



EVANS, MECHWART, HAMBLETON & TILTON, INC.

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August 26, 2003

Mr. Karl Wetherholt
City Engineer
200 South Hamilton Road
Gahanna, Ohio 43230

Re: Columbus Academy Regional Storm Water Study

Dear Mr. Wetherholt:

We are submitting this proposal for professional engineering services to prepare a regional storm water study for the area near the Columbus Academy, as discussed in the Committee of the Whole meeting held last night. The attached scope of services includes resident input, general survey, and recommendations that will be consistent with the NPDES Phase II storm water program.

Fees for work described within the Scope of Services to be as part of the study shall not exceed Thirty Thousand Three Hundred Dollars and no cents (\$30,300.00) without prior authorization from the City. Invoices will be submitted monthly based on progress of the work and are payable on receipt.

Fees for work associated with the final design shall be determined upon review and agreement by the City in a recommended alternative.

Should you have any questions or comments, please contact me.

Sincerely,

EVANS, MECHWART, HAMBLETON & TILTON, INC.

A handwritten signature in black ink, appearing to read 'Kim S. Keefer', is written over a light blue horizontal line.

Kim S. Keefer, PE
Project Manager

EXHIBIT A

Scope of Services
Columbus Academy Regional Storm Water Plan
City of Gahanna

Purpose

Recent storm events, characterized by intense rainfalls, have brought the issue of flood-level storm water routing in the Columbus Academy area into focus. The Columbus Academy area residents have recently experienced flooded yards, basements and streets. Evaluation of the flood water routing should take place to provide alternatives and solutions to prevent the damage that accompanies such flooding.

Further NPDES Phase 2 is devoted to ensure the storm water (in this case, flood water) routing is designed to minimize polluting local waterways. The flood water routing in the Columbus Academy area must be evaluated in the context of NPDES Phase 2 planning to insure compliance with the City's current permit application.

For ease of consideration, the scope is divided into two phases: a study phase and a design phase.

Scope of Services

Phase 1- Study Phase

Task 1.1- Data Acquisition/Review of Study Area

Through our on-going work with the City for the Storm Water Model Data Preparation contract, EMH&T has obtained much of the information necessary for the study of existing conditions in the area. These items include topographic information (maps), existing storm water systems (pipes, basins, culverts, etc.) and previously completed studies.

Included in this task is field reconnaissance. Reconnaissance includes walking selected areas and culverts along Cherry Bottom Road to provide visual inspection and identify the degree of degradation.

Task 1.2- Survey

Survey will include:

- Topographic survey along the back half of the seventeen lots on the north side of Academy Woods Drive, east of Cherry Bottom Road. Survey to include swale along lots 1 through 8 as well as along lots 12 through 17, as well identification of trees 4-inches in diameter and greater.
- Finish floor elevations for structures on lots a through 17, as applicable.
- Invert elevations and pipe diameters for drainage structures between lots 12 and 13 of Academy Woods
- Topographic survey for the detention/retention basins located east of Academy Place, including inlet and outlet information.
- Invert elevations and pipe diameters for drainage structures, beginning at cul-de-sac of Eastchester Drive and heading east to detention/retention basins described above.

- Invert elevations and pipe diameters for drainage structure at extreme western end of Beecher Road.
- Invert elevations and pipe diameters for drainage system to west of Ridge Crest Drive, starting north of Eastchester Drive.

Task 1.3- Modeling of Storm Water System and Existing Flood Routing Systems

EMH&T proposes to use both the HEC and SWMM families of hydraulic models for the development of the storm system model. Model parameters will be obtained from several sources. For example, soil infiltration rates will be used from the NCRS soil survey for Franklin County. Hydraulic length and slopes will be determined using ArcGIS based on the delineation of the watershed entry to the collection system. EMH&T, Inc. will utilize impervious area features from the City's Impervious Area Delineation GIS data set.

Task 1.4- Resident Survey

EMH&T will meet with residents along Academy Woods Drive to further identify specific areas of flooding as well as trigger events. The meeting will be held at City facilities in the evening to provide maximum participation on the part of the residents. This task includes preparation of a letter for the City's signature as well as mailing.

Task 1.5- Alternatives Analysis

EMH&T will consider the alternative improvements to achieve goals in the following order: 100-year structural flooding, then street flooding and finally, yard flooding. By considering solutions in this order, the effect of one tier of solutions can be reviewed for potential benefits on the other tiers.

Task 1.5.1 Structural Flooding During the 100-Year Event

The problem areas will be identified first through the data collection and mapping task previously defined. The results of the model proposed by EMH&T will be superimposed on the project area map. In this way, the model will be used to confirm structural flooding complaints and predict potential future events in a graphic way. Alternative model runs may also be placed on the project map to illustrate the extents of the structural flooding solution.

Task 1.5.2 Street and Yard Flooding During the Five-Year Event

Once the alternatives for structural flooding mitigation are defined, EMH&T will review remaining localized flooding areas during five-year events. Some of these flooding events may be minimized once the 100-year structural flooding is mitigated. For those areas that are still affected, EMH&T will evaluate and propose solutions.

For those areas not relieved by alternatives proposed for the 100-year event, additional localized improvements will be defined.

Task 1.5.3 Evaluation Process

The evaluation process for area-wide storm water improvements will include the capital costs associated with each alternative, land acquisition requirements (both properties affected and easements required), maintenance requirements, and environmental impacts. The recommended improvements will address the provision of NPDES Phase 2 best management practices as part of

the solution to address erosion and sediment control, construction techniques and post-construction activities.

Task 1.6- Report

EMH&T will prepare a report of findings based on the tasks listed above. A draft report will be provided to City staff for review and comment. Upon receipt and incorporation of comments, a final report will be provided.

Phase 2- Design

Based on the recommended solutions developed as part of Phase 1, a final design will be prepared for the recommended improvements. The final design will include work necessary for the preparation of contract documents and engineering plans. This work will include detailed topographic survey, boundary surveys, easement preparation (if necessary), engineering plans and technical specifications, if necessary.

The final design will include construction and post-construction best management practices consistent with the State's NPDES Construction Permit. This task includes the preparation of a storm water pollution prevent plan (SWP3) and Notice of Intent application.

This task will be further defined upon completion of Phase 1. An estimate of the fee will also be determined at that time.

Schedule

The Phase 1- Study portion of this scope of services can be completed within six weeks of Notice to Proceed. Pending the results of the study, Phase 2- Design can be completed in approximately three months. Based on this schedule, and allowing for City review time, the recommended improvements should be ready for bid by Spring 2004.