

SJRA RAW WATER SUPPLY MASTER PLAN STRATEGY EVALUATION
Strategy Scoring Sheets

Strategy Name:		Aquifer Storage and Recovery			
Strategy Sub-Type:		Developed by SJRA			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				2	Potentially some obstacles in working with other stakeholders to develop project 2016 RWP: Requires some coordination between river authorities and GCDs in which the aquifer is located. May have potential for joint development of an ASR project. Other governmental entities and LS GCD may be involved.
Cost				2	\$500 to \$1,000 per ac-ft 2016 RWP: \$516/ac-ft (during loan period, dependent upon project configuration). This option does not include significant transmission system but the cost reflects the cost required to develop the well field.
Diversification				2	Supply originates from sources linked to existing SJRA supplies but may be influenced by other factors Doesn't create a new supply, but directs excess surface water or groundwater supplies to aquifers for storage. Water can be stored for later use.
Environmental				3	Some notable environmental impact; routine process for permitting 2016 RWP: Minimal environmental impacts expected; Aquifer Storage and Recovery is not anticipated to affect acreage or vulnerable species. The project will not directly impact environmental flows. However, these flows may be impacted by projects developed to provide raw water to an ASR project. In addition, an ASR project may allow for additional return flow during drought conditions. The project is not anticipated to impact agricultural land or production.
Funding				4	Project will receive beneficial consideration in a funding program due to type of project or source of water 2016 RWP: Level of sponsor commitment unknown for most Water User Groups. Typical funding available for ASR. Research funds by BOR and TWDB funds for special studies available for developing potential for ASR studies.
Land Acquisitor				3	5-100 ac Moderate Land Acquisition, based on cost per acre and agreeability of land owners.
Legal				3	Moderate level of permitting and contracting; few unknowns 2016 RWP: Moderate permitting challenges due to recent legislation changes.
Location				3	Some conveyance required to meet identified demands 2016 RWP: Typically located near points of use.
Magnitude				2	5,000 to 25,000 ac-ft per year 2016 RWP: Depends on water supply availability that can be stored.
Other Supplies				4	Opportunity to enhance existing supplies and other potential supplies 2016 RWP: May be used to enhance the firm portion of yield associated with other projects such as surface water development. Use of ASR may reduce the need for development of additional surface water supplied and which may reduce bay and estuary inflows.
Public				2	Minimal local support; some opposition 2016 RWP: Projects typically encounter opposition. Limited negative impacts. ASR was never done before in Montgomery County so there is a potential for opposition because of the uncertainty.
Scalability				1	Project requires significant infrastructure and development by a major sponsor Can be conducted on various scales.
Schedule				3	5 to 15 years 2016 RWP: For the development of an ASR project there normally is a sequence of studies and pilot testing that occur before the infrastructure for a project is built. This sequence can require at least a few years for a moderate to large-scale project.
Yield Risk				1	High level of uncertainty that project yield can be developed or will be maintained in the long term. High risk of supply availability 2016 RWP: Existing studies in Region H have not yielded beneficial applications of ASR so far. However, if a pilot is successful, there is limited risk of yield reduction. There is potential loss of treated water that is unrecoverable.
		N/A	Highlands System Score	230.00	Montgomery County Score

Strategy Name:		Aquifer Storage and Recovery			
Strategy Sub-Type:		Developed by SJRA Participants			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				2	Potentially some obstacles in working with other stakeholders to develop project 2016 RWP: Requires some coordination between river authorities and GCDs in which the aquifer is located. May have potential for joint development of an ASR project.
Cost				2	\$500 to \$1,000 per ac-ft 2016 RWP: \$516/ac-ft (during loan period, dependent upon project configuration). This option does not include significant transmission system. GRP Participants' wells need to be improved to support ASR operations. No need to develop a new well field.
Diversification				2	Supply originates from sources linked to existing SJRA supplies but may be influenced by other factors Doesn't create a new supply, but directs excess surface water or groundwater supplies to aquifers for storage. Water can be stored for later use.
Environmental				4	Minor environmental impact; environmental studies have been completed on similar projects 2016 RWP: Minimal environmental impacts expected; Aquifer Storage and Recovery is not anticipated to affect acreage or vulnerable species. The project will not directly impact environmental flows. However, these flows may be impacted by projects developed to provide raw water to an ASR project. In addition, an ASR project may allow for additional return flow during drought conditions. The project is not anticipated to impact agricultural land or production.
Funding				4	Project will receive beneficial consideration in a funding program due to type of project or source of water 2016 RWP: Level of sponsor commitment unknown for most WUGS. Typical funding available for ASR. Research funds by BOR and TWDB funds for special studies available for exploring potential for ASR studies.
Land Acquisition				4	Minimal land impact (<5 ac) Moderate Land Acquisition. Potentially use Participants' wells.
Legal				3	Moderate level of permitting and contracting; few unknowns 2016 RWP: Moderate permitting challenges due to recent legislation changes.
Location				4	Limited conveyance needs 2016 RWP: Typically located near points of use.
Magnitude				2	5,000 to 25,000 ac-ft per year 2016 RWP: Depends on water supply availability and volume that can be stored.
Other Supplies				4	Opportunity to enhance existing supplies and other potential supplies 2016 RWP: May be used to enhance the firm portion of yield associated with other projects such as surface water development. Use of ASR may reduce the need for development of additional surface water supplied and which may reduce bay and estuary inflows.
Public				2	Minimal local support; some opposition 2016 RWP: Projects typically encounter opposition. Some negative impacts. ASR was never done before in Montgomery County so there is a potential for opposition because of the uncertainty.
Scalability				4	Project can be implemented by entities of all sizes Can be conducted on various scales.
Schedule				3	5 to 15 years 2016 RWP: <5 years; For the development of an ASR project there normally is a sequence of studies and pilot testing that occur before the infrastructure for a project is built. This sequence can require at least a few years for a moderate to large-scale project.
Yield Risk				1	High level of uncertainty that project yield can be developed or will be maintained in the long term. High risk of supply availability 2016 RWP: Existing studies in Region H have not yielded beneficial applications of ASR so far. However, if a pilot is successful, there is limited risk of yield reduction. There is potential loss of treated water that is unrecoverable.
		N/A	Highlands System Score	258.00	Montgomery County Score

Strategy Name:		Aquifer Storage and Recovery			
Strategy Sub-Type:		Developed by SJRA (Mildly Treated)			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				2	Potentially some obstacles in working with other stakeholders to develop project 2016 RWP: Requires some coordination between river authorities and GCDs in which the aquifer is located. May have potential for joint development of an ASR project. Other governmental entities and LS GCD may be involved.
Cost				2	\$500 to \$1,000 per ac-ft Less treatment than normal. Project requires dedicated well field development to convey the non-potable water. Cost reflects the cost required to develop wells, treat and convey the water through transmission system.
Diversification				2	Supply originates from sources linked to existing SJRA supplies but may be influenced by other factors Doesn't create a new supply, but directs excess surface water or groundwater supplies to aquifers for storage. Water can be stored for later use.
Environmental				3	Some notable environmental impact; routine process for permitting 2016 RWP: Minimal environmental impacts expected; Aquifer Storage and Recovery is not anticipated to affect acreage or vulnerable species. The project will not directly impact environmental flows. However, these flows may be impacted by projects developed to provide raw water to an ASR project. In addition, an ASR project may allow for additional return flow during drought conditions. The project is not anticipated to impact agricultural land or production.
Funding				4	Project will receive beneficial consideration in a funding program due to type of project or source of water 2016 RWP: Level of sponsor commitment unknown for most Water User Groups. Typical funding available for ASR. Research funds by BOR and TWDB funds for special studies available for exploring potential for ASR studies.
Land Acquisition				3	5-100 ac Moderate Land Acquisition.
Legal				3	Moderate level of permitting and contracting; few unknowns 2016 RWP: Moderate permitting challenges due to recent legislation changes.
Location				4	Limited conveyance needs 2016 RWP: Typically located near points of use.
Magnitude				2	5,000 to 25,000 ac-ft per year 2016 RWP: Depends on water supply availability and volume that can be stored.
Other Supplies				4	Opportunity to enhance existing supplies and other potential supplies 2016 RWP: May be used to enhance the firm portion of yield associated with other projects such as surface water development. Use of ASR may reduce the need for development of additional surface water supplied and which may reduce bay and estuary inflows.
Public				2	Minimal local support; some opposition 2016 RWP: Projects typically encounter opposition. Limited negative impacts. ASR was never done before in Montgomery County so there is a potential for opposition because of the uncertainty.
Scalability				1	Project requires significant infrastructure and development by a major sponsor Can be conducted on various scales.
Schedule				3	5 to 15 years 2016 RWP: 5-15 years; For the development of an ASR project there normally is a sequence of studies and pilot testing that occur before the infrastructure for a project is built. This sequence can require at least a few years for a moderate to large-scale project.
Yield Risk				1	High level of uncertainty that project yield can be developed or will be maintained in the long term. High risk of supply availability 2016 RWP: Existing studies in Region H have not yielded beneficial applications of ASR so far. However, if a pilot is successful, there is limited risk of yield reduction. There is potential loss of treated water that is unrecoverable.
		N/A	Highlands System Score	236.00	Montgomery County Score

Strategy Name: Strategy Sub-Type:		Bedias Reservoir				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	2	Potentially some obstacles in working with other stakeholders to develop project	2011 RWP: joint development from TRA and SJRA.	2	Potentially some obstacles in working with other stakeholders to develop project	2011 RWP: joint development from TRA and SJRA; This project requires an interbasin transfer to the San Jacinto Basin.
Cost	3	\$250 to \$500 per ac-ft	2011 RWP: \$237/ac-ft. Project produces raw water.	2	\$500 to \$1,000 per ac-ft	2011 RWP: \$237/ac-ft. Project produces raw water. Also need transmission system to transfer into basin.
Diversification	3	Supply developed from sources unrelated to existing SJRA supplies	A new reservoir would add new sources of water to Highlands. However, the source of supply (Trinity basin) is not new to Highlands system as SJRA already receives water from Trinity basin.	3	Supply developed from sources unrelated to existing SJRA supplies	A new dam would add new sources of water to Montgomery County. Addition of supplies from Trinity Basin will bring new supplies to the Montgomery System as historically this system has relied on San Jacinto Basin supplies only.
Environmental	1	Significant environmental impact is expected; significant environmental studies and mitigation may be required	2011 RWP: Some endangered species have been identified. There are about 7,300 acres of bottomland hardwoods, 7,000 acres of grasslands, and 7,000 acres of post oak-elm-hackberry forest. Probable moderate to high impacts on wildlife habitats.	1	Significant environmental impact is expected; significant environmental studies and mitigation may be required	2011 RWP: Some endangered species have been identified. There are about 7,300 acres of bottomland hardwoods, 7,000 acres of grasslands, and 7,000 acres of post oak-elm-hackberry forest. Probable moderate to high impacts on wildlife habitats.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding sources.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding sources.
Land Acquisition	1	Significant land impact (>1,000 ac)	27,400 acres impacted by project.	1	Significant land impact (>1,000 ac)	27,400 acres impacted by project.
Legal	1	Significant permitting required; extensive contracting	2011 RWP: This project requires an interbasin transfer to the San Jacinto Basin.	1	Significant permitting required; extensive contracting	2011 RWP: This project requires an interbasin transfer to the San Jacinto Basin.
Location	1	IBT required, long distance from SJRA service area	Inconvenient for SJRA customers, as the dam is located within Trinity River surroundings. Water would be transferred to SJRA by CWA canal.	1	IBT required, long distance from SJRA service area	Inconvenient for SJRA customers, as the dam is located within TRA bounds. Water would be transferred to SJRA through a new Inter-Basin Transfer.
Magnitude	4	>50,000 ac-ft per year	2011 RWP: 90700 acft/yr	4	>50,000 ac-ft per year	2011 RWP: 90700 acft/yr
Other Supplies	2	Negative impacts to other potential projects	Potential impacts due to seniority to Livingston.	2	Negative impacts to other potential projects	Potential impacts due to seniority to Livingston.
Public	1	No local support; significant opposition	Potential opposition to any reservoir project.	1	No local support; significant opposition	Potential opposition to any reservoir project.
Scalability	1	Project requires significant infrastructure and development by a major sponsor	Large project, difficult to scale to WUGs or other smaller entities.	1	Project requires significant infrastructure and development by a major sponsor	Large project, difficult to scale to WUGs or other smaller entities.
Schedule	1	>30 years	Greater than 20 years.	1	>30 years	Greater than 20 years.
Yield Risk	2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability	Environmental permitting status unknown- may impact feasibility of project. Less yield risk once the project is constructed.	2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability	Environmental permitting status unknown- may impact feasibility of project. Less known yield risk once the project is constructed.
		212.00	Highlands System Score	172.00	Montgomery County Score	

