09.20.2022 Coarse Screening – Meeting Summary

Attendance:

Advisory Council: Andrew Dunkley, Anna Wishart, Brittney Albin, Chittaranjan Ray, David Cary, Donna Garden, Eliot Bostar, Elizabeth Elliott, Holley Salmi, Jeanne McClure, Jerry Obrist, Kennon Meyer, Lori Seibel, Lynn Rex, Richard Meginnis, Sean Flowerday, Susan Seacrest, TJ McDowell, Todd Wiltgen, Tom Beckius, Tut Kailech

Absent: Glenn Johnson, Katie Wilson, Marc LeBaron, Martha Shulski, Michon Morrow, Trish Owen

City Staff: Cyndy Roth, Erika Hill, Jocelyn Golden, Steve Owen

Consultants: Andrew Hansen, Ben Day, Brian Chaffin, Haley Engstrom, Jamie Carson, Stacey Roach, Jeff Henson, Sarah Foster, Terry Cole Fairchild, Tessa Yackley, Adam Charlsen, Caleb Pharris, Amy Cherko, Brian Dunnigan, Don Blankenau

Summary:

10:30 AM – Start

1. Welcome – Susan Seacrest
    a. Rules for engagement and level of consensus were reviewed.

2. Today's Agenda and Future Meetings – Brian Chaffin
    a. Schedule going forward
        i. September
            - Discuss Criteria: Governance and Environmental Stewardship
            - Score Alternatives For: Environmental Stewardship
        ii. October
            - Discuss and Score: Operations and Implementation

iii. November
- Discuss and Score: Reliability and Stakeholder Impacts

iv. December
- Discuss Criteria: Life Cycle Cost
- Score Alternatives For: Life Cycle Cost and Governance

3. Alluvial Wellfields 101 – Jeff Henson
   a. An alluvial well is one that is drilled in an alluvial floodplain. Alluvial wells are supplied and recharged by surface water. Alluvial soil has high porosity and is a fine-grained soil deposited over time by sedimentation as water flowed over flood plains and riverbeds. Lincoln's current wellfields near Ashland are in the Platter River alluvial floodplain.
   b. Platte River flows past wellfield
      i. 8,000cfs (cubic feet per second) during normal conditions.
      ii. 287cfs during the 2012 flood. The river was braided and drying. There was much less water available in the river to recharge the well field and be available for use.
   c. Remaining operational volume
      i. Horizontal collector wells: Higher operational volume. Well screen extends horizontally into the alluvial formation perpendicular to the well's caisson. Less maintenance required.
      ii. Vertical wells: Vertically drilled with well screen located as an extension of the well casing. Top of screen is positioned much higher in the well field than for a horizontal collector well.
      iii. Critical surface: Coincides with top of well screen for a vertical well and is the minimum operating level for these wells. Water should not get below this level as introduction of air can facilitate growth of iron bacteria. This can lead to sludge that impacts the long-term capacity and use of the well.
      iv. Remaining Operational Volume: The space between the actual measured groundwater surface and the critical groundwater surface.

d. Flow in the River vs Wellfield
    i. Based on a calibrated groundwater flow model, during low river flows an additional 80 cfs flowing past the wellfield only adds 1-4 MGD (million gallons per day) of water supply from wellfield.

4. Water Rights - Brian Dunnigan (Former Director; Nebraska Department of Natural Resources) & Don Blankenau (Water Rights Attorney; Blankenau Wilmoth Jarecke LLP)
    a. Nebraska Groundwater and Surface Water Authorities
        i. Surface Water - Department of Natural Resources (DNR) - State
            - Administers surface water- First in time, first in right.
            - Prior appropriations regulated by DNR.
            - Surface water appropriations (permits) are granted though the DNR.
            - Appropriations are granted for the beneficial use of surface water including domestic uses, irrigation, hydropower, industrial, municipal, and instream uses such as induced groundwater recharge.
        ii. Groundwater – Natural Resources Districts (NRD) - Local
            - Regulate groundwater – Modified correlative rights, sharing in shortage between like users.
            - Correlative Rights regulated by NRDs (Natural Resources Districts).
            - Typical NRD Groundwater Permitting Process.
                - Impact analysis by applicant
                - Review of impacts on state obligations
                - Availability of alternatives
    b. Lincoln's Induced Groundwater Recharge Permit
        i. Integrated Management Plans (IMPs) and their impacts on water permitting
            - Key goals of IMP:
                – Maintain the balance between basin water supplies and water uses.
                – Sustain the economic viability and environmental and social health, safety and welfare of the basin for both the near and long term.

