

11.15.2022 Fine Screening Meeting #2 - Meeting

Attendance:

Advisory Council: Andrew Dunkley, Liz Seacrest for Anna Wishart, Brittney Albin, David Cary, Donna Garden, Elizabeth Elliott, Eliot Bostar, Glenn Johnson, Jeanne McClure, Jerry Obrist, Katie Wilson, Kennon Meyer, Lori Seibel, Lynn Rex, Marc LeBaron, Richard Meginnis, Sean Flowerday, Susan Seacrest, Todd Wiltgen, Tom Beckius, Trish Owen, Tut Kailech.
Absent: Chittaranjan Ray, Holley Salmi, Martha Shulski, Michon Morrow, TJ McDowell
City Staff: Erika Hill, Cyndy Roth, Jocelyn Golden, Steve Owen, Kim Morrow
Consultants: Andrew Hansen, Ben Day, Brian Chaffin, Haley Engstrom, Jamie Carson, Jeff Henson, Stacey Roach, Terry Cole Fairchild, Tessa Yackley, Ed Harvey
Public: Peter Katt

Summary:

10:30 AM - Start

- 1. Welcome Susan Seacrest and Brian Chaffin
 - Public Open House Meeting will be held December 1st from 5:30-7:30 pm at the Lincoln North Star High School Cafeteria. 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 Schedule for Future Meetings Brian Chaffin
 - a. November:
 - i. Discussion Criteria: Reliability, Stakeholder Impacts
 - ii. Score Alternatives: Reliability, Stakeholder Impacts
 - b. December:
 - i. Discussion Criteria: Governance, Life Cycle Costs
 - ii. Score Alternatives: Governance, Life Cycle Costs



lincoln.ne.gov (search Water 2.0)



- c. January:
 - i. Final Evaluation
 - ii. Challenges associated with the date for the January meeting and likely attendance conflicts with the Nebraska legislative session were presented. Given the significance of the discussions that will be necessary by the Advisory Council at the January meeting, options were presented for a date that would offer the greatest probability of attendance. With limited options available, the group voted to set the meeting for Monday, January 16th from 10:30 2:30 pm. The Advisory Council, city staff, and consultants acknowledged this was not ideal given the importance of Martin Luther King, Jr. Day as a national holiday. However, it was selected due to the tight schedule of the Nebraska Legislative session and the need for the Advisory Council to adopt a recommendation in January.
- 3. AWWA's Water 2050 Initiative Andrew Hansen
 - a. Data was shared from a recent American Water Works Association (AWWA) conference presentation where future water supply criteria mirrored almost exactly those selected by the Advisory Council. This was noted as validation from an international leader in industry standards, policy, and governance.
- 4. Scoring refresher Terry Cole Fairchild
- Reliability criteria were discussed and scored for remaining alternatives B H Jeff Henson
 - a. Nested criteria considered with Reliability
 - i. Viability
 - ii. Sustainability
 - iii. Redundance
 - iv. Capacity
 - v. Resilience





- b. Reliability Considerations for Feasible Alternatives
 - i. Expand Existing Wellfield
 - <u>Viability</u>: Requires additional source pipeline to treatment plant and several horizontal collector wells (HCWs) close to the Platte River; requires an additional Platte River crossing. Increasing the wellfield area influences more river length by wellfield pumping; also increases access to water stored in the aquifer. Changing stream flow patterns in the Platte River during low flow conditions can significantly reduce wellfield capacity.
 - Sustainability concerns: Some depletion of the Platte River may occur; lower flows may impact threatened and endangered species.
 - 3. <u>Redundancy:</u> Source is the Platte River; no independent source would be developed.
 - 4. <u>Capacity:</u> Uncertain at the time, but expansion would likely extend significantly along the Platte River from the existing wellfield.
 - 5. <u>Resiliency</u>: New above ground facilities would be designed above extreme flood elevation; below ground facilities would be designed with protection at areas susceptible to erosion. HCW laterals at aquifer bottom would remain in service during a severe drought or flood. Access to facilities during flood would be via boat. Better power supply redundancy to existing wellfields needed.
 - ii. Off-Channel Reservoir
 - 1. <u>Viability:</u> Storing water pumped form the wellfield during lower demands provides short-term source during extreme events.
 - <u>Sustainability</u>: Platte River may be depleted but during higher flow periods limiting impacts including threatened and endangered species





