

NOVEMBER 2008

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# Countywide Area Spill Control (CASC) Program 2007-2008 Progress Report

A cooperative project between the Orange County Sanitation District and the Orange County Stormwater Program Permittees including the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County



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**ATTACHMENTS**

- A CASC Expansion Plan

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## 1.0 INTRODUCTION AND BACKGROUND

Orange County, California has over 33,000 acres of parkland and open space and over 100 miles of coastal and bay beaches. Many of these recreational areas are highly valued due to their scenic attractiveness and direct ties or proximity to a water resource (creek, bay, harbor or beach).

Although these recreational areas are vital to Orange County, many of the inland, coastal waters, and/or bays and harbors are listed on the 2006 303(d) list due to elevated concentrations of pathogens, fecal coliform, total coliform, and/or enterococcus.



The northern and central Orange County 303(d) listed water bodies include:

- Seal Beach
- Huntington Beach State Park
- Huntington Harbor
- San Diego Creek (Reach 1)
- Buck Gully Creek
- Los Trancos Creek
- Silverado Creek

Upper Newport Bay, and Lower Newport Bay are also included on the 2006 303(d) List of Water Quality Limited Segments Being Addressed by USEPA Approved Total Maximum Daily Loads (TMDLs).

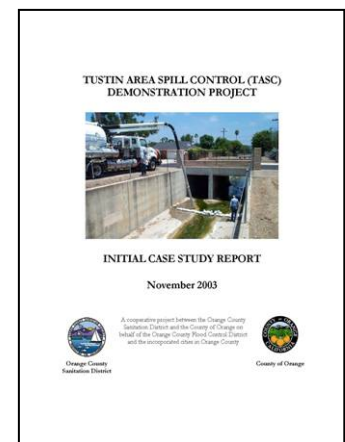


Although Orange County has experienced ocean and bay closures as well as postings and advisories due to elevated bacteria concentrations, almost all of the closures have been attributed to sanitary sewer overflows (SSOs or overflows) that reached, or threatened to reach, ocean waters.

The primary wastewater and stormwater agencies in northern and central Orange County are the Orange County Sanitation District (OCS D) and the County of Orange (County), respectively. Both OCS D and the County are regulated under National Pollutant Discharge Elimination System (NPDES) permits and are required to develop and implement an illicit discharge program that effectively prohibits the discharge of pollutants to surface waters, including the discharges of raw or untreated sewage.

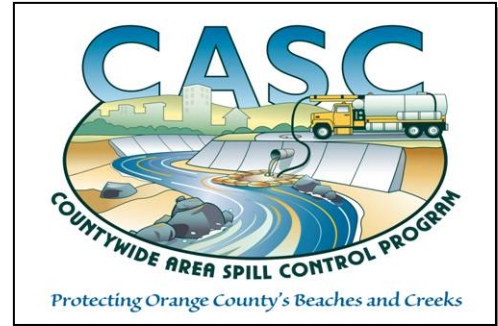
Even though OCS D and the County had similar goals and objectives and were both regulated under NPDES permits, multi-agency coordination to address sewage spills was generally reactive instead of proactive. However, with growing concerns over bacteriological contamination and increasing regulatory and public pressure to improve water quality, OCS D and the County began to meet to discuss how they might cooperatively minimize and/or prevent the impacts caused by SSOs.

The agencies initiated a pilot project in late 2000 titled “Tustin Area Spill Control Demonstration Project (TASC)”. The project progressed for several years and the initial project report, which documented the achievements, was prepared in November 2003 and entitled “*Tustin Area Spill Control (TASC) Demonstration Project – Initial Case Study Report*”.



Progress reports for the TASC project have been prepared annually and provided to the Santa Ana and San Diego Regional Water Quality Control Boards (Regional Water Boards) as an Appendix to the Annual Stormwater Program Effectiveness Assessment.

In 2007 the project evolved in several ways and was, therefore, renamed the “*Countywide Area Spill Control (CASC)*” Program. The renaming was done to reflect the fact that the project evolved from a demonstration project to a permanent program; and that the program will be expanded throughout the county area over the next few years.



The overall objectives of the CASC program are to:

- Create broader awareness regarding the causes of SSOs and measures that can be implemented in order to prevent them;
- Improve the interagency coordination when responding to SSOs;
- Identify the resources needed when responding and mitigating impacts;
- Develop predictive tools for identifying potential impacts;
- Protect the beneficial uses of the local water bodies; and
- Expand the program throughout the entire county area.

The CASC Program is comprised of the following elements: program management and coordination, planning, and implementation. This report summarizes the work that has been completed for the CASC Program from July 2007 – June 2008 and identifies activities that may be undertaken during the upcoming reporting period.

## 2.0 PROGRAM MANAGEMENT AND COORDINATION

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The program management tasks generally included coordination meetings and the establishment of contracts and/or the memorandum of understanding (MOU).

### 2.1 Coordination Meetings

OCSD, the County, and the cities of Orange, Tustin, and Villa Park met throughout 2007-2008 to manage and coordinate the CASC Program. The major discussion items included:

- The development of the MOU between the entities implementing the CASC program;
- The expansion of the CASC program into Orange and Villa Park;
- The identification of containment and recovery sites in Orange and Villa Park;
- The third field-based exercise for the contractors; and
- The development of a program expansion guidance document and timeframe.

A summary of the meetings is provided below.

Meeting Date	Primary Issue(s)
July 17, 2007	CASC Awareness Memorandum of Understanding Program Area Expansion
November 6, 2007	CASC Annual Report Memorandum of Understanding Program Area Expansion – Orange and Villa Park: Proposed Containment and Recovery Sites and Maps
January 15, 2008	CASC Expansion Plan Memorandum of Understanding Program Area Expansion – Orange and Villa Park: Proposed Containment and Recovery Sites and Maps Field Exercise for the Contractors
February 21, 2008	CASC Expansion Plan Memorandum of Understanding Program Area Expansion – Orange and Villa Park: Proposed Containment and Recovery Sites and Maps Field Exercise for the Contractors
March 20, 2008	CASC Expansion Plan Memorandum of Understanding Program Area Expansion – Orange and Villa Park: Proposed Containment and Recovery Sites and Maps Field Exercise for the Contractors
May 1, 2008	CASC Expansion Plan Checklist Memorandum of Understanding Program Area Expansion – Orange and Villa Park: Field Survey Field Exercise for the Contractors
June 5, 2008	Memorandum of Understanding Program Area Expansion – Orange and Villa Park: Proposed Containment and Recovery Sites and Maps Field Exercise for the Contractors Time Travel Studies

Additional meetings were held throughout the year with ad hoc sub-committees to coordinate and plan the third field-based training exercise as well as the logistics regarding the expansion of the CASC Program into the cities of Orange and Villa Park.

## **2.2 Establishment of Contracts and Memorandum of Understanding**

### **2.2.1 Spill Response Assistance Contracts**

In order to be able to respond to SSOs expeditiously, it is critical that resources such as response crews and the necessary equipment are readily available. Although basic resources (sand bags) may be placed at identified containment and recovery areas, additional equipment and resources, such as private contractors, are also necessary.

