1452
April 6, 2015

Ms. Barbara Barhydt
City of Portland
389 Congress Street
Portland, ME 04101

Amended Site Plan – Shed Happens, Inc., 509 Warren Avenue, Block A, Lots 15-18, 37, 38

On behalf of the owner/applicant, Shed Happens, Inc., we are pleased to submit this Level II Site Plan Application Packet in support of a proposed amendment to a previously approved Site Plan, approved in March, 2012. The applicant is proposing to expand the crushed stone display area into an abutting lot.

Existing Conditions (Shed Happens Site):
The site currently includes:

- A paved access drive with 4 parking spaces
- A permanent sales office building
- Crushed Stone display areas for the display of various structures for sale.
- A vegetated underdrained filter basin
- Lawn areas, etc.

No changes to the existing, approved site are proposed at this time. All approvals and conditions of approval are to be valid for this proposed amendment.

The abutting parcel, recently purchased by the applicant, was previously owned by Alice Webb. It is approximately 9,000 s.f. in size and is currently wooded. Approximately 5,500 s.f. of it is wooded wetlands. These wetlands are to be filled as part of the proposed expansion of display area.

Proposed Conditions:
The proposed amendment includes an expansion of the crushed stone display area at the existing sales office of Shed Happens, Inc. at 509 Warren Avenue, Portland, Maine. No alterations to the original approvals are proposed.

The applicant has obtained a Tier 1 Wetland Alteration Permit from the Maine Department of Environmental Protection (MDEP) dated April 3, 2015, to fill 5,500 s.f. of wetland area on this parcel in support of the construction of an approximately 8,700 s.f. crushed stone display area. A 5 foot-wide vegetated border along the north and west boundaries of the new parcel is also proposed. See Amended Site Plan prepared by Wayne T. Wood & Co., dated March, 2015.

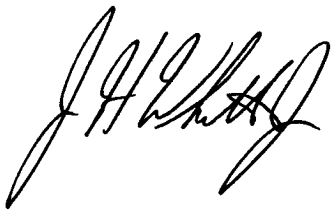
The display area will be prepared with a crushed stone surface, similar to the other display areas on the site. The crushed stone surface was considered a non-impervious area in the original Site Plan approvals because this type of surface promotes filtration of stormwater runoff prior to its release from the site. The display area will be graded to drain to the existing Underdrained Filter Basin that was approved in 2012. The filter

basin is sized such that the introduction of the new runoff will not jeopardize the integrity of the feature. Please see attached HydroCAD calculations.

Wetland Alteration:
The applicant has obtained an MDEP Tier 1 Wetland Alteration Permit to fill 5,500 s.f. of wooded wetland area as part of this proposal. The total wetland area being altered on this site is 13,800 s.f. (as indicated within the MDEP permit documents, attached). The filling of the wetland area is re-directing runoff to an existing basin on the site and is not expected to negatively impact the flooding capacity of downstream wetland areas.

Conclusion:
The applicant has found that more display area would be beneficial to his business. The increase will provide appropriate space between structures and better display the wide variety of structures they manufacture and sell, while producing no significant, negative impacts on downstream stormwater features. We look forward to discussing this proposed in more detail with you in the near future. In the meantime, we would welcome any questions that you may have.

Sincerely,
TERRADYN CONSULTANTS, L.L.C.



Jon H. Whitten, Jr., P.E.
Project Engineer

Portland, Maine Yes. Life's good here.

Jeff Levine, AICP, Director
Planning & Urban Development Department

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a ***legal signature*** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no Site Plan or Historic Preservation Applications can be reviewed until payment of appropriate application fees are ***paid in full*** to the Inspections Office, City of Portland Maine by method noted below:

☐ Within 24-48 hours, once my complete application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☐ Within 24-48 hours, once my application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.

☐ I intend to deliver a payment method through the U.S. Postal Service mail once my application paperwork has been electronically delivered.

_____ _____

Applicant Signature: Date:

_____ _____

I have provided digital copies and sent them on: Date:

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means i.e. a thumb drive or CD to the Inspections Office, City Hall, 3rd Floor, Room 315.

Level II – Preliminary and Final Site Plans
Development Review Application
Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level II: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level II: Site Plan Development includes:

- New construction of structures with a total floor area of less than 10,000 sq. ft. in all zones, except in Industrial Zones.
- New construction of structures with a total floor area of less than 20,000 sq. ft. in Industrial Zones.
- Any new temporary or permanent parking area, paving of an existing unpaved surface parking area in excess of 7,500 sq. ft. and serving less than 75 vehicles, or creation of other impervious surface area greater than 7,500 sq. ft.
- Building addition(s) with a total floor area of less than 10,000 sq. ft. (cumulatively within a 3 year period) in any zone, except in Industrial Zones.
- Building addition(s) with a total floor area of less than 20,000 sq. ft. in Industrial Zones.
- Park improvements: New structures or buildings with a total floor area of less than 10,000 sq. ft., facilities encompassing an area of greater than 7,500 sq. ft. and less than 20,000 sq. ft. (excludes rehabilitation or replacement of existing facilities).
- New construction of piers, docks, wharves, bridges, retaining walls, and other structures within the Shoreland Zone.
- Land disturbance between 1 and 3 acres that are stripped, graded, grubbed, filled or excavated.
- A change in the use of a total floor area between 10,000 and 20,000 sq. ft. in any existing building (cumulatively within a 3 year period).
- Lodging house, bed and breakfast facility, emergency shelter or special needs independent living unit.
- Signage subject to approval pursuant to Section 14-526 (d) 8.a. of the Land Use Code.
- Any new major or minor auto service station with less than 10,000 sq. ft. of building area in any permitted zone other than the B-2 or B-5 zones.
- The creation of day care or home babysitting facilities to serve more than 12 children in a residential zone (not permitted as a home occupation under section 14-410) in any principal structure that has not been used as a residence within the 5 years preceding the application.
- Any drive-through facility that is not otherwise reviewed as a conditional use under Article III.

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: http://me-portland.civicplus.com/DocumentCenter/Home/View/1080
Design Manual: http://me-portland.civicplus.com/DocumentCenter/View/2355
Technical Manual: http://me-portland.civicplus.com/DocumentCenter/View/2356

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

Revised: August, 2013

PROJECT NAME: Shed Happens, Inc.

PROPOSED DEVELOPMENT ADDRESS:

509 Warren Avenue, Portland, Maine

PROJECT DESCRIPTION:

Addition of approximately 9,000 s.f. of crushed stone display area.

CHART/BLOCK/LOT: 304/A/15-18 & 37-38

PRELIMINARY PLAN _____ (date)
FINAL PLAN _____ (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Mr. Michael Doherty Business Name, if applicable: Shed Happens, Inc. Address: 509 Warren Ave. City/State : Portland, ME Zip Code: 04101	**Applicant Contact Information** E-mail: mike@shedhappens.com Home #: Work #: 207-892-3636 Cell #: 207-415-2236 Fax#: 207-892-3622
Owner – (if different from Applicant) Name: Same as applicant Address: City/State : Zip Code:	**Owner Contact Information** E-mail: Home #: Work #: Cell #: Fax#:
Agent/ Representative Name: Terradyn Consultants, LLC, Jon Whitten, Jr., P.E. Address: PO Box 339 City/State : New Gloucester, ME Zip Code: 04260	**Agent/Representative Contact information** E-mail: jon@terradynconsultants.com Home #: Work #: 207-926-5111 Cell #: 207-329-5190 Fax#: 207-221-1317
Billing Information Name: Same as applicant Address: City/State : Zip Code:	**Billing Information** E-mail: Home #: Work #: Cell #: Fax#:

Engineer	**Engineer Contact Information**
Name: Same as agent Address: City/State : Zip Code:	E-mail: Home #: Work #: Cell #: Fax#:
Surveyor	**Surveyor Contact Information**
Name: Wayne T. Wood & Co. Address: 30 Woods Drive City/State : Gray, ME Zip Code: 04039	E-mail: wtwco@securespeed.net Home #: Work #: 207-657-3330 Cell #: Fax#:
Architect	**Architect Contact Information**
Name: Address: City/State : Zip Code:	E-mail: Home #: Work #: Cell #: Fax#:
Attorney	**Attorney Contact Information**
Name: Address: City/State : Zip Code:	E-mail: Home #: Work #: Cell #: Fax#:

APPLICATION FEES:
Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Level II Development (check applicable reviews)	**Other Reviews (check applicable reviews)**
_X_ Less than 10,000 sq. ft. ($400) ___ After-the-fact Review ($1,000 plus applicable application fee) _____ The City invoices separately for the following: • Notices ($.75 each) • Legal Ad (% of total Ad) • Planning Review ($40.00 hour) • Legal Review ($75.00 hour) Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.	___ Traffic Movement ($1,000) ___ Stormwater Quality ($250) ___ Site Location ($3,000, except for residential projects which shall be $200/lot) # of Lots ___ x $200/lot = _____ ___ Other _____ ___ Change of Use ___ Flood Plain ___ Shoreland ___ Design Review ___ Housing Replacement ___ Historic Preservation

APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan submitted as separate files, with individual file which can be found on the **Electronic Plan and Document Submittal** page of the City's website at http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal

2. In addition, one (1) paper set of the plans (full size), one (1) paper set of plans (11 x 17), paper copy of written materials, and the application fee must be submitted to the Building Inspections Office to start the review process.

The application must be complete, including but not limited to the contact information, project data, application checklists, wastewater capacity, plan for fire department review, and applicant signature. The submissions shall include one (1) paper packet with folded plans containing the following materials:

1. **One (1) full size site plans** that must be **folded.**
2. One (1) copy of all written materials or as follows, unless otherwise noted:
   a. Application form that is completed and signed.
   b. Cover letter stating the nature of the project.
   c. All Written Submittals (Sec. 14-527 (c), including evidence of right, title and interest.
3. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet.
4. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
5. One (1) set of plans reduced to 11 x 17.

Please refer to the application checklist (attached) for a detailed list of submission requirements.

APPLICANT SIGNATURE:

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for a Level II Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant:	**Date:**

PROJECT DATA

The following information is required where applicable, in order to complete the application.

