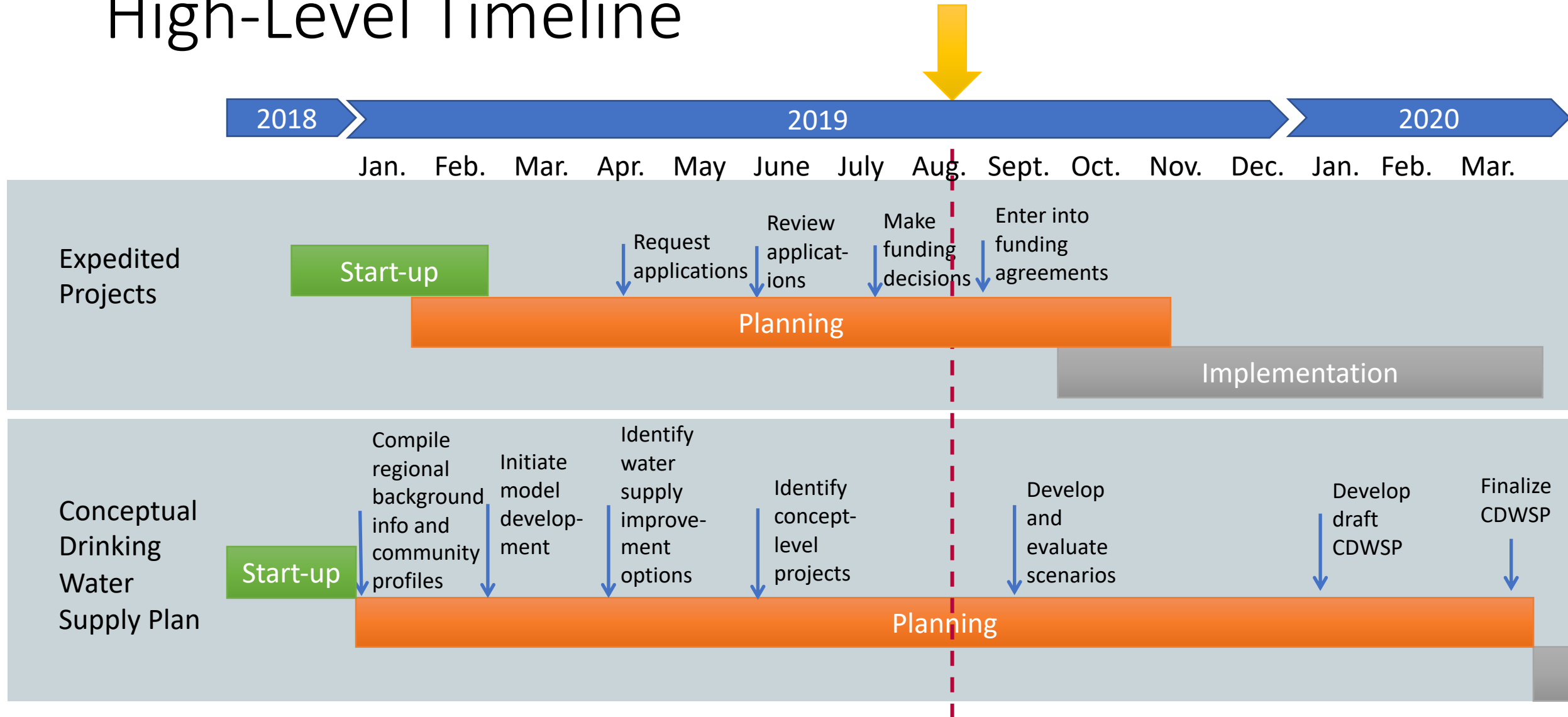


# CDWSP Process Map and Timeline

Hannah Albertus-Benham and Shalene Thomas, Wood  
3M PFC Settlement Work Group Meetings  
August 20-21, 2019

# High-Level Timeline



# Process Flow Map Legend



= points where feedback is requested from the work groups and SG-1



= a screening process is taking place (e.g., priority 1 criteria is applied)



