City of Two Harbors

Public Works Committee Meeting

Wednesday, March 6th, 2019
Conference Room at City Hall, 4 P.M.

Call to order

Unfinished Business

1. Watermain Looping
2. ADA Update

New Business

1. Campground “to do”

Other

Adjourn
MEMORANDUM

Date: January 3, 2019
To: Joe Rhein
From: Brian Guldan
Subject: 2019 Street and Alley Improvement Project
8th Avenue from 4th Street to 5th Street
Watermain Options

Background

As requested, we have reviewed the Two Harbors water distribution system in the area around 8th Avenue and 4th Street. The purpose of this review was to identify impacts from a proposed 2019 Street and Alley Improvement Project, which would include replacing the existing watermain on 8th Avenue between 4th Street and 5th Street, and to identify options for maintaining service to users during construction.

A 4-inch diameter watermain exists on 8th Avenue between 4th and 5th Streets. This 4-inch diameter also extends down 4th Street from 8th Avenue to 7th Avenue. The 4-inch watermain on 4th Street connects to an existing 8-inch diameter watermain extending along 7th Avenue west of 4th Street. The existing watermain on 4th Street does not extend north of 8th Avenue. Existing valves on this watermain are located on 7th Avenue just west of 4th Street, and on 8th Avenue just east of 5th Street.

Two existing dead-end 6-inch diameter watermain stubs extend from the existing 4-inch watermain along 4th Street. This existing 4-inch watermain is the sole source of water supply for all properties served off the dead-end watermain stubs. This includes all properties east of 4th Street between 7th Avenue and 9th Avenue. Two commercial properties immediately adjacent to 4th Street (Big Dog Car Pet Wash and Lou’s Fish) are also served directly by the 4-inch watermain on 4th Street. The 4-inch diameter watermain is considered sub-standard in size.

There is also a 12-inch diameter watermain that exists in the alley south of 7th Avenue between 5th Street and 4th Street. This existing 12-inch watermain continues east along the south side of 7th Avenue (TH61) to Superior Shores. There is currently no connection between this 12-inch watermain and the 4-inch watermain along 4th Street.

Replacement of the watermain on 8th Avenue between 4th and 5th streets requires some additional planning since this section of watermain cannot be isolated without affecting service to the Holiday Station, Lou’s Fish, Lake County Arena, Golf Course, Big Dog Car Pet Wash and RV park.

Several potential options were identified for maintaining water service during construction. After investigation and review with City Water Department Staff, three options for completing the watermain work while maintaining service to these important users were considered to be the most viable. These three options are discussed in detail below.

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Option One: Temporary Service

Option one would provide temporary service to all users affected by the watermain replacement project. To isolate the watermain at 8th Avenue between 4th Street and 5th Street, gate valves at 4th Street (Valve 1) and 7th Avenue (Valve 2) will need to be closed as shown in Figure 11. Closing these valves will shut down water service to the two dead-end 6-inch water mains and the 4-inch watermain along 4th Street that serve the Big Dog Car Pet Wash, Holiday Station, Lou’s Fish, Lake County Arena, Golf Course, and RV park. To maintain service to these users, temporary services will need to be installed in several locations as shown in Figure 11.

The primary drawback with this Option is there would be several temporary water services required outside of the location of the actual street project. These temporary services would have significant cost, and would provide no permanent benefit to the water system. In addition, the commercial users would place increased demand on the temporary services in comparison to a standard residential user, and they would be more susceptible to fluctuations in the flow. This would increase the critical nature of the temporary services, and the risk of performance issues.

Option Two: Temporary Service and Wet Tap 4” Valve

Option two would include installing an in-line wet tap valve on the 4-inch watermain along 4th street near the beginning of the street project. An in-line wet tap valve allows for the installation of a valve into a live watermain. After installation, the wet tap valve would be closed along with Valve 1 to isolate the watermain along 8th Avenue as shown in Figure 12. Since Valve 2 (at 7th Avenue) can now remain open, the water service to the Big Dog Car Pet Wash, Lou’s Fish, and the RV park would not be affected under this Option. A temporary connection would still be required between Hydrant 1 and Hydrant 4 to maintain service to the Holiday Station, Lake County Arena, and Golf Course.

The advantage of this Option over Option 1 is the elimination of three temporary services.

One disadvantage of this Option is the wet tap valve would not be considered a permanent valve, and would be a ‘throw away’ cost. Another disadvantage is the recommended location of the wet tap valve would require excavating in 4th Street. It is our understanding no excavation into 4th Street is required for any other utility or street work as part of the proposed 2019 Street and Alley Improvement Project.

In addition, once the project was completed, the existing sub-standard 4-inch watermain would still be in place along 4th Street.