- IMPs are developed jointly by Natural Resources Districts and the Department of Natural Resources.

ii. Induced Groundwater Permit Specifics
- The city holds five induced groundwater recharge appropriation permits for the Ashland wellfield.
- Appropriation is for 704 cfs in summer season and 200 cfs in all other seasons.
- Priority dates for particular well series range in dates from January 21, 1964, to January 1, 1993.

iii. There are approximately 1,100 junior surface water diversion rights (mostly for surface water irrigation) upstream of the Ashland wellfield.

iv. Municipal Groundwater Transfer Permit
- City holds 2 municipal groundwater transfer permits
- The permits total 110 million gallons per day

c. Groundwater and Surface Water Permitting Considerations for Feasible Alternatives

i. Full develop Existing Wellfield
- NRD permitting
- Basin wide planning

ii. Expand Existing Wellfield South of I-80
- NRD permitting
- Basin Wide planning

iii. Off-Channel Reservoir
- Depends on the configuration – e.g. damming up a creek vs. a simple holding reservoir
- Permitting would be more complex and uncertain if involving a dam and storing surface water. If storing groundwater that has been pumped to a reservoir, then permitting is less of a concern.

iv. MUD Interconnect
- MUD will need to modify their water transfer permits.

v. Missouri River Surface Water Intake to Ashland
- DNR would be permitting agency. Appropriate water from Missouri river.

vi. Missouri River Wellfield to Ashland
- NRD would be permitting agency for pumping groundwater.

vii. Missouri River Surface Water Intake to Lincoln
- DNR would be permitting agency. Appropriate water from Missouri river.

viii. Missouri River Wellfield to Lincoln
- Large water use permit though NRD.

Break and Grab Lunch (15 minutes)

11:50 – Working Lunch

5. Governance – Adam Charlsen (Attorney; Husch Blackwell)

   At the request of the City, the Water Advisory Council began discussions on the various options around governance. Specifically, the City requested that the Council provide a preliminary perspective on which options were worthy of exploring as the City engages in conversations with potential partners such as MUD. Scoring of Governance as a criteria for all alternatives will be completed at the December meeting.

   a. Options for MUD

      i. Wholesale Agreement
      - LWS would be another customer of MUD
      - No obligation for LWS to construct or pay for additional infrastructure (other than as a wholesale ratepayer)
      - Higher wholesale rate

- Little autonomy or control other than agreement for firm capacity availability
- No change in laws is needed.
- Typical terms found in other MUD agreements. No guarantee that these would be the same in a Lincoln agreement but does give an idea of potential starting point: Term length capped at 25 years. Three year written termination by either party. Rates and charges may be amended from time to time. Facilities charges apply to all new connections. Reporting required for all new connections including customer names. LWS records subject to audit for verification of new customers. Water conservation Emergency Restrictions.
  - LWS is required to enact conservation restrictions if MUD declares emergency.
  - Restrictions must equal or exceed MUD levels.
  - Water supply by MUD during emergencies will be "best effort" with no guarantees.

ii. Wholesale Agreement with Infrastructure Investment

- LWS would be another customer of MUD.
- Requires LWS up-front investment in infrastructure to connect.
- Lower wholesale rate but wouldn't have control over the cost
- LWS would own some or a portion of infrastructure up front
- Little autonomy or control other than:
  - Agreement for firm capacity availability.
  - Ownership, control and use of infrastructure/assets owned or purchased by LWS.
- No change in laws needed.

iii. Joint Public Agency Supplier

- Potential interlocal entity made up of LWS, MUD and others.
- Serve as a wholesale supplier to LWS, MUD and other customers.

