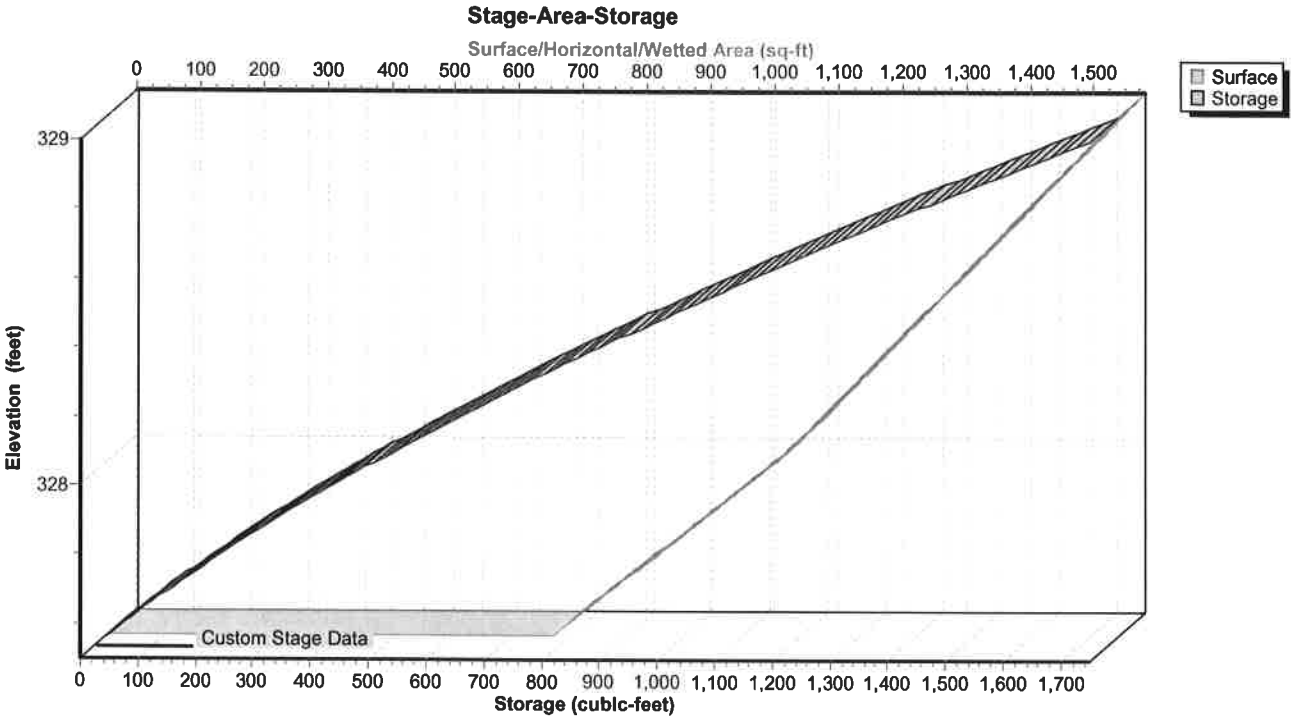


Pond Prop-2: Pond 2

Stage-Discharge



Pond Prop-2: Pond 2



Summary for Subcatchment Existing-1: Drainage Area 1

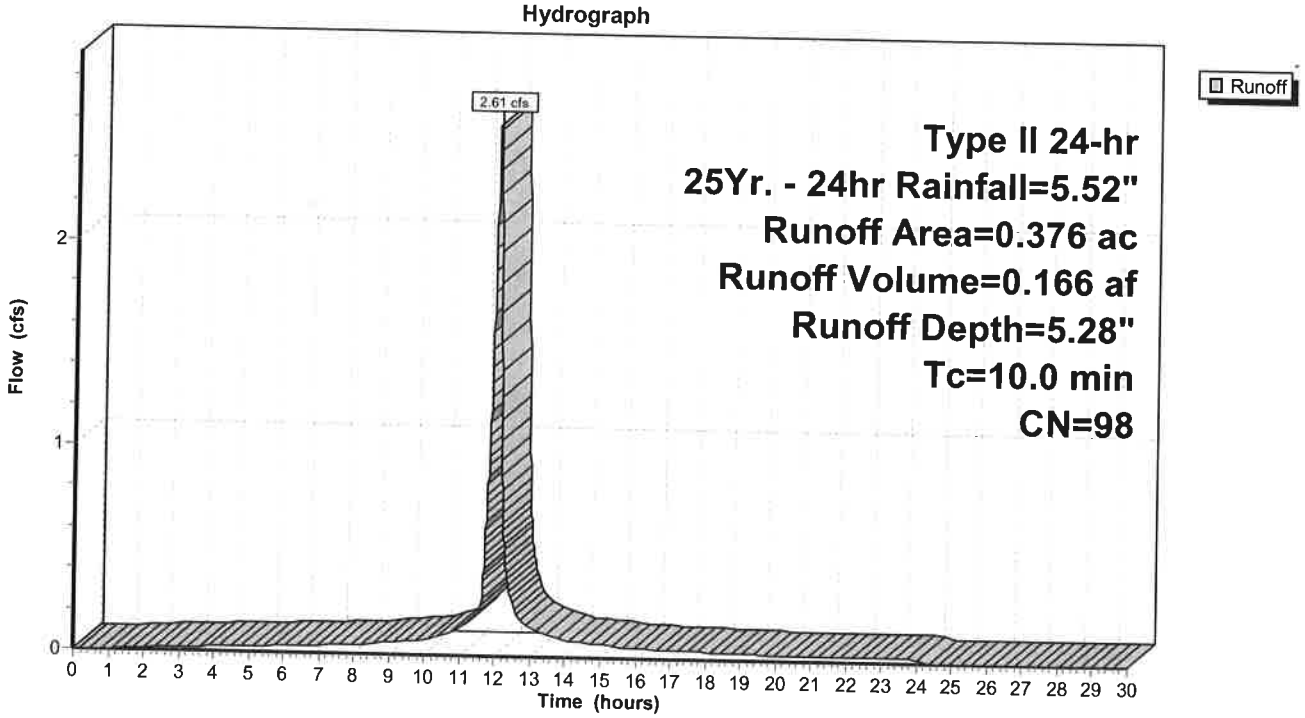
Runoff = 2.61 cfs @ 12.01 hrs, Volume= 0.166 af, Depth= 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 25Yr. - 24hr Rainfall=5.52"

Area (ac)	CN	Description
0.376	98	Water Surface, HSG A
0.376		100.00% Impervious Area

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

Subcatchment Existing-1: Drainage Area 1



Summary for Subcatchment Existing-2: Dranage Area 2

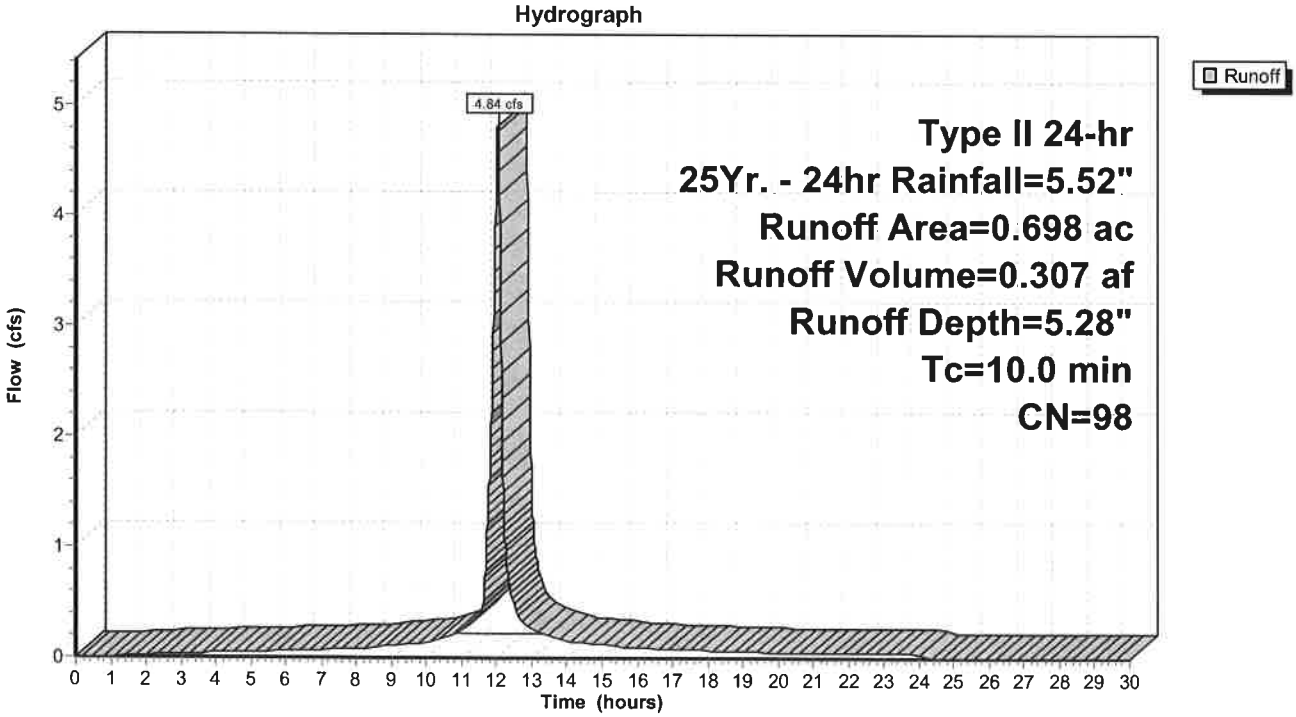
Runoff = 4.84 cfs @ 12.01 hrs, Volume= 0.307 af, Depth= 5.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 25Yr. - 24hr Rainfall=5.52"

