

10.18.2022 **Fine Screening – Meeting Summary**

Attendance:

Advisory Council: Andrew Dunkley, Liz Seacrest for Anna Wishart, Brittney Albin, Chittaranjan Ray, Donna Garden, Elizabeth Elliott, Glenn Johnson, Holley Salmi, Jerry Obrist, Kennon Meyer, Lori Seibel, Lynn Rex, Richard Meginnis, Sean Flowerday, Susan Seacrest, Todd Wiltgen, Tom Beckius, Trish Owen, Tut Kailech.

Absent: David Cary, Eliot Bostar, Jeanne McClure, Katie Wilson, Marc LeBaron, Martha Shulski, Michon Morrow, TJ McDowell

City Staff: Erika Hill, Jocelyn Golden, Steve Owen

Consultants: Andrew Hansen, Ben Day, Brian Chaffin, Bob Hulse, Haley Engstrom, Jamie Carson, Jeff Henson, Stacey Roach, Terry Cole Fairchild, Tessa Yackley, Caleb Pharris

Public: Peter Katt, Jim Frohman

Summary:

10:30 AM – Start

1. Welcome – Susan Seacrest and Brian Chaffin
 - a. Public Open House Meeting – Will be held in the evening on December 1st. The final time and location to be determined and will be communicated to the advisory council as well as the public. Susan strongly encouraged all council members to attend.
 - b. Rules of engagement for the meeting and levels of consensus were reviewed.
2. Today's Agenda and Future Meetings – Brian Chaffin
 - a. October
 - i. Discuss Criteria: Operations, Implementation

- ii. Score Alternatives: Operations, Implementation, Environmental Stewardship
 - b. November
 - i. Discuss Criteria: Reliability, Stakeholder Impacts
 - ii. Score Alternatives: Reliability, Stakeholder Impacts
 - c. December
 - i. Discuss Criteria: Life Cycle Cost
 - ii. Score Alternatives: Life Cycle Cost, Governance
 - iii. Due to the large amount of information to be covered related to Life Cycle Cost and Governance, it is anticipated that the December meeting will need to extend beyond the normal 2:30 pm stop time. A consensus check of the advisory council showed support for extending this meeting to 4pm.
 - d. January
 - i. Review and discuss scores for each alternative and develop final advisory council recommendations.
- 3. Removal of Alternative A – (Fully Develop Existing Wellfield) – Brian Chaffin
 - a. Additional analysis of the water model shows that the proposed horizontal collector wells 7 and 8 (HCW 7 & 8) would not provide adequate output to be economically feasible. In addition, HCW 7 & 8 would have a negative effect on the performance of the planned HCW 5 & 6.
 - b. HCW 5 & 6 are currently in the City's Capital Improvement Plan and are planned for construction.
 - c. Because all the remaining alternatives assume that HCW 5 & 6 will be constructed as planned, it is not necessary to carry forward alternative A as a unique alternative once HCW 7 & 8 have been dropped from consideration.
- 4. Scoring refresher – Terry Cole Fairchild

