

Date: September 14, 2005

To: Mel Odens, Director of Public Works

Copy: Brian Bollig, Assistant City Engineer
Colleen Thompson, WWTF Superintendent
Sam Lahanis, Program Manager
Mike Gerbitz, Wastewater Engineer
File

From: Ken Sedmak, Senior Program Manager

Prepared by: Mike Gerbitz, Wastewater Engineer
Sandy Kimmler, Civil Engineer

Attendees: Mel Odens, Director of Public Works
Brian Bollig, Assistant Engineer
Colleen Thompson, WWTF Superintendent
Jim Gauer, WWTF Foreman
Pam Meyer, MPCA Staff Engineer
Sam Lahanis, Donohue
Ken Sedmak, Donohue
Mike Gerbitz, Donohue
Sandy Kimmler, Donohue

Re: Flows and Loadings Workshop No. 2, August 31, 2005
Wastewater Program
City of Willmar, Minnesota
Donohue Project No. 10831.103



Donohue & Associates conducted a workshop on August 31, 2005 to discuss the Service Area and Flows and Loadings. These Meeting Notes document the discussions and decisions made during that Workshop.

Note No.	Action By	Note
1	Information	The Team agreed that the latest drafts of the City of Willmar Land Use and Willmar Service Area Map exhibits, prepared and presented by Donohue, are acceptable. Donohue will use this service area and its designated land uses to estimate future flows and loadings. The Team also agreed to begin presenting the service area and land uses to the public and other stakeholders.
2	Donohue	Donohue will contact the county planner and Green Lake Sanitary Sewer and Water District (GLSSWD) to set up a meeting to discuss the northern boundary of the planning area along STH 27. The county, GLSSWD, and Willmar need to determine who will service the properties along STH 27. Currently, the Willmar planning area extends north to include those properties on the north side of STH 27. If it is decided that GLSSWD will service STH 27, Donohue will revise the Service Area Map accordingly. Mel Odens requested full- and 11x17 inch-size copies of the final Willmar Land Use and Service Area Map exhibits. Donohue will provide those immediately after the northern boundary is discussed with the County and GLSSWD.

Note No.	Action By	Note
3	Donohue	Sam Lahanis will share the results of service area planning at the next Hawk Creek meeting.
4	Donohue	Donohue will make arrangements for a public meeting to share the results of service area planning. The meeting will take place after completing the actions in Note No. 2. Prior to putting the public meeting notice in the newspaper, Donohue or Mel Odens will inform the Public Works Committee and the City Council about the meeting and provide a general summary of the purpose of the meeting. In addition to the newspaper notification, major stakeholders will receive individual invitations to the public meeting. Donohue will present the service area information and facilitate the public meeting. The target date for the public meeting is early October.
5	Donohue/Willmar	Sam, Brian and Colleen will work together to develop a stakeholders list.
6	Donohue/Willmar	<p>After the City of Willmar provides the necessary information, Donohue will develop an exhibit that shows proposed future transportation projects. Donohue will use this exhibit to help coordinate future collection system and transportation projects. Collection system projects could include inflow improvement projects.</p> <p>Areas that were discussed at the meeting include:</p> <ul style="list-style-type: none"> • Hwy 5 will extend through the existing airport property. • Hwy 40 may be realigned approximately 300 feet to the north at JOTS to accommodate future JOTS expansion. • Willmar Avenue east of 1st Street will eventually be reconstructed.
7	Donohue	Donohue will obtain a plat map showing current property owners throughout the service area.
8	Information	<p>Donohue distributed draft copies of the Lift Station Assessment and summarized the findings. The discussion regarding the conditions of the lift stations is outlined below.</p> <ul style="list-style-type: none"> • Hwy 12 Lift Station- Capacity issues • Ortenblad Lift Station - Location issue and the need to accommodate future growth to the south. Planning effort may consider relocating this lift station. • Sperryville and State Hospital Lift Stations – These stations may need to be replaced. • Westwood Court - Control panel should be relocated or protected from flooding. • An additional generator may be needed to supply back-up power in the event of an extended power outage. • The Eagle Lake Sanitary District owned by the County should repair or replace their lift station control panels. <p>The final version of the Lift Station Assessment will be part of the existing collection system technical memo.</p>

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		Mel Odens asked if Donohue could provide input on the cost of wet vs. dry well lift stations and concrete vs. steel construction for future lift station replacements. He would like to see a cost/benefit analysis for these options.
		Donohue will submit the CMOM Guidelines to the City for their review and general information. Donohue will discuss the relevant aspects of these guidelines in the Infrastructure Management Plan.
9	Information	<p>Donohue presented three force main/interceptor alternatives for conveying flow to the new WWTF.</p> <ul style="list-style-type: none"> • Alternative A routes flow to the west along a corridor north of Swan Lake, then south along CTH 41, west along 15th Avenue NW (or other possible routings in this area), south along CTH5, west along STH40, and south along CTH 116 to the WWTF. This route encounters a wetland area north of Swan Lake. • Alternative B is similar to Alternative A, except the route is to the north of Willmar Lake instead of Swan Lake. This route is along an existing road through the golf course area. • Alternative C is to improve the existing force main/interceptor sewer along Lakeland Drive to the existing treatment plant. This route takes flows from the Foot Lake region and pumps it east, then south to the existing WWTF and eventually pumped back to the west to the new WWTF. • Additional forcemain/interceptor(s) will be needed to pump flow from the existing WWTF to the new WWTF. The preferred route appears to be along STH 40. We need to try to avoid the properties on the south side of STH 40 (the Phillip Kvam land).
10	Donohue	After sanitary sewer mapping is complete, Donohue will use the sewer data to analyze capacity of existing sewers. This information will be used along with projected flows to facilitate planning for the new interceptors and force mains. The analysis will be documented in the Comprehensive Collection System Plan.
11	Information	Donohue discussed the importance of collection system flow monitoring. The purpose of the upcoming flow monitoring effort is to: (1) provide information necessary to properly size future collection system improvements and the new WWTF and (2) begin identifying and/or prioritizing basins with severe inflow. Donohue presented some calculations that show the City of Willmar does not, according to EPA criteria, have an infiltration problem, but they do have an inflow problem (> 275 gpcd).
12	Information	Colleen Thompson and Jim Gauer stated they are in favor of pursuing treatment facility alternatives that include two parallel liquid treatment trains: one treating JOTS wastewater; one treating residential, commercial, public, and light industrial wastewater.
13	Donohue	Donohue asked if the I/I reduction recommendations in the 1996 Comprehensive Sewer Plan were implemented. The City thought some had been. The City suggested Donohue obtain and review the minutes from the November 1996 council meetings. Donohue should obtain and review the meeting minutes from all of 1996. The City also stated that the