= a document or list is produced

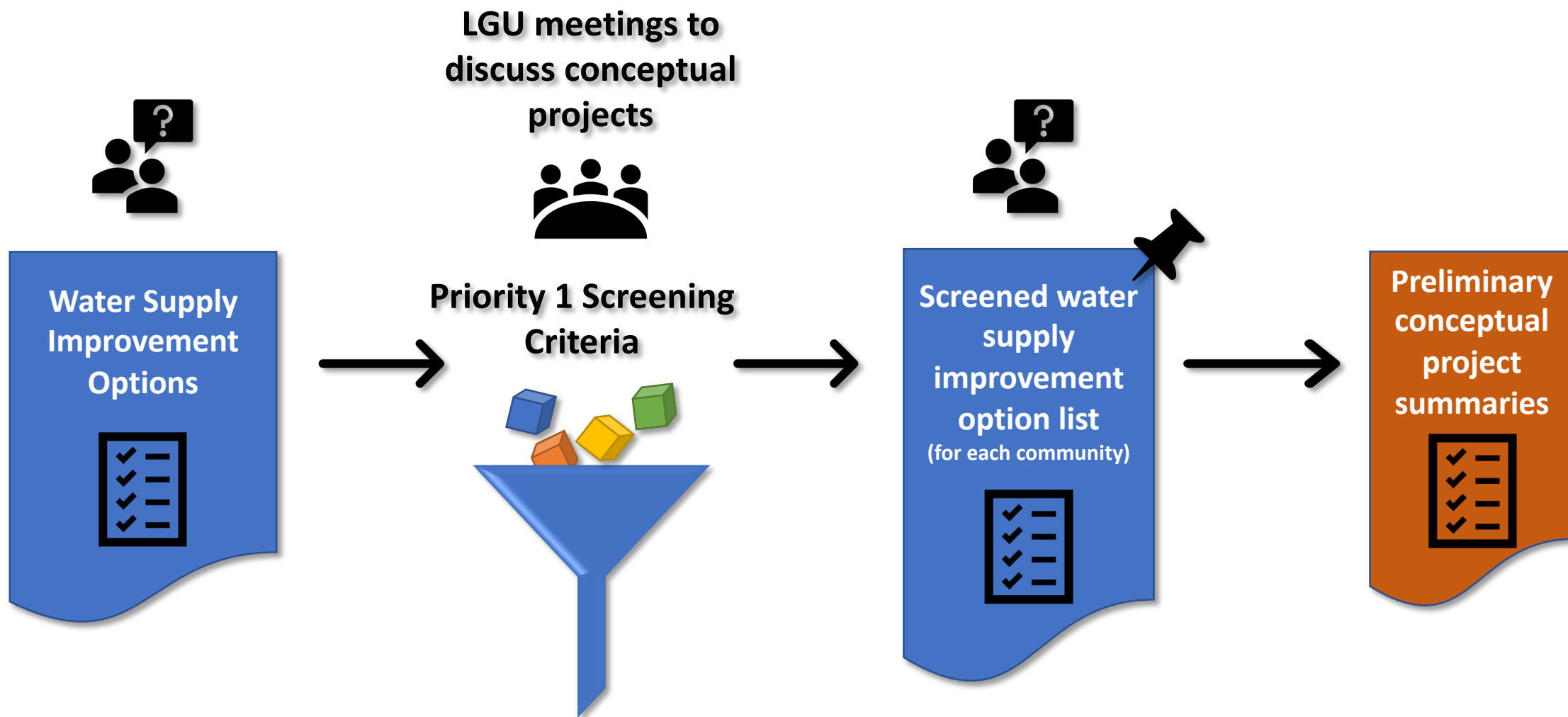


= one-on-one meetings with LGUs (includes WG and SG-1 members)



= request for public input

## WATER SUPPLY IMPROVEMENT OPTIONS SCREENING (DRAFT COMPLETED) - May-August



## WATER SUPPLY IMPROVEMENT OPTIONS

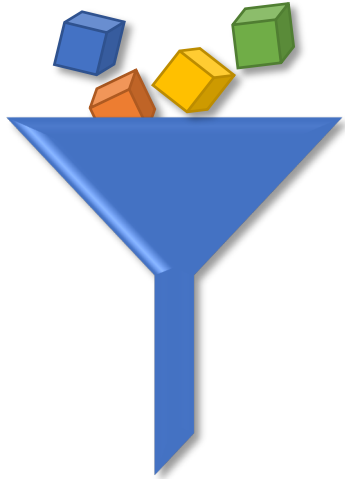
List of options for consideration (in no particular order):

1. Drill new wells in optimized locations.
2. Connect subsets of communities to St. Paul Regional Water Services.
3. Create new surface water treatment plant for use of Mississippi or St. Croix River waters.
4. Create new regional water supply system(s) (with treatment).
5. Create new rural drinking water supply system(s) (with treatment).
6. Move private well hookups to existing drinking water supply system(s) (where available).
7. Provide drinking water treatment of existing water supply system(s).
8. Provide point of use or point of entry treatment of drinking water.
9. Non-potable and potable reuse of treated 3M containment water.
10. Minimize water well usage by reducing current potable demand, through:
  - Beneficial use of other non-treated or less treated waters (e.g., grey water, storm water).
  - Water conservation.

