Design Deliverables for Stormwater Facility Grants

This document details Ecology's expectations of deliverables for Ecology funded stormwater projects.

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Douglas C. Howie, P.E.
June 28, 2022

General Resources for Water Quality Grants and Loans
General resources for water quality grants & loans

We offer helpful resources if you are seeking support for — or information about — water quality projects funded by us.

The following resources apply to all Water Quality grant and/or loan funded projects. Some additional resources, depending on your project type and funding type, are also available at these two links:

- Nonpoint Project Resources (Centennial/Section 319/CWSRF)
- Facility Project Resources (CWSRF/Centennial/Stormwater Financial Assistance grant)

Training opportunities and materials

- Funding recipient training and materials
- Funding applicant training
Forms

This section contains forms used for submitting payment requests and progress reports, closeout reports, and agreement materials for Stormwater projects:

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Closeout report templates

In addition to the EAGL Recipient Closeout Report, recipients must complete a two-page Outcome Summary, templates below:

- [Outcome Summary](#) - Use for nonpoint projects (updated October 31, 2019)
- [Wastewater facility planning and design projects' Outcome Summary form](#)
- [Wastewater facility construction projects' Outcomes Summary Form](#)
- [Stormwater activity projects 2-Page Summary form](#)
  - [Guidance](#)
- [Stormwater facility projects 2-Page Summary form](#)
  - [Guidance](#)

Stormwater projects' agreement materials

- [Stormwater Construction Completion Form](#)
- [Design Deliverable for Stormwater Projects](#)
- [Design Deliverables Checklist](#)
- [Stormwater Grant Program Bid Specification Clause](#)
- [Stormwater Grant Program Bid Insert](#)
- [Stormwater activity projects Recipient Closeout Report form](#)
- [Stormwater facility projects Recipient Closeout Report form](#)
Project Initiation

- Cultural Resources (CRR)
  - Application to Ecology
  - DAHP Review
  - Concurrence Letter
- SEPA/SERP
- Geotechnical Evaluation
- Surveying
Deliverables Reviewed by Ecology

- Design Report
- 90% Design Package
- Bid Documents
- Construction Quality Assurance Plan (CQAP)
- Operations and Maintenance Plan
Design Report Review

- Expected base level of work
- Acceptance vs Approval
- Ecology Review timing
- Acceptance Letter
Design Report Review Focus

- Meets Requirements of Manual(s)
- Matches project described in Application
- Minimum Requirement/Core Element Determination
- BMP selection and sizing
- Equivalent Area Calculation
- Eligible/Ineligible Costs
## Design Report Contents

- Basin and Project Description
- Minimum Requirements/Core Element Analysis
- Alternatives
- Design Analysis and calculations
- Water Quality Benefit Calculation
- Opinion of Construction Cost
- Schedule
- Drawings
90% Design Package

• Expected base level of work
• Submittal Package
  • Construction Plans
  • Construction Specifications
    • No need to fill in dates
    • Include Ecology Inserts
• Opinion of Construction Cost
• Construction Schedule
• Revised Water Quality Benefit Calculation
Bid Documents

• Ready to go out to bid next day
• Submittal Package (Not necessarily stamped)
  • Construction Plans
  • Construction Specifications
  • Opinion of Construction Cost
  • Construction Schedule
  • Revised Water Quality Benefit Calculation
Construction Quality Assurance Plan (CQAP)

- SWPPP
- Field Testing
- Change Orders
- Submittal Reviews
- Quality Control
- Permits
Operations and Maintenance Plan

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who will operate and manage the BMPs</td>
</tr>
<tr>
<td>Maintenance activities and schedule</td>
</tr>
<tr>
<td>If publicly owned, how does this fit into the overall O&amp;M Plan?</td>
</tr>
<tr>
<td>If private, who is responsible for maintenance</td>
</tr>
</tbody>
</table>

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Water Quality Benefit Calculation

• Ecology needs to report how funds are used

• Standard for Comparison: How does retrofit work compared to what would be required for New Development?

• Get credit for portion of basin based on size of new installed BMPs.
Questions?
Contact Information

Douglas C. Howie, P.E.
Department of Ecology
douglas.Howie@ecy.wa.gov
(360)407-6444 (work)
(360) 870-0983 (cell)
Stormwater Planning Projects

Heather Bearnes-Loza

Recipient Training: June 28, 2022
Talk to Ecology Early and Often

• Talk to us early in developing the Agreement; expect some discussion and revisions.

• Time for these discussions will be eligible for reimbursement.

• Negotiate your Agreement with Ecology before finalizing your scope of work. Match your scope of work with grant deliverables.
Before Starting Negotiation on Any Plans

Be prepared to answer:

• Why? – water quality goal
• What? – decided on definitions (watershed/basin, retrofit, enhanced)
• Where are you? - gaps in receiving water and infrastructure assessment
Before Starting Negotiation on Any Plans

Be prepared to answer:

• **How?** - are you going to involve stakeholders and determine what’s “off the table” based on:
  • types of BMP’s,
  • land ownership,
  • policies/politics,
  • other infrastructure projects,
  • maintenance

• **When?** – will you evaluate the plan and adaptively manage?
As We Negotiate the Scope of Work

- Consider accurate mapping of stormwater system; not necessarily monitoring and new field data
- Connect dots between STORMWATER water quality problems and actions
- Future stormwater actions will be more likely to get funding when identified in a targeted water quality plan
Enhanced Maintenance Plans
Enhanced Maintenance Plans

Ecology must have an accepted EMP before planned activities begin

2023 Funding Guidelines:
“To be eligible for funding, sweeping and line-cleaning activities, including the associated equipment and facilities (i.e. high efficiency sweepers and decant facilities) must have an Ecology-accepted plan…”

Fiscal Year 2024: Applicants must apply for EMP funding and have an accepted EMP before applying for implementation funding.
Enhanced Maintenance Plans

The plan must describe actions that will improve water quality.

