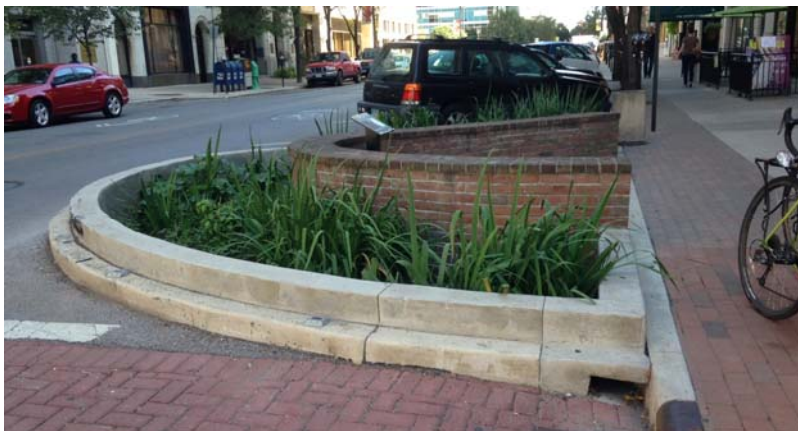
Storm Water BMP Tool Implementation Testing



Prepared by:
Gresham, Smith and Partners

Prepared for:
Ohio's Research Initiative for Locals
The Ohio Department of Transportation,
Office of Statewide Planning & Research

State Job Number 135400

December 2017

Final Report

U.S. Department of Transportation
Federal Highway Administration

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16. Abstract

Under project 2015-ORIL 7, a screening tool was developed to assist Local communities with selecting post-construction storm water best management practices (BMPs) to comply with the Ohio Environmental Protection Agency's (Ohio EPA) statewide Construction General Permit for Storm Water Discharges OHC000004 (CGP). The current project involved partnering with BMP design professionals for Local communities to pilot test the Tool on actual new development and redevelopment roadway projects. After participating in training sessions for use of the Tool, participants were asked to use the Tool on active or completed projects, and then provide feedback on Tool performance, ease of use, and suggestions for improvements. This final report summarizes the feedback collected through this Tool pilot testing process.

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Storm Water BMP Tool Implementation Testing

Final Report

Prepared by:
Gresham, Smith and Partners

December 2017

Prepared in cooperation with the Ohio Department of Transportation,
Ohio's Research Initiative for Locals, and the U.S. Department of Transportation, Federal Highway Administration

Acknowledgments

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Jim Hall – City of Akron

Katherine Holmok – Environmental Design Group

City of Columbus Pilot Test Representatives

Jud Hines – City of Columbus

Benjamin Farrell – City of Columbus

Kyle Hardy – City of Columbus

Jonathan Koester – City of Columbus

Franklin County Engineer Pilot Test Representatives

Jim Ramsey – Franklin County Engineer's Office

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TABLES

APPENDICES

ACRONYMS

BMP	Best Management Practice
CGP	Ohio Construction General Permit (Ohio EPA NPDES Permit No.: OHC000004)
GS&P	Gresham, Smith and Partners
ODOT	Ohio Department of Transportation
Ohio EPA	Ohio Environmental Protection Agency
ORIL	Ohio Research Initiative for Locals

1 PROJECT BACKGROUND

1.1 Introduction

Gresham, Smith and Partners (GS&P) recently completed implementation testing for the storm water best management practice (BMP) selection tool (Tool) that was previously developed under the ORIL 2015-7 research project. This report summarizes the testing performed, findings from the testing, user feedback and recommendations for the Tool.

1.2 Problem Statement

The Ohio Environmental Protection Agency (Ohio EPA) *General Permit Authorization for Storm Water Discharges Associated with Construction Activity* (Construction General Permit or CGP) requires the implementation of storm water Best Management Practices (BMPs) to control the quantity and quality of storm water runoff from project sites after construction is complete. Local jurisdictions face a variety of challenges when selecting and implementing BMPs into the roadway environment. Under the ORIL 2015-7 research project, the Storm Water BMP selection Tool was developed to help guide Locals in understanding applicable BMP requirements, as well as screening and selecting BMPs that are appropriate for project and site-specific constraints.

The Tool was released publicly in September 2015, and public outreach was performed in the form of an article, website pages, and public webinars and industry conferences. Since that time, ODOT has received limited feedback in order to assess the extent of the frequency that the Tool is being used and evaluate its usefulness on actual roadway design projects for purposes of providing guidance on selecting appropriate storm water BMPs.

1.3 Overview of Research Approach

This project was initiated to perform pilot testing of the Tool on actual roadway projects, collect feedback from Tool users regarding its usefulness and ease of use, and identify recommendations for future Tool improvements, applications, or outreach. Three local jurisdictions were enlisted to participate in the pilot testing, and in-person training was conducted to facilitate Tool use. Individuals from each local entity were asked to perform pilot tests of the Tool on recently completed or ongoing roadway projects and provide feedback on test results in the form of *Project Test Summary Forms*. Participants were also asked to provide overall comments on the usability of the tool and potential future applications on a *Tool User Feedback Form*. Findings from the collected feedback were synthesized by GS&P and used to develop conclusions and recommendations for the Tool, as summarized in this report.

2 RESEARCH CONTEXT

This research is an extension of the ORIL 2015-7 research project documented in report number FHWA/OH-2015/31, *Storm Water Best Management Practices for Local Roadways*. Specific objectives driving this follow-up project are described below, along with tasks that were originally scoped to assist with meeting these objectives.

2.1 Objectives

This project was initiated to accomplish the following objectives:

- Assess the accuracy of Tool results and the value of using the Tool's BMP screening process for a variety of actual roadway projects.
- Collect general user feedback on Tool ease of use, clarity, limitations, obstacles to implementation, and likelihood of using or recommending its use in the future.
- Identify minor modifications that can be made to the Tool in the short term to improve ease of use and accuracy of the results.
- Identify potential promotional and outreach steps that can be taken to expand awareness and implementation of the Tool on a statewide basis.
- Develop recommendations for ongoing Tool upkeep and maintenance.
- Identify opportunities for potential future expansion or realignment of the Tool in the long term, to address limitations and better meet industry or compliance needs.

2.2 Tasks Planned to Accomplish Objectives

The following tasks were identified to accomplish the above objectives:

1. **Task 1 - ODOT Coordination, Meetings, and Project Management** – This task was planned to allow for coordination with ODOT and pilot test partners on a regular basis regarding research progress, preliminary findings, and action items. This task also covered general project management activities to keep the project on schedule and budget.
2. **Task 2 – Participant Training and Tool Troubleshooting** – This task was identified to facilitate later Tool testing tasks by providing initial Tool training sessions and follow-on technical support to pilot test partners and their representatives. It was planned for this task to include training sessions for three separate local jurisdictions that agreed to participate in the pilot testing of the Tool (see "Pilot Test Partners" section below). Additionally, this task planned for 32 hours of troubleshooting and technical support for each partner over the course of a year.
3. **Task 3 – Data Collection and Site Visit Support** – This task was planned to involve the bulk of the research supporting the objectives on this project, in which feedback was collected regarding the performance, value, and potential future applications for the Tool. The intent was to have individuals representing each of the Pilot Test Partners test the use of the Tool on actual roadway projects, and then fill out questionnaires to provide

feedback on the results of individual project tests, as well as overall impressions and suggestions for Tool improvements and applications.

4. **Task 4 – Summary of Findings Memorandum** – This final task was intended to cover the synthesis of feedback collected under Task 3, and the summary of these findings and suggestions in this final report.

2.3 Pilot Test Partners

Through coordination with ODOT, the following local jurisdictions were selected to participate in the implementation testing of the Tool:

- City of Akron, Engineering Bureau
- City of Columbus, Department of Public Service
- Franklin County, Engineer's Office

These participants were selected based on expressed interest in the tool during the tool development phase, with consideration for representing a cross section of potential tool users. The City of Columbus represented a large municipality, City of Akron represented a medium municipality, and Franklin County represented potential rural users.

3 RESEARCH APPROACH

This section describes how the research was ultimately conducted on this project to accomplish project objectives in accordance with the previously described research plan.

3.1 Participant Training and Tool Troubleshooting

Tool training sessions were held with potential pilot testers from each of the three selected local jurisdictions to illustrate how to use the Tool and prepare users for the pilot tests. A key driver for the training sessions was to reduce the potential for user errors or confusion to interfere with the pilot testing process. Two training sessions were scheduled and completed. The first session was conducted at the City of Akron's offices on December 15, 2016, and attendees included City of Akron staff, consultants, and a representative from Summit County Soil and Water Conservation District. The second training session was conducted at the ODOT Sign Shop Computer Training Room on January 25, 2017, and included staff from both the City of Columbus and Franklin County Engineer's Office. Sign-in sheets for both training sessions, as well as slides from the training presentation, are included in Appendix A. Subsequent to the training sessions, GS&P invited pilot testing participants to reach out directly with any questions as needed to troubleshoot or get technical support for using the Tool.

3.2 Data Collection from Tool Pilot Tests

Each of the pilot testing partners was asked to identify individuals to perform pilot tests of the Tool on actual roadway projects that were either underway at the time or already completed. In total, the Tool was pilot tested by seven individuals on at least ten roadway projects. Completed pilot tests are summarized in the table below.

Table 1 – Tool Pilot Test Participants and Projects

Pilot Test Partner / Local Jurisdiction	Pilot Test Participant	Pilot Test Project
City of Akron	Julie Berbari, Summit County Soil and Water Conservation District	Various
	Jim Hall, City of Akron	Various
	Katherine Holmok, Environmental Design Group	Tallmadge Dayton Street Diet
City of Columbus	Benjamin Farrell, City of Columbus	Hague Avenue Rehab
		Hamilton Road Phase A
	Kyle Hardy, City of Columbus	Fairwood Avenue Sidewalks
		Hamilton Livingston Safety Project
	Jonathan Koester, City of Columbus	Hilliard Rome Road at Feder Road
		Warner Road Phase 2
Franklin County Engineer's Office	Jim Ramsey, Franklin County Engineer's Office	Norton Rd at Johnson Rd Roundabout

For each project-specific pilot test that was completed, participants were asked to provide feedback on a "Project Test Summary Form" to evaluate how the Tool performed at screening BMPs for the project. The questionnaire, which is included in Appendix B, covered the following topics:

- Alignment of tool questions with BMP selection considerations from the design process;
- Appropriateness of BMP results and alignment with BMPs considered during the design phase of the project;
- Unexpected results from the BMP screening process; and
- Usefulness of the level of screening provided by the Tool.

After completing the testing of the Tool on individual projects, testers were also asked to provide general feedback and suggestions on a separate form. The "Tool User Feedback Form," which is included in Appendix B, asked users for comments on the following:

- Ease of use and clarity of screening process and results;
- Appropriateness of included BMPs and BMP screening criteria;
- Limitations of the tool and suggestions for Tool improvements or further training;
- Usefulness of the tool and likelihood to use again; and
- Recommendations for future tool applications and potential tool users.

3.3 Data Collection Site Visits

It was originally planned to conduct four follow-up meetings (two in-person site visits and two conference calls) with each of the three testing partners to facilitate feedback collection related to pilot testing progress and results. Ultimately, these meetings were found not to be necessary, due to initial delays in the completion of pilot tests, as well as the ability to accomplish Tool discussion needs during the regular progress meetings held with ODOT and pilot testing partners (under Task 1). A decision was made to not hold these meetings, with consensus from the pilot testing partners, as well as ODOT and GS&P.