Strategy Name: Strategy Sub-Type:		Brazos River Supplies				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	1	Significant potential obstacles in working with other stakeholders to develop project	Multiple entities have already inquired about immediate and potential future supplies from the Brazos River. Significant opposition from water rights holders in Brazos River Basin.	1	Significant potential obstacles in working with other stakeholders to develop project	Multiple entities have already inquired about immediate and potential future supplies from the Brazos River. Significant opposition from water rights holders in Brazos River Basin.
Cost	2	\$500 to \$1,000 per ac-ft	Current BRA system rate for contract water is \$62.50/ac-ft, requires major inter-basin transfer, included transfer of raw water. Transmission cost is less significant for Highlands.	2	\$500 to \$1,000 per ac-ft	Current BRA system rate for contract water is \$62.50/ac-ft, requires major inter-basin transfer, included treatment of raw water. Transmission cost is significant.
Diversification	4	Supply developed from a variety of water resources outside of current SJRA portfolio	It is a new source of supply for SJRA. Vulnerable to low supplies due to drought in the BRA system.	4	Supply developed from a variety of water resources outside of current SJRA portfolio	It is a new source of supply for SJRA. Vulnerable to low supplies due to drought in the BRA system.
Environmental	2	Some notable environmental impact; uncertain course for studies and mitigation	Strategy yield could be impacted by instream flow requirements; utilization of additional flow could impact bay and estuary inflows; overall environmental impacts should be low when compared to other projects requiring development of infrastructure.	2	Some notable environmental impact; uncertain course for studies and mitigation	Strategy yield could be impacted by instream flow requirements; utilization of additional flow could impact bay and estuary inflows; overall environmental impacts should be low when compared to other projects requiring development of infrastructure.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Unknown.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Unknown.
Land Acquisition	2	100-1,000 ac	Transmission system.	2	100-1,000 ac	Transmission system.
Legal	3	Moderate level of permitting and contracting; few unknowns	Beyond the permitting currently underway, legal challenges to this strategy are expected to be minimal as this is a contract strategy; TCEQ has requested that BRA submit a detailed accounting plan for the use of water from the permit.	3	Moderate level of permitting and contracting; few unknowns	Beyond the permitting currently underway, legal challenges to this strategy are expected to be minimal as this is a contract strategy; TCEQ has requested that BRA submit a detailed accounting plan for the use of water from the permit.
Location	1	IBT required, long distance from SJRA service area	River is far from Highlands, will require significant transportation infrastructure.	1	IBT required, long distance from SJRA service area	River is far from Montgomery County, will require significant transportation infrastructure.
Magnitude	3	25,000 to 50,000 ac-ft/yr	25,000 ac-ft/yr to 100,000 ac-ft/yr	3	25,000 to 50,000 ac-ft/yr	25,000 ac-ft/yr to 100,000 ac-ft/yr
Other Supplies	4	Opportunity to enhance existing supplies and other potential supplies	No known issues.	4	Opportunity to enhance existing supplies and other potential supplies	No known issues.
Public	2	Minimal local support; some opposition	Public opposition along transmission route.	2	Minimal local support; some opposition	Public opposition along transmission route.
Scalability	1	Project requires significant infrastructure and development by a major sponsor	Cannot be implemented by smaller entities as the project needs an inter-basin transfer.	1	Project requires significant infrastructure and development by a major sponsor	Cannot be implemented by smaller entities as the project needs an inter-basin transfer.
Schedule	2	15-30 years	> 10 years, given TCEQ approval of the system operations permit and inter-basin transfer.	2	15-30 years	> 10 years, given TCEQ approval of the system operations permit and inter-basin transfer.
Yield Risk	2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability	Typical	2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability	Typical
		204.0	Highlands System Score	204.00	Montgomery County Score	

Strategy Name:		Catahoula Aquifer Supplies			
Strategy Sub-Type:		Developed by SJRA (Deliver to Lake)			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				3	Potentially some opportunity to develop project synergistically with other stakeholders 2016 RWP: mostly contained within SJRA, coordination required with industrial customers.
Cost				3	\$250 to \$500 per ac-ft 2016 RWP: \$213/acft (during loan period), \$96/acft (after loan period); Competitive cost to other new raw water projects. May require treatment, fee to CoH for storage.
Diversification				4	Supply developed from a variety of water resources outside of current SJRA portfolio New source of supply, currently not part of SJRA supply portfolio.
Environmental				2	Some notable environmental impact; uncertain course for studies and mitigation 2016 RWP: Minimal impacts identified from project development. Project will provide a slight improvement in instream flows but may increase the salinity of flows. Preliminary siting of the project has been performed in order to avoid wetlands and other features of environmental quality that may be impacted. The project will discharge groundwater containing an elevated level of dissolved solids and radioactive nuclei and heat into natural water courses and care should be taken in limiting impacts related to water quality. Impacts to streams leading to Lake Conroe.
Funding				3	Specialized funding mechanisms exist Bureau of Reclamation grant for under-utilized supplies. Other state funding sources from TWDB.
Land Acquisition				3	5-100 ac Limited. Coordinate with Industrial Customers.
Legal				3	Moderate level of permitting and contracting; few unknowns 2016 RWP: Permits required for test bore, completed wells, storage in Lewis Creek Reservoir, and poor quality discharge in streams leading to Lake Conroe and Lake Conroe. Some uncertainty associated with future changes to groundwater regulations.
Location				4	Limited conveyance needs 2016 RWP: Project is located near Lake Conroe where it may serve existing and future SJRA customers.
Magnitude				2	5,000 to 25,000 ac-ft per year 2016 RWP: 7,840 acft/yr
Other Supplies				4	Opportunity to enhance existing supplies and other potential supplies 2016 RWP: Project may provide water for the comprehensive SJRA GRP, although poorer quality.
Public				2	Minimal local support; some opposition 2016 RWP: Some local support for Catahoula Aquifer projects, but not necessarily for discharging into Lake Conroe.
Scalability				1	Project requires significant infrastructure and development by a major sponsor 2016 RWP: relatively small scale, within SJRA service area.
Schedule				3	5 to 15 years 2016 RWP: Short development timeline associated with wells. First pilot wells to determine any changes in water quality over time.
Yield Risk				1	High level of uncertainty that project yield can be developed or will be maintained in the long term. High risk of supply availability Uncertain longterm viability.
		N/A	Highlands System Score	274.00	Montgomery County Score

Strategy Name:		Catahoula Aquifer Supplies				
Strategy Sub-Type:		Developed by SJRA (Treated at Water Treatment Plant)				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation				3	Potentially some opportunity to develop project synergistically with other stakeholders	2016 RWP: mostly contained within SJRA, coordination required with industrial customers.
Cost				2	\$500 to \$1,000 per ac-ft	2016 RWP: \$1,085/acft (during loan period), \$634/acft (after loan period); Requires treatment. Strategy will require well field development.
Diversification				4	Supply developed from a variety of water resources outside of current SJRA portfolio	New source of supply.
Environmental				3	Some notable environmental impact; routine process for permitting	2016 RWP: Minimal impacts identified from project development. Project will provide a slight improvement in instream flows but may increase the salinity of the flows. Preliminary siting of the project has been performed in order to avoid wetlands and other features of environmental quality that may be impacted. The project will discharge groundwater containing an elevated level of dissolved solids into natural water courses and care should be taken in limiting impacts related to water quality.
Funding				3	Specialized funding mechanisms exist	Bureau of Reclamation grant for under-utilized supplies. Other state funding sources from TWDB.
Land Acquisition				3	5-100 ac	Need land for treatment also. Coordinate with Industrial Participants.
Legal				3	Moderate level of permitting and contracting; few unknowns	2016 RWP: Permits required for test bore, completed wells, storage in Lewis Creek Reservoir, and poor quality discharge in streams leading to Lake Conroe and Lake Conroe. Some uncertainty associated with future changes to groundwater regulations.
Location				3	Some conveyance required to meet identified demands	2016 RWP: Project is located near Lake Conroe, at the WTP, where it may serve existing and future SJRA customers.
Magnitude				2	5,000 to 25,000 ac-ft per year	2016 RWP: 18,000 ac-ft/year allocated to treated or blended Catahoula strategy.
Other Supplies				4	Opportunity to enhance existing supplies and other potential supplies	2016 RWP: Project may provide water for the comprehensive SJRA GRP, although poorer quality.
Public				2	Minimal local support; some opposition	2016 RWP: Some local support for Catahoula Aquifer projects, but not necessarily for discharging into Lake Conroe.
Scalability				1	Project requires significant infrastructure and development by a major sponsor	2016 RWP: relatively small scale, within SJRA service area.
Schedule				3	5 to 15 years	2016 RWP: Short development timeline associated with wells. Will definitely need pilot treatment and wells, then design and construction.
Yield Risk				1	High level of uncertainty that project yield can be developed or will be maintained in the long term. High risk of supply availability	Uncertain longterm viability.
		N/A	Highlands System Score	234.00	Montgomery County Score	

