

## MEETING MINUTES

### Willow Creek Tributaries MDP

#### Progress Meeting

Virtual | June 5, 2024 | 2:00PM

#### Attendees:

MHFD – Jen Winters, Jeff Battiste

SEMSWA – Jessica Traynor, Jon Nelson

Lone Tree – Jacob James

SSPRD – Melissa Reese-Thacker

ICON – Craig Jacobson, James Duvall, Jackson Winterrowd

#### 1. Alternatives Development

##### a. Flooding

##### i. Safety Grates

1. With the formal guidance now available for safety grates at culvert openings from MHFD, ICON asked if safety grate recommendations should be included for all crossings in the study area that are applicable or only the culverts that are proposed to be upsized.
2. ICON will add a statement in the report stating that safety grates should be considered in the final design of the proposed culverts. Safety grate sizing will not be included with the conceptual designs of this study.
3. ICON will include the cost of safety grates in the cost estimates for the proposed culverts.
4. ICON asked specifically about the culvert along Fox Hill Park Tributary at the upstream side of Dry Creek Road.
  - a. SSPRD noted that this area has not been noted as a previous problem area or marked as high priority for upsizing for a pedestrian crossing. There is an existing underpass at Dry Creek Road along Willow Creek for trail users.
  - b. SSPRD indicated that they could be interested in at looking at trail options if the City conducts a culvert/bridge replacement in the future.

##### b. Stream Function and Maintenance

##### i. Combine Stream Function and Maintenance Reaches

1. ICON initially proposed to evaluate the “Maintenance Needs” and “Stream Function” alternatives at a reach scale, consistent with the Adaptive Management Dashboard reach lengths. However, the AMD reaches are too long to be representative of their classification and did not effectively isolate where projects were needed.
2. ICON has refined the “Maintenance Needs” and “Stream Function” reaches to reflect groupings of problem points and removed segments where no action is needed.
3. Grouping the maintenance projects in this fashion also allows for more accurate cost estimating for projects by not overestimated the project length.
4. The alternatives report will still look at the streams in the study area on a higher level reach-by-reach basis; however, the final master plan will provide more detailed information about each individual maintenance project.

##### ii. SSPRD noted that the tributary to upper Spring Creek East along Altair Park just upstream of Quebec Street is a high priority problem area for their staff.

1. Altair Park is slated for future upgrades. SSPRD is interested in grass swales and water quality improvements related to the MS4 permit.



## c. Water Quality

- i. ICON will calculate the required WQCV, EURV, and 100-yr detention volumes and determine if adequate space exists for proposed WQCV, EURV, and 100-yr detention volumes at the following facilities.
  1. The four existing in-line ponds that do not currently provide water quality treatment. These ponds are the Spring Creek C-470 pond, Spring Creek South pond, Sam's Club pond, and Fox Hill Park near King Soopers pond.
  2. Six potential locations for new in-line detention facilities.
    - a. ICON review each of these proposed locations on a map with the project team.
    - b. The team mentioned that a site would need to be located on public land in order to be feasible as a new detention facility. SSPRD and SEMSWA also noted that a suitable site should have an existing drainage easement (or be able to easily acquire one) and is not currently being used as a public amenity (e.g. playground) other than open space. Otherwise, the team had no concerns or opposition to the locations presented.
    - c. ICON will add "Land use", "Owner", and "Easement" fields to the alternatives GIS.
    - d. The team agreed that within the scope that we have, evaluating these 10 ponds will be sufficient. ICON will not review other ponds within the study area.
- ii. The team reviewed the example drainage map provided in the Cherry Creek Southwest Master Plan.
  1. ICON will provide a similar map containing the WQCV, EURV, 100-yr detention volume, and physical volume available for each pond of interest.
- iii. In addition to ponds and pond retrofits, the team discussed potential end of pipe treatments for water quality benefits.
  1. ICON asked if the project team has any preferred details for disconnected rundowns or end of pipe treatments to enhance water quality.
  2. ICON showed typical details from the Lee Gulch Master Plan as examples.
  3. SEMSWA will talk with their environmental group to gather more information. Jon voiced support for looking into passive and low-maintenance E.O.P. treatments. He noted that even though there might not be space within the drainage easement for ponding of the entire WQCV, there are still attractive water quality benefits.
  4. MHFD has no formal details but suggested that ICON reference the Lyons Master Plan for examples. MHFD will also bring on their water quality specialist for upcoming meetings.
  5. This master plan will not provide site-specific design for E.O.P. treatments. The team suggested ICON include an appendix with preferred examples of disconnected rundowns for reference.
  6. ICON will create a SharePoint link for the project team to compile details.
  7. Similar to the proposed detention facilities, it was noted that proposed E.O.P. treatments would also need to be located on public property/easements in order to be implemented.
- iv. Acres Green Concrete Lined Channel
  1. SSPRD noted that the concrete lined channel in the Acres Green Drive median is a high priority problem area for their staff and could benefit from a stream project to enhance water quality.
    - a. Further coordination with Douglas County would be necessary, but SSPRD is open to the possibilities of a restoration project within the median.

