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Utilities Public Advisory Group Subcommittee

August 7, 2024 • 11 am–12:30 pm

MS Teams

Lori Faha, P.E., Environmental Resources Manager
Elisabeth O'Keefe, Stormwater Program Manager
Austin Somheygi, Stormwater Master Plan Project Manager
Trista Kobluskie, Stormwater Master Plan Consultant
Aubrie Koenig, Facilitator

Purpose & Agenda

Collect input from subcommittee on changes to specifications and Stormwater Master Plan topics

1. Introduction
2. Updated UIC Specifications
3. Drywell Siting Criteria
4. Drillhole Decommission Prioritization
5. CIP Prioritization
6. Summary and Closing

Updated Specifications for UIC Installations

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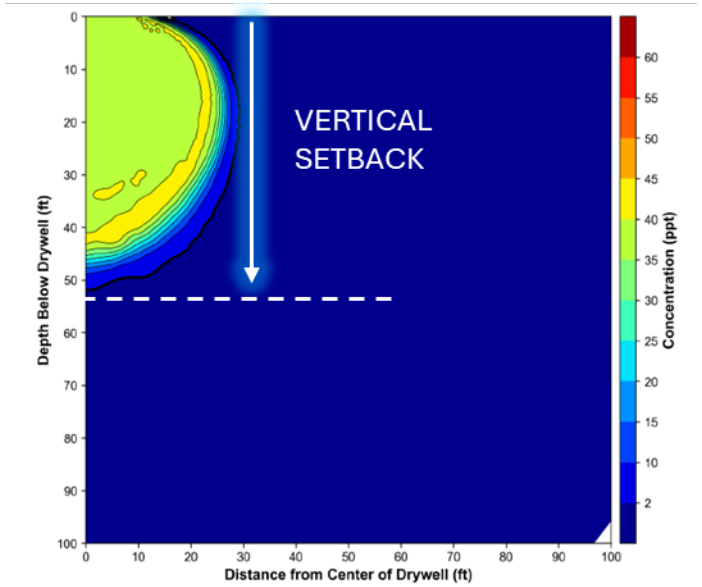
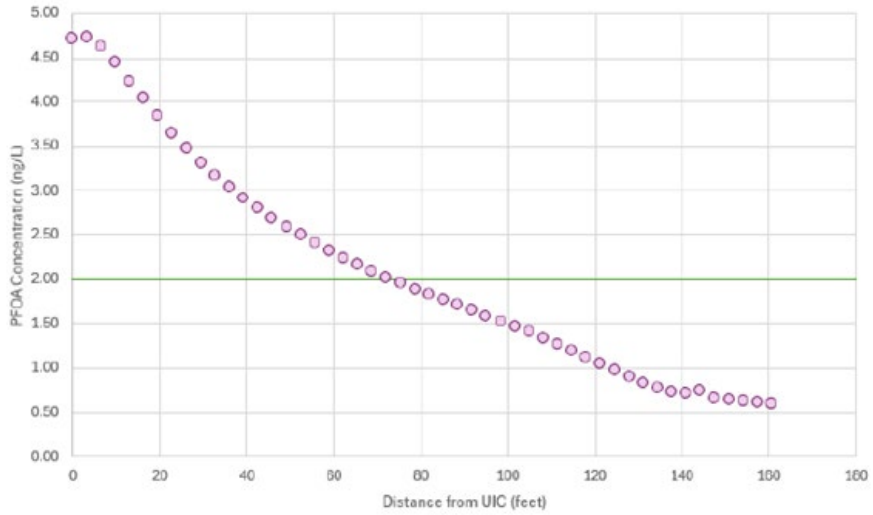
Background: 2024 Groundwater Protectiveness Study

- Assess emerging contaminants (PFAs)
  - Evaluate feasibility of reduced setbacks given increased densification and challenges siting utilities
- Using a model, determine setbacks required for PFAS concentrations to decline to zero:
  - Vertical Setback
  - Horizontal Setback





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Perched groundwater in Bend

<u>Perched Water Table</u>
~110 ft below ground (North Bend)
~10 ft below ground (Old Mill District)

