



Form 2A – Detention Pond Design Form

City of Prattville Review

Reviewed By: _____ Date: _____

Required Attachments: Narrative Design Drawings H&H Calculations Drainage Basin Maps

Approval Status: Approved Approved Contingent Denied Incomplete

Comments: _____

Development Information

Date: _____

Name: _____ BMP ID: _____

Address or Location: _____

Required Attachments: Narrative Design Drawings H&H Calculations Drainage Basin Maps

Total Development Area: _____ acres Existing Impervious Area (EIA): _____ acres

Proposed Impervious Area (PIA):

Buildings / Structures: _____ acres

Driveways / Side Walks: _____ acres

Roads: _____ acres

Parking: _____ acres

Other: _____ acres

Total PIA: _____ acres

Water Quality Volume (WQ_v):

WQ_v = Additional Impervious Area (acres) X 1.14 in X 3,630

Additional Impervious Area = PIA – EIA

WQ_v = _____ acres X 1.14 in X 3,630

WQ_v = _____ ft³

Comments: _____

Watershed: Noland Creek Autauga Creek Pine Creek Fay Branch

Pre-Development

Pre-Development Basin ID:	_____	_____	_____	_____	_____	Pre Total
Drainage Area <input type="checkbox"/> Acres <input type="checkbox"/> ft ² :	_____	_____	_____	_____	_____	_____
Curve Number:	_____	_____	_____	_____	_____	_____
Time of Concentration (min):	_____	_____	_____	_____	_____	_____
Peak Discharge (ft ³ /s):	_____	_____	_____	_____	_____	Pre Total
1.14" (WQ)	_____	_____	_____	_____	_____	_____
4.21" (2-yr)	_____	_____	_____	_____	_____	_____
5.24" (5-yr)	_____	_____	_____	_____	_____	_____
6.17" (10-yr)	_____	_____	_____	_____	_____	_____
7.55" (25-yr)	_____	_____	_____	_____	_____	_____
9.93" (100-yr)	_____	_____	_____	_____	_____	_____



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Development Name: _____

Date: _____

BMP ID: _____

Post-Development

Post-Development Basin ID:	_____	_____	_____	_____	_____	_____	Post Total
Drainage Area	<input type="checkbox"/> Acres	<input type="checkbox"/> ft ² :	_____	_____	_____	_____	_____
Curve Number:	_____	_____	_____	_____	_____	_____	_____
Time of Concentration (min):	_____	_____	_____	_____	_____	_____	_____
Peak Discharge (ft ³ /s):	_____	_____	_____	_____	_____	_____	Post Total
1.14" (WQ)	_____	_____	_____	_____	_____	_____	_____
4.21" (2-yr)	_____	_____	_____	_____	_____	_____	_____
5.24" (5-yr)	_____	_____	_____	_____	_____	_____	_____
6.17" (10-yr)	_____	_____	_____	_____	_____	_____	_____
7.55" (25-yr)	_____	_____	_____	_____	_____	_____	_____
9.93" (100-yr)	_____	_____	_____	_____	_____	_____	_____

Multi-Stage Riser

Drawing / Sketch

Material: _____ Shape: _____

Diameter: _____ ft

Width: _____ ft Length: _____ ft

Bottom EL: _____ ft Top EL: _____ ft

Trash Rack: Yes No

	Shape	Size	Inv. EL
Outlet Pipe:	_____	_____ in	_____ ft
WQ _v Orifice:	_____	_____ in	_____ ft
Filter:	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Orifice 2:	_____	_____ in	_____ ft
Orifice 3:	_____	_____ in	_____ ft
Orifice 4:	_____	_____ in	_____ ft
Orifice 5:	_____	_____ in	_____ ft
	Shape	Length	Inv. EL
Weir 1:	_____	_____ ft	_____ ft
Weir 2:	_____	_____ ft	_____ ft
Weir 3:	_____	_____ ft	_____ ft

Drawing / Sketch Attached

Emergency Spillway

Drawing / Sketch

Material: _____ Shape: _____

Length: _____ ft Width: _____ ft

Crest EL: _____ ft Top EL: _____ ft

Drawing / Sketch Attached

Outfall Location

Latitude: _____ ° _____ ' _____ "

Longitude: _____ ° _____ ' _____ "



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Development Name: _____

Date: _____

BMP ID: _____

Pond Stage-Area-Storage Summary (Notes: Maximum elevation increment of 1 foot.)

