



CITY OF NORMAN, OK AIM NORMAN COMPREHENSIVE PLAN WATER/WASTEWATER SUBCOMMITTEE

Development Center, Room B, 225 N. Webster Ave., Norman, OK 73069
Friday, September 20, 2024 at 9:00 AM

MINUTES

The AIM Norman Comprehensive Plan Water/Wastewater Sub-Committee of the City of Norman, Cleveland County, State of Oklahoma, met in Regular Session in Conference Room B at the Development Center, on the 20th day of September, 2024, at 9:00 a.m., and notice of the agenda of the meeting were posted at the Norman Municipal Building at 201 West Gray, Development Center at 225 N. Webster and on the City website at least 24 hours prior to the beginning of the meeting.

CALL TO ORDER

Chair Dan Bergey called the meeting to order at 9:08 am.

Present

Dan Bergey, Chair
Kyle Arthur
Mark Daniels
Doris Kupfer
Dr. David Sabatini
Bill Scanlon

Absent

Karen Goodchild
Hossein Farzaneh
James Chappel (Alternate)
Dr. Robert Knox (Alternate)

Guests Present

Amanda Nairn, AIM Steering Committee Member
Lee Hall, AIM Steering Committee Member
Inger Giuffrida, AIM Steering Committee Member

Consultants

Mary Elizabeth Mach, Garver
Josef Dalaeli, Garver
Michael Nguyen, Garver

Staff

Anthony Purinton, Assistant City Attorney
Chris Mattingly, Utilities Director
Nathan Madenwald, Utilities Engineer
Peter Wolbach, Staff Engineer
Jerry Gates,

Gay Webb, Administrative Technician

Chair Dan Bergey welcomed everyone to the meeting.

MINUTES

1. CONSIDERATION OF APPROVAL, REJECTION, AMENDMENT, AND/OR POSTPONEMENT OF THE MINUTES AS FOLLOWS:

AIM NORMAN COMPREHENSIVE PLAN WATER/WASTEWATER SUB-COMMITTEE MEETING MINUTES OF AUGUST 30, 2024.

Motion by Bill Scanlon to approve minutes of August 30, 2024, AIM Norman Comprehensive Plan Water/Wastewater Sub-Committee meeting minutes, **Second** by Mark Daniels.

The motion passed unanimously with a vote of 6 - 0.

DISCUSSION ITEMS

2. UPDATE ON WATER DISTRIBUTION SYSTEM MODEL

Josef Dalaeli opened his presentation by mentioning that the Water and Wastewater AIM Sub-Committee was presented modeling results on the existing water distribution system in July. The results identified a need for an increase in supply transmission capacity of the system as Norman continues to experience growth.

Josef mentioned that the majority of future growth in Norman is projected to be in eastern Norman, and a focus of his presentation was to discuss the supply transmission capacity of future well flows in northeast Norman. The distinction of northeast Norman was made as many of the currently active wells are located in northeast Norman. Northeast Norman also doesn't have the same issues with supply capacity as the already developed western Norman. Josef mentioned that if the City attempted to double its current groundwater (GW) supply capacity in west Norman, the additional GW supply would exceed the transmission capacity in that area of the distribution system.

Nathan mentioned that there are several projects to expand transmission capacity in Norman are already in the Norman Capital Improvements Projects (CIP) program. This includes capacity relief in the eastern distribution system through an upcoming project to replace a 16-inch distribution main from 24th Avenue NE to 12th Avenue NE along East Robinson Street. This project will also provide redundancy to the 36-inch transmission main at the WTP, which will allow for intensive maintenance on either the 36-inch transmission main or the new 30-inch line to be installed.

A potential water distribution system improvement Josef presented that is not currently in the Norman CIP, is to remove a dead-end in the water distribution system by connecting the terminated line near the Norman Transfer station near Chautauqua Avenue and Bratcher Miner Road to the distribution line extending South from Andrea Street and Chautauqua Avenue.

Removing a dead-end in the water distribution system would positively impact water age through preventing stagnation at the dead-end.

Josef mentioned that future water distribution needs will require identification of potential development and redevelopment areas. The presented improvements that are not already in the Norman CIP are based on the future land use map produced by RDG consultants.