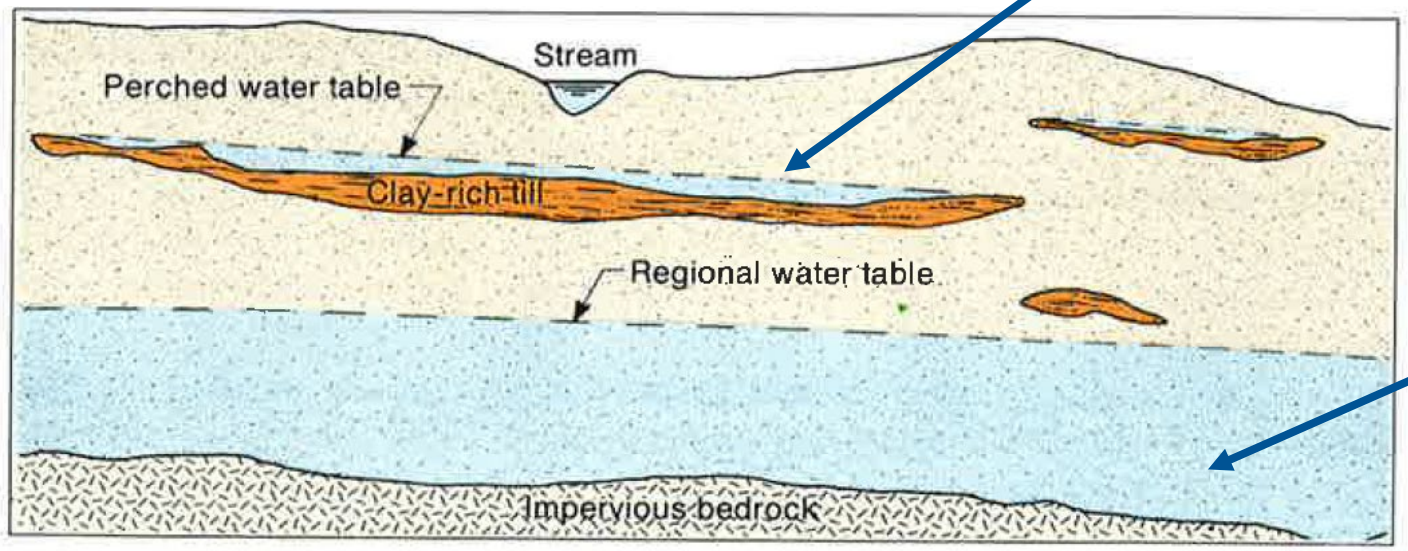


Figure 5.3. Perched water table supported by stringers of clay-rich till.

<u>Regional Water Table</u>
300-750 ft below ground

Source: GSI Water Solutions, Inc.

Report highlights

- PFAS and Simazine do not reach the regional water table (300 to 750 feet bgs)
- PFAS (53 feet of vertical transport) and Simazine (36 feet of vertical transport) reach areas with perched groundwater. Horizontal setback distances are:

Perched Groundwater Area	PFOA Required Horizontal Setback	Simazine Required Horizontal Setback
North Bend Perched Area	75.5	< 10
Old Mill District Perched Area	98.4	39.5

- PFAS transports 29 feet horizontally in the unsaturated zone (Simazine: 24 feet)

UICs must be at least 75 feet from water wells in the North Bend Perched Area and at least 98 feet from water wells in the Old Mill District Perched Area to be protective of groundwater used as drinking water. The City may consider adopting the Oregon Health Authority (OHA) requirement for a 100 foot setback between untreated stormwater disposal facilities and public water wells [see OAR 333-061-0050(2)