3.4 Synthesis of Tool Feedback

As feedback forms were collected from pilot test participants, GS&P compiled the responses and reviewed them for trends, themes, and isolated observations requiring follow up. It was requested that test participants supply copies of the Tool used to execute project tests along with their feedback forms. This enabled GS&P to review the filled-out Tool in conjunction with review comments, to troubleshoot and identify the source of any issues or confirm observations and results as needed. Follow up discussions were held at project progress meetings with ODOT and the pilot testing partners to review feedback that had been received as well as request clarification where needed.

4 RESEARCH FINDINGS AND CONCLUSIONS

This section provides a brief overview of findings and conclusions regarding the Tool, based on feedback supplied by pilot test participants and discussed at project progress meetings.

4.1 Findings from Project Tests

Pilot test participants completed nine Project Test Summary Forms, and these are included in Appendix C. Test participants generally indicated that Tool screening questions and recommended BMPs aligned well with design considerations. Testers also indicated that the Tool resulted in an appropriate number of BMPs remaining after screening. Several users identified potential Tool benefits beyond BMP screening, including the ability to compare costs, the defensible documentation of the BMP selection process, and a better understanding of how site constraints and design decisions impact BMP design and selection. A few issues requiring follow-up were noted in the feedback forms. Some of these were found to be associated with a misunderstanding of Tool questions, illustrating a need for further clarification. Identified issues included the following:

- Several comments indicated some confusion over the infiltration question in Step 3A.4.
- One user noted an issue where the Tool was screening out BMPs based on space constraints even after noting that more land can be acquired.
- One user noted an inconsistency in legend colors on the screening steps.

4.2 General Tool Feedback

Five Tool User Feedback Forms were completed by participants, and these are included in Appendix D. General findings are summarized below:

- Tool users indicated that the Tool was self-explanatory, clear, and easy to use, and they appreciated to review screening results step-by-step.
- The range of BMP options covered by the Tool was generally described as “very good.”
- City of Columbus users are limited to using detention-based facilities and found the range of BMP options in the Tool to be less useful.
- Testers felt that the Tool might be more useful to those with less experience in BMP selection.
- It was thought that the Tool would be most useful if used early in the project, between preliminary engineering and Stage 1, and refined later as needed.
- There was a request for the water quality calculation sheet to be reformatted for allow it to be included directly in a drainage report. Another tester requested better graphics as output.
- One Tool user noted at a training session that some potential Tool users outside of central Ohio might perceive the Tool to be central-Ohio-focused and not use it, due to questions referencing the Big Darby Creek and Olentangy alternative general permits.
- Testers responded that they were “satisfied” to “very satisfied” with the Tool and most indicated they were “somewhat likely” to “likely” to use the Tool again or recommend it.
- Nearly all of the users indicated it would be helpful if the Tool were customized to meet local criteria, including City of Columbus criteria.

5 RECOMMENDATIONS FOR IMPLEMENTATION OF RESEARCH FINDINGS

5.1 Overall Recommendation

While pilot test participants commented on the Tool's ease of use for compliance with statewide post-construction BMP requirements, this "one size fits all" approach is less useful to designers needing to comply with more stringent local requirements (such as City of Columbus), as well as more experienced BMP designers. It is recommended that the Tool continue to be made available to potential users, but some limited additional outreach may help it reach a larger audience that is likely to benefit from this type of Tool. Additional pilot testing by designers that do not need to comply with design requirements in a local manual may provide a more complete understanding of the Tool's value. Additionally, further improvements may be worth considering if there is a potential to enhance its value to ODOT or select groups of designers.

5.2 Overall Assessment of the Tool

5.2.1 Anticipated Benefits of Ongoing Tool Implementation

The following Tool benefits and recommendations were compiled based on test feedback:

- The Tool is thought to have the most benefit if used early in the design process, within the Preliminary Engineering Phase leading up to Stage 1 Design plans.
- Users that are less familiar with BMP options and do not design BMPs on a regular basis may benefit the most from using the Tool. More experienced designers are likely to already be familiar with BMP options appropriate for various project types and constraints.
- The Tool is expected to be most useful for Locals that do not have unique BMP design requirements in a Local design manual (e.g., City of Columbus).
- Additional benefits include the defensible documentation it provides for the BMP selection process, the ability to compare cost ranges of potential BMPs, the ability to incorporate the water quality calculation worksheet into design reports, and gaining a better understanding of the impacts of design decisions and site constraints on BMP selection.

5.2.2 Potential Tool Limitations and Barriers to Implementation

The following limitations and barriers were identified through the research:

- The Tool is focused on statewide requirements in the CGP, and does not incorporate the requirements of local jurisdictions. For this reason, pilot testers from the City of Columbus indicated a lower likelihood of continued Tool use. The Tool's MS Excel™ format allows for it to be cloned off and customized to reflect local requirements, if desired. Tool users have indicated interest in this, particularly for Columbus requirements.
- The audience that is most likely to benefit from the Tool includes those that are less experienced with BMP design and that do not need to comply with local BMP requirements. Potential Tool users meeting these criteria may not be familiar with the ORIL program and may not be aware of the Tool or where to find it, making outreach more challenging.
- The Tool has a significant number of questions and requests some detailed information in order to provide the intended quality of results. Some pilot testers suggested that this may deter those who are less experienced with BMP design from using the Tool.

5.3 Recommendations for Ongoing Tool Implementation

5.3.1 Recommended Corrections Within the Tool

The following minor updates were made in the Tool based on test feedback:

- Guidance was added under Step 3A.4 to clarify that answering "Yes" to the infiltration question will limit results to BMPs that rely on infiltration to function.
- Tool logic for Step 4A.1 was revised to ignore space constraints in the screening process if the user indicates that more land can be acquired.
- Legend colors were adjusted on the screening tabs to align with the results cells.

5.3.2 Recommendations for Tool Outreach

The following strategies are recommended to track Tool usage and improve Tool visibility:

- Add a link to the Tool website from other relevant locations on the ODOT website, such as from the Office of Hydraulic Engineering "Post Construction Storm Water BMP" page.[1]
- Add a feedback link within the Tool that it is accessible once the Tool is downloaded.
- Consider means to better assess Tool usage, such as tracking downloads or asking users to provide their email address to download the Tool.
- Consider a wider pilot program that focuses on users that are not subject to local storm water design requirements and are more likely to benefit from the Tool. Feedback from that testing may provide a better understanding of the potential value of the Tool.

5.3.3 Recommendations for Tool Maintenance

The Tool may require periodic updates to keep it current with revisions to the CGP and ODOT's Location and Design Manual, or to address specific regulatory issues. ODOT may need to weigh the value of these updates against the potential benefits to ODOT and Locals. If the Tool is not updated in response to a key regulatory change, a warning should be posted identifying regulatory issues that are not reflected in the Tool, or alternatively, the Tool can be removed from the website. If ODOT opts to continue maintenance of the Tool, it is recommended that ODOT identify a select group of "editors" that are familiar with the Tool and relevant regulatory requirements.

5.4 Potential Future Tool Improvements and Uses

The following potential Tool improvements may be worth considering in the future:

- Reformat Tool output page (Step 6) to make it suitable for inclusion in design reports and feasibility studies (i.e., in-lieu fee).
- Expand Tool output page to include Tool inputs and BMP screening decisions / constraints.
- Enhance graphics / aesthetics of user interface and screening process.
- Make it clearer that questions can be skipped if answer is unknown.
- Customize a copy of the Tool for local or alternative requirements.
- Incorporate lessons learned from ongoing BMP O&M and implementation, in alignment with ODOT's BMP Collector App.

[1] https://www.dot.state.oh.us/Divisions/Engineering/Hydraulics/Pages/PostConstructionStormWaterBMP.aspx

6 BIBLIOGRAPHY

Gresham, Smith and Partners and Geosyntec Consultants (GS&P and Geosyntec). (2015). Final Report and Storm Water BMP Tool, Storm Water Best Management Practices for Local Roadways/ 2015-ORIL 7. September.

GS&P/OH, INC.
AN AFFILIATE OF
GRESHAM SMITH AND PARTNERS

APPENDICES

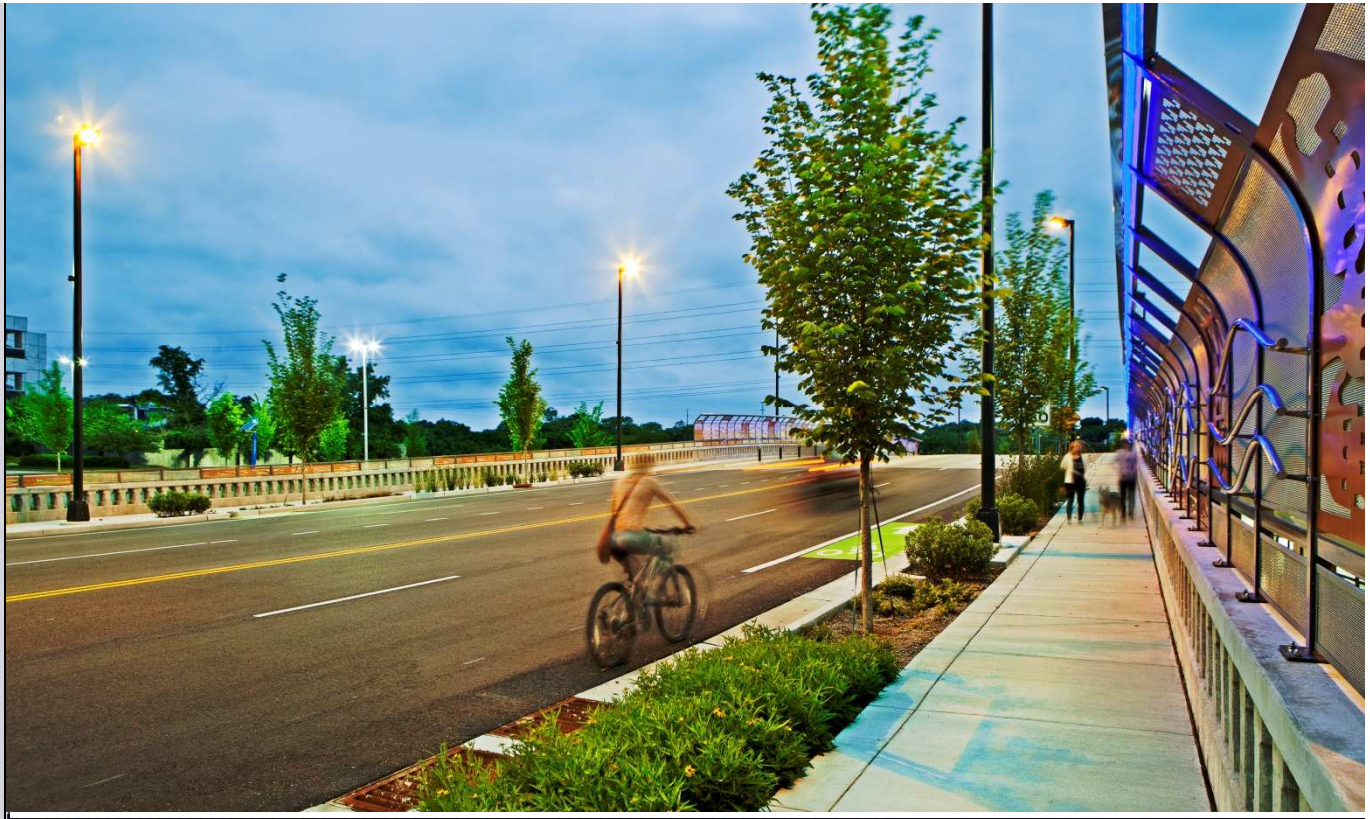
Appendix A: Tool Training Session Materials