Total Area of Site	29,236	sq. ft.
Proposed Total Disturbed Area of the Site	29,236	sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland		
Impervious Surface Area		
Impervious Area (Total Existing)	3,800	sq. ft.
Impervious Area (Total Proposed)	no additional	sq. ft.
Building Ground Floor Area and Total Floor Area		
Building Footprint (Total Existing)	432	sq. ft.
Building Footprint (Total Proposed)	no additional	sq. ft.
Building Floor Area (Total Existing)		sq. ft.
Building Floor Area (Total Proposed)		sq. ft.
Zoning		
Existing	B-4	
Proposed, if applicable		
Land Use		
Existing	Shed Happens Display/Sales	
Proposed	Shed Happens Display/Sales	
Residential, If applicable		
# of Residential Units (Total Existing)		
# of Residential Units (Total Proposed)		
# of Lots (Total Proposed)		
# of Affordable Housing Units (Total Proposed)		
Proposed Bedroom Mix		
# of Efficiency Units (Total Proposed)		
# of One-Bedroom Units (Total Proposed)		
# of Two-Bedroom Units (Total Proposed)		
# of Three-Bedroom Units (Total Proposed)		
Parking Spaces		
# of Parking Spaces (Total Existing)	4	
# of Parking Spaces (Total Proposed)	no additional	
# of Handicapped Spaces (Total Proposed)	1	
Bicycle Parking Spaces		
# of Bicycle Spaces (Total Existing)		
# of Bicycle Spaces (Total Proposed)		
Estimated Cost of Project	$30,000	

PRELIMINARY PLAN (Optional) - Level II Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST**
X		1	Completed Application form
X		1	Application fees
X		1	Written description of project
X		1	Evidence of right, title and interest
X		1	Evidence of state and/or federal approvals, if applicable
X		1	Written assessment of proposed project's compliance with applicable zoning requirements
N/A		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
N/A		1	Written requests for waivers from site plan or technical standards, if applicable.
X		1	Evidence of financial and technical capacity
N/A		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST**
X		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	**Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)**
X		Proposed grading and contours;	
X		Existing structures with distances from property line;	
X		Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;	
X		Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);	
N/A		Preliminary infrastructure improvements;	
X		Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;	
X		Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);	
N/A		Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);	
N/A		Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;	
N/A		Exterior building elevations.	

FINAL PLAN - Level II Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	**GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
		1	* Completed Application form
		1	* Application fees
		1	* Written description of project
		1	* Evidence of right, title and interest
		1	* Evidence of state and/or federal permits
		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
		1	* Evidence of financial and technical capacity
		1	Construction Management Plan
		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
		1	Stormwater management plan and stormwater calculations, including description of project, hydrology and impervious area.
		1	Written summary of project's consistency with related city master plans
		1	Evidence of utility capacity to serve
		1	Written summary of solid waste generation and proposed management of solid waste
		1	A code summary referencing NFPA 1 and all Fire Department technical standards
		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
		1	Manufacturer’s verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	**SITE PLAN SUBMISSIONS CHECKLIST** **(* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)**
		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
		1	**Final Site Plans including the following:**
			Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);
			Existing and proposed structures on parcels abutting site;
			All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;
			Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;
			Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;
			Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;
			Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
			Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;
			Location of all snow storage areas and/or a snow removal plan;
			A traffic control plan as detailed in Section 1 of the Technical Manual;
			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
			Location and proposed alteration to any watercourse;
			A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;
			Proposed buffers and preservation measures for wetlands;
			Existing soil conditions and location of test pits and test borings;
			Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;
			A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;
			Grading plan;
			Ground water protection measures;
			Existing and proposed sewer mains and connections;
			Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
			Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;

- Continued on next page -

		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

PORTLAND FIRE DEPARTMENT
SITE REVIEW
FIRE DEPARTMENT CHECKLIST

A separate drawing[s] shall be provided as part of the site plan application for the Portland Fire Department's review.

1. Name, address, telephone number of applicant
2. Name address, telephone number of architect
3. Proposed uses of any structures [NFPA and IBC classification]
4. Square footage of all structures [total and per story]
5. Elevation of all structures
6. Proposed fire protection of all structures
    - ***As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)***
7. Hydrant locations
8. Water main[s] size and location
9. Access to all structures [min. 2 sides]
10. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards.

Some structures may require Fire flows using annex H of NFPA 1

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991

Date: NOT APPLICABLE

Mr. Frank J. Brancely,
Senior Engineering Technician,
Phone #: (207) 874-8832,
Fax #: (207) 874-8852,
E-mail:fjb@portlandmaine.gov

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: _____

Chart Block Lot Number: _____

Proposed Use: _____

Previous Use: _____

Existing Sanitary Flows: _____GPD

Existing Process Flows: _____GPD

Description and location of City sewer that is to receive the proposed building sewer lateral.

_____

_____

Site Category

Commercial *(see part 4 below)*	☐
Industrial *(complete part 5 below)*	☐
Governmental	☐
Residential	☐
Other *(specify)*	☐

(Clearly, indicate the proposed connections, on the submitted plans)

2. Please, Submit Contact Information.

City Planner's Name: _____ Phone: _____

Owner/Developer Name: _____

Owner/Developer Address: _____

Phone: _____ Fax: _____ E-mail: _____

Engineering Consultant Name: _____

Engineering Consultant Address: _____

Phone: _____ Fax: _____ E-mail: _____

(Note: Consultants and Developers should allow +/- 15 days, for capacity status, prior to Planning Board Review)

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: _____ GPD

Peaking Factor/ Peak Times: _____

Specify the source of design guidelines: *(i.e._"Handbook of Subsurface Wastewater Disposal in Maine,"*
__"Plumbers and Pipe Fitters Calculation Manual," __ Portland Water District Records, _ Other (specify)

_____

(Note: Please submit calculations showing the derivation of your design flows, either on the following page, in the space provided, or attached, as a separate sheet)

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values: _____

Size of External Grease Interceptor: _____

Retention Time: _____

Peaking Factor/ Peak Times: _____

(Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet)

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: _____ GPD

Do you currently hold Federal or State discharge permits? Yes ____ No ____

Is the process wastewater termed categorical under CFR 40? Yes ____ No ____

OSHA Standard Industrial Code (SIC): *http://www.osha.gov/oshstats/sicser.html*

Peaking Factor/Peak Process Times: _____

(Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps)

(Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided below, or attached, as a separate sheet)

Notes, Comments or Calculation

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

April 2015

Shed Happens, Inc.
Attn: Michael Doherty
509 Warren Ave
Portland, ME 04103

RE: Natural Resources Protection Act Tier 1 Application, Portland, DEP #L-25696-TC-B-N

Dear Mr. Doherty:

Please find enclosed a signed copy of your Department of Environmental Protection land use permit. You will note that the permit includes a description of your project, findings of fact that relate to the approval criteria the Department used in evaluating your project, and conditions that are based on those findings and the particulars of your project. Please take several moments to read your permit carefully, paying particular attention to the conditions of the approval. The Department reviews every application thoroughly and strives to formulate reasonable conditions of approval within the context of the Department's environmental laws. You will also find attached some materials that describe the Department's appeal procedures for your information.

If you have any questions about the permit or thoughts on how the Department processed this application please get in touch with me directly. I can be reached at (207) 523-9807 or by e-mail at david.cherry@maine.gov.

Sincerely,

David Cherry, Project Manager
Division of Land Resource Regulation
Bureau of Land & Water Quality

pc: File

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

SHED HAPPENS, INC.	) NATURAL RESOURCES PROTECTION ACT
Portland, Cumberland County	) FRESHWATER WETLAND ALTERATION
COMMERCIAL BUSINESS EXPANSION	) WATER QUALITY CERTIFICATION
L-25696-TC-B-N (approval)	) FINDINGS OF FACT AND ORDER

History of Project: Department Order #L-25696-TC-A-N, dated July 6, 2012, approved the alteration of 8,300 square feet of scrub shrub freshwater wetlands for the construction of a shed retail center.

Project Description: The applicant proposes to alter an additional 5,500 square feet of forested wetlands for an expansion of the shed retail center, for a cumulative alteration area of 13,800 square feet of freshwater wetland. The applicant recently purchased the abutting parcel of land which is approximately 9,000 square feet in size. In total, the applicant owns approximately 29,236 square feet of land. The applicant identified a need for expansion due to the existing limited storage area and stated that the additional storage area is necessary for operation of the business. Because of the project purpose and the presence of wetland on the lot abutting the existing facility, additional wetland impacts are unavoidable.

The proposed project is shown on a plan titled "Amended Site Plan," prepared by Wayne Wood & Co., and dated March 2015. The applicant has avoided and minimized wetland impacts to the greatest extent practicable by utilizing the existing areas previously altered as much as possible. Due to the size of the recently purchased parcel and the amount of freshwater wetland mapped on the site, the applicant intends to fill the entire wetland area on the abutting parcel. A five-foot wide buffer of grass and trees will be maintained around the laydown area and will be graded to drain towards an existing stormwater treatment system. According to the Department's Geographic Information System, there are no mapped significant wildlife habitats associated with the project site. The proposed project is located off Warren Avenue in the City of Portland.

Permit for:	[X]	Tier 1
DEP Decision:	[X]	Approved [ ] Denied (see attached letter)
CORPS Action:	[X]	The Corps has been notified of your application. The following are subject to Federal screening: (1) projects with previously authorized or unauthorized work, in combination with a Tier 1 permit for a single and complete project, which total more than 15,000 square feet of altered area; (2) projects with multiple state permits and/or state exemptions which apply to a single and complete project that total more than 15, 000 square feet of altered area; and (3) projects that may impact a vernal pool, as determined by the State of Maine or the Corps. If your activity is listed above, *Corps approval is required for your project*. For information regarding the status of your application contact the Corps' Maine Project Office at 623-8367.