- Interlocal entity could own assets and infrastructure.
- LWS and MUD would appoint voting members to interlocal entity.
- Both LWS and MUD retain autonomy for treatment and distribution.
- Interlocal entity would set wholesale rates and fees.
- Interlocal entity would establish policies and procedures governing ownership, operations, and maintenance of infrastructure.
- More complex than wholesale agreements.
- Political buy-in required.
- No change in laws needed.

iv. LWS/MUD Combined Utility

- Most complex option.
- Requires merger of LWS and MUD systems.
- Creates a new utility.
- Political buy-in required.
- Most likely to require statutory changes.

v. Missouri River or Off-channel Reservoir Alternatives

- May require a change in how LWS is currently governed due to the large expansion in system size and increases in complexity. With large scale changes to the water system the current governance structure may no longer be an effective method for LWS.
- Options to serve other customers could be explored.

vi. Consensus Check for Potential MUD Governance Options

- **Wholesale agreements:** These are least preferred and should not be priority options for the City, however, they should remain on the table until cost is determined.
- **Joint Public Agency Supplier:** The group is comfortable moving forward with this as an option.

- **LWS/MUD Combined Utility:** The group is comfortable with this being a topic of conversation between MUD and the City.
- Concern among the council if Lincoln is not an equal partner with MUD within a governance structure.

Break

6. Environmental Stewardship – Criteria Education – Amy Cherko and Caleb Pharris (Environmental Scientists; Olsson), Ben Day
   a. Criteria Definition
   b. Environmental Impacts
      i. Bald and Golden Eagle Protection Act.
      ii. Endangered Species Act
      iii. Threatened and Endangered Species Act.
         - Pallid and Lake Sturgeons
         - Sturgeon Chub
         - Interior Least Tern
         - Piping Plover
         - Western Prairie Fringed Orchid
         - Northern Long-Eared Bat
      iv. Permitting
         - USACE Section 404 Permitting
         - Stream Channel Impacts
         - Wetland Impacts
      v. Other Permits Related to the Environment
         - Floodplain Development.
         - Department of Natural Resources Well Permitting
         - Discharge Permitting

vi. Platte River Flow Depletion
vii. Goal to minimize permitting time and mitigation costs.

c. Cultural Impacts
   i. National Historic Preservation Act
      - Standing structures, archaeological resources
   ii. Historic Properties
   iii. Historic Cultural Sites
   iv. Structures Over 50 Years Old (eligible for NRHP)
   v. Archeological Sites

7. Environmental Stewardship – Scoring Alternative Water Supply Sources
   a. Fully Develop Existing Wellfield
      i. Details:
         - Wells, river crossing, pipeline, and plant expansion
         - Ultimate 90-day seasonal capacity that will be less than 145 million gallons per day.
         - In a developed area that has already seen excavation and construction activity there is less likelihood of having a cultural impact.
         - There won't be a lot of wetland impacts with this alternative.
         - Game and Parks has identified this as a potential threat to endangered species.
         - Most likely would require a nationwide permit.
         - Low environmental and cultural impacts.
      ii. The Council completed scoring of this alternative on the scoring sheet provided.
   b. Expand Existing Wellfield Downstream of I-80
      i. Details:

- Full development of the existing wellfield property. Will include additional wells downstream of I-80.
- Wells, river and I-80 crossing, pipeline, and plant expansion.
- Technically two channel crossings.
- Ultimate 90-day seasonal capacity will be less than 145 million gallons per day.
- Most of the species won't be impacted as this alternative has a small footprint.
- Higher level of permitting due to the floodplain.

ii. The Council completed scoring of this alternative on the scoring sheet provided.

c. Off Channel Reservoir

i. Details:

- Maximize existing wellfield, pipelines, reservoir.
- Pump excess water from existing wells during off season times and store in reservoir.
- Depending on the location this will have significant impacts on habitats and wetlands.

ii. The Council completed scoring of this alternative on the scoring sheet provided.

d. The remaining alternatives (D through H) were not discussed or scored due to lack of remaining time. These were tabled until the October meeting and include: MUD Interconnect, Missouri River Surface Water Intake to Ashland, Missouri River Wellfield to Ashland, Missouri River Surface Intake to Lincoln, Missouri River Wellfield to Lincoln

8. Closing Thoughts and Look Ahead – Susan Seacrest

2:30 PM - Adjourn