Appendix B: Tool Feedback Form Templates

Appendix C: Completed Project Test Summary Forms

Appendix D: Completed Tool User Feedback Forms

Appendix A: Tool Training Session Materials



ORIL Storm Water BMP Tool

Implementation Testing

Kickoff Meeting and Tool Training
For the City of Columbus and Franklin County

January 25, 2017

GS&P

GRESHAM SMITH AND PARTNERS

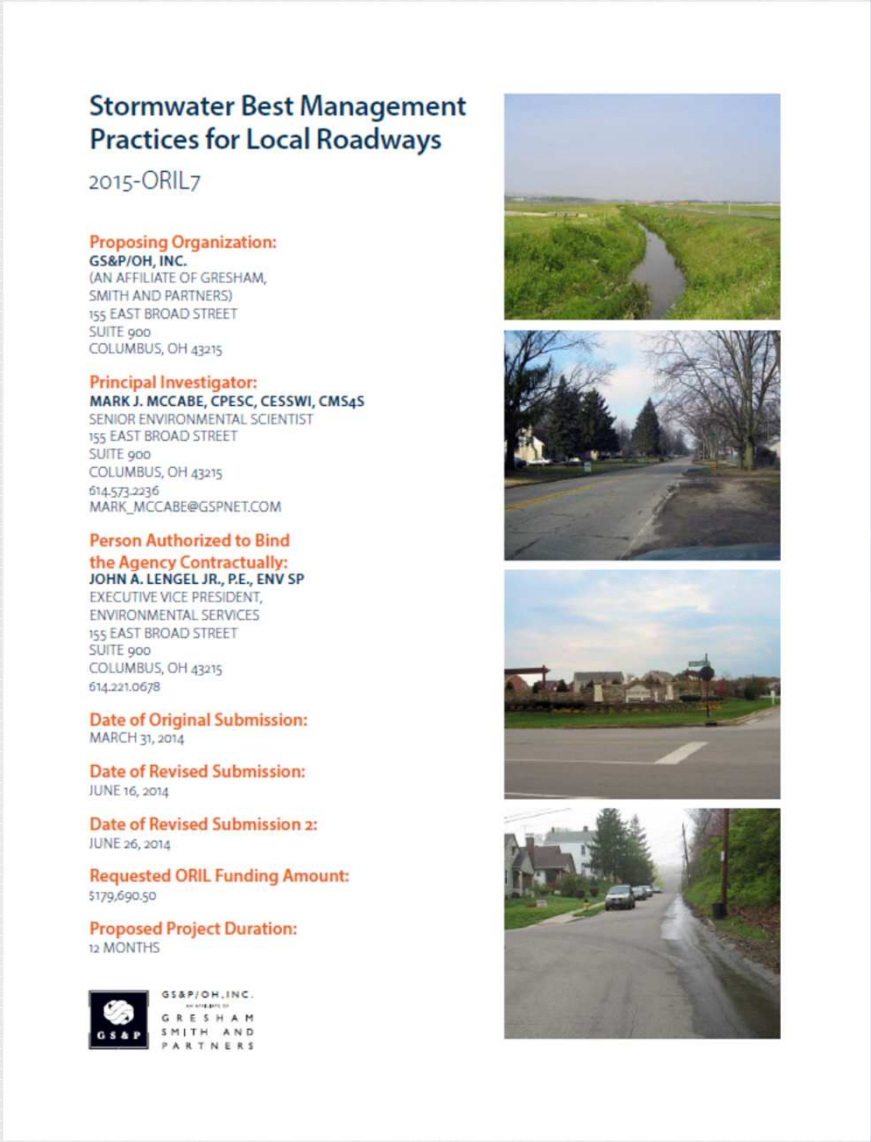
Project Team Introductions

GRESHAM SMITH AND PARTNERS

Mark McCabe, CPESC, CESSWI, CMS4S

Tom Dietrich, PE, LEED AP

Melanie Knecht, PE, ENV SP



Stormwater Best Management Practices for Local Roadways

2015-ORIL7

Proposing Organization:
GS&P/OH, INC.
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Date of Original Submission:
MARCH 31, 2014

Date of Revised Submission:
JUNE 16, 2014

Date of Revised Submission 2:
JUNE 26, 2014

Requested ORIL Funding Amount:
$179,690.50

Proposed Project Duration:
12 MONTHS

GS&P/OH, INC.
GRESHAM SMITH AND PARTNERS

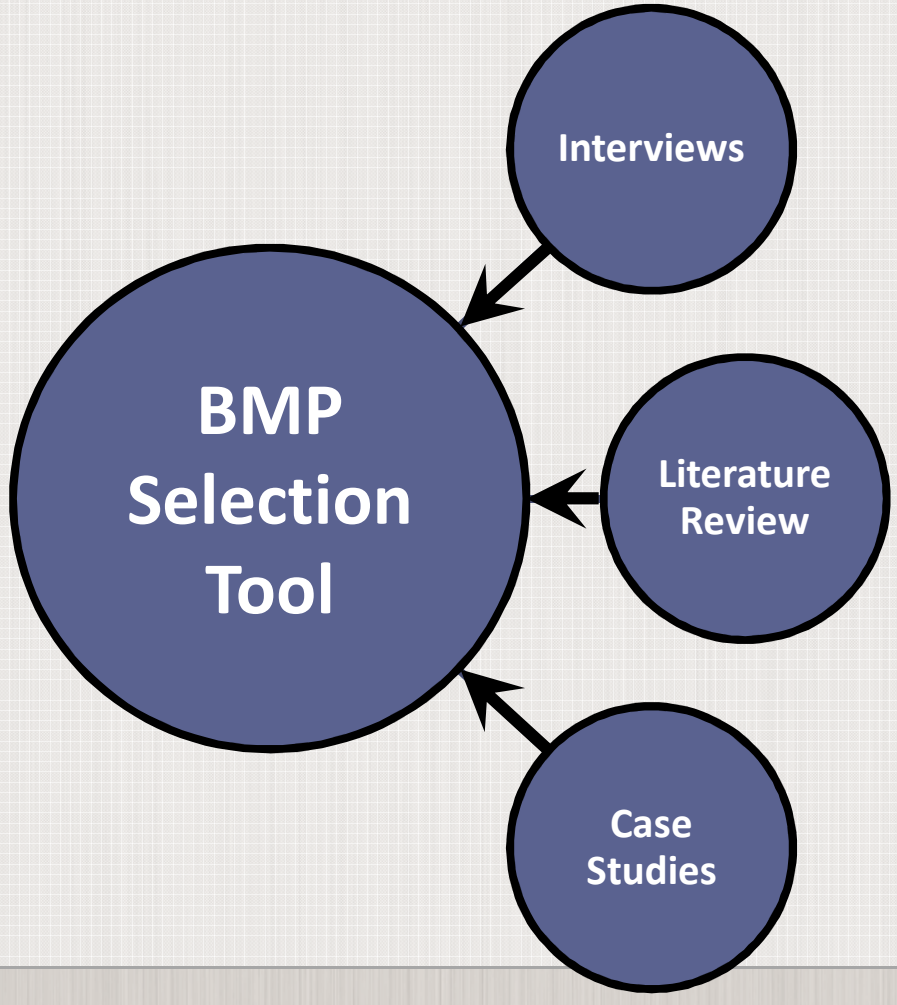
Meeting Agenda

- Project Overview
- Tool Walk Through
- Next Steps for Testing the Tool
- Q&A

Image Courtesy of Contech

Project Background

- Stormwater BMPs for Local Roadways (ORIL-7, Sept. 2015)



Project Overview

Project Overview

- Stormwater BMP Screening Tool Implementation Testing
- ODOT wants feedback from testing on actual projects
- Project results = your input!
- GS&P compiling feedback and summarizing recommendations for tool improvements

Project Objectives

- Evaluate tool performance and ease of use on real projects
- Characterize tool strengths and limitations
- Identify any roadblocks to tool implementation
- Recommend potential tool enhancements

Project Schedule

- Test tool performance on 3-5 real projects
- Share feedback on test results at upcoming meetings
- GS&P to submit findings memo in Oct. 2017

Meeting / Purpose	Format	Timing
1 - Kickoff and Tool Training	In Person	Today
2 – Tool Support	Call	TBD (Jan-Feb 2017)
3 – Initial Testing Results	In Person	TBD (Mar-Apr 2017)
4 – Final Testing Results	Call	TBD (May-Jul 2017)
5 – Final Tool Feedback	In Person	TBD (Aug-Sep 2017)

Tool Overview

Tool Overview

As we introduce the tool…

- Locate copy of blank tool
  - Pre-loaded on your computer desktop
  - Also available on ORIL website http://www.dot.state.oh.us/groups/oril/Pages/BMP-Tool.aspx
- Do a “save as” and name the file something unique for today’s training (e.g, “TrainingExample”).

Drivers for Development of the BMP Tool

- “Establish a methodology for recommending proven storm water BMPs for use on Ohio's local roadway system that satisfy current regulations and are cost effective in terms of construction and maintenance by local governments.”

- “Provide local officials with a simplified tool to assist decision makers in selecting optimal BMPs for specific applications.”

Overview of Tool Concept

- Help roadway designers identify BMPs that:
  - Meet ODOT L&D / Ohio EPA post-construction requirements
  - Compatible with project site / design constraints

- BMP matrix evolved into an interactive screening tool that:
  - Applies to urban and rural areas across State of Ohio
  - Reflects stakeholder input on factors affecting BMP selection
  - Considers broad range of BMPs and allows for design flexibility

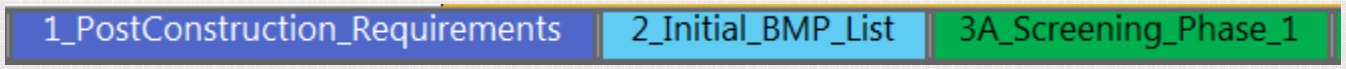
Considerations for Use of the Tool

- Tool intended for a single BMP site. Can copy the tool to evaluate other sites or varying constraints.
- Can skip questions if do not have information, but then that criteria will not be factored into screening.
- Tool does not select a BMP for you, need to apply best judgment to select from final set of BMPs.
- May help to use iterative process and revisit responses to questions if too many/few BMP results

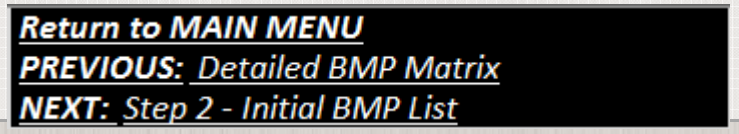
Overview of Tool Format and Features

- Open up the tool and look around!

