

**PRELIMINARY PLANNING LEVEL COMPARITIVE COSTS
BARTON BASIN**

Alternative	Description	Total Construction Cost	Permits and Land Acquisition Cost		Project Total Cost		Relative Cost	Risk and Variability
			Low	High	Low	High		
1A	Rectangular Storage at Bottom of Basin	\$4,220,000	\$1,600,000	\$4,505,000	\$5,820,000	\$8,725,000	1.8	1.5
1B	Circular Storage at Bottom of Basin	\$4,206,000	\$1,600,000	\$4,505,000	\$5,806,000	\$8,711,000	1.8	1.5
1C	Pipe Storage at Bottom of Basin	\$2,694,000	\$1,600,000	\$4,505,000	\$4,294,000	\$7,199,000	1.1	1.7
1D	Pipe Storage in Right-of-Way at bottom of basin	\$2,944,000	\$40,000	\$510,000	\$2,984,000	\$3,454,000	1.2	1.2
1E	Pipe storage in Upper Fautleroy Way SW	\$2,385,000	\$40,000	\$510,000	\$2,425,000	\$2,895,000	1.0	1.2
1F	Rectangular Storage in vicinity of Fautleroy School	\$3,320,000	\$110,000	\$110,000	\$3,430,000	\$3,430,000	1.4	1.0
1G	Upper Basin Storage	\$4,541,000	\$345,000	\$3,300,000	\$4,886,000	\$7,841,000	1.9	1.6
3A	End of Pipe Treatment at Bottom of basin	\$38,496,000	\$1,600,000	\$4,505,000	\$40,096,000	\$43,001,000	2.6	1.1
4A	Peak Flow Reduction	\$12,141,000	\$4,000,000	\$54,500,000	\$16,141,000	\$66,641,000	5.1	4.1

Note:

Total construction cost includes total direct costs plus 30% allied costs and 50% contingency cost
Project total cost range is the sum of total construction cost plus permit and land acquisition cost

Green = 1.0 - 1.5
Yellow = 1.5 - 3.0
Red > 3.0

BARTON		CSO Beach Projects							
PROJECT MANAGER: Shahrzad Namini		Real Estate Preliminary Planning Level- Comparative Costs Document							
REAL ESTATE LEAD: Hien Dung		DRAFT - For discussion purposes only							
Alternative(s)	Description of Alternative and/or Requirement for Property	Estimated Footprint	Estimated Real Estate Cost	Description of Street Use	Est. LF or SF in ROW	Est. Duration of Project use of ROW (months)	Estimated Street Use Fee		ESTIMATED TOTAL
							In Stages	Entire Project	
1A, 1B, 1C	Rectangular, Circular or Pipe Storage at the Bottom of the Basin	5,000 SF (or approx. 3 parcels in fee @ \$800K to \$1.5M ea) <i>Note: 1 parcel owned by King County which may or may not be used</i>	\$1.6M to \$4.5M	Pipe Connection to Diversion Structure	150 LF	2 months	\$5k	\$5k	\$1.6M- \$4.5M
1D, 1E	Pipe Storage in ROW- property needed for electrical & odor control only	700 SF (lease, easement or fee)	\$35k to \$50k	Pipe Connection to Diversion Structure	200 LF	2- 24 months	\$6k	\$460k	\$40k- \$510k
1F	Rectangular Storage + electrical & odor control in the vicinity of Fautleroy Community Service Agency	5,000 SF (lease, easement or fee)	\$100k	Pipe Connection to Diversion Structure	150 LF	2 months	\$5k	\$5k	\$110k
1G	Rectangular Storage in Upper Basin	5,000 SF (lease, easement or fee)	\$100k	Pipe Connection to Diversion Structure - (assumes Roxhill Park location)	1,400 LF	14- 24 months	\$245k	\$3.2M	\$345k- \$3.3M
3A	End of Pipe Treatment at the Bottom of the Basin	7,500 SF (or approx. 3 parcels in fee @ \$800K to \$1.5M ea) <i>Note: 1 parcel owned by King County which may or may not be used</i>	\$1.6M to \$4.5M	Pipe Connection to Diversion Structure	150 LF	2 months	\$5k	\$5k	\$1.6M- \$4.5M
4A	Disconnect- Peak Flow Reduction	TBD - Depends upon storm water treatment requirements	TBD	Installing Storm Drain System	18,500 LF	30 - 185 months	\$4M	\$54.5M	\$4M- \$54.5M (+TBD)

Assumptions :

- 1) All property and property rights acquisition shall be per King County's acquisition policy.
- 2) Estimates are for value of property and/or property rights, and street use fees (as applicable).
- 3) Real estate costs (lease, easement or fee) estimated at tax assessor's value.
- 4) Other potential real estate costs NOT included in these estimates are as follows:
 - a. RE acquisition costs such as appraisals, title reports, labor costs to acquire, cost to cure or relocation costs (if any), etc.
 - b. RE acquisition costs for properties needed for construction staging and feasibility; pertinent street use fees & continuing use permits (for park properties, if any) also NOT considered.
 - c. For alternative/s with storage tank in City of Seattle ROW, potential fees for permanent use of ROW for locating storage tank/s NOT included; above estimates are for street use fees for construction only.
 - d. For alternative/s requiring use of park properties, potential mitigation fees (if any) NOT considered in these estimates.
- 5) Street use fee calculations:
 - a. Based on use of one-half of ROW, or 30' (assuming street width of 60');
 - b. Fee range estimated under "In Stages" assumes that SDOT will give WTD a fee waiver or fee discount; Fee calculation based on construction done in stages of 200 LF and duration of 2 months per stage;
 - c. Fee range estimated under "Entire Project" assumes that SDOT will use formula per Seattle Municipal Code; i.e., entire span/length over entire project duration.



