REQUEST FOR PURCHASE
IN EXCESS OF $20,000/CHANGE ORDER

To: MAYOR AND CITY COUNCIL

Agenda Item #: IV. G.

The Recommended Bid is

☐ Within Budget

☒ Not Within Budget

From: Chad A. Millner, PE, Director of Engineering

Date: September 16, 2015

Subject: Request for Purchase – Emergency Water Main Lining in parts of Morningside Neighborhood

Date Bid Opened or Quote Received:
Sept. 14, 2015

Bid or Expiration Date:
Nov. 14, 2015

Company:
FER-PAL Construction USA LLC

Amount of Quote or Bid:
$947,157.20

Recommended Quote or Bid:
FER-PAL Construction USA LLC $947,157.20

General Information:
The Morningside area is one of the older neighborhoods in Edina dating back to the 1930's. The water system in Morningside is constructed mainly of unlined cast iron pipes. These unlined pipes allow iron to oxidize from the pipe wall. The iron material is the source of red-water complaints but also the iron combines with water to form ferric hydroxide. The ferric hydroxide is quite voluminous and forms deposits in the water main. These deposits greatly inhibit the ability of the watermains to pass high volume flows as required for firefighting efforts. The loss of flow capacity is a public safety issue.

Please recall this summer we completed a water main cleaning project on Crocker, Lynn, and Oakdale Avenues, and Morningside Road. Water main cleaning removes the deposits within the pipe. This technology was selected to meet the following objectives:

1. Increase water flows for public safety
2. Reduce water color complaints
3. Fulfill the promise to the neighborhood that something would be done (improvements in this area started in 2008).
4. Potential $600,000 savings compared to our CIP budget estimates

The cleaning project was completed in July and it fulfilled objectives 1, 3, and 4. The attached pre -cleaning photos shows the amount of material that was removed from the inside the pipe. We also learned that some of the pipes have severe section loss.

With water main cleaning operations, it is understood that the inside of the unlined cleaned cast-iron water main pipe takes some time to pacify and during this time colored water is normal. This is typically a 2-4 week process. Because residents continued to experience colored water after this timeframe, staff flushed the water main followed by continuous purging of the system from fire hydrants using garden hose sized pipes. Residents were also asked to flush their service lines in their basement utility sink or an outside hose bib. For three weeks while the purging operation was taking place, staff received little to no complaints about water color; however, as soon as the purging was reduced the complaints increased. By late Aug., the pipe was not pacifying as quickly as hoped, if at all, and because we cannot purge indefinitely we needed to determine a course of action.

We conferred with staff and industry experts to determine our options as listed below:

Options	**Benefits**	**Cons**
Continue purging water main	1. Simple 2. Addresses water color issue	1. Unknown if the pipe will pacify prior to winter 2. Wasting water
Add additional water treatment chemicals	1. Relatively inexpensive	1. Unknown if the pipe will pacify prior to winter 2. Difficult to complete for lack of infrastructure needed at the insertion point 3. Coordination - water is managed by another agency
Open Cut Replacement	1. Cheaper than concrete and CIPP liner 2. Reduces risk of water color issues	1. Extremely impactful – would require full street replacement
Concrete Liner	1. No need for pacifying 2. Less impactful than open cut replacement 3. Reduces risk of water color issues	1. Does not address the structural integrity of the pipe 2. Past issues with re-instatement of water services
CIPP Structural Liner	1. Addresses the structural integrity of the pipe 2. Increases the service life of the pipe by 50-years 3. Reduces risk of water color issues	1. Financial – out of current budget 2. Timing – Short Notice

Because of the short timeframe to implement the options listed above, it was decided that option 5, CIPP structural lining was the best option. It is the least impactful to the street, least risky to water services, and it addresses the structural integrity of the pipe. With winter quickly approaching it will be a challenge but it is possible to complete the entire project area. The biggest concern is the risk of freezing the temporary water as temperatures fall and this risk will be reduced by staging the project by street.

