

## Murray Basin Combined Sewer Overflow Project Community Advisory Group

12 October 2010

Pam Elardo  
Interim Director  
King County  
Department of Natural Resources  
Wastewater Treatment Division  
201 South Jackson Street  
Seattle, WA 98104

Subject: Murray Basin CAG  
Final Report and Recommendations

Dear Pam:

The Murray Basin Community Advisory Group is pleased to provide the attached Final Report and Recommendations as a product of our four month collaboration with King County Water Treatment Division staff and its consultants in an effort to partner with King County in identifying the best alternative for CSO solutions in the Murray Basin.

As noted, there are a number of obvious take-aways that emerged and which informed the process for developing the set of recommendations in this report. It has become evident that the CSO problem does not have a single, obvious, exquisitely simple, technically pure and universally equitable solution. Consistently the CAG endeavored to find outcomes that adhere to its Guiding Principles for equitable, efficient, functional, operationally viable, cost effective, environmentally sound and comprehensive solutions. The CAG also committed to developing solutions whose outcomes embrace and respond to the six criteria established by KCWTD.

While this report represents the specific recommendations of the CAG, we believe it is the result of an intense and cooperative effort of the CAG, KCWTD and its consultant team taking on the significant challenges associated with the CSO program with the clear intent to find the optimal solution for a healthy and vibrant Puget Sound.

The CAG thanks KCWTD and its consultants for their participation and cooperation in providing information and testing alternatives in response to our requests. This report and its recommendations would not have been possible without their analysis.

Our recommendations are presented in three categories: 1) recommendations for specific CSO alternatives; 2) recommendations for components or approaches that should be applied to all alternatives; and 3) recommendations for the alternative selection and design process going forward as it relates to community involvement. It is with respect to the last category that we would like to emphasize our recommendation that the County **Continue to formally engage with the CAG throughout the design, development and implementation**

**phases of the CSO project**

This recommendation strongly encourages the County and KCWTD to continue to meet with the CAG throughout the next phases of the project in order to avoid a repeat of the disconnect that was evident at the onset of the project; to maintain continuity and progress in the process; to capitalize on the considerable work that has been accomplished as KCWTD moves forward in detailed development of the selected alternative; and to engage with the larger community in expanding understanding, seeking approval, and generally communicating the results.

**We recommend the County immediately expand the CAG process to include equitable representation from the Fauntleroy community in a combined CAG to develop, review and evaluate the next phases of development of the CSO alternative.**

**The CAG believes it would be an unfortunate repeat of a missed opportunity to wait until an alternative has been selected and design work fully developed before re-engaging with the CAG.**

Again, we thank KCWTD for the opportunity to participate in this process, and very much look forward to continuing to partner with you during the next crucial stages of this important endeavor.

Sincerely,

The Murray Basin Community Advisory Group

Bill Beyers

John Comick

Katherine Dee

Patrick Gordon

Scott Gunderson

Chris Jansen

Vlad Oustimovich (Abstaining)

Charles Redmond

Donna Sandstrom

Don Stark

Dr. Ron Sterling

**King County  
Department of Natural Resources and Parks  
Wastewater Treatment Division**

**Murray Basin Combined Sewer Overflow Project  
Community Advisory Group**

**Report and Recommendations  
of Community Members of the CAG**

12 October 2010

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## Executive Summary

On 9 June 2010 King County Wastewater Treatment Division (KCWTD) convened the first Murray Basin Citizens Advisory Group meeting to provide a forum for dialog and information sharing, and to consult with members of the community on the siting of new facilities to reduce combined sewer overflow (CSO) episodes into Puget Sound. CAG members were asked to participate in the process to represent themselves and their broader communities in helping KCWTD make a stronger connection with the community; to provide meaningful input in solving the CSO problem, and help identify the best reasonable and technically feasible alternatives that would address community concerns and County requirements.

The CAG was formed by the County in response to strong community reaction and opposition to the three short-listed alternatives for CSO facility locations, and to address community concerns that it had not been involved in the development, evaluation, and selection of those alternatives. It is important to note the overwhelming support from the community relative to restoring and protecting the health of Puget Sound, and to making significant strides to reduce runoff during peak flow events as mandated by the State of Washington.

The most vigorous community opposition was directed at the proposed locations in Lowman Beach Park, on private residential property adjacent to the park, and in a deep cut-and-cover tunnel along 900' of Beach Drive SW. The community contended that locating CSO facilities in Lowman Beach Park would eliminate the very amenities that make the park so special to the greater community. It also contended that replacing residential uses with utility facilities would forever change the scale and character that defines the neighborhood; and that major street and utility construction activities needed to be considered in the context of the area's geology, and access and safety for the community.

The CAG consists of eleven members who represent residents in both the Murray and Barton Basins; representatives from the Fauntleroy Community Association, the Murray Community Association and environmental organizations; ex-officio members from KCWTD, Seattle Department of Parks and Recreation and Seattle Public Utilities. The CAG was supported by a project team from KCWTD and its consultants, and meetings were facilitated by EnviroIssues. All meetings were conducted in a public forum where the greater community was invited to observe and provide comment.

### Community and KCWTD Goals

The existing combined sewer and storm water systems in the Barton and Murray Basins can no longer control the flow during heavy rain, or peak events. This results in combined sewer overflows into Puget Sound on an average of five times per year. The goal of the CSO program is to limit further water quality degradation in Puget Sound by holding combined flow during peak events, and metering that combined flow back into the treatment system at a rate that can be accommodated in accordance with agency and regulatory requirements.

From the onset the CAG has stated its strong support for and commitment to the responsible stewardship and protection of Puget Sound, including overall support

for the objectives of the KCWTD CSO program. The community is also committed to the stewardship and protection of the character, scale and integrity of parks, open spaces and natural features, and its residential neighborhoods through solutions that are equitable among the greater communities; that are integrated and comprehensive from an overall point of view; that are effective, adaptable and sustainable over time; that are operationally viable and cost effective; and that engage the entire community in an endeavor to raise the awareness of our environmental responsibilities.

### **Guiding Principles**

In an attempt to establish an agreed-upon framework for assessing CSO alternatives and to formalize a set of beliefs and convictions that could be articulated and discussed throughout the process, the CAG developed a set of Guiding Principles as outlined below and further detailed in the body of this report. These Guiding Principles were incorporated with KCWTD's six evaluation criteria in order to establish a blended scoring mechanism with which to identify preferred alternatives.

- 1. *Share responsibilities for reduction and elimination of CSO events within each neighborhood, community, basin and municipality that contributes to the problem.***
- 2. *Prioritize locations and sites for CSO facilities in consideration for the preservation and protection of unique scale, character, natural features and vegetation of parks, neighborhoods and communities; and seek solutions that preclude or minimize the increased footprint of such facilities.***
- 3. *Embrace environmental stewardship with solutions that incorporate the highest aspirations for environmental sustainability, enhanced air and water quality, noise reduction, and which serve to enhance marine habitat and migration.***
- 4. *Analyze costs on a Total-Cost-of-Ownership (TCO) basis that considers a balance between short-term project costs and long-term operational costs.***
- 5. *Minimize short-term construction impacts on individual properties, neighborhoods and communities to the fullest degree practical.***
- 6. *Minimize long-term physical and operational impacts with solutions that avoid inappropriate structures, operational noise and odors, and other permanent conditions that will negatively impact the scale, use, character and value of adjacent properties and spaces.***
- 7. *Strive for long-term, comprehensive and adaptable solutions that exemplify durability, simplicity, expandability and ease of maintenance over a fifty year period.***

- 8. Incorporate and leverage community values and assets with solutions that protect neighborhood and community character and that leverage the opportunity to enhance community assets through improved streets, sidewalks and open spaces.**
- 9. Implement comprehensive solutions that follow a bold vision, are adaptable over time, and are fully coordinated with other regulatory bodies (State, County and City) to avoid conflicts and overlaps and to maximize the value for the effort and expenditure.**
- 10. Incorporate best practices that seek all opportunities to utilize newest technologies and proven approaches in order to provide the County, City and Community with outcomes that achieve their collective goals.**
- 11. Avoid unintended consequences through a process of constant review of alternatives for compliance with Guiding Principles, as well as for their effectiveness and appropriateness.**

## **Process**

Commencing in June 2010, the CAG met approximately nine times with KCWTD, participated in two workshops, and met on numerous other occasions to develop, refine and evaluate alternative CSO solutions. These meetings progressed through a series of information-gathering sessions, system approaches and technical discussions, and alternative development and evaluation reviews. A number of meetings focused on various regulatory issues with the participation of City of Seattle and State of Washington representatives.

Throughout the process, the CAG has asked many probing questions and raised a number of topics that emerged from the community. While there remain a number of these questions that warrant further explanation and/or exploration, KCWTD has endeavored to address them within the context of the CAG meetings, and to the degree the very conceptual level of design and development of the alternatives would allow.

Going forward, the continued interaction between KCWTD and the CAG will be essential in fulfilling the agreed-upon goals as the CSO project progresses through design and implementation.

During the four months since formation of the CAG, considerable work has been accomplished in discussing, understanding, refining and evaluating **seventeen alternative CSO solutions** – nine originally proposed by KCWTD, and eight proposed by the CAG. Full descriptions of these alternatives are provided in the body of this report.

In developing its own CSO alternatives, and in evaluating those developed by KCWTD, the CAG has anticipated that key features of any alternative that appeared to have merit might be incorporated into other alternatives. This in fact occurred throughout the process as the seventeen alternatives were narrowed to

nine, while key features of dropped alternatives were retained as add-ons to those remaining.

