Workshop 3 – Meeting Minutes
June 2, 2010 - 2:00 PM
Embassy Suites Conference Center

Attendees:

Dorie Bolze, HRWA
Scott Gain, USGS
Eric Gardner, City of Franklin
Tim Ham, Mallory Valley
Doug Hausken, Cumberland River Compact
Mark Hilty, City of Franklin
Lee Keck, TDEC
Dan Klatt, Franklin Representative
Ken Moore, BOMA
Tom Puckett, HB&TS
Mike Jones, Milcroften
Howard Smithson, Milcroften
Eric Stuckey, City of Franklin
Rob Todd, TWRA
Bo Butler, SSR
Kati Bell, CDM
Zack Daniel, CDM
Jamie Lefkowitz, CDM
Chris Provost, CDM
Dan Rodrigo, CDM
Kirk Westphal, CDM
Leeann Williams, CDM

Introduction
Workshop 3 was conducted to review the project Options and to begin grouping Options into themed Alternatives. Prior to meeting, Stakeholders were requested to review the list of project Options and to comment or make additions and edits to the list. The edited list is included as an attachment to these minutes.

Alternatives Development
This first sets themed Alternatives were developed by selecting a single IWRP Objective, and then selecting project Options supporting that Objective. During Workshop 3, Alternatives were developed for five of the nine IWRP objectives including:

- **Improve water quality and ecological health of Harpeth River and watershed**
- **Provide excellent level of water/wastewater utility services at reasonable cost**
- **Maximize efficiency of water use and value of water resources**
- **Meet current and future demands for water and wastewater reliably**
- **Provide safety and security of water resources systems**

These particular Objectives were selected based on Stakeholder preferences of the most crucial Objectives; each Stakeholder selected their three top Objectives; the five Objectives listed above were identified as being most important to the Stakeholders as a group. Each of the Objectives above was assigned to one of five breakout groups during the Workshop. The groups worked together, with a facilitator, to select Options to best support the assigned Objective, unhindered by any other considerations. During these brainstorming sessions, some new Options were also developed, and these will be added to the Options list.

Following the exercise, each of the Alternatives was presented for discussion by all Stakeholders. The Alternatives developed are included as an attachment to these meeting minutes.

Alternatives Analysis
Some of the Options were included in 3 or 4 of the Alternatives that were developed. This commonality indicates a strong Option that meets multiple Objectives. The next step is to evaluate these Alternatives and to begin developing hybrid Alternatives incorporating some of the highest scoring Options. During the next Workshop, model results of the performance measures for these Alternatives will be presented, along with preliminary results for hybrid Alternatives that will be developed during the modeling process.

Next Meetings
A public forum is scheduled for Monday, July 12th at 6:30 pm at the Franklin City Hall Board Room. The topics of discussion will include the process and method of developing and analyzing Alternatives, and will also include an update on how the project is progressing through the previously presented IWRP process.

Workshop 4 is scheduled for August 18th; the location will be confirmed at a later date.