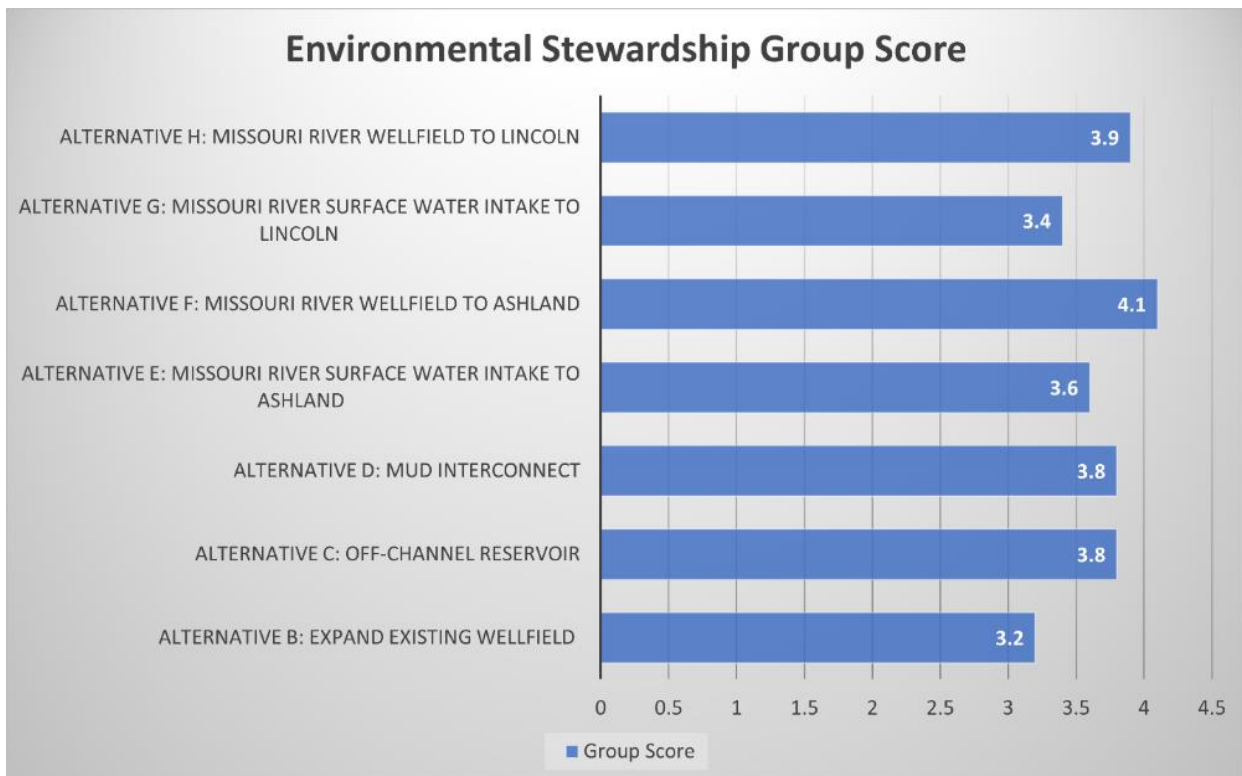
5. Environmental Stewardship criteria were discussed and scored for remaining alternatives B – H – Ben Day and Caleb Pharris
 - a. Environmental Impacts discussed included:
 - i. Pipeline length
 - ii. Stream crossings
 - iii. Wetland and open waters
 - iv. Habitat
 - v. Threatened and endangered
 - vi. Floodplain development
 - vii. Permitting
 - viii. Streamflow depletions
 - b. Cultural Impacts discussed included:
 - i. Historical and Cultural
 - c. Environmental Considerations for Feasible Alternatives
 - i. Expand Existing Wellfield South
 - One Channel Crossing.
 - <0.1 acre of permanent wetland impacts.
 - One flood plain development crossing.
 - Alignment would extend through habitat of the following Threatened and Endangered species: Western Prairie Fringed Orchid, Northern Long-Eared Bat, Interior Least Tern, Lake Sturgeon, Pallid Sturgeon, Sturgeon Chub, Piping Plover.
 - ii. Off-Channel Reservoir
 - Greater than .03 acre of channel impact.
 - >0.1 acre of permanent wetland impacts.
 - Habitat and species impacts are dependent on location.
 - One flood plain development crossing.

- Permitting considerations include an individual 404 permit and potential wetland and stream channel mitigation.
- iii. MUD Interconnect
- Transmission main length 21.8 miles.
 - 29 channel crossings.
 - 14 total potential wetland and open water impacts.
 - Alignment extends through the biologically unique landscape of the Lower Platte River and through the Nebraska Game and Parks Catfish Run Wildlife Management Area.
 - Alignment would extend through habitat of the following threatened and endangered species: American Ginseng, Lake Sturgeon, Northern Long-eared Myotis, Pallid Sturgeon, Sturgeon Chub, Western Prairie Fringed Orchid, Interior Least Tern, Piping Plover.
 - 10 floodplain development crossings.
 - Permitting considerations include a nationwide 404 permit.
- iv. Missouri River Surface Water Intake to Ashland
- Transmission main length 38.5 miles.
 - 52 channel crossings.
 - 29 total potential wetland and open water impacts.
 - Alignment extends through the biologically unique landscapes of the Missouri and Lower Platte Rivers.
 - Alignment would extend through habitat of the following threatened and endangered species: American Ginseng, Lake Sturgeon, Northern Long-eared Myotis, Pallid Sturgeon, Southern Flying Squirrel, Sturgeon Chub, Western Prairie Fringed Orchid, Interior Least Tern, Piping Plover.
 - 9 floodplain development crossings.
 - Permitting considerations include a nationwide 404 permit.
- v. Missouri River Wellfield to Ashland