WQ _v	Elevation	Area	Cumulative Volume	WQ _v	Elevation	Area	Cumulative Volume
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³
<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³	<input type="checkbox"/>	_____ ft	_____ ft ²	_____ ft ³

WQ_v Required: _____ ft³ WQ_v Provided: _____ ft³ Stage: _____ ft

Pond Discharge Summary

Rainfall	Pre Q	Pond In Q	Pond Out Q	Max. Stage	Outlet Velocity	Total Post Q
1.14" (WQ)	_____ ft ³ /s	_____ ft ³ /s	_____ ft ³ /s	_____ ft	_____ ft/s	_____ ft ³ /s
4.21" (2-yr)	_____ ft ³ /s	_____ ft ³ /s	_____ ft ³ /s	_____ ft	_____ ft/s	_____ ft ³ /s
5.24" (5-yr)	_____ ft ³ /s	_____ ft ³ /s	_____ ft ³ /s	_____ ft	_____ ft/s	_____ ft ³ /s
6.17" (10-yr)	_____ ft ³ /s	_____ ft ³ /s	_____ ft ³ /s	_____ ft	_____ ft/s	_____ ft ³ /s
7.55" (25-yr)	_____ ft ³ /s	_____ ft ³ /s	_____ ft ³ /s	_____ ft	_____ ft/s	_____ ft ³ /s
9.93" (100-yr)	_____ ft ³ /s	_____ ft ³ /s	_____ ft ³ /s	_____ ft	_____ ft/s	_____ ft ³ /s

Professional Engineer Certification

By affixing my professional seal and signature on this form, I hereby certify that this stormwater management facility provides the required water quality volume (WQ_v) and is designed in accordance with the City of Prattville Technical Memorandum dated 21 March 2020. I further certify that the drainage areas shown in the hydrology and hydraulic (H&H) calculations do in fact drain into this facility and that the post-development runoff mimics pre-development hydrology to the maximum extent practicable (MEP).

Company: _____

Seal: _____

Name: _____

Address: _____

E-mail: _____

Phone: _____

Signature: _____

Date: _____



Form 2A – Detention Pond Design Form

Supplemental Instructions

1. The developer/owner shall retain the services of a professional engineer to:
 - a. Complete Form 2A – Detention Pond Design Form; and,
 - b. Provide ALL required attachments:
 - Narrative
 - Design Drawings
 - H&H Calculations
 - Drainage Basin Maps
2. General design standards and requirements shall be as follows:
 - a. Stormwater management facilities cannot be constructed within the floodway;
 - b. Installation of stormwater management facilities shall not adversely impact and/or cause flooding of properties located upstream and/or downstream of the development;
 - c. The calculation methodology shall utilize the National Resource Conservation Resources (NRCS) Urban Hydrology for Small Watersheds Technical Release 55 (TR-55) or equivalent as approved by the City Engineer;
 - d. All applicable developments shall be responsible for ensuring that post-development hydrology mimics pre-development hydrology for the WQ, 2-year, 5-year, 10-year, and 25-year, 24-hour rainfall depths;
 - e. The storm drainage system (i.e. piped storm sewer, overland flow, etc.) within the development shall be designed to convey the discharge resulting from a 100-year, 24-hour storm event in a manner that will not adversely impact and/or cause flooding of structures within the development;
 - f. Filtration system for the WQ_v Orifice shall allow the volume of stormwater associated with the WQ_v to drain slowly from the detention pond within a 48-hour period;
 - g. The principal spillway for a stormwater management facility shall be sized to convey the 25-year, 24-hour storm event without allowing any discharge from the emergency spillway;
 - h. Each stormwater management facility shall provide for an emergency spillway designed to convey the discharge resulting from a 100-year, 24-hour storm event;
 - i. Design plans for stormwater management facilities shall have a maximum scale of 1 inch = 100 feet and show existing contours, proposed contours, floodplain, floodway, details of outlet structure, details of emergency spillway, layout of storm sewer system, details of storm sewer system outlet protection, property lines, roads, rights-of-way, streets, easements, etc.; and,
 - j. H&H studies for stormwater management facilities shall include model network, existing drainage areas, proposed drainage areas, time of concentration, curve number, pre-development peak discharges, post-development peak discharges, outlet structure geometry, emergency spillway geometry, pond stage-area-storage summary, pond discharge summary, inflow and outflow hydrographs, and outlet pipe velocities.



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