*Presented initial list to Work Groups and Subgroup 1 in January 2019 and requested feedback; Presented updated list to Work Groups and Subgroup 1 in April and May 2019*

## WATER SUPPLY IMPROVEMENT OPTIONS SCREENING

### Priority 1 Screening Criteria



From Priority 1 Criteria document, projects **must meet** the following screening criteria:

1. Address drinking water supply and/or groundwater protection/restoration issues due to PFAS contamination in the East Metropolitan Area consistent with the Priority 1 of the Agreement.
2. Comply with applicable/relevant federal, state, tribal, and local laws, regulations, and rules (in some limited instances, projects that conflict with local regulations and rules can be considered if a reasonably achievable plan is provided to address these conflicts).
3. Be technically and administratively feasible.
4. Not jeopardize public health and/or safety.
5. Not negatively impact results of remediation under the 2007 Settlement Agreement and Consent Order (Consent Order) or other remedies addressing other sources of contamination.

## WATER SUPPLY IMPROVEMENT OPTIONS SCREENING RESULTS

	SPRWS	PRIVATE WELL COMMUNITIES					PWS AND PRIVATE WELL COMMUNITIES						
	Maplewood	Afton	Denmark Twp	GCITwp	PII Community	W.Lakeland Twp	Cottage Grove	Lake Elmo	Lakeland (incl. Lakeland Shores)	Newport	Oakdale	St. Paul Park	Woodbury
1. Drill new wells in optimized locations.													
2. Connect subsets of communities to St. Paul Regional Water Services.													
3. Create new surface water treatment plant for use of Mississippi or St. Croix River waters.													