- Transmission main length 38.5 miles.
 - 52 channel crossings.
 - 29 total potential wetland and open water impacts.
 - Alignment extends through the biologically unique landscapes of the Missouri and Lower Platte Rivers.
 - Alignment would extend through habitat of the following threatened and endangered species: American Ginseng, Lake Sturgeon, Northern Long-eared Myotis, Pallid Sturgeon, Southern Flying Squirrel, Sturgeon Chub, Western Prairie Fringed Orchid, Interior Least Tern, Piping Plover.
 - 9 floodplain development crossings.
 - Permitting considerations include a nationwide 404 permit.
- vi. Missouri Surface Water Intake to Lincoln
- Transmission main length 46.1 miles.
 - 66 channel crossings.
 - 51 total potential wetland and open water impacts.
 - Alignment extends through the biologically unique landscape of the Missouri River.
 - Alignment would extend through habitat of the following threatened and endangered species: American Ginseng, Lake Sturgeon, Northern Long-eared Myotis, Pallid Sturgeon, Southern Flying Squirrel, Sturgeon Chub, Western Prairie Fringed Orchid.
 - 27 floodplain development crossings.
 - Permitting considerations include a nationwide 404 permit.
 - Potential cultural impact related to Snoke Farmstead which is on the National Register of Historic Places.
- vii. Missouri River Wellfield to Lincoln
- Transmission main length 46.1 miles.
 - 66 Channel crossings.

- 51 total potential wetland and open water impacts.
- Alignment extends through the biologically unique landscape of the Missouri River.
- Alignment would extend through habitat of the following threatened and endangered species: American Ginseng, Lake Sturgeon, Northern Long-eared Myotis, Pallid Sturgeon, Southern Flying Squirrel, Sturgeon Chub, Western Prairie Fringed Orchid.
- 27 floodplain development crossings.
- Permitting considerations include a nationwide 404 permit.
- Potential cultural impact related to Snoke Farmstead which is on the National Register of Historic Places.

d. Scoring results



6. Operations criteria were discussed and scored for remaining alternatives B – H – Bob Hulsesey

a. Operations criteria discussed included:

- i. Capacity and availability constraints
- ii. Complexity
- iii. Flexibility
- iv. Agility
- v. Expertise

b. Operational Considerations for Feasible Alternatives

i. Fully develop Existing Wellfield

- Treatment provided for expected water quality. Well withdrawals must be managed but can supply additional storage during droughts due to aquifer recharge from surface.
- Treatability of the existing and future horizontal collector wells is the same – the East Water Treatment Plant treats groundwater under direct influence of surface water.
- Flood/Drought susceptibility is the same since same source. Arsenic levels are similar. PFAS expected to be low.
- Personnel at one site easily coordinated. Treatment easily adjusted to fluctuations in water quality.
- City has experience with treatment process as it would be the same as existing facility. Minimal additional personnel needed to operate expanded treatment facility.

ii. Expand Existing Wellfield

- Treatment provided for expected water quality. Well withdrawals must be managed but can supply additional storage during droughts due to aquifer recharge from surface.