Following many weeks of discussions, reviews and refinements of the original seventeen alternatives, including a series of thorough evaluations utilizing the Guiding Principles and KCWTD evaluation criteria, the list of alternatives was eventually narrowed to **seven** and then to **five** for a final review and recommendation. Those final five include the following in order of their relative CAG preference:

<b><u>CAG2a</u></b>	<b><u>Below-Grade Storage at Lincoln Park, South Parking Lot</u></b>	<b>Project Total Cost: \$24,138,000</b>	<b>Relative Cost Factor: 1.0</b>
<b><u>KC1B</u></b>	<b><u>Rectangular and/or Pipe Storage in Vicinity of Murray Avenue SW and Lincoln Park Way SW (triangle site)</u></b>	<b>Project Total Cost: \$33,493,000</b>	<b>Relative Cost Factor: 1.4</b>
<b><u>CAG2</u></b>	<b><u>Below-Grade Storage at Lincoln Park, North of Colman Pool</u></b>	<b>Project Total Cost: \$29,367,000</b>	<b>Relative Cost Factor: 1.2</b>
<b><u>CAG8</u></b>	<b><u>Distributed Upper Basin Storage for Murray Peak Flows</u></b>	<b>Project Total Costs \$34,823,000</b>	<b>Relative Cost Factor 1.4</b>
<b><u>KCIF</u></b>	<b><u>Combined Pipe and Rectangular Storage at Bottom of Murray Basin</u></b>	<b>Project Total Costs \$30,110,000</b>	<b>Relative Cost Factor 1.2</b>

### **Murray Basin Citizens Advisory Group Recommendations**

At the conclusion of the last scheduled CAG meeting on 28 September 2010, there were a number of obvious take-aways that emerged and which have informed the process for developing the set of recommendations in this report. It has become evident that the CSO problem does not have a single, obvious, exquisitely simple, technically pure and universally equitable solution. Consistently the CAG has endeavored to find outcomes that adhere to its Guiding Principles for equitable, efficient, functional, operationally viable, cost effective, environmentally sound and comprehensive solutions. Finally, the CAG has also committed to developing solutions whose outcomes embrace and respond to the six criteria established by KCWTD.

While this report represents the specific recommendations of the community members of the CAG, we believe it is the result of an intense and cooperative effort of the CAG, KCWTD and its consultant team taking on the significant challenges associated with the CSO program with the clear intent to find the optimal solution for a healthy and vibrant Puget Sound.

The CAG thanks KCWTD and its consultants for their participation and cooperation in providing information and testing alternatives in response to our requests. This report and its recommendations would not have been possible without their analysis.

## **Recommendations for Specific Alternatives**

### **1. Advance CAG2a as the preferred alternative as modified at the 28 September 2010 CAG Meeting**

*This recommendation includes the proviso to explore options to further reduce the impacts on the community, parks and the parking lot. They include:*

- a. Explore all options to avoid the need for a new pump station in Lincoln Park. In the event one is needed, it should be located in a manner that does not impact natural features or is located outside of shoreline areas.*
- b. Locate 0.1mg storage facility in bottom of Murray Basin outside of Lowman Beach Park – in Murray Avenue SW or Beach Drive SW right-of-way.*
- c. In the design of the below-grade storage structure in parking area, include options for below-grade odor and electrical control structures, improved pedestrian and vehicle access provisions, and increased safety measures for pedestrian and vehicular access.*
- d. Engage both the Lowman and Fauntleroy communities in vetting and further developing this alternative and approaching the community and the City of Seattle to evaluate options and mitigation for use of this specific park parcel.*

### **2. Explore KC1B (along with portions of KC1F) as back-up alternatives as modified at the 28 September 2010 CAG meeting**

*This recommendation recognizes that a back-up alternative should be maintained pending confirmation of technical feasibility of CAG2a. It includes the proviso that a number of modifications should be incorporated into the alternative as currently drawn to further reduce the impacts on community, open spaces, wetlands and parks. They include:*

- a. Increase storage at Fauntleroy School to 0.5mg in order to reduce the total storage requirement in Murray Basin to approximately 0.85MG.*
- b. Explore option to provide some additional upper basin storage (as shown in CAG8 Alternative) to further reduce required storage capacity in bottom of basin.*
- c. Locate the new 10mgd peak flow pump station out of Lowman Beach Park (potentially in Murray Avenue SW or Beach Drive SW rights-of-way) and explore options to incorporate and retire current Murray Pump Station. This option would result in new, state-of-the-art pump station similar to 53<sup>rd</sup> Street Station.*
- c. Explore options to incorporate potential sites shown in KC1F and/or utilize Murray Avenue SW right-of-way to eliminate need to encroach on wetlands, steep slopes or private property for storage structures*
- d. Locate new storage and control structures below grade to allow above-grade landscape features to mitigate loss of natural features*

### **Recommendations to be Applied to All Alternatives**

- 3. Increase storage capacity in Fauntleroy School (Barton Basin) to 0.5mg**  
*This recommendation recognizes the beneficial impacts on total storage requirements in the bottom of basin alternatives recommended above, and provides for additional options for locating storage structures to accommodate them. Further, it acknowledges and supports the Guiding Principles in seeking solutions that are quantitatively and qualitatively shared within the communities served.*
- 4. Apply Green Stormwater Infrastructure mechanisms/methodologies in both Barton and Murray Basins**  
*This recommendation would serve to reduce peak flows and improve the reliability of any storage solution, as well as provide capacities for unknown future climatic and weather conditions. Further, it could be a mechanism to educate and encourage community involvement and awareness of the need for sustainable practices.*
- 5. Identify and incorporate opportunities to reduce the footprint of CSO facilities by locating them in rights-of-way and other public property in lieu of natural open spaces within parks and communities, or on private property.**  
*This recommendation would create opportunities to maintain and/or restore natural amenities within the communities, and provide readily accessible locations for maintenance and operations of facilities that might otherwise not accommodate storage capacities necessary to accept peak flows [possibly creating opportunity to retire Murray Pump Station in Lowman Beach Park].*
- 6. Retain options to store portions of peak flows in Upper Murray Basin in conjunction with other storage solutions.**  
*Through combination with other bottom of basin storage options, this would provide potential for reduction of storage requirements and/or provide additional capacity and reliability to system. A number of these opportunities are identified in CAG8 alternative*

### **Recommendations to be applied to the Process going forward**

- 7. Adopt and incorporate the CAG Guiding Principles into the KCWTD CSO Program and County Process.**  
*This recommendation acknowledges the considerable effort on the part of the community to provide a thoughtful and comprehensive set of guidelines that incorporates the goals, aspirations and commitments of the community to the environmental stewardship of Puget Sound, the protection of the scale, character and natural features of the community, and the protection of private properties while addressing the CSO projects with full consideration of the County's requirements. In much the same manner that the CAG acknowledges KCWTD's criteria, incorporation of the CAG Guiding Principles by KCWTD as it moves forward would ratify the relationship that has been forged through this process. **Through this***

***recommendation, the CAG incorporates its Guiding Principles as part of the recommendations of this report.***

**8. *Continue to formally engage with the CAG throughout the design, development and implementation phases of the CSO project***

*This recommendation strongly encourages the County and KCWTD to continue to meet with the CAG throughout the next phases of the project in order to avoid a repeat of the disconnect that was evident at the onset of the project; to maintain continuity and progress in the process; to capitalize on the considerable work that has been accomplished as KCWTD moves forward in detailed development of the selected alternative; and to engage with the larger community in expanding understanding, seeking approval, and generally communicating the results.*

***The CAG recommends the County immediately expand the CAG process to include equitable representation from the Fautleroy community in a combined CAG to develop, review and evaluate the next phases of development of the CSO alternative.***

***The CAG believes it would be an unfortunate repeat of a missed opportunity to wait until an alternative has been selected and design work fully developed before re-engaging with the CAG.***

## 1.0 History / Context

Prior to the formation of the Murray Citizens Advisor Committee (CAG) in June 2010, King County Wastewater Treatment Division (KCWTD) had commenced work on addressing the uncontrolled combined sewer overflows into Puget Sound. While this initial work was not part of the scope or charter for the CAG, the following summary is provided to set the context from the community's perspective for the events and circumstances that eventually led to its formation and the considerable effort that was undertaken by the CAG and KCWTD in working towards a successful outcome and solutions for controlling combined sewer overflow (CSO) events.

In 2003 KCWTD began design work on upgrading the Murray Pump Station located in Lowman Beach Park, with studies to add odor control and emergency generator equipment to the existing facilities. Between 2005 and 2007 several Lowman Beach neighbors and community members from the Morgan Community Association, working with KCWTD, were able to negotiate a planned re-location of those facilities to a proposed below-grade location under the sidewalk in the Beach Drive SW right-of-way, outside of the boundaries of Lowman Beach Park. In 2007, prior to the commencement of final design, the project was put on hold when the County redirected its focus towards the CSO Control Program, and specifically on the Beach Projects of North Beach, Magnolia, Murray Basin and Barton Basin.

In the period between 2007 and 2009, the County began to study alternative approaches to addressing the CSO in these locations considering (1) storage, (2) on-site treatment, (3) conveyance and treatment, and (4) peak flow reduction. During this same period, they conducted public open houses throughout the four communities to discuss the compliance requirements and schedules, to explain various methodologies for addressing them, and to seek public input. Prior to the **29 March 2010** Open House at the Southwest Community Center, and the subsequent community meeting held on **21 April 2010** at the Kenney Home, hosted by the Morgan Community Association (MoCA), no specific alternative solutions or locations for the Murray Basin were presented to the community.