Strategy Name:		Catahoula Aquifer Supplies				
Strategy Sub-Type:		Developed by SJRA (Blended)				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation				2	Potentially some obstacles in working with other stakeholders to develop project	2016 RWP: project will be funded by SJRA. Coordination with Industrial Customers required.
Cost				3	\$250 to \$500 per ac-ft	2016 RWP: \$278/acft (during loan period), \$152/acft (after loan period). Project includes well field development. Groundwater supplies will be blended with SJRA's existing or future surface water supplies.
Diversification				2	Supply originates from sources linked to existing SJRA supplies but may be influenced by other factors	New source of supply.
Environmental				3	Some notable environmental impact; routine process for permitting	2016 RWP: Minimal impacts identified from project development. Project will provide a slight improvement in instream flows. Preliminary siting of the project has been performed in order to avoid wetlands and other features of environmental quality that may be impacted. The project will discharge groundwater containing an elevated level of dissolved solids into natural water courses and care should be taken in limiting impacts related to water quality.
Funding				3	Specialized funding mechanisms exist	Bureau of Reclamation grant for under-utilized supplies. Other state funding sources from TWDB.
Land Acquisition				3	5-100 ac	Limited. Land needed for blending tanks/infrastructure.
Legal				3	Moderate level of permitting and contracting; few unknowns	2016 RWP: Permits required for test bore, completed wells, storage in Lewis Creek Reservoir, and poor quality discharge in streams leading to Lake Conroe and Lake Conroe. Some uncertainty associated with future changes to groundwater regulations.
Location				3	Some conveyance required to meet identified demands	2016 RWP: Project is located near Lake Conroe where it may serve existing and future SJRA participants.
Magnitude				2	5,000 to 25,000 ac-ft per year	2016 RWP: 18,000 ac-ft/year allocated to treated or blended Catahoula strategy.
Other Supplies				2	Negative impacts to other potential projects	2016 RWP: Project may provide water for the comprehensive SJRA GRP, although poorer quality. But requires another source to blend.
Public				3	Local support; minimal opposition	2016 RWP: Some local support for Catahoula Aquifer projects.
Scalability				1	Project requires significant infrastructure and development by a major sponsor	2016 RWP: relatively small scale, within SJRA service area.
Schedule				3	5 to 15 years	2016 RWP: Short development timeline associated with wells. Will need pilot to determine blend rates and different water qualities.
Yield Risk				1	High level of uncertainty that project yield can be developed or will be maintained in the long term. High risk of supply availability	Uncertain longterm viability.
		234.00	Highlands System Score	268.00	Montgomery County Score	

Strategy Name:		Catahoula Aquifer Supplies			
Strategy Sub-Type:		Developed by SJRA Participants (Treated)			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				4	Significant opportunity to develop project synergistically with other stakeholders 2016 RWP: Developed by SJRA Participants.
Cost				2	\$500 to \$1,000 per ac-ft 2016 RWP: \$1,085/acft (during loan period), \$634/acft (after loan period); Requires treatment. Strategy will require well field development.
Diversification				4	Supply developed from a variety of water resources outside of current SJRA portfolio New source of supply.
Environmental				4	Minor environmental impact; environmental studies have been completed on similar projects 2016 RWP: Minimal impacts identified from project development.
Funding				3	Specialized funding mechanisms exist Bureau of Reclamation grant for under-utilized supplies. Other state funding sources from TWDB.
Land Acquisition				4	Minimal land impact (<5 ac) Limited
Legal				3	Moderate level of permitting and contracting; few unknowns 2016 RWP: Permits required for test bore and completed wells Some uncertainty associated with future changes to groundwater regulations.
Location				4	Limited conveyance needs 2016 RWP: Project is located near customer city delivery points.
Magnitude				2	5,000 to 25,000 ac-ft per year 2016 RWP: 18,000 ac-ft/year allocated to treated or blended Catahoula strategy.
Other Supplies				3	Opportunity to enhance other potential projects 2016 RWP: Project may provide water for the comprehensive SJRA GRP, although poorer quality.
Public				3	Local support; minimal opposition 2016 RWP: Some local support for Catahoula Aquifer projects.
Scalability				4	Project can be implemented by entities of all sizes 2016 RWP: relatively small scale, within SJRA service area.
Schedule				3	5 to 15 years 2016 RWP: Short development timeline associated with wells. Piloting needed for treatment.
Yield Risk				1	High level of uncertainty that project yield can be developed or will be maintained in the long term. High risk of supply availability Uncertain longterm viability.
		N/A	Highlands System Score	270.00	Montgomery County Score

Strategy Name:		Catahoula Aquifer Supplies			
Strategy Sub-Type:		Developed by SJRA Participants (Blended)			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				4	Significant opportunity to develop project synergistically with other stakeholders 2016 RWP: Developed by SJRA Participants.
Cost				4	<\$250 per ac-ft 2016 RWP: \$278/acft (during loan period), \$152/acft (after loan period). Project includes well field development. Groundwater supplies will be blended with SJRA's existing or future surface water supplies.
Diversification				4	Supply developed from a variety of water resources outside of current SJRA portfolio New source of supply.
Environmental				4	Minor environmental impact; environmental studies have been completed on similar projects 2016 RWP: Minimal impacts identified from project development.
Funding				3	Specialized funding mechanisms exist Bureau of Reclamation grant for under-utilized supplies. Other state funding sources from TWDB.
Land Acquisition				4	Minimal land impact (<5 ac) Limited. Land needed for blending tanks/infrastructure. Coordinate with Entergy.
Legal				3	Moderate level of permitting and contracting; few unknowns 2016 RWP: Permits required for test bore and completed wells. Some uncertainty associated with future changes to groundwater regulations.
Location				4	Limited conveyance needs 2016 RWP: Project is located near Lake Conroe where it may serve existing and future SJRA participants.
Magnitude				2	5,000 to 25,000 ac-ft per year 2016 RWP: 18,000 ac-ft/year allocated to treated or blended Catahoula strategy.
Other Supplies				2	Negative impacts to other potential projects 2016 RWP: Project may provide water for the comprehensive SJRA GRP, although poorer quality. But requires another source to blend.
Public				3	Local support; minimal opposition 2016 RWP: Some local support for Catahoula Aquifer projects.
Scalability				4	Project can be implemented by entities of all sizes 2016 RWP: relatively small scale, within SJRA service area.
Schedule				3	5 to 15 years 2016 RWP: Short development timeline associated with wells. Will need pilot to determine blend rates and different water qualities.
Yield Risk				1	High level of uncertainty that project yield can be developed or will be maintained in the long term. High risk of supply availability Uncertain longterm viability.
		N/A	Highlands System Score	348.00	Montgomery County Score

Strategy Name: Strategy Sub-Type:		Conservation			
		TWDB Baseline			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				3	Potentially some opportunity to develop project synergistically with other stakeholders RWP 2016: Requires coordination between small systems on conservation plans and attitudes.
Cost				4	<\$250 per ac-ft 2016 RWP: Based on anticipated installation of efficient plumbing fixtures and appliances (no cost) ; Water conservation approaches consistently achieve high scores related to cost.
Diversification				3	Supply developed from sources unrelated to existing SJRA supplies 2016 RWP: Does not add another source of water, but instead decreases demand and reliance on existing sources.
Environmental				4	Minor environmental impact; environmental studies have been completed on similar projects 2016 RWP: Generally, there are no significant negative environmental impacts associated with the conservation projects or that may results from implementation of the conservation management project.
Funding				4	Project will receive beneficial consideration in a funding program due to type of project or source of water 2016 RWP: Although sponsors are identified, commitment to implementation varies considerably. Dedicated SWIFT funds are available through the TWDB funding program.
Land Acquisition				4	Minimal land impact (<5 ac) No applicable cost.
Legal				3	Moderate level of permitting and contracting; few unknowns 2016 RWP: Requires identifying utility to manage conservations measures.
Location				4	Limited conveyance needs n/a
Magnitude				2	5,000 to 25,000 ac-ft per year SJRA RWSMP: 6,000 (2020)- 30,000 (2070) ac-ft/yr;
Other Supplies				2	Negative impacts to other potential projects 2016 RWP: Conservation may negatively impact the availability of return flows for development into indirect reuse projects.
Public				4	Widespread local support; opportunity for ancillary community benefits 2016 RWP: No opposition to conservation efforts. Local support to initiatives.
Scalability				4	Project can be implemented by entities of all sizes 2016 RWP: Can be implemented at every level.
Schedule				3	5 to 15 years 2016 RWP: 2020 with ongoing annual expenditures; Conservation programs can be implemented in a relatively short period of time.
Yield Risk				3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability Uncertain near and long-term efficacy.
		N/A	Highlands System Score	364.00	Montgomery County Score

Strategy Name:		Conservation			
Strategy Sub-Type:		SJRA Water Conservation Plan			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				3	Potentially some opportunity to develop project synergistically with other stakeholders RWP 2016: Requires coordination between small systems on conservation plans and attitudes.
Cost				3	\$250 to \$500 per ac-ft 2016 RWP: \$726/acft; Water conservation approaches consistently achieve high scores related to cost. This is particularly affordable considering these projects offset the cost of treated, municipal supply.
Diversification				3	Supply developed from sources unrelated to existing SJRA supplies 2016 RWP: Does not add another source of water, but instead decreases demand and reliance on existing supplies.
Environmental				4	Minor environmental impact; environmental studies have been completed on similar projects 2016 RWP: Generally, there are no significant negative environmental impacts associated with the conservation projects or that may result from implementation of the conservation management project.
Funding				4	Project will receive beneficial consideration in a funding program due to type of project or source of water 2016 RWP: Although sponsors are identified, commitment to implementation varies considerably. Dedicated SWIFT funds allocated by TWDB.
Land Acquisition				4	Minimal land impact (<5 ac) Limited
Legal				3	Moderate level of permitting and contracting; few unknowns 2016 RWP: Requires identifying utility to manage conservations measures.
Location				4	Limited conveyance needs n/a
Magnitude				4	>50,000 ac-ft per year SJRA RWSMP: 118,122 ac-ft/yr (2070)
Other Supplies				2	Negative impacts to other potential projects 2016 RWP: Conservation may negatively impact the availability of return flows for development into indirect reuse projects.
Public				4	Widespread local support; opportunity for ancillary community benefits 2016 RWP: No opposition to conservation efforts. Local support for initiatives.
Scalability				4	Project can be implemented by entities of all sizes 2016 RWP: Can be implemented at every level.
Schedule				4	0 to 5 years 2016 RWP: Conservation programs can be implemented in a relatively short period of time.
Yield Risk				3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability Uncertain future viability.
		N/A	Highlands System Score	338.00	Montgomery County Score