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		City has permitted some home owners to discharge sump pump water into the sanitary sewer seasonally. The City has a record of the sump pump permits and Donohue should obtain the information.
14	Donohue	Donohue presented draft flows and loadings based on a current City population of 19,200. The City asked Donohue to change this value to 18,488 per the Year 2000 US Census. Donohue will make this change and revise the flows and loadings accordingly. Donohue reviewed the development of the various flow and loading parameters. Other than the population, the City offered no exceptions to the values presented.
15	Donohue	Donohue will revise the flows and loadings as discussed above and then submit them to MPCA for draft effluent limits. Pam Meyer, MPCA, called Mike Gerbitz on Thursday, September 1 and told him that MPCA only needs Average Dry Weather (ADW) and Average Wet Weather (AWW) flows to determine draft effluent limits.
16	Information	Donohue discussed the lack of reliable historical peak flow rate data and how this will hinder the ability of the Team to develop a historically-based peak flow rates. The impending collection system monitoring effort is aimed at providing better information than is currently available. The Team may continue to revise the design peak flow rates throughout the facility planning effort and, perhaps, after the facility plan has been submitted. Donohue discussed the importance of these values and how they affect collection system and treatment facility sizing and in turn costs.
17	Donohue	The City asked if it would be possible to install a permanent flow monitoring “device” at the head of the existing WWTF to provide better peak flow data. Such a device would provide valuable information. Donohue will research options and submit information and a recommendation to the City.
18	Donohue	Donohue will review the existing sewer use ordinance for how it addresses grease traps.
19	Information	Donohue stated the distance from the existing WWTF to the proposed WWTF is 5.5 miles.
20	Information	Donohue presented calculations aimed at estimating the capacity of the existing WWTF. Using those calculations and the assumptions presented during the Workshop, the estimated TBOD5 capacity is approximately 10,000 lbs-TBOD5/d. A subsequent Technical Memorandum will document the methodology used to arrive at this estimated capacity. In developing this capacity, the assumed effluent TBOD5 concentration was 0 ppm.
21	Information	The Team discussed historical flows and loadings and a methodology to calculate future flows and loadings. As part of this discussion, the Team discussed hauled-in waste and if or how the associated loading from these sources should be considered when developing the design capacity of the new wastewater treatment facility. Several strategies were discussed. These are listed below.

Note No.	Action By	Note
		<ul style="list-style-type: none"><li data-bbox="646 254 1433 495">• Define an allowance for potential hauled-in waste sources (e.g., leachate and septage) and add this loading to the projected service area loading. This approach would result in a treatment facility that is larger (i.e., has more capacity) than a facility designed to treat only the loading originating in the service area. The additional cost of this additional capacity would be recovered by charging the waste haulers accordingly. <p data-bbox="691 527 1433 737">This strategy could be implemented with long-term agreements with local haulers or waste generators. The purpose of the agreement would be to protect the City and its rate payers to insure the haulers pay their share of the additional capacity. One potential disadvantage of having an agreement is makes it difficult for the City to “say no” to difficult-to-treat or problematic hauled-in waste.</p> <p data-bbox="691 768 1433 947">This strategy could also be implemented without a long-term agreement with local haulers or waste generators. However, this approach would be speculative and, if haulers found more economical means of disposal, would leave the City and its rate payers with the burden of covering the cost of the additional capacity.</p> <ul style="list-style-type: none"><li data-bbox="646 982 1433 1377">• Design the new treatment facility to treat the projected service area loading. Actual loadings to the treatment facility from the service area will probably be well below the design capacity of the facility at start-up and years after start-up. This “reserve” capacity could be used to accept hauled-in waste from local haulers (e.g., leachate and septage). If the treatment facility has capacity and experience shows the hauled-in waste does not affect the facility’s performance and jeopardize compliance, then the City could capitalize on this additional revenue source. This approach would allow the City to reject at will any haulers or waste-generators it deems undesirable and avoids the additional capital cost of the additional hauled-in waste loading capacity. <p data-bbox="597 1409 1433 1503">After discussing these strategies and the pros/cons, the Team decided to proceed with the later approach: use available facility capacity to treat hauled-in waste.</p> <p data-bbox="597 1535 1433 1745">A subsequent planning-phase effort will consider facilities at the new wastewater treatment facility to accommodate hauled-in waste (e.g., traffic flow, automated billing system, sampling and monitoring, security, television cameras, quick-connects, receiving basins, automated bleed-back schemes, FOG control, screening, grit removal, odor control, etc.). The recommended facilities will likely be defined by the Team to accommodate the estimated hauling sources and traffic.</p>

Please contact Ken Sedmak with any comments concerning these notes.

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