Area (ac)	CN	Description
0.698	98	Water Surface, HSG A
0.698		100.00% Impervious Area

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

Subcatchment Existing-2: Dranage Area 2



Summary for Subcatchment Prop - 2: Drainage Area 2

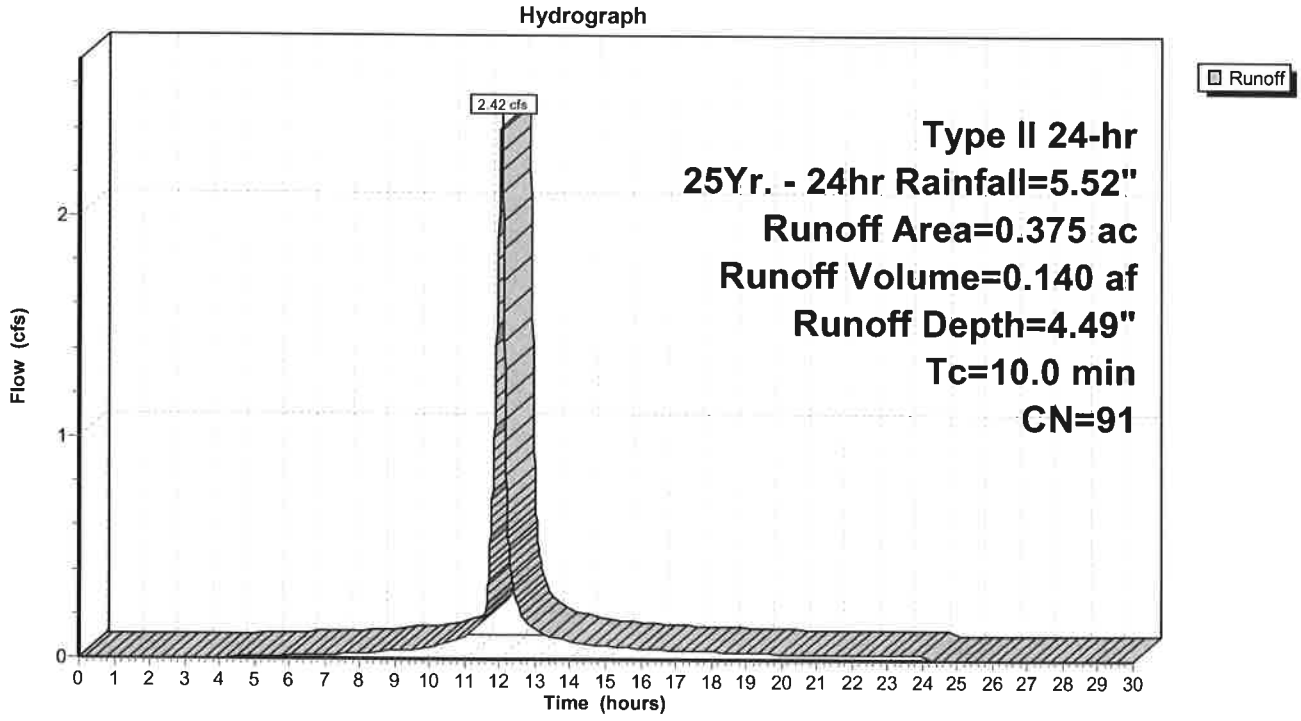
Runoff = 2.42 cfs @ 12.01 hrs, Volume= 0.140 af, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 25Yr. - 24hr Rainfall=5.52"

Area (ac)	CN	Description
0.320	98	Water Surface, HSG A
0.055	49	50-75% Grass cover, Fair, HSG A
0.375	91	Weighted Average
0.055		14.67% Pervious Area
0.320		85.33% Impervious Area

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

Subcatchment Prop - 2: Drainage Area 2



Summary for Subcatchment Prop-1: Drainage Area 1

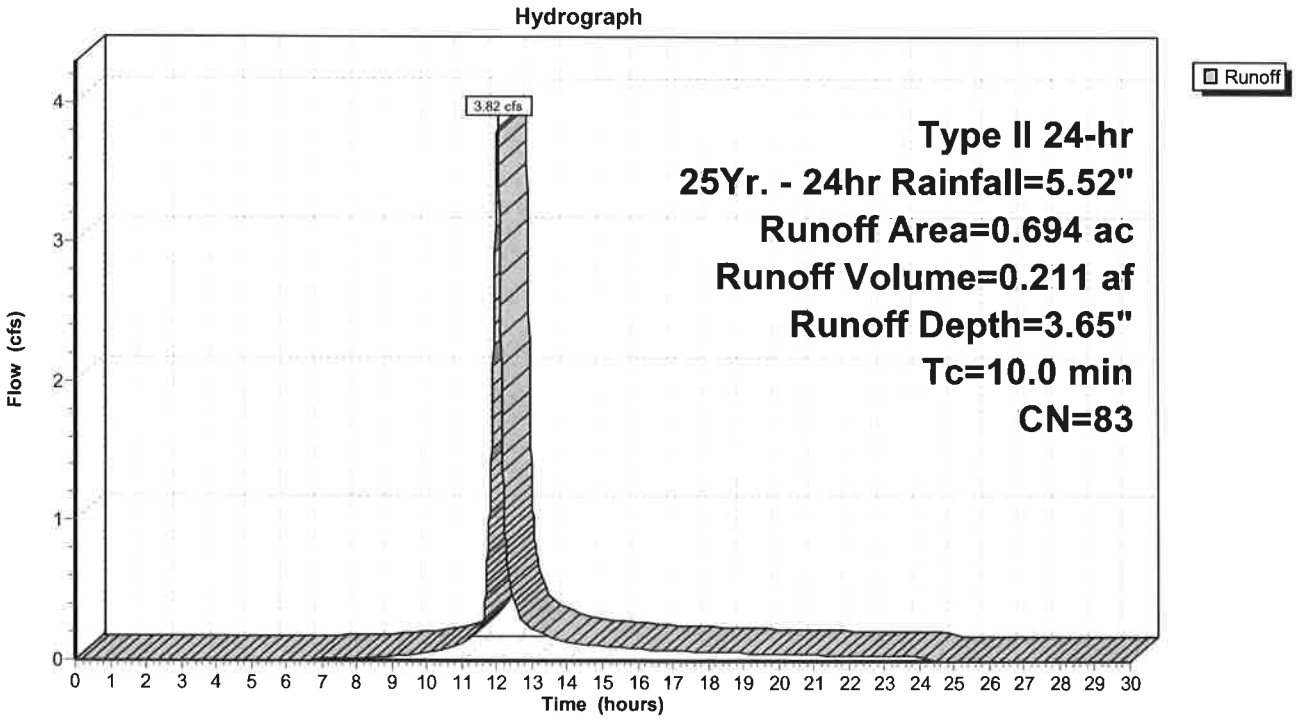
Runoff = 3.82 cfs @ 12.01 hrs, Volume= 0.211 af, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 25Yr. - 24hr Rainfall=5.52"

Area (ac)	CN	Description
0.486	98	Paved parking, HSG A
0.208	49	50-75% Grass cover, Fair, HSG A
0.694	83	Weighted Average
0.208		29.97% Pervious Area
0.486		70.03% Impervious Area

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

Subcatchment Prop-1: Drainage Area 1



Summary for Pond JProp-1: Pond Basin 1

Inflow Area = 0.694 ac, 70.03% Impervious, Inflow Depth = 3.65" for 25Yr. - 24hr event
Inflow = 3.82 cfs @ 12.01 hrs, Volume= 0.211 af
Outflow = 3.74 cfs @ 12.03 hrs, Volume= 0.211 af, Atten= 2%, Lag= 1.2 min
Primary = 3.74 cfs @ 12.03 hrs, Volume= 0.211 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 328.16' @ 12.03 hrs Surf.Area= 636 sf Storage= 290 cf

Plug-Flow detention time= 0.8 min calculated for 0.211 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (811.0 - 810.1)