In 2005-2006, the County issued an RFP for sewage spill containment services and executed Price Agreements with the two selected firms (Ancon Marine as the primary contractor and United Storm Water, Inc. as the backup contractor). The overall intent of the sewage spill containment services contract is to have the contractors under a service agreement which can then be used by any city or agency in the county for SSOs that impact the storm drain and/or flood control channels.

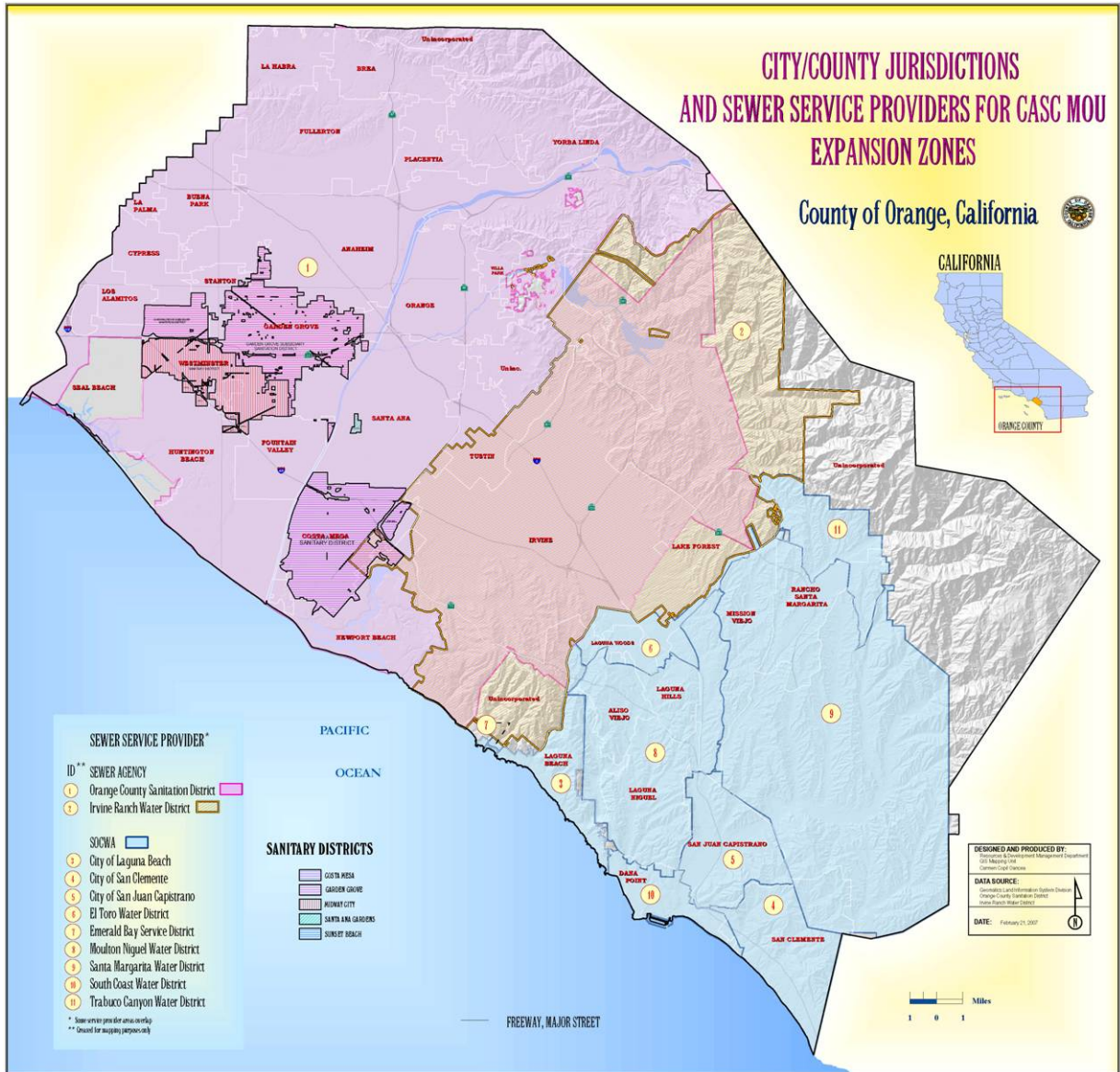
During 2007-2008 both firms were included as a part of a field exercise, however their services were not requested for any SSOs since none of the SSOs met the criteria for requesting a response. A revised RFP will be issued in late 2008 for continued sewage spill containment services. In order to make the contract more robust, the revised RFP may expand the type of services being requested to address other types of spills that enter the storm drains and/or flood control channels such as fire suppression runoff, hazardous materials spills, etc.

### **2.2.2 Memorandum of Understanding**

On December 28, 2005, the County, Orange County Flood Control District (OCFCD), and OCSD executed a Memorandum of Understanding (MOU) on Establishing a Pilot Program for Sewage Spill Containment Services. During 2007-2008, an MOU was developed for Establishing a Countywide Area Spill Control Program Between the Orange County Flood Control District, the Orange County Sanitation District, and cities where the CASC Program has expanded (currently Orange, Tustin, and Villa Park). The MOU recognizes the regulatory requirements for responding to sewage spills, the existing MOUs and Agreements between the OCSD, County and cities, the evolution of the TASC project into the CASC Program, the expansion of the program into new city jurisdictions, and defines the roles and responsibilities and funding mechanisms.

**Figure 1** identifies the city, county, and sewer service provider jurisdictions as well as the expansion zones that were established pursuant to the Expansion Plan (Section 3.1). This map assists in determining when and which jurisdictions should enter into the MOU. It is anticipated that this MOU will be finalized and executed during late 2008. This MOU will supercede the 2005 MOU.

Figure 1. CASC MOU Expansion Zones





### 3.0 PLANNING

In order to effectively implement the CASC program, the agencies recognized that there were a number of technical and procedural items that needed to be addressed within the planning stage. During 2007-2008 the CASC program developed an expansion plan to identify how and when the program will be expanded throughout the County. The work that was initiated/completed during 2007-2008 is discussed in further detail below.

#### 3.1 Expansion Plan

The CASC Expansion Plan was developed in April 2008 and identifies how the program will be expanded throughout the county over the next 10 years so that the proactive interagency planning and coordination for sewage spill responses can be implemented countywide by June 2017 (**Attachment A**).