- Each step of tool process on different tab
  - Can select tabs to navigate to them directly

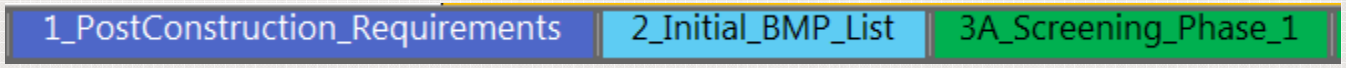


- Navigational links at top and bottom of screen
  - "Next Step" / "Previous Step" navigation links
  - Main Menu can be used as your "home screen"

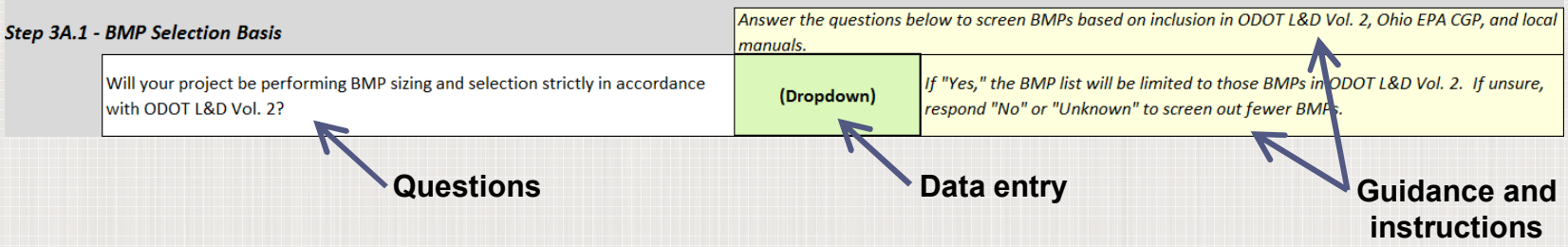


Key to Cell Formatting Within the Tool

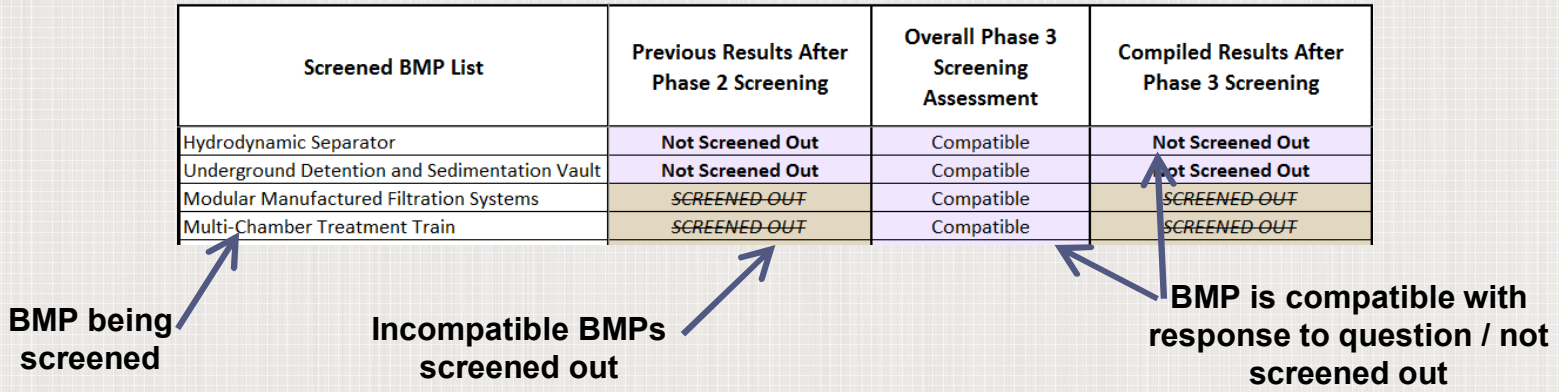
- Steps are color coded on tabs and Main Menu



- Input steps:



- Output steps



Main Menu / Front End of Tool

Reference -->	Detailed BMP Matrix
Step 1 -->	Determine Post-Construction Applicability
Step 2 -->	Review List of BMPs Included in Tool
Step 3A -->	Answer Questions for Screening Phase 1
Step 3B -->	Review Screening Phase 1 Results
Step 4A -->	Answer Questions for Screening Phase 2
Step 4B -->	Review Screening Phase 2 Results
Step 5A -->	Answer Questions for Screening Phase 3
Step 5B -->	Review Screening Phase 3 Results
Step 6 -->	Review Final BMP List After Screening

GS&P

Detailed BMP Matrix

- Matrix is database of BMP characteristics
  - 23 BMP-specific rows
  - Variety of characteristics related to screening questions
- During screening, user inputs are reviewed for compatibility with characteristics of each BMP
- BMP criteria in matrix
  - Based on BMP literature review
  - Values selected for screening, may represent extremes rather than typical design values
  - Tailored for Ohio and roadway projects

BMPs Included in Tool

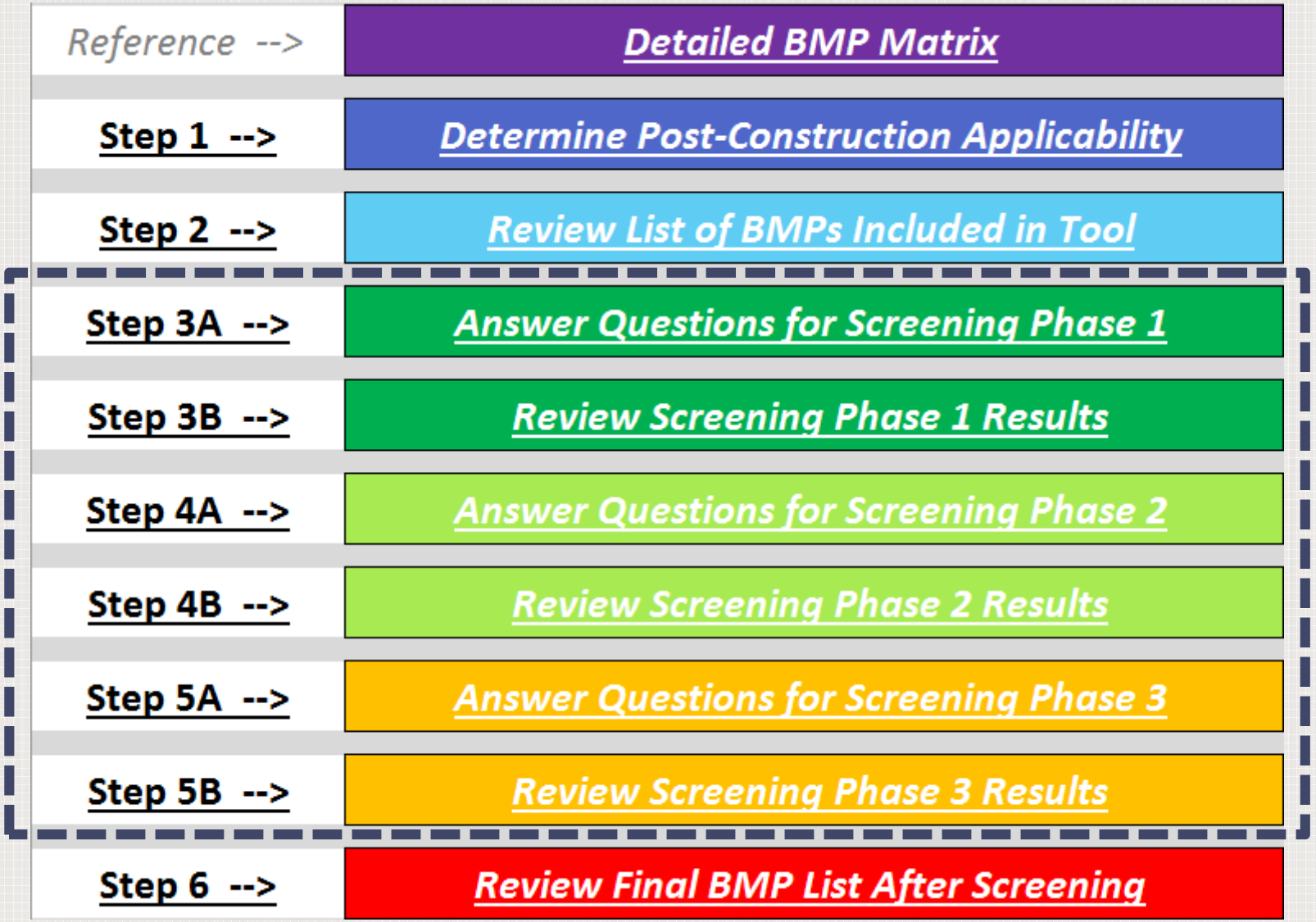
- BMP Categories
  - Underground Systems
  - Linear Systems
  - Basin Systems
  - Pavement Systems
- Regulatory Acceptance
  - ODOT L&D Vol. 2 standard BMPs for quality, quality/quantity
  - CGP pre-approved / “standard” BMPs (CGP Table 2)
  - CGP “alternative” BMPs

Regulatory Applicability

- Added based on interview feedback
- Disturbance area threshold for CGP
- Routine maintenance exclusion
- Prompt to consider if alternative permits may apply

Ohio Environmental Protection Agency

Main Menu / BMP Screening Process



Tool Overview – Inside Each Screening Phase

SINGLE SCREENING PHASE

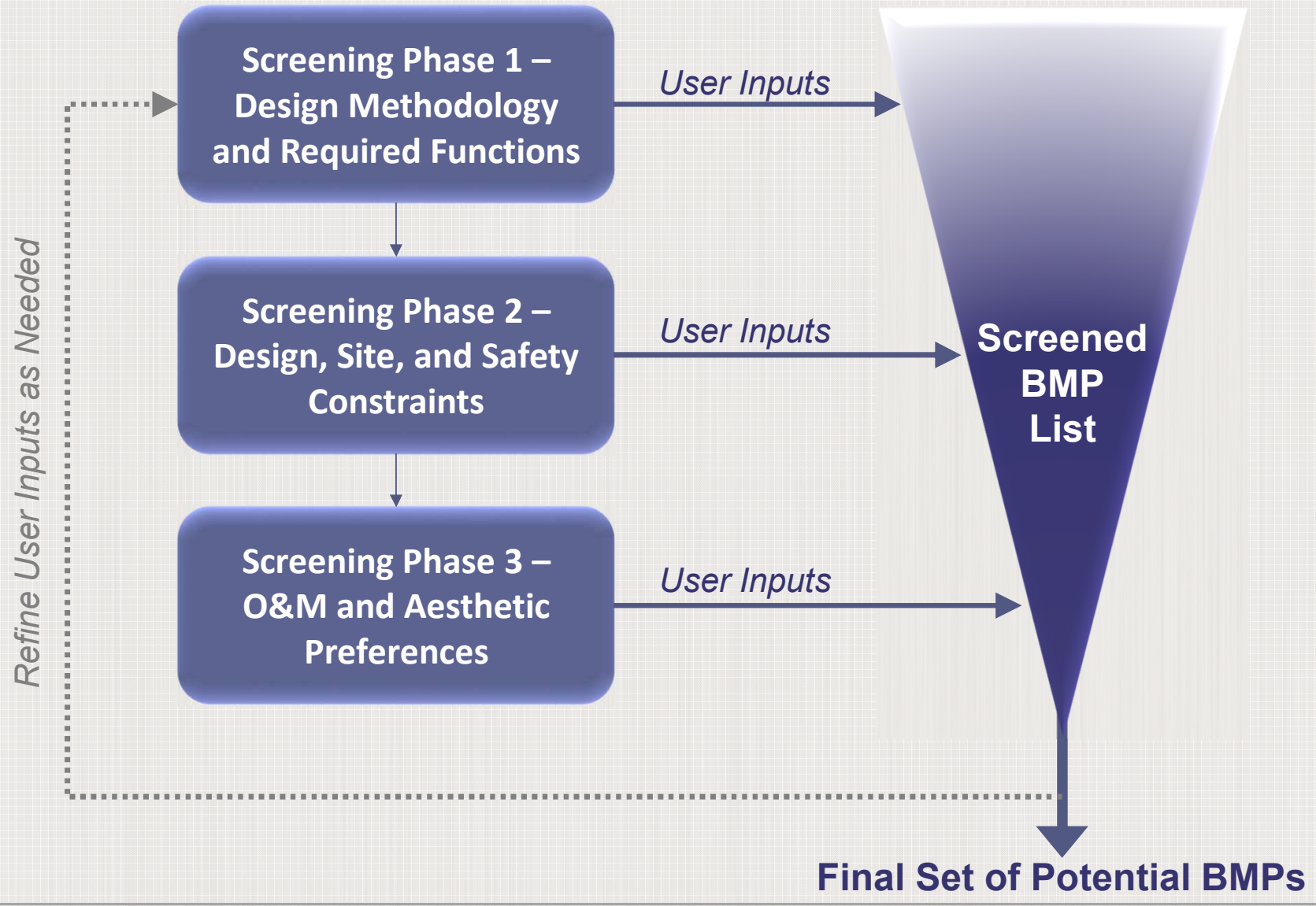
USER DATA ENTRY ("A" STEP)