DEQ regulations

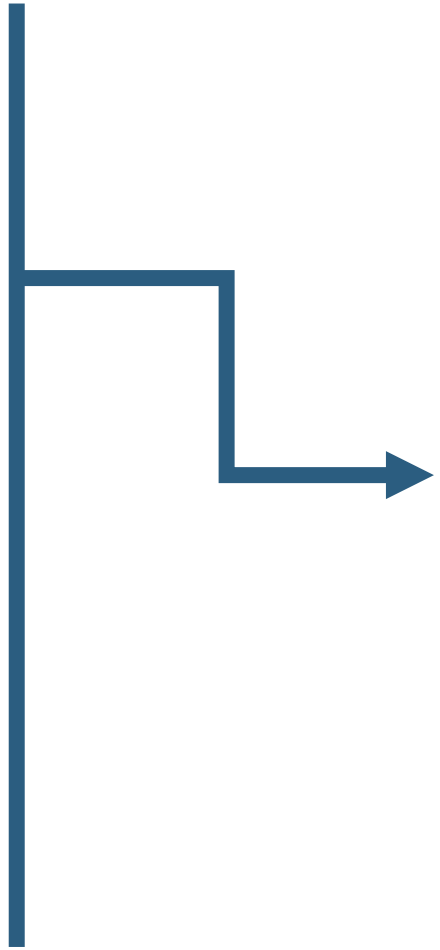
City Owned UICs	Privately Owned UICs
Fall under the City's Individual Water Pollution Control Facilities Permit (WPCF Permit) for Underground Injection Control Devices from DEQ. Cover's all existing and new City owned UICs	Typically fall under DEQ Rule Authorization
City WPCF permitted UIC's can use the groundwater protectiveness demonstration results to inform safe standards for new UIC installations that are within OAR setbacks	Rule Authorized UICs must meet the Oregon Administrative Rules (OAR) for setbacks/depths for groundwater protection (500ft horizontal, 100ft deep, outside of 2-year time of travel)
	Alternative: Private owners wanting to install UICs within OAR setbacks may apply for and obtain individual or general permits (1200U) from DEQ and reference the new groundwater protectiveness study

Implications

For private development, DEQ permitted UIC fees:

- Fees for an individual permit, $17,611 application fee and $3,727 annual fee
- For a general permit, $790 application fee and $810 annual fee, plus $140 per low risk UIC, $177 per moderate risk UIC, and $425 per high risk UIC at application; High risk UICs are also subject to a $140 annual fee.

Additionally: annual monitoring & reporting requirements to DEQ



Can use reduced setback standards referencing the protectiveness study

** (Rule Authorization Application Fee: $134 per UIC)*

UPAG focus questions

- How can regulatory differences between private and City owned UICs be best communicated to developers?
- What is your experience with obtaining UIC permits for private development projects?

Proposed Standards (City Owned UICs)

Location of UIC	Water Well Horizontal Setback	Seasonal High Groundwater Vertical Setback (measured from the bottom of UIC)	* Maximum allowable depths?
* Perched Areas	100 feet	N/A	TBD
*Outside of Perched Areas	100 feet **AND**	53 feet	TBD
Water Wells with defined 2-year Time of Travel Area	No UIC installations within the 2 year time of travel.	N/A	N/A

** UPAG input & focus question topics*

UPAG focus questions

- Should UICs be allowed in perched groundwater areas? (consider typical stormwater vs spills)
- Should City specifications for UICs follow the Rule Authorization 100 ft depth maximum? (consider need/feasibility to go past 100 ft in a typical scenario)
- Should UICs deeper than 100 ft be considered for certain situations? (formal exception process, increased protections, if in appropriate location)