City of Franklin

Integrated Water Resources Plan

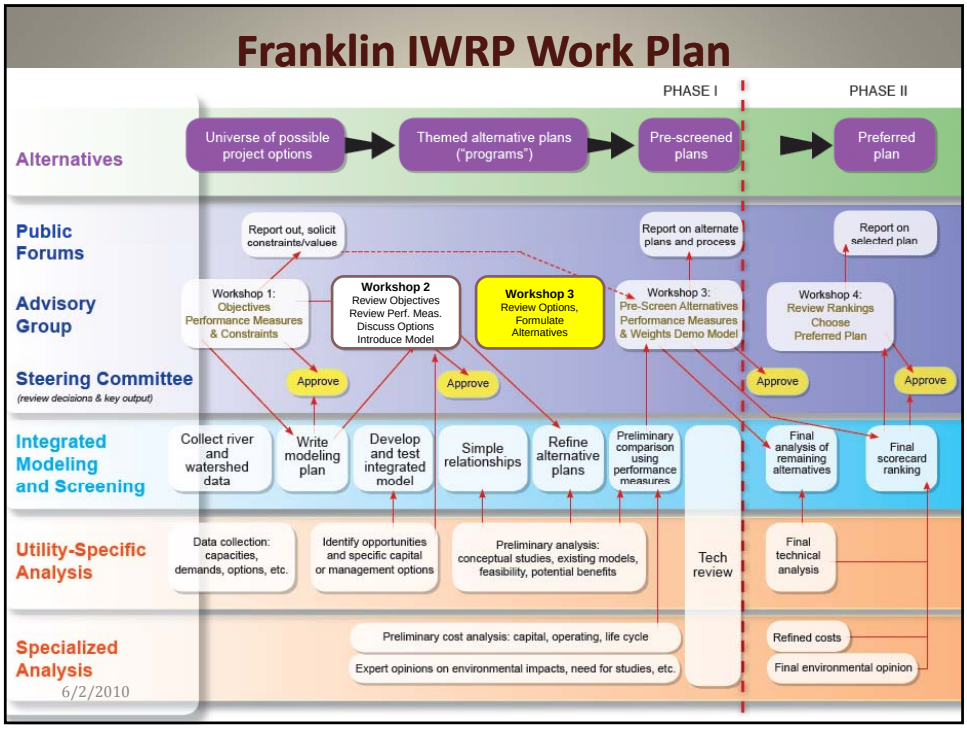
June 2, 2010

Stakeholder Advisory Group Workshop #3

CDM SSR Smith Seckman Reid JACKSON THORNTON UTILITIES

Meeting Agenda
2:00 – 6:00 PM

- Review of Alternatives Formulation Process
- Review List of Options
- Grouping of Options into Themed Alternatives


Franklin IWRP Work Plan
PHASE I
PHASE II
Alternatives
Universe of possible project options
Themed alternative plans ("programs")
Pre-screened plans
Preferred plan
Public Forums
Advisory Group
Steering Committee
(review decisions & key output)
Report out, solicit constraints/values
Report on alternate plans and process
Report on selected plan
Workshop 1: Objectives Performance Measures & Constraints
Workshop 2 Review Objectives Review Perf. Meas. Discuss Options Introduce Model
Workshop 3 Review Options, Formulate Alternatives
Workshop 3: Pre-Screen Alternatives Performance Measures & Weights Demo Model
Workshop 4: Review Rankings Choose Preferred Plan
Approve
Approve
Approve
Approve
Integrated Modeling and Screening
Collect river and watershed data
Write modeling plan
Develop and test integrated model
Simple relationships
Refine alternative plans
Preliminary comparison using performance measures
Final analysis of remaining alternatives
Final scorecard ranking
Utility-Specific Analysis
Data collection: capacities, demands, options, etc.
Identify opportunities and specific capital or management options
Preliminary analysis: conceptual studies, existing models, feasibility, potential benefits
Tech review
Final technical analysis
Specialized Analysis
Preliminary cost analysis: capital, operating, life cycle
Expert opinions on environmental impacts, need for studies, etc.
Refined costs
Final environmental opinion
6/2/2010


Options and Alternatives
6/2/2010

Review of Terminology

Objectives — Defines the major goals of the IRP, in broad and understandable terms

Performance Measures — The specific metrics that indicate whether or not objectives are being achieved