At the **29 March 2010** public open house hosted by the County, KCWTD and its consultants reviewed the underlying CSO compliance requirements and the four alternative approaches to addressing them, and revealed for the first time three short-listed CSO alternatives, subsequently identified as:

- **KC1A**  
1 Million gallon below-grade storage facility with above grade odor control and emergency generator structures located in Lowman Beach Park.
- **KC1C**  
1 million gallon storage facility located in approximately 900lf of large diameter pipe below Beach Drive SW, and approximately 350lf of large diameter pipe below Murray Ave. SW, with above grade odor control and emergency generator structures in Lowman Beach Park.

- **KC1F**

1 million gallon storage facility located partially in 500lf of large diameter pipe below Beach Drive SW, and partially in tank storage with above-grade odor control and emergency generator structures located on currently privately-owned properties east of Lowman Beach Park.

The project schedule presented at the March meeting identified a process that anticipated the selection of the preferred solution in early summer of 2010, with a report back to the public in summer /fall of 2010 (subsequent to the selection), followed by further development of the design and preparation of SEPA documents through the remainder of 2010. The community was informed it could provide further comment during the environmental review process.

During this public meeting and the subsequent presentation at MoCA, the community reaction was remarkably consistent in two regards: (1) in supporting the underlying intent to aggressively, effectively and sustainably embrace the need to control overflows into Puget Sound and protect this vital resource and its habitat; (2) and in opposing the three proposed alternatives and the manner in which the public outreach, and the process in which engineering, design, and facility siting were being conducted.

It is important to note the overwhelming support from the community relative to restoring and protecting the health of Puget Sound, and to making significant strides to significantly reduce runoff during peak flow events as mandated by the State of Washington. The only concerns expressed in this regard were focused on making sure that the measures that were being considered would be adequate for both current and future weather and climate patterns, and that the County not underestimate the passion and willingness of the community to explore sustainable practices and green solutions.

It is also important to note the community concern that was directed at the *process* for public outreach and involvement. In contrast to the expressed support for the overall intent of the project, there was very strong reaction to the limited public notification and the extent of alternative development and review that had occurred without public review and input; the narrowing of alternatives to the three presented without disclosure or discussion of the other alternatives; the lack of information relative to the evaluation criteria or the scoring that was done to arrive at the three alternatives, or the underlying data that would support the engineering and design approach; and the very limited timeframe that was given for public review of the three alternatives prior to KCWTD's selection of the preferred direction.

The most vigorous community opposition was clearly directed at the three short-listed alternatives, and specifically the permanent impacts of KC1A on Lowman Beach Park; the significant duration, scope and disruption of KC1C on Beach Drive SW and Murray Ave. SW; and the scale, land-use and character impacts of KC1F on Lowman Beach Park and the residential community through the use of private property, as well as the extensive disruption on Beach Drive SW.

With the subsequent determination by KCWTD that the cut-and-cover tunnel in alternative KC1C was not technically feasible, the following highlights a number of the issues that emerged as key components of the criticism of and opposition to KC1A and KC1F and which formed the genesis of numerous letters, emails and petitions opposing the remaining alternatives.

Lowman Beach Park is an intimate 1.35 acre City of Seattle park located along the shoreline of Puget Sound, immediately north of and forming the northern pedestrian gateway to Lincoln Park for many West Seattle and City-wide residents, thousands of whom use it to pass through on their walks to and from Lincoln Park. There are two century-old Sycamore trees on the site, along with a driftwood-ridden beach that is home to an ever-changing array of make shift forts, a major put-in location for kayakers, windsurfers, kite-flyers, hearty waders, and young explorers. It is a gathering point for the annual Christmas Ship bonfire, numerous weddings, family picnics, and everything one would want to occur on an intimate and natural shoreline.

The community contended that the County's proposal for locating CSO facilities in Lowman Beach Park would eliminate the very amenities that make this park so special, including:

- Removal of non-replaceable and century-old sycamore trees that provide shelter and character to the park and that, along with the beach access are the primary defining features of Lowman Beach Park.
- Disruption and reconfiguration of the approach to the beach that establishes visual continuity between land and water and provides ready access to the water's edge.
- Re-configuration of sloping topography that defines a number of intimate zones within the park and provides a natural and varied flow from the higher street elevations to the shore.
- Addition of access facilities (hatches, pads, drives, vents) as well as above-grade odor control and emergency generator structures that would further reduce the remaining natural zones within the park and permanently tip the balance of the character from recreational to utility.
- Potential disruption of the shoreline habitat at least through the construction period, and likely beyond, due to the close proximity to the shoreline of the proposed structures and the need to address geologic, topographic and aquatic conditions.
- Loss of use of the park for an extended period of time during construction, as well as impacts on current recreational uses once facilities are in place and operating (physical impediments, noise, odor, perception).
- The unlikely ability to identify replacement or satisfactory mitigation options in accordance with city ordinances protecting City of Seattle Parks.

The Community also contended that the County's proposal for CSO facilities immediately east of Lowman Beach Park on private residential property would also have significant negative impacts on the community including:

- A significant change in use, scale and character through the loss of approximately sixteen residential units and the construction of CSO facilities (storage structure, odor control and emergency generator structures, security and access provisions, etc.).
- Questionable ability to sufficiently address steep slope conditions for Lincoln Park Way and residential properties through retaining structures and other geotechnical measures.
- Concerns for the visual impacts of retaining structures and CSO facilities on Lowman Beach Park and the neighborhood.

The Community requested a temporary moratorium on the proposed project schedule and articulated an initial set of principles that it asked be considered in the development of new alternatives. They included the following:

- No further development of non-recreational use of Lowman Beach Park that would change or destroy the existing character and amenities of the park, including existing trees and vegetation, topography, beach access, views of the shoreline, etc. Consider mitigation and or removal of current utility facilities within the park.
- No avoidable and extended disruption of neighborhood streets during construction of CSO facilities that would impact properties and property values, and that do not conform to City of Seattle Street Use conditions (loss of access and services to/from residential homes and neighborhoods).
- No avoidable taking or change of use of private property through eminent domain or other mechanisms, that would result in loss of residential use and character of the neighborhood.
- Incorporation of comprehensive, adaptable and environmentally sustainable practices and methodologies in the design and development of comprehensive CSO facility solutions
- Creation of a community-wide, multi-basin Stakeholders/Advisory Committee to participate with the County in all phases of the development, design and implementation of alternative CSO facility solutions

## 2.0 Murray Basin Community Advisory Group (CAG)

In response to community requests the County convened the **Murray Basin Community Advisory Group (CAG)** in **June 2010** to provide a forum for dialog and information sharing, and to consult with representatives of the community on the siting of new facilities to reduce combined sewer overflow episodes into Puget Sound. Members of the CAG were asked to participate in a process where they would represent themselves and their broader community members in a process to help KCWTD make a stronger connection with the community; to provide meaningful input and help the County solve the serious problem of combined sewer overflows; help the County reach reasonable and technically feasible alternative CSO solutions that address community concerns and County requirements; and provide advice and input on current and potentially new alternative CSO solutions.

The CAG consists of 11 members who represent residents in both the Murray and Barton Basins; representatives from the Fautleroy Community Association, Morgan Community Association, and environmental protection organizations; one ex-officio representative from KCWTD, and ex-officio members from Seattle Parks Department, Seattle Public Utilities. Participation in CAG meetings and workshops also included 3 alternate CAG members, project team members from King County Wastewater Treatment Division, and its consultants. Meetings were facilitated by members of EnviroIssues. All meetings and deliberations were conducted in a public forum, and members of the community were invited to observe and provide input at each meeting.

The mission of the CAG is to:

- Provide a forum for dialog and information sharing between KCWTD and the community.
- Consider the Murray Basin CSO problem in the context of the broader city and county wastewater system, including the Barton Basin.
- Consult with representatives of the community, including the Fautleroy community, on a community-acceptable alternative or suite of alternatives to reduce Combined Sewer Overflow episodes.
- Help King County make a stronger connection with the community, and help King County provide information to the community so community members can provide meaningful input in order to help the County solve the serious problems of combined sewer overflows.
- Provide advice, as community representatives, on guiding principles to be considered in potential solutions and ways to address community concerns.
- Partner with King County to find the best alternative for CSO solutions in the Murray basin within the timeframe dictated by the County's regulatory requirements.
- Develop a Report to KCWTD at the conclusion of the scheduled CAG meetings that represents its consensus findings and recommendations, and provides a dissenting point of view if consensus is not reached.

**CAG members include:**

Bill Beyers	Neighbor
John Comick	Neighbor
Katherine Dee	Neighbor
Patrick Gordon	Neighbor
Scott Gunderson	Neighbor
Chris Jansen	Neighbor
Vlad Oustimovich	Fauntleroy Community Association
Charles Redmond	Morgan Community Association
Donna Sandstrom	Neighbor
Don Stark	Neighbor
Dr. Ron Sterling	Neighbor
Cheryl Eastberg	Seattle Parks Department - Ex-Officio
Linda Sullivan	KCWTD – Ex-Officio
Tracy Tackett	Seattle Public Utilities – Ex-Officio

**Alternates Include:**

Cindy Barker	Morgan Community Association – Alternate
Sharon Best	Neighbor – Alternate
Jim Coombes	Neighbor – Alternate
Linda Cox	Neighbor – Alternate

**KCWTD Staff and Consultants Include:**

Martha Tuttle	KCWTD
Shahrzad Namini	KCWTD
Jeff Lykken	Tetra Tech

**Facilitation Consultants**

Penny Mabie	EnvirolIssues
Amy Meyer	EnvirolIssues

### 3.0 Community and KCWTD Goals

The goal of the CSO program is to limit further water quality degradation in Puget Sound by holding stormwater runoff during a peak flow event and metering the stormwater back into the treatment system at a rate that can be accommodated in accordance with agency and regulatory requirements.