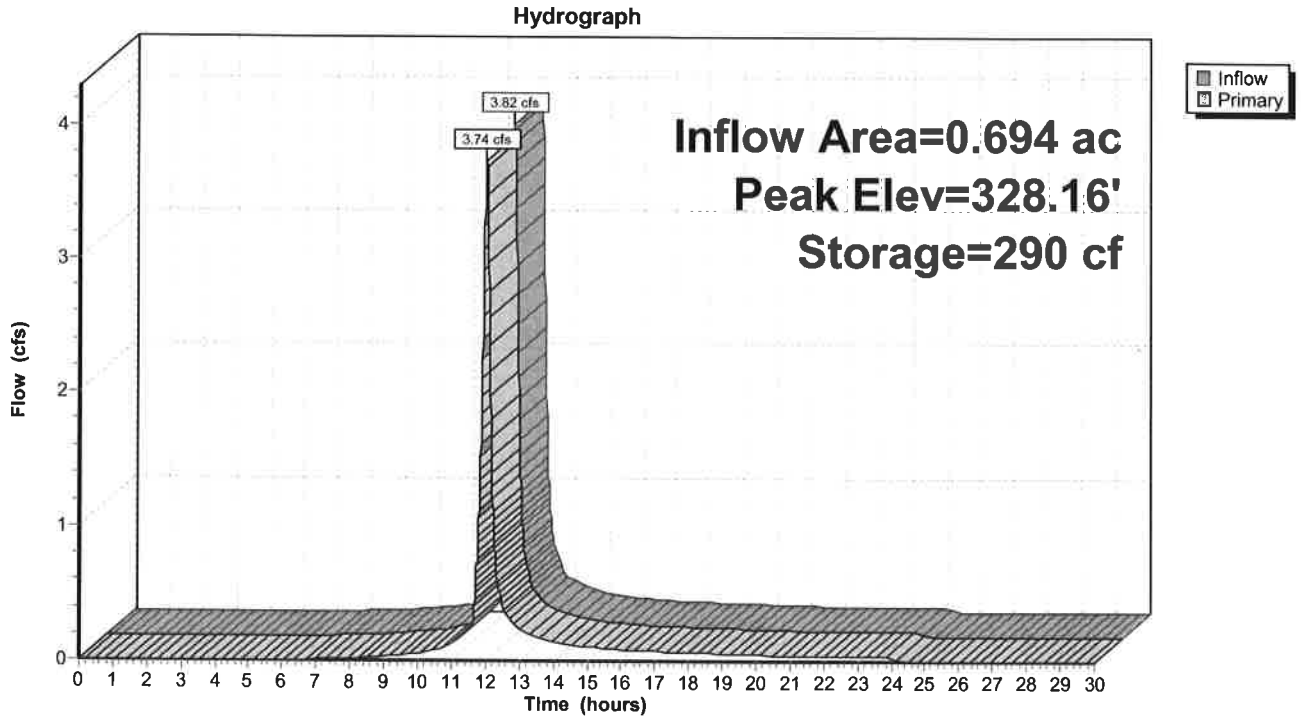
Volume	Invert	Avail.Storage	Storage Description
#1	327.50'	1,046 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
327.50	251	0	0
328.00	536	197	197
329.00	1,162	849	1,046

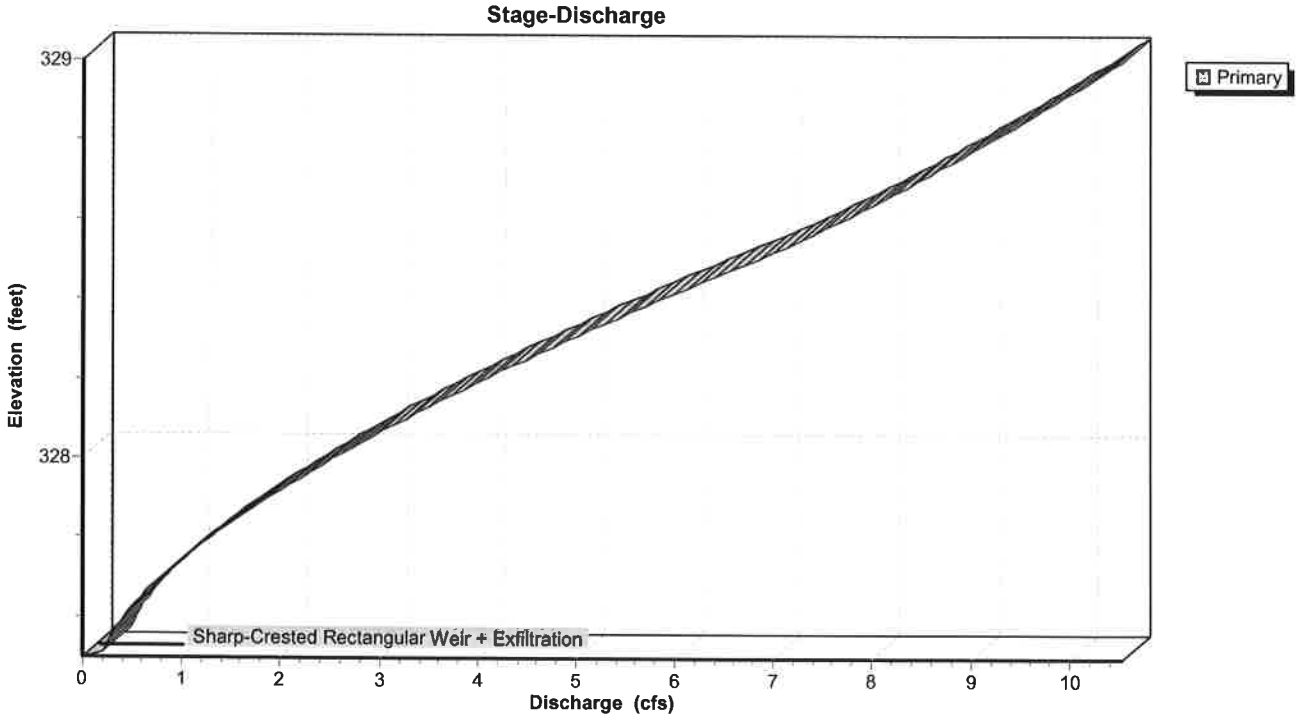
Device	Routing	Invert	Outlet Devices
#1	Primary	327.50'	**2.0' long x 1.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height
#2	Device 1	326.50'	**18.0" Round Culvert** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 326.50' / 325.50' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#3	Primary	327.50'	**0.20 cfs Exfiltration at all elevations**

Primary OutFlow Max=3.73 cfs @ 12.03 hrs HW=328.16' (Free Discharge)
- **1=Sharp-Crested Rectangular Weir** (Weir Controls 3.53 cfs @ 2.87 fps)
  - **2=Culvert** (Passes 3.53 cfs of 6.88 cfs potential flow)
- **3=Exfiltration** (Exfiltration Controls 0.20 cfs)