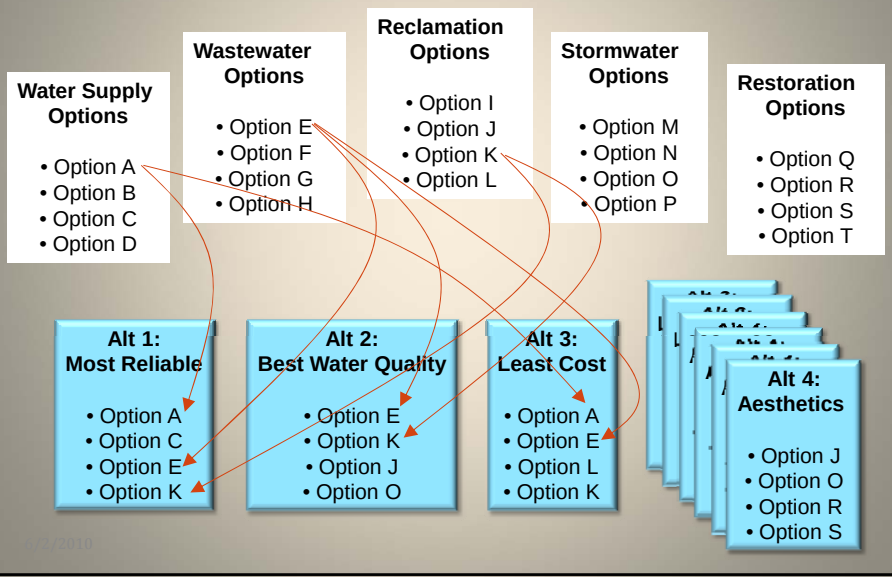
Options — Individual projects that will be assembled into comprehensive alternatives

Alternatives — Packages of individual projects that are designed to meet objectives

6/2/2010

Alternatives Analysis

Step 1 [TODAY]: Group Options Into Themed Alternatives



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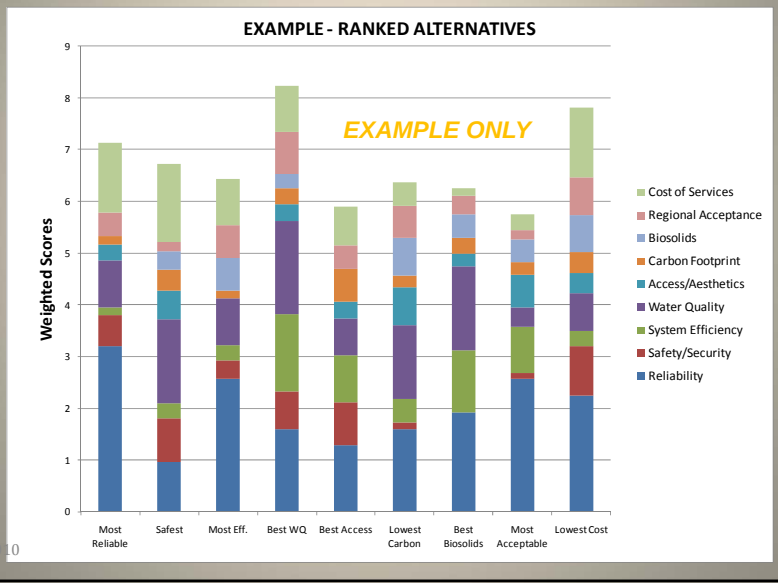
Alternatives Analysis:

Step 2: Rank the Alternatives



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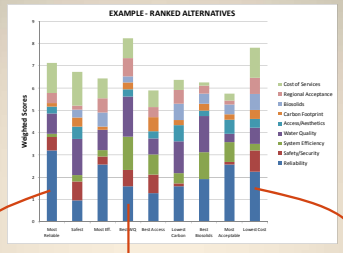
Alternatives Analysis:

Step 3: Form Hybrid Alternatives and Repeat Analysis



Repeat ranking with Hybrid(s)

Alternative with highest scores

Most Reliable
- Option A
- Option C
- Option E
- Option K

Best Water Quality
- Option E
- Option K
- Option J
- Option O

Least Cost
- Option A
- Option E
- Option L
- Option K

Combine common elements Of high-scoring alternatives

Hybrid 1
- Option A
- Option E
- Option K
- Option…

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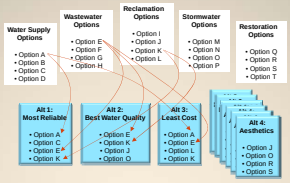
Today's Exercise