## 2. Deliverables

- a. Confluence Geodatabases
  - i. ICON will estimate the effort required to get the Master Plan data into the Confluence Geodatabases.
  - ii. MHFD mentioned that this task could potentially be pushed to 2025, if needed.
- b. Cost Estimating
  - i. ICON will use multiple methods to estimate costs for the alternatives. This will provide information that can be used for comparison purposes.
  - ii. The team discussed the MHFD cost estimating spreadsheet as one methodology.
    1. ICON will utilize the MHFD spreadsheet for point fixes such as culverts and ponds; however, this study will not be producing the level of design required to use the spreadsheet for effectively costing stream projects.



2. Jen offered that ICON could reach out to Jeff Sickles for any questions related to the spreadsheet tool.
- iii. The team discussed the SEMSWA cost per linear foot as another methodology to be applied to stream maintenance and CIP projects.
  1. The SEMSWA cost per linear-foot data can be matched with the with Problem ID “Level of Maintenance” category developed for this study.
    - a. SEMSWA noted that the cost per linear-feet data was developed from a recent Dove Creek project
  - iv. Additionally, ICON will cost stream maintenance projects using a formula to translate the number of maintenance points within a specific reach/channel segment.
  - v. MHFD and SEMSWA noted that the SEMSWA cost per linear-foot method should be used primarily, with the other methods used to confirm the estimates. The cost estimates should also not be over-analyzed as they are intended to be used for comparison and high-level planning purposes.
- c. ICON will utilize the SEMSWA rubric for ranking of the proposed alternatives
  - i. ICON proposed to use the rubric to compare projects within each category (Maintenance & Stream Function, Flooding, and Water Quality) rather than across all categories.
  - ii. SEMSWA noted that the rubric is very comprehensive and that some criteria can be removed if not applicable.

### 3. Action items

- a. ICON
  - i. Add Candice Owens from MHFD to the monthly progress meetings as we talk more about water quality.
  - ii. Create a Share Point link for the project team to compile rundown and end of pipe treatment details.
  - iii. Provide updated scope through project completion to MHFD.
- b. MHFD, SEMSWA
  - i. Add any preferred rundown or end of pipe details to the Share Point link for the team’s reference.

### - END OF MEETING MINUTES -

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*To the best of my knowledge, these minutes are a factual account of the business conducted, the discussions that took place, and the decisions that were reached at the subject meeting. Please direct any exceptions to these minutes in writing to the undersigned within ten (10) days of the issue date appearing herein. Failure to do so will constitute acceptance of these minutes as statements of fact in which you concur.*

Minutes prepared by: Jackson Winterrowd | 06/10/2024  
ICON Engineering Inc