

SCHEDULE D – LEGACY

STORMWATER MANAGEMENT FACILITIES

WMO Permit Number: _____

NAME OF PROJECT: _____
(Submit a separate Schedule D for each stormwater facility, as needed)

1. RUNOFF REQUIREMENTS: Submit calculations and an exhibit that delineates the 100-year critical storm conveyed by the major stormwater system including cross-sections indicating the HGL at critical points (e.g. overflow weirs)

- A. Method used to calculate the 100-year peak design runoff rate:
 Hydrologic model Rational Method → $i_{100\text{-year}}$ _____ in/hr
- B. Onsite tributary area to the major stormwater system..... C or CN _____ , _____ acres
- C. Offsite tributary area to the major stormwater system..... C or CN _____ , _____ acres
- D. Total tributary area to the major stormwater system..... C or CN _____ , _____ acres
- E. Ratio of offsite to onsite tributary area..... _____
- F. Time-of-concentration..... _____ minutes
- G. 100-year peak design runoff rate..... _____ cfs
- H. Capacity of major stormwater system discharging offsite..... _____ cfs
- I. Offsite discharge location of the major stormwater system:
 ROW/drainage easement Adjacent property *(submit calculations to comply with §502.3.B)*
- J. Type and location of major stormwater system: _____
- K. Building lowest entry elevation(s) are located at least 1 foot above the adjacent HGL:
(Submit calculations and cross-sections showing the lowest entry elevation(s) and adjacent HGL)
 Yes No *(for existing buildings located within the property holdings, submit acknowledgment)*

2. VOLUME CONTROL REQUIREMENTS: Submit calculations and a detail for the volume control facility including a cross-section indicating relevant elevations and the seasonal high groundwater table (SHGWT).

- A. Does the site have any restrictive covenants related to environmental conditions (e.g., NFR letter)?
 No Yes → Explain: _____
- B. Site constraint(s) that precludes the use of onsite retention-based practices *(submit documentation)*:
 None SHGWT Contaminated Soil Other: _____
- C. Proposed impervious area of development..... _____ acres
- D. Gross volume control storage (2.C / 12)..... _____ ac-ft
- E. The onsite gross volume control storage may be reduced when a site constraint is present:
 - 1. Existing impervious area within development..... _____ acres
 - 2. VC storage reduction (5)(2.D)[1 - (2.C / 2.E.1)]..... _____ ac-ft
- F. Required volume control storage (2.D – 2.E.2)..... _____ ac-ft
- G. Provided volume within retention-based practice..... _____ ac-ft
- H. Volume control facility (*only when a site constraint is present):
 - Retention-based practice → Type of practice: _____
 - Flow-through practice* → Type of practice: _____
 - Detention Storage* → Type of facility: _____
 - Offsite retention-based practice* → WMO Permit Number: _____
- I. Facility designed as an offsite retention-based practice:
 No Yes → Impervious runoff volume tributary to facility..... _____ ac-ft

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WMO Permit Number: _____

STORMWATER MANAGEMENT FACILITIES

3. EXISTING DETENTION FACILITY APPROVED UNDER:

- Sewer Permit Ordinance → SPO Permit Number: _____
(Complete items 4, 5, 7, 8)
- Watershed Management Ordinance → WMO Permit Number: _____
(Complete items 4, 5, 7, 9 or 10)
- Not permitted by MWRD → Date Constructed: _____
(Complete items 4, 6, 7, 8)

4. REDEVELOPMENT INFORMATION: When the detention service area is redeveloped in the amount specified in §505.4.B of the WMO, the control structure must be modified and documented on Item 7 of this schedule.

- A. Watershed specific release rate (Appendix B)..... _____ cfs/ac
- B. Redevelopment area _____ acres
- C. Detention Service Area (existing or revised)..... _____ acres
- D. Redevelopment percentage (4.B / 4.C)..... _____ %

5. INFORMATION FOR EXISTING DETENTION FACILITY PERMITTED BY MWRD: Information obtained from the approved permit and recent survey. The existing detention facility may be modified to comply with the existing and/or new stormwater detention requirements.

- A. Detention Service Area _____ acres
- B. Gross allowable release rate _____ cfs
- C. Unrestricted release rate _____ cfs
- D. Depressional storage release rate adjustment..... _____ cfs
- E. Net allowable release rate _____ cfs
- F. Actual release rate _____ cfs
- G. Required detention volume at actual release rate _____ ac-ft
- H. Provided detention volume at HWL..... _____ ac-ft

6. INFORMATION FOR EXISTING DETENTION FACILITY NOT PERMITTED BY MWRD:

SPO methodology may be used to determine the stormwater detention requirements for existing detention facilities constructed prior to May 1, 2014. If constructed on or after May 1, 2014, use WMO Schedule D.