- Breakout Groups: Formulate Themed Alternatives
- These alternatives are not mutually exclusive, or final
- Intended to:
  - Compare options – help us understand how they perform
  - Identify options that satisfy most objectives
  - Identify options that work well together
  - Provide technical basis for "hybrid" alternatives

Next Steps

- Technical Model Workshop (repeated) – June 3
- Public Forum #2 – July 12
- Stakeholder Workshop #4 – August 18
  - Present modeling results for alternatives
  - Present weighting analysis
  - Present hybrid ideas and preliminary results
  - Discuss plan for recommendations to BOMA


Thank You
6/2/2010

HISTORIC FRANKLIN TENNESSEE

Integrated Water Resources Plan
Project Options

Stormwater Options
Increase stormwater storage for flood control and water quality improvement
Conveyance upgrades for flood control
Stream restoration to improve stormwater conveyance
Constructed wetlands for flood control and water quality improvements
Develop bacterial source tracking program
Establish stormwater storage for reclaimed water use
Residential rain barrels and cisterns
Residential and commercial rain gardens
Pervious parking lots with collection
Storage for gradual stream augmentation
Purchase property in flood plain

Drinking Water Options	
Water Treatment Plant	**Distribution System**
Upgrade existing 2.1 mgd WTP and intake and purchase remaining water from HVUD	Install and operate advanced metering infrastructure
Expand existing WTP to 4.0 mgd, upgrade WTP intake structure and purchase remaining water from HVUD	Remove storage tanks from service that have low turnover/aged water
Obtain drinking water from Dickson WTP	Coordinate with Fairview to provide access to water from the Cumberland through Dickson
Repair water reservoir (ongoing)	System management practices and ordinances
Shut down existing WTP and purchase all water from HVUD	Address water loss in distribution system through paper and physical loss recovery • **Paper losses:** Tracking program to account for hydrant and development flushing, etc. • **Physical losses:** Purchase system survey equipment and develop 5-year program
Construct raw water transmission line from the Cumberland River and upgrade water treatment plant to supply all City demand	

Reclaimed Water Options
System management, controls and ordinances
Complete the 12" Long Lane line and retrofit the existing 500,000-gallon Long Lane water reservoir for reclaimed water service
Install additional pumps to increase the station capacity to approximately 12 million gallons per day
Increase City-wide reuse by increasing customer base
Identify and establish dedicated reclaimed water sites
Complete the distribution loop around the city by constructing the 12" Columbia Avenue/Southeast Parkway reclaimed line and construct a 500,000 gallon storage tank in the vicinity of Winstead Hill
Convert the Franklin Green/Horton Lane sanitary force main for reclaimed water distribution
Establish additional reclaimed water storage facilities/ convert existing water storage tanks into reclaimed storage tanks.

Comment [LW1]: Bolze: retrofit stormwater improvements. Kathman listed similar in ecological restoration

Comment [LW2]: Kathman

Comment [LW3]: Kathman

Comment [LW4]: May Steering Committee Mtg

Comment [LW5]: Bolze: reword to "Purchase finished drinking water from HVUD and upgrade existing 2.1 mgd WTP"

Comment [LW8]: April Steering committee- must replace with equal or greater storage volume

Comment [LW6]: Bolze: take care that the river can supply 4 mgd.

Comment [LW7]: Bolze: reword to "Purchase finished drinking water from HVUD and expand existing WTP to 4.0 mgd.", and April Steering Committee meeting- include "upgrade water intake structure"

Comment [C9]: Comment from phone conversation with Bobby Worthington, HVUD

Comment [LW10]: Bolze: wants to clarify that the reclaimed water options are open to residential lawn watering—we could reword some of these.

Comment [LW11]: April Steering Committee meeting

Conservation Options
Indoor conservation
Outdoor conservation upgrades for flood control
Public education
Ordinances (dual plumbing, appliance specs)
Develop incentives for developers/builders and residents to install low flow and water conserving appliances
Develop incentives for users such as Increase Rate Block Structure, and awards for "smart" consumers.