4. Create new regional water supply system(s) (with treatment).													
5. Create new rural drinking water supply system(s) (with treatment).													
6. Move private well hookups to existing drinking water supply system(s) (where available).													
7. Provide drinking water treatment of existing water supply system(s).													
8. Provide point of entry treatment of drinking water.													
9. Non-potable and potable reuse of treated 3M containment water.													
10. Minimize water well usage by reducing current potable demand, through beneficial reuse and/or conservation													

PWS = Public Water Supply  
 SPRWS = St. Paul Regional Water Services

### Legend

Feasible

Low Feasibility

Not Applicable

## WATER SUPPLY IMPROVEMENT OPTIONS (WSIO) SCREENING RESULTS

Options with ***low feasibility*** as a result of WSIO Screening:

Screened water  
supply  
improvement  
option (WSIO)  
list  
(for each community)



### 2. St. Paul Regional Water Services

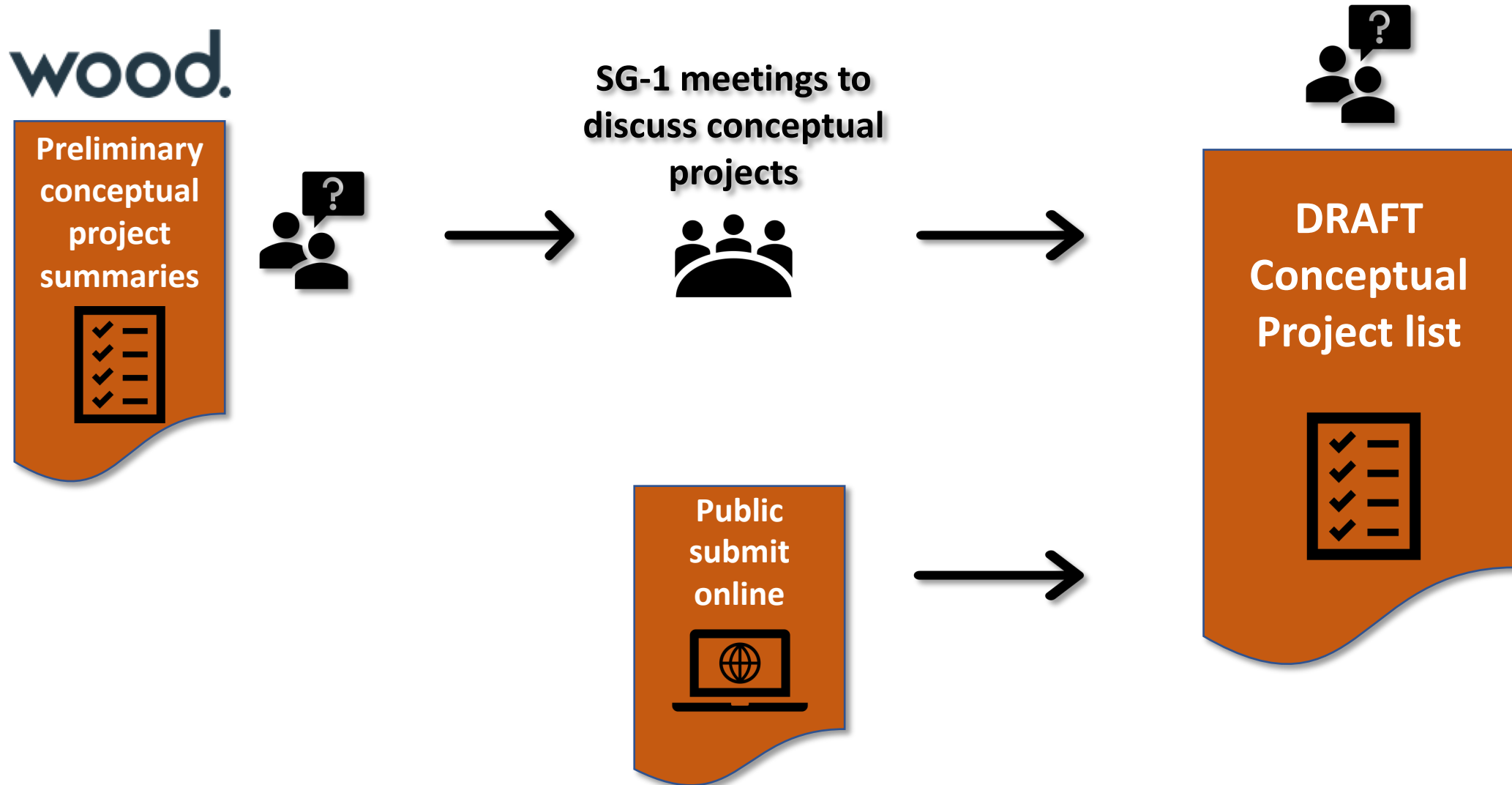
- a. Rural communities on wells (Afton, Denmark, Grey Cloud Island, Prairie Island Indian Community, and West Lakeland Township)
  - i. Distance from SPRWS has potential water quality/age implications.
  - ii. No existing PWS infrastructure
  - iii. Located far from St. Paul Regional Water Services (Maplewood).
  - iv. Infrastructure upgrades required in neighboring communities are cost prohibitive
- b. Lakeland, Lakeland Shores, and Lake St. Croix Beach due to distance from the St. Paul Regional Water Services (Maplewood).