Standard Conditions:

1) If construction or operation of the activity is not begun within four (4) years from the date signed, this permit shall lapse and the applicant shall reapply to the Department for a new permit. This permit is transferable only with prior approval from the Department. If the activity is associated with a larger project, starting any aspect of that project constitutes start of construction.
2) The project shall be completed according to the plans in the application. Any change in the project plans must be reviewed and approved by the Department.
3) Properly installed erosion control measures shall be installed prior to beginning the project, and all disturbed soil should be stabilized immediately upon project completion.
4) A copy of this approval will be sent to the City of Portland. Department approval of your activity does not supersede or substitute the need for any necessary local approvals.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 3RD DAY OF April, 2015.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Michael Kuhn
For: Patricia W. Aho, Commissioner

Filed
APR 0 3 2015
State of Maine
Board of Environmental Protection

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES…

DC/L25696bn/ATS#78981

Natural Resources Protection Act (NRPA)
Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCE PROTECTION ACT, TITLE 38, M.R.S.A. SECTION 480-A ET.SEQ. UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. Time frame for approvals. If construction or operation of the activity is not begun within four years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

F. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised (4/92) DEP LW0428

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION, AUGUSTA, MAINE 04333

Erosion Control for Homeowners

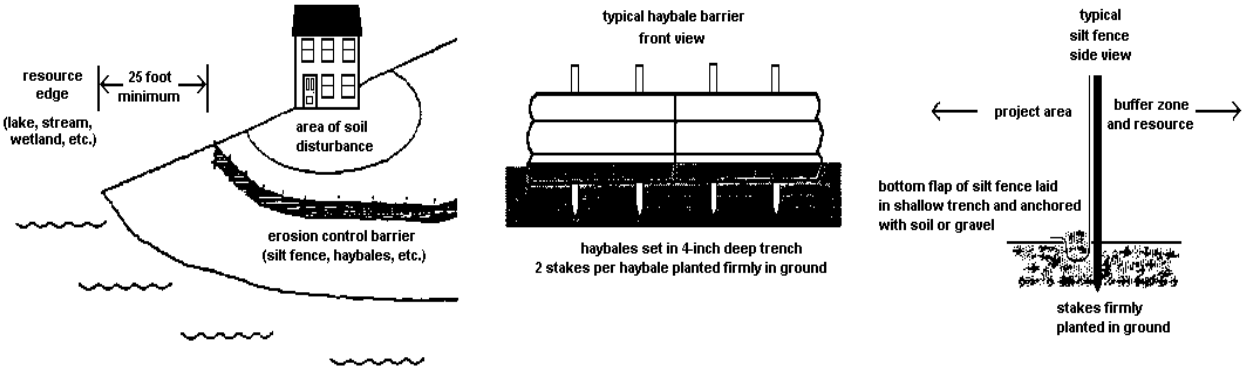
Before Construction

1. If you have hired a contractor, make sure you discuss your permit with them. Talk about what measures they plan to take to control erosion. Everybody involved should understand what the resource is, and where it is located. Most people can identify the edge of a lake or river. However, the edges of wetlands are often not so obvious. Your contractor may be the person actually pushing dirt around, but you are both responsible for complying with the permit.

2. Call around to find where erosion control materials are available. Chances are your contractor has these materials already on hand. You probably will need silt fence, hay bales, wooden stakes, grass seed (or conservation mix), and perhaps filter fabric. Places to check for these items include farm & feed supply stores, garden & lawn suppliers, and landscaping companies. It is not always easy to find hay or straw during late winter and early spring. It also may be more expensive during those times of year. Plan ahead -- buy a supply early and keep it under a tarp.

3. Before any soil is disturbed, make sure an erosion control barrier has been installed. The barrier can be either a silt fence, a row of staked hay bales, or both. Use the drawings below as a guide for correct installation and placement. The barrier should be placed as close as possible to the soil-disturbance activity.

4. If a contractor is installing the erosion control barrier, double check it as a precaution. Erosion control barriers should be installed "on the contour", meaning at the same level or elevation across the land slope, whenever possible. This keeps stormwater from flowing to the lowest point along the barrier where it can build up and overflow or destroy the barrier.



During Construction

1. Use lots of hay or straw mulch on disturbed soil. The idea behind mulch is to prevent rain from striking the soil directly. It is the force of raindrops hitting the bare ground that makes the soil begin to move downslope with the runoff water, and cause erosion. More than 90% of erosion is prevented by keeping the soil covered.

2. Inspect your erosion control barriers frequently. This is especially important after a rainfall. If there is muddy water leaving the project site, then your erosion controls are not working as intended. You or your contractor then need to figure out what can be done to prevent more soil from getting past the barrier.

3. Keep your erosion control barrier up and maintained until you get a good and healthy growth of grass and the area is permanently stabilized.

After Construction

1. After your project is finished, seed the area. Note that all ground covers are not equal. For example, a mix of creeping red fescue and Kentucky bluegrass is a good choice for lawns and other high-maintenance areas. But this same seed mix is a poor selection for stabilizing a road shoulder or a cut bank that you don't intend to mow. Your contractor may have experience with different seed mixes, or you might contact a seed supplier for advice.

2. Do not spread grass seed after September 15. There is the likelihood that germinating seedlings could be killed by a frost before they have a chance to become established. Instead, mulch the area with a thick layer of hay or straw. In the spring, rake off the mulch and then seed the area. Don't forget to mulch again to hold in moisture and prevent the seed from washing away or being eaten by birds or other animals.

3. Keep your erosion control barrier up and maintained until you get a good and healthy growth of grass and the area is permanently stabilized.

Why Control Erosion?

To Protect Water Quality

When soil erodes into protected resources such as streams, rivers, wetlands, and lakes, it has many bad effects. Eroding soil particles carry phosphorus to the water. An excess of phosphorus can lead to explosions of algae growth in lakes and ponds called blooms. The water will look green and can have green slime in it. If you are near a lake or pond, this is not pleasant for swimming, and when the soil settles out on the bottom, it smothers fish eggs and small animals eaten by fish. There many other effects as well, which are all bad.

To Protect the Soil

It has taken thousands of years for our soil to develop. It usefulness is evident all around us, from sustaining forests and growing our garden vegetables, to even treating our septic wastewater! We cannot afford to waste this valuable resource.

To Save Money ($$)

Replacing topsoil or gravel washed off your property can be expensive. You end up paying twice because State and local governments wind up spending your tax dollars to dig out ditches and storm drains that have become choked with sediment from soil erosion.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: March 2012 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's ("DEP") Commissioner: (1) in an administrative process before the Board of Environmental Protection ("Board"); or (2) in a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S.A. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S.A. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S.A. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This INFORMATION SHEET, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S.A. §§ 341-D(4) & 346, the *Maine Administrative Procedure Act*, 5 M.R.S.A. § 11001, and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 CMR 2 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days of the date on which the Commissioner's decision was filed with the Board will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by the Board's receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner a copy of the appeal documents and if the person appealing is not the applicant in the license proceeding at issue the applicant must also be sent a copy of the appeal documents. All of the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time submitted:

1. *Aggrieved Status*. The appeal must explain how the person filing the appeal has standing to maintain an appeal. This requires an explanation of how the person filing the appeal may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error*. Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge*. If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested*. The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing on the appeal is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered by the Board in an appeal only when the evidence is relevant and material and that the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed the license normally remains in effect pending the processing of the appeal. A license holder may proceed with a project pending the outcome of an appeal but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, including the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, and any materials submitted in response to the appeal will be sent to Board members with a recommendation from DEP staff. Persons filing appeals and interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, a license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2; 5 M.R.S.A. § 11001; & M.R. Civ. P 80C. A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. Failure to file a timely appeal will result in the Board's or the Commissioner's decision becoming final.

An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S.A. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452 or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

TERRADYN
CONSULTANTS, LLC
Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

STORMWATER MANAGEMENT PLAN

Shed Happens, Inc.
509 Warren Ave.
Portland, Maine

The following Stormwater Management Plan has been prepared for Shed Happens, Inc. to ensure the integrity of the previously constructed and approved Underdrained Filter Basin given the proposed expansion of display area on the site off Warren Ave. in Portland, Maine.

Existing Conditions

The Shed Happens site is under a 2012 Site Plan approval from the City of Portland, Maine. Within that approval, an Underdrained Filter Basin was constructed to treat stormwater runoff from the developed areas of the site and released the runoff to an existing drainage system within Warren Avenue. That basin was constructed soon after approvals and appears to be in good working order.

The site consists of:

- A paved access drive with 4 parking spaces
- A permanent sales office building
- Crushed Stone display areas for the display of various structures for sale.
- A vegetated underdrained filter basin
- Lawn areas, etc.

Proposed Development

The applicant/owner has recently purchased a 9,000 s.f. parcel of land directly abutting the existing site. They propose to construct a crushed stone display area within this new parcel. The display area will be approximately 8,700 s.f. in size. The remained area of the parcel is to be maintained as lawn/landscaped area.

The new display area will be graded such that it will drain to the existing underdrained filter basin. Using the HydroCAD calculations from the original Site Plan approval in 2012 as the basis of our calculations, we have modeled the proposed expansion and its impact on the site.

Approximately 10,500 s.f. of new area will be entering the existing basin in the proposed conditions. The crushed stone surface of the new display area will be constructed the same was as originally approved, and therefore can be considered pervious. This eliminates the need to increase the treatment area of the existing basin, yet does not dismiss the need to study the flood elevation within the basin.

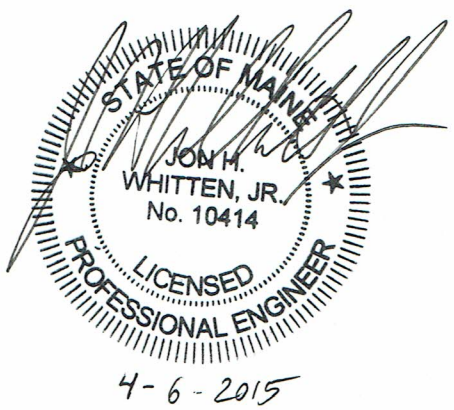
The flood elevation within the basin rises only a few tenths of a foot in the 25-year, 24-hour storm event. This small increase in flood elevation does not represent a significant change to the functionality of the basin. The flood levels within the basin do not threaten to over-top the basin embankments and to not appear to threaten the integrity of the basin at all.

It is important that the original Maintenance and Inspection schedules prepared for the site and the basin are followed for the life of the site. Maintenance of the basin will best ensure the integrity of the basin over the years.