Ecological Restoration Options
Removal of low head dam at the water treatment plant intake
Stream restoration throughout watershed to enhance aquatic habitat
Stream bank stabilization throughout watershed (remove riprap and stabilize with natural channel stream design)
Public education (lawn fertilization, pet-pickup)
Address old dump site (from downtown to Liberty Creek) and convert to Harpeth River access area
Use of Robinson Lake to provide enhanced based flow in the Harpeth River during dry periods
Cattle exclusion
Plant shrubs and trees
Establish buffer or riparian zone where possible

Wastewater Options	
Wastewater Treatment Plant	**Collection System**
Upgrade and rerate existing WWTP	System Management Practices
	Transition septic users to sewer
Construct new WWTP at Goose Creek	Address Inflow/Infiltration in collection system
Collect and treat wastewater from adjacent communities or other small systems (e.g., Lynwood, Cartwright Creek)	• **Pump Stations:** Condition/Criticality assessment program in conjunction with collection system model to prioritize PS projects
Treat discharged effluent to higher standard during summer months	• **Collection Mains:** Formalize existing program for development review, inspections, troubleshooting, line repairs and replacements (CTV, etc.)

Biosolids Options
Upgrade solids handling facilities to produce Class A solids
Upgrade solids handling facilities to drying/ERS (ash disposal)
Upgrade solids handling facilities to produce higher TS content sludge
Solids disposal at BFI (108 miles/trip)
Solids trucked to Metro Nashville for disposal/processing
Class A biosolids to Franklin's composting facility
Land application (Switch grass production)
Upgrade biosolids facilities for biogas to energy

Comment [LW12]: Bolze

Comment [LW13]: Bolze

Comment [LW14]: Bolze

Comment [LW15]: Kathman

Comment [LW16]: Bolze

Comment [LW17]: Kathman, Bolze

Comment [LW18]: Kathman

Comment [LW19]: Kathman

Comment [LW20]: Kathman, Bolze

Comment [LW21]: Bolze: under "conservation"

Comment [LW22]: Bolze: are there permutations of this option?

Comment [LW23]: Bolze

Improve water quality and ecological health of Harpeth River and watershed		
Option Category	**Option Number**	**Option Description**
Stormwater	1	Increase stormwater storage for flood control and water quality improvement
	4	Constructed wetlands for flood control and water quality improvements
	7	Residential rain barrels and cisterns
	8	Residential and commercial rain gardens
	9	Pervious parking lots with collection
Water Treatment Plant	14	Shut down existing WTP and purchase all water from HVUD
	15	Construct raw water transmission line from the Cumberland River and upgrade water treatment plant to supply all City demand
Ecological Restoration	36	Removal of low head dam at the water treatment plant intake
	37	Stream restoration throughout watershed to enhance aquatic habitat
	38	Stream bank stabilization throughout watershed (remove riprap and stabilize with natural channel stream design)
	39	Public education (lawn fertilization, pet-pickup)
	40	Address old dump site (from downtown to Liberty Creek) and convert to Harpeth River access area
	41	Use of Robinson Lake to provide enhanced based flow in the Harpeth River during dry periods
	42	Cattle exclusion
	43	Plant shrubs and trees
	44	Establish buffer or riparian zone where possible
Wastewater Treatment Plant	47	Collect and treat wastewater from adjacent communities or other small systems (e.g., Lynwood, Cartwright Creek)
	48	Treat discharged effluent to higher standard during summer months
Collection System	49	System Management Practices
	50	Hook up septic users to sewer
	52	· Pump Stations: Condition/Criticality assessment program in conjunction with collection system model to prioritize PS projects
	53	· Collection Mains: Formalize existing program for development review, inspections, troubleshooting, line repairs and replacements (CTV, etc.)
Additional Notes	New option: I/I reduction (MOM) or wet weather WWTP. Expand Robinson Lake options - environmental campus. New option: optimize reuse with river needs and water quality	