- 3. <u>Redundancy:</u> Raw water from the reservoir is somewhat redundant i.e. the source of inflow is primarily from the wellfield which is not independent. However, once pumped to the reservoir and stored it is independent.
- 4. <u>Capacity:</u> Site constraints determine reservoir expansion viability; Wellfield yield must also support an expanded reservoir.
- 5. <u>Resiliency:</u> Supply from the reservoir can be used in either an extreme flood or drought. An extended drought may limit the amount of water that could be pumped from wellfield to reservoir. Runoff could impact reservoir water quality during extreme flood so water treatment process sizing should account for this. As storage reservoir is depleted it provides less redundancy during unforeseen events.
- iii. MUD Interconnect
 - <u>Viability:</u> Provides access to the Missouri River, diversifies raw water supply infrastructure; requires lengthy pipeline from MUD's system to Lincoln; and must consider MUD's power source.
 - Sustainability: Increasing pumpage from MUD wellfields could deplete Platte River flows; may impact threatened and endangered species. Transferring water pumped from MUD could add flows to the Platte River via discharge from the city's wastewater treatment plants.
 - 3. <u>Redundancy:</u> Terms of the agreement with MUD will define the degree of redundancy i.e. agreement must state an uninterruptible flow of water at all times is required.
 - <u>Capacity</u>: Based on available information, expansion feasibility is unlikely however the connection offers potential of both utilities developing capacity jointly and more efficiently post-2075.





- 5. <u>Resiliency:</u> Supply may be reduced or limited based on contractual requirements.
- iv. Missouri River Surface Water Intake to Ashland
 - <u>Viability</u>: Missouri River is an abundant supply. Long pipelines necessary which may be susceptible to flood damage. Reduced risk of power outage given a different power source likely. . Surface water intake susceptible to damage from ice flows and riverbed degradation.
 - 2. Sustainability: No significant impacts are anticipated.
 - 3. <u>Redundancy:</u> Missouri River is an independent source.
 - 4. <u>Capacity:</u> Provisions for expansion can be included in the initial design of the facilities.
 - 5. <u>Resiliency</u>: Access can be challenging but intake pumps and equipment will be above expected flood elevations. Riverbed degradation on the Missouri is occurring downstream so intake design should account for possible degradation upstream. Facilities will be remote. The raw water transmission main will be in the Missouri River floodplain requiring significant flood protection measures. Less facilities exposed than those using wells placed in the floodway.
- v. Missouri River Wellfield to Ashland
 - <u>Viability:</u> Missouri River is an abundant supply. Long pipelines necessary which may be susceptible to flood damage. Reduced risk of power outage due to a different power source likely. Wellfield may be susceptible to flood damage.
 - 2. <u>Sustainability concerns:</u> No significant impacts are anticipated.
 - 3. <u>Redundancy:</u> Missouri River alluvium is an independent source.





- 4. <u>Capacity:</u> Provisions for expansion can be included in the facility initial design.
- <u>Resiliency:</u> Access can be challenging but HCW pumps and equipment will be above expected flood elevations. Facilities will be remote. The raw water transmission main will be in the Missouri River floodplain requiring significant flood protection measures. More facilities exposed than those using an intake placed in the floodway.
- vi. Missouri River Surface Water Intake to Lincoln
 - <u>Viability:</u> Missouri River is an abundant supply. Long pipelines required which may be susceptible to flood damage. Reduced risk of power outage due to a different power source likely. Surface water intake may be susceptible to damage from ice flows and riverbed degradation
 - 2. <u>Sustainability:</u> No significant impacts are anticipated.
 - 3. <u>Redundancy:</u> Missouri River is an independent source.
 - 4. <u>Capacity:</u> Provisions for expansion can be included in the initial design of the facilities.
 - 5. <u>Resiliency:</u> Access can be challenging but intake pumps and equipment will be above expected flood elevations. Riverbed degradation on the Missouri River is occurring downstream so intake design should account for possible degradation moving upstream. Facilities will be remote. The raw water transmission main will be in the Missouri River floodplain requiring significant flood protection measures. This alternative has less facilities exposed than those using wells placed in the floodway.