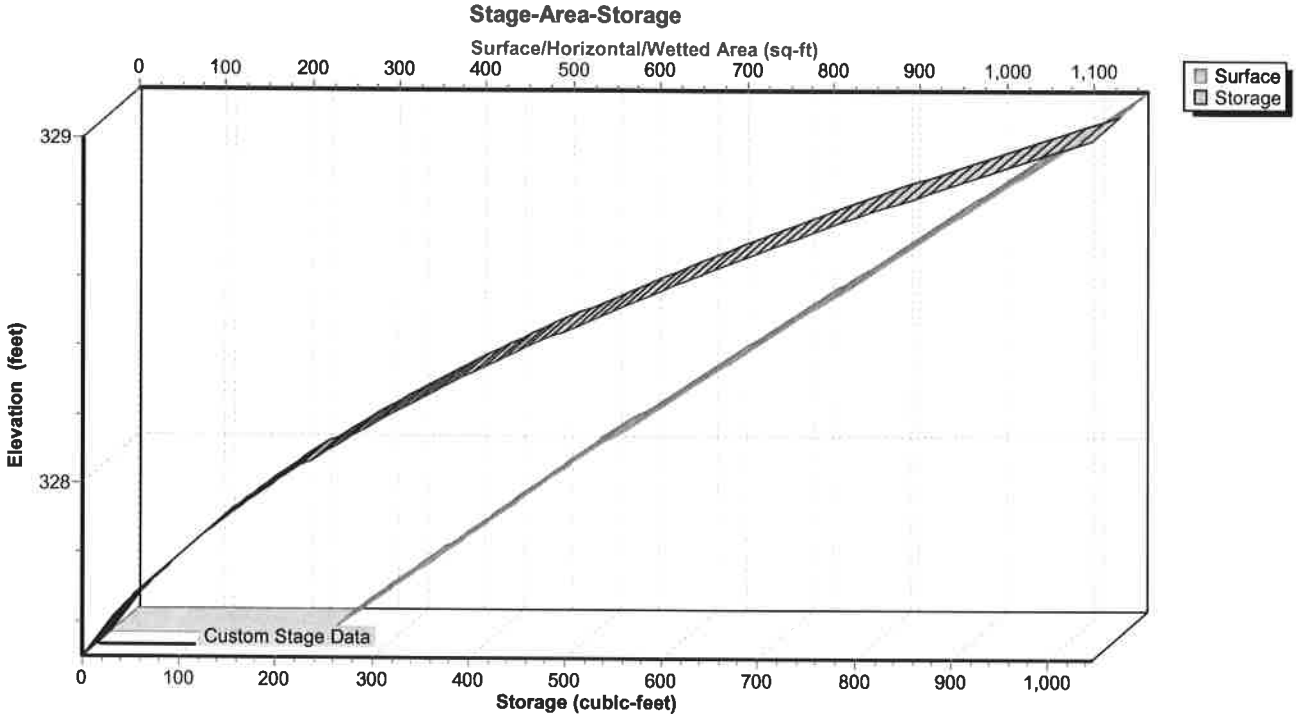
Pond JProp-1: Pond Basin 1



Pond JProp-1: Pond Basin 1



Pond JProp-1: Pond Basin 1



Summary for Pond Prop-2: Pond 2

Inflow Area = 0.375 ac, 85.33% Impervious, Inflow Depth = 4.49" for 25Yr. - 24hr event
Inflow = 2.42 cfs @ 12.01 hrs, Volume= 0.140 af
Outflow = 2.18 cfs @ 12.05 hrs, Volume= 0.140 af, Atten= 10%, Lag= 2.5 min
Primary = 2.18 cfs @ 12.05 hrs, Volume= 0.140 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 328.07' @ 12.05 hrs Surf.Area= 1,083 sf Storage= 510 cf

Plug-Flow detention time= 3.2 min calculated for 0.140 af (100% of inflow)
Center-of-Mass det. time= 3.2 min (787.2 - 784.0)

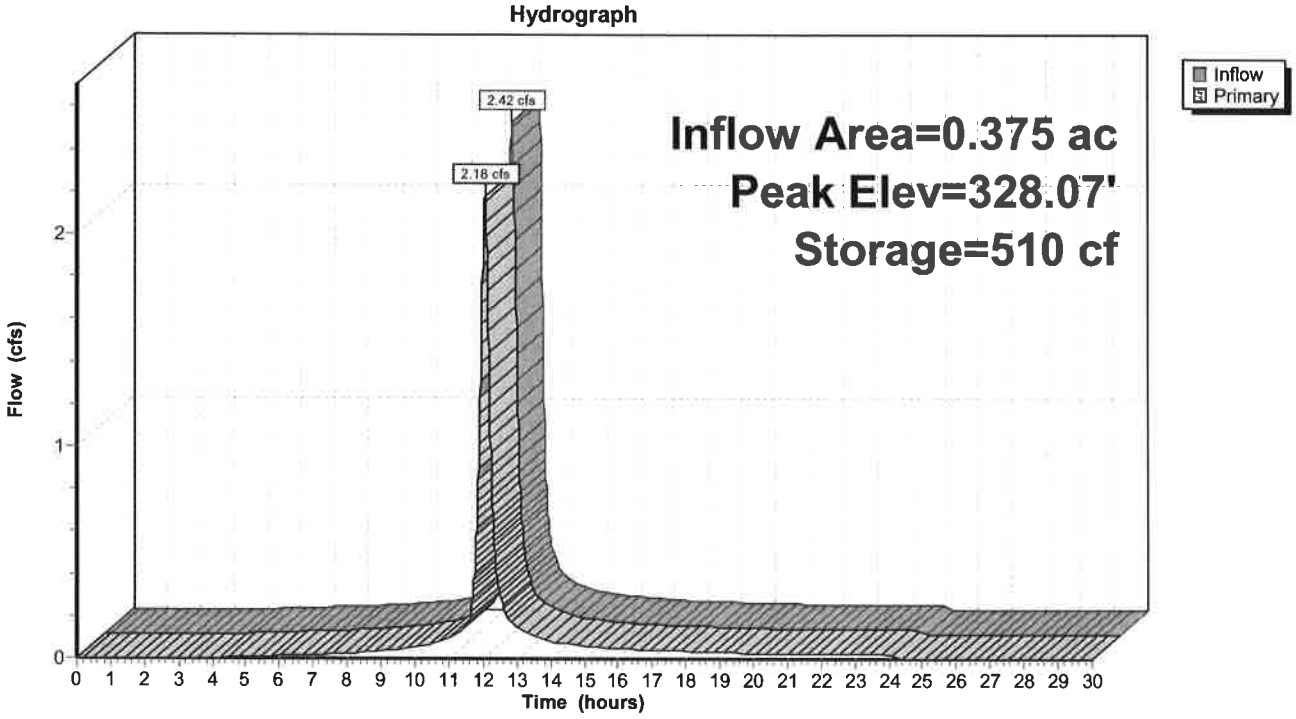
Volume	Invert	Avail.Storage	Storage Description
#1	327.50'	1,749 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
327.50	698	0	0
328.00	1,046	436	436
329.00	1,580	1,313	1,749

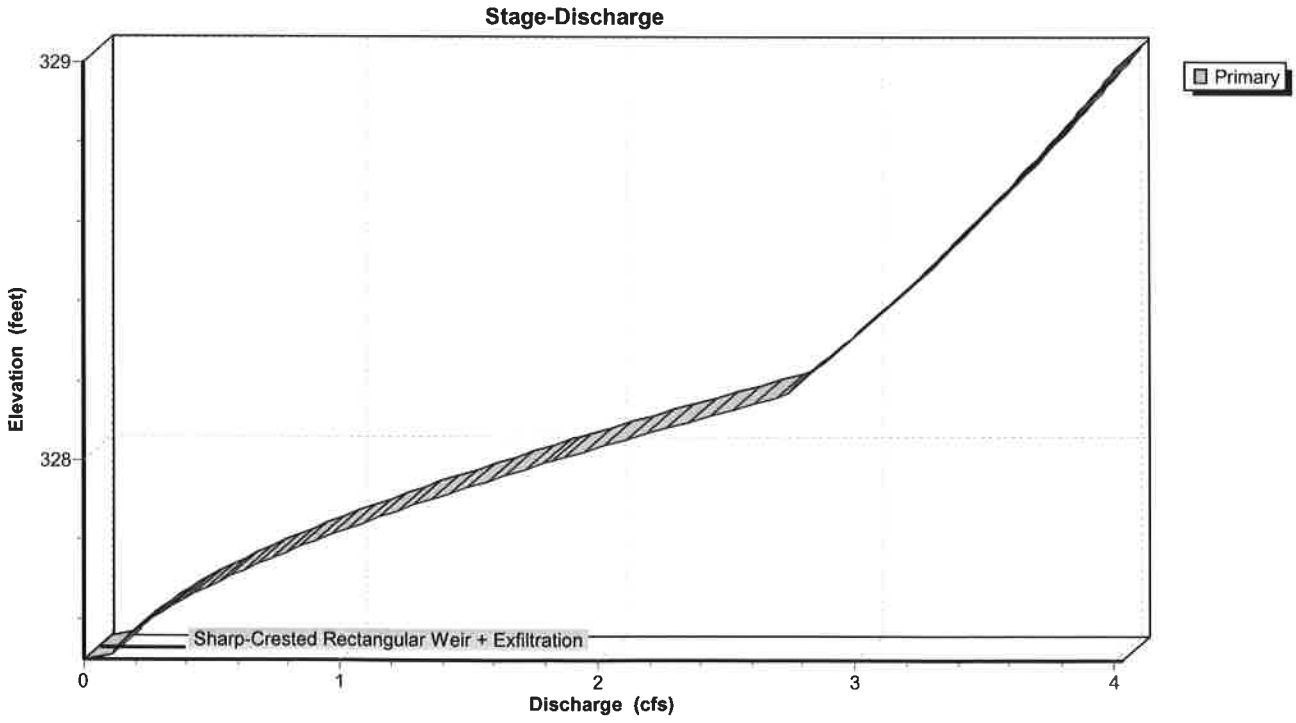
Device	Routing	Invert	Outlet Devices
#1	Primary	327.50'	**1.5' long x 1.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height
#2	Device 1	326.50'	**12.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 326.50' / 325.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Primary	327.50'	**0.10 cfs Exfiltration at all elevations**

Primary OutFlow Max=2.18 cfs @ 12.05 hrs HW=328.07' (Free Discharge)
- **1=Sharp-Crested Rectangular Weir** (Weir Controls 2.08 cfs @ 2.64 fps)
  - **2=Culvert** (Passes 2.08 cfs of 2.42 cfs potential flow)
- **3=Exfiltration** (Exfiltration Controls 0.10 cfs)