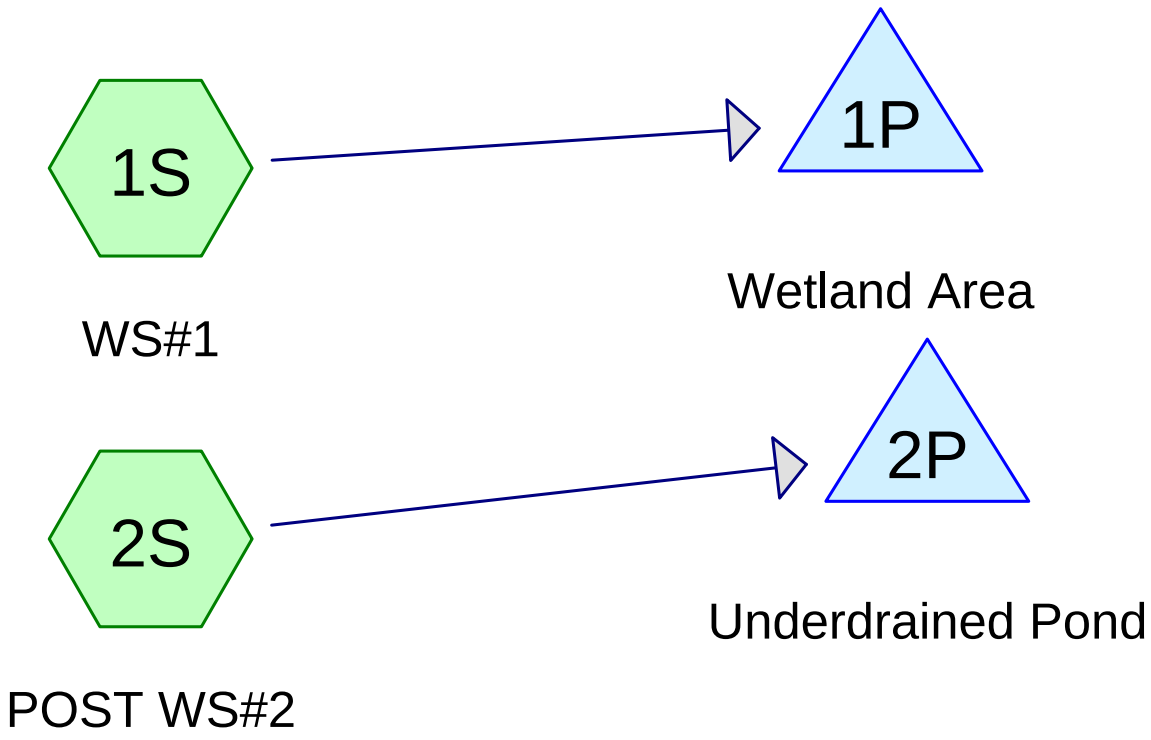
Summary

The proposed increase in display area at the site will slightly increase the volume of stromwater runoff entering the existing, underdrained filter basin. The slight increase will result in slightly higher ponding of runoff during large storm events. This slight increase of ponding does not appear to threaten the integrity of the basin due to the fact that the ponding stays well within the construction basin area and will not overtop the embankments, according to the calculations. Therefore the proposed expansion of this site is not expected to cause flooding, erosion or other significant adverse effects downstream of the site.

Prepared by:
TERRADYN CONSULTANTS, LLC



Jon H. Whitten, Jr., P.E. #10414
Vice President



Subcat Reach Pond Link

Drainage Diagram for 1450 Shed Happens
Prepared by Terradyn Consultants, LLC, Printed 4/3/2015

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.128	66	Woods, Poor, HSG B (1S)
0.452	74	>75% Grass cover, Good, HSG C (2S)
0.017	77	Woods, Good, HSG D (1S)
0.159	98	Paved parking, HSG A (2S)
0.010	98	Permanent Building (2S)
0.028	98	open water wetland (1S)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WS#1 Runoff Area=7,546 sf 16.37% Impervious Runoff Depth>0.72"
Flow Length=184' Tc=36.7 min CN=72 Runoff=0.08 cfs 0.010 af

Subcatchment 2S: POST WS#2 Runoff Area=27,076 sf 27.29% Impervious Runoff Depth>1.21"
Flow Length=180' Slope=0.0070 '/' Tc=21.7 min CN=81 Runoff=0.61 cfs 0.062 af

Pond 1P: Wetland Area Peak Elev=71.06' Storage=4,429 cf Inflow=0.08 cfs 0.010 af
Outflow=0.00 cfs 0.000 af

Pond 2P: Underdrained Pond Peak Elev=69.82' Storage=520 cf Inflow=0.61 cfs 0.062 af
Primary=0.25 cfs 0.062 af Secondary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.062 af

Summary for Subcatchment 1S: WS#1

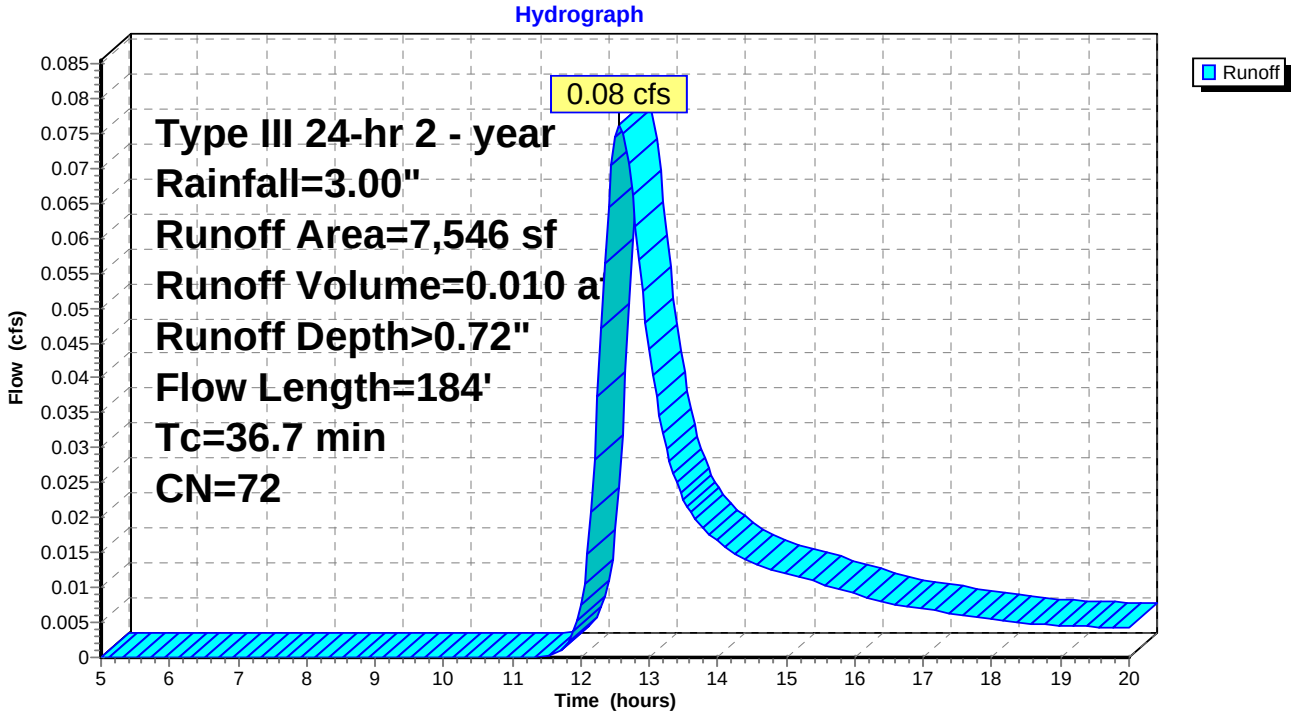
Runoff = 0.08 cfs @ 12.57 hrs, Volume= 0.010 af, Depth> 0.72"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 - year Rainfall=3.00"

	Area (sf)	CN	Description
	732	77	Woods, Good, HSG D
*	1,235	98	open water wetland
	5,579	66	Woods, Poor, HSG B
	7,546	72	Weighted Average
	6,311		83.63% Pervious Area
	1,235		16.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	32	0.0080	0.02		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
14.3	152	0.0050	0.18		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
36.7	184	Total			

Subcatchment 1S: WS#1



Summary for Subcatchment 2S: POST WS#2

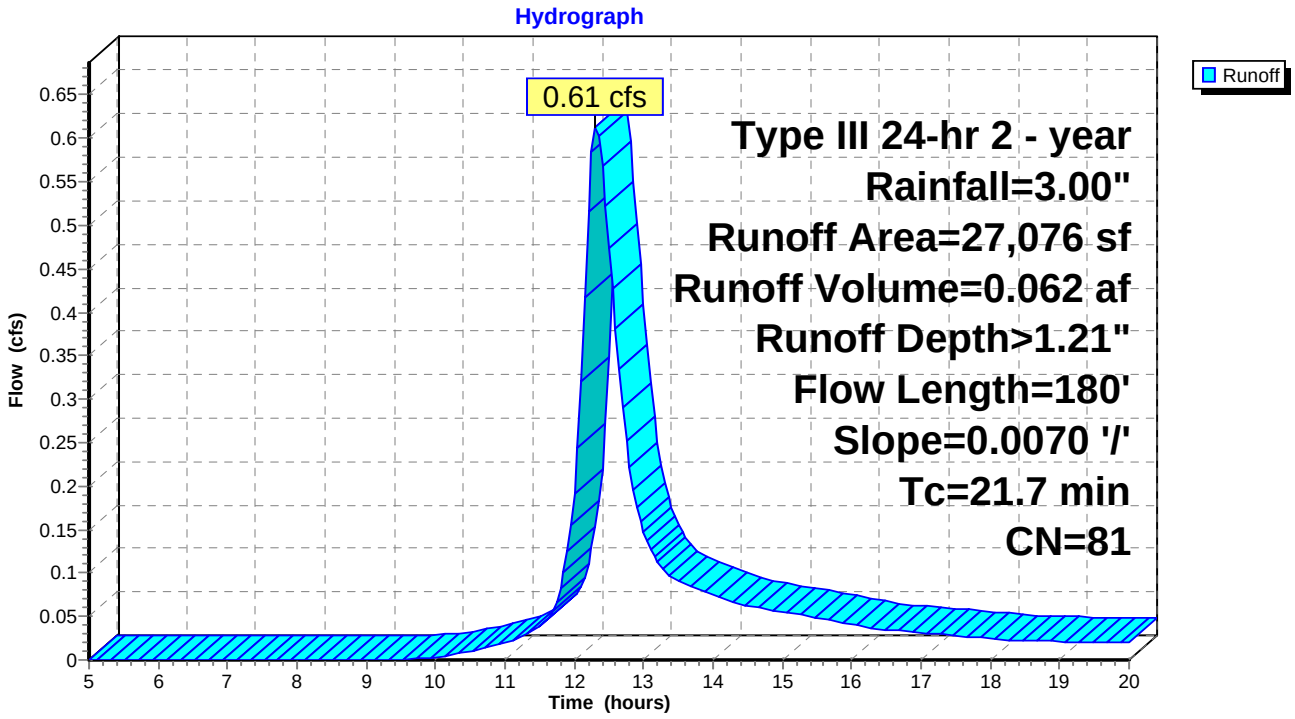
Runoff = 0.61 cfs @ 12.31 hrs, Volume= 0.062 af, Depth> 1.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 - year Rainfall=3.00"

