

CITY OF HEATH ALTERNATE WATER SOURCE STUDY

JANUARY 9, 2024

BACKGROUND

- Before 2005, the City of Heath purchased the bulk of its water from the City of Rockwall but RCH WSC (RCH) and Forney Lake SUD also served houses in the Heath City Limits.
- In fact, the north water tower is on property that was used as a pump station for RCH. Heath purchased this site when they bought out the RCH assets.
- Heath built the city's pump station and storage facilities in the 2004 to 2005 timeframe at Townsend Road and IH 30 in Rockwall. After that facility was completed, Heath no longer relied on Rockwall pressure to operate.
- The pump station and 24-inch pipeline to Heath were sized to deliver a minimum flow rate of 9.5 MGD both exceeding the available supply of 5.5 MGD.

BACKGROUND CONT'D.

- In 2014, Heath participated in a study prepared by the City of Rockwall for NTMWD showing projected growth and ultimate water needs for the City of Rockwall and their customers including Heath.
- At that time, Heath projected an ultimate need of 19.6 MGD for an ultimate maximum day demand on the hottest day of the summer.
- In 2017, Rockwall asked Heath to isolate from their system and in 2018 Heath constructed a new 3 MG Ground Storage Reservoir (GSR) at the Townsend Road Site. Improvements were made to increase the firm pumping capacity to 10.8 MGD.
- In 2018, Heath updated its comprehensive plan and as a result, reduced its ultimate need on the maximum day from 19.6 MGD to between 14 and 15 MGD.

BACKGROUND CONT'D.

- In the summer of 2022, Heath exceeded the 5.5 MGD contract amount by using over 7 million gallons of water in a day.
- Rockwall notified the City of Heath that the maximum amount of water they could provide is 6 million gallons a day and requested that Heath implement measures at its pump station to turn off the pumps any time Heath reached 6 million gallons of usage in a 24 hour period.
- The significance of this was that if the City of Heath's demand exceeds the 6 MGD, then the water towers in Heath would drop in elevation reducing pressures in town.
- In order to help reduce the maximum daily water demand, water restrictions were implemented to restrict days of watering to even out the demand. This was done by assigning days of water depending on address.

BACKGROUND CONT'D.

In an effort to promote water conservation in the City, Heath has:

- Implemented year around water conservation by assigning days to water for each address in the City.
- Implemented a development moratorium to restrict new developments while the City staff and City Council update ordinances related to water usage including landscaping and other water conservation measures that can be identified as useful tools to reduce overall water demand.

ALTERNATE SOURCE WATER STUDY

- On September 12, 2023, the City hired Freeman-Millican, Inc. to contact and meet with any potential water providers in the vicinity of Heath and to report back on December 12, 2023, with an update and findings.
- The scope of the study included meeting with providers of treated and untreated water.
- At a minimum, the scope included meeting with available providers in the NTMWD system and the City of Dallas.
- In our presentation on December 12, 2023, we were asked by the City Council to add an evaluation of the feasibility of constructing a water treatment plant in Heath and purchasing raw water from the City of Dallas.
- We were also asked if we have visited with Forney Lake WSC about purchasing water from them.

STATUS OF STUDY

- The first task of the study was to determine the projected ultimate maximum day water need for the City. Based on a future Heath population of approximately 21,000 persons and the recent rate of usage in summer months, it appears the City needs between 14 and 15 MGD.
- At this time, we have met with RCH WSC, the City of Rockwall, NTMWD, and the City of Dallas.
- Other than Forney Lake WSC, these are the only providers of potable water that can potentially sell treated water to Heath.
- Results of our meetings are presented below.

RESULTS OF OUR MEETINGS

RCH WSC

We met with the RCH Board President on September 13, 2023 and discussed their plans to connect to the NTMWD system near Lake Tawakoni.

They would interested in joining forces with Heath to help reduce costs of major infrastructure if mutually beneficial to both parties.

MEETING RESULTS

We have received conceptual plans for the new RCH connection to NTMWD near Lake Tawakoni.

Benefits of the arrangement:

- Shared costs on major infrastructure;

Negatives

- The length of connection to Heath is not be economical compared to other options.
- Long term partnership and contractual obligations in sharing costs.

RESULTS OF OUR MEETINGS CONT'D.

CITY OF ROCKWALL

We met with the City of Rockwall on October 4, 2023 to discuss the status of service to Heath.

MEETING RESULTS

We had a positive meeting resulting in their commitment to continue to provide 5.5 MGD to Heath as a customer of Rockwall or NTMWD.

Benefits:

- Continued use of existing Heath infrastructure.

Negatives:

- None

RESULTS OF OUR MEETINGS CONT'D.

NTMWD

We met with NTMWD on October 24, 2023 to discuss the possibility of becoming a Customer of NTMWD.

MEETING RESULTS

We had a positive meeting outlining the procedure for Heath to request and become a Customer of NTMWD.

- We expected to receive the water model results at the end of December but received information that additional water usage information plus an official request to become a customer of NTMWD is needed to finalize preparation of a draft contract.
- NTMWD has a concern about the high rate per person water usage and will want to see proactive conservation measures to reduce per capita usage.
- NTMWD will not sell untreated water.