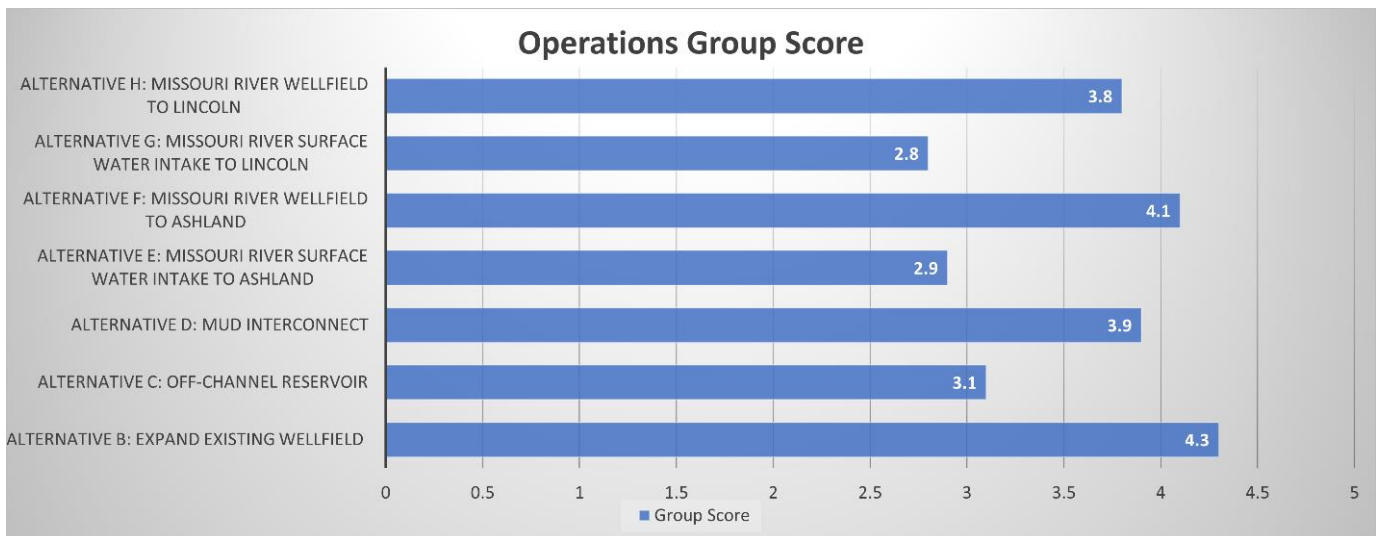
- Treatability of the existing and future horizontal collector wells is the same – the East Water Treatment Plant treats groundwater under direct influence of surface water.
 - Flood/Drought susceptibility is the same since same source. Arsenic levels are similar. PFAS expected to be low.
 - Personnel at one site easily coordinated. Treatment easily adjusted to fluctuations in water quality.
 - City has experience with treatment process as it would be the same as existing facility. Minimal additional personnel needed to operate expanded treatment facility.
- iii. Off-Channel Reservoir
- Treatment provided for expected water quality. Well withdrawals must be managed but can supply additional storage during droughts due to aquifer recharge from surface. During each year, water quality must be coordinated to maintain reservoir. Supplying well water to the reservoir may reduce the potential yield available during a drought condition. The reservoir will be impacted by evaporation, ground infiltration, flood conditions, drought, and potentially other non-City withdrawal.
 - Surface water management may be required to keep the water treatable. Algal blooms in the reservoir may pose treatability concerns which requires rapid adjustments in DAF treatment or temporary stops in using the reservoir. DAF will require solids handling (air dried solids in lagoons for disposal).
- iv. MUD Interconnect
- Treatment provided for expected water quality. During drought years, water quantity must be coordinated with other water sources – MUD is partially supplied by the Platte River and may experience similar limitations in water quantity as the city. The quantity available from MUD is yet to be determined.
 - MUD finished water quality is substantially different than the City's finished water – chemistry adjustment will be required for both MUD

water and the City's water for corrosivity considerations. City will control chemical adjustments and blending ratios, so no large concern is presented for consistency for water quality delivered.