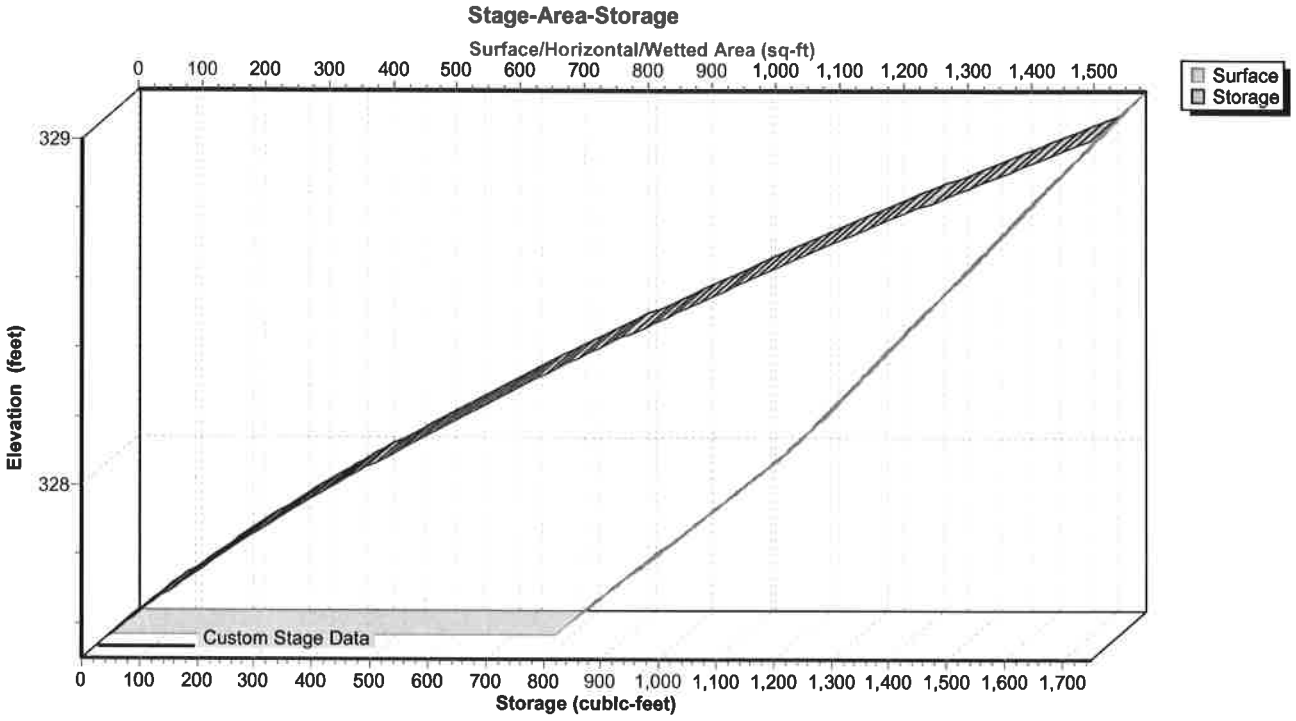
Pond Prop-2: Pond 2



Pond Prop-2: Pond 2



Pond Prop-2: Pond 2



Summary for Subcatchment Existing-1: Drainage Area 1

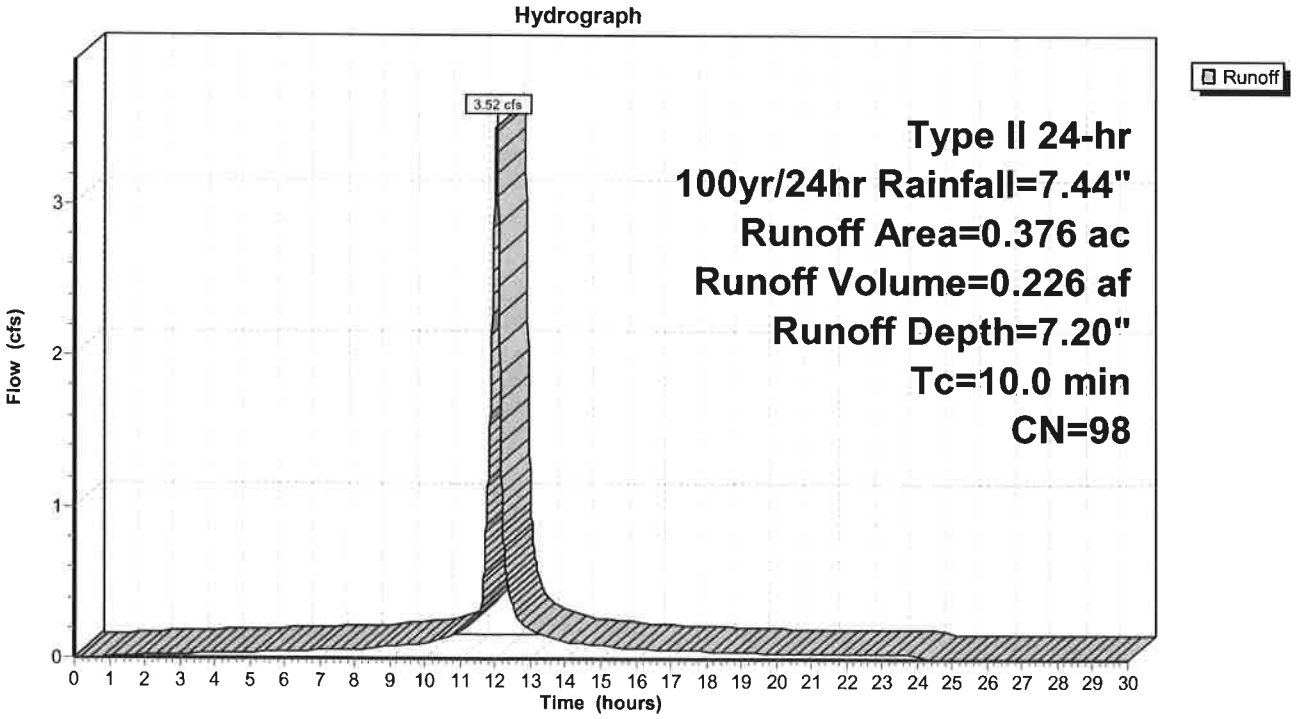
Runoff = 3.52 cfs @ 12.01 hrs, Volume= 0.226 af, Depth= 7.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 100yr/24hr Rainfall=7.44"

Area (ac)	CN	Description
0.376	98	Water Surface, HSG A
0.376		100.00% Impervious Area

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

Subcatchment Existing-1: Drainage Area 1



Summary for Subcatchment Existing-2: Dranage Area 2

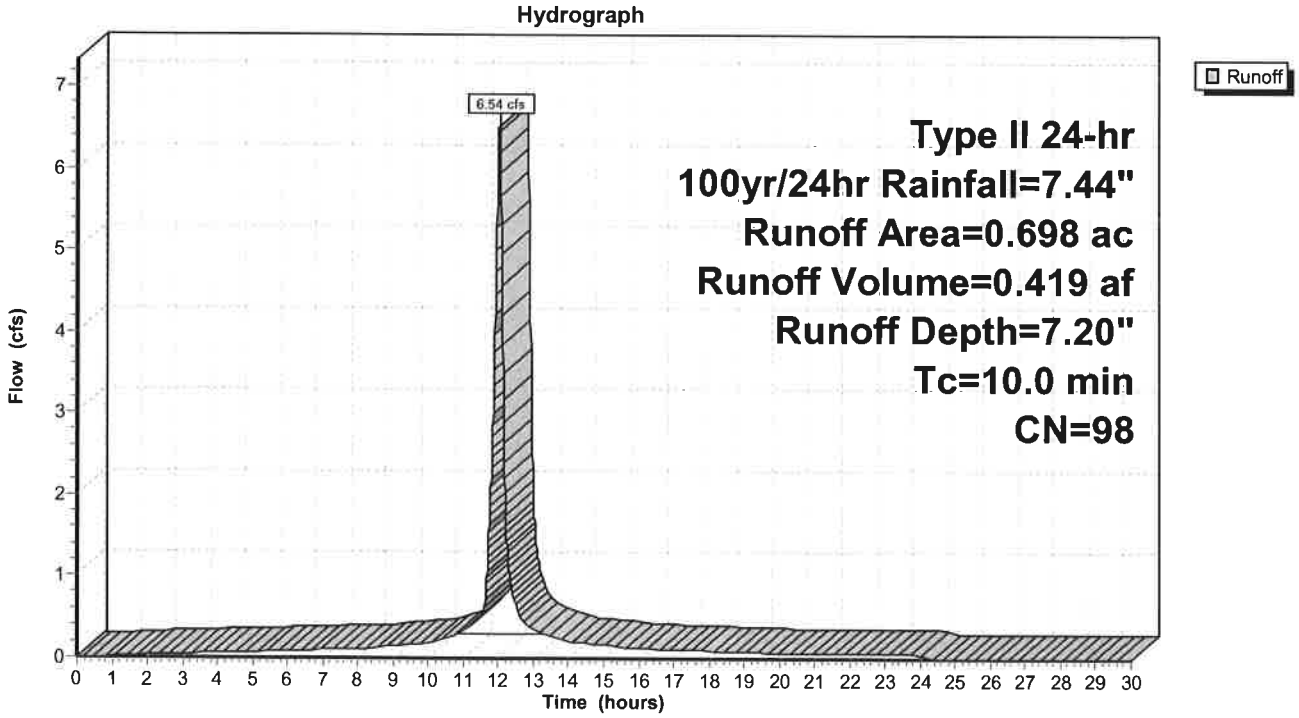
Runoff = 6.54 cfs @ 12.01 hrs, Volume= 0.419 af, Depth= 7.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 100yr/24hr Rainfall=7.44"