RESULTS OF OUR MEETINGS CONT'D.

CITY OF FORNEY

We scheduled a meeting with the City of Forney but since they are not contiguous to Heath, they are not an option for Heath to purchase water.

MEETING RESULTS

No meeting was held.

RESULTS OF OUR MEETINGS CONT'D.

CITY OF DALLAS

We met with the City of Dallas on November 27, 2023.

MEETING RESULTS

Dallas would be willing to sell treated or untreated water to the city of Heath. Like NTMWD, Dallas is sensitive to water usage and Conservation.

Benefits:

One source provider for water.

Negatives:

NTMWD would not allow Rockwall to sell water if Heath contracts with Dallas so the entire 14 or 15 MGD would need to come from Dallas.

PROJECT GOALS AND OBJECTIVES

- Provide domestic water needed for the ultimate buildout of Heath.
- Preserve use of our Rockwall investment in infrastructure.
- Provide redundancy in delivery facilities for water to the City.
- Investigate availability of untreated water for use in irrigation.

SUMMARY OF PRELIMINARY FINDINGS

The key differences between Dallas and NTMWD treated water service are:

- If service is from Dallas, Heath will not be a customer of Rockwall losing 5.5 MGD;
- The distance to connect from the Sunnyvale water treatment plant to the Heath system.
- Before we can fully evaluate the best provider for Heath, we are awaiting a draft contract from NTMWD and their water model results for the Hwy 80 corridor. We expect to receive these in the next few weeks after the City of Heath makes a formal request to become a customer of NTMWD.
- Based on proximity to Heath, the NTMWD connection near FM 460 and US Hwy 80 will be the most economical construction and will allow a remote pump station to serve the City from the south in a similar manner to the Rockwall location to the north.
- If Heath becomes a customer of NTMWD at Rockwall, there will be significant infrastructure improvements needed to isolate from the Rockwall System which would be unnecessary if the City of Heath remains a customer of Rockwall.
- Because of the added distance to connect to the Lake Tawakoni or City of Dallas locations, it is unlikely the Dallas or RCH options will be the most economical solution of potable water.
- The City of Dallas would be a source of untreated Lake Ray Hubbard water for a dedicated irrigation system for high water users such as city parks, golf courses, and schools.
- The City of Dallas will sell raw water for treatment by the City of Heath.

OPTION INFRASTRUCTURE REQUIREMENTS

Provider to Heath	Type Service	Required Infrastructure
Dallas	15 MGD Potable Water	15 MGD Pump Station at plant in Sunnyvale 35,212 LF of 36" Water Line 15 MGD Pump Station at Linda Lyon Elementary on FM 740 7,000 LF of 18" water line up FM 740 to existing 18" line at Governors Blvd.
Dallas	15 MGD Lake Water for Treatment	New 15 MGD Water Treatment Plant in vicinity of Lake Ray Hubbard New Water Intake Structure in Deep Water New Lines Connecting to City System Employee new Public Works Personnel to Operate the Plant 24/7 O&M for Water Plant
Dallas	0.5 MGD Lake Water for Irrigation	New Irrigation Pump Station Near Lake 10,000 LF of New Purple Water Pipe System to New City Park at City Hall Storage and Pumping Infrastructure at Park to Irrigate

OPTION INFRASTRUCTURE REQUIREMENTS CONT'D.

Provider to Heath	Type Service	Required Infrastructure
City of Rockwall	5.5 MGD if Approved by NTMWD	No New Improvements Needed in Rockwall to Keep 5.5 MGD
NTMWD	5.5 MGD in Rockwall if Approved by NTMWD	New Take Point with Rate of Flow Controller New Pipeline to Heath Pump Station New Ground Storage Tank for NTMWD to Flow Into Re-pipe Existing Transfer Pumps to Repump NTMWD Water to Existing 3 MG GSR
NTMWD	9.5 MGD at Vicinity of FM 460 and Hwy 80	New 9.5 MGD Pump Station 19,305 LF of 24" Water Line to Heath Near Linda Lyon Elementary 7,000 LF of 18" Water Line to Connect to 18" Line in FM 740
RCH WSC	9.5 MGD if Rockwall 5.5 MGD is Approved	Heath Share of Lake Tawakoni PS Heath Share of New Water Line from Lake Tawakoni to Near Hwy 205 New Pump Station Near Hwy 205 80,883 LF of 24" Water Line from Pump Station to Heath System New Pump Station at Linda Lyon 7,000 LF of 18" Water Line from Pump Station to Heath System
Forney Lake WSC	9.5 MGD if Rockwall 5.5 MGD is Approved	Same as NTMWD at FM 460 and Hwy 80

NEXT STEPS

- A request to explore becoming a customer of NTMWD has been made and we have received a packet of additional information they need to process the modeling and move forward. We anticipate submitting this information on or before January 12, 2024.
- Giving NTMWD a couple of weeks to process our information, Heath should initiate discussions with Rockwall regarding an updated contract for 5.5 MGD.
- FMI will continue to finalize the report and once final information is received from NTMWD complete the study.
- We will continue to provide city council updates until the final information is received and analyzed.

QUESTIONS?