

*King County Puget Sound Beach CSO Control Projects
Alternative Screening Workshop for Barton Basin*

Alternative Screening Workshop for Barton Basin
Dec. 9, 2009; Dec. 10, 2009; and Jan. 19, 2010
King Street Center

Summary of Discussion

Attendance

<i>King County</i>		<i>Consultant</i>	<i>SPU</i>
Betsy Cooper	John Phillips	Ellen Blair	Sahba Mohandessi
Hien Dung	Kevin Schock	Jennifer Corrigan	
Pam Erstad	Linda Sullivan	Kevin Dour	
Sue Hildreth	Bob Swarner	Karl Hadler	
Ron Kohler	Martha Tuttle	Jeff Lykken	
Kathy Mathena	Jim Weber	Brian Matson	
Tiffany McClaskey	Mary Wohleb	Allen de Steiguer	
Sue Meyer	Monica Van der	Lloyd Skinner	
Shahrazad Namini	Vieren	Bob Wheeler	
Chris Okuda	Karl Zimmer		
Ukwenga Oleru			

Purpose of this Summary:

This document provides a summary of the workshop process and captures the discussion themes that supported recommendations for CSO control project alternative means to be forwarded for review by internal management and further development by the project team.

Workshop Process

Team members used a collaborative approach to screen alternative means for CSO control using a range of factors. The work was accomplished through a series of meetings on Dec. 9, 2009 and Dec. 10, 2009 and is part of the team evaluation process to identify three CSO control alternative means for further evaluation. Documenting the workshop process is a critical piece of the project.

Workshop Goals and Objectives:

1. Recommend three alternative means for CSO control for the Barton Basin to present to the public for input and to develop in more detail, with the remaining alternatives to be tabled at this time.
2. Where possible, recommend a set of alternative means that represents the range of complexity and constraints in the basin.
3. Discuss and document the reasons and rationale for recommendations.

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December 9, 2009 Workshop – “Straw Poll”

Materials Available for Workshop

1. Final revised Barton Basin Alternatives summary sheets (1 for each alternative)
2. Final revised table of selection factors ratings and descriptions of Low, Moderate, and High impact
3. Final revised Alternative Rating Sheets for Barton Basin (summary & expanded to include description of ratings)
4. Summary of major changes to Barton, Murray, and South Magnolia Basin Alternatives and overall selection factors
5. Inventory of Available Property and Property Profiles

Workshop Approach/Agenda

A “Straw Poll” was conducted to generate discussion and help inform the team’s recommendations.

An enlarged wall chart of the screening factors and draft ratings for all alternatives for the Barton basin was posted on the wall. King County staff used dot stickers to indicate the alternatives they thought should be recommended for further evaluation and those they thought should not be recommended. Most importantly, staff also wrote their thoughts on the wall charts as to why certain alternatives should or should not be recommended as well as any questions they might have.

Workshop Outcome

The straw poll provided staff with an initial, visual survey of how their colleagues viewed the alternatives, and provided valuable insight into the reasons for their views. This initial survey and the written thoughts were used to start an in-depth discussion of the alternatives at the Dec. 10, 2009 workshop.

December 10, 2010 – *Initial Barton Alternatives Narrowing*

Materials Available for Workshop

1. Preliminary planning level cost information for comparison purposes for Barton Basin
2. Initial Straw Poll Results

Workshop Approach/Agenda

1. Review of Initial Straw Poll Results for Barton (Jeff Lykken, Tetra Tech)

2. Initial Barton Alternatives Narrowing - Discussion (facilitated by Bob Wheeler, Triangle Associates)

- Identify alternatives that clearly do not merit further consideration at this time
- Identify alternatives that clearly merit further consideration at this time
- Discussion of remaining alternatives to reduce the recommended number to three
- Discussion of basis for recommendations on all alternatives

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3. Presentation of Preliminary Planning Level Cost Information for Comparison Purposes
(Kevin Dour, Tetra Tech)

- Methodology for determining costs
- Review of methodology for creating comparative cost ratings
- Discussion of whether cost information changes any of the three alternatives currently identified for further evaluation

4. Team Agreement on 3 Alternative Means for CSO control for Further Development
(facilitated by Bob Wheeler, Triangle Associates)

- Survey of team for confidence in recommended alternatives
- Final thoughts on recommendations

Workshop Outcome

King County staff recommended the following alternative means for CSO control to be considered for further development:

- Rectangular or Pipe Storage in Bottom of Basin. The Basin Lead will evaluate whether a rectangular storage tank or a storage pipe is the best configuration for this alternative (elements of Alternatives 1A and 1C). The project team decided to combine elements of these two alternatives going forward because they are very similar, and the team wished to maintain the flexibility to optimize the storage facility configuration during more detailed evaluation.
- Pipe Storage in Upper Fautleroy Way (Alternative 1E)
- Rectangular Storage in Vicinity of Fautleroy School (Alternative 1F)

The engineering basin leads, Jeff Lykken and Kevin Dour, for the Barton Basin supported these choices.