	Area (sf)	CN	Description
	6,932	98	Paved parking, HSG A
*	456	98	Permanent Building
	9,199	74	>75% Grass cover, Good, HSG C
	10,489	74	>75% Grass cover, Good, HSG C
	27,076	81	Weighted Average
	19,688		72.71% Pervious Area
	7,388		27.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	150	0.0070	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.4	30	0.0070	1.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
21.7	180	Total			

Subcatchment 2S: POST WS#2



Summary for Pond 1P: Wetland Area

Inflow Area = 0.173 ac, 16.37% Impervious, Inflow Depth > 0.72" for 2 - year event
Inflow = 0.08 cfs @ 12.57 hrs, Volume= 0.010 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 71.00' Surf.Area= 6,954 sf Storage= 3,977 cf
Peak Elev= 71.06' @ 20.00 hrs Surf.Area= 7,199 sf Storage= 4,429 cf (452 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

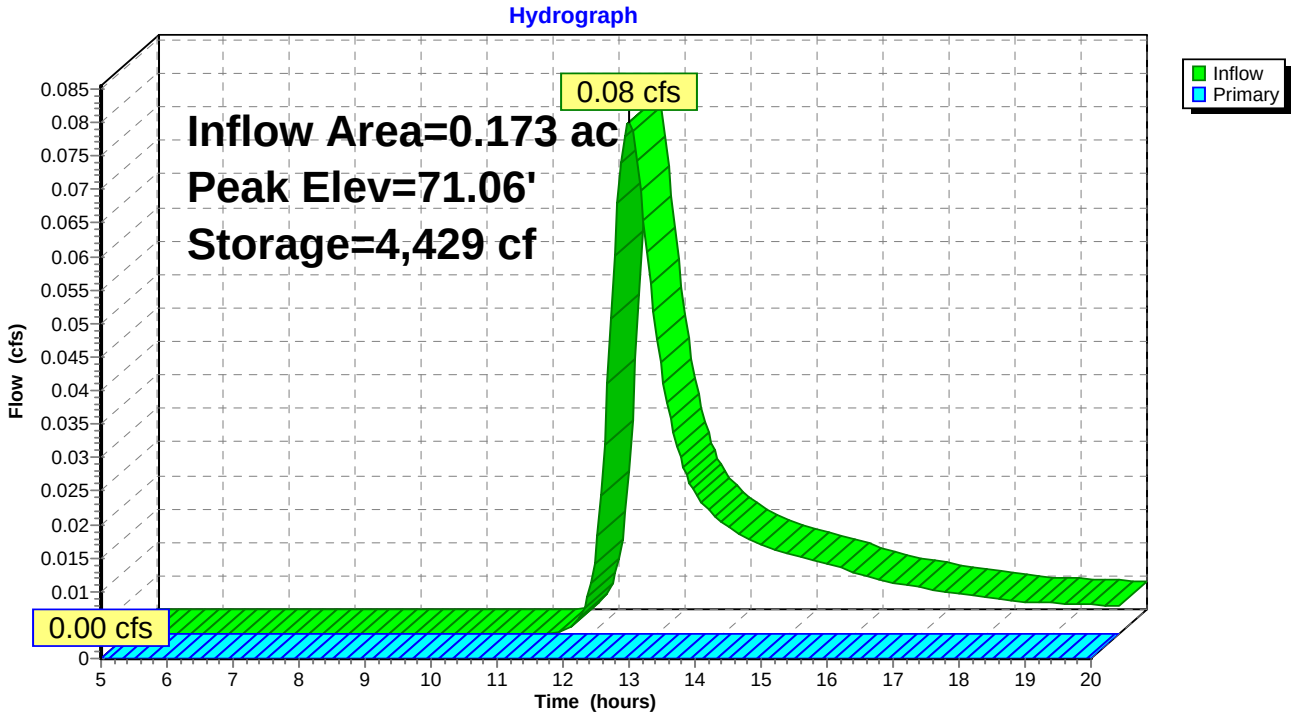
Volume	Invert	Avail.Storage	Storage Description
#1	70.00'	12,848 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
70.00	1,000	0	0
71.00	6,954	3,977	3,977
72.00	10,787	8,871	12,848

Device	Routing	Invert	Outlet Devices
#1	Primary	72.00'	**140.0' long x 15.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=71.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Wetland Area



Summary for Pond 2P: Underdrained Pond

Inflow Area = 0.622 ac, 27.29% Impervious, Inflow Depth > 1.21" for 2 - year event
Inflow = 0.61 cfs @ 12.31 hrs, Volume= 0.062 af
Outflow = 0.25 cfs @ 12.10 hrs, Volume= 0.062 af, Atten= 59%, Lag= 0.0 min
Primary = 0.25 cfs @ 12.10 hrs, Volume= 0.062 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 69.82' @ 12.76 hrs Surf.Area= 726 sf Storage= 520 cf

Plug-Flow detention time= 12.4 min calculated for 0.062 af (100% of inflow)
Center-of-Mass det. time= 12.3 min (828.1 - 815.9)

Volume	Invert	Avail.Storage	Storage Description
#1	69.00'	1,859 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

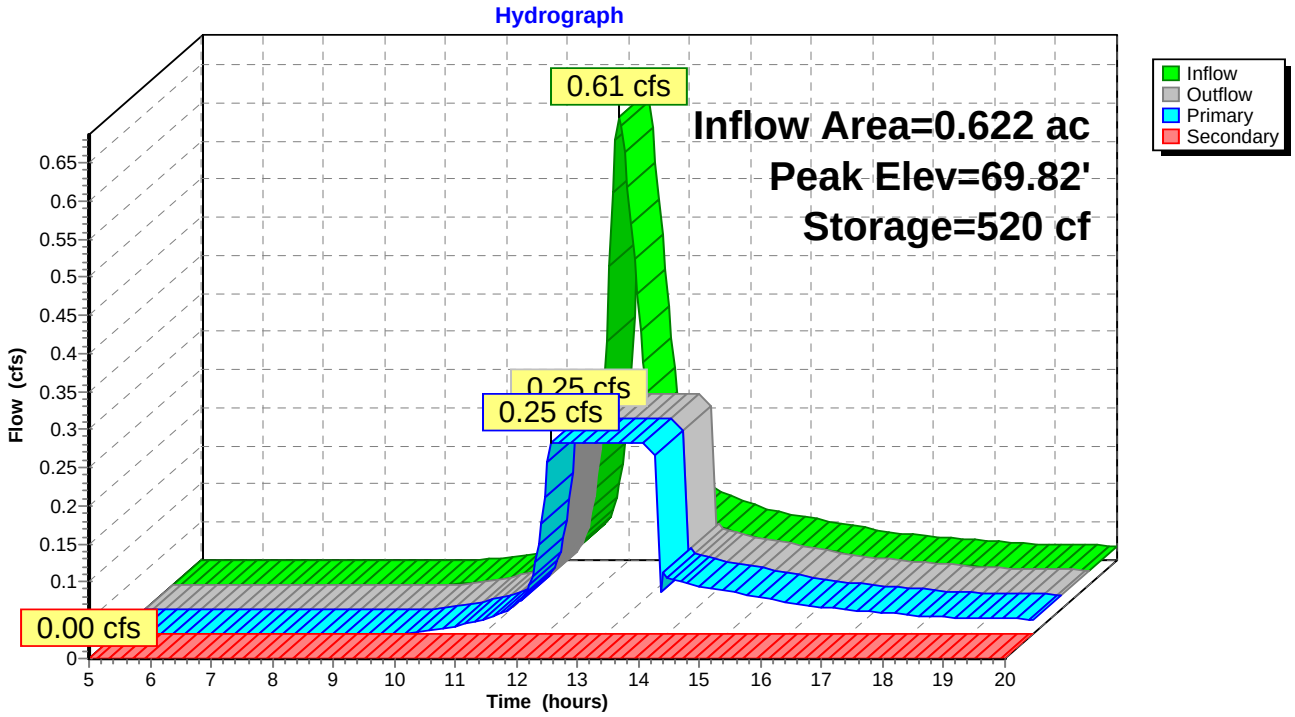
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.00	546	0	0
70.00	766	656	656
70.25	826	199	855
70.40	863	127	982
70.50	886	87	1,069
71.00	1,017	476	1,545
71.25	1,500	315	1,859

Device	Routing	Invert	Outlet Devices
#1	Primary	66.13'	**6.0" Round Culvert** L= 40.0' Ke= 0.500 Outlet Invert= 64.13' S= 0.0500 '/' Cc= 0.900 n= 0.015
#2	Device 1	69.00'	**0.25 cfs Exfiltration at all elevations**
#3	Device 1	70.40'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	71.75'	**15.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.25 cfs @ 12.10 hrs HW=69.04' (Free Discharge)
└**1=Culvert** (Passes 0.25 cfs of 1.38 cfs potential flow)
└**2=Exfiltration** (Exfiltration Controls 0.25 cfs)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=69.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Underdrained Pond