PROJECT SUMMARY

Project: Barton 1A: Rectangular Storage at Bottom of Basin
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$1,826,910
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$97,200
	SITE ACCESS CONSIDERATION (20 % OF TECH. ELEMENT)	\$365,382
	UTILITY RELOCATION	\$55,000
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$0
	SUB TOTAL - CONSTRUCTION COST	\$2,344,492
	ALLIED COST (30%)	\$703,348
	CONTINGENCY (50%)	\$1,172,246
	TOTAL CONSTRUCTION COST	\$4,220,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$4,500,000
	PERMITS	\$5,000
	SUB TOTAL - PERMITS AND LAND ACQUISITION	\$4,505,000
	PROJECT TOTAL	\$8,725,000

The cost estimate herein is based on our perception of current conditions at the project location. This estimate reflects our professional opinion of accurate costs at this time and is subject to change as the project design matures. Carollo Engineers have no control over variances in the cost of labor, materials, equipment; nor services provided by others, contractor's means and methods of executing the work or of determining prices, competitive bidding or market conditions, practices or bidding strategies. Carollo Engineers cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented as shown.

Notes:

Volume of Storage Tank = 110,000 gallons
 Cost per gallon = \$15.34
 Technical Element cost = \$1,687,400
 Diversion Structure = \$112,010 (bottom of basin)

42" Influent pipe to storage tank, 50' long
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, Seattle easement adjustment and pavement restoration equal to trench width.
 Cost = \$27,500

Utility Relocation
 Sewer and storm = \$10,000 (less than 50 ft of 8" pipe to be relocated)
 Other utilities (gas, water etc) = No. of houses * \$15,000/each
 No of houses = 3 Approximately
 Cost = \$45,000

Retaining Wall = 10' high, 33 degree slope embankment
 Cost per LF, 10' high wall = \$405 per LF (From means catalog)
 Cost per LF, 20' high wall = \$810 per LF
 Wall Length = 120 (Refer to hand markup dwg)
 Retaining Wall = \$97,200

Preliminary real estate cost estimate. Needs to be updated

Preliminary real estate cost estimate. Needs to be updated



PROJECT SUMMARY

Project: Barton 1B: Circular Storage at Bottom of Basin
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$1,826,910
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$89,100
	SITE ACCESS CONSIDERATION (20 % OF TECH. ELEMENT)	\$365,382
	UTILITY RELOCATION	\$55,000
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$0
	SUB TOTAL - CONSTRUCTION COST	\$2,336,392
	ALLIED COST (30%)	\$700,918
	CONTINGENCY (50%)	\$1,168,196
	TOTAL CONSTRUCTION COST	\$4,206,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$4,500,000
	PERMITS	\$5,000
	SUB TOTAL - PERMITS AND LAND ACQUISITION	\$4,505,000
	PROJECT TOTAL	\$8,711,000

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Notes:

Volume of Storage Tank = 110,000 gallons
 Cost per gallon = \$15.34
 Technical Element cost = \$1,687,400
 Diversion Structure = \$112,010 (bottom of basin)

42" Influent pipe to storage tank, 50' long
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, seattle easement adjustment and pavement restoration equal to trench width.
 Cost = \$27,500

Utility Relocation
 Sewer and storm = \$10,000 (less than 50 ft of 8" pipe to be relocated)
 Other utilities (gas, water etc) = No. of houses * \$15,000/each
 No of houses = 3 Approximately
 Cost = \$45,000

Retaining Wall
 Cost per LF, 10' high wall = \$405 per LF 10' high, 33 degree slope embankment
 Cost per LF, 20' high wall = \$810 per LF
 Wall Length = 110 (Refer to hand markup dwg)
 Retaining Wall = \$89,100
 (From means catalog)

Preliminary real estate cost estimate. Needs to be updated

Preliminary real estate cost estimate. Needs to be updated



PROJECT SUMMARY

Project: Barton 1C: Pipe Storage at Bottom of Basin
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$1,140,510
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$72,900
	SITE ACCESS CONSIDERATION (20 % OF TECH. ELEMENT)	\$228,102
	UTILITY RELOCATION	\$55,000
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$0
	SUB TOTAL - CONSTRUCTION COST	\$1,496,512
	ALLIED COST (30%)	\$448,954
	CONTINGENCY (50%)	\$748,256
	TOTAL CONSTRUCTION COST	\$2,694,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$4,500,000
	PERMITS	\$5,000
	SUB TOTAL - PERMITS AND LAND ACQUISITION	\$4,505,000
	PROJECT TOTAL	\$7,199,000

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Notes:

Volume of Storage Pipe = 110,000 gallons
 Cost per gallon for 144" dia pipe = \$9.10
 Technical Element cost = \$1,001,000
 Diversion Structure = \$112,010 (bottom of basin)

42" Influent pipe to storage tank, 50' long
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, seattle easement adjustment and pavement restoration equal to trench width.
 Cost = \$27,500

Utility Relocation
 Sewer and storm = \$10,000 (less than 50 ft of 8" pipe to be relocated)
 Other utilities (gas, water etc) = No. of houses * \$15,000/each
 No of houses = 3 Approximately
 Cost = \$45,000

Retaining Wall
 Cost per LF, 10' high wall = \$405 per LF 10' high, 33 degree slope embankment
 Cost per LF, 20' high wall = \$810 per LF
 Wall Length = 90 (Refer to hand markup dwg)
 Retaining Wall = \$72,900
 (From means catalog)

Preliminary real estate cost estimate. Needs to be updated

Preliminary real estate cost estimate. Needs to be updated



PROJECT SUMMARY

Project: Barton 1D: Pipe Storage in R/W at Bottom of Basin
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$1,160,910
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$0
	ACCESS FROM SIDE OF ROAD TO STRUCTURES (20 % OF TECH. ELEMENT)	\$232,182
	UTILITY RELOCATION	\$242,700
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$0
	SUB TOTAL - CONSTRUCTION COST	\$1,635,792
	ALLIED COST (30%)	\$490,738
	CONTINGENCY (50%)	\$817,896
	TOTAL CONSTRUCTION COST	\$2,944,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$50,000
	PERMITS	\$460,000
	SUB TOTAL - PERMITS AND LAND ACQUISITION	\$510,000
	PROJECT TOTAL	\$3,454,000