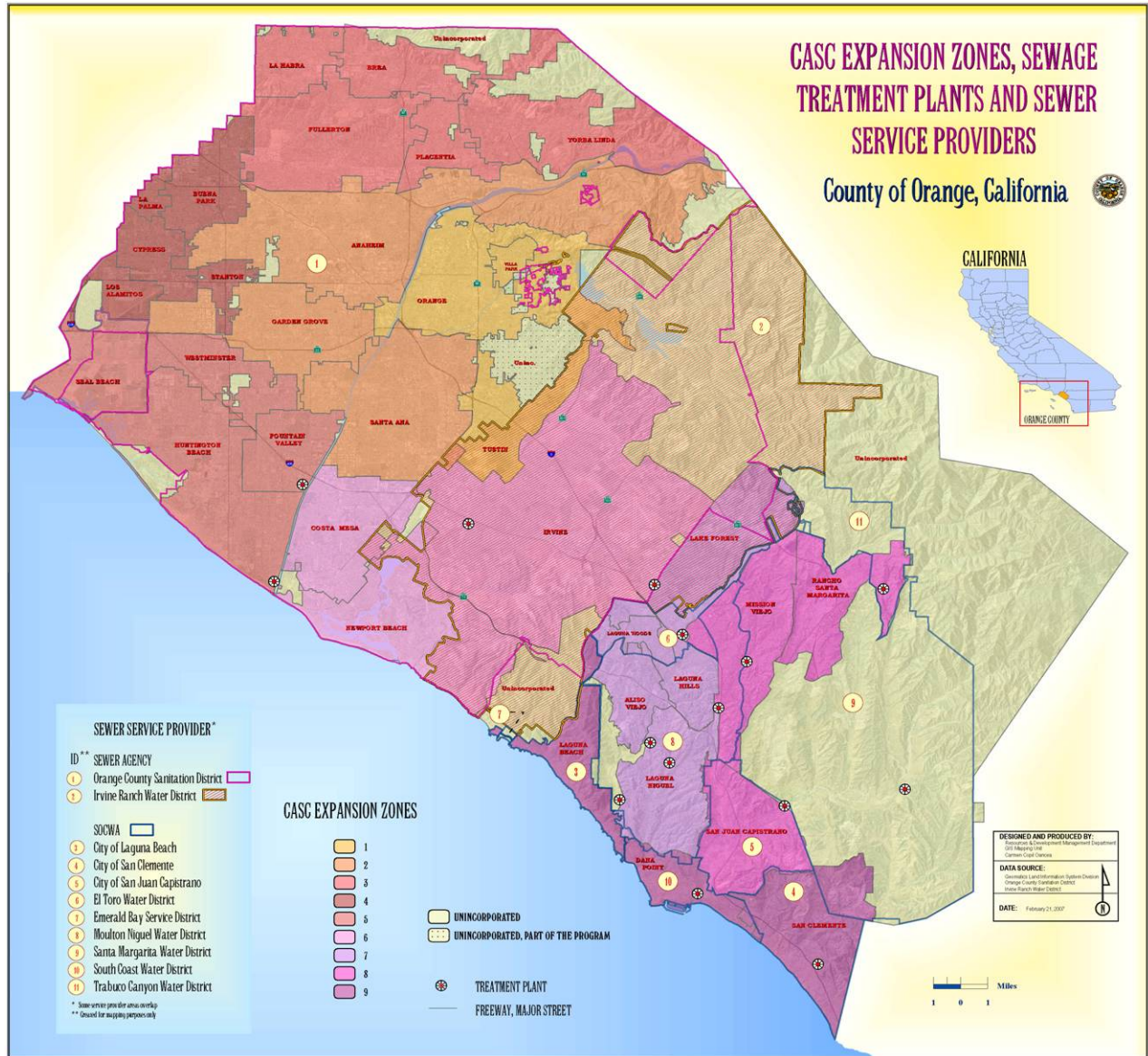
Several criteria were taken into consideration when planning for the CASC expansion. The criteria were qualitative and included the following:

- Sanitation district service providers;
- Sewer diversions;
- Number of reported spills/land area (1991-2007); and
- 2006 303(d) listings.

Based on the above criteria as well as geographical considerations, each city was included in an expansion zone. The zones are summarized in the table below and in **Figure 2**.

City	Expansion Zone	City	Expansion Zone
Orange	1	Lake Forest	7
Villa Park	1	Laguna Woods	7
Tustin	1	Laguna Hills	7
Anaheim	2	Aliso Viejo	7
Garden Grove	2	Laguna Niguel	7
Santa Ana	2	Mission Viejo	8
Yorba Linda	3	Rancho Santa Margarita	8
Placentia	3	San Juan Capistrano	8
Fullerton	3	Laguna Beach	9
Brea	3	Dana Point	9
La Habra	3	San Clemente	9
Stanton	4		
Buena Park	4		
La Palma	4		
Cypress	4		
Los Alamitos	4		
Seal Beach	5		
Westminster	5		
Huntington Beach	5		
Fountain Valley	5		
Costa Mesa	6		
Irvine	6		
Newport Beach	6		

Figure 2. CASC Expansion Zones



Countywide Area Spill Control (CASC) Program  
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The following implementation schedule is proposed for the CASC program expansion. The schedule recognizes the development phase (green) and the implementation phase (blue).

	City	Zone	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012	2012- 2013	2013- 2014	2014- 2015	2015- 2016	2016- 2017
North Orange County	Orange	1	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Villa Park	1	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Tustin	1	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Anaheim	2	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Garden Grove	2	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Santa Ana	2	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Yorba Linda	3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Placentia	3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Fullerton	3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Brea	3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	La Habra	3	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Stanton	4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Buena Park	4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	La Palma	4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Cypress	4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Los Alamitos	4	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	
Seal Beach	5	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	
Westminster	5	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	
Huntington Beach	5	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	
Fountain Valley	5	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	
South Orange County	Costa Mesa	6	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Irvine	6	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Newport Beach	6	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Lake Forest	7	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Laguna Woods	7	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Laguna Hills	7	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Aliso Viejo	7	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Laguna Niguel	7	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Mission Viejo	8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Rancho Santa Margarita	8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
San Juan Capistrano	8	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	
Laguna Beach	9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	
Dana Point	9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	
San Clemente	9	Green	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	

## 4.0 IMPLEMENTATION

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The implementation tasks support the overall program objectives, incorporate the lessons learned and focus on the key elements necessary to effectively implement the program throughout the county. These tasks define and clarify the key technical and procedural aspects of SSO responses. In order to effectively implement the CASC Program, the agencies recognized that there were a number of technical and procedural items that needed to be addressed including:

- Development and implementation of a training program;
- Public education and outreach activities; and
- CASC program expansion

### 4.1 Development and Implementation of a Training Program

Training on in-channel spill response related safety issues and response procedures is necessary to ensure that response staff understand the response procedures and safety requirements and have a clear understanding of their roles and responsibilities. The steep slopes, various channel lining materials, and flowing water can provide for a challenging work environment for the response crew. Therefore, it is critical that crews are adequately trained on basic in-channel safety issues and procedures such as channel entry/exit, sand bagging techniques and general spill response techniques and procedures.

During 2005-2006, the focus of the training was on simulated exercises (both tabletop and first field-based) for the newly hired contractors. The training was conducted so that response staff from OCSD, the County, the cities of Orange, Villa Park, Tustin, and the contractors could familiarize themselves with the SSO response procedures and to identify any areas that may need improvement. During 2006-2007, a second field simulated exercise was held for each of the contractors. The difficulty of the exercise was increased so that the contractors would experience a more complex spill than during the initial field exercises that were held during 2005-2006.

During 2007-2008 a third field exercise was held. The third field exercise was a repeat of the second field exercise that was held in 2006-2007. The purpose for repeating the exercise was to see if the contractors improved their responses based on the feedback that they had received after the second exercise. Response staff from the County and the City of Orange also attended and observed these exercises for training purposes.

A brief description of the training efforts is provided below:

- *Field Simulated Exercise #3 (July 1, 2008)*

The field exercise with Ancon Marine (Ancon) was held on July 1, 2008 in an unincorporated area of Tustin at the intersection of Esplanade Avenue and Fairview Avenue. The agencies involved in the spill response exercise included the County of Orange, OCSD, City of Orange, and Ancon. The positive aspects of the field exercise as well as the areas for improvement were noted (additional detail may be found within the final checklist summary).