- Response to regulatory change/weather events covered under governance.
- v. Missouri River Surface Water Intake to Ashland
 - Treatment provided for expected water quality. During drought years, water quantity from the Platte River wells must be coordinated with the Missouri River wells.
 - Operator must rapidly respond to changes in influent water quality; in addition to turbidity, water chemistry changes can occur seasonally that require treatment adjustments.
 - Surface water intakes are susceptible to damage and contamination events. Missouri River may require additional disinfection for *Cryptosporidium* relative to existing city experience.
- vi. Missouri River Wellfield to Ashland
 - Treatment provided for expected water quality. During drought years, water quantity from the Platte River wells must be coordinated with the Missouri River wells.
 - Missouri River groundwater is expected to have similar water quality and treatability to existing HCWs. Install clarification for arsenic at river.
 - Flood/Drought susceptibility involves two sources. Arsenic levels are similar. PFAS expected to be low.
 - Personnel must coordinate treatment between two sites. Treatment easily adjusted to fluctuations in water quality (pump rate/chemical dosing/filtration rate).
- vii. Missouri Surface Water Intake to Lincoln
 - Treatment provided for expected water quality. During drought years, water quantity from the Platte River wells must be coordinated with the Missouri River surface water intake.

- Operator must rapidly respond to changes in influent water quality; in addition to turbidity, water chemistry changes can occur seasonally that require treatment adjustments.
 - Surface water intakes are susceptible to damage and contamination events. Missouri River may require additional disinfection for *Cryptosporidium* relative to existing city experience.
- viii. Missouri River Wellfield to Lincoln
- Treatment provided for expected water quality. During drought years, water quantity from the Platte River wells must be coordinated with the Missouri River wells.
 - Missouri River groundwater is expected to have similar water quality and treatability to existing HCWs. Install clarification for arsenic at river.
 - Flood/Drought susceptibility involves two sources. Arsenic levels are similar. PFAS expected to be low.
 - Personnel at two sites provide separate treatment. Treatment easily adjusted to fluctuations in water quality.

c. Scoring results



11:45-12:15 – Lunch

12:15 – Resume Meeting

7. Implementation criteria were discussed and scored for remaining alternatives B – H
– Ben Day and Andrew Hansen

a. Implementation criteria discussed included:

- i. Time to implement
- ii. Permitting
- iii. Water rights
- iv. Change in water quality and quantity

b. Implementation Considerations for Feasible Alternatives

i. Expand Existing Wellfield

- This alternative allows the city to systematically expand supply and defer capital costs if possible.
- Risks for implementation schedule: Property/easement acquisition, flood conditions during construction, and capability to provide 145 MGD which is still being analyzed.
- Timing estimation: Easements/Permits (1-2 yrs), Design (2-3 yrs), Construction of Facilities (3-5 yrs), Overall (5-7 yrs).

ii. Off-Channel Reservoir

- This alternative allows sufficient time for the City to plan and implement the off-channel reservoir before 2042 when additional supply is needed.
- Risks for implementation schedule: flood conditions during construction, property/easement acquisition, public acceptance, permitting for development dam, not being able to provide 145 MGD due to uncontrollable factors.
- Timing estimation: Easements/Permits (2-4 yrs), Property Acquisition (3-5 yrs), Design (1-3 yrs), Construction of Facilities (5-7 yrs), Overall (9-12 yrs).

iii. MUD Interconnect

- This alternative allows sufficient time for the City to plan and implement.
- Risks for implementation schedule: Property/easement acquisition, unknown schedule for improvements that MUD would need to construct, quantity of water unknown from MUD.
- Timing estimation: Pipe Loop Testing (1-2 yrs), Easements/Permits (1-3 yrs), Design (1-3 yrs), Construction of Facilities (4-6 yrs), Overall (8-11 yrs).