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Notes:

Volume of Storage Tank = 110,000 gallons
 Cost per gallon for 144" dia pipe = \$9.10
 Technical Element cost = \$1,001,000
 Diversion Structure = \$112,010 (bottom of basin)

42" Influent pipe to storage tank, 85' long
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, seattle easement adjustment and pavement restoration equal to trench width.
 Cost = \$47,900

Utility Relocation
 Approximately 85' of 48" pipe and 165 ft of 42" storm sewer pipe
 48" Pipe Cost = \$62,700
 42" pipe cost = \$105,000
 The assumptions for utility relocation are similar to influent pipe except the pavement restoration is equal to half arterial width
 Other utilities (gas, water etc) = No. of houses * \$15,000/each
 No of houses = 5 Approximately
 Cost = \$75,000

Preliminary real estate cost estimate. Needs to be updated

Preliminary real estate cost estimate. Needs to be updated



PROJECT SUMMARY

Project: Barton 1E: Pipe Storage in Upper Fauntleroy Way
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$1,158,040
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$0
	SITE ACCESS CONSIDERATION (20 % OF TECH. ELEMENT)	\$0
	UTILITY RELOCATION	\$167,000
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$0
	SUB TOTAL - CONSTRUCTION COST	\$1,325,040
	ALLIED COST (30%)	\$397,512
	CONTINGENCY (50%)	\$662,520
	TOTAL CONSTRUCTION COST	\$2,385,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$50,000
	PERMITS	\$460,000
	SUB TOTAL - PERMITS AND LAND ACQUISITION	\$510,000
	PROJECT TOTAL	\$2,895,000

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Notes:

Volume of Storage Tank = 110,000 gallons
 Cost per gallon = \$9.10
 Technical Element cost = \$1,001,000
 Diversion Structure = \$129,540 Upper / Mid basin - w/ gate

42" Influent pipe to storage tank, 50' long
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, seattle easement adjustment and pavement restoration equal to trench width.
 Cost = \$27,500

Utility Relocation
 Approximately 250 LF of CSS replacement
 18" Pipe Cost = \$107,000
 The assumptions for utility relocation are similar to influent pipe except the pavement restoration is equal to half arterial width
 Other utilities (gas, water etc) = No. of houses * \$15,000/each
 No of houses = 4 Approximately
 Cost = \$60,000

Preliminary real estate cost estimate. Needs to be updated

Preliminary real estate cost estimate. Needs to be updated



PROJECT SUMMARY

Project: Barton 1F: Rectangular Storage in Vicinity of Fautleroy School
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$1,844,440
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$0
	SITE ACCESS CONSIDERATION (20 % OF TECH. ELEMENT)	\$0
	UTILITY RELOCATION	\$0
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$0
	SUB TOTAL - CONSTRUCTION COST	\$1,844,440
	ALLIED COST (30%)	\$553,332
	CONTINGENCY (50%)	\$922,220
	TOTAL CONSTRUCTION COST	\$3,320,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$100,000
	PERMITS	\$10,000
	SUB TOTAL - PERMITS AND LAND ACQUISITION	\$110,000
	PROJECT TOTAL	\$3,430,000

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Notes:

Volume of Storage Tank = 110,000 gallons
 Cost per gallon = \$15.34
 Technical Element cost = \$1,687,400
 Diversion Structure = \$129,540 Upper / Mid basin - w/ gate

42" Influent pipe to storage tank, 50' long
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, Seattle easement adjustment and pavement restoration equal to trench width.
 Cost = \$27,500

Preliminary real estate cost estimate. Needs to be updated

Preliminary real estate cost estimate. Needs to be updated



PROJECT SUMMARY

Project: Barton 1G: Rectangular Storage in Upper Basin
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$2,522,940
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$0
	SITE ACCESS CONSIDERATION (20 % OF TECH. ELEMENT)	\$0
	UTILITY RELOCATION	\$0
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$0
	SUB TOTAL - CONSTRUCTION COST	\$2,522,940
	ALLIED COST (30%)	\$756,882
	CONTINGENCY (50%)	\$1,261,470
	TOTAL CONSTRUCTION COST	\$4,541,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$100,000
	PERMITS	\$3,200,000
	SUB TOTAL - PERMITS AND LAND ACQUISITION	\$3,300,000
	PROJECT TOTAL	\$7,841,000

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Notes:

Volume of Storage Tank = 110,000 gallons
 Cost per gallon = \$15.34
 Technical Element cost = \$1,687,400
 Diversion Structure = \$129,540 Upper / Mid basin - w/ gate

36" Influent pipe to storage tank, 1200 LF long (Since it is in upper basin assume a 36 inch dia pipe)
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, seattle easement adjustment and pavement restoration equal to trench width.
 Cost = \$706,000

Preliminary real estate cost estimate. Needs to be updated

Preliminary real estate cost estimate. Needs to be updated



PROJECT SUMMARY

Project: Barton 3A: End of Pipe Treatment at Bottom of Basin
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$17,539,510
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$97,200
	SITE ACCESS CONSIDERATION (20 % OF TECH. ELEMENT)	\$3,507,902
	UTILITY RELOCATION	\$242,000
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$0
	SUB TOTAL - CONSTRUCTION COST	\$21,386,612
	ALLIED COST (30%)	\$6,415,984
	CONTINGENCY (50%)	\$10,693,306
	TOTAL CONSTRUCTION COST	\$38,496,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$4,500,000
	PERMITS	\$5,000
	SUB TOTAL - PERMITS AND LAND ACQUISITION	\$4,505,000
	PROJECT TOTAL	\$43,001,000

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Notes

High rate treatment capacity = 12,000,000 gallons/day
 Cost per gallon = \$1.45
 Technical Element cost = \$17,400,000
 Diversion Structure = \$112,010 (bottom of basin)

42" Influent pipe to storage tank, 50' long
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, Seattle easement adjustment and pavement restoration equal to trench width.
 Cost = \$27,500