Area (ac)	CN	Description
0.698	98	Water Surface, HSG A
0.698		100.00% Impervious Area

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

Subcatchment Existing-2: Dranage Area 2



Summary for Subcatchment Prop - 2: Drainage Area 2

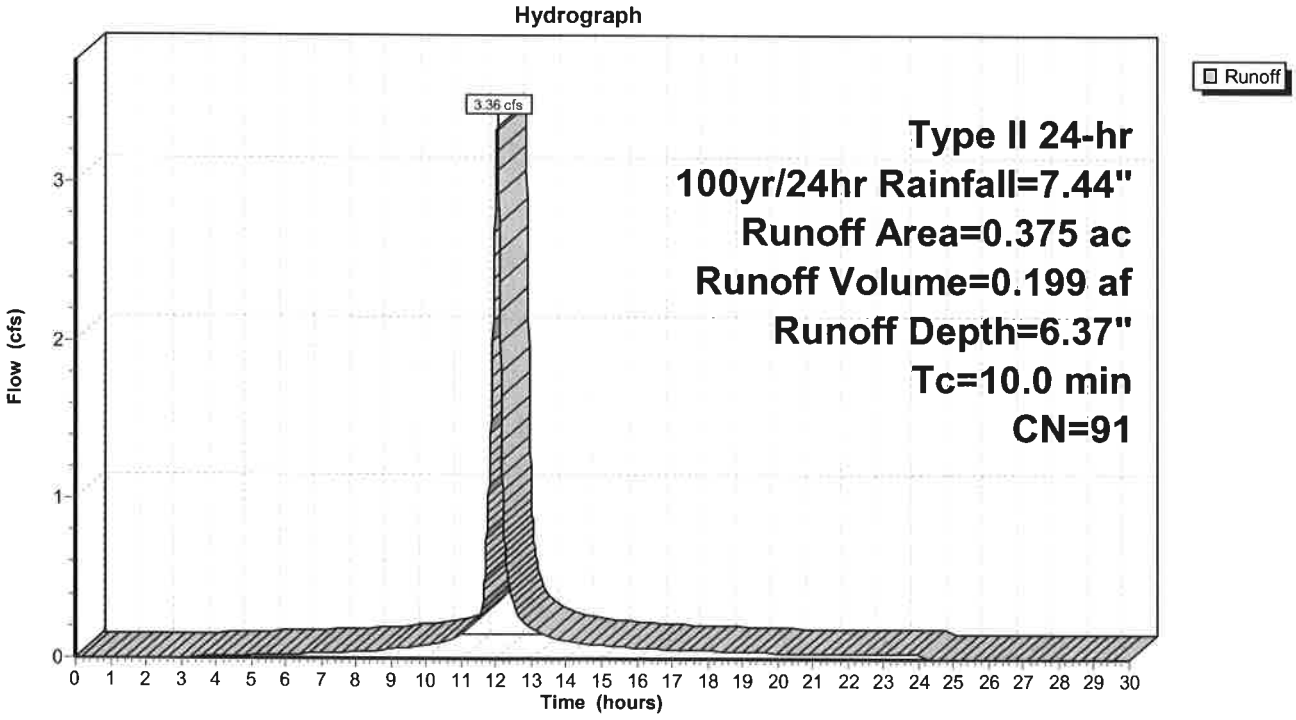
Runoff = 3.36 cfs @ 12.01 hrs, Volume= 0.199 af, Depth= 6.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 100yr/24hr Rainfall=7.44"

Area (ac)	CN	Description
0.320	98	Water Surface, HSG A
0.055	49	50-75% Grass cover, Fair, HSG A
0.375	91	Weighted Average
0.055		14.67% Pervious Area
0.320		85.33% Impervious Area

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

Subcatchment Prop - 2: Drainage Area 2



Summary for Subcatchment Prop-1: Drainage Area 1

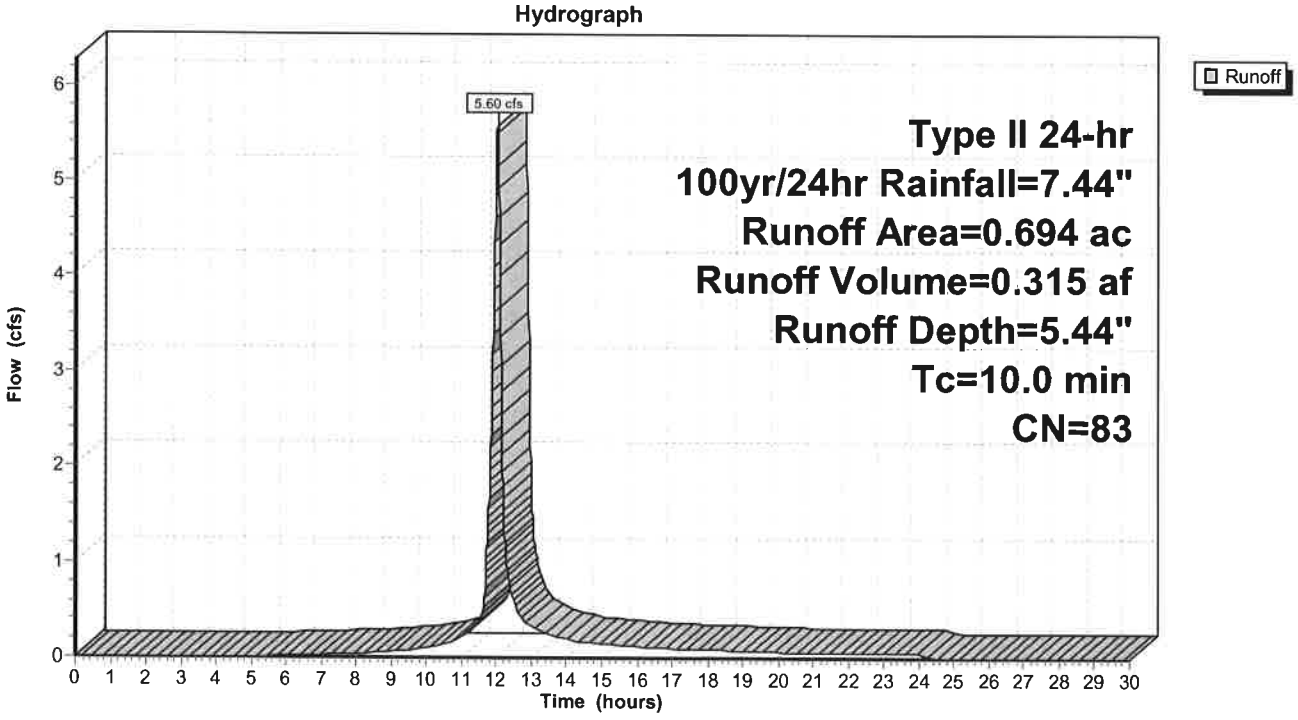
Runoff = 5.60 cfs @ 12.01 hrs, Volume= 0.315 af, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type II 24-hr 100yr/24hr Rainfall=7.44"

Area (ac)	CN	Description
0.486	98	Paved parking, HSG A
0.208	49	50-75% Grass cover, Fair, HSG A
0.694	83	Weighted Average
0.208		29.97% Pervious Area
0.486		70.03% Impervious Area

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

Subcatchment Prop-1: Drainage Area 1



Summary for Pond JProp-1: Pond Basin 1

Inflow Area = 0.694 ac, 70.03% Impervious, Inflow Depth = 5.44" for 100yr/24hr event
Inflow = 5.60 cfs @ 12.01 hrs, Volume= 0.315 af
Outflow = 5.46 cfs @ 12.03 hrs, Volume= 0.315 af, Atten= 2%, Lag= 1.3 min
Primary = 5.46 cfs @ 12.03 hrs, Volume= 0.315 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 328.36' @ 12.03 hrs Surf.Area= 761 sf Storage= 430 cf

Plug-Flow detention time= 0.9 min calculated for 0.315 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (799.7 - 798.8)