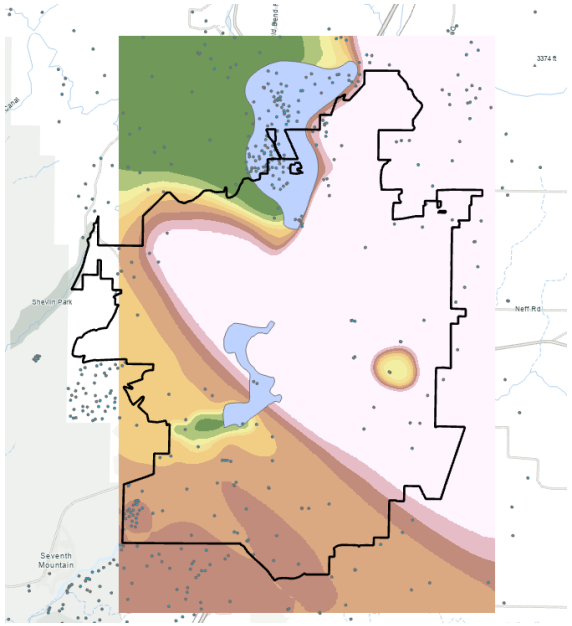
Proposed Maps and Resources

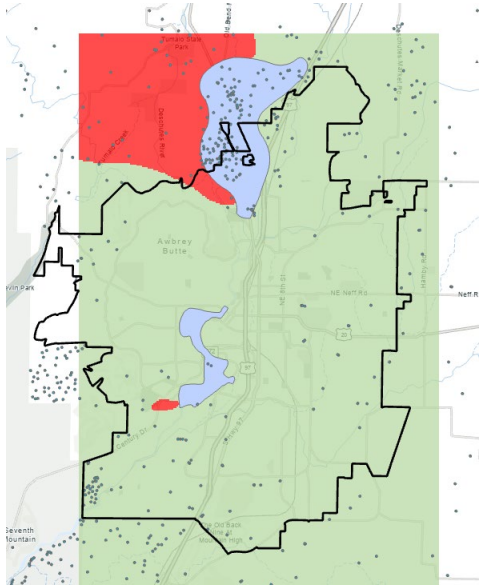
Detailed vs simplified options

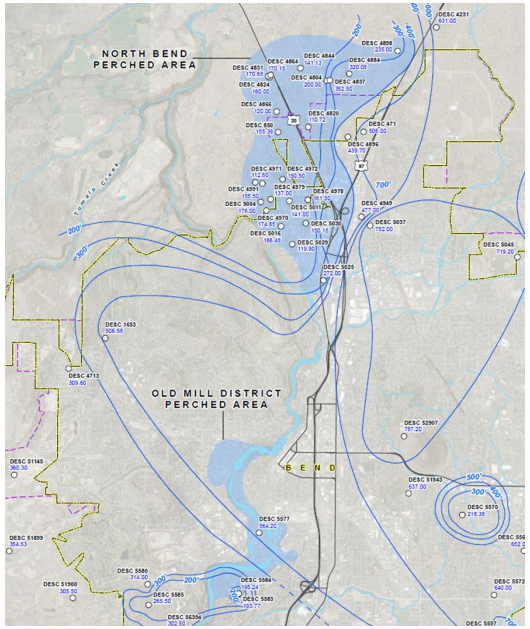
- >153 ft depth to regional groundwater
- Perched groundwater locations
- 2-year time of travel zones
- 100 ft & 500ft horizontal setbacks

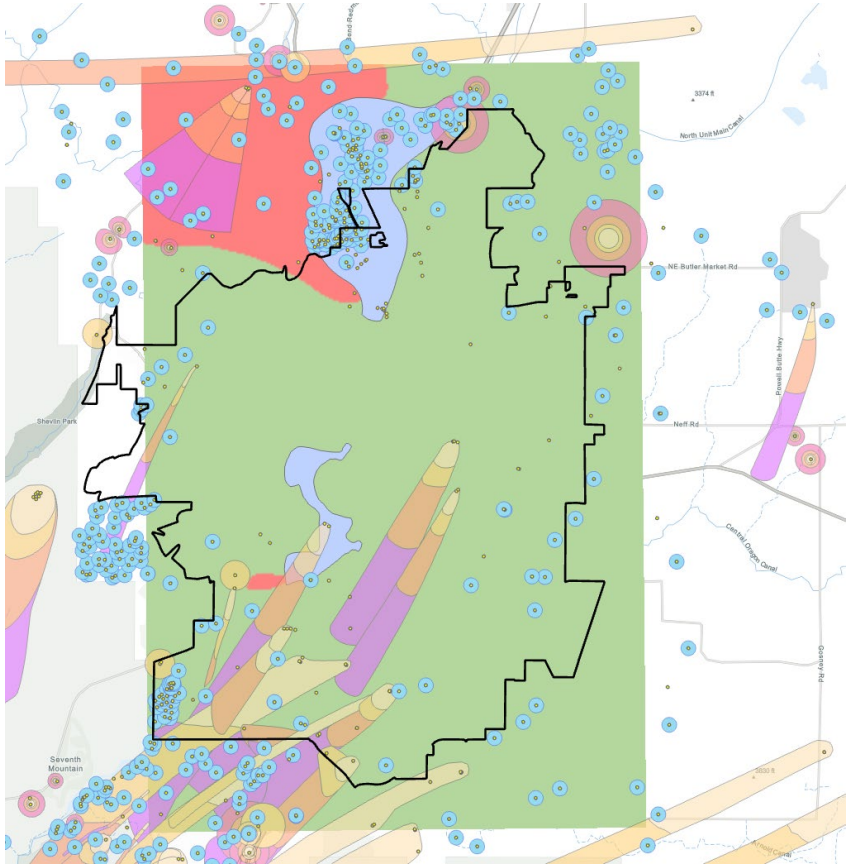
Additional considerations:

- Deep drywell siting (upcoming presentation)









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UPAG focus questions

- What recommendations do you have to make UIC specifications easier to understand?
- What challenges may the proposed edits lead to for developers?

Feedback from May UPAG meeting:

UIC updated standards input

- Appreciate the City's proactive steps and trend toward lesser setback requirements (particularly with denser development)
- Site-specific standards viewed as more feasible and effective to account for varying subsurface conditions throughout Bend
- Opportunity with new standards to consider stormwater as a resource given ongoing drought conditions and climate stress

Stormwater Master Plan
Review and Input – Selected Topics

Modified Drywell Siting Criteria

Drillhole Decommissioning & Retrofit Prioritization Results

Capital Project Prioritization Criteria Discussion

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Stormwater Master Plan purpose and overview

- Update conveyance and drainage projects from 2014 Stormwater Master Plan
- Identify and assess new conveyance/drainage issues
- **Create a long-term plan for reducing risk to groundwater from drill holes and drywells (UICs)**
- Create a plan for improving the quality of runoff discharged to the Deschutes River through the City's outfalls
- **Develop a capital program incorporating conveyance/drainage projects, UIC retrofits, and outfall retrofits**

Stormwater Master Plan development and areas for UPAG input

- **Visioning – what is most important to you and the community?**
- Visioning – what is the story of stormwater in Bend?
- **Solution Priorities – how will we prioritize stormwater capital improvements?**
- Policy Solutions – what are the opportunities and impediments to regional facilities?
- Policy Solutions – what are the opportunities and impediments to managing runoff from private properties in the rights-of-way?
- Policy Solutions – how much emphasis on climate change in the next SMP?

May meeting highlights: stormwater master plan

Visioning and prioritization input:

- Protecting groundwater and the Deschutes River identified as 1st priorities
- Repairing current facilities and building new ones viewed as equally important
- Top master plan outcomes:
  - Mitigating erosion and sediment to reduce flooding and protect water quality
  - Providing consistent standards for existing and new development
  - Preserving water quality (surface and groundwater) and resources
  - Applying ecological approaches to mitigate effects of climate change
  - Using stormwater management solutions that recognize development density
- Opportunity to improve awareness of how we pay for stormwater management