Utility Relocation
 Sewer and storm = \$10,000 (less than 50 ft of 8" pipe to be relocated)
 Other utilities (gas, water etc) = No. of houses * \$15,000/each
 No of houses = 3 Approximately
 Cost = \$45,000

72" storm sewer relocation = \$187,000

Retaining Wall
 Cost per LF, 10' high wall = \$405 per LF 10' high, 33 degree slope embankment
 Cost per LF, 20' high wall = \$810 per LF
 Wall Length = 120
 Retaining Wall = \$97,200
 (From means catalog)

Preliminary real estate cost estimate. Needs to be updated

Preliminary real estate cost estimate. Needs to be updated



PROJECT SUMMARY

Project: Barton 4A: Peak Flow Reduction
 Job #:
 Location: Seattle, WA
 Zip Code:

Estimate Class: Planning Level
 PIC: JPH
 PM: BRM
 Date: December-09
 By:
 Reviewed:

NO.	DESCRIPTION	TOTAL
	TECHNICAL ELEMENT	\$4,750,000
	SPECIAL CONSTRUCTION	
	SPECIAL EXCAVATION	\$0
	DEWATERING	\$0
	SHORING	\$0
	RETAINING WALLS	\$0
	SITE ACCESS CONSIDERATION (20 % OF TECH. ELEMENT)	\$0
	UTILITY RELOCATION	\$0
	SPECIAL SITE RESTORATION	
	TURF FIELDS	\$0
	ROOF DISCONNECTS	\$1,995,000
	SUB TOTAL - CONSTRUCTION COST	\$6,745,000
	ALLIED COST (30%)	\$2,023,500
	CONTINGENCY (50%)	\$3,372,500
	TOTAL CONSTRUCTION COST	\$12,141,000
	PERMITS AND LAND ACQUISITION	
	LAND ACQUISITION (HIGH END RANGE)	\$0
	PERMITS	\$54,500,000
	SUBTOTAL - PERMITS AND LAND ACQUISITION	\$54,500,000
	PROJECT TOTAL	\$66,641,000

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Notes

Length of Proposed storm sewer (12" diameter) = 13,750
 Estimated cost from Tabula = \$4,280,000
 Using tabula software with imported backfill, 10 ft of cover, light traffic conditions, standard trenching, Seattle easement adjustment and pavement restoration equal to half width arterial street

Connection of new SS to existing catch basins
 Assume 4 catch basins per block
 connection per catch basin = \$5,000
 No. of catch basin connections = 94
 = \$470,000

Roof drain disconnects
 No. of houses to be disconnected = 665
 Cost per disconnection = \$3,000
 Total cost = \$1,995,000

Preliminary real estate cost estimate. Needs to be updated
 Preliminary real estate cost estimate. Needs to be updated

DIVERSION STRUCTURE W/GATE (MIDDLE AND UPPER BASIN)

Description	Qunatity	unit	Cost	Extension
Wall concrete	13.4	cy	\$700	\$9,362
Bottom and Top Slab concrete	16.6	cy	\$500	\$8,307
Access Hatch	1	ea	\$4,000	\$4,000
Access Stairs	1	ea	\$2,000	\$2,000
Motorized gate	1	ea	\$15,200	\$15,200
Magnetic Flow meter	1	ea	\$25,000	\$25,000
Ultra sonic level sensor	1	ea	\$10,000	\$10,000
Instrumentation and Control	1	ls		\$10,000
General Electrical work	1	ls		\$10,000
Subtotal				\$93,869
Mob/demob	8%	ls		\$7,509
Contractor overhead and profit	30%	ls		\$28,161
Total				\$129,500

DIVERSION STRUCTURE W/WEIR (BOTTOM OF BASIN)

Description	Qunatity	unit	Cost	Extension
Wall concrete	13.4	cy	\$700	\$9,362
Bottom and Top Slab concrete	16.6	cy	\$500	\$8,307
Weir Wall	1.3	cy	\$1,500	\$2,000
Weir Plate (10 x5)	1	ls	\$3,000	\$3,000
Access Hatch	1	ea	\$4,000	\$4,000
Access Stairs	1	ea	\$2,000	\$2,000
Magnetic Flow meter	1	ea	\$25,000	\$25,000
Ultra sonic level sensor	1	ea	\$10,000	\$10,000
Instrumentation and Control	1	ls		\$7,500
General Electrical work	1	ls		\$10,000
Subtotal				\$81,169
Mob/demob	8%	ls		\$6,493
Contractor overhead and profit	30%	ls		\$24,351
Total				\$112,000

WTD BUSINESS CASE EVALUATION RESULTS

BARTON CSO BASIN

WTD Borrowing Cost as Discount Rate (1)

Scenario	Lifetime	Initial Capital Outlay	Total Project Life Costs (2)	Total Project Life Benefits	Net Project Life Costs	Average Project Annual Cost	Annual Costs over(under) Status quo
Status Quo							
Barton Alternatives	20	\$0	\$0	\$0	\$0	\$0	
Alternatives							
Barton 1A	20	\$0	\$40,801	\$0	\$40,801	\$2,540	\$2,540
Barton 1B	20	\$0	\$40,801	\$0	\$40,801	\$2,540	\$2,540
Barton 1C	20	\$0	\$17,517	\$0	\$17,517	\$1,090	\$1,090
Barton 1D	20	\$0	\$17,517	\$0	\$17,517	\$1,090	\$1,090
Barton 1E	20	\$0	\$195,273	\$0	\$195,273	\$12,156	\$9,616
Barton 1F	20	\$0	\$218,558	\$0	\$218,558	\$13,605	\$11,065

Budget Office Discount Rate (3)

Scenario	Lifetime	Initial Capital Outlay	Total Project Life Costs (2)	Total Project Life Benefits	Net Project Life Costs	Average Project Annual Cost	Annual Costs over(under) Status quo
Status Quo							
Barton Alternatives	20	\$0	\$0	\$0	\$0	\$0	
Alternatives							
Barton 1A	20	\$0	\$27,277	\$0	\$27,277	\$1,698	\$1,698
Barton 1B	20	\$0	\$27,277	\$0	\$27,277	\$1,698	\$1,698
Barton 1C	20	\$0	\$11,711	\$0	\$11,711	\$729	\$729
Barton 1D	20	\$0	\$11,711	\$0	\$11,711	\$729	\$729
Barton 1E	20	\$0	\$130,548	\$0	\$130,548	\$8,127	\$6,429
Barton 1F	20	\$0	\$146,114	\$0	\$146,114	\$9,096	\$7,398

First Year of Construction

2014

Additional inflation rate > 3%

1.00%

Notes:

(1) WTD Discount rate based on recent WTD borrowing costs net of 3% annual inflation. 2.18%

(2) Costs include risk and uncertainty, if estimated.