There are currently an average of five discharges into Puget Sound each year at the Murray Pump Station resulting from the combined flows from the Barton (approximately 45%) and Murray Basins (approximately 55%). The State of Washington, through the Department of Ecology under WAC 173-245-090 and Discharge Permit WA 002918 have mandated that the County undertake a program to reduce these discharges into Puget Sound to an average of one overflow event per year by the year 2030. The County, in turn has committed to a sequenced program to meet those requirements, beginning with the Beaches Project which includes the Barton and Murray Basins, and anticipates that solutions will be developed and under construction in 2013. KCWTD has indicated that this schedule requires the identification of a preferred alternative by December 2010.

From the onset of its interactions with the KCWTD, the Community has stated its strong support for and commitment to the responsible stewardship and protection of Puget Sound, including overall support for the objectives of KCWTD CSO project. The Community is also committed to the stewardship and protection of the character, scale and integrity of its surroundings including the protection of parks, open spaces and natural features, maintenance of streets and services throughout the community, and protection of the use, scale and character of private property. Central to the community group is the strongly felt commitment to the preservation, protection and restoration of Lowman Beach Park. These concerns accrue to a large community of users of Lowman Beach Park as evidenced by the number of signers to the informal petition that was circulated immediately following the **29 March 2010** meeting.

They also integrate a crucial concept, as noted in Guiding Principle #1, that the solution for Murray Basin be integrated within a comprehensive view of the CSO problem for Barton Basin, establishing a basis for an equitable solution that attempts to solve the problem in relative proportion to the origin of the problem – solidifying the overall community commitment for responsible stewardship of Puget Sound.

Throughout the process, the CAG has endeavored to establish a set of Guiding Principles that will help find mutually acceptable solutions for the CSO projects that are equitable, effective, functional, operationally viable, cost/value-based, environmentally responsible and comprehensive.

## 4.0 Guiding Principles

In an attempt to establish an agreed-upon framework for assessing CSO alternatives and to formalize a set of beliefs and convictions that had been articulated and discussed throughout the process, the CAG worked to develop a set of Guiding Principles. Their foundation and purpose is intended to:

- Express a set of framework principles that capture the values and an agreed-upon planning intent that can be applied to the project regardless of a particular alternative solution
- Avoid language that is directed solely at a specific solution to either advance or eliminate it in the evaluation process
- Capture the intent of the Guiding Principle concept, but eliminate references to specific measures, solutions, locations, etc. in order that the principle can be applied across the series of alternatives
- Be utilized to establish a framework for defining and weighting evaluation criteria to be utilized in the review and evaluation of County and Community alternatives.

*[Guiding Principles by definition are not evaluation criteria. Rather, they articulate a set of agreed-upon values that are utilized in the development of alternative solutions. Evaluation criteria will be developed and weighted in a manner that incorporates the values expressed in the Guiding Principles].*

### **The Murray CAG statement of Guiding Principles**

#### **1. Share Responsibilities For Solutions**

*The responsibility for reduction/elimination of CSO overflows into Puget Sound resides with each neighborhood, community, basin and municipality that contributes to the problem. The burden and impacts of the solution should be shared both quantitatively and qualitatively within the respective basins in relative proportion to their contribution to the problem, in order that there are no “downstream” impacts. (In other words, don’t push the problem on to the next basin downstream).*

#### **2. Prioritize Siting and Locations for CSO “Facilities”**

*In compliance with the intent of the current City of Seattle Comprehensive Plan and Land-Use Policies and Ordinances, considerations to preserve and protect the unique scale, character, natural features and vegetation of parks, neighborhoods and communities should be in the forefront in the development, prioritization and selection for siting CSO facilities.*

*In addition, the siting of CSO facilities should be strategically prioritized in order to preclude or minimize the increased “footprint” of such facilities on land not currently used for “utility” purposes; and every effort should be explored to utilize existing public rights-of-way, public surplus property, and under-utilized public property in lieu of natural open space in parks and private property obtained either through acquisition or eminent domain.*

**3. Embrace Environmental Stewardship**

*Solutions for CSO overflows should incorporate the highest aspirations for environmental stewardship and serve as models for environmental sustainability through improvements that enhance water and air quality, reduce noise, enhance marine habitat and migration, pursue both land-side and water-side practices that minimize the negative environmental footprint of all elements of potential solutions, and broaden community awareness of the need and methodologies for controlling runoff.*

*In addition, consideration should be given to employ solutions and materials that do no further harm to the environment and make quantifiable, effective and long-term improvements, both as an end goal for the project and as a guide for design methodology and implementation.*

**4. Analyze Costs on a Total Cost of Ownership (TCO) Basis**

*Evaluate solutions for CSO facilities on the basis of a Total Cost of Ownership analysis that considers a balance between short-term project costs and long term operational costs.*

*Short-term project costs should incorporate acquisition, mitigation and initial construction costs, as well as a comprehensive listing of all “soft” costs for consulting, environmental reviews, permitting, financing and other agency considerations. Long-term costs should consider maintenance, labor, replacement and other operating costs within a fifty year time frame.*

**5. Minimize Short-Term Construction Impacts**

*Solutions for CSO facilities should be implemented in a manner that minimizes impacts on and disruptions to individual properties, neighborhoods and communities in terms of use of streets and sidewalks, noise, avoidable disturbances, and property values.*

*Construction should be accomplished within applicable street-use and other permitting regulations that address access, safety, security, monitoring and allowable time periods for work.*

**6. Minimize Long-Term Operational Impacts**

*Solutions for CSO facilities should minimize or avoid unsightly and inappropriate visual structures, operational noise and odors, disruptive access facilities, and other permanent conditions that will negatively impact the scale, use, character and value of adjacent properties or spaces.*

**7. Strive For Long-Term, Comprehensive and Adaptable Solutions**

*Solutions for CSO facilities should exemplify durability, simplicity, expandability, adaptability and ease of maintenance over a fifty year lifetime (minimum), and provide initial capacity within a reasonable margin of error and cost to accommodate future unpredictable climatic changes and weather patterns.*

**8. Incorporate and Leverage Community Values and Assets**

*Solutions for CSO facilities should be designed and constructed in a manner that acknowledges and protects a neighborhood and community character, its unique places and spaces, its scale, land-uses, and the amenities that define and support its identity and values. When possible, solutions should enhance these neighborhood and community assets through improving streets, sidewalks, community facility and open spaces.*

**9. Implement Comprehensive Solutions**

*Solutions for CSO facilities should follow a bold vision and be adaptable over time. They should be planned and implemented in a fully coordinated effort between and among regulatory bodies (State, County and City), agencies and departments and the community in a manner that anticipates and incorporates planned and anticipated projects in order to avoid conflicts, unnecessary overlaps and re-work, and to leverage the opportunity to maximize the value achieved for the effort.*

**10. Incorporate Best Practices**

*Solutions for CSO facilities should be planned in a manner that seeks out all opportunities to incorporate newest technologies and proven best practices and approaches to provide the County, City and Community with outcomes that achieve their collective goals and aspirations for addressing CSO overflows.*

**11. Avoid Unintended Consequences**

*Every effort should be taken during the planning and selection process to review each alternative for compliance with these Guiding Principles and to assess them not only for effectiveness, appropriateness and compliance, but also to evaluate potential unintended consequences on an incremental basis throughout the project. Proposed solutions should be evaluated by neutral (non-advocate) parties to ensure there are no negative consequences to the environment or the Community.*

## **5.0 Evaluation Criteria**

It is important to note that in developing a process for review and evaluation of the proposed CSO alternatives, the CAG incorporated their Guiding Principles into KCWTD's original six criteria in order to establish a blended scoring mechanism with which to identify the preferred alternative(s), and to ultimately achieve a recommended outcome that addressed both the County's and the community's aspirations. This approach and methodology was applied by the CAG throughout the process in developing alternatives, modifying them and ultimately evaluating them. Categories for evaluation include the following:

- Criteria 1: Land Use/Permitting (KCWTD) and CAG Guiding Principle 2**  
 Combines KCWTD criteria for assessing compliance with City of Seattle Comprehensive Plan, Municipal Code, Parks Ordinances, permit complexity and property acquisition with CAG Guiding Principle #2 to prioritize siting options to preserve and protect natural features, character and scale of communities.
- Criteria 2: Environment (KCWTD) and CAG Guiding Principle #3 & #11 Environmental**  
 Combines KCWTD criteria for assessing the impacts on cultural resources, fish and wildlife, wetlands and shoreline, soils and sediments, water quality with CAG Guiding Principles #3 and #11 to pursue alternatives that are models for sustainability, and that enhance water and air quality, provide effective, comprehensive and appropriate solutions.
- Criteria 3: Technical (KCWTD) and CAG Guiding Principle #7, #9 & #10 Comprehensive and Adaptable Solutions**  
 Combines KCWTD criteria for assessing complexity, compatibility, flexibility and constructability with CAG Guiding Principles #7, #9 and #10 to pursue solutions that are comprehensive, adaptable, employ best practices and are coordinated among various regulatory agencies.
- Criteria 4: Operations/Maintenance (KCWTD) and CAG Guiding Principle #6, #7 & #10 Long-Term Efficiencies**  
 Combines KCWTD criteria for assessing staffing requirements, reliability, maintenance and safety with CAG Guiding Principles #6, #7 and #10 to pursue solutions that consider and address durability, simplicity and expandability/adaptability over time.
- Criteria 5: Community Impact (KCWTD) and CAG Guiding Principle #1, #2, #6 & #8 Preserve Character, Scale and Values of Community**  
 Combines KCWTD criteria for evaluating the short and long term impacts on the community with CAG Guiding Principles #1, #2, #6 and #8 to pursue solutions that are equitable and share responsibilities among communities, that embrace community values, and that sufficiently address and mitigate impacts.
- Criteria 6: Cost/Value (KCWTD) with CAG Guiding Principle #4, #7, #9 & #10 to Evaluate Solutions on a Total Cost of Ownership Basis**  
 Combines KCWTD criteria for assessing relative project, relative life-cycle, relative variability/risk, and acquisition and mitigation costs with CAG Guiding Principles #4, #7, #9 and #10 to pursue solutions that maximize life-cycle costs, and that are comprehensive and leverage synergies with other anticipated projects.