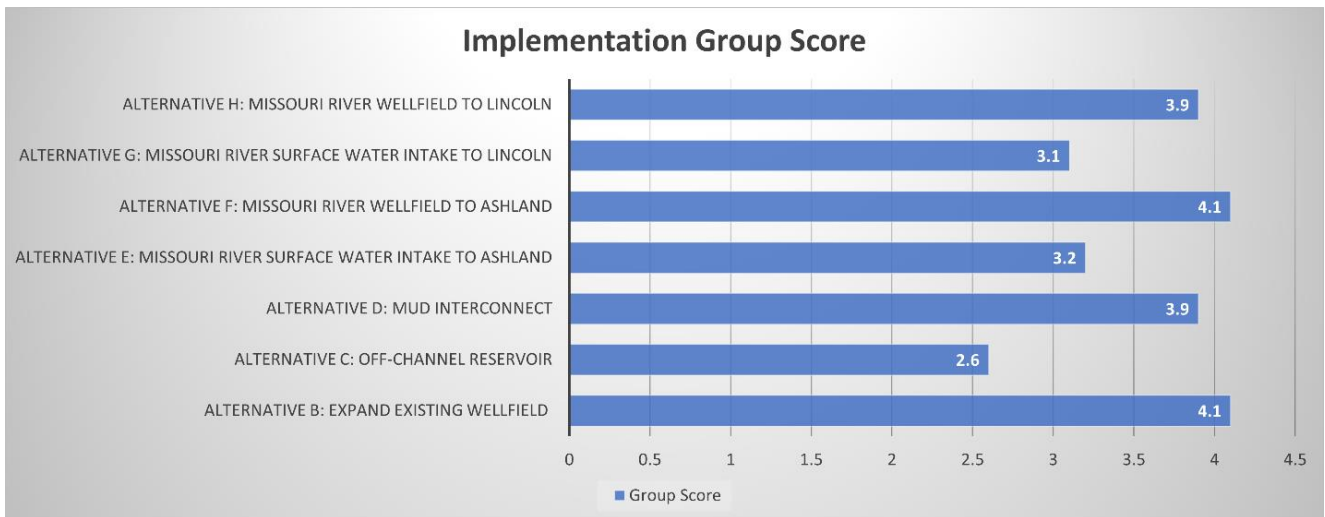
iv. Missouri River Surface Water Intake to Ashland

- The schedule may be influenced depending on when follow-up investigation work occurs to determine the specific site along the Missouri River and if a river intake or a wellfield is the best option going forward.
- Risks for implementation schedule: Property/easement acquisition, flood conditions during construction, unknown soil conditions along transmission main route, and multi-coordination with various communities, counties, and agencies.
- Timing estimation: Preliminary site investigation and testing (1-2 yrs), Easements/Permits (1-3 yrs), Design (1-3 yrs), Construction of facilities (4-7 yrs), Overall (9-12 yrs).

v. Missouri River Wellfield to Ashland

- The schedule may be influenced depending on when follow-up investigation work occurs to determine the specific site along the Missouri River and if a river intake or a wellfield is the best option going forward.
- Risks for implementation schedule: Property/easement acquisition, flood conditions during construction, unknown soil conditions along transmission main route, and multi-coordination with various communities, counties, and agencies.

- Timing estimation: Preliminary site investigation and testing (1-2 yrs), Easements/Permits (1-3 yrs), Design (1-3 yrs), Construction of Facilities (4-7 yrs), Overall (9-12 yrs).
- vi. Missouri Surface Water Intake to Lincoln
- The schedule may be influenced depending on when follow-up investigation work occurs to determine the specific site along the Missouri River and if a river intake or a wellfield is the best option going forward.
 - Risks for implementation schedule: Property/easement acquisition, flood conditions during construction, unknown soil conditions along transmission main route, and multi-coordination with various communities, counties, and agencies.
 - Timing estimation: Preliminary site investigation and testing (1-2 yrs), Easements/Permits (1-3 yrs), Design (1-3 yrs), Construction of Facilities (5-8 yrs), Overall (11-15 yrs).
- vii. Missouri River Wellfield to Lincoln
- The schedule may be influenced depending on when follow-up investigation work occurs to determine the specific site along the Missouri River and if a river intake or a wellfield is the best option going forward.
 - Risks for implementation schedule: Property/easement acquisition, flood conditions during construction, unknown soil conditions along transmission main route, and multi-coordination with various communities, counties, and agencies.
 - Timing estimation: Preliminary site investigation and testing (1-2 yrs), Easements/Permits (1-3 yrs), Design (1-3 yrs), Construction of Facilities (5-8 yrs), Overall (11-15 yrs).
- c. Scoring results



8. Closing Thoughts and Look Ahead

2:30 PM - Adjourn