- Define project and site characteristics
- Define preferences and requirements

SCREENING RESULTS ("B" STEP)

- Tool compares user data to BMP limitations
- "Incompatible" BMPs screened out

Tool Overview – 3-Phase Screening Process



Example of Data Entry ("A") Tab

Return to MAIN MENU
PREVIOUS: *Step 2 - Initial BMP List*
NEXT: *Step 3B - Screening Phase 1 Results*

Step 3A - Answer Questions for Screening Phase 1

GUIDANCE: *This first screening phase reduces the list of BMPs initially based on the standards being used for BMP selection and design, as well as based on willingness to consider potential alternative BMPs that would require approval from Ohio EPA. Screening is also performed based on the functions that the BMP is required to provide.*

Step 3A.1 - BMP Selection Basis	*Answer the questions below to screen BMPs based on inclusion in ODOT L&D Vol. 2, Ohio EPA CGP, and local manuals.*	
Will your project be performing BMP sizing and selection strictly in accordance with ODOT L&D Vol. 2?	**Yes**	*If "Yes," the BMP list will be limited to those BMPs in ODOT L&D Vol. 2. If unsure, respond "No" or "Unknown" to screen out fewer BMPs.*
~~If you are not strictly following ODOT L&D Vol. 2, are you required to select and design BMPs in accordance with a local storm water manual?~~	~~**(Dropdown)**~~	~~*If "Yes," the full set of BMPs will be retained initially, since the available BMPs provided in the local manuals are unknown.*~~
~~If you are not strictly following ODOT L&D Vol. 2 or a local storm water manual, are you willing to consider "Alternative BMPs" (i.e. BMPs not pre-approved by Ohio EPA) in your initial review and planning for project BMPs?~~	~~**(Dropdown)**~~	~~*If "No," the BMP list will be limited to those BMPs listed in Table 2 of the Ohio EPA CGP. If "Yes," the full set of BMPs will be retained initially. Please note that Alternative BMPs require approval from Ohio EPA to count toward water quality requirements.*~~
BMP Selection Basis	***ODOT L&D Vol. 2***	***BMPs not appearing in ODOT L&D Vol. 2 will be screened out.***

Step 3A.2 - ODOT L&D Vol. 2 Quantity / Quality Control Requirements	*If following ODOT L&D Vol. 2, answer the questions below to determine if the BMP must provide quantity control.*	
Will project create one or less acre of new impervious area in the new permanent right-of-way being acquired for the project?	**Yes**	*If you respond "Yes" to one or more of the three questions to the left, ODOT L&D Vol. 2 requires that BMPs provide only quality control, and BMPs will be screened down to those that are listed as addressing quality in ODOT L&D Vol. 2. If all responses are "No", BMPs will be screened to those that are listed as addressing both quantity and quality in ODOT L&D Vol. 2.*
Does project site drain directly to a large river (fourth order or greater, i.e. >100 square mile tributary area to stream) or to a lake and where the development area is less than 5 percent of the watershed area upstream of the development site?	**No**	
Is project performing redevelopment within an ultra-urban setting (i.e. 100 percent impervious or the storm water discharge is directed into an existing storm sewer system), without increasing the existing runoff coefficient?	**No**	
ODOT L&D Vol. 2 Quantity / Quality	***Quality Only***	***BMPs will be screened based on meeting ODOT L&D Vol. 2 quality***

LEGEND	
(Enter value)	These cells require the user to click on the cell and directly type to enter data, in response to a prompt.
(Dropdown)	These cells require the user to click on the cell and select a value from a dropdown list, in response to a question or prompt.
General	These cells require no action by the user, and include general text such as questions, directions, units, and headings.
Results	These cells provide conclusions and results developed by the tool, based on user input in other cells.
Guidance	These cells provide guidance for the overall tab, as well as on select questions.
Shortcut	These cells provide shortcuts to other locations within the tool. Click on the text to go to the linked destination.

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Example of Screening Results ("B") Tab

BMP Screening Status from Previous Screening Phase

Screening Results from this Screening Phase

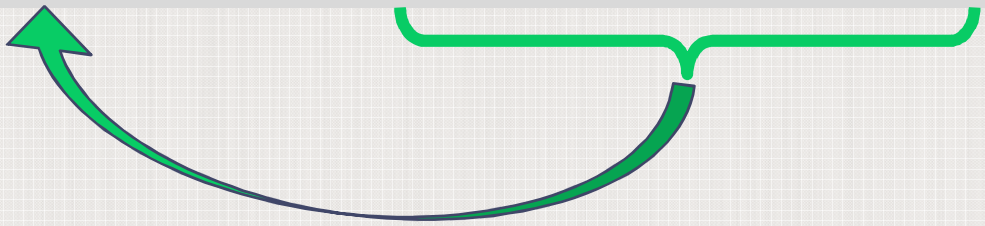
BMP Screening Status After This Phase

Additional Information – Screening Results by Question

Step

implementation. If the remaini… MPs is too small, please revisit your resp… steps 3A-5A before pro… Step 6 to see the final BMP list after screening. Please… the Detailed BMP Matrix for furthe…

Category	Screened BMP List	Previous Results After Phase 2 Screening	Overall Phase 3 Screening Assessment	Compiled Results After Phase 3 Screening	Screening Analysis by Topic				
					O&M (5A.1)			Aesthetics (5A.2)	
					Vactor truck	Street Sweeper	Confined Space Entry	Native Vegetation	Subsurface
Underground Systems	Hydrodynamic Separator	**Not Screened Out**	Incompatible	~~SCREENED OUT~~	Incompatible	Compatible	Compatible	Compatible	Compatible
	Underground Detention and Sedimentation Vault	**Not Screened Out**	Incompatible	~~SCREENED OUT~~	Incompatible	Compatible	Incompatible	Compatible	Compatible
	Modular Manufactured Filtration Systems	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~	Incompatible	Compatible	Compatible	Compatible	Compatible
	Multi-Chamber Treatment Train	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~	Incompatible	Compatible	Incompatible	Compatible	Compatible
	Subsurface Bed Filters	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~	Compatible	Compatible	Incompatible	Compatible	Compatible
	Infiltration Gallery	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~	Compatible	Compatible	Incompatible	Compatible	Compatible
	Subsurface Flow Wetland	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
Linear Systems	Vegetated Filter Strip	**Not Screened Out**	Compatible	**Not Screened Out**	Compatible	Compatible	Compatible	Compatible	Compatible
	Shoulder Media Filter Drain	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
	Infiltration Trench	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
	Vegetated Biofilter / Swale	**Not Screened Out**	Compatible	**Not Screened Out**	Compatible	Compatible	Compatible	Compatible	Compatible
	Wetland Channel	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
Basin Systems	Bioretention With Underdrain	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
	Bioretention Without Underdrain	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
	Constructed Wetland	**Not Screened Out**	Compatible	**Not Screened Out**	Compatible	Compatible	Compatible	Compatible	Compatible
	Wet Extended Detention Basin	**Not Screened Out**	Compatible	**Not Screened Out**	Compatible	Compatible	Compatible	Compatible	Compatible
	Dry Extended Detention Basin	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
	Infiltration Basin	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
	Surface Bed Filter	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~	Compatible	Compatible	Compatible	Compatible	Compatible
Pavement Systems	Permeable Pavement - Infiltration	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~	Compatible	Incompatible	Compatible	Compatible	Compatible
	Permeable Pavement - Extended Detention	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~	Compatible	Incompatible	Compatible	Compatible	Compatible
	Permeable Friction Course (PFC) Overlay	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~	Compatible	Incompatible	Compatible	Compatible	Compatible
	Permeable Shoulder w/ Stone Reservoir	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~	Compatible	Incompatible	Compatible	Compatible	Compatible



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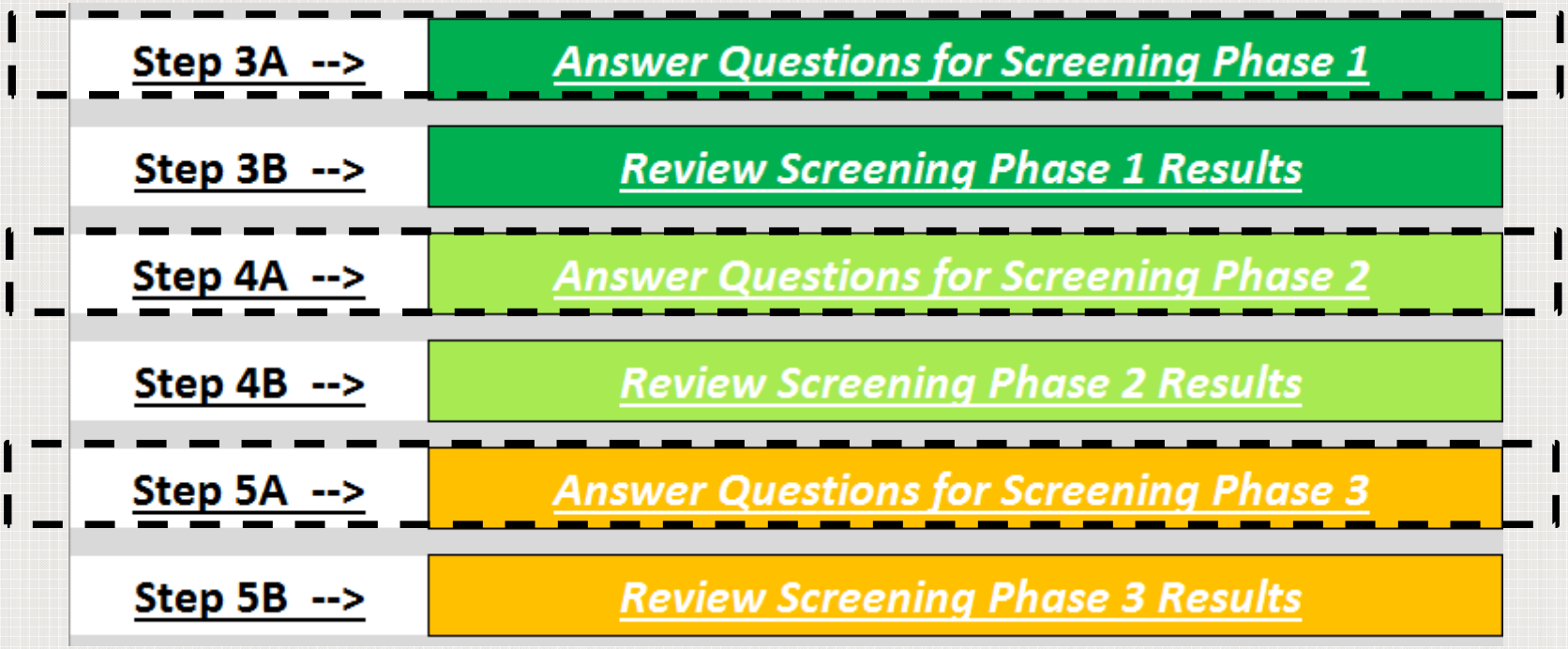
Let's Practice – Data Entry for Screening Process

- See worksheet with sample tool inputs for demo
- Enter responses to questions in 3A, 4A, 5A



Let's Practice – Review Results on Step 3B

- Review initial screening results on Step 3B
- What BMPs were screened out? Why?