- A. Detention Service Area _____ acres
- B. Time-of-concentration..... _____ minutes
- C. 3-year storm rainfall intensity..... _____ in/hr
- D. Gross allowable release rate _____ cfs
- E. Unrestricted release rate (100-year rainfall intensity)..... _____ cfs
- F. Net allowable release rate (6.D – 6.E)..... _____ cfs
- G. Composite C (excluding unrestricted area)..... _____
- H. Required detention volume at actual release rate (7.H.2)..... _____ ac-ft

SCHEDULE D – LEGACY

WMO Permit Number: _____

STORMWATER MANAGEMENT FACILITIES

7. REDEVELOPMENT RELEASE RATE REQUIREMENTS: Provide an exhibit delineating the assigned release rates for the redevelopment and remaining non-redeveloped areas of the detention service area. Release rates must be based on the lesser of the watershed specific release rate or the existing gross allowable release rate.

- A. Redeveloped area _____ ac, _____ cfs/ac
- B. Remaining detention service area _____ ac, _____ cfs/ac
- C. New composite gross allowable release rate _____ cfs
- D. Unrestricted area (*existing or revised*) _____ *C or CN* _____ , _____ acres
- E. Unrestricted release rate (*100-year, 24-hour storm*) _____ cfs
- F. Depressional storage release rate adjustment (*100-year, 24-hour storm*) _____ cfs
- G. New composite net allowable release rate ($7.C - 7.E - 7.F$) _____ cfs
- H. Control structure (restrictor) information:
 - Existing/Verified Proposed
 - 1. Diameter _____ in 2. Actual Release Rate _____ cfs
 - 3. C_d _____ 4. HWL _____ ft
 - 5. Type _____ 6. Invert elevation _____ ft

8. REDEVELOPMENT TRIBUTARY TO SPO EXISTING DETENTION FACILITY: This item is for existing detention facilities approved under the SPO. All volumes must be based on the lesser of the watershed specific release rate or the actual release rate for the redevelopment area.

- A. Release rate for the redevelopment _____ cfs/ac
- B. Existing required detention volume for redevelopment _____ *C* _____ , _____ ac-ft
- C. Proposed required detention volume for redevelopment _____ *C* _____ , _____ ac-ft
- D. Incremental detention volume ($8.C - 8.B$) _____ ac-ft
- E. Provided storage within retention-based practice (*2.F*) _____ ac-ft
- F. New required detention volume ($(5.G \text{ or } 6.H) + 8.D - 8.E$) _____ ac-ft
- G. Verified detention volume (*from survey*) _____ ac-ft
- H. Additional detention volume required ($8.F - 8.G$) _____ ac-ft
- I. New provided detention volume at HWL (*must be $\geq 8.G$*) _____ ac-ft

9. REDEVELOPMENT TRIBUTARY TO WMO NOMOGRAPH EXISTING DETENTION FACILITY: This item is for existing detention facilities approved under the WMO using the nomograph. All volumes must be based on the lesser of the watershed specific release rate or the actual release rate for the redevelopment area.

- A. Release rate allocated for the redevelopment _____ cfs/ac
- B. Existing required detention volume for redevelopment _____ *CN_{adj}* _____ , _____ ac-ft
- C. Proposed required detention volume for redevelopment _____ *CN_{adj}* _____ , _____ ac-ft
- D. Incremental detention volume ($9.C - 9.B$) _____ ac-ft
- E. New required detention volume ($5.G + 9.D$) _____ ac-ft
- F. Verified detention volume (*from survey*) _____ ac-ft
- G. Additional detention volume required ($9.E - 9.F$) _____ ac-ft
- H. New provided detention volume at HWL (*must be $\geq 8.G$*) _____ ac-ft

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10. REDEVELOPMENT TRIBUTARY TO WMO MODELED EXISTING DETENTION FACILITY: This item is for existing detention facilities approved under the WMO using a hydrologic model. All volumes must be based on the lesser of the watershed specific release rate or the actual release rate pro-rated for the redevelopment area.

- A. Time-of-concentration _____ minutes
- B. Redevelopment area detained (*include trade areas*)..... CN_{adj} _____ , _____ acres
- C. Remaining non-redeveloped area detained CN_{adj} _____ , _____ acres
- D. Required detention volume at actual release rate (*7.H.2*) _____ ac-ft
- E. Provided detention volume at HWL (*7.H.4*) _____ ac-ft

Engineering Firm: _____



Name: _____ **Phone:** _____

Title: _____ **Email:** _____

Signature: _____ **Date:** _____