- vii. Missouri River Wellfield to Lincoln
 - <u>Viability:</u> Missouri River is an abundant supply. Long pipelines will be required which may be susceptible to flood damage. Reduced risk of power outage due to a different power source likely. Wellfield may be susceptible to flood damage.
 - 2. <u>Sustainability:</u> No significant impacts are anticipated.
 - 3. <u>Redundancy:</u> Missouri River alluvium is an independent source.
 - <u>Capacity</u>: Provisions for expansion can be included in the initial design of the facilities.
 - <u>Resiliency:</u> Access can be challenging by the HCW pumps and equipment will be above expected flood elevations. Facilities will be remote, the raw water transmission main will be in the Missouri River floodplain requiring significant flood protection measures. This alternative has more facilities exposed than those using an intake placed in the floodway.



c. Scoring Results





12:00 - 12:30 PM - Lunch

12:30 PM – Resume Meeting

- 6. Stakeholder Impacts criteria were discussed and scored for remaining alternatives B H
 - Ed Harvey
 - a. Nested criteria considered with Stakeholder Impacts
 - i. Economic Impacts
 - ii. Community Impacts
 - iii. Equity
 - iv. Environmental Equity/Justice
 - b. Stakeholder Impacts for Feasible Alternatives
 - i. Expand Existing Wellfield
 - Economic Impacts: Least amount of construction stimulus and will be temporary. Supply can match demand from service area growth demands but is vulnerable to interruption. Little to no potential for Lincoln Water System (LWS) to serve areas outside of current service area boundaries. Represents opportunity to stimulate and support regional growth along I-80 corridor.
 - 2. <u>Community Impacts</u>: Land use changes minimal; small number of acres along Platte River. Limited social impacts from interface with rural areas. Potential for younger population with higher incomes attracted to region. Threat of interference to other groundwater users is a possible issue for LWS to resolve. Potential for negative property value effects around existing sand pit lakes due to lake surface variation; however, property values likely to increase in I-80 corridor. Recreational impacts from potential for additional water level variation in several sand pit lakes adjacent to Platte River.





- 3. <u>Equity:</u> Few landowners would be affected. Equivalent regional effects of additional supply so subsets do not benefit more than others and are not adversely impacted more than others
- 4. <u>Environmental Equity / Justice:</u> Little to no disproportionate impacts to low-income communities or minority communities from construction or operations.
- ii. Off-Channel Reservoir
 - Economic Impacts: Substantial amount of construction stimulus but temporary. Storage can buffer groundwater supply interruption meaning reduced economic risk. No change from current area of service. Represents opportunity to stimulate and support regional growth along I-80 corridor.
 - 2. <u>Community Impacts:</u> Reservoir footprint requires +/-524 acres from farmland. Potential conversion of land around lake to recreational or residential. Easements required along transmission line route. Potential traffic and additional human activity in Pawnee Creek during construction and operation. Temporary disruption due to Highway 66 closure/detour. Potential for younger population with higher incomes. No interference threat to other groundwater users. Land around new reservoir may be higher value; property values in I-80 corridor could increase. Potential recreational benefit around and on reservoir.
 - Equity: Potential for negative response from area landowners. Landowners in the Pawnee Creek area might perceive economic and recreational benefit; I-80 corridor region can benefit. Potential issue for displaced landowners in reservoir footprint.





- 4. <u>Environmental Equity / Justice:</u> Little to no disproportionate impacts to low-income communities or minority communities from construction or operations.
- iii. MUD Interconnect
 - Economic Impacts: Substantial amount of construction stimulus but temporary. Full diversification of water supply to meet growth demand (must be non-interruptible). Opportunity to serve present and future population centers along transmission corridor. Represents opportunity to stimulate and support regional growth along I-80 corridor.
 - 2. <u>Community Impacts:</u> Reservoir footprint requires 5-10 acres from farmland. Easements required along transmission line. Potential for development along transmission line corridor. Increase in construction workers and traffic along corridor. Potential new residents if new water service is available along corridor. Possible in-migration where new water source may occur. No threat of interference to other groundwater users. Potential of higher property values where new water service occurs and in I-80 corridor
 - Equity: Concerns unlikely from existing residents along transmission line corridor. Certain subsets of the region will benefit more than others due to the opportunity for reliable new water service and economic opportunity along the transmission corridor and in I-80 corridor.
 - <u>Environmental Equity / Justice</u>: Little to no disproportionate impacts to low-income communities or minority communities from construction or operations.