- *Field Simulated Exercise #3 (July 22, 2008)*

The field exercise with United Storm Water (United) was held on July 22, 2008 in an unincorporated area of Tustin at the intersection of Esplanade Avenue and Fairview Avenue. The agencies involved in the spill response exercise included the County of Orange, OCSD, the City of Orange and United. The positive aspects of the field exercise as well as the areas for improvement were noted (additional detail may be found within the final checklist summary).



During the upcoming year, several additional training sessions may be provided. The types of training may include simulated field-based training (primarily for the contractors), safety training, traffic control, and/or basic sand bagging and containment procedures.

#### 4.2 Public Education and Outreach Activities

Since OCSD, the County of Orange, and the cities of Orange, Tustin, and Villa Park recognize that public education and outreach is the primary means by which root and grease blockages (which are the causes of smaller and frequent SSOs) can be prevented, they have collectively targeted their public education towards residents, homeowners associations and restaurants and coordinated the outreach specific to sewer overflow programs in order to leverage resources and provide consistent messages.

##### 4.2.1 Public Education

The following public education materials are available on an ongoing basis and are distributed as a part of the overall public education and outreach program for OCSD, the Orange County Flood Control District, the County of Orange, and the cities within Orange County.

- “*Good Operating Practices – Food and Restaurant Industry*” poster. Available on the County of Orange website [www.ocwatersheds.com](http://www.ocwatersheds.com). The poster identifies several best management practices for key food facility related activities with photos depicting the correct cleaning and operating methods. Each water quality protective behavior is described in both English and Spanish.
- “*Help Prevent Ocean Pollution: A Guide for Food Service Facilities*” brochure. Available on the County of Orange website [www.ocwatershed.com](http://www.ocwatershed.com).



The brochure identifies best management practices that food facilities can implement in order to keep debris out of the storm drains and prevent fats, oils and greases from blocking the sewer lines.



- “*Sewage Spill Reference Guide – Your Responsibility as a Private Property Owner*” brochure. Available on the County of Orange website [www.ocwatersheds.com](http://www.ocwatersheds.com). The brochure identifies how the sewer system works, common causes of SSOs, and responsibility for preventative maintenance and cleanup and is distributed by a number of agencies throughout Orange County.



- *Food Service Facilities Outreach Plan.* A food service facilities outreach plan was developed based on feedback that was received from stormwater Permittees, the California Restaurant Association, OCSD, Orange County Health Care Agency food facility inspectors and representatives from the restaurant industry. The outreach plan provides a brief history on activities that have been completed as well as recommendations for future years.
- *“Help Prevent Ocean Pollution” stickers.* Four stickers are available on the County of Orange website [www.ocwatersheds.com](http://www.ocwatersheds.com). The stickers can be placed in grease and trash bin areas to remind workers about proper management of waste. The stickers are written in English and Spanish.



- *Food Facility Inspections* - The Orange County Health Care Agency inspectors inspected every food facility in Orange County (> 9,000) at least once during the year for stormwater related issues. If potential problems were observed, the information was forwarded to the appropriate city for additional follow-up inspections. The inspectors are also provided public education and outreach information such as the food service facility poster, the food facility brochures and the maintenance log that can be used for grease interceptors.
- *Fats, Oils, and Grease Toolbox* - The OCSD, in conjunction with twenty-two (22) north and central Orange County cities, water districts and sanitary districts, and the County of Orange, developed a Fats, Oils and Grease (FOG) outreach toolbox. The toolbox contains a number of items including brochures, posters, and training CDs and is available in five different languages. During the reporting period the following outreach efforts were conducted: a media news release, development of several public service announcements, workshop for FSE owners and managers, and mailings to FSEs and homeowners associations.
- *Restaurants Protecting Our Waterways* – A CD Rom video was developed and distributed by the Orange County Stormwater Program to food service facilities. The video identifies best management practices for disposing of food waste and cooking oil so that they do not impact sewer systems or cause sewer overflows.

#### 4.2.2 Outreach

During 2007-2008, no specific outreach events for the CASC program were conducted. During the upcoming year, outreach efforts may be undertaken including presentations at conferences/workshops as well as meetings and/or presentations with other agencies/groups such as:

- Santa Ana Regional Water Quality Control Board;
- San Diego Regional Water Quality Control Board;
- OCSD Sanitary Sewer Overflow WDR committee;
- Orange County Health Care Agency;
- Irvine Ranch Water District;
- Southern Orange County Wastewater Authority;
- Municipal stormwater Permittees;
- California Water Environment Association; and
- Orange County Coastal Coalition.

### 4.3 CASC Program Expansion

One of the goals for CASC is to gradually expand the Program throughout the county so that the proactive interagency planning and coordination for sewage spill response can be implemented in other watersheds. During 2006-2007 and 2007-2008, the Program expanded into the cities of Orange and Villa Park. These cities were chosen based on their proximity to the north Tustin area (City of Tustin and unincorporated North Tustin) and the fact that the new areas were also within OCSD's service area.

In early 2007, OCSD and the County developed formal guidelines to assist with the expansion of the CASC Program. The resulting document was entitled "CASC Planning Guidance" (Planning Guidance). The Planning Guidance identifies the planning activities and associated tasks that should be completed within each jurisdiction in order to implement the CASC Program.

During 2007-2008, the Program was expanded into the cities of Orange and Villa Park. The following tasks were conducted for the expansion according to the Planning Guidance document. Additional details are provided below.

- Program Area Identification;
- Program Area Characterization;
- Containment and Recovery Locations;
- Time Travel Studies; and
- Other Considerations

#### 4.3.1 Program Area Identification

The CASC Guidance document recommends the following criteria for identifying the problem areas for SSOs within the city jurisdictions:

- Areas with smaller diameter sewer lines;
- Historical problem areas;
- Impaired water bodies; and
- Areas with suitable containment and capture locations.

The general tasks associated with identifying the problem areas within a jurisdiction and the current status for each are described below:

General Task Description	Orange	Villa Park
Identify and coordinate with GIS contact for map development	Completed	Completed
Using sewer maps, identify areas with smaller diameter pipes/frequent spills	Completed	Completed
Coordinate with responders and maintenance crews to identify problem areas	Completed	Completed
Identify impaired waterbodies (303(d) list) and/or those with a related TMDL	Completed	Completed
Identify preliminary containment and capture locations	Completed	Completed
Develop program area map with information from above tasks	Completed	Completed

The background information necessary to identify problem areas was obtained and assimilated into the characterization maps.

4.3.2 Program Area Characterization

The CASC Guidance document recommends that the partners develop a series of maps/map layers in order to further define and characterize the area. The maps that should be considered/developed include:

- Watershed boundaries;
- Land uses;
- Flood control channels (and types), basins, lakes and/or diversions; and
- Sewer systems and manholes.

