City of Warsaw Stormwater Drainage Permit: General Requirements										
	General Proj	ect Information								
	General I	Information								
Engineer of Record:										
MO PE Number:										
Project Name:										
Date:										
	Project	Location								
Address:										
Nearest Intersection:										
		onstruction								
	Expansion, Renovation, Repair and/or									
	n (individual construction of one single		· ·							
	n (all other types, including subdivsion		nercial, industrial, etc.)							
		rameters	ı							
Total Site Draina			acres							
	ous Area (square feet)		square feet							
Proposed Imperv	vious Area (square feet)		square feet							
-	pervious Area (square feet)		square feet							
Effective FEMA f	•		(Select Yes/No)							
Describe Known	Stormwater Issues:									
	Permit Require	ements/Variance								
Drainage Permit		,								
Request for Vari	ance?	(Select Yes/No)								
Why? Expla	ıin:	•								
-										

	City of Warsaw Stormwater Drainage Permit: General Requirements
	Required Maps
Wa	tershed Location Map. Describes the project's location within the greater watershed depicting:
1.	Watershed boundary and area (acres)
2.	Delineated drainage area to the project (acres)
3.	Natural drainage paths
4.	Water bodies (lakes, rivers, streams, creeks, wetlands, etc.)
5.	Stormwater retention/detention facility location(s) in watershed affecting stormwater management at project
	site (if applicable)
6.	Conveyance route for overflow system to downstream destination of runoff
Exi	sting Site Conditions Map. Demonstrates existing conditions of the site depicting:
1.	Existing contours
2.	Aerial imagery
3.	Water bodies (lakes, rivers, streams, creeks, wetlands, etc.)
4.	Utilities, including existing stormwater infrastructure
5.	Natural drainage paths
6.	Parcel boundaries
7.	Impervious surfaces
8.	Key statistics (areas of boundaries, area of impervious surfaces, etc.)
Pro	posed Site Conditions Map. Demonstrates proposed conditions of the site depicting:
1.	Proposed contours including finished floor elevation (FFE) and lowest opening elevation (LOE) information
2.	Utilities, including existing stormwater infrastructure overland drainage paths
3.	Parcel boundaries
4.	Impervious surfaces and types (i.e. building, parking lot, etc.)
5.	Stormwater improvements (i.e. detention/retention facilities, open and enclosed conveyance systems, storm
	drainage structures, etc.)
6.	Drainage easements depicting maintained stormwater drainage setbacks and dimensions

City of Warsaw Stormwater Drainage Permit: General Requirements										
	Designer Verification of Compliance with Des	sign Criteria								
	Retention									
Requiments let?	Design Criteria	Retention Vol	ume (CF)							
Yes No N/A	Easement(s) provided?	Required	Designed							
Yes No N/A	0.5" design storm over impervious area of the site									
	Detention									
Requiments let?	Design Criteria	Release Rat	es (cfs)							
Yes No N/A	Easement(s) provided?	Maximum Allowable	Designed							
Yes No N/A	2-year (50% temporal distribution)									
Yes No N/A	10-year (50% temporal distribution)									
Yes No N/A										
☐ Yes ☐ No ☐ N/A	100-year (10% temporal distribution)									
	Conveyance									
Requiments let?	Design Criteria									
Yes No N/A	Easement(s) provided?									
Yes No N/A	Natural Drainage Path Preservation / Overflow Sy	stem per Section 5605								
Yes No N/A	Open system, ditches, swales per Section 5607									
Yes No N/A	Enclosed System, Gravity per Section 5606									
Yes No N/A	Enclosed System, Pressure per Section 5606									
Yes No N/A	☐ Yes ☐ No ☐ N/A Street Crossings / Culverts per Section 5606									
Collection										
Requiments let?	Design Criteria									
☐ Yes ☐ No ☐ N/A	Inlet placement and gutter spread per Section 560	4 (street applications o	nly)							
Yes No N/A	Inlets placed in low or sump areas on the site									

	City of Warsaw Stormwater Drainage Permit: Hydrology											
		Drainag	ge Area		D 11 1		Peal	Runoff Flow	Rates, Desig			
Upstream Structure ID	Downstream Structure ID	Incremental	Cumulative	Impervious Area	Rational Runoff Coefficient,	10-Year (50% Distribution)			Year stribution)			
Silociole IB	Silociole ID	(acres)	(acres)	(%)	C	Incremental	Cumulative	Incremental	Cumulative			
						Q <sub>10, 50%</sub> (cfs)	Q <sub>10, 50%</sub> (cfs)	Q <sub>10, 10%</sub> (cfs)	Q <sub>10, 10%</sub> (cfs)			

n Storm (Tem	n Storm (Temporal Distribution)											
	Year		<b>Year</b>									
(10% Dis	tribution)	(10% Dis	tribution)									
Incremental	Cumulative	Incremental	Cumulative									
Q <sub>25, 10%</sub> (cfs)	Q <sub>25, 10%</sub> (cfs)	Q <sub>50, 10%</sub> (cfs)	Q <sub>50, 10%</sub> (cfs)									