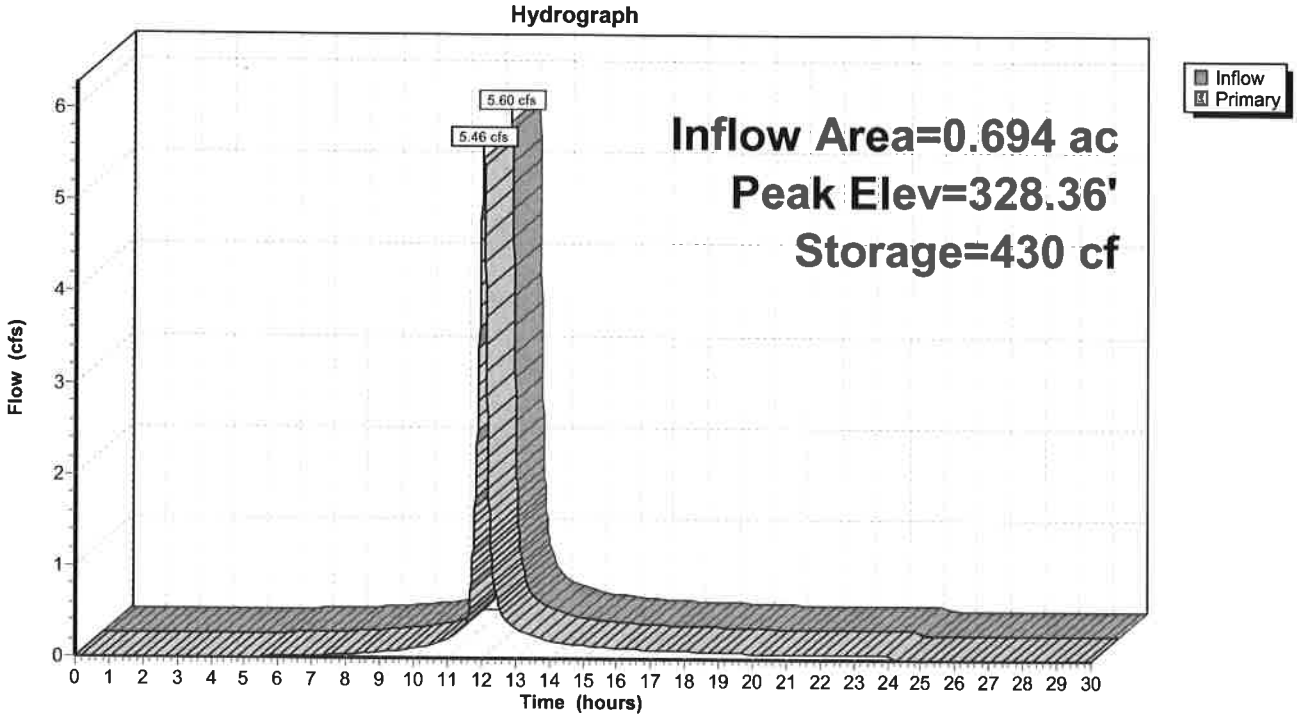
Volume	Invert	Avail.Storage	Storage Description
#1	327.50'	1,046 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
327.50	251	0	0
328.00	536	197	197
329.00	1,162	849	1,046

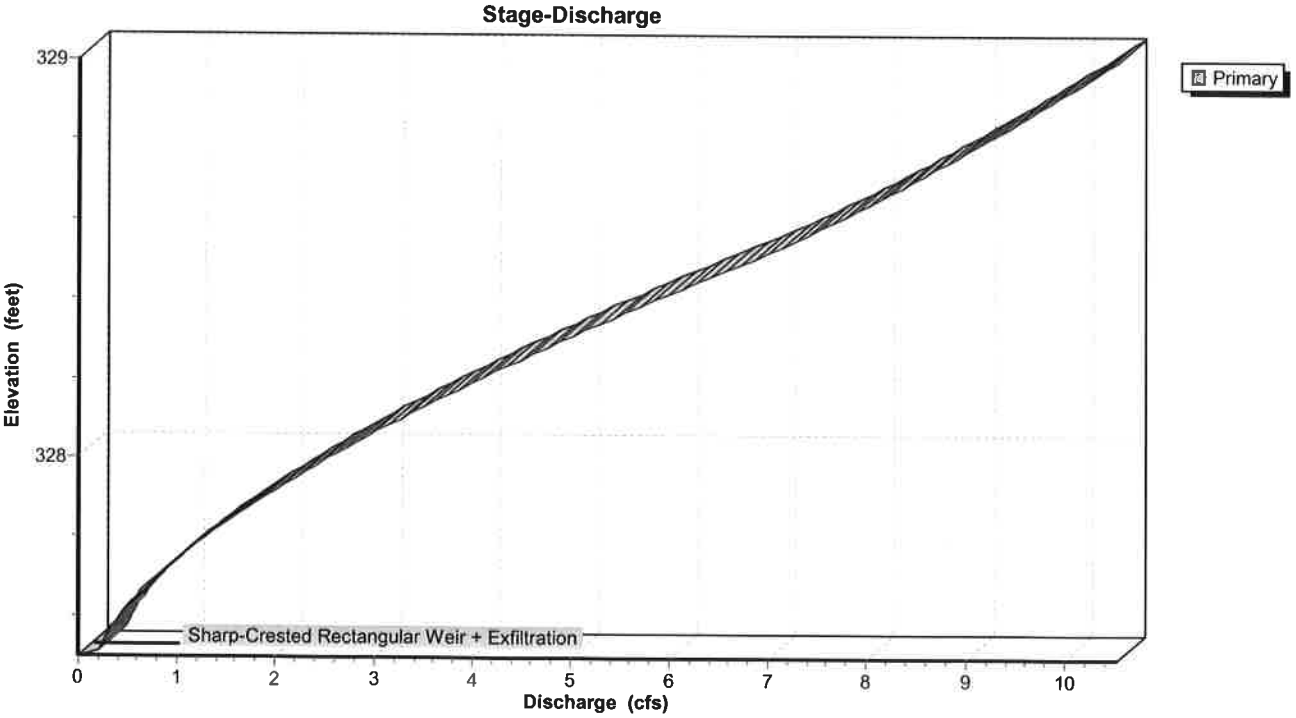
Device	Routing	Invert	Outlet Devices
#1	Primary	327.50'	**2.0' long x 1.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height
#2	Device 1	326.50'	**18.0" Round Culvert** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 326.50' / 325.50' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#3	Primary	327.50'	**0.20 cfs Exfiltration at all elevations**

Primary OutFlow Max=5.46 cfs @ 12.03 hrs HW=328.36' (Free Discharge)
- **1=Sharp-Crested Rectangular Weir** (Weir Controls 5.26 cfs @ 3.35 fps)
  - **2=Culvert** (Passes 5.26 cfs of 7.88 cfs potential flow)
- **3=Exfiltration** (Exfiltration Controls 0.20 cfs)