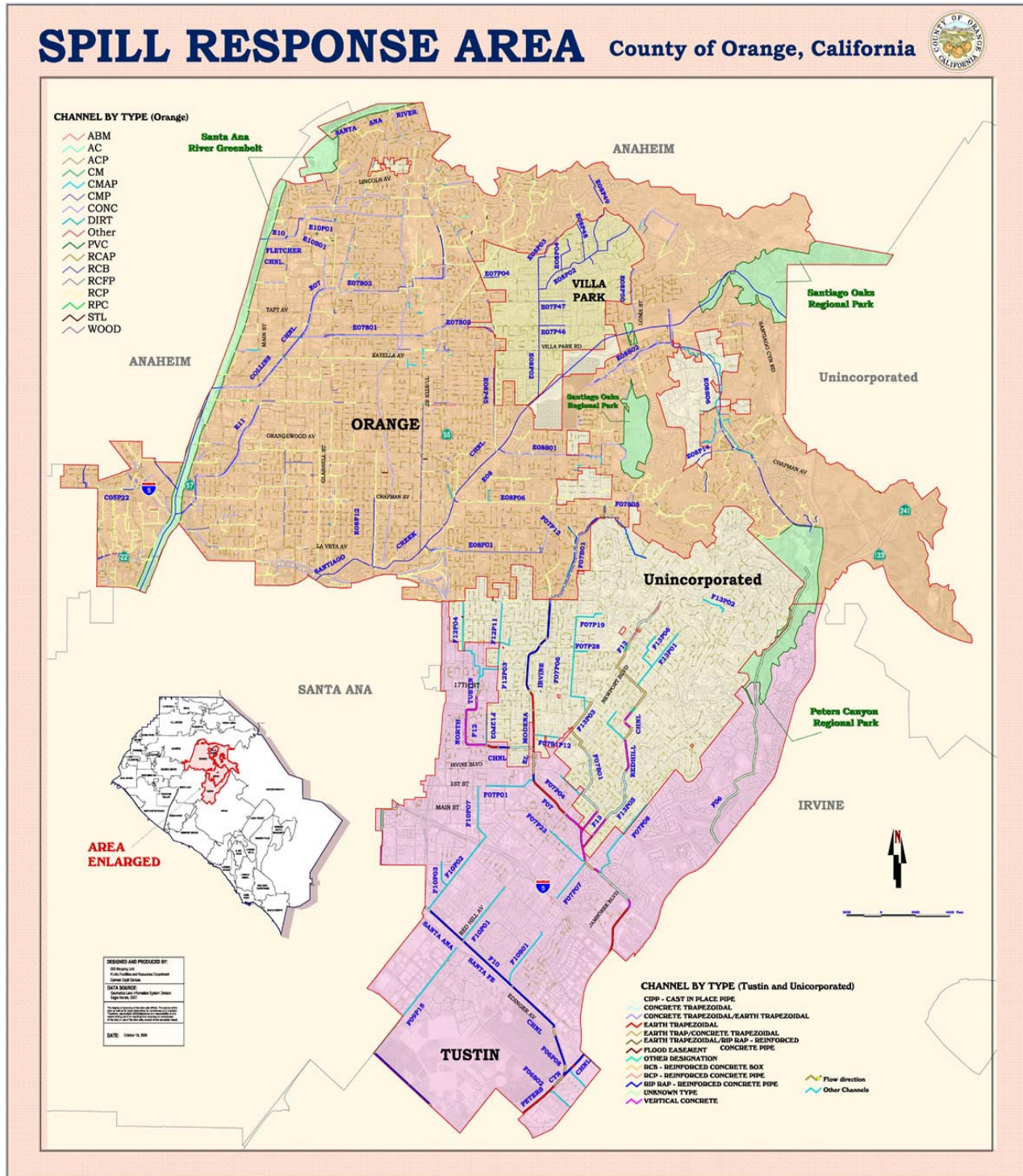
The general tasks associated with characterizing the program area(s) and the current status for each are described below:

General Task Description	Orange	Villa Park
Develop program area maps	Completed	Completed

A map entitled “*Spill Response Area*” (**Figure 3**) was developed in 2006-2007 and identifies the County boundary, the city boundaries, and the flood control channels by type.



Figure 3. Spill Response Area for Initial Expansion of CASC into Orange and Villa Park



#### 4.3.3 Identification of Containment and Recovery Locations

The CASC Guidance document identifies the two-step process that is recommended for identifying containment and recovery locations. The steps include the initial desk-top selection followed by field verification.

The general tasks associated with the identification of containment and recovery locations and the current status for each are described below:

General Task Description	Orange	Villa Park
Using the program maps, select the initial containment and recovery locations	Completed	Completed
Confirm the site selection with field visits and document necessary information	Completed	Completed
Provide information to GIS map contact for incorporation into a map layer	Completed	Completed

Several locations were selected based on the spill data from all three cities (**Figure 4**). A CASC subgroup then conducted a field reconnaissance to verify the selection of the containment and recovery sites. The sites that were initially selected included:

- Tustin-Wanda Channel @ Tustin
- Collins Channel E07 @ Santa Ana River
- Collins Channel E07 @ Glassell
- Bitterbush Channel E11 @ Santa Ana River
- Fletcher Channel E10 (Santa Ana River)
- Fletcher Channel E10 @ Glassell
- Marlboro Channel @ Cambridge
- Buckeye Channel @ Tustin
- Santiago Creek
- Fletcher Basin

The final sites that were selected included:

- Collins Channel E07 @ Santa Ana River
- Bitterbush Channel E11 @ Santa Ana River
- Marlboro Channel @ Cambridge
- Buckeye Channel @ Tustin
- Fletcher Basin