Option Three: Permanent Watermain Looping

The third option for completing the watermain replacement along 8th Avenue is to first complete a permanent watermain looping project to eliminate the need for any temporary service lines north of 7th Avenue. The watermain looping would connect the 6-inch watermain near the golf course to the 12-inch watermain along the south side of 7th Avenue as shown in Figure 13. Also shown in Figure 13 is the permanent relocation of service lines for Lou’s Fish and the Big Dog Car Pet Wash, so they are served off 6-inch water mains rather than the 4-inch watermain. Once these permanent improvements are completed, Valves 1 and 2 can both be closed and service is only affected to the RV Park, which can be supplied with a temporary connection between Hydrant 3 and Hydrant 5, as shown on Figure 13.
The advantages of this Option include:

- Greatly simplifies the temporary service work required for the 8th Avenue watermain replacement.
- Eliminates all service connections to the 4-inch watermain along 4th Street.
- Eliminates the dead-end condition of the existing watermain east of 4th Street and north of 7th Avenue. This new loop connection provides system redundancy for several commercial properties and also improves flow circulation.
- With the new loop connection created to the 12-inch watermain, the existing 4-inch watermain along 4th Street between 7th Avenue and 8th Avenue could be abandoned.

**Recommendation**

Based on our evaluation and input from City Staff, it is recommended the City consider implementing Option Three. Option Three provides the best long-term solution for current concerns with the watermain in the project area. The benefits of Option Three include eliminating most of the temporary services needed for work on 8th Avenue, eliminating a dead end watermain, providing redundant service and increased fire flow to several critical users, eliminating the water service to Lou’s Fish across the Holiday Station parking lot, and eliminating the 4-inch watermain along 4th Street which is aged, sub-standard, and in need of replacement.

If the City chooses to implement Option Three the watermain looping and service line relocation will need to take place before the work on 8th Avenue. This could be accomplished in one or two construction seasons depending on the City’s preference.

If the City elects to not complete the looping project prior to the reconstruction of 8th Avenue, it is recommended that Option Two be selected to facilitate the 8th Avenue watermain replacement. Option Two would require significantly less temporary services than Option One, thereby minimizing potential disruptions that can occur with temporary services lines.

*Attachment: Figures 11-13*
Craig and Jim-

Thank you so much for meeting and touring around TH properties today! Here is my list of things we talked about and saw. Please feel free to add more if I missed some or add any notes to this list.

Dan- can you please forward this to Jim Gilbert as I do not have his email address. Thanks!

City hall upper entry
- Signage by handicap parking and maybe by front door too
- Push buttons on all exterior doors and entry points
- Chamber ramp to councilor seating is pretty steep and has a bump instead of zero threshold
- Accessible water fountain needed with three buttons not just the circle one button
- Women’s bathroom needs the privacy guard removed and move privacy bar to behind the toilet. Move soap dispenser to the wall by paper towel dispenser. Lessen tension on the door. Same for men’s bathroom. Men need a lock.
- Handle on the door that blocks Dan’s office from the hallway to bathrooms. (low priority)

City Hall Lower Entry
- Dropbox being tall or at least a handle change direction so it pulls down and not a lift door
- Power button for the front door
- Pullout for signing papers in the front area
- Sucky outdoor mat - need low impact and not sinkable mats for small tires

Bathhouse by Chamber
- Family bathroom door locked with code- maybe get a badge system
- The door to the family bathroom is too heavy/too much tension
- Need second shower curtain to block a wheelchair from getting wet.
- Sign for patrons to put showerhead in lowest position when done
- Bath bench need feet for current ADA code
- Move soap closer to the edge and lower
- Door lock high and the lock doesn’t work cause door bumpers are missing
- Women’s and men’s bathrooms need the same soap dispensers, curtains, and signs issues.

Liquor store
- Doors need buttons and for the entryway to be free of other displays
- Patrons may need help getting things out of coolers due to so many displays which could get hung up in wheels from behind.

**Library**
- Bathrooms being converted to unisex bathrooms
- get rid of privacy guard
- Move soap dispensers
- Move the changing table to sink wall and remove some counter space. lower the changing table just a little.

**Community Center**- talked about didn't tour
- add a handicap parking spot or two by the side/dumpster entrance
- add buttons to the main entrance
- fix the multiple bumps into the front of the building
- poss change side door to an inswing door so it too could have a button some day.
- Jenna hasn't seen the renovated bathrooms but will inspect and report the next time she is at CC.

**Other areas of discussion:**
- put handicap parking spot with filled in Boulevard on 3rd Ave of Bandshell Park.
- add wheelchair accessible picnic able to Bandshell Park
- add wheelchair accessible picnic table to upper campground spot near the bathhouse
- add cement to Lakeview Park so wheelchairs can get from sidewalk to picnic area and accessible table not using class 5 route.
- Getting Minne evac paths redone for sidewalks wide enough for the city snow blower to run on. Jenna will work on getting County to make sidewalk on the parking lot to Emmanuel's lot fixed.

**Future tour destinations:**
Fire Hall- namely to check bathrooms
Airport- check bathrooms and other issues
Campground- two older bathhouses and the check-in office
picnic areas and outlook areas on walking paths by the lake
Picnic table on Super One walking path area
THPD- when Chief Hogenson is available

This is an amazing experience! Thank you so much for serving Two Harbors and for making it better and more accessible for everyone! These are great first steps! I look forward to future tours and meetings together!

Sincerely,
Jenna Udenberg
(218) 349-5325