Provide excellent level of water/wastewater utility services at reasonable cost		
Option Category	**Option Number**	**Option Description**
Stormwater	7	Residential rain barrels and cisterns
	8	Residential and commercial rain gardens
Water Treatment Plant	11	Upgrade existing 2.1 mgd WTP and purchase remaining water from HVUD
Distribution System	16	Install and operate advanced metering infrastructure
	18	System management practices and ordinances
	20	· Paper losses: Tracking program to account for hydrant and development flushing, etc.
Reclaimed Water	22	System management, controls and ordinances
	25	Increase City-wide reuse by increasing customer base
	26	Identify and establish dedicated reclaimed water sites
	28	Convert the Franklin Green/Horton Lane sanitary force main for reclaimed water distribution
Conservation	30	Indoor conservation
	31	Outdoor conservation upgrades for flood control
	32	Public education
	33	Ordinances (dual plumbing, appliance specs)
	34	Develop incentives for developers/builders and residents to install low flow and water conserving appliances
	35	Develop incentives for users such as Increase Rate Block Structure, and awards for “smart” consumers.
Ecological Restoration	36	Removal of low head dam at the water treatment plant intake
	39	Public education (lawn fertilization, pet-pickup)
	43	Plant shrubs and trees
Wastewater Treatment Plant	45	Upgrade and rerate existing WWTP
	46	Construct new WWTP at Goose Creek
Collection System	53	· Collection Mains: Formalize existing program for development review, inspections, troubleshooting, line repairs and replacements (CTV, etc.)
Biosolids	58	Solids trucked to Metro Nashville for disposal/processing
	61	Upgrade biosolids facilities for biogas to energy
Additional Notes	Conservation options together as a package. Dam removed with grant money. One or the other of WWTP options, depending on development. one or both of biosolids options (short term/long term)	

Maximize efficiency of water use and value of water resources		
Option Category	**Option Number**	**Option Description**
Stormwater	6	Establish stormwater storage for reclaimed water use
	7	Residential rain barrels and cisterns
	10	Storage for gradual stream augmentation
Water Treatment Plant	12	Expand existing WTP to 4.0 mgd, upgrade WTP intake structure and purchase remaining water from HVUD
	13	Repair water reservoir (ongoing)
Distribution System	16	Install and operate advanced metering infrastructure
	17	Remove storage tanks from service that have low turnover/aged water
	18	System management practices and ordinances
	19	Address water loss in distribution system through paper and physical loss recovery
	20	· Paper losses: Tracking program to account for hydrant and development flushing, etc.
	21	· Physical losses: Purchase system survey equipment and develop 5-year program
Reclaimed Water	22	System management, controls and ordinances
	23	Complete the 12" Long Lane line and retrofit the existing 500,000 gallon Long Lane water reservoir for reclaimed water service
	24	Install additional pumps to increase the station capacity to approximately 12 million gallons per day
	25	Increase City-wide reuse by increasing customer base
	26	Identify and establish dedicated reclaimed water sites
	27	Complete the distribution loop around the city by constructing the 12" Columbia Avenue/Southeast Parkway reclaimed line and construct a 500,000 gallon storage tank in the vicinity of Winstead Hill
	28	Convert the Franklin Green/Horton Lane sanitary force main for reclaimed water distribution
	29	Establish additional reclaimed water storage facilities
Conservation	30	Indoor conservation
	31	Outdoor conservation upgrades for flood control
	32	Public education
	33	Ordinances (dual plumbing, appliance specs)
	34	Develop incentives for developers/builders and residents to install low flow and water conserving appliances
	35	Develop incentives for users such as Increase Rate Block Structure, and awards for “smart” consumers.
Ecological Restoration	37	Stream restoration throughout watershed to enhance aquatic habitat
	38	Stream bank stabilization throughout watershed (remove riprap and stabilize with natural channel stream design)
	39	Public education (lawn fertilization, pet-pickup)
	41	Use of Robinson Lake to provide enhanced based flow in the Harpeth River during dry periods
	42	Cattle exclusion
	43	Plant shrubs and trees
	44	Establish buffer or riparian zone where possible
Wastewater Treatment Plant	46	Construct new WWTP at Goose Creek
	47	Collect and treat wastewater from adjacent communities or other small systems (e.g., Lynwood, Cartwright Creek)
Collection System	49	System Management Practices
	50	Hook up septic users to sewer
	51	Address Inflow/Infiltration in collection system
	52	· Pump Stations: Condition/Criticality assessment program in conjunction with collection system model to prioritize PS projects
	53	· Collection Mains: Formalize existing program for development review, inspections, troubleshooting, line repairs and replacements (CTV, etc.)
Biosolids	61	Upgrade biosolids facilities for biogas to energy