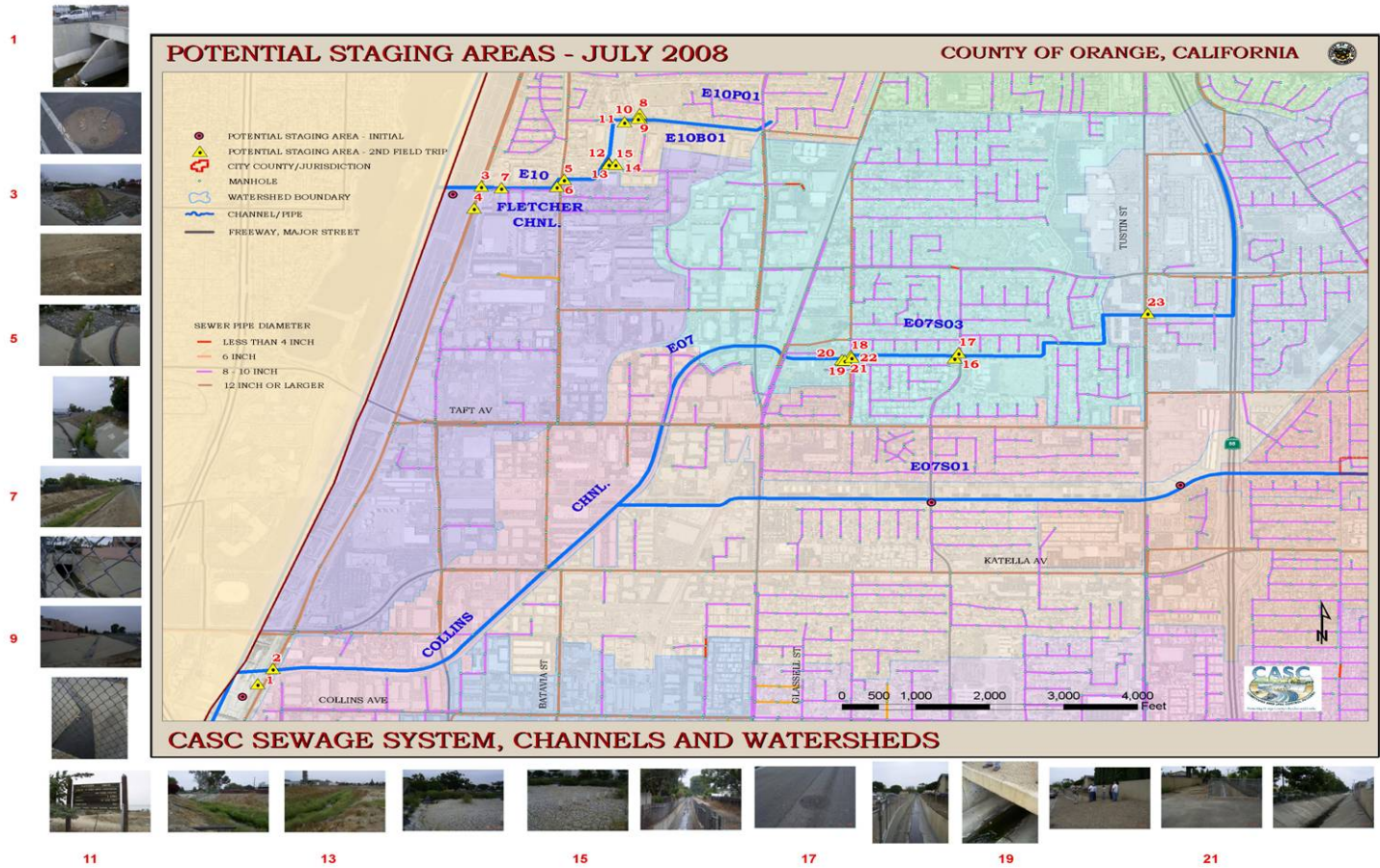
The other sites were not selected for various reasons including:

- Accessibility
- Area necessary for staging materials
- Need for a sewer line close by
- Excessive low flow in the channel(s)
- Traffic-related issues

The staging areas that were selected included:

- Fletcher Basin
- County OC Public Works Equipment Storage Yard

Figure 4. Spill Response Area for Initial Expansion of CASC into Orange and Villa Park



## 5.0 NEXT STEPS

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During 2008-2009, OCSD, the County of Orange, and the partner cities will continue to develop, implement, and expand the CASC Program by initiating, continuing and/or completing the following tasks:

Project Element	2008-2009 Tasks
<b>Program Management and Coordination</b>	
Coordination Meetings	<ul style="list-style-type: none"> <li>• Meet on a quarterly basis (minimum)</li> <li>• Meet to work on sub-tasks as needed</li> <li>• Invite and/or meet with other agencies/municipalities as needed</li> </ul>
Establishment of Contracts and MOUs	<ul style="list-style-type: none"> <li>• Finalize and execute revised MOU</li> <li>• Continue coordination with spill response contractors</li> <li>• Revise and distribute new RFP for containment and cleanup services and execute new contracts</li> </ul>
<b>Planning</b>	
Planning Guidance Document	<ul style="list-style-type: none"> <li>• Modify Planning Guidance document as needed</li> </ul>
Expansion Plan	<ul style="list-style-type: none"> <li>• Modify Plan as needed</li> </ul>
<b>Implementation</b>	
Development and Implementation of a Training Program	<ul style="list-style-type: none"> <li>• Develop/provide training</li> </ul>
Public Education and Outreach Activities	<ul style="list-style-type: none"> <li>• Outreach to food service facilities at organized events</li> <li>• Provide presentations at existing industry meetings</li> <li>• Provide presentations at workshops/conferences</li> <li>• Meet with and/or provide presentations to other agencies</li> </ul>
CASC Program Expansion - Current <i>Orange, Tustin, Villa Park</i>	<ul style="list-style-type: none"> <li>• Finalize the MOU</li> <li>• Determine if/where materials should be placed within city</li> <li>• Educate/train key staff</li> <li>• Implement program</li> </ul>
CASC Program Expansion - Future <i>Anaheim, Garden Grove, Santa Ana</i>	<ul style="list-style-type: none"> <li>• Initiate discussions with cities</li> <li>• Identify problem areas based on mapping and professional judgment</li> <li>• Develop program area maps</li> <li>• Select initial locations</li> <li>• Conduct field visits to confirm locations</li> <li>• Incorporate information into area maps</li> </ul>

**Attachment A**  
**CASC Expansion Plan**

# Memorandum

DATE: April 8, 2008

TO: Dindo Carrillo, Orange County  
Sanitation District

Duc Nguyen, County of Orange

CC:

SUBJECT CASC Expansion Plan

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## Introduction

In late 2000 the Orange County Sanitation District (OCSD) and the County of Orange (County) initiated a pilot project titled "*Tustin Area Spill Control Demonstration Project*" or TASC. Although the pilot project was developed and implemented in the Tustin Area, the project was recently expanded into other parts of Orange County and renamed the "*Countywide Area Spill Control*" or CASC program. Upon expansion of the program into other areas, a host of activities are undertaken including, but not limited to, the establishment of agreements with partnering agencies, program area identification, program area characterization, and identification of containment and recovery locations. The expansion activities are outlined in a companion document entitled "*CASC Planning Guidance*".

The CASC program is initially being implemented in the cities of Tustin, Orange, Villa Park, the unincorporated portion of Orange County, and the Orange County Sanitation District service area. The intent is to gradually expand the program throughout the county over the next ten (10) years following the *CASC Planning Guidance* so that the proactive interagency planning and coordination for sewage spill responses can be implemented throughout the county by June 2017.

This memo identifies the evaluation process used to plan for the CASC expansion and identifies a proposed schedule. This memo is divided into the following sections:

- Program Expansion Evaluation
- Expansion Zones
- Implementation Schedule

The expansion plan will be updated as needed and will be reported on within the annual reports that are submitted to the Regional Water Board.

## Program Expansion Evaluation

Several criteria were taken into consideration when planning for the CASC expansion. The criteria were qualitative and included the following:

- Sanitation District Service Providers;
- Sewer Diversions;
- Number of Reported Spills/Land Area (1991-2007); and
- 2006 303(d) Listings

### *Sanitation Service Providers/Sanitary Districts*

This criteria was used so that the CASC program expansion recognizes the time that is necessary in order to bring in other partners as well as the expedited manner in which the program can be expanded within existing partner service areas. The various sanitation service providers/sanitary districts that may be brought into the CASC program include the following:

Orange County Sanitation District (OCSD)	Moulton Niguel Water District*
City of Seal Beach	City of Laguna Beach*
Garden Grove Sanitary District	Trabuco Canyon Water District*
Midway City Sanitary District	Santa Margarita Water District*
Sunset Beach Sanitary District	City of San Juan Capistrano*
Santa Ana Gardens Sanitary District	City of San Clemente*
Costa Mesa Sanitary District	South Coast Water District*
Irvine Ranch Water District*	Emerald Bay Service District*
El Toro Water District*	

\* Part of the South Orange County Wastewater Authority (SOCWA)

A greater weight was given to those cities that are within the OCSD service area for two reasons. First, OCSD services the majority of the population within Orange County (2.5 million people out of the approximately 3 million) and, second, OCSD has been participating within the CASC program since its' initiation and has executed the necessary agreements, thus the expansion of the CASC program within their service area can be expedited.