### 9. Non-potable and potable reuse of treated 3M containment water

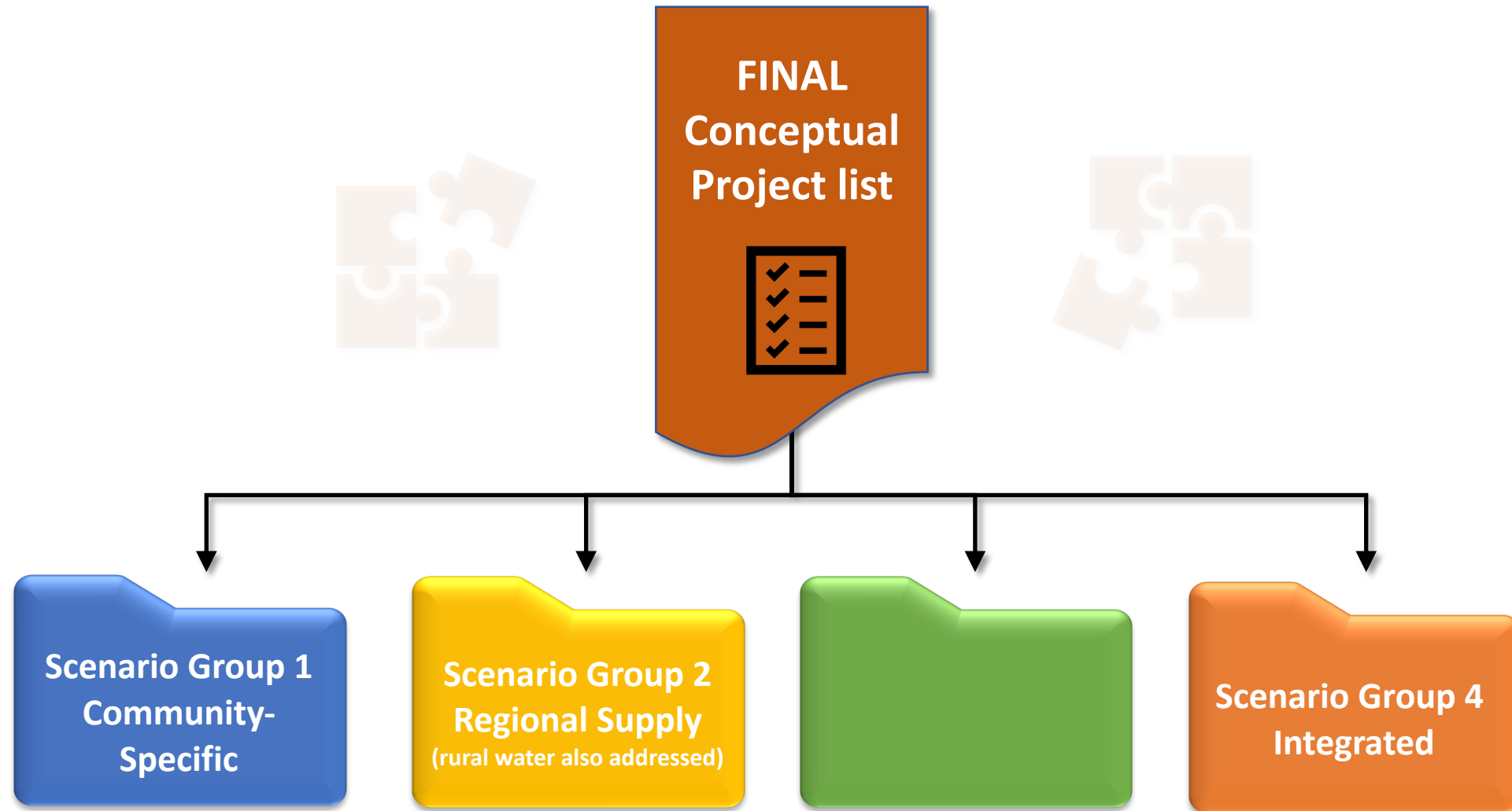
- a. Cost, reliability, and public perception are among factors that would make this a difficult option to implement