Category	Screened BMP List	Overall Phase 1 Screening Assessment	Results After Phase 1 Screening	Screening Analysis by Topic		
				BMP Selection Basis (3A.1, 3A.2)		Alternative BMP Channel Protection (3A.3)
				ODOT L&D Vol. 2 and Quantity / Quality	Local Manual and Alternative BMPs	
Underground Systems	Hydrodynamic Separator	**Compatible**	**Not Screened Out**	Compatible	Compatible	Compatible
	Underground Detention and Sedimentation Vault	**Compatible**	**Not Screened Out**	Compatible	Compatible	Compatible
	Modular Manufactured Filtration Systems	*Incompatible*	*SCREENED OUT*	Incompatible	Compatible	Compatible
	Multi-Chamber Treatment Train	*Incompatible*	*SCREENED OUT*	Incompatible	Compatible	Compatible
	Subsurface Bed Filters	*Incompatible*	*SCREENED OUT*	Incompatible	Compatible	Compatible
	Infiltration Gallery	*Incompatible*	*SCREENED OUT*	Incompatible	Compatible	Compatible
	Subsurface Flow Wetland	*Incompatible*	*SCREENED OUT*	Incompatible	Compatible	Compatible
Linear Systems	Vegetated Filter Strip	**Compatible**	**Not Screened Out**	Compatible	Compatible	Compatible
	Shoulder Media Filter Drain	*Incompatible*	*SCREENED OUT*	Incompatible	Compatible	Compatible
	Infiltration Trench	**Compatible**	**Not Screened Out**	Compatible	Compatible	Compatible
	Vegetated Biofilter / Swale	**Compatible**	**Not Screened Out**	Compatible	Compatible	Compatible
	Wetland Channel	*Incompatible*	*SCREENED OUT*	Incompatible	Compatible	Compatible

- Go back to Question 3A.1 and change your answers to "No"/ "No" / "No" – do the new results look familiar?

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Let's Practice – Review Results on Step 4B

- Review intermediate screening results on Step 4B
- How did the results change in Phase 2?

Category	Screened BMP List	Previous Results After Phase 1 Screening	Overall Phase 2 Screening Assessment	Compiled Results After Phase 2 Screening
Underground Systems	Hydrodynamic Separator	**Not Screened Out**	Compatible	**Not Screened Out**
	Underground Detention and Sedimentation Vault	**Not Screened Out**	Compatible	**Not Screened Out**
	Modular Manufactured Filtration Systems	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~
	Multi-Chamber Treatment Train	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~
	Subsurface Bed Filters	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~
	Infiltration Gallery	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~
	Subsurface Flow Wetland	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~
Linear Systems	Vegetated Filter Strip	**Not Screened Out**	Compatible	**Not Screened Out**
	Shoulder Media Filter Drain	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~
	Infiltration Trench	**Not Screened Out**	Incompatible	~~SCREENED OUT~~
	Vegetated Biofilter / Swale	**Not Screened Out**	Compatible	**Not Screened Out**
	Wetland Channel	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~
Basin Systems	Bioretention With Underdrain	**Not Screened Out**	Compatible	**Not Screened Out**
	Bioretention Without Underdrain	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~
	Constructed Wetland	**Not Screened Out**	Incompatible	~~SCREENED OUT~~
	Wet Extended Detention Basin	**Not Screened Out**	Incompatible	~~SCREENED OUT~~
	Dry Extended Detention Basin	**Not Screened Out**	Compatible	**Not Screened Out**
	Infiltration Basin	**Not Screened Out**	Incompatible	~~SCREENED OUT~~
	Surface Bed Filter	~~SCREENED OUT~~	Compatible	~~SCREENED OUT~~
Pavement Systems	Permeable Pavement - Infiltration	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~
	Permeable Pavement - Extended Detention	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~
	Permeable Friction Course (PFC) Overlay	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~
	Permeable Shoulder w/ Stone Reservoir	~~SCREENED OUT~~	Incompatible	~~SCREENED OUT~~

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Main Menu / Final BMP Recommendations

Reference -->	***Detailed BMP Matrix***
Step 1 -->	***Determine Post-Construction Applicability***
Step 2 -->	***Review List of BMPs Included in Tool***
Step 3A -->	***Answer Questions for Screening Phase 1***
Step 3B -->	***Review Screening Phase 1 Results***
Step 4A -->	***Answer Questions for Screening Phase 2***
Step 4B -->	***Review Screening Phase 2 Results***
Step 5A -->	***Answer Questions for Screening Phase 3***
Step 5B -->	***Review Screening Phase 3 Results***
Step 6 -->	***Review Final BMP List After Screening***

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Final BMP List (Step 6)

Screening Pha… Results (10 BM…

Review Summary of Progressive Screening at Each Phase

…Results After …hases (4 BMPs)

Compare O&M, Cost for Final Set of BMPs

Step 6 - Review Final BMP List After Scre…

GUIDANCE: *This tab summarizes the final BMP list aft… …e screening phases. BM… …d as "Not Screened… …under Phase 3 Screening Results meet user-defined criteria in all… …e phases of screening. If… …emo…g BMP list is too limiti… …users are encouraged to revisit the phases where preferable BMPs were… …creened out, and confirm… …er res…onses to screening questi…s.*

Category	BMP Name	BMP Tool Screening Results			O&M Level of Effort[1]	Capital Cost Range[2] (Per Acre Treated)
		Phase 1 Screening Results (Steps 3A/3B)	Phase 2 Screening Results (Steps 4A/4B)	Phase 3 Screening Results (Steps 5A/5B)		
Underground Systems	Hydrodynamic Separator	Not Screened Out	Not Screened Out	SCREENED OUT	Medium	$$
	Underground Detention and Sedimentation Vault	Not Screened Out	Not Screened Out	SCREENED OUT	Medium	$$$$
	Modular Manufactured Filtration Systems	SCREENED OUT	SCREENED OUT	SCREENED OUT	High	$$$
	Multi-Chamber Treatment Train	SCREENED OUT	SCREENED OUT	SCREENED OUT	High	$$$$
	Subsurface Bed Filters	SCREENED OUT	SCREENED OUT	SCREENED OUT	High	$$$$
	Infiltration Gallery	SCREENED OUT	SCREENED OUT	SCREENED OUT	Medium	$$$$
	Subsurface Flow Wetland	SCREENED OUT	SCREENED OUT	SCREENED OUT	Medium	$$$$
Linear Systems	Vegetated Filter Strip	Not Screened Out	Not Screened Out	Not Screened Out	Low	$
	Shoulder Media Filter Drain	SCREENED OUT	SCREENED OUT	SCREENED OUT	Low	$$$
	Infiltration Trench	Not Screened Out	SCREENED OUT	SCREENED OUT	Low	$$$
	Vegetated Biofilter / Swale	Not Screened Out	Not Screened Out	Not Screened Out	Low	$$
	Wetland Channel	SCREENED OUT	SCREENED OUT	SCREENED OUT	High	$$$
Basin Systems	Bioretention With Underdrain	Not Screened Out	Not Screened Out	Not Screened Out	Medium	$$$
	Bioretention Without Underdrain	SCREENED OUT	SCREENED OUT	SCREENED OUT	Medium	$$$
	Constructed Wetland	Not Screened Out	SCREENED OUT	SCREENED OUT	High	$$$$
	Wet Extended Detention Basin	Not Screened Out	SCREENED OUT	SCREENED OUT	High	$$$$
	Dry Extended Detention Basin	Not Screened Out	Not Screened Out	Not Screened Out	Medium	$$$
	Infiltration Basin	Not Screened Out	SCREENED OUT	SCREENED OUT	Low	$$$
	Surface Bed Filter	SCREENED OUT	SCREENED OUT	SCREENED OUT	Medium	$$$$
Pavement Systems	Permeable Pavement - Infiltration	SCREENED OUT	SCREENED OUT	SCREENED OUT	Low	$$$
	Permeable Pavement - Extended Detention	SCREENED OUT	SCREENED OUT	SCREENED OUT	Low	$$$
	Permeable Friction Course (PFC) Overlay	SCREENED OUT	SCREENED OUT	SCREENED OUT	Low	$$
	Permeable Shoulder w/ Stone Reservoir	SCREENED OUT	SCREENED OUT	SCREENED OUT	Low	$$

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Tool Training – Questions?

Next Steps: Tool Testing and Feedback

Prior to Next Meeting (Conference Call)

- Download tool from ORIL website
  http://www.dot.state.oh.us/groups/oril/Pages/BMP-Tool.aspx
- Begin testing on first project and get as far as you can
- *Reach out to GS&P on any initial roadblocks*
- Identify questions and discussion items for meeting, and send to GS&P one week prior to call
- Begin filling out test summaries and survey forms

Testing Tool on Real Projects

- Identify projects to test tool, consider timing
- Execute a project test and compare tool results to design decisions
- After each test, fill out ***Project Test Summary Form***, submit along with tool to Tom_Dietrich@gspnet.com

General Feedback on Tool

- As you go, provide general comments on tool usability in the ***Tool User Feedback Survey*** form

- Submit by August 2017

Questions?

Thank you!

Sign In

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Meeting Sign-In Sheet

Training on ORIL BMP Tool

January 25, 2017 1:00 - 3:00 PM

Name	Organization	email	Phone #	Signature/Initials
Jeff Cox	City of Columbus	JACox@columbus.gov		
Bob Destefano	Franklin County Engineers	bdestefano@franklincountyengineer.org	614-525-2389	RND
Tom Dietrich	Gresham, Smith & Partners	Tom_Dietrich@gspnet.com		TD
Benjamin Farrell	City of Columbus	BCFarrell@columbus.gov	645-2739	BF
Greg Fedner	City of Columbus	GFedner@columbus.gov	645-8072	GF
Kyle Hardy	City of Columbus	KNHardy@columbus.gov	614-645-2732	KNH
Jud Hines	City of Columbus	JMHines@columbus.gov	645-1512	Jm H
Chad Holtzapfel	City of Columbus	ceholtzapfel@columbus.gov	645-6315	CeH
Eric Kletrovetz	City of Columbus	EMKletrovetz@columbus.gov	645-6470	EmK
Melanie Knecht	Gresham, Smith & Partners	Melanie_Knecht@gspnet.com		
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Mark McCabe	Gresham, Smith & Partners	Mark_McCabe@gspnet.com		
Richard Ortman	City of Columbus	DROrtman@columbus.gov	614-645-5465	
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Mathew Repasky	City of Columbus	DMRepasky@columbus.gov		
Doug Roberts	City of Columbus	MDRoberts@columbus.gov		

Meeting Sign-In Sheet

Training on ORIL BMP Tool

January 25, 2017 1:00 - 3:00 PM

Name	Organization	email	Phone #	Signature/Initials
Jason Sanson	City of Columbus	JTSanson@columbus.gov	614-645-3702	
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Scott Shields	City of Columbus	WSShields@columbus.gov	614-645-8894	
Terry Stewart	City of Columbus	TLStewart@columbus.gov	614-645-5671	
Mark Timbrook	City of Columbus	MDTimbrook@columbus.gov	614-645-0298	
Renee VanSickle	City of Columbus	RMVanSickle@columbus.gov		
Carl Walters	City of Columbus	CLWalters@columbus.gov		
Daniel Wayton	City of Columbus	DJWayton@columbus.gov	614-645-3797	
James Young	City of Columbus	JDYoung@columbus.gov		
Jon Prier	ODOT		614-644-1876	

Appendix B: Tool Feedback Form Templates

ODOT- ORIL BMP Tool Implementation Testing

Project Test Summary Worksheet

The purpose of this worksheet is to gather feedback from testing the ORIL BMP Tool on a pending or recently completed project, including how you used the Tool and how well it aligned with your design process and BMP decision making. **Please complete for <u>each project</u>** tested in the Tool and submit this with a copy of the completed Tool spreadsheet.