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WS#1 Runoff Area=7,546 sf 16.37% Impervious Runoff Depth>1.79"
Flow Length=184' Tc=36.7 min CN=72 Runoff=0.20 cfs 0.026 af

Subcatchment 2S: POST WS#2 Runoff Area=27,076 sf 27.29% Impervious Runoff Depth>2.53"
Flow Length=180' Slope=0.0070 '/' Tc=21.7 min CN=81 Runoff=1.29 cfs 0.131 af

Pond 1P: Wetland Area Peak Elev=71.16' Storage=5,104 cf Inflow=0.20 cfs 0.026 af
Outflow=0.00 cfs 0.000 af

Pond 2P: Underdrained Pond Peak Elev=70.58' Storage=1,144 cf Inflow=1.29 cfs 0.131 af
Primary=1.06 cfs 0.131 af Secondary=0.00 cfs 0.000 af Outflow=1.06 cfs 0.131 af

Summary for Subcatchment 1S: WS#1

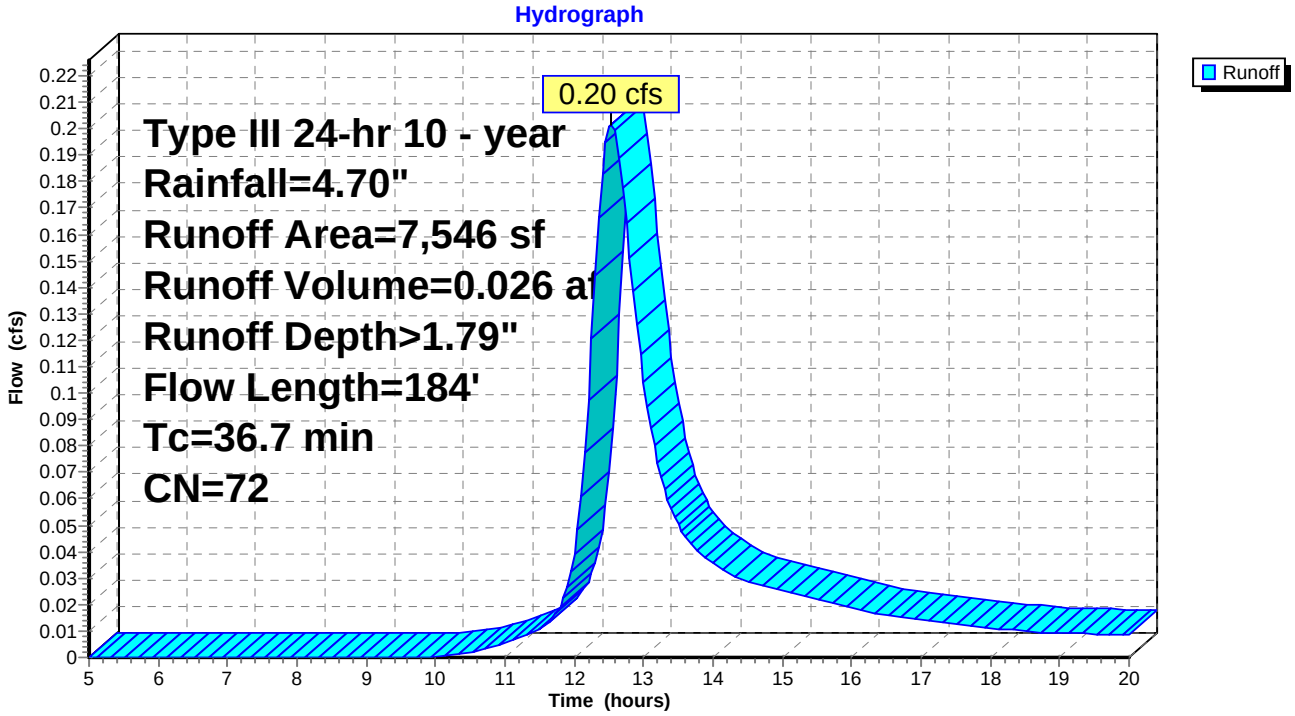
Runoff = 0.20 cfs @ 12.53 hrs, Volume= 0.026 af, Depth> 1.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 - year Rainfall=4.70"

	Area (sf)	CN	Description
	732	77	Woods, Good, HSG D
*	1,235	98	open water wetland
	5,579	66	Woods, Poor, HSG B
	7,546	72	Weighted Average
	6,311		83.63% Pervious Area
	1,235		16.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	32	0.0080	0.02		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
14.3	152	0.0050	0.18		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
36.7	184	Total			

Subcatchment 1S: WS#1



Summary for Subcatchment 2S: POST WS#2

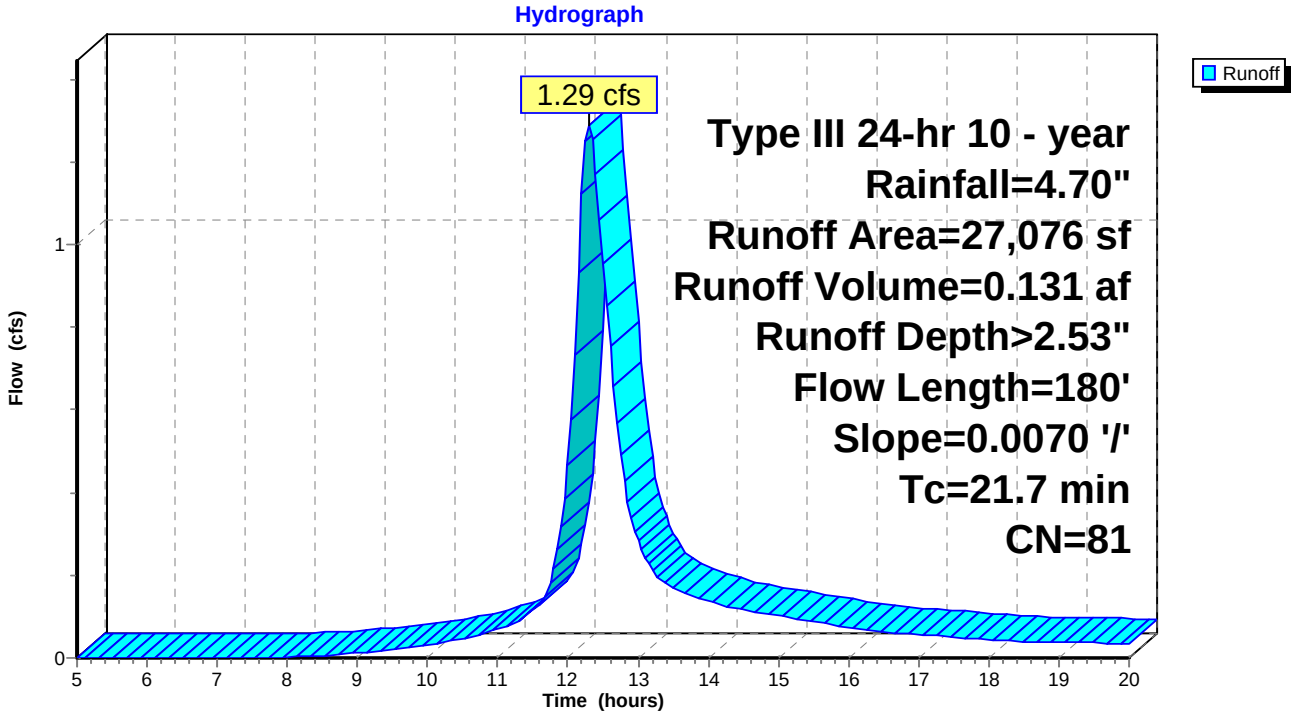
Runoff = 1.29 cfs @ 12.30 hrs, Volume= 0.131 af, Depth> 2.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 - year Rainfall=4.70"

	Area (sf)	CN	Description
	6,932	98	Paved parking, HSG A
*	456	98	Permanent Building
	9,199	74	>75% Grass cover, Good, HSG C
	10,489	74	>75% Grass cover, Good, HSG C
	27,076	81	Weighted Average
	19,688		72.71% Pervious Area
	7,388		27.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	150	0.0070	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.4	30	0.0070	1.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
21.7	180	Total			

Subcatchment 2S: POST WS#2



Summary for Pond 1P: Wetland Area

Inflow Area = 0.173 ac, 16.37% Impervious, Inflow Depth > 1.79" for 10 - year event
Inflow = 0.20 cfs @ 12.53 hrs, Volume= 0.026 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 71.00' Surf.Area= 6,954 sf Storage= 3,977 cf
Peak Elev= 71.16' @ 20.00 hrs Surf.Area= 7,550 sf Storage= 5,104 cf (1,127 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