Follow-up with WTD Management and January 19, 2010 Briefing with WTD Director

King County staff recommended Rectangular or Pipe Storage in Bottom of Basin (elements of Alternatives 1A and 1C) for further development largely because the facility would be located where most flows could be captured. King County staff subsequently presented challenges for this alternative related to the environmental, community, and land use and permitting selection factors to WTD management. Specific concerns such as disruptions to ferry traffic and/or service were presented to the WTD Director Christie True in a briefing on January 19, 2010. The Director determined that the other two “gray” alternatives recommended for further development in the Barton basin did not involve the same level of challenges posed by Rectangular or Pipe Storage in Bottom of Basin, and directed the project team to discontinue further evaluation of that alternative.

Summary of Workshop Process Discussion for Barton Basin

Considerations for all CSO Project Basins

- O&M staff objected to considering a circular storage tank. A rectangular storage tank is preferable from an O&M perspective. An offline storage pipe is less desirable but workable from an O&M perspective.

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- O&M staff emphasized that even as constraints to the alternatives emerge, it will be important to keep O&M access out of the ROW. O&M staff explained that O&M activities will be restricted in certain ways in the absence of safe, protected access outside of the ROW.

Considerations for Barton Basin

- Alternative 1E could be difficult to implement because of identified archeological resources, but the engineering design must be further refined to better understand the potential impacts to archeological resources.
- One way to think about the Green Stormwater Infrastructure alternative, which is proceeding for the Barton basin on a separate track, is as a tool for reducing the risk associated with meeting the CSO control requirement with a “gray” alternative.
- Although a range of costs is shown for land acquisition and permitting costs, the permitting costs could very likely be at the high end. The range shown is not meant to suggest that the cost might be somewhere in the middle.
- The range of costs for land acquisition is based on a low and a high estimate of the number of properties needed. Only assessed values were used for private property cost estimating; no additional costs for acquisition were included.
- The cost estimate for Alternative 4A does not consider the potential cost to treat stormwater.
- The cost estimates discussed were preliminary planning level cost estimates for comparison purposes.

Considerations for Barton Basin CSO Control Alternatives

<i>Alternative 1A: Rectangular Storage, Bottom of Basin/Alternative and 1C: Pipe Storage, Bottom of Basin (Recommended for further development)</i>

Alternative 1A and Alternative 1C are both storage alternatives using different types of storage facilities and were deemed similar enough to be put forth for further evaluation as a single alternative.

Design Engineering

- All of the peak flow is captured using passive technology. This is the least technically complex method for CSO control.
- Considering both rectangular and pipe storage will allow the design team more flexibility in optimizing the storage configuration.

Cost

- Alternative 1A is moderate cost and Alternative 1C is low cost relative to all potential Barton CSO control alternatives.
- Potential for cost estimate to change based on permitting and property acquisition costs

Land Use/Permitting

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- King County owns property adjacent to the Barton Pump Station that might be useful for siting or constructing this alternative.
- Shoreline use permit may be needed.
- Property acquisition may be necessary.

Environmental

- Moderate likelihood that archaeological resources are present, which could delay the project schedule.
- Permit conditions could require marine access to avoid environmental impacts, though there still might be permit conditions related to water access.

Community Impact

- Construction could disrupt traffic on an arterial, Fauntleroy Way SW, and Fauntleroy ferry traffic. This would require extensive coordination with WSDOT.
- Some community members have indicated they do not want changes to King County's property adjacent to the Barton Pump Station or disruptions to Cove Park.
- Some community members have expressed concern about impacts to Cove Park, and informed the county that grant funding was invested in the park.
- Members of the Fauntleroy community have expressed concern about facilities and land use that are not compatible with their vision of their neighborhood area.

O&M

- Cleaning a rectangular tank is easier, occurs less frequently and requires less staff time than cleaning a circular tank (Alternative 1B).

Alternative 1B: Circular Storage, Bottom of Basin (Not recommended for further development)

Additional considerations are captured in Alternative 1A and 1C.

Design Engineering

- Circular storage at the bottom of the basin may provide some construction related benefits but provides no additional operational benefits compared to rectangular or pipe storage at the bottom of the basin.

Cost

No discussion. Comments related to cost were captured in the evaluation document.

Land Use/Permitting

No discussion. Comments related to land use/permitting were captured in the evaluation document.

Environmental

No discussion. Comments related to environmental issues were captured in the evaluation document.

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Community Impact

No discussion. Comments related to community impacts were captured in the evaluation document.

O&M

- Circular storage requires more frequent maintenance and more staff time than rectangular or pipe storage.

Alternative 1D: Right of Way Pipe Storage, Bottom of Basin (Not recommended for further development)

Design Engineering

- Provides no additional technical or operational benefits compared to Alternative 1C.

Cost

No discussion. Comments related to cost were captured in the evaluation document.

Land Use/Permitting

- No property acquisition needed.

Environmental

- Moderate likelihood that archaeological resources are present, which could delay the project schedule.

Community Impact

- Construction would disrupt traffic on an arterial, Fauntleroy Way SW, and Fauntleroy ferry traffic. This would require extensive coordination with WSDOT.