- iv. Missouri River Surface Water Intake to Ashland
 - Economic Impacts: Substantial amount of construction stimulus but temporary. LWS will be able to reliably meet service area growth demands with low economic risk with diversification of supply. Limited potential for water service to existing small communities along transmission line route. Represents opportunity to support new development and growing communities in I-80 corridor.
 - <u>Community Impacts:</u> Development in I-80 corridor and land around existing communities could be converted from rural to industrial, light commercial or residential. Increased traffic and workers during construction. In-migration population would change rural character of I-80 corridor. Potential for younger population with higher incomes. No threat of interference to other groundwater users. Property values likely to increase in I-80 corridor. No recreational benefits. Possible community concern with new development potential. Clear economic benefit to the I-80 corridor with minimal benefit to small communities nearby.
 - Equity: Possible community concern with new development potential. Clear economic benefit to the I-80 corridor with minimal benefit to small communities nearby.
 - <u>Environmental Equity / Justice</u>: Small potential for disproportionate effects to low-income or minority communities from construction or operations.
- v. Missouri River Wellfield to Ashland
 - Economic: Substantial amount of construction stimulus but temporary. LWS will be able to reliably meet service area growth demands with low economic risk with diversification of supply.





Limited potential for water service to existing small communities along transmission line route. Represents opportunity to support new development and growing communities in I-80 corridor.

- 2. <u>Community:</u> Development in I-80 corridor and land around existing communities could be converted from rural to industrial, light commercial or residential. For wellfield and facilities, 160 acres changed from agriculture. Increased traffic and workers during construction. In-migration population would change rural character of I-80 corridor. Potential for younger population with higher incomes. No threat of interference to other groundwater users. Property values likely to increase in I-80 corridor. No recreational benefits.
- Equity: Possible community concerns with new development in I-80 corridor. Clear economic benefit to the I-80 corridor. Raw water transmission line offers minimal benefit to nearby small communities.
- 4. <u>Environmental Equity / Justice:</u> Small potential for disproportionate impacts to low-income communities. Little to no disproportionate impacts to minority communities from construction or operations.
- vi. Missouri River Surface Water Intake to Lincoln
 - Economic Impacts: Substantial amount of construction stimulus but temporary. Low economic risk of with diversification of supply. Potential for water service to existing small communities along transmission line route. Little to no potential for stimulating regional growth with no additional treated water at Ashland or along transmission corridor.
 - <u>Community Impacts:</u> Minimal land use change, new water treatment plant footprint 10+ acres changed from agriculture.





Increased traffic and workers during construction. Regional demographic character not affected.,. No impacts to property value or recreational use. No threat of interference to other groundwater users. Property values not affected. No recreational benefits.

- Equity: Concern unlikely from community near new treatment plant. Small communities along water transmission line might have access to additional water.
- 4. <u>Environmental Equity / Justice:</u> Little to no disproportionate impacts to low-income or minority communities from construction or operations.
- vii. Missouri River Wellfield to Lincoln
 - Economic Impacts: Substantial amount of construction stimulus but temporary. LWS likely able to reliably meet service area growth demands with low economic risk with diversification of supply. Potential for water service to existing small communities along transmission line route. Little to no regional economic stimulus because no additional treated water at Ashland or that transmission corridor.
 - <u>Community Impacts:</u> Minimal land use change; new water treatment plant footprint 10+ acres and 160 acres for wellfield changed from agriculture. Increased traffic and workers during construction. The demographic character would not be affected. No impacts to property value and no recreational benefits. No threat of interference to other groundwater users.
 - Equity: Community concern unlikely near new treatment plant. Small communities along water transmission line might have access to additional water.





4. <u>Environmental Equity / Justice:</u> Little to no disproportionate impacts to low-income or minority communities from construction or operations.

c. Scoring Results



7. Closing Thoughts and Look Ahead

2:30 PM - Adjourn