Doris asked if the new Arena/TIF District is accounted for in future demands.

Josef replied that it has been accounted for and showed where the proposed district will be on the future land use map. The proposed location is near a large transmission main, so it is expected to not require extensive capital input to serve.

Regarding water-use projections for different categories of land use, Josef explained that each land use case is assigned a water use projection. The example given was that high density development areas are expected to require between 1,200 to 2,800 gallons per day per acre.

Josef also described that another important element that affects the modeling results is modeling different water source inputs to make up the 2045 water supply gap, projected to be 12 million gallons per day (MGD). Modeling requires a concrete input of where the projected water supply is entering the system, which means moving elements in the model will affect future modeling outputs.

The updated model Josef presented examined different water supply sources to address the projected 2045 12 MGD supply gap. It was clarified that the projected supply figure uses the firm yield of Lake Thunderbird (12,700 acre-feet) rather than the higher permit yield (21,000 acre-feet) to account for future uncertainty. The model includes a 10% reserve capacity for conservative planning. The 20-year CIP overview of the model estimates costs at \$100 million for transmission, storage, supply, and GW treatment improvements. Over the next 10-years, it is expected for the supply gap to be incrementally addressed by phasing in increased OKC wholesale supply and increased GW supply.

New supply locations have been added to the model, including a second OKC connection in Northeast Norman, groundwater supply GST/BPS in Northeast Norman, and additional WTP capacity for reuse at the WTP. The group reviewed water storage options, discussing the advantages and disadvantages of elevated storage tanks (EST) and ground storage tanks (GST). GSTs allow for larger storage volumes and a centralized GST for well flows would allow for a single point of GW treatment to be employed, but a significant disadvantage of GST usage is that it would still require pumps to convey flows into the distribution system. ESTs typically store smaller volumes of water, but only require the initial pumping into the EST. ESTs then take advantage of gravity flow which assists the distribution system by maintaining adequate pressure in the distribution area near the tank without the need for pumping.

3. UPDATE ON WASTEWATER COLLECTION SYSTEM MODEL

Following discussion on the updated water distribution model, Josef moved on to present updates to the wastewater collection system modeling effort.

The model was updated to reflect 4.8 MGD of equalization storage at Lift Station D and updated pumping controls that limit peak flows to the Bishop basin. In this update, the model was divided into four planning areas.

- Westside Norman area
- Imhoff area
- Bishop basin area
- Lift Station (LS) D area

The Westside area is not expected to see significant growth, so the presented model only requires localized pipe improvements to address existing capacity concerns.

The Imhoff area is also not expected to see significant growth over the design horizon, and localized pipe improvements as well as improvements to the interceptor upstream of the WRF are needed.

The Bishop area occupies much of the currently developed portion of East Norman and will require major investment to relieve existing capacity concerns.

The LS D area is adjacent to growth areas and it also discharges into the interceptors in the Bishop basin that are capacity constrained. This area is also expected to require major investment to relieve capacity constraints. In the 10-year planning horizon, there are four options for improvement identified for LS D.

1. Increase gravity interceptor capacity in the Bishop basin
2. Increase Equalization basin capacity at LS D
3. Construct eastern conveyance of WW flows and divert flow from LS D
4. Build a northern WRF that could divert flows from LS D.

Josef moved on to explain that the WW CIP development has a tiered approach to addressing existing and future issues by first addressing the existing capacity issues, then determining future flow conveyance and treatment strategies, followed by evaluating future opportunities to alleviate conveyance or treatment strains on the collection system.

Regarding the existing system and addressing existing capacity issues, the model shows that approximately 10 miles of gravity main are undersized and causing freeboard concerns for existing wet weather conditions. The majority of these lines are in the Imhoff and Bishop areas where collection flows begin to converge near the Water Reclamation Facility (WRF). As continued use of the existing WRF is part of the WW collection plan over the design horizon, improvements to the line sizing and interceptors in this area will be needed.

Josef then mentioned that a diversion of flows to a future WW conveyance system east of the existing system in the Bishop area and East of it could reduce the need for existing interceptor replacements. This may include a new WRF location in northern Norman near LS D, but an alternative only utilizing the existing WRF is still being evaluated.