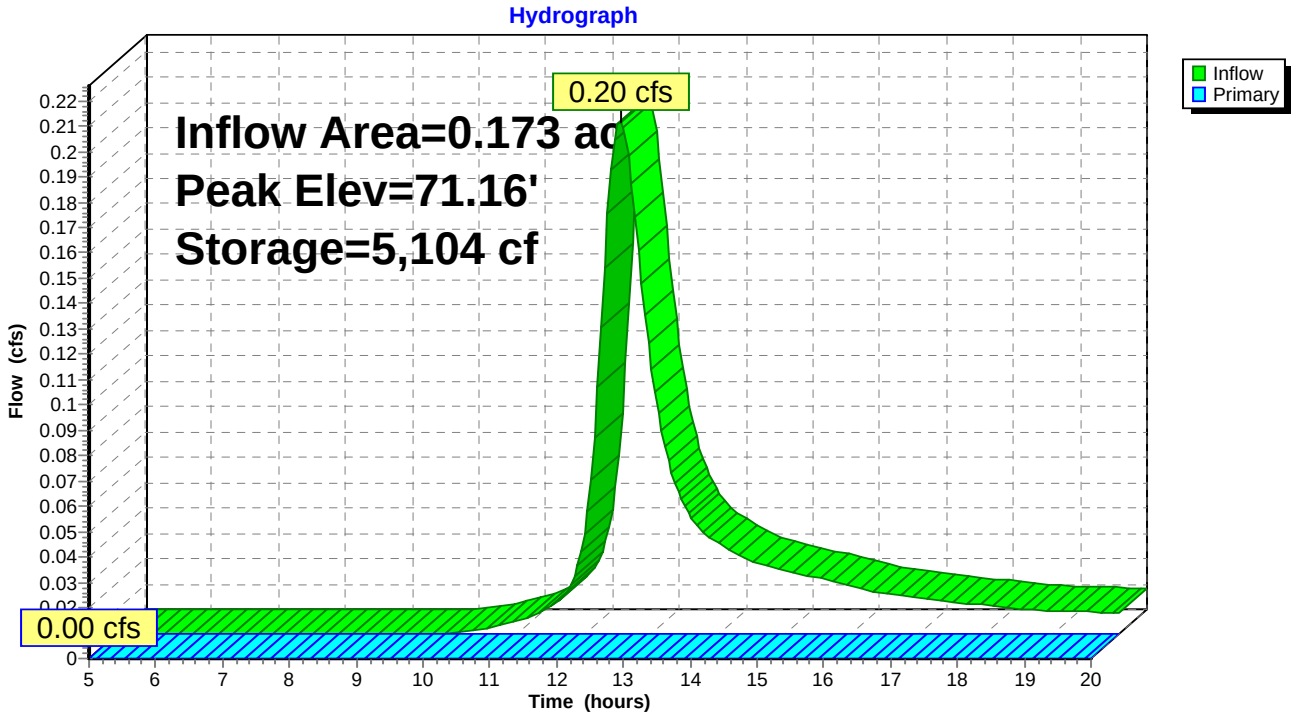
Volume	Invert	Avail.Storage	Storage Description
#1	70.00'	12,848 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
70.00	1,000	0	0
71.00	6,954	3,977	3,977
72.00	10,787	8,871	12,848

Device	Routing	Invert	Outlet Devices
#1	Primary	72.00'	**140.0' long x 15.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=71.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Wetland Area



Summary for Pond 2P: Underdrained Pond

Inflow Area = 0.622 ac, 27.29% Impervious, Inflow Depth > 2.53" for 10 - year event
Inflow = 1.29 cfs @ 12.30 hrs, Volume= 0.131 af
Outflow = 1.06 cfs @ 12.47 hrs, Volume= 0.131 af, Atten= 18%, Lag= 10.2 min
Primary = 1.06 cfs @ 12.47 hrs, Volume= 0.131 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 70.58' @ 12.47 hrs Surf.Area= 908 sf Storage= 1,144 cf

Plug-Flow detention time= 24.8 min calculated for 0.131 af (100% of inflow)
Center-of-Mass det. time= 24.7 min (824.0 - 799.4)

Volume	Invert	Avail.Storage	Storage Description
#1	69.00'	1,859 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

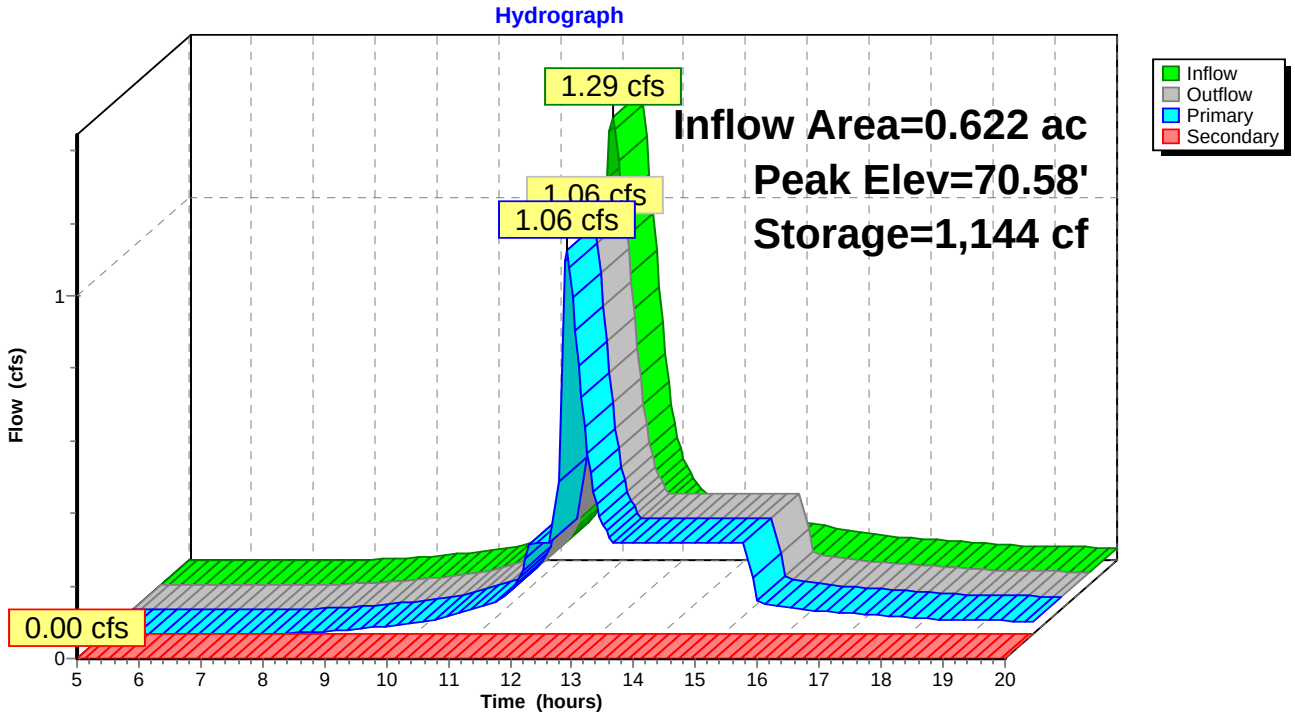
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.00	546	0	0
70.00	766	656	656
70.25	826	199	855
70.40	863	127	982
70.50	886	87	1,069
71.00	1,017	476	1,545
71.25	1,500	315	1,859

Device	Routing	Invert	Outlet Devices
#1	Primary	66.13'	**6.0" Round Culvert** L= 40.0' Ke= 0.500 Outlet Invert= 64.13' S= 0.0500 '/' Cc= 0.900 n= 0.015
#2	Device 1	69.00'	**0.25 cfs Exfiltration at all elevations**
#3	Device 1	70.40'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	71.75'	**15.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=1.02 cfs @ 12.47 hrs HW=70.58' (Free Discharge)
└**1=Culvert** (Passes 1.02 cfs of 1.61 cfs potential flow)
  └**2=Exfiltration** (Exfiltration Controls 0.25 cfs)
  └**3=Orifice/Grate** (Weir Controls 0.77 cfs @ 1.38 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=69.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Underdrained Pond



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WS#1 Runoff Area=7,546 sf 16.37% Impervious Runoff Depth>2.37"
Flow Length=184' Tc=36.7 min CN=72 Runoff=0.27 cfs 0.034 af

Subcatchment 2S: POST WS#2 Runoff Area=27,076 sf 27.29% Impervious Runoff Depth>3.20"
Flow Length=180' Slope=0.0070 '/' Tc=21.7 min CN=81 Runoff=1.62 cfs 0.166 af

Pond 1P: Wetland Area Peak Elev=71.20' Storage=5,467 cf Inflow=0.27 cfs 0.034 af
Outflow=0.00 cfs 0.000 af

Pond 2P: Underdrained Pond Peak Elev=70.65' Storage=1,201 cf Inflow=1.62 cfs 0.166 af
Primary=1.50 cfs 0.166 af Secondary=0.00 cfs 0.000 af Outflow=1.50 cfs 0.166 af

Summary for Subcatchment 1S: WS#1

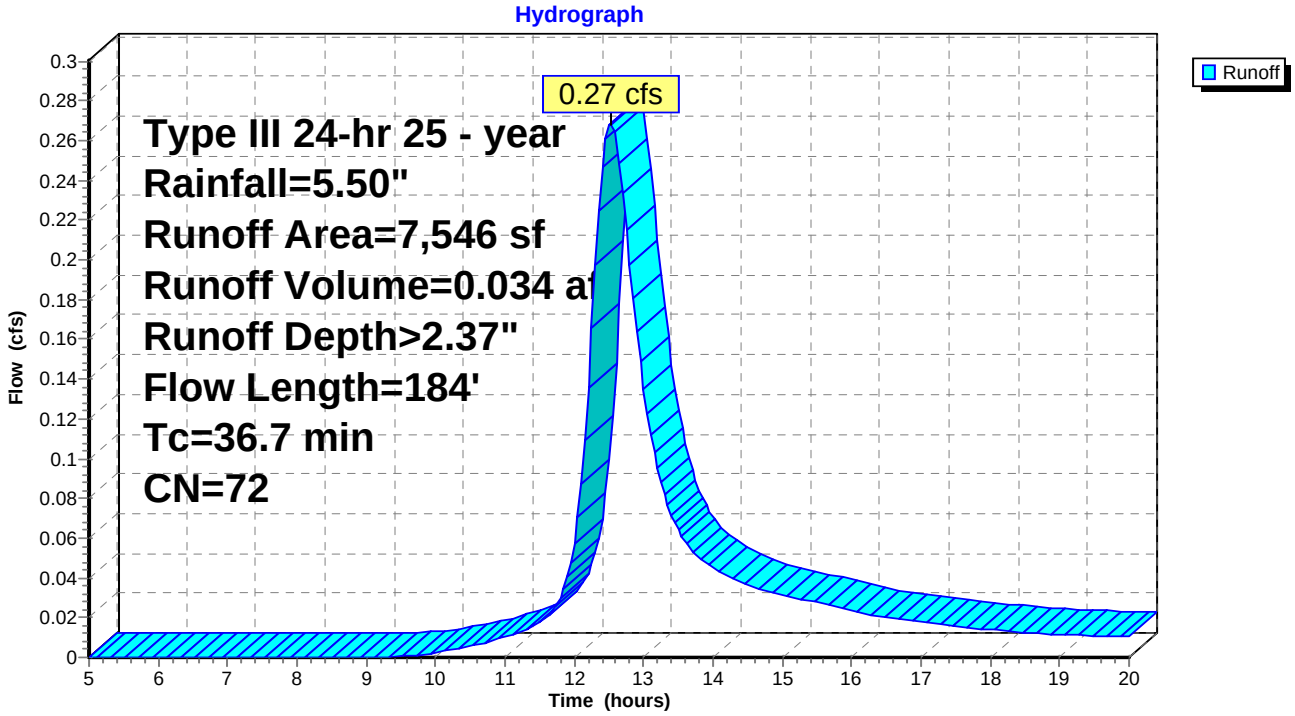
Runoff = 0.27 cfs @ 12.52 hrs, Volume= 0.034 af, Depth> 2.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 - year Rainfall=5.50"