UPAG focus questions

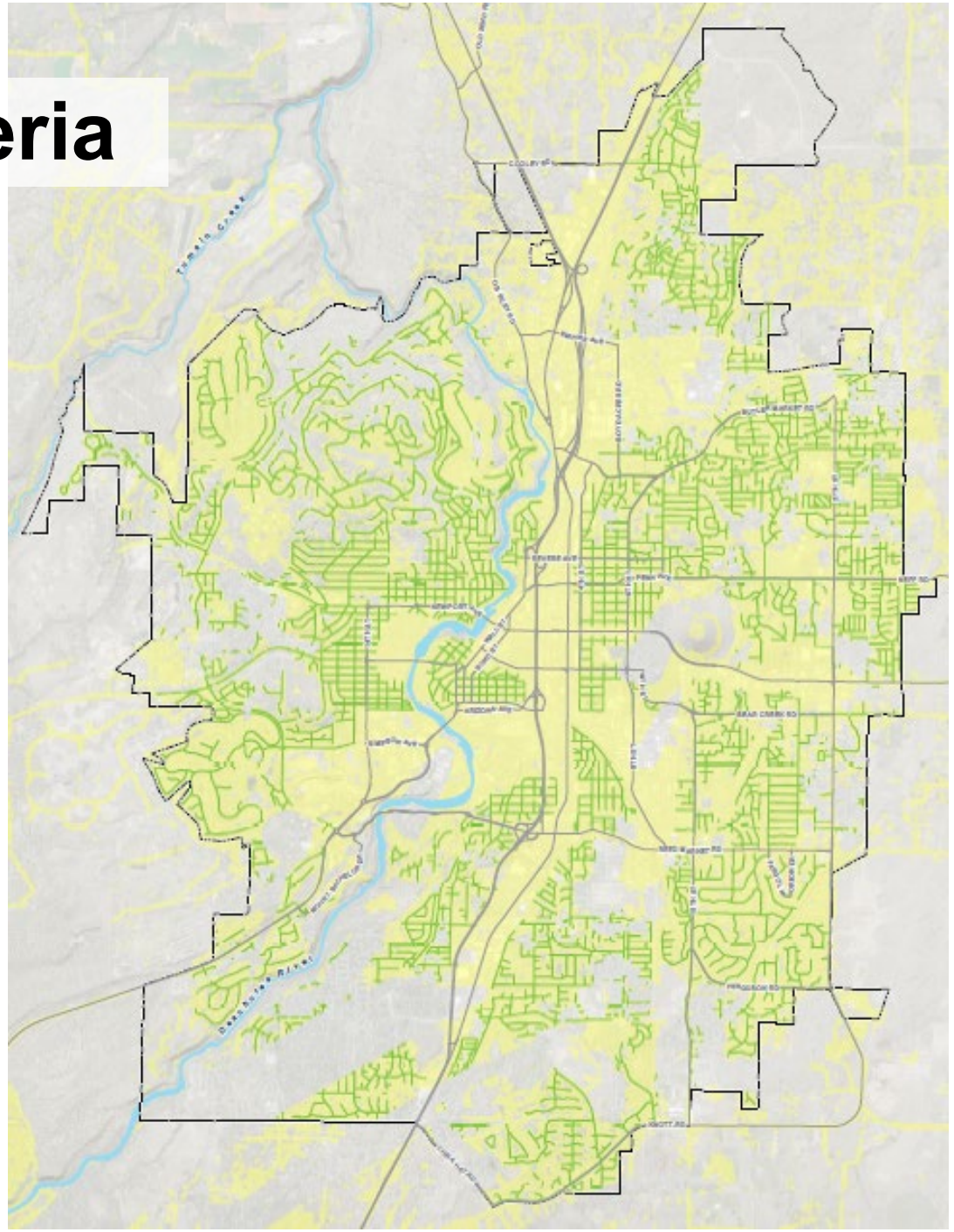
- Do the Modified Drywell Siting Criteria provide enough flexibility to add Modified Drywells to the stormwater toolbox in a variety of development scenarios?
- The process for ranking drillholes for decommissioning or replacement has identified 17 high priority locations. How quickly do you think the City should attempt to work through these locations? 5 years, 10 years, 15 years, 20 years?
- We are seeking a robust discussion of draft capital project rating criteria with UPAG. We will ask for your feedback on:
  - Relative total score available in each category
  - Relative maximum score of each criterion within a category
  - General concurrence with the scoring approach

Modified Drywell Siting Criteria

Refer to attached technical memorandum, Sections 1 & 2

Modified Drywell Siting Criteria

- Modified drywell definition
- Advantages
- Disadvantages / risks
- Risk mitigation
- Recommended siting criteria
  - Default approval areas
  - Approval with additional mitigation and review



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UPAG discussion and feedback