## CONCEPTUAL PROJECT EVALUATION (IN PROGRESS) - August-September



## SCENARIO DEVELOPMENT - September



## SCENARIO DEVELOPMENT (explanation)

### Scenario Group 1 Community-Specific

Community-centric solutions that maintain the existing structure and operations of the existing water supply systems and/or private wells. Interconnections and regional water solutions are not considered unless presented by LGUs. Wood will bundle the community high priority projects into scenarios – likely more than one scenario, since some LGU high priority projects will conflict with other LGU high priority projects. In those cases, lower priority projects may be used to supplement, and Wood will fill in the gaps.

### Scenario Group 2 Regional Supply (rural water also addressed)

Regional Supply Scenario Group EXAMPLES:

1. One surface (or groundwater water) plant that feeds all 14 communities...what is cost? If cost prohibitive or water quality problems...break it down into smaller plants
2. One large surface water plant + several smaller surface water plants to feed all 14 communities
3. One large surface water plant + several smaller surface water plants + groundwater well field (Lake Elmo)
4. One large surface water plant + several smaller surface water plants + groundwater well field + small rural community systems or private well treatment where appropriate.
- 5-10. Further refining above into best solution.

## SCENARIO DEVELOPMENT (explanation, cont'd)

### Scenario Group 3 Treatment

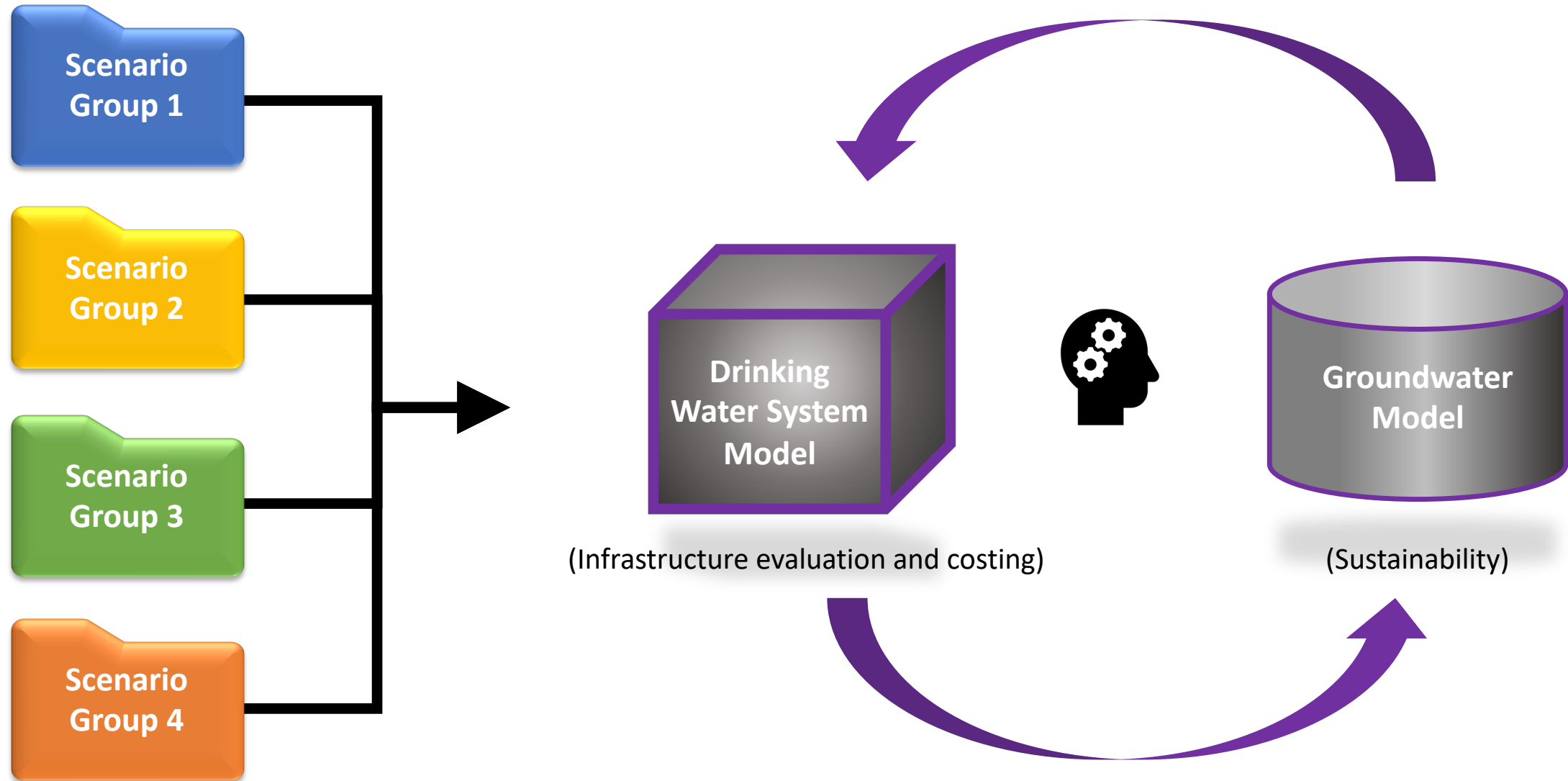
#### SCENARIO ALTERNATIVES

Wood will prepare high level cost estimates for treatment of existing drinking water wells, both public and private. This will range from treatment of only those drinking water wells which currently exceed health indices to treatment of all drinking water wells in the East Metro project area.

### Scenario Group 4 Integrated

Wood will create scenarios to maximize the projects when bundled and incorporate shared/regional systems wherever possible (above and beyond LGU priorities) for a final integrated scenario grouping.