Meet current and future demands for water and wastewater reliably		
Option Category	**Option Number**	**Option Description**
Stormwater	6	Establish stormwater storage for reclaimed water use
Water Treatment Plant	12	Expand existing WTP to 4.0 mgd, upgrade WTP intake structure and purchase remaining water from HVUD
	15	Construct raw water transmission line from the Cumberland River and upgrade water treatment plant to supply all City demand
Distribution System	16	Install and operate advanced metering infrastructure
	18	System management practices and ordinances
Reclaimed Water	24	Install additional pumps to increase the station capacity to approximately 12 million gallons per day
	27	Complete the distribution loop around the city by constructing the 12" Columbia Avenue/Southeast Parkway reclaimed line and construct a 500,000 gallon storage tank in the vicinity of Winstead Hill
	29	Establish additional reclaimed water storage facilities
Wastewater Treatment Plant	45	Upgrade and rerate existing WWTP
	46	Construct new WWTP at Goose Creek
Collection System	50	Hook up septic users to sewer
Biosolids	54	Upgrade solids handling facilities to produce Class A solids
	55	Upgrade solids handling facilities to drying/ERS (ash disposal)
Additional notes	Ordinances for drought-tolerant landscaping, irrigation efficiency, plumbing efficiency. Maximize the 4.0 mgd plant (12) before adding Cumberland line (15).	

Provide safety and security of water resources systems		
Option Category	**Option Number**	**Option Description**
Stormwater	1	Increase stormwater storage for flood control and water quality improvement
	2	Conveyance upgrades for flood control
	4	Constructed wetlands for flood control and water quality improvements
Distribution System	16	Install and operate advanced metering infrastructure
	19	Address water loss in distribution system through paper and physical loss recovery
	20	· Paper losses: Tracking program to account for hydrant and development flushing, etc.
	21	· Physical losses: Purchase system survey equipment and develop 5-year program
Reclaimed Water	22	System management, controls and ordinances
	25	Increase City-wide reuse by increasing customer base
	29	Establish additional reclaimed water storage facilities/ convert existing water storage tanks to reclaimed storage tanks
Conservation	32	Public education
	33	Ordinances (dual plumbing, appliance specs)
Ecological Restoration	38	Stream bank stabilization throughout watershed (remove riprap and stabilize with natural channel stream design)
	39	Public education (lawn fertilization, pet-pickup)
	41	Use of Robinson Lake to provide enhanced based flow in the Harpeth River during dry periods
Wastewater Treatment Plant	45	Upgrade and rerate existing WWTP
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	47	Collect and treat wastewater from adjacent communities or other small systems (e.g., Lynwood, Cartwright Creek)
Collection System	49	System Management Practices
	50	Hook up septic users to sewer
	51	Address Inflow/Infiltration in collection system
Biosolids	54	Upgrade solids handling facilities to produce Class A solids
	59	Class A biosolids to Franklin's composting facility
	61	Upgrade biosolids facilities for biogas to energy
Additional notes	variation of 11 and 12- expand WTP to available source water supply. Variation of regional sewer treatment: consider proposals. *Purchase homes in the flood plain	