In addition, although there are several member agencies within SOCWA, the member agencies would likely enter into individual agreements instead of an umbrella agreement under SOCWA, therefore, a substantial number of agreements would have to be entered into when expanding the program into South Orange County. This may result in an increased amount of time that would be necessary to expand the program.

In addition to the sanitation service providers, each city brought into the CASC program would also join as a partner. However, as with all cities and sanitation service providers, only those who want to join the program will enter into the necessary agreements.

### *Sewer Diversions*

This criteria was used so that the CASC program expansion recognizes that, if there are dry weather diversions in place, then a waterbody has an added level of protection that other waterbodies do not have since a spill may be able to be diverted to a treatment plant. Therefore, areas with sewer diversions in place were weighted lower than those areas without sewer diversions.

In October of 2003, the County of Orange prepared a dry weather diversion study to evaluate the diversions to the sanitary sewer that are in place or proposed within Orange County and to identify decision-making criteria to be used in selecting diversions as a preferred Best Management Practice.<sup>1</sup>

The areas within Orange County that were identified within the Dry Weather Diversion Study include 38 existing diversion facilities and 38 proposed diversion facilities. These facilities are summarized in **Tables 1 and 2**.

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1

[http://www.ocwatersheds.com/StormWater/PDFs/2003\\_Appendix\\_E/2003\\_Appendix\\_E6\\_Dry\\_Weather\\_Diversion\\_Study.pdf](http://www.ocwatersheds.com/StormWater/PDFs/2003_Appendix_E/2003_Appendix_E6_Dry_Weather_Diversion_Study.pdf)



**Table 1. Existing Dry Weather Diversion Facilities**

Location	Sanitary Sewer Agency	Permittee	Month & Year Built	Amount of Flow Diverted (GPD)
9731 Founder Dr @ D02 (Flounder PS)	OCSD	Huntington Beach	Feb 2000	72,000
9211 Yorktown Ave @ D02 (Yorktown PS)	OCSD	Huntington Beach	Feb 2000	72,000
19661 Chesapeake Ln @D02 (Adams PS)	OCSD	Huntington Beach	Feb 2000	72,000
20192 Midland Ln @E01 (Meredith PS)	OCSD	Huntington Beach	Feb 2000	288,000
9221 Indianapolis Ave @ D02 (Indianapolis PS)	OCSD	Huntington Beach	Feb 2000	144,000
8151 Atlanta Ave @D01 (Atlanta PS)	OCSD	Huntington Beach	July 1999	504,000
10101 Hamilton Ave @E01 (Hamilton PS)	OCSD	Huntington Beach	Feb 2000	144,000
2201 Malibu Ln @ D02 (Banning PS)	OCSD	Huntington Beach	July 1999	288,000
8612 Hamilton St @D01 (Newland PS)	OCSD	Huntington Beach	July 1999	288,000
1131 Back Bay Dr (Newport Dunes)	OCSD	Newport Beach	Mar 2001	7,640
Santa Ana Channel (E01)	OCSD	County of Orange	May 2001	295,154
Greenville Banning Channel	OCSD	County of Orange	May 2001	214,596
Talbert Channel (D02)	OCSD	County of Orange	May 2001	119,836
D/S Adams Ave @ D01 (Huntington Beach)	OCSD	County of Orange	May 2001	NA
Linda Ln @ Via Mecha	City of	San Clemente	Aug 2001	14,000
Camino Del Estrella (est. loc.)	SCWD	Dana Point	NA	1,000
Laguna Cyn @ Forest Ave	City of	Laguna Beach	1987	140,000
Bluebird Canyon	City of	Laguna Beach	1997	30,000
Dumond Dr/Victoria Beach	City of	Laguna Beach	1997	5,000
Fisherman's Cove	City of	Laguna Beach	1998	2,000
El Paseo @ Laguna Ave (Main Beach)	City of	Laguna Beach	1998	10,000
5 <sup>th</sup> Ave @ Coast Hwy	City of	Laguna Beach	1999	2,000
Barranca St @ Cliff Dr	City of	Laguna Beach	2001	1,400
Cleo St @ Gaviota	City of	Laguna Beach	2001	35,000
Aliso Creek/Sulphur Creek Confluence	MNWD	Laguna Niguel	May 2000	174,506
Muddy Canyon	OCSD	Newport Beach/IRWD	April 2002	288,000
Los Trancos	OCSD	Newport Beach/IRWD	April 2002	288,000
Los Lobos (est.loc.)	City of	San Clemente	Aug 2001	29,000
Aliso Creek (J01) at mouth*	OCSD	County of Orange	May 2001	234,061
Riviera Beach (150 yds upstream of MO)	City of	San Clemente	---	29,000
Pump Station #1 (Emerald Point)	EBSD	Laguna Beach	---	1,000
Three Arches Bay	SCWD	Laguna Beach	---	---
Dana Point Harbor – Baby Beach	SCWD	Dana Point	NA	1,300
Doheny State Beach	SCWD	Dana Point	NA	10,000
#118 Emerald Bay	EBSD	Laguna Beach	---	1,000
# 206 Emerald Bay	EBSD	Laguna Beach	---	1,000
# 101 Emerald Bay	EBSD	Laguna Beach	---	1,000
Crescent Bay Dr and Circle Way	City of	Laguna Beach	2001	7,500

\* Presently Decommissioned

**Table 2. Proposed Dry Weather Diversion Facilities**

Location	Sanitary Sewer Agency	Permittee	Year Built	Amount of Flow To Be Diverted (GPD)
Alipaz St (est loc)	SCWD	Dana Point	Spring 2001	---
Capistrano Beach adj to PCH (est loc)	SCWD	Dana Point	---	---
Capistrano Beach adj to PCH (est loc)	SCWD	Dana Point	---	---
Outlet of Salt Creek	SCWD	Dana Point	June 2001	---
Scenario Pump Station	OCSD	Huntington Beach	---	10,000
Shields	OCSD	Huntington Beach	---	10,000
Slater	OCSD	Huntington Beach	---	804,000
Marilyn	OCSD	Huntington Beach	---	8,000
Heil	OCSD	Huntington Beach	---	30,000
1 <sup>st</sup> Street	OCSD	Huntington Beach	---	7,900
7 <sup>th</sup> Street	OCSD	Huntington Beach	---	16,000
13 <sup>th</sup> Street	OCSD	Huntington Beach	---	57,700
13 <sup>th</sup> Street	OCSD	Huntington Beach	---	1,800
16 <sup>th</sup> Street	OCSD	Huntington Beach	---	8,700
20 <sup>th</sup> Street	OCSD	Huntington Beach	---	8,800
22 <sup>nd</sup> Street	OCSD	Huntington Beach	---	76,000
Goldenwest	OCSD	Huntington Beach	---	15,000
Anita St/Gaviota Dr	City of	Laguna Beach	Nov 2002	2,310
Oak St/Gaviota Dr	City of	Laguna Beach	Nov 2002	2,310
Pearl St/Ocean Way	City of	Laguna Beach	Nov 2002	6,970
Jasmine St/Cliff Dr	City of	Laguna Beach	Nov 2002	2,240
Myrtle St/Cliff Dr	City of	Laguna Beach	Sep 2003	1,500
1160 Gaviota Dr	City of	Laguna Beach	Sep 2003	1,000
Cress St/Gaviota	City of	Laguna Beach	Sep 2003	1,500
Mountain Rd/Gaviota Dr	City of	Laguna Beach	Sep 2003	850
Cliff Dr Between Jasmine/ Aster	City of	Laguna Beach	Sep 2003	4,500
Camino Capistrano @ Ave Padre	City of	San Juan Capistrano	---	---
Avenida de La Vista @ L02 P02 outlet	City of	San Juan Capistrano	---	---
La Novia Ave @ San Juan Creek Road	City of	San Juan Capistrano	---	---
Alipaz St @ Camino Del Avion	City of	San Juan Capistrano	---	---
Alipaz St @ Via Monterey (est loc)	City of	San Juan Capistrano	---	---
Rancho Viejo @ SJC (est loc)	City of	San Juan Capistrano	---	---
West End PS – 100 Riversea	OCSD	Seal Beach	---	---
Del Obispo Park (est loc)	SCWD	Dana Point	Spring 2002	---
Avenida Pico/ Christianitos Cr.	SMWD	San Clemente	---	---
Marblehead Coastal	City of	San Clemente	---	21,000
Laguna Channel and PCH	City of	Laguna Beach	Sep 2003	7,500
Broadway @ PCH	City of	Laguna Beach	Sep 2003	1,000