## 6.0 Process

Commencing in **June 2010**, the CAG has met approximately 9 times with KCWTD, participated in an additional 2 workshops, and has met on numerous occasions to develop, refine and evaluate alternative solutions ***The purpose of this report is to describe how and why the community advisory group (CAG) was formed, outline the various subjects that were discussed, explain the review of KCWTD and the development of the CAG alternatives, describe how the CAG and KCWTD evaluated and modified the various alternatives, and ultimately how the CAG reached its recommendations for the preferred alternatives to incorporate the Guiding Principles and to limit the number of Murray Basin CSO overflows into Puget Sound to one per year.***

Meetings progressed through a series of organizational and information-gathering sessions, system approaches and technical discussions, and to alternative development and evaluation reviews. A number of meetings focused on various regulatory issues with City of Seattle and State of Washington representatives providing information relative to statutory and regulatory requirements impacting the CSO projects. Additionally, the County conducted two workshops to focus on technical requirements for the Murray and Barton Basin CSO projects; one on **19 June 2010**, and another on **9 September 2010**.

Throughout the process, the CAG asked many probing questions and raised a number of topics that emerged from the community during the process in the form of written and verbal requests for information. **As noted by Christie True, Director KCWTD, at the introductory meeting, the hope of the County was to provide satisfactory information and participate in a process whose outcome would be to agree on an alternative that both solves the regulatory requirements and meets the community's objectives.** Within that process, she indicated the County's commitment to working with the CAG to re-look at previous alternatives, explore new alternatives, and consider the problem in the context of both the Murray and Barton Basins. Community questions and topics included the following:

- Questions relating to the schedule for the Beaches CSO projects in the context of the 2030 deadline.
- Questions regarding the underlying data for establishing the quantity of flow, the frequency of events, and the projections for future flows that were used to establish CSO solutions.
- Questions relating to the quantities and impacts of the combined flows from Barton Basin on the proposed CSO solutions in the Murray Basin – especially as 45% of the combined flows being accommodated in Murray flow directly from Barton during an event.
- Questions relating to the alternatives that were not presented to the community, or that did not emerge from the County's review process, and the process, weighted criteria and evaluations that were used to establish the shortlist.

- Questions relating to geographic information systems (GIS) data information in the basins and the degree to which they were used to study upper basin alternative solutions.
- Questions relating to the alternative solutions that are being studied in Barton Basin, especially as they might inform or impact the solutions in Murray Basin.
- Questions relating to Green Stormwater solutions (GSI) and whether and to what extent they were being studied in either of the basins, or to what degree they might reduce the storage requirements were they to be incorporated.
- Questions relating to the involvement of the City of Seattle Park Department and Public Utilities in the development and review of the CSO alternatives, especially as they relate to the use of Lowman Beach Park; whether they contemplate a comprehensive look at solutions that could address both regulatory bodies; and whether the solutions anticipate and are coordinated with future projects.

While there remain a number of these questions that warrant further explanation and or exploration, KCWTD has endeavored to address them within the context of the CAG meetings, and to the degree the very conceptual level of design and development would allow. Going forward the continued interaction between KCWTD and the CAG will be essential in fulfilling the agreed-upon goals as the project is developed further through design and implementation. How and in which format that interaction might occur is addressed in the CAG recommendations.

The following is an outline that summarizes the major topics that were addressed during the scheduled CAG meetings.

**Meeting #1, 9 June 2010:**

- Introductions and organizational issues for the CAG
- Context, ground rules, review of project goals
- Outline and agenda for 19 June 2010 Technical Session
- Review of community questions/topics for discussion at future meetings

**Technical Workshop, 19 June 2010:**

- Update on KCWTD process in response to community input
- Introduction of Community Advisory Group
- Discussion of community input/advisory role
- Explanation of CSO approaches
- Description of Barton and Murray Basin combined flows and system requirements
- Description of KCWTD CSO alternatives
- Discussion of GSI approaches (general and specific)
- Discussion regarding factors in comparing alternatives

- Question/Answers
- Field trip to Murray and 53<sup>rd</sup> Avenue Pump Stations

**Meeting #2, 24 June 2010:**

- Report out on 19 June Technical Session
- Overview of KCWTD CSO program
- Overview of Barton and Murray Basin requirements
- Sewer 101

**Meeting #3, 8 July 2010:**

- Review of Seattle Public Utilities CSO program
- Discussion of 9 Barton Basin and 9 Murray Basin KCWTD alternatives specifically relating to technical constraints
- Introductory discussion of CAG alternatives
- Review of work plan for future meetings

**Meeting #4, 3 August 2010:**

- Review of Seattle Parks Department policies on use of Lowman Beach Park, Kevin Stoops
- Green Stormwater alternative approaches
- Begin development of CAG Guiding Principles
- Discussion of CAG alternatives, and feedback from KCWTD
- Review CAG information requests
- Review of Open Issues log

**Meeting #5, 19 August 2010:**

- Information follow-up from Mtg. #4 re: distributed storage requirements, GSI stormwater management, etc
- Brainstorming for development of CAG Guiding Principles, draft values, reach general consensus
- Review of County criteria for evaluating alternatives
- Identify gaps and disconnects between KCWTD criteria and CAG Guiding Principles
- Outline next steps

**Meeting #6, 30 August 2010:**

- Discussion of KCWTD and CAG alternatives
- Discussion to refine and clarify assumptions and key factors in alternatives
- Initial review of 18 alternatives in context of Guiding Principles and evaluation criteria in order to commence process of narrowing alternatives

**Technical Workshop, 9 September 2010:**

- Review of initial CAG evaluation process and summaries for KCWTD and CAG alternatives
- Review of Technical Features of all KCWTD and CAG alternatives with intent to refine them for further review and evaluation
- Discussion of technical refinements for next CAG review

**Meeting #7, 15 September 2010:**

- Review of refinements to 18 KCWTD and CAG alternatives
- Review and discussion of preliminary evaluations
- CAG and KCWTD “scoring” exercise to narrow the number of alternatives

**Meeting #8, 27 September 2010**

- Review and discuss short-listed alternatives
- Discussion regarding KCWTD suggested refinements to alternatives
- Initial discussion regarding draft CAG recommendations
- Discussion of options and process for continued CAG participation in development, design and implementation of CSO alternative

**Meeting #9, 28 September 2010**

- Refine list of potential CSO alternative recommendations
- Develop consensus on draft recommendations
- Confirm next steps regarding the CAG Report to the County, and continued CAG participation

***[Meeting agendas, materials and meeting notes for the CAG meetings are posted on the KCWTD Beach Projects website noted below].***

During the four months since formation of the CAG, considerable work has been accomplished in discussing, understanding, refining, and evaluating seventeen alternative CSO solutions; nine originally proposed by KCWTD, and eight proposed by the CAG. The charter of the CAG, in working with KCWTD, was to develop a set of alternatives and review the KCWTD alternatives with the intent that key features of any alternative might be incorporated into another. Key features for consideration in the development of the CAG alternatives were aimed at adherence to the principle of equity and the joint consideration of both Barton and Murray Basins – since 45% of the combined peak flow being captured in Murray comes directly from Barton; protection of Lowman Beach Park; protection of the private residential properties; incorporation of green infrastructure measures to reduce storage requirements; exploration of distributed storage facilities in the upper basins; and avoidance of massive construction impacts along major access streets. The following outline summary of those alternatives provides a high level description of the locations, key features and approaches for the Murray basin CSO facilities. Full descriptions of the alternative concepts are provided on the King County Water Treatment Division website for the CSO projects at:

[www.kingcounty.gov/csobeachprojects](http://www.kingcounty.gov/csobeachprojects),

Or on the CAG Google Groups site at:

[http://groups.google.com/group/murray\\_cag](http://groups.google.com/group/murray_cag).

## 7.0 Alternative CSO Approaches Considered by the CAG:

### **KC1A: Rectangular Storage at Bottom of Basin, located in Lowman Beach Park**

Key features include approximately 1 million gallon below-grade storage, odor control and electrical control structures, as well as new diversion structure. *[This alternative requires a City of Seattle Ordinance for location in Lowman Beach Park].*

### **KC1B: Storage at Bottom of Basin, located in site bounded by intersection of Lincoln Park Way W, and Murray Ave. SW**

Key features include 1 million gallon storage, odor control and electrical structures, new below-grade diversion structure and pump station.

### **KC1C: Distributed Storage along Beach Drive SW and Murray Avenue SW**

Large diameter (12') pipe below 900 feet of Beach Drive SW, and 350 feet of Murray Ave. SW., new odor control and electrical control structures at Murray Ave. SW and Lowman Beach Park, as well as and new diversion structures at each location.

### **KC1D: Pipe Storage at Bottom of Basin, located along 1250 feet of Beach Drive SW**

Key features include large diameter (12') pipe located below Beach Drive SW, 50 foot diameter tunnel portals at each end, odor control and electrical control structures at Lowman Beach Park, new diversion structure at Murray Pump Station.

### **KC1E Upper Basin Storage**

New below-grade storage structure, odor control and electrical control structures located in Gatewood School Playground; new 42" force main (pipe) along Lincoln Park Way SW and SW Myrtle St; new 28.5 mgd peak flow pump station, odor control and electrical control structures at Lowman Beach Park, new diversion structure at Murray Pump Station.