Organization: Project Name:

Name: Date:

Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

2. Did screening results align with BMPs considered on project?

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

7. Any additional comments to help improve the Tool function or applicability?

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Tool User Feedback Survey

Purpose: To document your overall feedback on the functionality and user interface of the Tool, as experienced during Tool testing. Please document and adjust your responses as you complete each round of testing. Save the document, then click "Submit form" once all tests are complete.

Organization: Other (specify) Name: Date: 01/27/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Comments on overall ease of use, including user interface, tool format, data entry, and navigation within the tool.

   Click to select

2. Comments on clarity of wording and ability to respond to questions. Provide suggestions as needed.

3. Comments on screening criteria and process used to screen out BMPs.

4. Comments on the suite of BMPs included in the tool, including those considered alternative BMPs.

   Click to select

5. Comments on ability to locate and understand tool output.

6. General feedback on usefulness or limitations of tool output.

7. Thoughts on timeframe or stage of design when tool might be most effective.

8. Thoughts on potential tool users that might find the tool helpful.

9. Suggestions for improvements, modifications, or additional features.

10. Suggestions for further training or instructions needed.

11. How likely are you to use this tool in the future (or recommend it to others)?

Click to select

12. Please rate your overall satisfaction with using the tool.

Click to select

13. Would you consider it helpful if the tool were customized to meet your local criteria?

Click to selec

Appendix C: Completed Project Test Summary Forms

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

Purpose: To gather feedback from testing the ORIL BMP Tool on a pending or recently completed project, including how you used the Tool and how well it aligned with your design process and BMP decision making. **Please complete for <u>each project</u>** tested in the Tool and submit this with a copy of the completed Tool spreadsheet.

Organization: City of Akron Project Name: MSC - ORIL BMP Test

Name: Date:

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

The was a test retrofit of an existing municipal facility. The tool wasn't quite up to the partial area challenges. Some of the items that are being considered for the site (for oil/grease, etc.) were screened out by the question/answers.

2. Did screening results align with BMPs considered on project?

Not entirely. Oil/grease, stockpile particulates, trash are some of the considerations for the site, but these were screened out.

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

The questions/answers aligned with the recommendations, but did not take into considerations of the existing site retrofit.

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

Yes. However these recommendations (buffer areas, etc) did not take into consideration a very congested site.

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

I did play around with the answers to see if it would recommend a hydrodynamic separator, but it only would if the answers were way off of the site considerations.

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

The phase 1 and phase 2 screening answers were manipulated extensively to try and get the desired result.

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

It looks to be a very useful tool throughout the design process for new and reconstruction projects. It may not be as useful for modifications to an existing facility, but I would imagine the number of those projects compared to the others would be limited.

8. Any additional comments to help improve the Tool function or applicability?

Perhaps a separate tool (or slimmed down version) could be utilized to analyze existing sites for BMP improvements.

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

Purpose: To gather feedback from testing the ORIL BMP Tool on a pending or recently completed project, including how you used the Tool and how well it aligned with your design process and BMP decision making. **Please complete for <u>each project</u>** tested in the Tool and submit this with a copy of the completed Tool spreadsheet.

Organization: City of Columbus Project Name: Fairwood Ave Sidewalks

Name: Kyle Hardy Date: 04/13/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

Originally no, due to not fully understanding question 3A.4. I think better clarification is needed in the description about infiltration .

2. Did screening results align with BMPs considered on project?

Yes, 2 of the 3 choices were looked at during the design of the project and one of the results was chosen.

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

No

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

no

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

i believe the right number remained, 3 option is just enough to not overwhelm the user.

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

Yes, I changed the soil type to C/D to assume that the soils are clay (worse case) to reduce any hiccups in construction due to the soils.

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

No.

8. Any additional comments to help improve the Tool function or applicability?

please update the legend, colors are incorrect.

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

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Organization: City of Columbus

Project Name: Hague Avenue Rehabilitation

Name: Ben Farrell

Date: 04/18/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

Yes, the steps and inputs were fairly clear and concise.

2. Did screening results align with BMPs considered on project?

Yes.

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

No, the space constraints included with this urban area project led to a minimum amount of options available for BMP's.

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

None

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

The remaining options in Step 6 were minimal as expected. Space constraints were the #1 driver of the BMP that was ultimately selected for this project.

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

No

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

The additional tools were not utilized with this test, as the project's BMP's have gone through a full detailed design already.

8. Any additional comments to help improve the Tool function or applicability?

None

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

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Organization: City of Columbus

Project Name: Hamilton Livingston Safety proje

Name: Kyle Hardy

Date: 04/13/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

No, it did not include certain questions to align with the city of columbus standards.

2. Did screening results align with BMPs considered on project?

Yes

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

No

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

No, with my knowledge of the project i had expected the results the tool provided becaue we had worked through many of them.

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

The number at step six resulted in six bmps which included the bmp used on the project, no responses had to be modified to narrow down the results to an acceptable number.

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

No

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

The tool allowed me to think through most aspects of the BMP design/selection process and allowed me to foresee how changes and constraints would impact the project.

8. Any additional comments to help improve the Tool function or applicability?

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

Purpose: To gather feedback from testing the ORIL BMP Tool on a pending or recently completed project, including how you used the Tool and how well it aligned with your design process and BMP decision making. **Please complete for <u>each project</u>** tested in the Tool and submit this with a copy of the completed Tool spreadsheet.

Organization: City of Columbus Project Name: Hamilton Road Phase A

Name: Ben Farrell Date: 04/18/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

Yes, the steps and inputs were fairly clear and concise.

2. Did screening results align with BMPs considered on project?

Yes, the BMP design was mostly complete at the time that this tool was tested and the outcomes of the ORIL spreadsheet are in line with the BMP designed for the project (dry detention basin)

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

No, due to the size/volume of the project many of the other options were either space or cost prohibitive.

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

None.

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

I think the number of options remaining (5 in this case) would be sufficient to make a selection from. The output narrows the list of feasible alternatives which can be investigated further, or removed from consideration based on project specific factors (space, cost, complexity, etc.)

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

None

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

The tool was not used for these purposes on this project, as a BMP had already been designed.

8. Any additional comments to help improve the Tool function or applicability?

None.

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

Purpose: To gather feedback from testing the ORIL BMP Tool on a pending or recently completed project, including how you used the Tool and how well it aligned with your design process and BMP decision making. **Please complete for <u>each project</u>** tested in the Tool and submit this with a copy of the completed Tool spreadsheet.

Organization: City of Columbus Project Name: Hilliard Rome at Feder

Name: Jonathan Koester Date: 04/11/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

Yes, there a are lot of detailed questions that depending on the depth of conceptual design can be useful in identifying potential BMPs.

2. Did screening results align with BMPs considered on project?

Yes, the end result of a dry basin is very common for Columbus to handle the detention requirement.

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

No

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

The surface bed filter, however the end result showed the cost for the surface bed filter to be higher than the basin, which would be expected.

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

Only two option, one which the City is currently pursuing.

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

Step 4A.1, i entered a value of zero for the available ROW space and the result screened out the dry basin? Which is odd, because i said more property could be acquired.

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

I used the tool to compare the conceptual costs.

8. Any additional comments to help improve the Tool function or applicability?

Should the WQv tabs have a response if your less than 1 ac. disturbed for how much water quality is required?

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

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Organization: Franklin County Engineers Project Name: Norton Rd at Johnson Rd Roun

Name: Jim Ramsey Date: 05/22/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

Yes

2. Did screening results align with BMPs considered on project?

Yes

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

No

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

No

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

small but accurate

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

no

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

no, we are familiar with the BMPs

8. Any additional comments to help improve the Tool function or applicability?

none

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

Purpose: To gather feedback from testing the ORIL BMP Tool on a pending or recently completed project, including how you used the Tool and how well it aligned with your design process and BMP decision making. **Please complete for <u>each project</u>** tested in the Tool and submit this with a copy of the completed Tool spreadsheet.

Organization: City of Akron Project Name: Tallmadge Dayton

Name: Katherine Holmok Date: 03/10/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

Yes, but no. During the project, the drainage are was planned on being separated, however it will now remain as a combined sewer area. Therefore BMPs are not required, however the city may still want to install it as a CSO controlling BMP as per the City's Green Infrastructure Toolbox.

2. Did screening results align with BMPs considered on project?

Yes, if the project area was in a separate sewer area.

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

No.

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

No

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

It was the right amount.

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

No. It provided a good listing.

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

It was a good tool to provide a scientific, defensible process for the selection of BMPs.

8. Any additional comments to help improve the Tool function or applicability?

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Project Test Summary Worksheet

Purpose: To gather feedback from testing the ORIL BMP Tool on a pending or recently completed project, including how you used the Tool and how well it aligned with your design process and BMP decision making. **Please complete for <u>each project</u>** tested in the Tool and submit this with a copy of the completed Tool spreadsheet.

Organization: City of Columbus Project Name: Warner Road Ph 2

Name: Jonathan Koester Date: 03/10/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Did input questions align with design considerations? If no, please explain and identify factors that may be beneficial to add to or remove from the Tool.

Yes

2. Did screening results align with BMPs considered on project?

Somewhat, I'm not sure how the basin was eliminated during the second and third phase screening.

3. Did the Tool screen out any BMPs that you expected to see in the recommendations? If so, please review the responses that led to the BMP being screened out. Were those conflicts ultimately relevant to your project, or would you have been able to design around the conflicts?

Somewhat, the City is constructing a basin for this project. I'm not sure why the screening eliminated it.

4. Did the Tool recommend any unexpected BMP options? If so, did they end up being potentially applicable to your site? If not, please explain what factors made them not applicable.

No, as explained the City of Columbus requires detention. Therefore our department has explored several options on various projects to meet the design criteria.

5. Was the number of BMP options remaining in Step 6 too large or too small to be useful? Did you revise your responses (Tool inputs) to refine the number of BMPs remaining? If so, which responses and why?

Everything was screened out after the second phase.

6. Beyond the number of BMP options, did you revise your screening responses to improve the quality of the results (i.e., to get specific BMPs after screening)? If yes, which responses and why?

No.

7. Did you get any additional benefit from using the information within the tool, beyond BMP selection? For example, did you use the tool to identify performance expectations, necessary maintenance resources, or to identify other applicable sources of information for BMP design?

No.

8. Any additional comments to help improve the Tool function or applicability?

N/A.

Appendix D: Completed Tool User Feedback Forms

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Tool User Feedback Survey

Purpose: To document your overall feedback on the functionality and user interface of the Tool, as experienced during Tool testing. Please document and adjust your responses as you complete each round of testing. Save the document, then click "Submit form" once all tests are complete.