	Area (sf)	CN	Description
	732	77	Woods, Good, HSG D
*	1,235	98	open water wetland
	5,579	66	Woods, Poor, HSG B
	7,546	72	Weighted Average
	6,311		83.63% Pervious Area
	1,235		16.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.4	32	0.0080	0.02		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.00"
14.3	152	0.0050	0.18		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
36.7	184	Total			

Subcatchment 1S: WS#1



Summary for Subcatchment 2S: POST WS#2

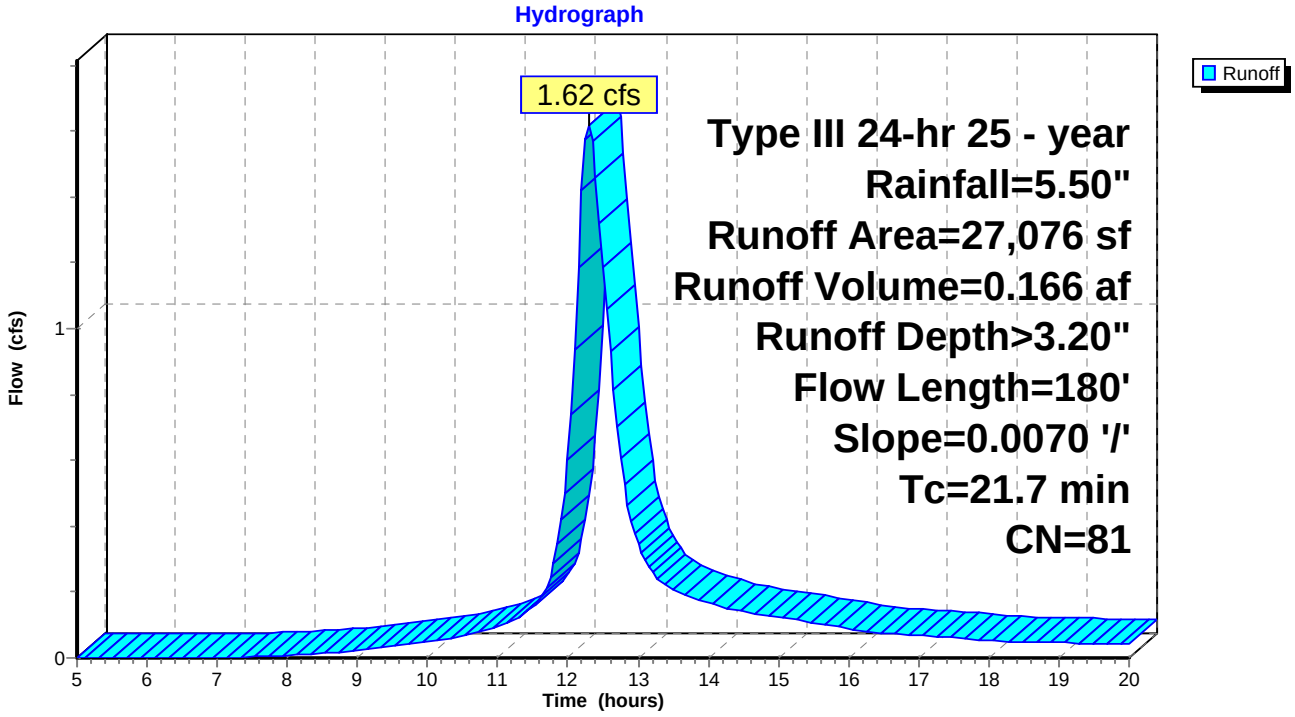
Runoff = 1.62 cfs @ 12.30 hrs, Volume= 0.166 af, Depth> 3.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 - year Rainfall=5.50"

	Area (sf)	CN	Description
	6,932	98	Paved parking, HSG A
*	456	98	Permanent Building
	9,199	74	>75% Grass cover, Good, HSG C
	10,489	74	>75% Grass cover, Good, HSG C
	27,076	81	Weighted Average
	19,688		72.71% Pervious Area
	7,388		27.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.3	150	0.0070	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
0.4	30	0.0070	1.35		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
21.7	180	Total			

Subcatchment 2S: POST WS#2



Summary for Pond 1P: Wetland Area

Inflow Area = 0.173 ac, 16.37% Impervious, Inflow Depth > 2.37" for 25 - year event
Inflow = 0.27 cfs @ 12.52 hrs, Volume= 0.034 af
Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Starting Elev= 71.00' Surf.Area= 6,954 sf Storage= 3,977 cf
Peak Elev= 71.20' @ 20.00 hrs Surf.Area= 7,732 sf Storage= 5,467 cf (1,490 cf above start)

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

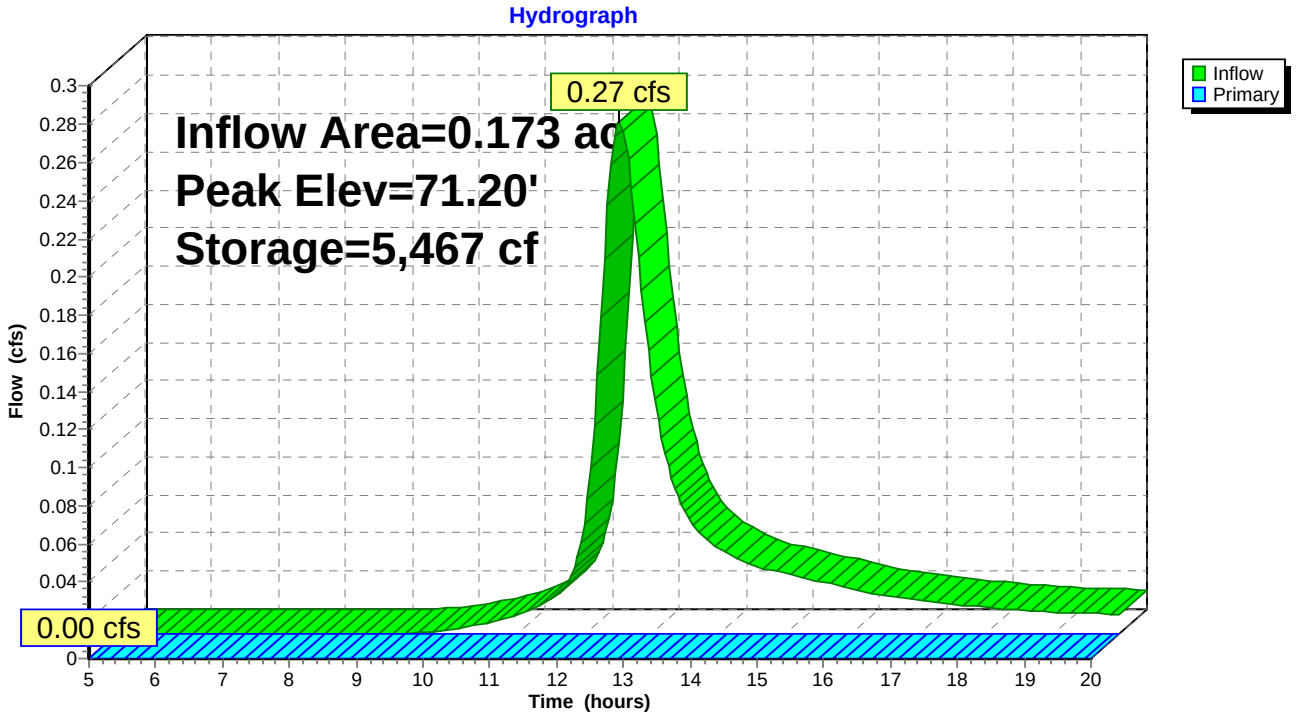
Volume	Invert	Avail.Storage	Storage Description
#1	70.00'	12,848 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
70.00	1,000	0	0
71.00	6,954	3,977	3,977
72.00	10,787	8,871	12,848

Device	Routing	Invert	Outlet Devices
#1	Primary	72.00'	**140.0' long x 15.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=71.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 1P: Wetland Area



Summary for Pond 2P: Underdrained Pond

Inflow Area = 0.622 ac, 27.29% Impervious, Inflow Depth > 3.20" for 25 - year event
Inflow = 1.62 cfs @ 12.30 hrs, Volume= 0.166 af
Outflow = 1.50 cfs @ 12.40 hrs, Volume= 0.166 af, Atten= 8%, Lag= 6.1 min
Primary = 1.50 cfs @ 12.40 hrs, Volume= 0.166 af
Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 70.65' @ 12.40 hrs Surf.Area= 924 sf Storage= 1,201 cf

Plug-Flow detention time= 23.7 min calculated for 0.165 af (100% of inflow)
Center-of-Mass det. time= 23.5 min (817.4 - 794.0)

Volume	Invert	Avail.Storage	Storage Description
#1	69.00'	1,859 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
69.00	546	0	0
70.00	766	656	656
70.25	826	199	855
70.40	863	127	982
70.50	886	87	1,069
71.00	1,017	476	1,545
71.25	1,500	315	1,859

Device	Routing	Invert	Outlet Devices
#1	Primary	66.13'	**6.0" Round Culvert** L= 40.0' Ke= 0.500 Outlet Invert= 64.13' S= 0.0500 '/' Cc= 0.900 n= 0.015
#2	Device 1	69.00'	**0.25 cfs Exfiltration at all elevations**
#3	Device 1	70.40'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	71.75'	**15.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=1.50 cfs @ 12.40 hrs HW=70.65' (Free Discharge)
└**1=Culvert** (Passes 1.50 cfs of 1.62 cfs potential flow)
  └**2=Exfiltration** (Exfiltration Controls 0.25 cfs)
  └**3=Orifice/Grate** (Weir Controls 1.25 cfs @ 1.62 fps)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=69.00' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: Underdrained Pond