### **KC1F Combined Pipe and Rectangular Storage at Bottom of Basin, located on private property and Beach Drive SW, adjacent to Lowman Beach Park**

Key features include 1 million gallon storage, partially below Beach Drive SW, and partially on private property across from Lowman Beach Park; odor control and electrical control structures adjacent to storage structure, new diversion structure at Murray Pump Station.

### **KC2A Convey and Treat at Alki**

Key features include new conveyance from Barton and Murray Basins to Alki Treatment Facility; significant expansion and upgrades to Alki Facility.

**KC3A End of Pipe Treatment at Bottom of Basin**

Key features include new Actiflo Treatment Facility located in Lowman Beach Park; new diversion and access structures in Lowman Beach Park *[This alternative requires a City of Seattle ordinance for location in Lowman Beach Park].*

**KC5A Peak Flow Reduction Combined with Storage in Bottom of Basin**

Key features include open cut large diameter (12') pipe storage under Beach Drive SW; new odor control and electrical control structures in Lowman Beach Park; new diversion structure at Murray Pump Station; implementation of GSI in upper Murray Basin to reduce storage requirements.

**CAG1 Storage in Mid-Basin in Lincoln Park, North Parking Lot**

Key features include 1.25 million gallon storage below-grade in north parking lot in Lincoln Park; expansion of Barton Pump Station capacity; expansion of Murray Pump Station capacity; new 30" force main connecting Barton Pump Station and Murray Pump Station with the storage facility. *[This alternative requires a City of Seattle Ordinance for location in Lincoln Park].*

**CAG2 Storage in Bottom of Basin in Lincoln Park, North of Colman Pool**

Key features include 1,25 million gallon storage below-grade in upland area north of Colman Pool; new odor control and electrical control structures; expansion of Murray Pump station capacity; new force main connecting Barton and Murray Pump Stations. *[This alternative requires a City of Seattle Ordinance for location in Lincoln Park].*

**CAG3 Combine GSI with Additional Storage in Barton to reduce storage requirements in Murray**

Key features include incorporation of green stormwater infrastructure in Barton Basin; new storage facility near bottom of Barton Basin (likely near Fauntleroy School parking); reduced storage at bottom of Murray Basin (approximately .6 MG in lieu of 1MG); incorporate with other Murray alternatives.

**CAG4 Separate all Sewer and Stormwater Flows in Both Basins**

Key features include disconnection of 1,200 homes and 230 non-residential properties from combined sewers in Murray Basin; remove approximately sufficient acres of impervious area runoff in Barton Basin to eliminate need for storage; provide MS4 treatment in both basins to treat storm runoff as required.

**CAG5 Upper Basin Storage in Gatewood Elementary Playground**

Key features include new 1.25 million gallon storage facility in Gatewood Elementary playground; new 36" force main from Barton Pump Station to Gatewood Elementary; expansion and upgrades to Barton and Murray Pump Stations; new 20" force main from Murray Pump Station to Gatewood Elementary; also assumes GSI and .22MG storage in Barton Basin.

**CAG6 Barton Pump Station Pumps Directly to Alki**

Key features include 0.1 MG storage in Lowman Beach Park (bottom of basin); new 36" force main from Murray Pump Station to 63<sup>rd</sup> St. Pump Station; expansion and upgrades to Barton Pump Station (requires expanded footprint).

**CAG7 GSI in Murray Basin to Reduce Storage Requirements**

Key features include implementation of basin-wide commercial and residential GSI (Residential Rainwise) for 15% reduction in storage volume; installation of rain gardens to remove up to 10 acres of impervious area in Murray; 0,85 MG storage at bottom of basin.

**CAG8 Upper Basin Storage (Distributed) in Murray to significantly Reduce Storage Requirements at Bottom of Basin**

Key features include storage facilities located in four locations in upper basin; additional storage at bottom of basin (to be determined); control systems to monitor and distribute flows before and after events.

Following a number of discussions and reviews relative to the merits and challenges of each of the alternatives, members of the CAG commenced to evaluate the alternatives noted above in terms of compliance with the CAG's Guiding Principles and the County's six categories of evaluation criteria. Several CAG members embarked on independent evaluation approaches and methodologies, and in conjunction with KCWTD recommended that a number of alternatives could be eliminated due to factors of technical feasibility (including a number of the KCWTD alternatives), cost, voluntary participation/implementation, regulatory acceptance and other considerations.

In this process two members of the CAG independently developed scoring matrices that were used by the CAG to evaluate the merits and challenges of each of the seventeen alternatives. The criteria noted above were utilized for these evaluations; even though the methodologies for scoring differed between them the outcomes were very similar. After review among CAG members, the scores were averaged, and results were used to help identify alternatives that could be recommended for elimination from further consideration.

***[These evaluation matrices are provided in the Appendix of this report]***

Following the initial evaluation by the CAG in an attempt to identify components of the alternatives that appeared to have merit or warrant further investigation, the CAG made a number of recommendations to blend certain key features of alternatives. These evaluations and ensuing recommendations were further explored in the Technical Workshop convened by KCWTD on **9 September 2010**. The outcome of that workshop included a series of modified alternatives that were reviewed, discussed and evaluated at the **15 September 2010** CAG meeting, and recommended for further consideration. Those alternatives included the following:

## **Modified Approaches (Narrowed from 15 September 2010 CAG Meeting)**

### **CAG2     Install Below-Grade Storage in Lincoln Park**

Key features as modified include **four optional locations for below-grade storage** [north of Colman Pool; below north parking lot; below south parking lot; deep tunnel storage at foot of Lincoln Bluff]; 0.1MG storage at bottom of Murray Basin; potential to retire Murray Pump Station and relocate to triangle site. *[This alternative requires a City of Seattle Ordinance for location in Lincoln Park].*

### **CAG8     Install Distributed Storage at 4 Locations in Upper Murray Basin**

Key features remain as described in previous *CAG8 [This option remains on the list pending further review and discussion relative to the complexity of the piping and flow control system, and an analysis of the beneficial impacts on the bottom of basin storage requirements].*

### **CAG9     Combination of CAG3, CAG7, and KC1B**

Key features assume implementation of a number of mechanisms and methodologies in combination including: green infrastructure and additional storage in Barton Basin; Green stormwater infrastructure in Murray Basin for additional CSO control/reliability; Storage at bottom of Murray Basin in triangle site at Lincoln Park Way SW and Murray Ave. SW.

### **KC1B     Bottom of Basin Storage at Triangle Site (Lincoln Park Way SW and Murray Ave. SW)**

Key Features include 1MG storage structure; new odor control and electrical control structure *[Alternative locations include use of Murray Ave SW right-of-way to reduce or eliminate the need for acquisition and use of private property].*

### **KC1F     Bottom of Basin Storage on Private Property and Below Portions of Beach Drive SW (East from Lowman Beach Park)**

Key features include total of 1 below-grade storage; new odor control and electrical control structures; retaining structures to address steep slope below Lincoln Park Way SW and private residential properties above extension of Murray Ave SW *[This alternative requires acquisition of some or all residential properties along Beach Drive SW immediately across from Lowman Beach park].*

***[A copy of City of Seattle Ordinance # 118477 adopting Initiative 42, as well as the Seattle Department of Parks and Recreation Policy, endorsed by the Seattle City Council Resolution #29475 is included in the Appendix of this report].***

Following the **15 September 2010** CAG meeting, KCWTD and its consultants continued to refine aspects of each of the remaining alternatives, and explore options and/or revisions that would enhance performance, address engineering requirements, or adjust to specific site constraints or opportunities. In the intervening two weeks between the **15 September** and **27 September 2010** meetings, these refinements were developed to a conceptual level sufficient to generate relative land acquisition, construction and operational cost assumptions, and provide additional information for use by the CAG in its review and recommendations. It was noted a number of times by KCWTD that both the engineering and cost data was conceptual and would require further development and confirmation throughout the design and development process that would follow the selection of a preferred alternative.

Working up to the last minute, KCWTD provided this refined information at the **27 September 2010** CAG meeting (a meeting prior to which invitations were circulated in the community encouraging attendance and inviting public comment). Those refined alternatives are described as follows:

**CSO Alternative Refinements for 27 September 2010 CAG Meeting:**

***[See appendix for conceptual diagrams of the following alternatives, along with preliminary planning-level comparative cost data prepared by KCWTD. Note: costs used in following descriptions are potential total cost numbers from KCWTD data]***

**CAG2 Below-Grade Storage at Lincoln Park, Colman Pool**

**Project Total Cost: \$29,367,000: Relative Cost Factor: 1.2**  
***[Project Total Cost assumes \$8,000,000 park mitigation cost]***

This alternative remains much as presented at the 15 September 2010 meeting with the following key features:

1. 1.25MG below-grade storage structure in triangle area north of Colman Pool.
2. Motorized-valve diversion structure connecting to two existing 24" force mains located below beach path.
3. 0.1mg below-grade storage at bottom of Murray Basin in a specific location to be determined.
4. Use of the existing (post upgrades) Barton Pump Station.
5. 0.22mg below-grade storage at Fauntleroy School and/or GSI in upper Barton Basin.

**CAG2a Below-Grade Storage at Lincoln Park South Parking Lot**

**Project Total Cost: \$24,138,000: Relative Cost Factor: 1.0**  
***[Project Total Cost assumes \$1,000,000 park mitigation cost]***

This alternative was newly developed in the intervening time between the 15 September and the 27 September 23 2010 meetings. Key features include:

1. 1.25mg storage tank below-grade in south parking lot at Lincoln Park.
2. Below-Grade odor, electrical control structure near storage structure.