									(	City of War	saw Stormv		
		Conveyance System Parameters											
Upstream Structure ID	Downstream Structure ID	Conveyance System Segment Type	Manning's n (Table 5603-1)	Cross- Sectional Area A (sf)	Wetted Perimeter P (ft)	Length L (ft)	Upstream Invert (ft)	Downstream Invert (ft)	Slope (ft/ft)	Flow Full Velocity v (ft/s)	Flow Full System Capacity Q (cfs)		
		Open System											
		Enclosed System											
		Street Crossing - Principal Arterial											
		Street Crossing - Primary Connector											
		Street Crossing - Minor Street											

ater Drain	ter Drainage Permit: Conveyance												
	Design Criteria Check												
System Capacity Required Flow Rate (cfs)	System Capacity Design Storm (Temporal Distribution)	Maximum Hydraulic Grade Line Design Storm (Temporal Distribution)	Design Storm Hydraulic Grade Line Elevation HGL <sub>Design Max</sub> (ft)	Design Criteria Control Elevation (ft)	System Capacity (yes/no)	Hydraulic Grade Elevation (yes/no)							
	10-Year Design Storm (10% Temporal Distribution)	10-Year Design Storm with 10% Temporal Distribution											
	10-Year Design Storm (50% Temporal Distribution)	10-Year Design Storm with 10% Temporal Distribution											
	50-Year Design Storm (10% Temporal Distribution)	50-Year Design Storm with 10% Temporal Distribution											
	25-Year Design Storm (10% Temporal Distribution)	25-Year Design Storm with 10% Temporal Distribution											
	10-Year Design Storm (10% Temporal Distribution)	10-Year Design Storm with 10% Temporal Distribution											

						City of \	Warsaw Stormwate
Inlet ID	Inlet Type	Downstream Inlet ID	Drainage Area (ac)	Incremental Peak Runoff Flowrate Q (cfs)	Total Peak Runoff Flowrate Q <sub>c</sub> (cfs)	Street Longitudinal Slope S <sub>L</sub> (ft/ft)	Street Cross-Slope S <sub>x</sub> (ft/ft)
CI-001	Curb Opening						
CI-002	Grate						
CI-003	Combination						
CI-004							
CI-005							
CI-006							

r Drainage Permit:	Drainage Permit: Collection												
Gutter Cross-Slope at Inlet S <sub>w</sub> (ft/ft)	Gutter Spread T (ft)	Allowable Gutter Spread T <sub>allow</sub> (ft)	Depth of Flow d (ft)	Local Depression a (in)	Inlet Interception Capacity Qi (cfs)	Bypass Flowrate Q <sub>b</sub> (cfs)	Collection Design Criteria Met (yes/no)						

									City	of W	arsaw Sto	rmwater D
Retention Facility		Tributary	Impervious Tributary		Retention		Ponding			M	aterial 1	
ID	Description	Drainage Area A (acres)	Drainage Area A <sub>imp</sub> (acres)	Impervious I (%)	Volume V <sub>R</sub> (ac-ft)	Area A <sub>layer</sub> (ft <sup>2</sup> )	Height h <sub>layer</sub> (ft)	Volume V <sub>layer</sub> (ft <sup>3</sup> )	Area A <sub>layer</sub> (ft <sup>2</sup> )	n	Height h <sub>layer</sub> (ft)	Volume V <sub>layer</sub> (ft <sup>3</sup> )
BIO-01 (example)					0			0				0
					0			0				0
					0			0				0
					0			0				0
					0			0				0
					0			0				0
					0			0				0
					0			0				0
					0			0				0
					0			0				0
,		To	otal Required Rete	ntion Volume	0							,

rainage Pe	iinage Permit: Retention													
Material 2				Material 3				Material 4				Storage Chamber	Provided	Provided
Area A <sub>layer</sub> (ft <sup>2</sup> )	n	Height h <sub>layer</sub> (ft)	Volume V <sub>layer</sub> (ft <sup>3</sup> )	Area A <sub>layer</sub> (ft <sup>2</sup> )	n	Height h <sub>layer</sub> (ft)	Volume V <sub>layer</sub> (ft <sup>3</sup> )	Area A <sub>layer</sub> (ft <sup>2</sup> )	n	Height h <sub>layer</sub> (ft)	Volume V <sub>layer</sub> (ft <sup>3</sup> )	Volume V <sub>layer</sub> (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ac-ft)
			0				0				0		0	0
			0				0				0		0	0
			0				0				0		0	0
			0				0				0		0	0
			0				0				0		0	0
			0				0				0		0	0
			0				0				0		0	0
			0				0				0		0	0
			0				0				0		0	0
			0				0				0		0	0
											Total Provid	ed Retention Volume	0	0

## City of Warsaw Stormwater Drainage Permit: Detention

Drainage Area	
Tributary Drainage Area to Site (acres)	
Drainage Area Tributary to Detention (acres)	
Design Parameters	
Invert Elevation of Primary Outlet (ft)	
Spillway Crest Elevation (ft)	
Top of Embankment Elevation (ft)	

Design Storm by ARI	Peak Discharge Criteria		Modeled Performance Results			Design Criteria Check	
	Allowable Discharge per Acre Drainage Area (cfs/acre)	Allowable Discharge (cfs)	Modeled Peak Discharge (cfs)	Modeled Maximum Water Surface Elevation (ft)		Peak Discharge (yes/no)	Water Surface Elevation (yes/no)
2-year (50% temporal distribution)	0.1						
10-year (50% temporal distribution)	0.2						
10-year (10% temporal distribution)	2						
100-year (10% temporal distribution)	3						