

PLAN FOR PILOT EVALUATION TRAINING CURB CUTS AND SWALES

PREPARED BY: Bob Haag, Principal Hydrogeologist, Haag Insight, Inc. (HaagInsight), who is also a member of the Friends of Pipe Creek Watershed (FPCW). HaagInsight is located in Sandusky, in Erie County, Ohio. FPCW is located in Erie County.

APPROVED BY: Ruth Haag, President, HaagInsight, and Barry Riddle, President, FPCW. Participation confirmed by a vote of the Sandusky City Commission.

This plan is for training related to a demonstration project for a low cost urban stormwater practice intended to reduce pollution related to Pipe Creek, a partially urban watershed. This project is intended to strengthen the technical capacity of the FPCW. This project will train members of the FPCW during their involvement in each stage of the design, construction and monitoring of a curb-cut-and-swale pilot infiltration project.

Such demonstration projects are lacking within the City of Sandusky, which contains the most urbanized portions of the Pipe Creek watershed. Such projects are becoming more common in Erie County, due to a grant from the Ohio Department of Natural Resources (ODNR) that supported a Firelands Coastal Tributaries (FCT) Watershed Coordinator. The FPCW were one of the 14 original community partners supporting the FCT grant.

PROJECT OBJECTIVES – To train members of the FPCW to measure the cost-effectiveness of a curb-cut-and-swale design for diversion of stormwater that might otherwise contribute to the City's combined sewer overflow (CSO) violation problems.

PROJECT DESCRIPTION – In cooperation with the City of Sandusky, FPCW will learn how to design a curb-cut-and-swale stormwater diversion system for one of several locations. The most likely location is the boundary between the Chesapeake Lofts site owned by Mid-States Bayfront Development, and the Tricor property owned by the City of Sandusky. At this location, stormwater curb-cuts are already in place, and the FPCW will seek to join with the City Staff and Mid-States representatives to design an associated stormwater detention swale.

FPCW members and associates will learn how to develop a conceptual engineering design. Associates include two City Commissioners, and the Superintendent of the City water plant. The FPCW design concepts will be provided to the City Engineering Department, for incorporation into the appropriate City capital improvement projects.

The FPCW will also learn how to design and implement a monitoring and assessment program, which will include the following elements: (1) measurement of storm-event infiltration in treated and control areas, (2) documentation of incremental construction costs for the treated area, compared with the control area, (3) identification of other City areas in which this treatment would be appropriate, (4) estimation of the cost of extending this treatment to all City areas for which it would be appropriate.

FPCW members will be trained in methods of monitoring and assessment, and FPCW monitoring efforts will be overseen by the grantees that train them. Haag Insight will prepare a report, will distribute it to the FPCW and associates for review and comment, and will then finalize the report for submittal to the CWP.

PARTICIPATING ORGANIZATIONS – This project is intended to benefit the volunteer members of the FPCW, which is not presently an IRS-approved 501(c)(3) nonprofit organization. The project will be overseen and administered by HaagInsight, which is an IRS-approved 501(c)(3) nonprofit organization, whose mission includes environmental training and education. Haag Insight will be the fiscal agent for the FPCW. Members of the Erie Soil and Water Conservation District (ESWCD), and the FCT Watershed Coordinator will also provide training.

The FPCW includes more than 25 members, all of whom live or work in or near the Pipe Creek watershed. The organization meets monthly at St. Stephen United Church of Christ in Sandusky. The Past President is Barry Riddle (rcsltd@sbcglobal.net, 419-626-5703), the Vice President is Kathie Mueller (kathiemue@aol.com, 419-359-1893). The group's President-Elect is Patti Keller (blue523604@aol.com). The FPCW counts among its members Sandusky water plant Superintendent Doug Keller (dkeller@ci.sandusky.oh.us, 419-627-5815), City Commissioner Dave Waddington (waddsatmckinley@sbcglobal.net, 419-626-8681). The FPCW also includes ESWCD Director Eric Dodrill (EDodrill@erie-county-ohio.net, 419-626-5211), and FCT Watershed Coordinator Bre Hohman (BHohman@erie-county-ohio.net, 419-626-5211). Also contributing to the project is City Commissioner Bob Warner (bwarnar@ci.sandusky.oh.us, 419-503-1265).

HaagInsight has 3 employees: President Ruth Haag (ruth.haag@haaginsight.org), Vice President Bob Haag (bob.haag@haaginsight.org), and Rachel Haag. The organization is housed at 315 East Market Street, in Sandusky, telephone 419-621-9434.

HOW THIS PROJECT SUPPORTS STORMWATER AND WATERSHED MANAGEMENT – Sandusky is subject to a Consent Order from the Ohio Environmental Protection Agency (OEPA), regarding its CSOs. Part of the solution is construction of a higher-capacity publicly owned treatment works (POTW). Another requirement is to improve stormwater diversion from the POTW. The City has some projects to separate its sanitary sewers from its storm sewers. However, the City has not engaged in an active effort to divert stormwater from its combined sewers by means of increased detention and infiltration. This project is intended to train the FPCW to promote concepts for replication throughout the City's capital improvement efforts.

NEED FOR THIS PROJECT – The FPCW has an abundance of enthusiasm, and is very organized, but the group's development will benefit by an increase in its technical knowledge and experience. The key objective of this project is to train FPCW members to implement a real-world stormwater improvement project. In addition to training FPCW members, this project will cause those members to interact with professional designers, managers, and scientists involved in the City's stormwater management

efforts. It is certain that the trained members will use their new knowledge in their advocacy of other stormwater projects in the City, and in Erie County.

ANTICIPATED OUTPUTS AND OUTCOMES – As a result of carrying out this project, the FPCW will learn how to generate data to demonstrate the relative increase in stormwater infiltration that is achieved through an incremental cost in urban curb design and construction. The FPCW and the City of Sandusky will also reap the benefits of longer-term observations, providing a solid experience base for future projects.

Assuming that the measured increase in infiltration is positive, a final report is planned, that will assess the potential schedule, cost, and benefit in reduced combined sewer flow, which would be achieved by extending this design approach to all relevant parts of the City of Sandusky.