
HYDRAULIC MODEL SELECTION

July 11, 2007
7674A.00

Mr. Rick Walls, P.E.
City of Oroville
Department of Community Development and Public Works
1735 Montgomery Street
Oroville, CA 95965

Subject: Sewage Disposal Master Plan Project - Hydraulic Model Selection

Dear Mr. Walls:

In accordance with the scope of the project, we submit this letter recommending a computer hydraulic model for the City's Sewage Disposal Master Plan. Carollo Engineers (Carollo) has evaluated several different software packages based on criteria established through experience and research. The criteria for the software evaluation was as follows:

- Dry and Wet Weather Flow Calculations
- Hydraulic Calculations
- GIS Interface
- Scenario Management
- Customer Service and Support
- Cost
- Ease of Use

Software Vendors

There are many software packages that can potentially address the needs of the City, and all vary in their methods of analysis and user friendliness. Seven (7) sanitary sewer-modeling packages were evaluated and include:

H2OMAP Sewer by MWHSoft: MWHSoft is a subsidiary of Montgomery Watson Harza, Inc. MWHSoft is headquartered in Pasadena, California. The company has been providing the H2OMAP sewer software package since 2001.

Hydra by Pizer, Inc.: Pizer, Inc. is a software company with headquarters in Seattle, Washington. The company has been providing the Hydra software package since 1973.

Mr. Rick Walls
City of Oroville
July 11, 2007
Page 2

SewerCAD by Bentley Systems, Inc.: Formerly Haestad Methods, Inc., Bentley develops hydraulic modeling software for water, wastewater, and storm water systems. The company has been providing the SewerCAD software package since 1979.

MOUSE by Danish Hydraulic Institute: The Danish Hydraulic Institute (DHI) is a hydraulic research institution headquartered in Denmark. MOUSE is their proprietary modeling sewer and stormwater software. The company has been providing the MOUSE software package since 1983.

Infoworks CS by Wallingford Software: Wallingford Software is a British software company. The US headquarters are in Fort Worth, Texas. The company has been providing the Infoworks CS software package since 1998.

XP-SWMM by XP Software, Inc.: XP-Software, Inc is headquartered in Portland, Oregon. The company has been providing the XP-SWMM software package since 1993.

PC SWMM by Computational Hydraulics Institute: Computational Hydraulics Int. (CHI) is a consulting engineering firm specializing in stormwater management. CHI is headquartered in Ontario, Canada with a US office in New York. The company has been providing the PC-SWMM software package since 1984.

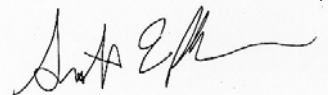
Recommendation

All of the aforementioned software packages listed above could be successfully used on this project. Carollo maintains a licensed software library of the various products. However, there are differences in the capabilities, flexibility, user compatibility, and cost of the various programs. Knowing that the City does not currently plan to purchase the model nor utilize it on a regular basis does factor into the decision process. Based on Carollo's experience, we recommend that H2OMAP Sewer by MWHSoft be used in the City's Sewage Disposal Master Plan for its combination of cost competitiveness, outstanding customer service, GIS integration, and ease of use. We feel that this software package will best suit the City's needs to balance the current and potential future use of the hydraulic model.

Should you need additional information, or have questions regarding this letter, please do not hesitate to contact us.

Sincerely,

CAROLLO ENGINEERS, P.C.



Scott E. Parker, P.E.
Partner

SEP:jlm