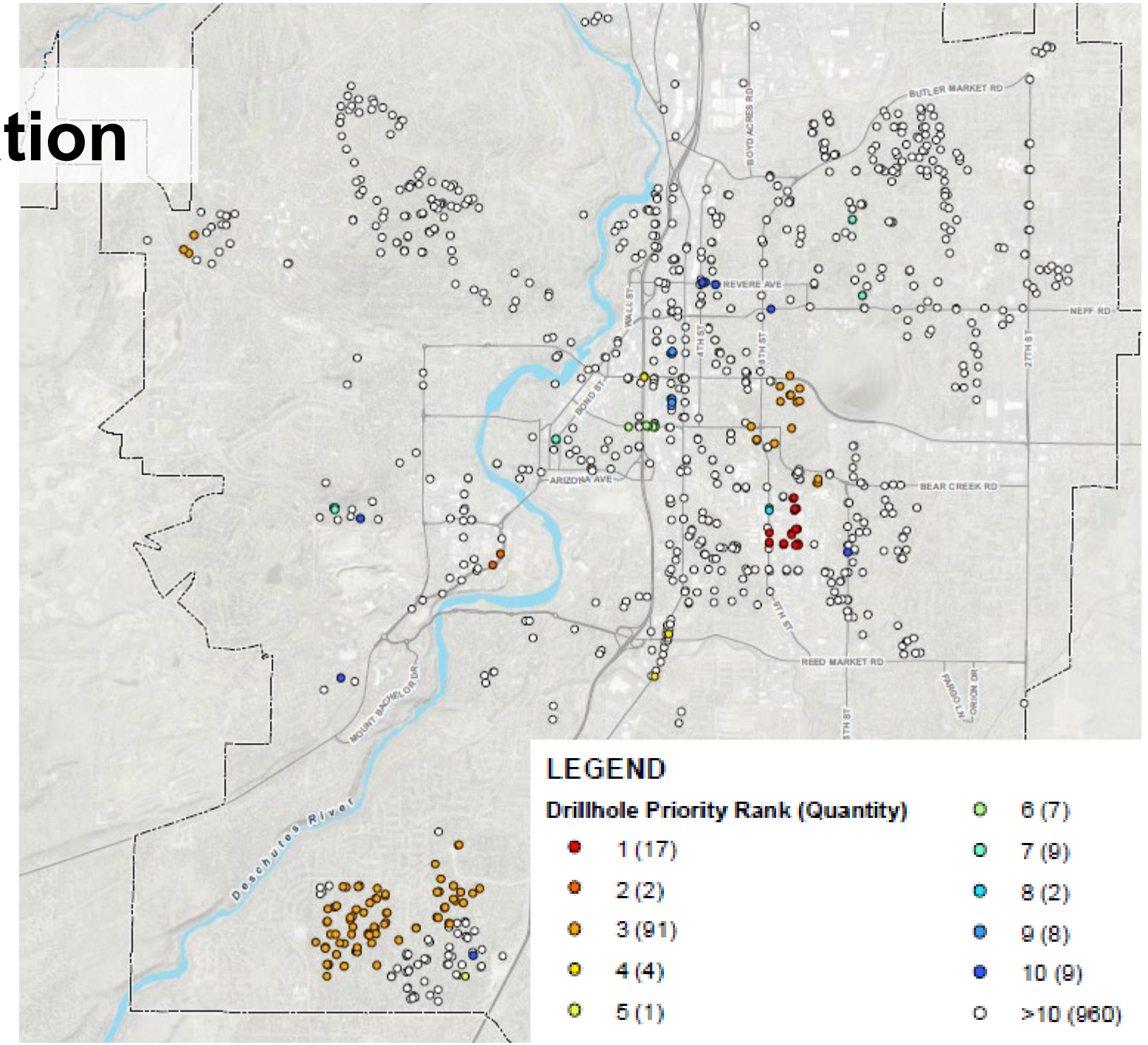
- Do the Modified Drywell Siting Criteria provide enough flexibility to add Modified Drywells to the stormwater toolbox in a variety of development scenarios?

Drillhole Prioritization

Refer to attached technical memorandum, Sections 1 & 3

Drillhole Prioritization

- Drillhole definition
- Current status of drillholes in City
- Intent of prioritization
- Prioritization factors
- Results



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UPAG discussion and feedback

- How quickly do you think the City should attempt to work through the 17 high priority locations?
  - 5 years, 10 years, 15 years, 20 years?

Capital Project Prioritization Criteria

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Relative Category Scores

Category	Maximum Score	Discussion
Conveyance and Flooding	10	
Water Quality Improvements	20	More points available due to UPAG emphasis on water quality during the May meeting
Multiple Benefits	15	
Recognized Priority Projects	15	
Feasibility and Cost	10	
Total Points Available	**70**	

UPAG discussion and feedback

- Do you agree with the relative total score available in each category?
  - This provides a macro level of prioritization and answers the question: which of the categories is most important?
- Do you agree with the relative maximum score of each criterion within a category?
  - This allows us to compare the importance of the criteria against each other within a category.
  - It provides a more nuanced level of prioritization and answers the question: within each category, which factors are most and least important?
- Any general comments or questions?