O&M

- Access for O&M staff poses traffic control and safety issues. Fauntleroy Way SW is a busy arterial. Accessibility would be limited and require traffic control if entry were within the paved road.

Alternative 1E: Pipe Storage, Upper Fauntleroy Way SW (Recommended for further development)

Design Engineering

- About half of basin peak flow is captured using passive technology. Moderate level of technical complexity and operational management compared to other CSO control approaches.

Cost

- Lower cost relative to other Barton CSO control alternatives.

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- Lower potential for project costs to change relative to other Barton CSO control alternatives.

Land Use/Permitting

- No property acquisition needed for storage pipe installation (may need easements for electrical and odor control facilities).

Environmental

- Project is located in area with known archeological resources. Further refinement of alternative needed to evaluate issues related to archeological resources. Evaluation of archeological resources elements could result in schedule delay and/or denial of permit.

Community Impact

- Construction will disrupt traffic on a non-arterial street.
- Access to residences will be limited during construction along approximately 200 ft of street Right of Way.

O&M

- Telemetry and instrumentation will be necessary to predict and capture adequate flows to meet the CSO control requirement. Telemetry and flow control adds technical complexity to flow management.

Alternative 1F: Rectangular Storage in the Vicinity of Fauntleroy School (Recommended for further development)

Design Engineering

No discussion. Comments related to design engineering were captured in the evaluation document.

Cost

- Low cost relative to other Barton CSO control alternatives.
- Low risk of cost estimate changing dramatically.

Land Use/Permitting

No discussion. Comments related to land use/permitting were captured in the evaluation document.

Environmental

- Minimal potential for environmental impacts or permitting difficulties.

Community Impact

- Avoids traffic impacts to Fauntleroy Way SW arterial and Fauntleroy ferry traffic.
- Minimal if any disruption to street Right of Way.
- Potential willing property seller. Best opportunity for positive community partnership.

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- Community members have indicated they do not want changes to King County's property adjacent to the Barton Pump Station or disruptions to Cove Park. This alternative avoids use of residential property or the park.

O&M

- Approximately half of basin flow can be captured at this point in the basin. Telemetry and instrumentation will be necessary to predict and capture adequate flows to meet the CSO control requirement. Telemetry and flow control is more difficult for meeting the CSO control requirement compared to passively capturing all of basin flow at the bottom of the basin.

Alternative 1G: Rectangular Storage, Basin 416 (Not recommended for further development)

Design Engineering

- Since facility is located high in the basin less than half of the basin flow is captured. It may be necessary to add size to storage facility to guarantee capture of adequate volumes to achieve control requirements.

Cost

- Moderate cost relative to other Barton CSO control alternatives.

Land Use/Permitting

- Construction might be required in Lowman Beach Park. The Seattle Dept. of Parks and Recreation has a policy that opposes the use of parks for certain types of utilities. This could impact the project schedule.

Environmental

No discussion. Comments related to environmental issues were captured in the evaluation document.

Community Impact

- Construction and above ground facilities would be disruptive to park users.
- Construction could impact approximately 800 ft of street Right of Way; impacted streets are not arterial.

O&M

- Technically complex compared to other storage alternatives. Telemetry and instrumentation will be necessary to predict and capture adequate flows to meet the CSO control requirement. More management of peak flows required relative to other storage alternatives.

Alternative 3A: End of Pipe Treatment, Bottom of Basin (Not recommended for further development)

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Design Engineering

- All of the peak flow is captured using passive technology. This is the least technically complex method for CSO control.

Cost

- High cost relative to other Barton CSO control alternatives.

Land Use/Permitting

- Treatment facility in shoreline is currently prohibited.
- Permitting effluent discharge to Puget Sound could delay the project schedule.

Environmental

No discussion. Comments related to environmental issues were captured in the evaluation document.

Community Impact

- Community members may object to treatment facility in residential neighborhood.

O&M

- O&M more complicated and time-consuming for staff than storage.

<i>Alternative 4A: Peak Flow Reduction, Basin 416 (Recommended for further development)</i>

Design Engineering

- Directing additional stormwater to Municipal Separate Storm Sewer System (MS4) system would require adequate capacity to prevent potential flood impacts to Longfellow Creek.
- Project schedule could be considerably delayed because of need to coordinate with City of Seattle and work required on hundreds of private properties.

Cost

- The project and life cycle costs could increase beyond the estimated costs if stormwater treatment is required.
- High cost relative to other Barton CSO control alternatives even before considering the possibility that stormwater may require treatment.

Land Use/Permitting

- Project schedule could be impacted due to issues related to permitting, coordination with Seattle, and community opposition.

Environmental

No discussion. Comments related to environmental issues were captured in the evaluation document.

Community Impact

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- More information is needed to evaluate alternative with option to disconnect roofs only and either add conveyance or coordinate with SPU's RainWise program for onsite stormwater management.
- In the present configuration, stormwater pipe construction would impact several blocks of non-arterial streets.

O&M

- Defining roles and responsibilities for stormwater management systems creates is necessary to clarify requirements for O/M staff.