(3) Discount rate net of inflation, per the King County Budget Office. 7.00%

The option with the largest net equivalent annualized cost is the financially preferred option.

WTD BUSINESS CASE EVALUATION RESULTS

BARTON CSO BASIN

WTD Borrowing Cost as Discount Rate (1)

Scenario	Lifetime	Initial Capital Outlay	Total Project Life Costs (2)	Total Project Life Benefits	Net Project Life Costs	Average Project Annual Cost	Annual Costs over(under) Status quo
Status Quo							
"Status Quo"	20	\$0	\$0	\$0	\$0	\$0	
Alternatives							
Barton 1G	20	\$0	\$218,558	\$0	\$218,558	\$13,605	\$13,605
Barton 3A	20	\$0	\$857,022	\$0	\$857,022	\$53,350	\$53,350
Barton 4A	20	\$0	\$1,272,997	\$0	\$1,272,997	\$79,245	\$79,245

Budget Office Discount Rate (3)

Scenario	Lifetime	Initial Capital Outlay	Total Project Life Costs (2)	Total Project Life Benefits	Net Project Life Costs	Average Project Annual Cost	Annual Costs over(under) Status quo
Status Quo							
"Status Quo"	20	\$0	\$0	\$0	\$0	\$0	
Alternatives							
Barton 1G	20	\$0	\$146,114	\$0	\$146,114	\$9,096	\$9,096
Barton 3A	20	\$0	\$572,953	\$0	\$572,953	\$35,667	\$35,667
Barton 4A	20	\$0	\$851,049	\$0	\$851,049	\$52,978	\$52,978

First Year of Construction	2014	Additional inflation rate > 3%	1.00%
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Notes:

- (1) WTD Discount rate based on recent WTD borrowing costs net of 3% annual inflation. 2.18%
 - (2) Costs include risk and uncertainty, if estimated.
 - (3) Discount rate net of inflation, per the King County Budget Office. 7.00%
- The option with the largest net equivalent annualized cost is the financially preferred option.

Barton 1A	Rectangular Storage at Bottom of Basin
Brief Title, 20 characters or less:	" "
Barton 1A	" "
Lifetime (in years)---->	20
Year of O&M costs ---->	2015
City Supplier (SCL or PSE) ---->	SCL
Locate "Plant" or "Off-Site" ---->	"Off-Site"

Please provide the appropriate information in the shaded areas

See instructions below

Current year (from Results summary sheet)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Benefits (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital and O&M	\$2,178	\$2,200	\$2,222	\$2,244	\$2,266	\$2,289	\$2,312	\$2,335	\$2,358	\$2,382	\$2,406	\$2,430	\$2,454	\$2,478	\$2,503	\$2,528	\$2,554	\$2,579	\$2,605	\$2,631	\$2,657	\$2,684
Debt-related and O&M	\$2,178	\$2,200	\$2,222	\$2,244	\$2,266	\$2,289	\$2,312	\$2,335	\$2,358	\$2,382	\$2,406	\$2,430	\$2,454	\$2,478	\$2,503	\$2,528	\$2,554	\$2,579	\$2,605	\$2,631	\$2,657	\$2,684
Risk (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncertainty (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Capital outlays	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Debt issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Energy use	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Natural Gas	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
therms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Electricity	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Electricity Use kwh	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
Demand kW or kVa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Chemical spending	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Sodium hypochlorite required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bisulfide required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other chemical costs - enter \$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Cleaning	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Labor	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Labor Hours	40	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15

Benefits	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of benefits 1, 2, etc."

UNCERTAINTIES	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of uncertainties 1, 2, etc."

RISKS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of risks 1, 2, etc."

Barton 1B	Circular Storage at Bottom of Basin
Brief Title, 20 characters or less:	" "
Barton 1B	" "
Barton 1B	" "

Lifetime (in years) -->	20	Please provide	See instructions below
First year of O&M costs -->	2015	the appropriate	
Electricity Supplier (SCL or PSE) -->	SCL	information in the	
Specify "Plant" or "Off-Site" -->	"Off-Site"	shaded areas	

Current year (from Results summary sheet)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Benefits (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital and O&M	\$2,178	\$2,200	\$2,222	\$2,244	\$2,266	\$2,289	\$2,312	\$2,335	\$2,358	\$2,382	\$2,406	\$2,430	\$2,454	\$2,478	\$2,503	\$2,528	\$2,554	\$2,579	\$2,605	\$2,631	\$2,657	\$2,684
Debt-related and O&M	\$2,178	\$2,200	\$2,222	\$2,244	\$2,266	\$2,289	\$2,312	\$2,335	\$2,358	\$2,382	\$2,406	\$2,430	\$2,454	\$2,478	\$2,503	\$2,528	\$2,554	\$2,579	\$2,605	\$2,631	\$2,657	\$2,684
Risk (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncertainty (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Capital outlays	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Debt issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
					\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
						\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Total Energy use	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Natural Gas	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
therms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Electricity	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Electricity Use kwh	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
Demand kW or kVa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Chemical spending	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Sodium hypochlorite required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bisulfide required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other chemical costs - enter \$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Cleaning	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Labor	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Labor Hours	40	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15	40.15

Benefits	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of benefits 1, 2, etc."