3. New 24" dual force mains connecting the storage structure to the existing force mains located below beach path.
4. Motorized-valve diversion structure connecting two existing 24" force mains (note: may require pump station TBD).
5. 0.1mg below-grade storage at bottom of Barton Basin in location to be determined.
6. Use of existing (post upgrades) Barton Pump Station.
7. 0.22 below-grade storage at Fauntleroy School and/or GSI in upper Barton Basin.

**CAG2b Below-Grade Storage Tunnel in Lincoln Park**

**Project Total Cost: \$47,486,000: Relative Cost Factor: 2.0**  
***[Total Project Cost assumes \$1,000,000 park mitigation costs]***

This alternative was newly developed in the intervening time between the 15 September and 27 September 2010 meetings. Key features include:

1. 1.44mg, 10' diameter storage tunnel between existing 24" force mains below beach path, and launching pit located in south parking lot of Lincoln Park.
2. Below-grade odor, electrical control structure near storage tunnel
3. Motorized-valve diversion structure at connection of tunnel and existing force mains.
- 0.1mg below-grade storage at bottom of Murray Basin in location to be determined.
4. Use of existing (post upgrades) Barton Pump Station.
5. 0.22mg below-grade storage structure in Fauntleroy School and/or GSI in upper Barton Basin.

**CAG8 Distributed Upper Basin Storage for Murray Peak Flows**

**Project Total Cost: \$34,823,000: Relative Cost Factor: 1.4**  
***[Total Project Costs assumes \$4,000,000 land acquisition costs]***

This alternative was modified somewhat from previous alternative and includes the following key features:

1. Four distributed storage structures in specific locations to be further determined (approximately 0.5mg total capacity) and new connecting pipeline.
2. 0.5mg below-grade storage structure in bottom of Murray Basin in location to be confirmed, but most likely KC1B triangle site.
3. Use of existing (post upgrades) Barton Pump Station.
4. Use of existing Murray Pump Station.
5. Use of existing force mains between Barton, Murray and Alki.

**CAG9 Combined GSI, Pumping and Storage Improvements**

**Project Total Cost: \$37,720,000: Relative Cost Factor: 1.6**  
***[Total Project Costs assumes \$2,000,000 land acquisition costs]***

This alternative was modified to establish specific storage requirements in bottom of Murray Basin. Key features include:

1. Implementation of Residential Rainwise and other GSI improvements to test effectiveness and provide future implementation data (costs not included in this alternative).
2. 0.5mg below-grade storage in Fautleroy School.
3. Use of existing (post upgrades) Barton Pump Station.
4. 0.86mg storage at Murray Ave. & Lincoln Park Way SW (triangle site and below Murray Ave SW right of way).
5. New 10mgd below-grade peak flow pump station in bottom of Murray Basin in location to be determined.

**KC1B Rectangular and Pipe Storage in Vicinity of Murray Avenue SW & Lincoln Park Way SW**

**Project Total Cost: \$33,493,000: Relative Cost Factor: 1.4**  
***[Total Project Costs assumes \$2,000,000 land acquisition costs]***

This alternative was modified to establish specific location, capacity and configuration alternatives. Key features include:

1. New 0.6 and 0.4 below-grade storage structure and pipe storage in vicinity of Murray Ave. SW and Lincoln Park Way SW, along with associated steep slope retaining structures.  
*[Note: There are a number of specific siting and configuration alternatives that will require further study in order to determine construction, capacity, and cost impacts, including the potential for the use of existing right-of-way or acquisition of private property].*
2. New 10mgd below-grade peak flow pump station in bottom of Murray Basin in location to be determined.
3. Miscellaneous odor, electrical and emergency control structures in proximity to storage structures, specific locations to be determined.

***[Note: Total storage requirements in bottom of Murray Basin would be reduced by increased storage capacity in Barton Basin similar to CAG9].***

**KC1F Combined Pipe and Rectangular Storage at Bottom of Murray Basin**

**Project Total Cost: \$30,110,000: Relative Cost Factor: 1.2**  
***[Total Project Costs assumes \$3,000,000 land acquisition costs]***

This alternative has not been developed beyond the preliminary draft level presented at the initial CAG meetings. Key features include:

1. 0.60-1.0mg storage structure on current private properties and 0.0-0.4mg pipe storage below Beach Drive SW.  
*[Note: There are a number of specific siting and configuration alternatives that will require further study in order to determine constructability, capacity, and cost impacts, including the potential for the use of existing right-of-way and/or the acquisition of private property].*
2. Odor, electrical control structures in proximity to storage structures in specific locations to be determined.

***[Note: Total storage requirements in bottom of Murray Basin would be reduced by increased storage capacity in Barton Basin similar to CAG9 and KC1B]***

At the conclusion of the review of the alternatives noted above, and after further discussion concerning the relative merits and challenges associated with each of them, the CAG recommended dropping **CAG2B** and **CAG9** from further consideration as discrete alternatives; **CAG2B** because of the considerable marginal increase in total project costs, and potential operational challenges associated with the maintenance of the storage tunnel; and **CAG9** because once the distinguishing features of green stormwater infrastructure were incorporated into **KC1B**, they were essentially the same alternative.

The CAG then met again the following evening of **28 September 2010**, the last scheduled meeting for the Murray Basin Citizens Advisory Group prior to its report to the County.

During this meeting the CAG reviewed the remaining **five alternatives** in order to clarify any remaining questions of KCWTD, review the merits and challenges of each alternative, to establish a ranked preference in terms of priorities if possible, and to establish a basis for final recommendations. The following is a consolidated listing of the merits and challenges discussed by the CAG at both meetings:

## **8.0 Final Review and Evaluation of CSO Alternatives in Order of Relative CAG Preference (using initial up/down voting)**

### **CAG2a Below-Grade Storage at Lincoln Park, South Parking Lot**

#### **General Observations (merits)**

- This alternative appears to hold the most promise, is the most cost effective and among the more technically straight-forward solutions (assuming a pump station is not required to divert flow up to the storage location).
- This alternative utilizes the existing Barton Pump Station (post upgrades) and does not require a new pump station at Lowman Beach Park.
- This alternative solves the storage problem for both Barton and Murray Basins in a central location that does not require acquisition of private property, poses the least environmental risk, and provides the opportunity for an improved parking condition at the completion of the construction.
- This alternative provides an easily accessible location for construction and maintenance of the facilities.

### **General Observations (challenges)**

- This alternative is within Lincoln Park and requires resolution of City Ordinance 118477 (park mitigation may be offset by location in and restoration of parking lot).
- This alternative has not been fully vetted within the Fauntleroy community.
- This alternative is within highly used parking lot and would require alternative pedestrian access to beach and play areas during construction.
- This alternative poses challenges relative to traffic, access and disruption during construction period.

### **Further Considerations**

- Further technical development and engineering is required to confirm adequacy of motorized valve controls. If a pump station is required, costs and location for it would have to be confirmed.
- A location outside of Lowman Beach Park for a 0.1mg storage structure will have to be determined.
- With its location in the existing parking lot, this alternative has the potential to create an improved end condition relative to car and pedestrian access, safety and capacity with careful planning.

## **KC1B Rectangular and/or Pipe Storage I Vicinity of Murray Avenue SW and Lincoln Park Way SW (triangle site)**

### **General Observations (merits)**

- With some reconsideration and relocation of storage structure configurations, this alternative may not require acquisition of private properties or intrusion into wetland areas on the site (See Further Considerations below).
- Total storage requirements on this site can be reduced with incorporation of upper basin storage.
- This alternative, in conjunction with considerations for use of Murray Avenue SW right-of-way may provide opportunities for the most discrete storage location.

### **General Observations (challenges)**

- This alternative is located adjacent to/within a wetland area that contains steep slopes, remnants of Pelley Creek, and needs for mitigation, geotechnical considerations, and multi-agency permitting.
- This alternative requires a new 10mgd pump station in the bottom of the basin, in a location to be determined (currently shown in Lowman Beach Park).
- This alternative is in the upper-mid range of costs and complexity of the remaining alternatives.

### **Further Considerations**

- Further exploration of available storage structure locations within public right-of-way in Murray Avenue SW and Lincoln Park Way SW could move storage away from wetland areas, and eliminate need for private property acquisition.
- Locations for 10mgd pump station outside of Lowman Beach Park are required (potentially under Beach Drive SW right-of-way or in Murray Avenue SW right-of way).
- Some upper basin storage (Murray Avenue SW and Holly as example) could significantly reduce size of storage requirement in triangle site.
- Bury storage structures and associated control structures in a manner that would allow landscape features to mitigate loss of current natural features.

## **CAG2 Below-Grade Storage at Lincoln Park, North of Colman Pool**

### **General Observations (merits)**

- This alternative is the second-most cost effective (including an assumed \$8M park mitigation assessment) and technically straight-forward solution.
- This alternative utilizes the existing Barton Pump Station (post upgrades) and does not require a new pump station at Lowman Beach Park.
- This alternative solves the storage problem for both Barton and Murray Basins in a central location and does not require the use of private properties.

### **General Observations (challenges)**

- This alternative is located in a visible, highly utilized and sensitive shoreline location that will require resolution of City of Seattle Ordinance 118477 as well as other regulatory requirements.
- Likelihood of opposition and challenge in the review and regulatory process is very high (same issues as KC1A).
- This alternative would impose significant impacts on use of Lincoln Park shoreline during construction period. Access to the site would be via heavily used pedestrian paths to and from Colman Pool and along the beach.

### **Further Considerations**

- The very high marks this alternative receives for technical simplicity and cost effectiveness are offset by the very negative marks it receives for environmental and park impacts.