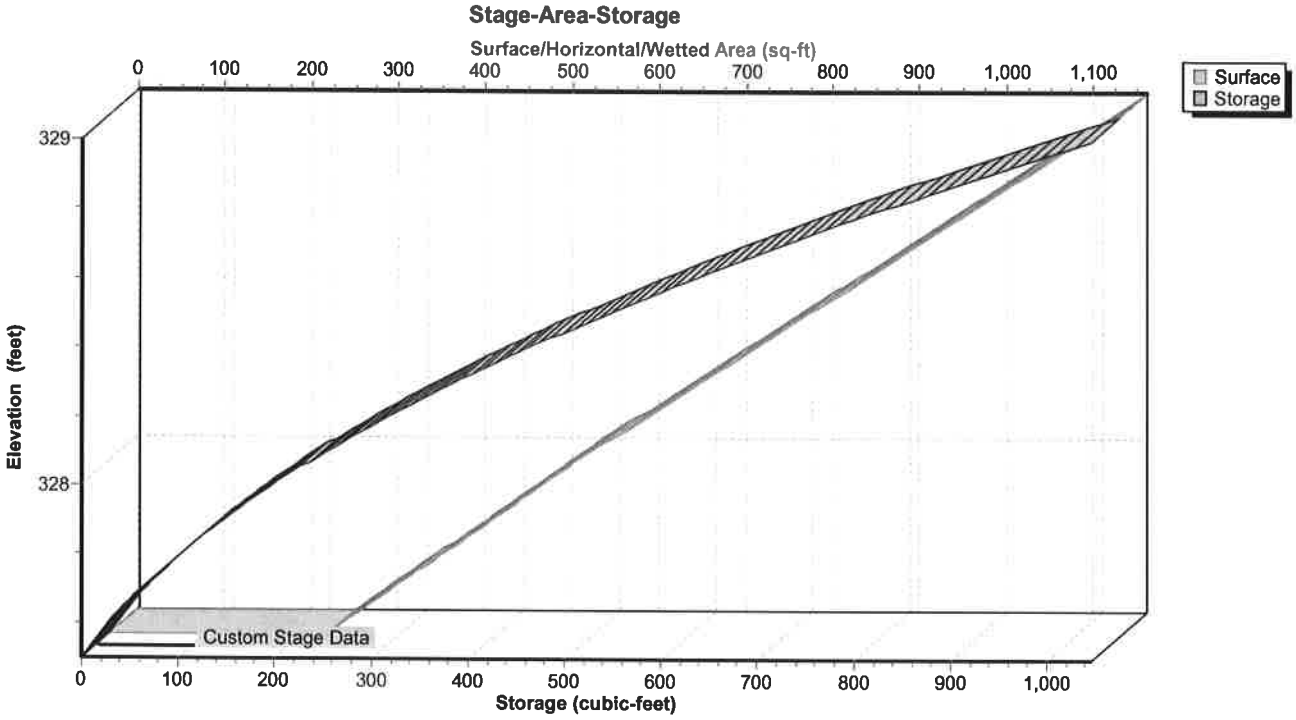
Pond JProp-1: Pond Basin 1



Pond JProp-1: Pond Basin 1



Pond JProp-1: Pond Basin 1



Summary for Pond Prop-2: Pond 2

Inflow Area = 0.375 ac, 85.33% Impervious, Inflow Depth = 6.37" for 100yr/24hr event
Inflow = 3.36 cfs @ 12.01 hrs, Volume= 0.199 af
Outflow = 2.87 cfs @ 12.06 hrs, Volume= 0.199 af, Atten= 14%, Lag= 3.2 min
Primary = 2.87 cfs @ 12.06 hrs, Volume= 0.199 af

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 328.25' @ 12.06 hrs Surf.Area= 1,178 sf Storage= 710 cf

Plug-Flow detention time= 3.3 min calculated for 0.199 af (100% of inflow)
Center-of-Mass det. time= 3.3 min (778.2 - 774.9)

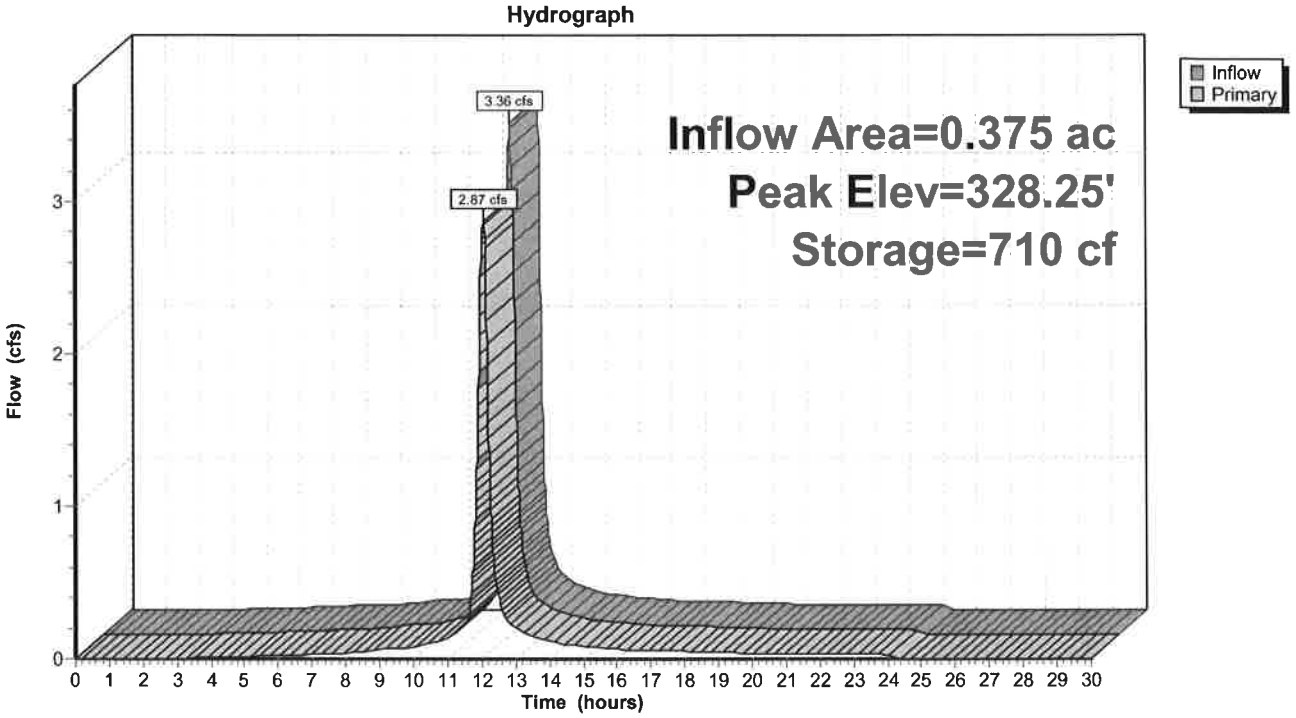
Volume	Invert	Avail.Storage	Storage Description
#1	327.50'	1,749 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
327.50	698	0	0
328.00	1,046	436	436
329.00	1,580	1,313	1,749

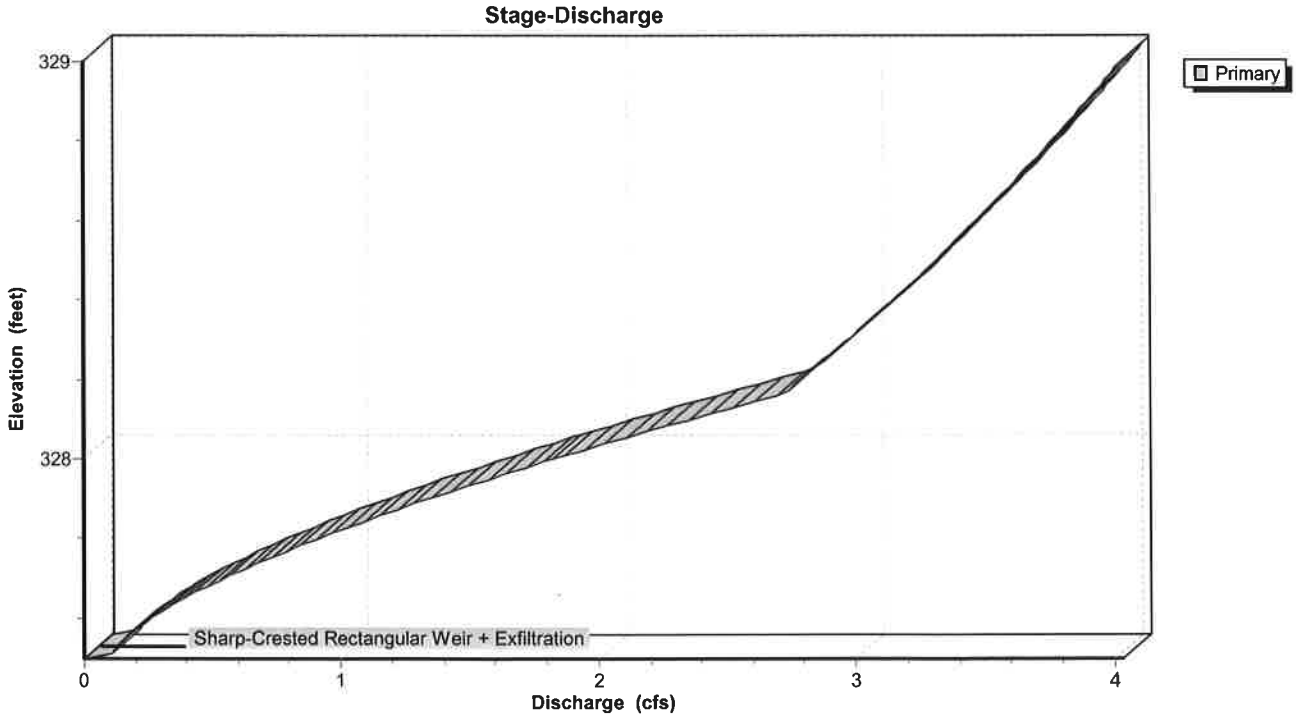
Device	Routing	Invert	Outlet Devices
#1	Primary	327.50'	**1.5' long x 1.00' rise Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height
#2	Device 1	326.50'	**12.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 326.50' / 325.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Primary	327.50'	**0.10 cfs Exfiltration at all elevations**

Primary OutFlow Max=2.87 cfs @ 12.06 hrs HW=328.25' (Free Discharge)
- **1=Sharp-Crested Rectangular Weir** (Passes 2.77 cfs of 3.11 cfs potential flow)
  - **2=Culvert** (Outlet Controls 2.77 cfs @ 3.53 fps)
- **3=Exfiltration** (Exfiltration Controls 0.10 cfs)

Pond Prop-2: Pond 2



Pond Prop-2: Pond 2



Pond Prop-2: Pond 2