UNCERTAINTIES

1.	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of uncertainties 1, 2, etc."

RISKS

1.	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of risks 1, 2, etc."

Barton 1C	Pipe Storage at Bottom of Basin
Brief Title, 20 characters or less:	" "
Barton 1C	" "
Barton 1C	" "
Lifetime (in years)---->	20
1st year of O&M costs ---->	2015
Electricity Supplier (SCL or PSE) ---->	SCL
Indicate "Plant" or "Off-Site" ---->	"Off-Site"

See instructions below

Current year (from Results summary sheet)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Benefits (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital and O&M	\$935	\$944	\$954	\$963	\$973	\$983	\$992	\$1,002	\$1,012	\$1,023	\$1,033	\$1,043	\$1,054	\$1,064	\$1,075	\$1,085	\$1,096	\$1,107	\$1,118	\$1,130	\$1,141	\$1,152
Debt-related and O&M	\$935	\$944	\$954	\$963	\$973	\$983	\$992	\$1,002	\$1,012	\$1,023	\$1,033	\$1,043	\$1,054	\$1,064	\$1,075	\$1,085	\$1,096	\$1,107	\$1,118	\$1,130	\$1,141	\$1,152
Risk (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncertainty (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Capital outlays	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Debt issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Total Energy use	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Natural Gas	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
therms	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electricity	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
Electricity Use kwh	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
Demand kW or kVa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Chemical spending	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Sodium hypochlorite required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bisulfide required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other chemical costs - enter \$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cleaning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Inspection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Labor	\$741	\$749	\$756	\$764	\$771	\$779	\$787	\$795	\$803	\$811	\$819	\$827	\$835	\$844	\$852	\$861	\$869	\$878	\$887	\$895	\$904	\$913
Labor Hours	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Benefits	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of benefits 1, 2, etc."																						

UNCERTAINTIES	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of uncertainties 1, 2, etc."																						

RISKS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of risks 1, 2, etc."																						

Barton 1D	Pipe Storage in Right-of-way at Bottom of Basin
Brief Title, 20 characters or less:	" "
Barton 1D	" "
Lifetime (in years) -->	20
First year of O&M costs -->	2015
Electricity Supplier (SCL or PSE) -->	SCL
Indicate "Plant" or "Off-Site" -->	"Off-Site"

Please provide the appropriate information in the shaded areas
See instructions below

Current year (from Results summary sheet)	All projects costs through																					
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Benefits (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital and O&M	\$935	\$944	\$954	\$963	\$973	\$983	\$992	\$1,002	\$1,012	\$1,023	\$1,033	\$1,043	\$1,054	\$1,064	\$1,075	\$1,085	\$1,096	\$1,107	\$1,118	\$1,130	\$1,141	\$1,152
Debt-related and O&M	\$935	\$944	\$954	\$963	\$973	\$983	\$992	\$1,002	\$1,012	\$1,023	\$1,033	\$1,043	\$1,054	\$1,064	\$1,075	\$1,085	\$1,096	\$1,107	\$1,118	\$1,130	\$1,141	\$1,152
Risk (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncertainty (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital outlays	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Energy use	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
Natural Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
therms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
Electricity Use kwh	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
Demand kW or kVA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Chemical spending	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sodium hypochlorite required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bisulfide required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other chemical costs - enter \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cleaning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Inspection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Labor	\$741	\$749	\$756	\$764	\$771	\$779	\$787	\$795	\$803	\$811	\$819	\$827	\$835	\$844	\$852	\$861	\$869	\$878	\$887	\$895	\$904	\$913
Labor Hours	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

Benefits																					
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of benefits 1, 2, etc."

UNCERTAINTIES																					
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of uncertainties 1, 2, etc."

RISKS																					
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of risks 1, 2, etc."

Barton 1E	Pipe Storage in Upper Fauntleroy Way SW
Brief Title, 20 characters or less:	" "
Barton 1E	" "
Lifetime (in years)--->	20 Please provide
First year of O&M costs --->	2015 the appropriate
Electricity Supplier (SCL or PSE) --->	SCL information in the
Indicate "Plant" or "Off-Site" --->	"Off-Site" shaded areas

All projects costs through See instructions below

Current year (from Results summary sheet)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Benefits (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital and O&M	\$10,423	\$10,527	\$10,632	\$10,738	\$10,846	\$10,954	\$11,064	\$11,174	\$11,286	\$11,399	\$11,513	\$11,628	\$11,744	\$11,862	\$11,981	\$12,100	\$12,221	\$12,344	\$12,467	\$12,592	\$12,718	\$12,845
Debt-related and O&M	\$10,423	\$10,527	\$10,632	\$10,738	\$10,846	\$10,954	\$11,064	\$11,174	\$11,286	\$11,399	\$11,513	\$11,628	\$11,744	\$11,862	\$11,981	\$12,100	\$12,221	\$12,344	\$12,467	\$12,592	\$12,718	\$12,845
Risk (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncertainty (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital outlays																						
Debt issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Energy use																						
Natural Gas	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
therms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
Electricity Use kwh	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
Demand kW or kVa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Chemical spending	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sodium hypochlorite required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bisulfide required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other chemical costs - enter \$	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flow Control Structure Maintenance (diversion structure control gates for upper basin storage)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Inspection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Labor	\$10,229	\$10,331	\$10,435	\$10,539	\$10,644	\$10,751	\$10,858	\$10,967	\$11,076	\$11,187	\$11,299	\$11,412	\$11,526	\$11,641	\$11,758	\$11,875	\$11,994	\$12,114	\$12,235	\$12,358	\$12,481	\$12,606
Labor Hours (For pipe and diversion structure)	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207	207

Benefits	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of benefits 1, 2, etc."																						

UNCERTAINTIES	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of uncertainties 1, 2, etc."																						

RISKS	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of risks 1, 2, etc."																						