Strategy Name:		Direct, Non-Potable Reuse				
Strategy Sub-Type:		Developed by Other GRP Participants				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation				4	Significant opportunity to develop project synergistically with other stakeholders	Minimal cooperation required between agencies - individual customers.
Cost				3	\$250 to \$500 per ac-ft	2016 RWP: \$161-290/ac-ft (during loan period), \$62/ac-ft (after loan period); The project is somewhat economical compared to alternative raw water supply projects. Costs increase as distance between wastewater treatment plant and need increases.
Diversification				3	Supply developed from sources unrelated to existing SJRA supplies	New source of supply currently not in SJRA supply portfolio.
Environmental				3	Some notable environmental impact; routine process for permitting	2016 RWP: Impacts from project are unlikely to exceed regular land development impacts for master planned communities. Project will reduce the level of flows returned to streams to a level to be determined through the permitting process. Reduced environmental flows.
Funding				4	Project will receive beneficial consideration in a funding program due to type of project or source of water	2016 RWP: Some stakeholders have come forward to support this project although potential stakeholders have implemented similar projects within the basin and region. Dedicated SWIFT funding sources.
Land Acquisition				3	5-100 ac	2016 RWP: minimal. Easements for transmission/distribution system.
Legal				3	Moderate level of permitting and contracting; few unknowns	2016 RWP: Simplified permitting process (direct reuse components retrofitted into existing system); will require SWPPP and permit for use of reclaimed wastewater effluent; Permit process must be initiated.
Location				3	Some conveyance required to meet identified demands	2016 RWP: Direct reuse infrastructure would be located in close proximity to points of water use. WWTP has to be located near need for reuse (sportsfields, etc).
Magnitude				2	5,000 to 25,000 ac-ft per year	SJRA Feasibility Study: 8,447 ac-ft/yr - 29,411 ac-ft/yr.
Other Supplies				2	Negative impacts to other potential projects	2016 RWP: Diversion of discharges would create reduction in environmental flows. May impact the yield of existing reuse permits owned by SJRA.
Public				2	Minimal local support; some opposition	2016 RWP: Some opposition to the proposed project. Public reception not 100%, previous complaints about sportsfields irrigated with WW effluent.
Scalability				3	Project may be implemented by most existing and potential entities	could be scaled to smaller entities, provided a WWTP is available.
Schedule				4	0 to 5 years	2016 RWP: 1-3 years. Need a study to match sources with areas of need.
Yield Risk				3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	2016 RWP: Minimal risk to availability of supply. Reduced yield due to current/future environmental flow needs.
		N/A	Highlands System Score	302.00	Montgomery County Score	

Strategy Name:		Direct, Non-Potable Reuse				
Strategy Sub-Type:		Developed by Woodlands				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation				4	Significant opportunity to develop project synergistically with other stakeholders	Minimal cooperation required between agencies - individual customers.
Cost				3	\$250 to \$500 per ac-ft	2016 RWP: \$161-290/ac-ft (during loan period), \$62/ac-ft (after loan period); The project is somewhat economical compared to alternative raw water supply projects. Costs increase as distance between wastewater treatment plant and need increases.
Diversification				3	Supply developed from sources unrelated to existing SJRA supplies	New use for reclaimed wastewater.
Environmental				3	Some notable environmental impact; routine process for permitting	2016 RWP: Impacts from project are unlikely to exceed regular land development impacts for master planned communities. Project will reduce the level of flows returned to streams to a level to be determined through the permitting process.
Funding				4	Project will receive beneficial consideration in a funding program due to type of project or source of water	2016 RWP: Some stakeholders have come forward to support this project although potential stakeholders have implemented similar projects within the basin and region. Dedicated SWIFT funding sources.
Land Acquisition				3	5-100 ac	2016 RWP: minimal. Easements for transmission/distribution system.
Legal				3	Moderate level of permitting and contracting; few unknowns	2016 RWP: Simplified permitting process (direct reuse components retrofitted into existing system); will require SWPPP and permit for use of reclaimed wastewater effluent; Permit process must be initiated.
Location				3	Some conveyance required to meet identified demands	2016 RWP: Direct reuse infrastructure would be located in close proximity to points of water use. WWTP has to be located near need for reuse (sportsfields, etc).
Magnitude				2	5,000 to 25,000 ac-ft per year	Magnitude varies based on The Woodlands wastewater discharges.
Other Supplies				1	Negative impacts to existing and other potential supplies	2016 RWP: Diversion of discharges would create reduction in environmental flows. May impact the yield of existing reuse permits owned by SJRA.
Public				2	Minimal local support; some opposition	2016 RWP: Some opposition to the proposed project. Public reception not 100%, previous complaints about sportsfields irrigated with WW effluent.
Scalability				3	Project may be implemented by most existing and potential entities	could be scaled to smaller entities, provided a WWTP is available.
Schedule				4	0 to 5 years	2016 RWP: 1-3 years. Need a study to match sources with areas of need.
Yield Risk				3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	2016 RWP: Minimal risk to availability of supply. Reduced yield due to current/future environmental flow needs.
		N/A	Highlands System Score	300.00	Montgomery County Score	

Strategy Name:		East Texas Water Transfer				
Strategy Sub-Type:						
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	2	Potentially some obstacles in working with other stakeholders to develop project	2016 RWP: Requires cooperation of large water rights holders (such as COH) to make exchanges possible. Politically will be difficult, lots of obstacles.	2	Potentially some obstacles in working with other stakeholders to develop project	2016 RWP: Requires cooperation of large water rights holders (such as COH) to make exchanges possible. Politically will be difficult, lots of obstacles.
Cost	3	\$250 to \$500 per ac-ft	2016 RWP: \$145/acft (during loan period), \$15/acft (after loan period). Plus cost of water.	2	\$500 to \$1,000 per ac-ft	2016 RWP: \$145/acft (during loan period), \$15/acft (after loan period). Plus cost of water. High transmission costs. Total project cost also includes \$317/ac-ft/yr for the additional transmission system needs to be constructed by SJRA to bring water to Montgomery system. The \$145/acft only considers delivery of water to COH facilities.
Diversification	4	Supply developed from a variety of water resources outside of current SJRA portfolio	Creates a new source of water, not linked to existing SJRA supplies.	4	Supply developed from a variety of water resources outside of current SJRA portfolio	Creates a new source of water, not linked to existing SJRA supplies.
Environmental	2	Some notable environmental impact; uncertain course for studies and mitigation	2016 RWP: Project alters environmental flows patterns in each basin although these impacts will be limited through prescribed environmental flows standards; necessary to use existing corridors/canals to minimize impacts.	2	Some notable environmental impact; uncertain course for studies and mitigation	2016 RWP: Project alters environmental flows patterns in each basin although these impacts will be limited through prescribed environmental flows standards; necessary to use existing corridors/canals to minimize impacts.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	2016 RWP: Sponsors identified based on needs and the required mechanics of the project. Currently, these stakeholders are not actively committed to development.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	2016 RWP: Sponsors identified based on needs and the required mechanics of the project. Currently, these stakeholders are not actively committed to development.
Land Acquisition	1	Significant land impact (>1,000 ac)	2016 RWP: \$4,287,127 in land and easements	1	Significant land impact (>1,000 ac)	2016 RWP: \$4,287,127 in land and easements
Legal	1	Significant permitting required; extensive contracting	2016 RWP: Significant challenges to pursue permits and acquire required right-of-way; amendments to permits for storage and appropriation of water in the Sabine River Basin required; will require a permit process with TCEQ for unappropriated excess flows.	1	Significant permitting required; extensive contracting	2016 RWP: Significant challenges to pursue permits and acquire required right-of-way; amendments to permits for storage and appropriation of water in the Sabine River Basin required; will require a permit process with TCEQ for unappropriated excess flows.
Location	1	IBT required, long distance from SJRA service area	2016 RWP: Considerable interbasin transfer required to convey water from outside of Region H.	1	IBT required, long distance from SJRA service area	2016 RWP: Considerable interbasin transfer required to convey water from outside of Region H.
Magnitude	4	>50,000 ac-ft per year	2016 RWP: > 250,000 acft/yr	4	>50,000 ac-ft per year	2016 RWP: > 250,000 acft/yr
Other Supplies	4	Opportunity to enhance existing supplies and other potential supplies	2016 RWP: Project enables the use of existing water supplies and may be combined with other projects such as TRA to SJRA Transfer to achieve comprehensive, regional goals.	4	Opportunity to enhance existing supplies and other potential supplies	2016 RWP: Project enables the use of existing water supplies and may be combined with other projects such as TRA to SJRA Transfer to achieve comprehensive, regional goals.
Public	2	Minimal local support; some opposition	2016 RWP: Possible opposition	2	Minimal local support; some opposition	2016 RWP: Probable opposition
Scalability	1	Project requires significant infrastructure and development by a major sponsor	2016 RWP: The magnitude of this project dictates that it be accomplished by major water providers in response to large, growing demands among their many customers. In effect, this water may be utilized by Water User Groups of many sizes that receive water from these major providers. This project will be accomplished by specific, regional water providers based on strategic needs when current water supplies become inadequate to meet future needs.	1	Project requires significant infrastructure and development by a major sponsor	2016 RWP: The magnitude of this project dictates that it be accomplished by major water providers in response to large, growing demands among their many customers. In effect, this water may be utilized by Water User Groups of many sizes that receive water from these major providers. This project will be accomplished by specific, regional water providers based on strategic needs when current water supplies become inadequate to meet future needs.
Schedule	2	15-30 years	2016 RWP: approx 20 year development timeline.	2	15-30 years	2016 RWP: approx 20 year development timeline.
Yield Risk	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	As the withdrawal of the additional 250,000 ac-ft/yr of water from the Sabine River Basin is permitted, there should be no yield risk for permitting, provided necessary environmental regulations are met.	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	As the withdrawal of the additional 250,000 ac-ft/yr of water from the Sabine River Basin is permitted, there should be no yield risk for permitting, provided necessary environmental regulations are met.
		242.00	Highlands System Score	202.00	Montgomery County Score	

Strategy Name:		Lake Creek Reservoir			
Strategy Sub-Type:					
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation	2	Potentially some obstacles in working with other stakeholders to develop project	Coordinate with multiple stakeholders in the region.	2	Potentially some obstacles in working with other stakeholders to develop project
Cost	2	\$500 to \$1,000 per ac-ft	2011 RWP: \$583/ac-ft	2	\$500 to \$1,000 per ac-ft
Diversification	2	Supply originates from sources linked to existing SJRA supplies but may be influenced by other factors	Creates a new water supply for the region.	2	Supply originates from sources linked to existing SJRA supplies but may be influenced by other factors
Environmental	2	Some notable environmental impact; uncertain course for studies and mitigation	2011 RWP: Some endangered species have been identified. There are about 2,200 acres of bottomland hardwoods, 7,000 acres of oak, hickory, pine forest, and 1,800 acres of shrubland and grasses. Probable high environmental impacts.	2	Some notable environmental impact; uncertain course for studies and mitigation
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding options.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects
Land Acquisition	1	Significant land impact (>1,000 ac)	2011 RWP: Significant clearing and relocation of utilities and roadways is required; 19,400 acres impacted by project.	1	Significant land impact (>1,000 ac)
Legal	2	Moderate level of permitting and contracting; several unknowns	2011 RWP: Permitting probably required for environmental impacts and relocation of utilities and roadways; preferred site by Bureau of Reclamation for SJR basin (positive B/C ratio).	2	Moderate level of permitting and contracting; several unknowns
Location	4	Limited conveyance needs	2011 RWP: Approximately 5 miles southwest of Conroe on Lake Creek within southern Montgomery County. The site is located within the San Jacinto River Basin and is in Region H.	3	Some conveyance required to meet identified demands
Magnitude	4	>50,000 ac-ft per year	2011 RWP: 67,200 acft/yr	4	>50,000 ac-ft per year
Other Supplies	3	Opportunity to enhance other potential projects	Improve supply reliability in Highlands system	3	Opportunity to enhance other potential projects
Public	3	Local support; minimal opposition	Minimal opposition.	3	Local support; minimal opposition
Scalability	1	Project requires significant infrastructure and development by a major sponsor	Large project, difficult to scale to Water User Groups or other smaller entities.	1	Project requires significant infrastructure and development by a major sponsor
Schedule	2	15-30 years	Permitting and construction may take up to 20 years.	2	15-30 years
Yield Risk	2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability	Yield risk due to sedimentation and environmental flows.	2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability
		220.00	Highlands System Score	214.00	Montgomery County Score