## SCENARIO MODELING - October-November

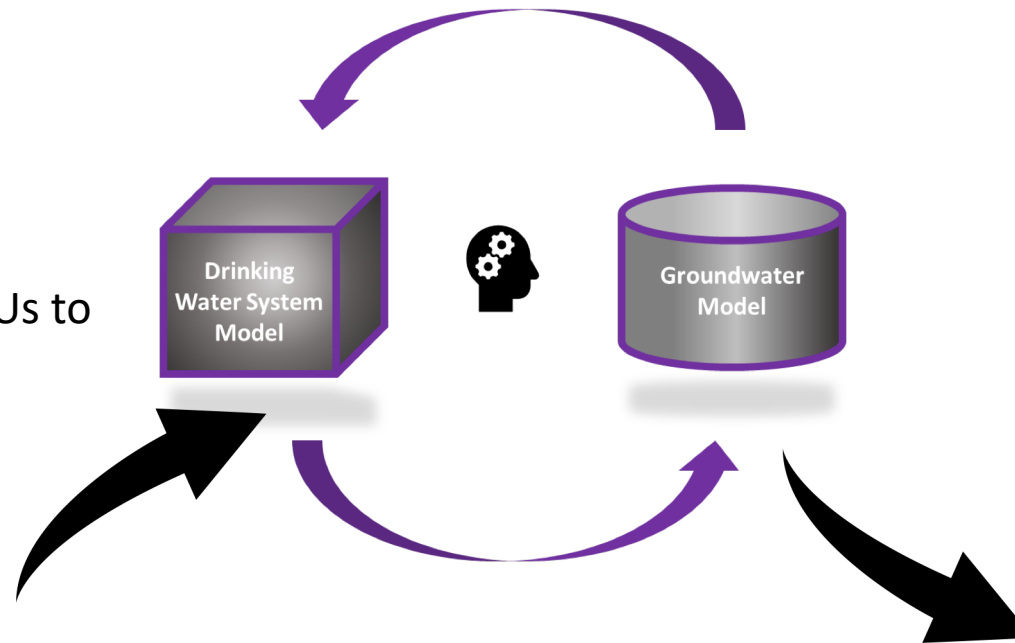


### LGU Q&A:

- Wood to reach out as necessary during refinement of scenarios

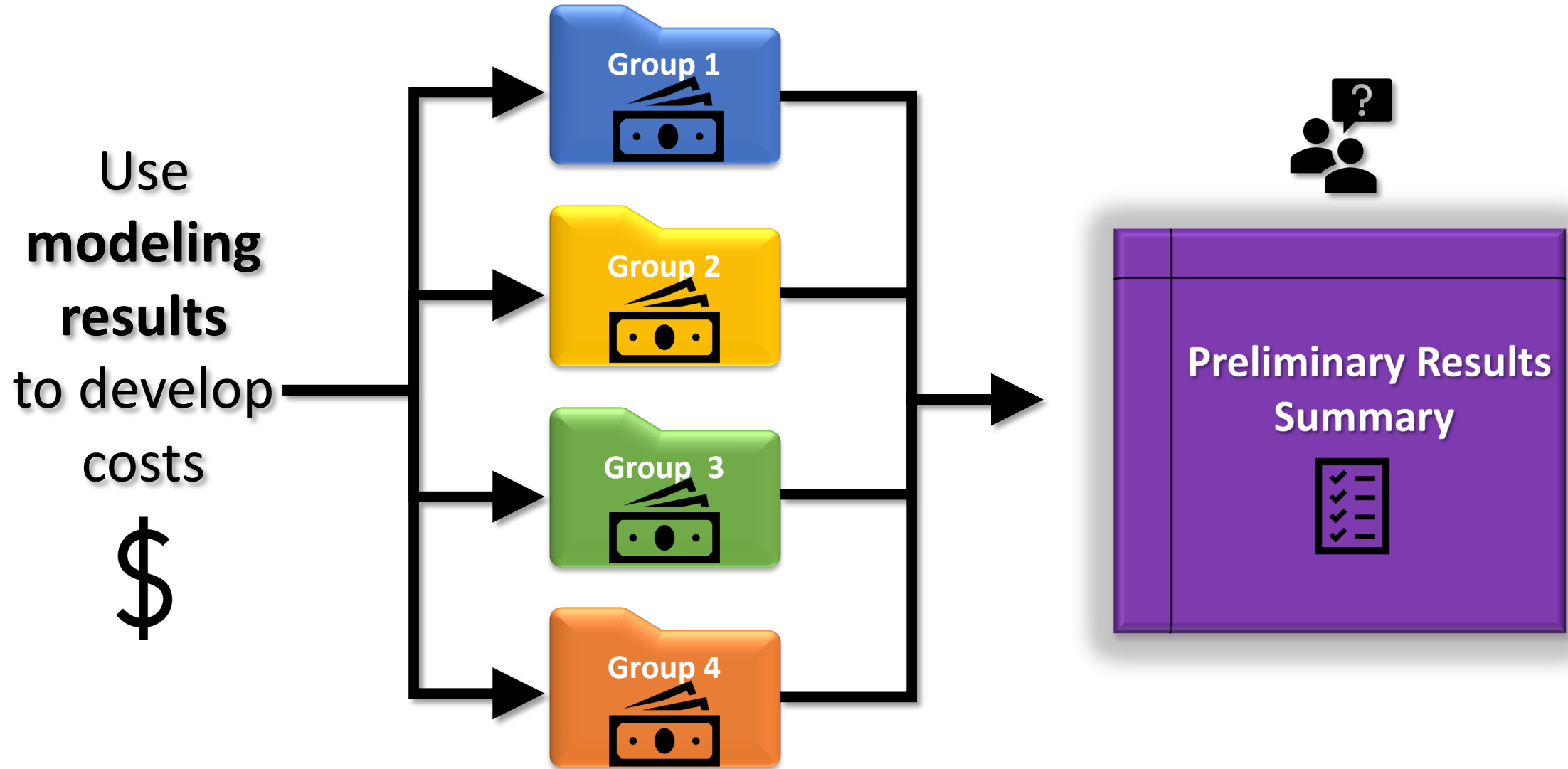
### LGU Meetings:

- Wood will meet with LGUs to ensure appropriate infrastructure
- Concurrent with other scenario modeling