Barton 1F	Storage in Vicinity of Fautleroy School	
Brief Title, 20 characters or less:	"	
Barton 1F	"	
Lifetime (in years) --->	20	Please provide
First year of O&M costs --->	2015	the appropriate
Electricity Supplier (SCL or PSE) --->	SCL	information in the
Indicate "Plant" or "Off-Site" --->	"Off-Site"	shaded areas

All projects costs through

Current year (from Results summary sheet)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
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Total Benefits (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital and O&M	\$11,665	\$11,782	\$11,900	\$12,019	\$12,139	\$12,260	\$12,383	\$12,507	\$12,632	\$12,758	\$12,886	\$13,015	\$13,145	\$13,276	\$13,409	\$13,543	\$13,679	\$13,815	\$13,954	\$14,093	\$14,234	\$14,376
Debt-related and O&M	\$11,665	\$11,782	\$11,900	\$12,019	\$12,139	\$12,260	\$12,383	\$12,507	\$12,632	\$12,758	\$12,886	\$13,015	\$13,145	\$13,276	\$13,409	\$13,543	\$13,679	\$13,815	\$13,954	\$14,093	\$14,234	\$14,376
Risk (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncertainty (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Capital outlays	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Total Energy use	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
Natural Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
therms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Electricity	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
Electricity Use kwh	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
Demand kW or kVa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Chemical spending	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sodium hypochlorite required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bisulfide required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other chemical costs - enter \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Cleaning and Flow Control Structure Maintenance (diversion structure control gates for upper basin storage)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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inspection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
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Labor	\$11,472	\$11,586	\$11,702	\$11,819	\$11,937	\$12,057	\$12,177	\$12,299	\$12,422	\$12,546	\$12,672	\$12,799	\$12,927	\$13,056	\$13,186	\$13,318	\$13,451	\$13,586	\$13,722	\$13,859	\$13,998	\$14,138
Labor Hours (For storage tank and diversion structure)	232	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15

Benefits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of benefits 1, 2, etc."

UNCERTAINTIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of uncertainties 1, 2, etc."

RISKS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of risks 1, 2, etc."

Barton 1G	Rectangular Storage in Upper Basin
Brief Title, 20 characters or less:	" "
Barton 1G	" "
Barton 1G	" "
Lifetime (in years) --->	20
Start year of O&M costs --->	2015
Electricity Supplier (SCL or PSE) --->	SCL
Indicate "Plant" or "Off-Site" --->	"Off-Site"

Current year (from Results summary sheet)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Benefits (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital and O&M	\$11,665	\$11,782	\$11,900	\$12,019	\$12,139	\$12,260	\$12,383	\$12,507	\$12,632	\$12,758	\$12,886	\$13,015	\$13,145	\$13,276	\$13,409	\$13,543	\$13,679	\$13,815	\$13,954	\$14,093	\$14,234	\$14,376
Debt-related and O&M	\$11,665	\$11,782	\$11,900	\$12,019	\$12,139	\$12,260	\$12,383	\$12,507	\$12,632	\$12,758	\$12,886	\$13,015	\$13,145	\$13,276	\$13,409	\$13,543	\$13,679	\$13,815	\$13,954	\$14,093	\$14,234	\$14,376
Risk (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncertainty (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital outlays	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Energy use	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
Natural Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
therms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	\$194	\$196	\$198	\$200	\$202	\$204	\$206	\$208	\$210	\$212	\$214	\$216	\$218	\$220	\$223	\$225	\$227	\$229	\$232	\$234	\$236	\$239
Electricity Use kwh	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
Demand kW or kVa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical spending	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sodium hypochlorite required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bisulfide required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other chemical costs - enter \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cleaning and Flow Control Structure Maintenance (diversion structure control gates for upper basin storage)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Labor	\$11,472	\$11,586	\$11,702	\$11,819	\$11,937	\$12,057	\$12,177	\$12,299	\$12,422	\$12,546	\$12,672	\$12,799	\$12,927	\$13,056	\$13,186	\$13,318	\$13,451	\$13,586	\$13,722	\$13,859	\$13,998	\$14,138
Labor Hours (for storage tank and diversion structure)	232	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15	232.15

Benefits	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of benefits 1, 2, etc."																						

UNCERTAINTIES	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of uncertainties 1, 2, etc."																						

RISKS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of risks 1, 2, etc."																						

Barton 3A	End-of-Pipe Treatment at Bottom of Basin
Brief Title, 20 characters or less:	" "
Barton 3A	" "
Barton 3A	" "

Lifetime (in years) -->	20	Please provide	See instructions below
First year of O&M costs -->	2015	the appropriate	
Electricity Supplier (SCL or PSE) -->	SCL	information in the	
Locate "Plant" or "Off-Site" -->	"Off-Site"	shaded areas	

All project costs through		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Current year (from Results summary sheet)																							
Total Benefits (from below)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Capital and O&M		\$45,743	\$46,201	\$46,663	\$47,129	\$47,600	\$48,076	\$48,557	\$49,043	\$49,533	\$50,029	\$50,529	\$51,034	\$51,544	\$52,060	\$52,581	\$53,106	\$53,637	\$54,174	\$54,716	\$55,263	\$55,815	\$56,373
Debt-related and O&M		\$45,743	\$46,201	\$46,663	\$47,129	\$47,600	\$48,076	\$48,557	\$49,043	\$49,533	\$50,029	\$50,529	\$51,034	\$51,544	\$52,060	\$52,581	\$53,106	\$53,637	\$54,174	\$54,716	\$55,263	\$55,815	\$56,373
Risk (from below)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Uncertainty (from below)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Capital outlays		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Debt issuance		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Debt service		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Energy use		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Natural Gas		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
therms		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Electricity		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Electricity Use kwh		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Demand kW or kVa		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Chemical spending		\$34	\$35	\$35	\$35	\$36	\$36	\$36	\$37	\$37	\$37	\$38	\$38	\$39	\$39	\$39	\$40	\$40	\$41	\$41	\$41	\$42	
Sodium hypochlorite required in gal.		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
Bisulfide required in gal.		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Other chemical costs - enter \$		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Materials and Supplies		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Other Costs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Labor		\$45,709	\$46,166	\$46,628	\$47,094	\$47,565	\$48,040	\$48,521	\$49,006	\$49,496	\$49,991	\$50,491	\$50,996	\$51,506	\$52,021	\$52,541	\$53,067	\$53,597	\$54,133	\$54,675	\$55,221	\$55,774	\$56,331
Labor Hours		925	925	925	925	925	925	925	925	925	925	925	925	925	925	925	925	925	925	925	925	925	

Benefits																						
1.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of benefits 1, 2, etc."																						