Strategy Name:		Lake Creek Scalping			
Strategy Sub-Type:		Run of River Supplies			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				2	Potentially some obstacles in working with other stakeholders to develop project LCS Feasibility Phase II: Minimal cooperation required between entities.
Cost				2	\$500 to \$1,000 per ac-ft LCS Feasibility Phase II: \$854-1740/acft (for year 2020, based on capacity of pump station).
Diversification				1	Supply originates from sources linked to existing SJRA supplies LCS Feasibility Phase II: Adds a new source of water to the SJRA system, by diverting flows from Lake Creek to Lake Conroe. Supply from San Jacinto basin.
Environmental				3	Some notable environmental impact; routine process for permitting LCS Feasibility Phase II: will reduce flows in Lake Creek, possibly with environmental consequences. Other environmental issues should be mitigated.
Funding				2	Common funding mechanisms may be utilized; project will compete equally with other competing projects Typical funding sources.
Land Acquisition				3	5-100 ac LCS Feasibility Phase II: \$230,045 for land acquisition and easements.
Legal				1	Significant permitting required; extensive contracting LCS Feasibility Phase II: significant permitting required. Water Right permits, 404 etc..
Location				4	Limited conveyance needs Good proximity; plan diverts flow from Lake Creek to Lake Conroe, with a direct pipeline. The water then joins the SJRA supply system. Yield varies by the sub-type of the scalping location selected.
Magnitude				2	5,000 to 25,000 ac-ft per year LCS Feasibility Phase II: 922 ac-ft per year to 10,000 ac-ft per year.
Other Supplies				2	Negative impacts to other potential projects May impact availability of other supplies.
Public				3	Local support; minimal opposition Minimal opposition.
Scalability				1	Project requires significant infrastructure and development by a major sponsor LCS Feasibility Phase II: Bases on the capacity constraints of the infrastructure.
Schedule				3	5 to 15 years approximately 10 years.
Yield Risk				3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability LCS Feasibility Phase II: Environmental flow requirements as part of Senate Bill 3 were considered in the memo. Same concerns as other San Jacinto basin supplies.
		N/A	Highlands System Score	228.00	Montgomery County Score

Strategy Name:		Lake Creek Scalping			
Strategy Sub-Type:		Storage in Lake Conroe			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				2	Potentially some obstacles in working with other stakeholders to develop project LCS Feasibility Phase II: Minimal cooperation required between entities.
Cost				1	>\$1,000 per ac-ft LCS Feasibility Phase II: \$854-1740/acft (for year 2020, based on capacity of pump station).
Diversification				1	Supply originates from sources linked to existing SJRA supplies LCS Feasibility Phase II: Adds a new source of water to the SJRA system, by diverting flows from Lake Creek to Lake Conroe. Supply from San Jacinto basin.
Environmental				3	Some notable environmental impact; routine process for permitting LCS Feasibility Phase II: will reduce flows in Lake Creek, possibly with environmental consequences. Other environmental issues should be mitigated.
Funding				2	Common funding mechanisms may be utilized; project will compete equally with other competing projects Typical funding options.
Land Acquisition				4	Minimal land impact (<5 ac) LCS Feasibility Phase II: \$230,045 for land acquisition and easements.
Legal				1	Significant permitting required; extensive contracting LCS Feasibility Phase II: significant permitting required. Water Right permits, 404 etc..
Location				3	Some conveyance required to meet identified demands Good proximity; plan diverts flow from Lake Creek to Lake Conroe, with a direct pipeline. The water then joins the SJRA supply system. Yield varies by the sub-type of the scalping location selected.
Magnitude				2	5,000 to 25,000 ac-ft per year LCS Feasibility Phase II: 922-10,055 ac-ft/yr
Other Supplies				3	Opportunity to enhance other potential projects Positively enhance the reliability of Lake Conroe.
Public				3	Local support; minimal opposition Minimal Opposition.
Scalability				1	Project requires significant infrastructure and development by a major sponsor LCS Feasibility Phase II: Based on the capacity constraints of the infrastructure.
Schedule				3	5 to 15 years Approximately 10 years.
Yield Risk				3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability LCS Feasibility Phase II: Environmental flow requirements as part of Senate Bill 3 were considered in the memo. Same concerns as other San Jacinto basin supplies.
		N/A	Highlands System Score	188.00	Montgomery County Score

Strategy Name:		Lake Creek Scalping			
Strategy Sub-Type:		Dedicated Storage			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				2	Potentially some obstacles in working with other stakeholders to develop project LCS Feasibility Phase II: Minimal cooperation required between entities.
Cost				1	>\$1,000 per ac-ft LCS Feasibility Phase II: \$854-1740/acft (for year 2020, based on capacity of pump station).
Diversification				1	Supply originates from sources linked to existing SJRA supplies LCS Feasibility Phase II: Adds a new source of water to the SJRA system, by diverting flows from Lake Creek to Lake Conroe. Supply from San Jacinto basin.
Environment				3	Some notable environmental impact; routine process for permitting LCS Feasibility Phase II: will reduce flows in Lake Creek, possibly with environmental consequences. Other environmental issues should be mitigated.
Funding				2	Common funding mechanisms may be utilized; project will compete equally with other competing projects Typical funding options.
Land Acquisition				2	100-1,000 ac LCS Feasibility Phase II: \$230,045 for land acquisition and easements.
Legal				1	Significant permitting required; extensive contracting LCS Feasibility Phase II: significant permitting required. Water Right permits, 404 etc..
Location				3	Some conveyance required to meet identified demands Good proximity; plan diverts flow from Lake Creek to off-channel storage, with a direct pipeline. The water then joins the SJRA supply system. Yield varies by the sub-type of the scalping location selected.
Magnitude				2	5,000 to 25,000 ac-ft per year LCS Feasibility Phase II: 922-10,055 ac-ft/yr
Other Supplies				3	Opportunity to enhance other potential projects Positively enhance the reliability of supplies in Montgomery County system.
Public				3	Local support; minimal opposition Minimal opposition.
Scalability				1	Project requires significant infrastructure and development by a major sponsor LCS Feasibility Phase II: Based on the capacity constraints of the infrastructure.
Schedule				3	5 to 15 years Approximately 10 years.
Yield Risk				3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability LCS Feasibility Phase II: Environmental flow requirements as part of Senate Bill 3 were considered in the memo. Same concerns as other San Jacinto basin supplies.
		N/A	Highlands System Score	180.00	Montgomery County Score

Strategy Name: Strategy Sub-Type:		Lake Livingston Transfer				
		to Lake Conroe/SJRA Treatment Plant				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	4	Significant opportunity to develop project synergistically with other stakeholders	2016 RWP: cooperation required between SJRA, TRA, and CWA.	4	Potentially some opportunity to develop project synergistically with other stakeholders	2016 RWP: cooperation required between SJRA, TRA.
Cost	4	<\$250 per ac-ft	2016 RWP: \$311/acft (during loan period), \$32/acft (after loan period); Relatively low-cost project for delivery of raw water. Total cost will also include contract cost of water.	3	\$250 to \$500 per ac-ft	2016 RWP: \$311/acft (during loan period), \$32/acft (after loan period); Relatively low-cost project for delivery of raw water. Total cost will also include contract cost of water. Very high transmission costs.
Diversification	3	Supply developed from sources unrelated to existing SJRA supplies	2016 RWP: The project is associated with water supplies that have already been obtained by SJRA through agreement with TRA (not a new water source, but one previously unused).	3	Supply developed from sources unrelated to existing SJRA supplies	2016 RWP: The project is associated with water supplies that have already been obtained by SJRA through agreement with TRA (not a new water source, but one previously unused).
Environmental	3	Some notable environmental impact; routine process for permitting	2016 RWP: Interbasin transfer has potential impacts to water resources and transmission of species.	3	Some notable environmental impact; routine process for permitting	2016 RWP: Interbasin transfer has potential impacts to water resources and transmission of species; Large portion of pipeline travels through Sam Houston National Forest, must use private lands or existing corridors. Impacts on Lake Conroe water quality.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	2016 RWP: SJRA is committed to exploring options for utilizing this resource (none yet).	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	2016 RWP: SJRA is committed to exploring options for utilizing this resource (none yet).
Land Acquisition	3	5-100 ac	Land and easement acquisition would generate opposition from existing landowners and environmental groups.	1	Significant land impact (>1,000 ac)	2016 RWP: \$7,170,000 in land and easements.
Legal	3	Moderate level of permitting and contracting; few unknowns	2016 RWP: Although a water right permit exists for the development of the TRA supply, additional permitting will be required to make the supply available in the San Jacinto River Basin. This requirement is not applicable the service of SJRA's demands in the Trinity-San Jacinto Coastal Basin; The project is associated with water supplies that have already been obtained by SJRA through agreement with TRA.	2	Moderate level of permitting and contracting; several unknowns	2016 RWP: Although a water right permit exists for the development of the TRA supply, additional permitting will be required to make the supply available in the San Jacinto River Basin. This requirement is not applicable the service of SJRA's demands in the Trinity-San Jacinto Coastal Basin; The project is associated with water supplies that have already been obtained by SJRA through agreement with TRA.
Location	3	Some conveyance required to meet identified demands	Supply picked up at the CWA Main Canal (as it is currently done) and conveyed to east and west pump stations.	1	IBT required, long distance from SJRA service area	Supply discharged to Lake Conroe or fed directly to treatment plant, depending on intended use.
Magnitude	3	25,000 to 50,000 ac-ft/yr	2016 RWP: 50,000 acft/yr	3	25,000 to 50,000 ac-ft/yr	2016 RWP: 50,000 acft/yr
Other Supplies	4	Opportunity to enhance existing supplies and other potential supplies	2016 RWP: This project takes advantage of an existing water source by making it available to demand centers.	4	Opportunity to enhance existing supplies and other potential supplies	2016 RWP: This project takes advantage of an existing water source by making it available to demand centers.
Public	2	Minimal local support; some opposition	2016 RWP: Local support for development of a surface water supply .	3	Local support; minimal opposition	2016 RWP: Local support for development of a surface water supply in addition to Lake Conroe in Montgomery County.
Scalability	1	Project requires significant infrastructure and development by a major sponsor	2016 RWP: relatively large scale, provides water for the entire SJRA service area.	1		2016 RWP: relatively large scale, provides water for the entire SJRA service area.
Schedule	3	5 to 15 years	2016 RWP: approx 5-year development timeline as IBT is not required for all of Highlands service area.	2	15-30 years	2016 RWP: approx 10 year development timeline. Lots of time needed for studies- changes in water quality, environmental, etc.
Yield Risk	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	2016 RWP: Slight risk from natural or man-made disasters related to infrastructure, but none identified from environmental/permitting requirements. Environmental flow requirements could pose a risk to supply availability	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	2016 RWP: Slight risk from natural or man-made disasters related to infrastructure, but none identified from environmental/permitting requirements. Environmental flow requirements could pose a risk to supply availability. Reduced environmental flows.
		328.00	Highlands System Score	262.00	Montgomery County Score	