The evaluation including alternatives for only utilizing the existing WRF with conveyance improvements and for adding an additional WRF with conveyance improvements to the existing WRF are being evaluated over a 20-year planning horizon. These options were then presented to the Sub-Committee

The first option shown conveys most of the future flows in East Norman South along the eastern edge of the 20-year growth area and discharging into the existing WRF.

The second option included additional equalization storage at LS D and routed all flow in the Little River Basin to LS D. This option would allow for flexibility to discharge to a potential northern WRF, or to discharge into the existing WRF through improved conveyance infrastructure in the Bishop basin.

4. UPDATE ON NON-MONETARY CRITERION EVALUATION

Following updates on the water distribution model and the WW collection model, the subcommittee reviewed non-monetary criteria evaluations for water supply options, with GW wells scoring highest, followed by Lake Thunderbird Indirect Potable Reuse (IPR), and OKC supply. It was noted that each group that participated in scoring, scored GW wells, Lake Thunderbird IPR, and additional OKC supply in the top three before the scores were combined.

Updated cost projections for OKC rate increases were presented, along with 20-year lifecycle costs for various options. The costs were updated for the alternatives that are expected to cost less than \$60 million per MGD supplied.

The supply options listed included GW options for running more active wells than Norman currently does, reactivating inactive wells and utilizing them, and an option for creating a single new well. Costs for all of the GW options include the expected water quality treatment costs necessary for GW. For the inactive wells, the primary treatment costs would be for arsenic and hexavalent chromium. For new wells, cost for treatment needs to be shown separately from new well and estimated piping.

With regard to affordability, the order of the five most affordable options are shown below with OKC Wholesale Supply being the most affordable.

1. OKC Wholesale Supply
2. GW active wells
3. GW inactive wells
4. GW one additional well
5. IPR – North WRF

The northern WRF location is projected to be more affordable than implementing IPR at the existing WRF as it wouldn't require as much capital investment to convey IPR flows from a northern WRF to Lake Thunderbird.

Regarding future OKC water supply rates, Josef showed an updated cost projection slide based on OKC draft rate increases proposed through 2028. This projection showed several potential annual fixed rate increases of 3%, 5%, and 7%.

Josef then presented the projected lifecycle costs (LCC) of the short-listed water supply alternatives in units of dollars per thousand gallons of supply. With regard to LCC affordability, the order of the five most affordable options are shown below with OKC Wholesale Supply being the most affordable.

1. OKC Wholesale Supply
2. GW active wells
3. GW inactive wells
4. GW one additional well
5. IPR – Existing WRF

LCC projections for IPR at the existing WRF is projected to be more affordable than IPR at a North WRF as there would be higher capital costs associated with constructing a new WRF versus adapting the existing WRF to handle IPR flows. For the full LCC, Nathan stated that future costs need to be brought back to current dollars using historical CPI.

MISCELLANEOUS COMMENTS

Nathan mentioned that October 11, 2024 is the last scheduled meeting and asked if the sub-committee should consider a schedule change to include more meetings with the purpose of resolving any outstanding issues.

Dan mentioned that a discussion on how to present the three most viable water supply options (OKC wholesale Supply, GW supply, and IPR) to the greater audience could be a point of emphasis for an additional meeting.

When asked if the final report for this sub-committee could be compiled by the October 11 meeting, Michael Nguyen from Garver noted that a draft could be completed but it wouldn't include the additional CIP details.

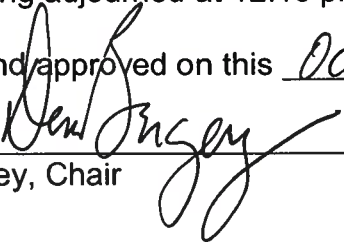
Doris stated that she would like an extra meeting to discuss the implementation timelines of the different options. In a follow-up to Doris's comment, Bill asked if future land use changes would be a consideration with regard to implementation dates. Josef noted that changing land use designations could impact implementation dates, but is not expected to have a large impact on the water supply options that Norman could implement.

A date for an additional meeting was not formally announced, but potential additional meeting dates are expected to be announced before or during the October 11, 2024 meeting.

ADJOURNMENT

The meeting adjourned at 12:13 pm.

Passed and approved on this Oct 11 day of 2024.



Dan Bergey, Chair