• Reference: State Fiscal Year 2023 Funding Guidelines
  • Appendix L

• Describe what you are doing and what you will do
  • Pre-Project (Baseline) Program
  • Proposed or Post Project Program
  • What are the water quality goals?

• Evaluate both the same way – have a water quality metric
Enhanced Maintenance Plans

The new program must describe data collection and adaptive management

1. Data collection
   - What data will you gather in the new program?
   - How will this data help you determine if you are meeting your goals?

2. Adaptive management
   - It is ok if you don’t meet your initial goals!
   - What questions will you ask to assess where your program is at?
   - How will you change the program based on what you learn?
Actions, Equipment, and Facilities

To be eligible for SFAP grant funding, actions identified in the plan must be:

1. An enhancement of the existing (pre-project) program
2. Cost effective
3. Benefits must extend beyond the length of the funding period
EMPs: Summary

• Describe your current program and include a metric for water quality benefit
  • What are the current water quality goals?
  • What are the current program costs?

• Propose new program and assess for water quality benefit
  • What are the new water quality goals?
  • Describe what data will be collected and how
  • Develop adaptive management for the new program

• Determine if actions in the plan are eligible
  • Show that the proposed actions are an enhancement of the current program
  • Assess the costs of the proposed actions
Questions?

Thank you for your time!
GIS Deliverables for Stormwater Projects
Dave Mora and Charlie Hohlbein
Recipient Training: June 28, 2022
## Table of Contents

1. Benefits of GIS data  
2. Where Deliverable Guidance is located  
3. Types of Data Ecology is Looking For  
4. Acceptable GIS Data Formatting
Benefits of GIS Data

- Helps us understand water quality problems and potential solutions
- Allows visualize and analyze various aspects together
  - TMDL area
  - Water bodies such as receiving waters
  - Discharge Points
  - Outfalls
  - Conveyance
  - Facilities and contributing basins
TMDL Basin and Receiving Water
Conveyance, discharge points, and outfalls
Conveyance, discharge points, and outfalls
Impervious surfaces
Facilities and Contributing Basins
Your GIS Data is Important and Useful!

• It is a great tool for you to demonstrate completion and maintenance of your projects.

• Easily show where you installed your stormwater BMPS
  • Contributing basin relative to target waterbody
  • Drainages relative to conveyance and BMP locations
  • Compared to designs/plans

• Great tool for us to demonstrate effectiveness of your projects at addressing stormwater water quality needs.
  • Visualizing, analyzing, and sharing planning projects such as SMAPs
Where is GIS Deliverable Guidance?

Deliverables found in grant agreement
Where is GIS Guidance?

FY23 Grant Guidance – Stormwater Design Deliverables

Stormwater Grant Resources Page

• General resources - Washington State Department of Ecology
General resources for water quality grants & loans

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Training opportunities and materials
Remember to schedule time for GIS deliverables

• Facility Projects
  • Preliminary GIS Deliverable
    • GIS files showing what will be built
    • In Task 2 of a facility construction project
  • Closeout GIS Deliverable
    • Part of the closeout task
    • As completed
    • Remember to schedule for this task from the beginning of the project

• Step 1 planning projects
  • determined project by project
What GIS Data does Ecology want?

1. Contributing Area
   • One polygon feature class with a single feature. The feature can be multipart, and must be a single record in the attribute table.

   • Fields should include:
     • Project ID (i.e. agreement number), Contributing area (acres), PGIS (acres), Runoff Treatment benefit (acres), Flow Control benefit (acres), Comments
Deliverable Example: Contributing Area

• Ecology will ask for an outline of the contributing area of the BMP
What GIS Data does Ecology want?

2. BMP footprint
   • One polygon feature class with a separate polygon feature for each BMP with multiple records in the attribute table.

   • Fields should include:
     • Project ID (i.e. agreement number), BMP name, Comments
Deliverable Example: BMP footprint

- Ecology will ask for an outline of the footprint of the BMP
What GIS Data Format?

• All stormwater facility GIS data must be polygon(s), and not lines or points.
  • step 1 planning projects may use polygons, lines or points in their mapping deliverables

• The standard Ecology Projection is Washington State Plane, South Zone, NAD 83 HARN, US Feet

• Shape files, File Geodatabases, or Feature Service are acceptable formats

• All GIS file data must be zipped (.zip) to upload to EAGL unless providing a Feature Service

• An empty File Geodatabase template with acceptable schema is available on the General Resources for Water Quality Grants & Loans webpage under Forms - Stormwater Agreement Materials
Ecology Review

• GIS data vs. plans & design report

• GIS data vs. field observations using GIS/GPS mapping application tools during site visits

• GIS data vs. water quality benefit equivalent area calculations, as reported in the final Summary Report during closeout.
Thank you to our funding recipients!

We appreciate your partnership and hard work.