Strategy Name: Strategy Sub-Type:		Purchase Groundwater				
		Eastern (Trinity) Basin				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	3	Potentially some opportunity to develop project synergistically with other stakeholders	Partnership with another entity serving as owner/operator of well facilities.	3	Potentially some opportunity to develop project synergistically with other stakeholders	Partnership with another entity serving as owner/operator of well facilities.
Cost	2	\$500 to \$1,000 per ac-ft	\$1000/ac-ft, but vary with production quantity (raw water only, additional treatment required). Additional fees for production and export for wells in Groundwater Conservation District (GCD) jurisdiction, \$55/ac-ft.	2	\$500 to \$1,000 per ac-ft	\$1000/ac-ft, but vary with production quantity (raw water only, additional treatment required). Additional fees for production and export for wells in Groundwater Conservation District (GCD) jurisdiction, \$55/ac-ft.
Diversification	4	Supply developed from a variety of water resources outside of current SJRA portfolio	Provides an alternative to surface water use; uses water from Trinity River Basin footprint.	4	Supply developed from a variety of water resources outside of current SJRA portfolio	Provides an alternative to surface water use; uses water from Trinity River Basin footprint.
Environmental	3	Some notable environmental impact; routine process for permitting	Any Groundwater use in excess of recharge will result in accelerated aquifer drawdown, causes subsidence, reduced quality; well field construction causes habitat impact.	3	Some notable environmental impact; routine process for permitting	Any Groundwater use in excess of recharge will result in accelerated aquifer drawdown, causes subsidence, reduced quality; well field construction causes habitat impact.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding options.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding options.
Land Acquisition	3	5-100 ac	The groundwater well field is developed in the basin from which the water is transferred from. There may be some land acquisition for the transmission system.	3	5-100 ac	The groundwater well field is developed in the basin from which the water is transferred from. There may be some land acquisition for the transmission system.
Legal	3	Moderate level of permitting and contracting; few unknowns	Local GCD rules applicable, including permitting with GCD and TCEQ.	3	Moderate level of permitting and contracting; few unknowns	Local GCD rules applicable, including permitting with GCD and TCEQ.
Location	3	Some conveyance required to meet identified demands	Not ideal, usage is outside of immediate area of withdrawal.	3	Some conveyance required to meet identified demands	Not ideal, usage is outside of immediate area of withdrawal.
Magnitude	3	25,000 to 50,000 ac-ft/yr	10,000-50,000 ac-ft/yr	3	25,000 to 50,000 ac-ft/yr	10,000-50,000 ac-ft/yr
Other Supplies	2	Negative impacts to other potential projects	Uses GW supplies from other areas, which may deplete aquifer levels.	2	Negative impacts to other potential projects	Uses GW supplies from other areas, which may deplete aquifer levels.
Public	2	Minimal local support; some opposition	Continued overdrafting of GW could result in public relation challenges; opposition from environmental groups and existing Groundwater users is likely, particularly if overdrafting of Groundwater in unregulated counties.	2	Minimal local support; some opposition	Continued overdrafting of GW could result in public relation challenges; opposition from environmental groups and existing Groundwater users is likely, particularly if overdrafting of Groundwater in unregulated counties.
Scalability	3	Project may be implemented by most existing and potential entities	If infrastructure exists, project can be conducted by smaller entities.	3	Project may be implemented by most existing and potential entities	If infrastructure exists, project can be conducted by smaller entities.
Schedule	3	5 to 15 years	10+ years due to need for greater transmission infrastructure and extensive permitting and coordination; public or agency concerns regarding strategy could result in delayed implementation.	3	5 to 15 years	10+ years due to need for greater transmission infrastructure and extensive permitting and coordination; public or agency concerns regarding strategy could result in delayed implementation.
Yield Risk	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	Opposition from environmental groups likely, for source areas without a GCD, any future GCD establishment or rule changes could reduce the viability of this supply drastically.	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	Opposition from environmental groups likely, for source areas without a GCD, any future GCD establishment or rule changes could reduce the viability of this supply drastically.
		250.00	Highlands System Score	250.00	Montgomery County Score	

Strategy Name: Strategy Sub-Type:		Purchase Groundwater				
		Western (Brazos) Basin				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	3	Potentially some opportunity to develop project synergistically with other stakeholders	Partnership with groundwater producing entity for well field infrastructure, or other entities to share infrastructure development costs.	3	Potentially some opportunity to develop project synergistically with other stakeholders	Partnership with groundwater producing entity for well field infrastructure, or other entities to share infrastructure development costs.
Cost	2	\$500 to \$1,000 per ac-ft	\$500/ac-ft, but vary with production quantity (raw water only, additional treatment required).	2	\$500 to \$1,000 per ac-ft	\$500/ac-ft, but vary with production quantity (raw water only, additional treatment required).
Diversification	4	Supply developed from a variety of water resources outside of current SJRA portfolio	Provides an alternative to surface water use; uses water from Brazos River Basin footprint.	4	Supply developed from a variety of water resources outside of current SJRA portfolio	Provides an alternative to surface water use; uses water from Brazos River Basin footprint.
Environmental	3	Some notable environmental impact; routine process for permitting	Any Groundwater use in excess of recharge will result in accelerated aquifer drawdown, causes subsidence, reduced quality; well field construction causes habitat impact.	3	Some notable environmental impact; routine process for permitting	Any Groundwater use in excess of recharge will result in accelerated aquifer drawdown, causes subsidence, reduced quality; well field construction causes habitat impact.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding sources.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding sources.
Land Acquisition	3	5-100 ac	The groundwater well field is developed in the basin from which the water is transferred from. There may be some land acquisition for the transmission system.	3	5-100 ac	The groundwater well field is developed in the basin from which the water is transferred from. There may be some land acquisition for the transmission system.
Legal	3	Moderate level of permitting and contracting; few unknowns	Local Groundwater Conservation District (GCD) rules applicable, including permitting with GCD and TCEQ.	3	Moderate level of permitting and contracting; few unknowns	Local Groundwater Conservation District (GCD) rules applicable, including permitting with GCD and TCEQ.
Location	3	Some conveyance required to meet identified demands	Not ideal, usage is outside of immediate area of withdrawal.	3	Some conveyance required to meet identified demands	Not ideal, usage is outside of immediate area of withdrawal.
Magnitude	3	25,000 to 50,000 ac-ft/yr	10,000-50,000 ac-ft/yr	3	25,000 to 50,000 ac-ft/yr	10,000-50,000 ac-ft/yr
Other Supplies	2	Negative impacts to other potential projects	Uses Groundwater supplies from other areas, which may deplete aquifer levels.	2	Negative impacts to other potential projects	Uses Groundwater supplies from other areas, which may deplete aquifer levels.
Public	2	Minimal local support; some opposition	Continued overdrafting of Groundwater could result in public relation challenges; opposition from environmental groups and existing Groundwater users is likely, particularly if overdrafting of GW in unregulated counties.	2	Minimal local support; some opposition	Continued overdrafting of Groundwater could result in public relation challenges; opposition from environmental groups and existing Groundwater users is likely, particularly if overdrafting of Groundwater in unregulated counties.
Scalability	3	Project may be implemented by most existing and potential entities	Large project, difficult to scale to smaller entities.	3	Project may be implemented by most existing and potential entities	Large project, difficult to scale to smaller entities.
Schedule	3	5 to 15 years	<5 years as it requires limited infrastructure, but public or agency concerns could result in delayed implementation.	3	5 to 15 years	<5 years as it requires limited infrastructure, but public or agency concerns could result in delayed implementation.
Yield Risk	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	Opposition from environmental groups likely, for source areas without a GCD, any future GCD establishment or rule changes could reduce the viability of this supply drastically.	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	Opposition from environmental groups likely, for source areas without a GCD, any future GCD establishment or rule changes could reduce the viability of this supply drastically.
		250.00	Highlands System Score	250.00	Montgomery County Score	

Strategy Name: Strategy Sub-Type:		Purchase Surface Water				
		Trinity River Authority				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	4	Significant opportunity to develop project synergistically with other stakeholders	This strategy may foster participation with the Trinity River Authority as an eventual alternative; other users may also be interested in purchasing water.	4	Significant opportunity to develop project synergistically with other stakeholders	This strategy may foster participation with the Trinity River Authority as an eventual alternative; other users may also be interested in purchasing water.
Cost	4	<\$250 per ac-ft	2016 RWP: \$311/acft (during loan period), \$32/acft (after loan period); Relatively low-cost project for delivery of raw water. Total cost will also include contract cost of water. Transmission costs are not significant for this strategy sub-type.	3	\$250 to \$500 per ac-ft	2016 RWP: \$311/acft (during loan period), \$32/acft (after loan period); Relatively low-cost project for delivery of raw water. Total cost will also include contract cost of water. Very high transmission costs.
Diversification	3	Supply developed from sources unrelated to existing SJRA supplies	Would use resources new to both Montgomery County and Highlands, but dependent on supplies in other areas.	3	Supply developed from sources unrelated to existing SJRA supplies	Would use resources new to both Montgomery County and Highlands, but dependent on supplies in other areas.
Environmental	3	Some notable environmental impact; routine process for permitting	Minor issues with construction in SJ-Brazos Coastal Basin; greater variations in reservoir levels and stream flows in Trinity basin; distribution of fresh water flows into Galveston Bay modified.	3	Some notable environmental impact; routine process for permitting	Minor issues with construction in SJ-Brazos Coastal Basin; greater variations in reservoir levels and stream flows in Trinity basin; distribution of fresh water flows into Galveston Bay modified.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Potential partners who have recently investigated the opportunity for developing a raw water transfer from the Trinity River Basin that may facilitate the development of such a project at more competitive cost.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Potential partners who have recently investigated the opportunity for developing a raw water transfer from the Trinity River Basin that may facilitate the development of such a project at more competitive cost.
Land Acquisitor	4	Minimal land impact (<5 ac)	Potentially project could use the excess capacity in the existing CWA transmission system.	1	Significant land impact (>1,000 ac)	Land and easement acquisition would generate opposition from existing landowners and environmental groups.
Legal	4	Minimal permitting required; simple contracting	No significant permitting required for this option.	2	Moderate level of permitting and contracting; several unknowns	Extensive permitting required for pipeline construction, along with additional permitting from US Army Corps of Engineers.
Location	4	Limited conveyance needs	No significant transmission system required.	1	IBT required, long distance from SJRA service area	Requires significant pipeline construction/use.
Magnitude	3	25,000 to 50,000 ac-ft/yr	The magnitude varies depending on TRA's availability to sell water and SJRA's need for additional supplies.	3	25,000 to 50,000 ac-ft/yr	The magnitude varies depending on TRA's availability to sell water and SJRA's need for additional supplies.
Other Supplies	3	Opportunity to enhance other potential projects	Potentially increase reliability of the existing supplies.	4	Opportunity to enhance existing supplies and other potential supplies	Potentially increase reliability of the existing supplies.
Public	2	Minimal local support; some opposition	Movement of water as well as land and easement acquisition would generate opposition from existing landowners and environmental groups.	3	Local support; minimal opposition	Movement of water as well as land and easement acquisition would generate opposition from existing landowners and environmental groups.
Scalability	1	Project requires significant infrastructure and development by a major sponsor	Large project, difficult to scale.	1	Project requires significant infrastructure and development by a major sponsor	Large project, difficult to scale.
Schedule	3	5 to 15 years	The initial phase of construction could be implemented quickly, subject to contracting and construction process, but could take 5-15 years depending on project specifics.	2	15-30 years	The initial phase of construction could be implemented quickly, subject to contracting and construction process, but could take 5-15 years depending on project specifics.
Yield Risk	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	Limitations on yield are likely a function of existing infrastructure capacity.	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	Limitations on yield are likely a function of existing infrastructure capacity.
		342.00	Highlands System Score	262.00	Montgomery County Score	