Additonally, because of the short timeframe and changing temperatures, we did not have time to wait for the general lining contractor to solicit quotes for the temporary water system. Instead we solicited quotes for this work as a separate contract as noted in the attached companion request for purchase.

One bid was received for the project in the amount of $947,157.20. This is out of budget. In the recently completed utility rate study, the budget shown in the CIP was adjusted from $725,000 over years 2015 and 2016 to $100,000 over those same two years. This was adjusted due to the anticipated success of the water main cleaning operation; therefore, there will be impacts to future projects in order to keep our rates consistent with the rate study.

The attached 'Anticipated Street Reconstruction 2015-2020' graphic shows the delays to specific neighborhood street reconstruction projects to fund the water main lining this year and keep our rates consistent with the rate study. Every year we review the cost of construction to determine if we can afford to complete projects within our current rate structure. This past year experienced a 6-8% inflation rate in the construction industry. We will continue to monitor these costs in comparison to our rate of reconstruction

This project will replace all the gate valves and fire hydrants within the project area. Our street reconstruction program is showing this neighborhood becoming a priority for street reconstruction in 4 to 5-years. At that time we anticipate replacement of the water services and remaining gate valves and fire hydrants that are outside of the lining project limits.

With the specialized nature of this work and the bidding documents required, we selected a consultant with trenchless technology expertise to assist. That firm is SEH, Inc. and we have a long standing relationship with them on a variety of projects. Since our priority was to create contractor bidding documents, we did not have time to solicit a proposal for their services. A follow-up proposal will be forth coming if their services are above $20,000.

Staff recommends awarding this project to FER-PAL Construction USA LLC.

Attachments
FER-PAL Water Main Lining Bid
Request for Purchase Temporary Water
Pre-Water Main Cleaning Photo
Impacts to Anticipated Street Reconstruction Projects Graphic

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REQUEST FOR PURCHASE
IN EXCESS OF $20,000/CHANGE ORDER

To: MAYOR AND CITY COUNCIL

From: Chad A. Millner, PE, Director of Engineering

Date: September 16, 2015

Agenda Item #: IV. G. a.

The Recommended Bid is

☐ Within Budget

☒ Not Within Budget

Subject: Authorize Watermain Temporary Water Services for parts of Morningside Neighborhood

Date Bid Opened or Quote Received:
Sept. 3, 2015

Bid or Expiration Date:
Nov. 3, 2015

Company:	**Amount of Quote or Bid:**
Palda and Sons, Inc.	$97,448.00
Northdale Construction	$102,625.00
Northwest Asphalt, Inc.	N/A

Recommended Quote or Bid:

Palda and Sons, Inc.	$97,448.00

General Information:
This is a companion Request for Purchase (RFP) to the Morningside Water Main Lining RFP. Due to the condensed timeframe, we did not have time to wait for the general lining contractor to solicit quotes, so we did.

Palda has completed many successful projects in Edina, many of which require temporary water systems. This will be funded out of the water utility fund. Budget impacts are explained in the Morningside Water Main Lining RFP. Staff recommends awarding this contract to Palda and Sons, Inc.

