# PHILADELPHIA WATER DEPARTMENT

**GSI UNIT – Ecological Restoration**

#### In-Stream/Stormwater Preliminary Design

#### Submission (PWD 50%) Checklist

**This checklist outlines the requirements for each submission to PWD.**

All requirements will be checked by the PWD project manager prior to review. If a project is found to be incomplete, it will be returned to the provider and one week will be allotted for revision. Checklists can be modified based on project specific requirements.

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| **Preliminary Design Submission (PWD 50%)**  *Review PWD planning memo and develop preliminary designs based on site survey, design flows, and site context.* |  |
| * Preliminary design drawings (.PDF) including:   + Preliminary layout of in-stream structures or stormwater management wetlands in plan view with designed footprints and simple callouts   + Profile and cross section sheets   + Limit of disturbance   + Concept landscape plans showing grouping and general shape |  |
| * Design calculations (.XLSX) including, at minimum:   + Bankfull discharge and critical velocity   + Rock size   + Shear stress   + Buoyancy (if wood structures used)   + Contributing drainage area (impervious and pervious)   + Storage volume   + Loading ratio   + Calculation of release rates for detention/slow release systems   + Storm size managed |  |
| * Drainage area maps (.PDF) including (only for stormwater wetlands):   + Distinct polygons to each inlet   + System labels provided   + Areas labeled in square feet and summed for each system   + Areas labeled as pervious or impervious based on existing condition |  |
| * Preliminary construction cost estimate (.XLSX) |  |
| * Basis of design report (.PDF and .DOCX) including:   + Documentation of design approach and assumptions   + Discussion of concept construction cost estimate, future factors that may impact the estimate, and recommendations for potential cost savings |  |

SUBMITTED BY \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATE \_\_\_­\_\_\_\_\_\_\_\_