Strategy Name: Strategy Sub-Type:		Purchase Surface Water			
		CLCND			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation	4	Significant opportunity to develop project synergistically with other stakeholders	This strategy may foster participation with the other entities as an eventual alternative; other users may also be interested in purchasing water.		
Cost	3	\$250 to \$500 per ac-ft	\$500-1000/ac-ft (raw water only).		
Diversification	3	Supply developed from sources unrelated to existing SJRA supplies	Would use resources new to Highlands service area, but dependent on supplies in other areas.		
Environmental	3	Some notable environmental impact; routine process for permitting	Minor issues with construction in SJ-Brazos Coastal Basin; greater variations in reservoir levels and stream flows in Trinity basin; distribution of fresh water flows into Galveston Bay modified.		
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Potential partners who have recently investigated the opportunity for developing a raw water transfer from the Trinity River Basin that may facilitate the development of such a project at more competitive cost.		
Land Acquisitor	4	Minimal land impact (<5 ac)	Minimal land acquisition. There is enough capacity in the existing CWA infrastructure to transfer the contracted supplies.		
Legal	4	Minimal permitting required; simple contracting	Minimal permitting required.		
Location	4	Limited conveyance needs	Limited conveyance system required. There is enough capacity in the existing CWA infrastructure to transfer the contracted supplies.		
Magnitude	3	25,000 to 50,000 ac-ft/yr	Magnitude varies depending on CLCND's availability to sell water and SJRA's needs in the Highlands system.		
Other Supplies	3	Opportunity to enhance other potential projects	Potentially increase reliability of the existing supplies.		
Public	3	Local support; minimal opposition	Minimal opposition.		
Scalability	1	Project requires significant infrastructure and development by a major sponsor	Large project, difficult to scale.		
Schedule	3	5 to 15 years	The initial phase of construction could be implemented quickly, subject to contracting and construction process, but could take 5-15 years depending on project specifics.		
Yield Risk	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	Limitations on yield are likely a function of existing infrastructure capacity.		
		308.00	Highlands System Score	N/A	Montgomery County Score

Strategy Name:		Seawater Desalination				
Strategy Sub-Type:						
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	3	Potentially some opportunity to develop project synergistically with other stakeholders	2016 RWP: Requires coordination with local and regional stakeholders.	2	Potentially some obstacles in working with other stakeholders to develop project	2016 RWP: Requires cooperation with local and regional stakeholders.
Cost	1	>\$1,000 per ac-ft	2016 RWP: \$2,454/ac-ft (during loan period), \$1,461/ac-ft (after loan period).	1	>\$1,000 per ac-ft	2016 RWP: \$2,454/ac-ft (during loan period), \$1,461/ac-ft (after loan period).
Diversification	4	Supply developed from a variety of water resources outside of current SJRA portfolio	2016 RWP: Provides a new source of water, not relying on any other operations.	4	Supply developed from a variety of water resources outside of current SJRA portfolio	2016 RWP: Provides a new source of water, not relying on any other operations.
Environmental	3	Some notable environmental impact; routine process for permitting	2016 RWP: Limited environmental concerns associated with project development. No impact on environmental flows due to location of intake and discharge.	2	Some notable environmental impact; uncertain course for studies and mitigation	2016 RWP: Limited environmental concerns associated with project development. No impact on environmental flows due to location of intake and discharge. Significant transmission system required to transfer water to Montgomery County system.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding options.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	Typical funding options.
Land Acquisition	4	Minimal land impact (<5 ac)	Requires land acquisition for the facility. Does not need significant land acquisition for transmission to Highlands system as the existing infrastructure can be utilized.	3	5-100 ac	Requires land acquisition for the facility and the transmission system.
Legal	4	Minimal permitting required; simple contracting	2016 RWP: Limited permit requirements. Property available for potential project development. Potential challenges permitting the brine discharge from the discharge facility.	3	Moderate level of permitting and contracting; few unknowns	2016 RWP: Limited permit requirements. Property available for potential project development. Potential challenges permitting the brine discharge from the desalination facility.
Location	4	Limited conveyance needs	More convenient choice for Highlands area, as transportation distances are lesser than for Montgomery County.	1	IBT required, long distance from SJRA service area	2016 RWP: Poor location for use in Montgomery County; water must be transported significant distances.
Magnitude	3	25,000 to 50,000 ac-ft/yr	2016 RWP: 11,200 ac-ft/yr for a 10 mgd plant. 27,900 ac-ft/yr is currently permitted for diversion by NRG.	3	25,000 to 50,000 ac-ft/yr	2016 RWP: 11,200 ac-ft/yr for a 10 mgd plant. 27,900 ac-ft/yr is currently permitted for diversion by NRG.
Other Supplies	4	Opportunity to enhance existing supplies and other potential supplies	No effect on other supplies.	4	Opportunity to enhance existing supplies and other potential supplies	No effect on other supplies.
Public	3	Local support; minimal opposition	2016 RWP: Local support for desalination development.	2	Minimal local support; some opposition	2016 RWP: Local support for desalination development. Potential opposition because of the lengthy transmission system required to move the supplies to Montgomery County system.
Scalability	1	Project requires significant infrastructure and development by a major sponsor	Large scale, difficult to implement on WUG level.	1	Project requires significant infrastructure and development by a major sponsor	Large scale, difficult to implement on WUG level.
Schedule	4	0 to 5 years	2016 RWP: Reasonably short development process due to existing infrastructure for seawater intake and brine discharge.	2	15-30 years	2016 RWP: Development Timelines ~ 5 years; Reasonably short development process due to existing infrastructure for seawater intake and brine discharge.
Yield Risk	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	2016 RWP: Risk to project related to natural disasters within proximity to the coast. However, this risk is mitigated through existing, developed infrastructure.	2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability	2016 RWP: Risk to project related to natural disasters within proximity to the coast. However, this risk is mitigated through existing, developed infrastructure.
		234.00	Highlands System Score	172.00	Montgomery County Score	

Strategy Name:		Regional Return Flows			
Strategy Sub-Type:		Lake Houston with South Plant			
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation				1	Significant potential obstacles in working with other stakeholders to develop project 2016 RWP: Coordination required with multiple stakeholders to determine the availability of the regional return flows.
Cost				2	\$500 to \$1,000 per ac-ft 2016 RWP: This project provides a raw water supply through permit. Additional treatment and transmission costs required for transfer of the supplies.
Diversification				3	Supply developed from sources unrelated to existing SJRA supplies 2016 RWP: New supply created from return flow reuse.
Environmental				3	Some notable environmental impact; routine process for permitting 2016 RWP: Project will reduce the level of flows returned to streams to a level to be determined through the permitting process (as much as 150,994 ac-ft/yr). San Jacinto Basin Regional Return Flows are not anticipated to affect acreage, vulnerable species, or agricultural land and production.
Funding				2	Common funding mechanisms may be utilized; project will compete equally with other competing projects 2016 RWP: No stakeholders have yet come forward to support this project although potential stakeholders have implemented similar projects within the basin and region.
Land Acquisition				3	5-100 ac
Legal				1	Significant permitting required; extensive contracting 2016 RWP: This project would require a water right permit from TCEQ to establish legal authorization over the source return flows. It is also likely that any permit granted would be limited in volume to the authorized discharge of source wastewater treatment plants (WWTPs). Permit could be developed in a relatively short period of time.
Location				3	Some conveyance required to meet identified demands 2016 RWP: This is a large scale project, not specific to any location; will serve Montgomery County.
Magnitude				2	5,000 to 25,000 ac-ft per year Magnitude depends on the expected growth in the Montgomery County that will be potentially served by this project.
Other Supplies				3	Opportunity to enhance other potential projects 2016 RWP: Project takes advantage of existing and planned discharges in the San Jacinto basin, relying on other infrastructure to create a source of supply. The project would be developed in such a way to prevent detrimental impacts to other projects under development.
Public				2	Minimal local support; some opposition 2016 RWP: No known opposition to the proposed project.
Scalability				1	Project requires significant infrastructure and development by a major sponsor 2016 RWP: Once permitted, smaller authorities can make use of this source as well as overarching ones.
Schedule				3	5 to 15 years 2016 RWP: 5 years. Long time to obtain permits.
Yield Risk				3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability 2016 RWP: Minimal risk to availability of supply. Environmental flows may impact availability.
		N/A	Highlands System Score	218.00	Montgomery County Score