**CAG8      Distributed Upper Basin Storage for Murray Peak Flows**

**General Observations (merits)**

- This alternative provides an opportunity to leverage community assets, enhance existing locations (Gatewood Playground as an example), and/or mitigate environmental issues in specific locations.
- Incorporation of this alternative can be utilized to significantly reduce the storage requirements at the bottom of the basin, and potentially improve viability of other proposed alternative.
- Storage at bottom of basin reduced to 0.5mg in location to be determined.

**General Observations (challenges)**

- This alternative is the highest cost of the remaining alternatives.
- This alternative involves construction and maintenance of facilities on multiple locations throughout the upper basin.
- This alternative involves a number of private properties and may result in increased opposition/challenges.
- KCWTD has expressed concerns for technical complexity and viability.

**Further Considerations**

- This alternative, or portions of it, can provide additional capacity and reliability when used in conjunction with other bottom of the basin storage alternatives, and should be considered as a worthwhile add-on.
- Cost is a concern for this alternative, but it can provide benefits noted above in an incremental basis as conditions change and need arises.

**KC1F      Combined Pipe and Rectangular Storage at Bottom of Murray Basin**

**General Observations (merits)**

- This alternative is among the more technically straight-forward solutions and in the low-mid range for cost.
- If upper basin storage solutions are added to this alternative, it is possible the storage and control structures could be located with the use of little or no private properties.
- Utilizes existing Beach Drive SW right-of-way for portion of storage requirements.
- This alternative could be combined with KC1B storage locations to reduce need for private properties.

### **General Observations (challenges)**

- As shown this alternative requires the acquisition of private residential properties, raising concerns for:  
Change in character, use and scale of residential neighborhood;  
potential need for eminent domain to acquire property;  
loss of affordable rental housing on site;
- This alternative as currently shown requires potentially significant geotechnical review and engineering to address steep slopes on east and south boundaries of site
- Use of Beach Drive SW right-of-way during construction impacts the only access to the ‘dead-end’ community to the south.

### **Further Considerations**

- This alternative should be considered in conjunction with KC1B in order to raise probability of locating facilities within public rights-of-way and eliminating need for private property or wetland impacts.
- If the above modifications can be made to address private property, housing and character concerns, every effort should be explored to replace the existing Murray Pump Station outside of Lowman Beach Park with new, current technologies.

## **9.0 Murray Basin Community Advisory Group Recommendations**

At the conclusion of the last CAG meeting on **28 September 2010** there were a number of obvious take-aways that emerged and which have informed the process for developing the set of recommendations noted herein. Throughout the process it has become evident that the need to address the combined sewer overflow problem that exists within the Murray and Barton Basins, while crucial for the continued health of Puget Sound, does not have a single obvious, exquisitely simple, technically pure and universally equitable solution. From the onset of the engagement of the CAG and its interactions with KCWTD in challenging and understanding the underlying data, in examining standard and best practices approaches to addressing CSO's, in developing and reviewing alternative solutions, in modifying those solutions to capture the merits and resolve the challenges apparent in each, and in undertaking the significant challenges of evaluating those alternatives given their early and conceptual level of development, the CAG has endeavored to find outcomes that adhere to its Guiding Principles for equitable, efficient, functional, operationally viable, cost effective, environmentally sound and comprehensive solutions. Importantly, the CAG has committed to finding outcomes that embrace and respond to the six categories of criteria established by KCWTD for land-use, environmental, technical, operational, community and cost considerations. While this report represents the specific recommendations of the community members of the CAG, we believe that it is the result of an intense and cooperative effort of the CAG, KCWTD and its consultant team taking on the significant challenges with the intent to find the optimal solutions focused on fostering conditions for a healthy and vibrant Puget Sound for the region's inhabitants, including those who live within its waters. Commitment to that end by all participants in this process has never been at question.

**The CAG thanks KCWTD and its consultants for their participation and cooperation in providing information and testing alternatives in response to our requests. This report and its recommendations would not have been possible without their analysis.**

The CAG has formatted its recommendations in three categories; those that apply to specific alternatives; those that generally apply to any alternative; and those that apply to the process going forward through design, implementation and operations phases.

### **Recommendations for Specific Alternative(s)**

**1. Advance CAG2a as the preferred alternative as modified for the 27 September 2010 CAG meeting.**

*This recommendation includes the proviso to explore options to further reduce the impacts on the community, parks and the parking lot. They include:*

- a. Explore all options to avoid the need for a new pump station in Lincoln Park. In the event one is needed, it should be located in a manner that does not impact natural features or is located outside of shoreline areas.*
- b. Locate 0.1mg storage facility in bottom of Murray Basin outside of Lowman Beach Park – in Murray Avenue SW or Beach Drive SW right-of-way.*
- c. In the design of the below-grade storage structure in parking area, include options for below-grade odor and electrical control structures, improved pedestrian and vehicle access provisions, and increased safety measures for pedestrian and vehicular access.*
- d. Engage both the Lowman and Fauntleroy communities in vetting and further developing this alternative and approaching the community and the City of Seattle to evaluate options and mitigation for use of this specific park parcel.*

**2. Explore KC1B (along with portions of KC1F) as back-up alternatives as modified in CAG reviews during 27 September 2010 meeting.**

*This recommendation recognizes that a back-up alternative should be maintained pending confirmation of technical feasibility of CAG2a. It includes the proviso that a number of modifications should be incorporated into the alternative as currently drawn to further reduce the impacts on community, open spaces, wetlands and parks. They include:*

- a. Increase storage at Fauntleroy School to 0.5mg in order to reduce the total storage requirement in Murray Basin to approximately 0.85MG.*
- b. Explore option to provide some additional upper basin storage (as shown in CAG8 Alternative) to further reduce required storage capacity in bottom of basin.*

*c. Locate the new 10mgd peak flow pump station out of Lowman Beach Park (potentially in Murray Avenue SW or Beach Drive SW rights-of-way) and explore options to incorporate and retire current Murray Pump Station. This option would result in new, state-of-the-art pump station similar to 53<sup>rd</sup> Street Station.*

*c. Explore options to incorporate potential sites shown in KC1F and/or utilize Murray Avenue SW right-of-way to eliminate need to encroach on wetlands, steep slopes or private property for storage structures*

*d. Locate new storage and control structures below grade to allow above-grade landscape features to mitigate loss of natural features*

**General Recommendations to be Applied to Alternatives During their Design, Development and Implementation**

**3. Increase storage capacity in Fautleroy School (Barton Basin) to 0.5mg**

*This recommendation recognizes the beneficial impacts on total storage requirements in the bottom of basin alternatives recommended above, and provides for additional options for locating storage structures to accommodate them. Further, it acknowledges and supports the Guiding Principles in seeking solutions that are quantitatively and qualitatively shared within the communities served.*

**4. Apply Green Stormwater Infrastructure mechanisms/methodologies in both Barton and Murray Basins.**

*This would serve both to reduce peak flows and improve the reliability of any storage solution, as well as provide capacities for unknown future climatic and weather conditions. Further, it could be a mechanism to educate and encourage community involvement and awareness of the need for sustainable practices.*

**5. Identify opportunities to reduce footprint of CSO facilities by locating them in rights-of-way and public property in lieu of natural open spaces within parks and communities or on private property.**

*This would create opportunities to maintain and/or restore natural amenities within the communities, and provide readily accessible locations for maintenance and operations of facilities that might otherwise not accommodate storage capacities necessary to accept peak flows [possibly creating opportunity to retire Murray Pump Station in Lowman Beach Park].*

**6. Retain options to store portions of peak flow in upper Murray Basin.**

*Through combination with other bottom of basin storage options, this would provide potential for reduction of storage requirements and/or provide additional capacity and reliability to system. A number of these opportunities are identified in CAG8 alternative.*

## **Recommendations to be Applied to Process Going Forward**

### **7. Adopt and incorporate CAG Guiding Principles into process.**

*This recommendation acknowledges the considerable effort on the part of the community to provide a thoughtful and comprehensive set of guidelines that incorporates the goals, aspirations and commitments of the community to the environmental stewardship of Puget Sound, the protection of the scale, character and natural features of the community, and the protection of private properties while addressing the CSO projects with full consideration of the County's requirements. In much the same manner that the CAG acknowledges KCWTD's criteria, incorporation of the CAG Guiding Principles by KCWTD as it moves forward would ratify the relationship that has been forged through this process. **Through this recommendation, the CAG incorporates its Guiding Principles as part of the recommendations of this report.***

### **8. Continue to formally engage with the CAG throughout the design and development phases of the CSO project**

*This recommendation strongly encourages the County and KCWTD to continue to meet with the CAG throughout the next phases of the project in order to avoid a repeat of the disconnect that was evident at the onset of the project; to maintain continuity and progress in the process; to capitalize on the considerable work that has been accomplished as KCWTD moves forward in detailed development of the selected alternative; and to engage with the larger community in expanding understanding, seeking approval, and generally communicating the results.*

***The CAG recommends the County immediately expand the CAG process to include equitable representation from the Fautleroy community in a combined CAG to develop, review and evaluate the next phases of development of the CSO alternative.***

***The CAG believes it would be an unfortunate repeat of a missed opportunity to wait until an alternative has been selected and design work fully developed before re-engaging with the CAG.***

## Appendix

- a) **CAG Evaluation Matrices – Initial 17 Alternatives**
- b) **CAG Evaluation Matrix – Nine short-listed Alternatives**
- c) **KCWTD Diagrams  
Five Final Alternatives**
- d) **CAG Evaluation Matrix – Five Final Alternatives**
- e) **City of Seattle Ordinance #118477**
- f) **City of Seattle, Department of Parks and Recreation  
Policy on Non-Park Uses of Park Lands**

**Appendix**  
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