UNCERTAINTIES																						
1.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of uncertainties 1, 2, etc."																						

RISKS																						
1.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
"Additional description of risks 1, 2, etc."																						

Barton 4A	Peak Flow Reduction by Roof Drain Disconnection
Brief Title, 20 characters or less:	" "
Barton 4A	" "

Lifetime (in years)---->	20	Please provide	See instructions below
1st year of O&M costs ---->	2015	the appropriate	
Electricity Supplier (SCL or PSE) ---->	SCL	information in the	
Indicate "Plant" or "Off-Site" ---->	"Off-Site"	shaded areas	

Current year (from Results summary sheet)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Benefits (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital and O&M	\$67,946	\$68,625	\$69,311	\$70,004	\$70,704	\$71,412	\$72,126	\$72,847	\$73,575	\$74,311	\$75,054	\$75,805	\$76,563	\$77,328	\$78,102	\$78,883	\$79,672	\$80,468	\$81,273	\$82,086	\$82,907	\$83,736
Debt-related and O&M	\$67,946	\$68,625	\$69,311	\$70,004	\$70,704	\$71,412	\$72,126	\$72,847	\$73,575	\$74,311	\$75,054	\$75,805	\$76,563	\$77,328	\$78,102	\$78,883	\$79,672	\$80,468	\$81,273	\$82,086	\$82,907	\$83,736
Risk (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncertainty (from below)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Capital outlays	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Debt issuance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Total Energy use	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Natural Gas	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
therms	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Electricity Use kwh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Demand kW or kVa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Total Chemical spending	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Sodium hypochlorite required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bisulfide required in gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other chemical costs - enter \$	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Materials and Supplies	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Other Costs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Labor	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Labor Hours	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375

Benefits	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of benefits 1, 2, etc."

UNCERTAINTIES	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of uncertainties 1, 2, etc."

RISKS	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

"Additional description of risks 1, 2, etc."

**BARTON CSO BASIN
OFF LINE STORAGE TANK OR PIPE ANNUAL POWER COSTS (0.11 MG STORAGE)**

Annual Power Costs							
Item	HP	Quantity	Total HP	Watts	Hours/day	kW-hrs/year	Comments
Drain Pump	1.7	2	3.4	2,535	24	913	Assume the pump operates for 1.5 times the overflow events per year. Assume 10 overflows and a day to empty the tank.
C2 Water Booster Pumps	1.5	2	3	2,237	4	89	Assume the pump operates for 4 hrs a day during each over flow event, assume 10 events an year.
Odor Control Fan/Blower	5	1	5	3,728	24	1,790	Assume the the overflow event last on an average 2 days and 10 overflow events per year. OCU operates for 24hrs during overflow event.
Flushing Gates (2 each)	0.75	2	1.5	1,119	2	22	Assume flushing gates operate 2hrs during the 10 overflow events
Drain Gates (2 each)	1.5	2	3	2,237	2	45	2hrs for 10 overflow events
Control Gate	1.5	1	1.5	1,119	2	22	2hrs for 10 overflow events
Total Load			<u>17.4</u>			<u>kW-hrs/year = 2,900</u>	

**BARTON CSO BASIN
O & M QUANTITIES**

Alternative	Description	O & M MH Estimate
1A - Rectangular Storage	Electricity Usage (KW-hr)	2900
	MH/MG/yr	365
	Tank Size (MG)	0.11
	Number of MH's	40
	Total MH's	40
1B - Circular Storage	Electricity Usage (KW-hr)	2900
	MH/MG/yr	365
	Tank Size (MG)	0.11
	Number of MH's	40
	Total MH's	40
1C - Tunnel / Pipe Storage (12-ft dia)	Electricity (KW-hr)	2900
	MH/yr/LF	0.1
	Pipe Length (LF)	150
	Number of MH's	15
	Total MH's	15
1D - Tunnel / Pipe Storage (12-ft dia)	Electricity (KW-hr)	2900
	MH/yr/LF	0.1
	Pipe Length (LF)	150
	Number of MH's	15
	Total MH's	15
1E - Tunnel / Pipe Storage (12-ft dia)	Electricity (KW-hr)	2900
	MH/yr/LF	0.1
	Pipe Length (LF)	150
	Number of MH's	15
	Diversion Structure (MH/ea/yr)	192
	Total MH's	207

1F - Rectangular Storage at Fautleroy School	Electricity Usage (KW-hr)	2900
	MH/MG/yr	365
	Tank Size (MG)	0.11
	Number of MH's	40
	Diversion Structure (MH/ea/yr)	192
	Total MH's	232
1G - Upper Basin Storage	Electricity Usage (KW-hr)	2900
	MH/MG/yr	365
	Tank Size (MG)	0.11
	Number of MH's	40
	Diversion Structure (MH/ea/yr)	192
	Total MH's	232
3A - End of Pipe Treatment	MH/yr/Plant	925
	No of Plants	1.00
	Total MH's	925
4A - Disconnection	MH/LF/yr	0.1
	Proposed Storm Sewer	13750
	Total MH's	1375

Note:

Refer to CSO O & M cost file for electricity calculations. KW-hrs for 0.11 MG storage tank or pipe = 2900

The O & M costs are taken from the Basis of Costs - O & M costs from Corrollo and the 2002 Memo from Ron Kohler

MH - Man hours

MG - Million gallons