Organization: City of Akron Name: Julie Berbari Date: 06/01/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Comments on overall ease of use, including user interface, tool format, data entry, and navigation within the tool.

Good

Direction on use was good. Its easy to go back and forth to sections if changes are needed.

2. Comments on clarity of wording and ability to respond to questions. Provide suggestions as needed.

Good--

3. Comments on screening criteria and process used to screen out BMPs.

Good.

4. Comments on the suite of BMPs included in the tool, including those considered alternative BMPs.

Good

5. Comments on ability to locate and understand tool output.

Good

ODOT- ORIL BMP Tool Implementation Testing

Tool User Feedback Survey

6. General feedback on usefulness or limitations of tool output.

I think--if its used, it is a very good tool. It will save time by helping to select the best practice for a project.

7. Thoughts on timeframe or stage of design when tool might be most effective.

In the first stages of planning.

8. Thoughts on potential tool users that might find the tool helpful.

I think for engineers designing Rd projects it will help in determining practices that can be used (without looking at cost first). It can also be benificial for a community to understand why a designer chose a specific practice.

9. Suggestions for improvements, modifications, or additional features.

10. Suggestions for further training or instructions needed.

11. How likely are you to use this tool in the future (or recommend it to others)?

Likely

I would and have recommended the tool. I have had no feed back so I'm not sure it was used.

12. Please rate your overall satisfaction with using the tool.

Satisfied

13. Would you consider it helpful if the tool were customized to meet your local criteria?

No

ORIL Storm Water BMP Tool Feedback Form

Name *

Jonathan
First Name

Koester
Last Name

Agency *

City of Columbus

Email *

jmkoester@columbus.gov

Phone *

(614) 645-8125
Include area code

I need help! If you have a question about the tool or are experiencing problems with the tool, please describe your issue in the box below:

N/A

Here's my two cents! Please give us your opinion of the tool in the box below. Let us know what you like and don't like about the tool. This section is for providing general feedback on the tool, only. ***If you are having a problem you want addressed please put that information in the section above.***

N/A

Let's make changes! If you have recommendations for enhancements and/or changes to the tool, please describe them in the box below. This section is for proposing future modifications to the tool, only. ***If you are having a problem you want addressed, please put that information in the first section.***

I like the WQv calculation at the end of the excel file. However, I feel the layout should look more like a calculation sheer or form so it can be included in a report. The way the sheet is currently layout out is just ok, but doesn't have a great page split for printing purposes.

Submit Form

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Tool User Feedback Survey

Purpose: To document your overall feedback on the functionality and user interface of the Tool, as experienced during Tool testing. Please document and adjust your responses as you complete each round of testing. Save the document, then click "Submit form" once all tests are complete.

Organization: City of Akron Name: MSC - ORIL BMP Test Date: 06/06/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Comments on overall ease of use, including user interface, tool format, data entry, and navigation within the tool.

   Very good

2. Comments on clarity of wording and ability to respond to questions. Provide suggestions as needed.

   It was much easier to navigate around on the 2nd or 3rd attempt. Very self explanatory.

3. Comments on screening criteria and process used to screen out BMPs.

   There wasn't much consideration for retrofitting or modifying an existing site.

4. Comments on the suite of BMPs included in the tool, including those considered alternative BMPs.

   Very good

5. Comments on ability to locate and understand tool output.

   The clarity of the input and relationships with the output was much better after multiple attempts. Perhaps if the steps better indicated which results were affected (underground, lineal, basin, pavement) it would add clarity.

6. General feedback on usefulness or limitations of tool output.

It was not very good at analyzing an existing site for potential improvements to stormwater BMPs.

7. Thoughts on timeframe or stage of design when tool might be most effective.

In most all other instances, it would be useful anywhere from feasibility studies to final design.

8. Thoughts on potential tool users that might find the tool helpful.

Anyone in the industry.

9. Suggestions for improvements, modifications, or additional features.

Perhaps a separate or slimmed down tool to analyze existing sites or sites that are undergoing modifications or retrofits.

10. Suggestions for further training or instructions needed.

Perhaps a You Tube video or two.

11. How likely are you to use this tool in the future (or recommend it to others)?

Very likely

12. Please rate your overall satisfaction with using the tool.

Satisfied

13. Would you consider it helpful if the tool were customized to meet your local criteria?

Yes

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Tool User Feedback Survey

Purpose: To document your overall feedback on the functionality and user interface of the Tool, as experienced during Tool testing. Please document and adjust your responses as you complete each round of testing. Save the document, then click "Submit form" once all tests are complete.

Organization: Other (specify) Name: Katherine Holmok Date: 06/12/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Comments on overall ease of use, including user interface, tool format, data entry, and navigation within the tool.

   Excellent

   easy to use

2. Comments on clarity of wording and ability to respond to questions. Provide suggestions as needed.

   none

3. Comments on screening criteria and process used to screen out BMPs.

   none

4. Comments on the suite of BMPs included in the tool, including those considered alternative BMPs.

   Excellent

   perhaps include the option of new technologies as they arise, however good tool for a reviewer

5. Comments on ability to locate and understand tool output.

   good, graphics aren't snazzy, but they are readable

ODOT- ORIL BMP Tool Implementation Testing

Tool User Feedback Survey

6. General feedback on usefulness or limitations of tool output.

useful for city council, county/city engineers as a conceptual decision tool

7. Thoughts on timeframe or stage of design when tool might be most effective.

preliminary stages when identifying if a project

8. Thoughts on potential tool users that might find the tool helpful.

perhaps matching project up with funding

9. Suggestions for improvements, modifications, or additional features.

perhaps snazzier graphics as output

10. Suggestions for further training or instructions needed.

none

11. How likely are you to use this tool in the future (or recommend it to others)?

Somewhat likely

I would recommend the tool to clients

12. Please rate your overall satisfaction with using the tool.

Satisfied

13. Would you consider it helpful if the tool were customized to meet your local criteria?

Yes

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Tool User Feedback Survey

Purpose: To document your overall feedback on the functionality and user interface of the Tool, as experienced during Tool testing. Please document and adjust your responses as you complete each round of testing. Save the document, then click "Submit form" once all tests are complete.

Organization: City of Columbus Name: Jonathan Koester Date: 03/10/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Comments on overall ease of use, including user interface, tool format, data entry, and navigation within the tool.

   Very good

   overall the tool is self explanatory, I like the screening provided between each step to show what has been eliminated.

2. Comments on clarity of wording and ability to respond to questions. Provide suggestions as needed.

   The clarity throughout the document is fine.

3. Comments on screening criteria and process used to screen out BMPs.

   As stated in question 1, I believe the tables showing what was eliminated is a useful tool.

4. Comments on the suite of BMPs included in the tool, including those considered alternative BMPs.

   Very good

   The BMPs in the tool seem to cover a large amount of the BMPs available to the City.

5. Comments on ability to locate and understand tool output.

   The BMP tool is self explanatory.

6. General feedback on usefulness or limitations of tool output.

I would recommend making the water quality calculation sheets look more like a calculation sheet or a form that could be printed and included in reports. As it stands now, the format is so different, it would look out of place in most drainage reports I see consultants submitting.

7. Thoughts on timeframe or stage of design when tool might be most effective.

Between preliminary alignment and Stage 1. If you can't find any good BMPs, try again under different parameters at Stage 2.

8. Thoughts on potential tool users that might find the tool helpful.

The ultimate problem we are running into is space within the right of way to place BMPs, and buying property is so expensive.

9. Suggestions for improvements, modifications, or additional features.

See question 6.

10. Suggestions for further training or instructions needed.

N/A

11. How likely are you to use this tool in the future (or recommend it to others)?

Somewhat likely

With the detention requirement in Columbus, the tools in the tool box for BMPs are some what limited, so the results will almost always narrow down to the same results. And basins for us are a question of larger funding projects.

12. Please rate your overall satisfaction with using the tool.

Very satisfied

N/A

13. Would you consider it helpful if the tool were customized to meet your local criteria?

Yes

50/50, again we are limited to detention BMPs at Columbus.

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Tool User Feedback Survey

Purpose: To document your overall feedback on the functionality and user interface of the Tool, as experienced during Tool testing. Please document and adjust your responses as you complete each round of testing. Save the document, then click "Submit form" once all tests are complete.

Organization: City of Columbus Name: Jonathan Koeste Date: 04/11/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Comments on overall ease of use, including user interface, tool format, data entry, and navigation within the tool.

   Very good

   Very easy to use, and when asked for overly specific information the screening allowed those items to be skipped during the early conceptual phases of the project.

2. Comments on clarity of wording and ability to respond to questions. Provide suggestions as needed.

   Very good

3. Comments on screening criteria and process used to screen out BMPs.

   Screening criteria was fine and i liked being able to view the screening results after each process.

4. Comments on the suite of BMPs included in the tool, including those considered alternative BMPs.

   Very good

   N/A

5. Comments on ability to locate and understand tool output.

   The spreadsheet was easy to understand.

6. General feedback on usefulness or limitations of tool output.

For Columbus projects, Columbus will be limited to detention facilities.

7. Thoughts on timeframe or stage of design when tool might be most effective.

Preliminary engineering and Stage 1.

8. Thoughts on potential tool users that might find the tool helpful.

N/A

9. Suggestions for improvements, modifications, or additional features.

I like the WQv sheets at the end, but could use some modification to look more like a document to be included in a drainage report.

10. Suggestions for further training or instructions needed.

N/A

11. How likely are you to use this tool in the future (or recommend it to others)?

Somewhat likely

12. Please rate your overall satisfaction with using the tool.

Satisfied

13. Would you consider it helpful if the tool were customized to meet your local criteria?

Yes

Again, detention is the big issue in Columbus.

ODOT- ORIL BMP Tool Implementation Testing, SJN135400

Tool User Feedback Survey

Purpose: To document your overall feedback on the functionality and user interface of the Tool, as experienced during Tool testing. Please document and adjust your responses as you complete each round of testing. Save the document, then click "Submit form" once all tests are complete.

Organization: Franklin County Engineers Name: Jim Ramsey Date: 05/22/17

Instructions: Please comment on the following and provide examples and specific references to the tab name, question number, or other information to help us understand your comment.

1. Comments on overall ease of use, including user interface, tool format, data entry, and navigation within the tool.

   Very good

2. Comments on clarity of wording and ability to respond to questions. Provide suggestions as needed.

   Early in the project development process, accurate answers may not be available but I think it is clear to a user that the answers and output can be refined as the project develops.

3. Comments on screening criteria and process used to screen out BMPs.

   good

4. Comments on the suite of BMPs included in the tool, including those considered alternative BMPs.

   Very good

5. Comments on ability to locate and understand tool output.

   easy

ODOT- ORIL BMP Tool Implementation Testing

Tool User Feedback Survey

6. General feedback on usefulness or limitations of tool output.

None

7. Thoughts on timeframe or stage of design when tool might be most effective.

I think it is best to use it early and then refine.

8. Thoughts on potential tool users that might find the tool helpful.

I think people who do this work all of the time will probably not use it. It is ideal for those who do this work occasionally and can benefit from the guide.

9. Suggestions for improvements, modifications, or additional features.

None

10. Suggestions for further training or instructions needed.

None

11. How likely are you to use this tool in the future (or recommend it to others)?

Likely

12. Please rate your overall satisfaction with using the tool.

Very satisfied

13. Would you consider it helpful if the tool were customized to meet your local criteria?

Yes

My yeas answer does not mean our county criteria but rather City of Columbus Criteria. We ofter run into instances where we have to apply different criteria to different areas of our projects.