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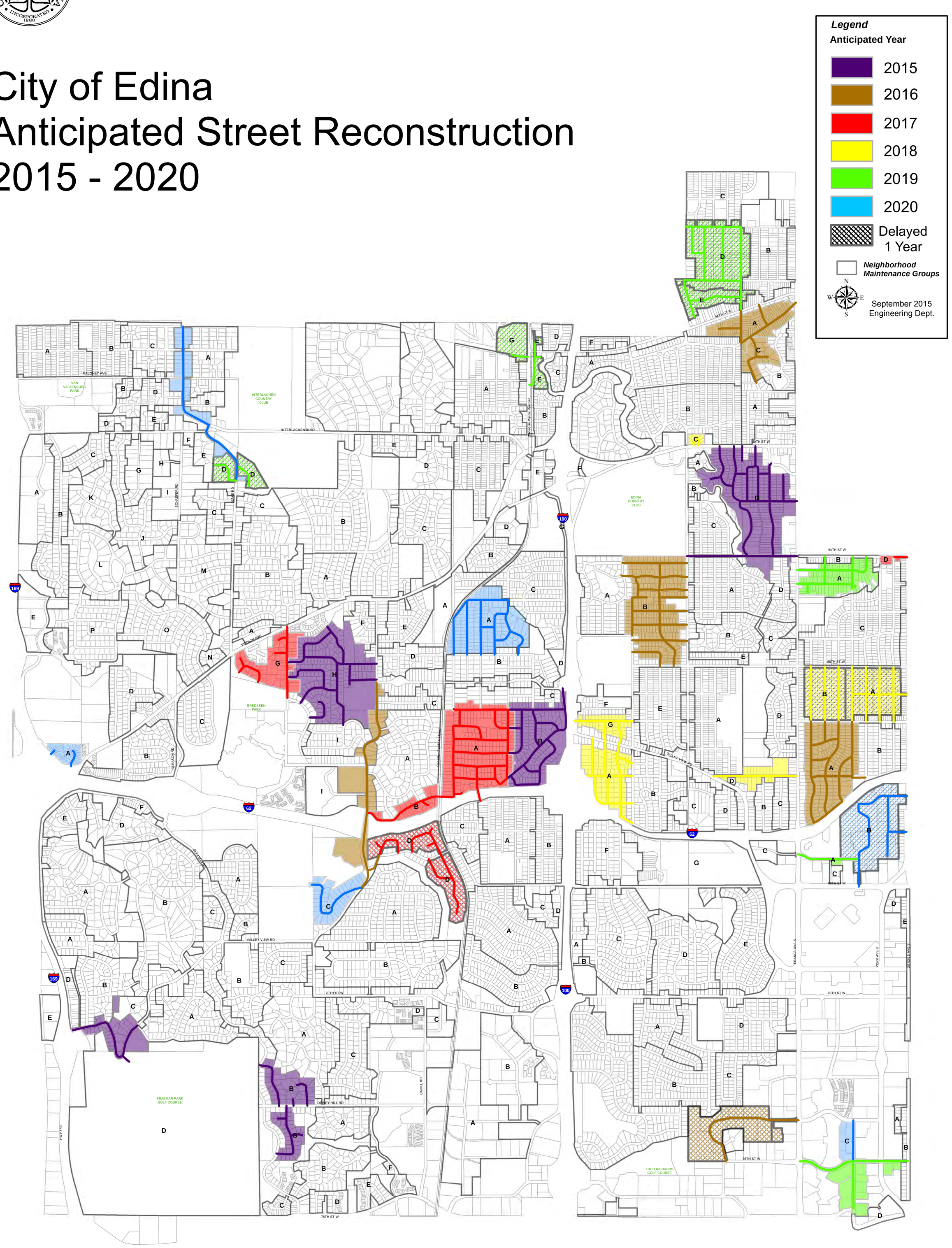
Pre-Watermain Cleaning Photos

Photo 1. Pre-Cleaning Pipe Sample

City of Edina
Anticipated Street Reconstruction
2015 - 2020



Note/Disclaimer

The dates shown on the map represent the anticipated years of construction and are subject to change based on budgetary issues, adjacent projects, resident input and other factors. Not all bituminous roadways within the City are shown. If a road is not highlighted then the potential reconstruction date is beyond the City's long term planning process.

The City of Edina's street improvement policy is to assess residents for a portion of the roadway reconstruction costs. Public utility improvements are paid for from the City's utility fund.

Extensive evaluation regarding the condition of the bituminous pavement, sanitary sewer, storm sewer and water main were used to set the priority of roadway improvements.