Strategy Name: Strategy Sub-Type:		Regional Return Flows				
		Lake Conroe/Lake Houston				
		Highlands System		Montgomery County		
		Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation	1	Significant potential obstacles in working with other stakeholders to develop project	2016 RWP: Coordination required with multiple stakeholders to determine the availability of the regional return flows.	1	Significant potential obstacles in working with other stakeholders to develop project	2016 RWP: Coordination required with multiple stakeholders to determine the availability of the regional return flows.
Cost	4	<\$250 per ac-ft	2016 RWP: \$0/acft (during loan period), \$0/acft (after loan period); This project provides a raw water supply though permit that would rely upon other infrastructure to perfect it as a source of supply.	4	<\$250 per ac-ft	2016 RWP: \$0/acft (during loan period), \$0/acft (after loan period); This project provides a raw water supply though permit that would rely upon other infrastructure to perfect it as a source of supply.
Diversification	3	Supply developed from sources unrelated to existing SJRA supplies	2016 RWP: New supply created from return flow reuse.	3	Supply developed from sources unrelated to existing SJRA supplies	2016 RWP: New supply created from return flow reuse.
Environmental	3	Some notable environmental impact; routine process for permitting	2016 RWP: Project will reduce the level of flows returned to streams to a level to be determined through the permitting process (as much as 150,994 ac-ft/yr). San Jacinto Basin Regional Return Flows are not anticipated to affect acreage, vulnerable species, or agricultural land and production.	3	Some notable environmental impact; routine process for permitting	2016 RWP: Project will reduce the level of flows returned to streams to a level to be determined through the permitting process (as much as 150,994 ac-ft/yr). San Jacinto Basin Regional Return Flows are not anticipated to affect acreage, vulnerable species, or agricultural land and production. Will need to maintain environmental flows downstream.
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	2016 RWP: No stakeholders have yet come forward to support this project although potential stakeholders have implemented similar projects within the basin and region.	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	2016 RWP: No stakeholders have yet come forward to support this project although potential stakeholders have implemented similar projects within the basin and region.
Land Acquisition	4	Minimal land impact (<5 ac)	2016 RWP: No applicable cost.	4	Minimal land impact (<5 ac)	2016 RWP: No applicable cost.
Legal	1	Significant permitting required; extensive contracting	2016 RWP: This project would require a water right permit from TCEQ to establish legal authorization over the source return flows. It is also likely that any permit granted would be limited in volume to the authorized discharge of source wastewater treatment plants (WWTPs). Permit could be developed in a relatively short period of time.	1	Significant permitting required; extensive contracting	2016 RWP: This project would require a water right permit from TCEQ to establish legal authorization over the source return flows. It is also likely that any permit granted would be limited in volume to the authorized discharge of source wastewater treatment plants (WWTPs). Permit could be developed in a relatively short period of time.
Location	4	Limited conveyance needs	2016 RWP: This is a large scale project, not specific to any location; will serve both Montgomery County and Highlands	4	Limited conveyance needs	2016 RWP: This is a large scale project, not specific to any location; will serve both Montgomery County and Highlands
Magnitude	4	>50,000 ac-ft per year	2016 RWP: 59,525-150,994 acft/yr (but all is not directed to Conroe/Highlands)	1	<5,000 ac-ft per year	14,000 ac-ft per year. Very limited into Lake Conroe.
Other Supplies	3	Opportunity to enhance other potential projects	2016 RWP: Project takes advantage of existing and planned discharges in the San Jacinto basin, relying on other infrastructure to create a source of supply. The project would be developed in such a way to prevent detrimental impacts to other projects under development.	3	Opportunity to enhance other potential projects	2016 RWP: Project takes advantage of existing and planned discharges in the San Jacinto basin, above Lake Conroe dam, relying on other infrastructure to create a source of supply. The project would be developed in such a way to prevent detrimental impacts to other projects under development.
Public	2	Minimal local support; some opposition	2016 RWP: Some oppositions to the proposed project.	2	Minimal local support; some opposition	2016 RWP: Some opposition to the proposed project.
Scalability	1	Project requires significant infrastructure and development by a major sponsor	2016 RWP: Once permitted, smaller authorities can make use of this source as well as overarching ones.	1	Project requires significant infrastructure and development by a major sponsor	2016 RWP: Once permitted, smaller authorities can make use of this source as well as overarching ones.
Schedule	3	5 to 15 years	2016 RWP: 5 - 10 years.	3	5 to 15 years	2016 RWP: 5 - 10 years.
Yield Risk	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	2016 RWP: Minimal risk to availability of supply. Environmental flows may impact availability.	3	Some risk that project yield will not be realized or will be reduce over time. Some risk of supply availability	2016 RWP: Minimal risk to availability of supply. Environmental flows may impact availability.
		316.00	Highlands System Score	304.00	Montgomery County Score	

Strategy Name:		Trinity Return Flows			
Strategy Sub-Type:					
		Highlands System		Montgomery County	
		Criteria Score	Explanation	Criteria Score	Explanation
Cooperation	1	Significant potential obstacles in working with other stakeholders to develop project	2016 RWP: Coordination required with multiple stakeholders to determine the availability of the regional return flows.		
Cost	4	<\$250 per ac-ft	2016 RWP: \$0/acft (during loan period), \$0/acft (after loan period); This project provides a raw water supply through permit that would rely upon other infrastructure to perfect it as a source of supply.		
Diversification	4	Supply developed from a variety of water resources outside of current SJRA portfolio	2016 RWP: New supply created from return flow reuse.		
Environmental	3	Some notable environmental impact; routine process for permitting	2016 RWP: Project will reduce the level of flows returned to streams to a level to be determined through the permitting process (as much as 150,994 ac-ft/yr). San Jacinto Basin Regional Return Flows are not anticipated to affect acreage, vulnerable species, or agricultural land and production.		
Funding	2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	2016 RWP: No stakeholders have yet come forward to support this project although potential stakeholders have implemented similar projects within the basin and region.		
Land Acquisition	4	Minimal land impact (<5 ac)	2016 RWP: No applicable cost.		
Legal	2	Moderate level of permitting and contracting; several unknowns	2016 RWP: This project would require a water right permit from TCEQ to establish legal authorization over the source return flows. It is also likely that any permit granted would be limited in volume to the authorized discharge of source wastewater treatment plants (WWTPs). Permit could be developed in a relatively short period of time.		
Location	4	Limited conveyance needs	2016 RWP: This is a large scale project, not specific to any location; will serve both Montgomery County and Highlands.		
Magnitude	4	>50,000 ac-ft per year	Magnitude varies based on the availability of return flows in the Trinity basin and SJRA's needs in Highlands system.		
Other Supplies	3	Opportunity to enhance other potential projects	2016 RWP: Project takes advantage of existing and planned discharges in the San Jacinto basin, relying on other infrastructure to create a source of supply. The project would be developed in such a way to prevent detrimental impacts to other projects under development.		
Public	2	Minimal local support; some opposition	2016 RWP: No known opposition to the proposed project.		
Scalability	1	Project requires significant infrastructure and development by a major sponsor	2016 RWP: Once permitted, smaller authorities can make use of this source as well as overarching ones.		
Schedule	3	5 to 15 years	2016 RWP: 5 - 10 years		
Yield Risk	2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability	Uncertainty in the volume of return flows available in Trinity River Basin for use.		
		318.00	Highlands System Score	N/A	Montgomery County Score

Strategy Name:		Increase Lake Conroe Conservation Pool			
Strategy Sub-Type:					
	Highlands System		Montgomery County		
	Criteria Score	Explanation	Criteria Score	Explanation	
Cooperation			2	Potentially some obstacles in working with other stakeholders to develop project	Would required coordination with multiple regional stakeholders.
Cost			2	\$500 to \$1,000 per ac-ft	Source would be high flows in West Fork San Jacinto.
Diversification			1	Supply originates from sources linked to existing SJRA supplies	Supplies added to Lake Conroe.
Environmental			2	Some notable environmental impact; uncertain course for studies and mitigation	Potential issues with water quality, permitting, and opening up of the existing permit. May lose current yield to environmental flow requirements.
Funding			2	Common funding mechanisms may be utilized; project will compete equally with other competing projects	No specific funding program available. Typical.
Land Acquisition			2	100-1,000 ac	Project would inundate additional area around Lake Conroe.
Legal			1	Significant permitting required; extensive contracting	Some amount of permitting required for adding supplies to Lake Conroe. New permit to increase storage potential of Lake Conroe.
Location			4	Limited conveyance needs	Depends on the source of supply used to maintain the lake levels.
Magnitude			1	<5,000 ac-ft per year	Approximate amount needed to maintain lake levels.
Other Supplies			1	Negative impacts to existing and other potential supplies	May impact the yield availability of Lake Conroe as the permit, when reopened, may be subject to environmental flows.
Public			2	Minimal local support; some opposition	Some public support this strategy. Mixed public support.
Scalability			1	Project requires significant infrastructure and development by a major sponsor	SJRA will have to be the sole sponsor of this project.
Schedule			3	5 to 15 years	Depends on the time taken to permit the additional inflows.
Yield Risk			2	Moderate risk that a project's yield cannot be realized or will diminish over time. Moderate risk of supply availability	Potential issues with water quality, permitting, and opening up of the existing permit. May lose current yield to environmental flow requirements.
	N/A	Highlands System Score		200.00	Montgomery County Score

SUMMARY OF PRELIMINARY STRATEGIES IDENTIFIED FOR THE MONTGOMERY COUNTY SYSTEM

Montgomery County System Projects (Sorted)				
Number	Score	Rank	Name	Sub-Type
1	364	1	Conservation	TWDB Baseline
2	348	2	Catahoula Aquifer Supplies	Developed by SJRA Customers (Blended)
3	338	3	Conservation	SJRA Water Conservation Plan
4	304	4	Regional Return Flows	Lake Conroe
5	302	5	Direct Reuse, Non-Potable	GRP Participants
6	300	6	Direct Reuse, Non-Potable	Woodlands
7	274	7	Catahoula Aquifer Supplies	Developed by SJRA (Lake Conroe)
8	270	8	Catahoula Aquifer Supplies	Developed by SJRA Customers (Treated)
9	268	9	Catahoula Aquifer Supplies	Developed by SJRA (Blended)
10	262	10	Lake Livingston Transfer	Livingston to Conroe
11	262	10	Purchase Surface Water	TRA
12	258	12	Aquifer Storage and Recovery	Developed by SJRA Customers
13	250	13	Purchase Groundwater	Purchase from Eastern Basins
14	250	13	Purchase Groundwater	Purchase from Western Basins
15	236	15	Aquifer Storage and Recovery	Developed by SJRA (Mildly Treated)
16	234	16	Catahoula Aquifer Supplies	Developed by SJRA (Treated)
17	230	17	Aquifer Storage and Recovery	Developed by SJRA (GRP Treated)
18	228	18	Lake Creek Scalping	Run-of-River Diversion
19	218	19	Regional Return Flows	Lake Houston w/ South Plant
20	214	20	Lake Creek Reservoir	
21	204	21	Brazos River Supplies	
22	202	22	East Texas Water Transfer	Neches Basin
23	202	22	East Texas Water Transfer	
24	200	24	Increase Lake Conroe Conservation Pool	
25	188	25	Lake Creek Scalping	Storage in Lake Conroe
26	180	26	Lake Creek Scalping	
27	172	27	Bedias Reservoir	
28	172	27	Seawater Desalination	

SUMMARY OF PRELIMINARY PROJECTS IDENTIFIED FOR SJRA'S HIGHLANDS SYSTEM

Highlands System Projects (Sorted)				
Number	Score	Rank	Name	Sub-Type
1	342	1	Purchase Surface Water	TRA
2	328	2	Lake Livingston Transfer	Livingston to Highlands
3	318	3	Trinity Return Flows	
4	316	4	Regional Return Flows	Lake Houston
5	308	5	Purchase Surface Water	CLCND
6	250	6	Purchase Groundwater	Purchase from Eastern Basins
7	250	6	Purchase Groundwater	Purchase from Western Basins
8	242	8	East Texas Water Transfer	Neches Basin
9	242	8	East Texas Water Transfer	Sabine Basin
10	234	10	Seawater Desalination	
11	220	11	Lake Creek Reservoir	
12	212	12	Bedias Reservoir	
13	204	13	Brazos River Supplies	