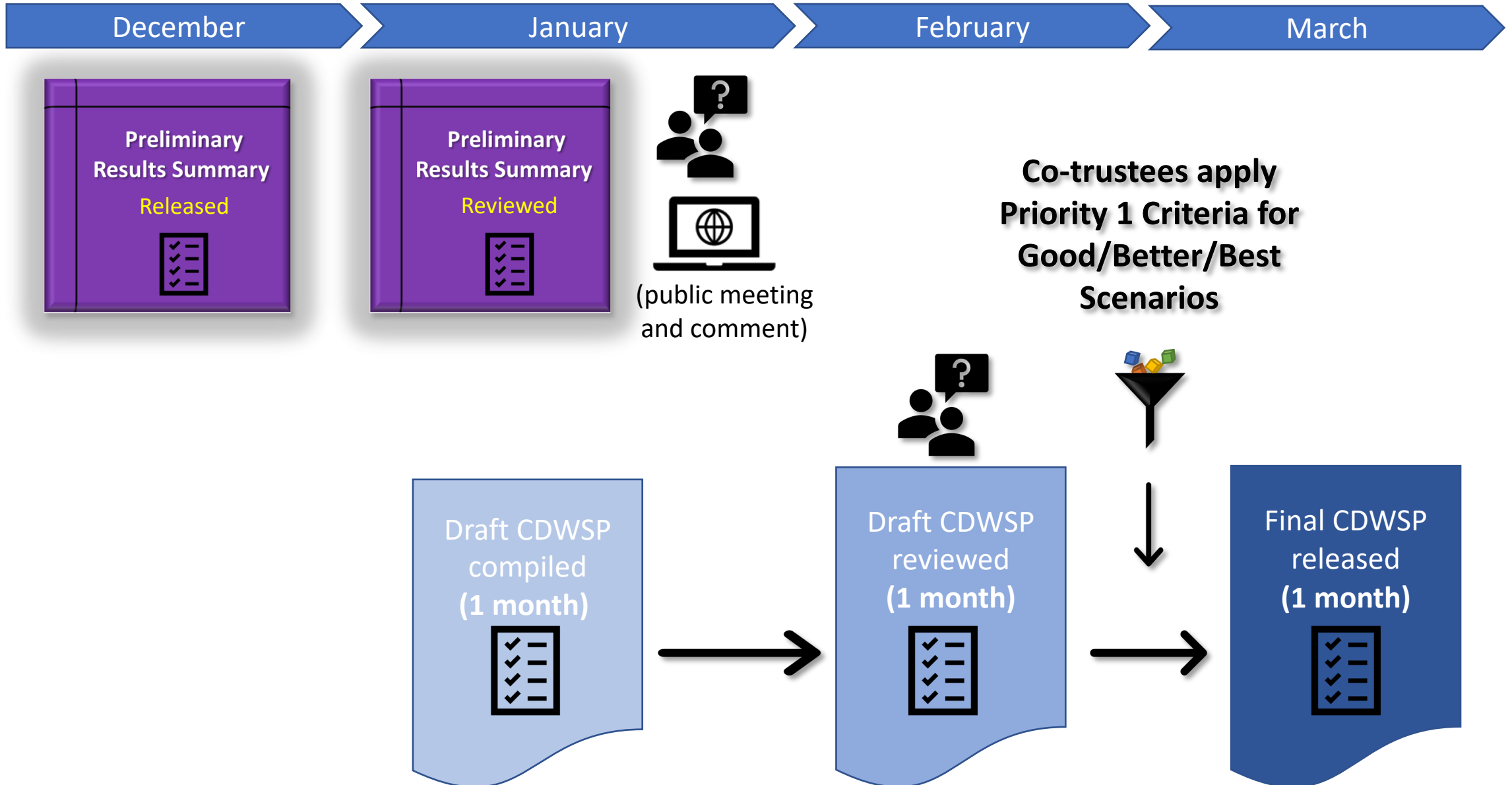


### Wood Progress Update – November meetings:

- Opportunity for discussion



## CDWSP FINALIZED – December-March





# General Timeline

Tasks	2019							2020			Status	Comments	Activities			
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb			Mar	Agencies/Contractors	Work Groups	Subgroup 1
Develop goals & criteria												Complete		Drafted	Reviewed	Reviewed
Compile regional background information and community profile information												Complete		Compiled initial info	Provided additional info	Provided additional info
<i>Write, review, revise Chapters 1-3: Introduction, Background, and Approach</i>												In progress		Drafting sections	Reviewed	Reviewed
Develop and revise drinking water system model and groundwater system model												In progress		Identified initial list of GW model objectives. Now developing	Reviewed GW Model objectives	Reviewed GW Model objectives
<i>Write, review, revise: Model Development and Results (Chapter 4)</i>												In progress		Drafting sections		
Identify and evaluate water supply improvement options												In progress		Wood met with LGUs, compiled screening results, agency	Met with Wood	Met with Wood
<i>Write, review, revise: Evaluation of Water Supply Improvement Options (Chapter 5)</i>												In progress		Drafting sections		
Identify, screen, & evaluate conceptual projects												In progress	Public submit projects online	Wood to meet with SG-1 1:1 around August meetings. Wood to provide a final project list	Some meet with Wood via SG-1. Review final project list. Revisit Priority 1	Meet with Wood. Review final project list.
<i>Write, review, revise: Conceptual Project Development, Screening, and Evaluation</i>														Provide draft Chapters 4-6 for reivew	Review chapters 4-6	Review chapters 4-6
Develop & evaluate scenarios (includes modeling scenarios)													Public meeting	Wood to meet with LGUs around October meetings	Some meet with Wood via SG-1. Feedback on Priority 1	Meet with Wood
<i>Write, review, revise: Scenarios Development and Evaluation (Chapter 7)</i>														Provide draft Chapter 7 for review	Review chapter 7	Review chapter 7
Develop preliminary results summary														Agencies to review then provide results for discussion.	Discuss preliminary results summary	Discuss preliminary results summary
Priority 1 criteria applied to results by co-trustees													30-day Public comment period January-February	Priority 1 criteria applied by co-trustees for good, better, and best scenarios.	Discuss final ranking	Discuss final ranking
<i>Compile, review, revise: Final Report</i>													Public meeting	Wood provide draft by January/February. Agency review complete by February/March	Review final draft in February/March	Review final draft in February/March

● Public meeting