### *Number of Reported Spills/Land Area (1991-2007)*

One of the criteria used for the phased implementation of the CASC program was the number of reported spills from 1991 - 2007. This criteria was used to try to prioritize areas where the CASC program may be of the most benefit. In an effort to normalize the data, the number of spills reported were divided by the land area.

The spill data was provided from the Orange County Health Care Agency's database and includes all the spills reported whether they impacted the storm drain or not. The land area data is from the stormwater program Permittee shares of revenue for fiscal year 2007-2008. Those areas with a high ratio of number of spills to land area were weighted higher than those areas with a low ratio.

### *2006 303(d) Listings*

This criteria was used so that the CASC program is focused on protecting those 303(d) listed waters for the pollutants that are most closely linked to sewage spills (indicator bacteria, total and fecal coliform, enterococcus, and pathogens). Section 303(d) of the Clean Water Act requires the identification of waterbodies that do not meet, or are not expected to meet, water quality standards (i.e., impaired waterbodies). The affected waterbody, and associated pollutant or stressor, is then included on and prioritized within the 303(d) List.

The current list, approved by the EPA, is the 2006 303(d) List.<sup>2</sup> The 2006 303(d) List identifies those water bodies that have water quality limited segments and require the development of a Total Maximum Daily Load (TMDL) and those water bodies that are being addressed by USEPA approved TMDLs.

For the purposes of the CASC program and the focus on sanitary sewer overflows, the areas within Orange County that are listed for the following pollutants/stressors were identified:

- Indicator Bacteria
- Total Coliform
- Fecal Coliform
- Enterococcus
- Pathogens

The list of pollutants was developed based on the different ways in which the Santa Ana and San Diego Regional Water Quality Control Boards identified the impaired water bodies within the 303(d) List.

The areas within Orange County that are identified on the 2006 303(d) List are summarized in **Tables 3 and 4**.

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<sup>2</sup> [http://www.waterboards.ca.gov/rwqcb5/water\\_issues/tmdl/impaired\\_waters\\_list/303d\\_list.html](http://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/impaired_waters_list/303d_list.html)

**Table 3. 2006 CWA Section 303(d) List of Water Quality Limited Segments**

Region	Water Body	Pollutant	Potential Source	Affected Area	Proposed TMDL Completion
Santa Ana	Buck Gully Creek	Fecal Coliform	Unknown	0.3 miles (d/s PCH)	2019
		Total Coliform	Unknown	0.3 miles (d/s PCH)	2019
	Huntington Beach State Park	Enterococcus	Unknown	5.8 miles (Drain at Magnolia)	2019
	Huntington Harbour	Pathogens	Urban Runoff/Storm Sewers	221 acres	2019
	Los Trancos Creek (Crystal Cove Creek)	Fecal Coliform	Unknown	0.19 miles (d/s PCH)	2019
		Total Coliform	Unknown	0.19 miles (d/s PCH)	2019
	San Diego Creek (Reach 1)	Fecal Coliform	Urban Runoff/Storm Sewers	7.8 miles	2019
	Seal Beach	Enterococcus	Unknown	0.53 miles (Drain at 1 <sup>st</sup> Street)	2019
Silverado Creek	Pathogens	Unknown Nonpoint Source	11 miles	2019	
San Diego	Aliso Creek	Indicator Bacteria	Urban Runoff/Storm Sewers/ Unknown	19 miles (Mainstem and tribs)	2005
	Aliso Creek Mouth	Indicator Bacteria	Nonpoint/Point Source	0.29 acres	2005
	Dana Point Harbor	Indicator Bacteria	Urban Runoff/Storm Sewers/ Marinas/ Unknown	119 acres (at Baby Beach)	2006
	Pacific Ocean Shoreline Aliso HSA	Indicator Bacteria	Nonpoint/Point Source	0.65 miles	2005
	Pacific Ocean Shoreline Dana Point HSA	Indicator Bacteria	Nonpoint/Point Source	2 miles	2005
	Pacific Ocean Shoreline Laguna Beach HSA	Indicator Bacteria	Nonpoint/Point Source	1.8 miles	2005
	Pacific Ocean Shoreline Lower San Juan HSA	Indicator Bacteria	Nonpoint/Point Source	1.2 miles	2008
	Pacific Ocean Shoreline San Clemente HSA	Indicator Bacteria	Nonpoint/Point Source	3.7 miles	2005
	Pacific Ocean Shoreline San Joaquin Hills HSA	Indicator Bacteria	Urban Runoff/Storm Sewers/ Unknown	0.63 miles	2005
	San Juan Creek	Indicator Bacteria	Nonpoint/Point Source	1 mile	2005
	San Juan Creek Mouth	Indicator Bacteria	Nonpoint/Point Source	6.3 acres	2008

**Table 4. 2006 CWA Section 303(d) List of Water Quality Limited Segments Being Addressed by USEPA Approved TMDLs**

<b>Region</b>	<b>Water Body</b>	<b>Pollutant</b>	<b>Potential Source</b>	<b>Affected Area</b>	<b>USEPA Approved TMDL</b>
<b>Santa Ana</b>	Newport Bay, Lower	Pathogens	Unknown	767 Acres	2000
	Newport Bay, Upper	Pathogens	Unknown	653 Acres	2000

## Expansion Zones

Based on the criteria identified for the expansion of the CASC program as well as geographical considerations, each city was included in an expansion zone. The results are summarized in Table 5.

**Table 5. CASC Expansion Zones**

City	Expansion Zone
Orange	1
Villa Park	1
Tustin	1
Anaheim	2
Garden Grove	2
Santa Ana	2
Yorba Linda	3
Placentia	3
Fullerton	3
Brea	3
La Habra	3
Stanton	4
Buena Park	4
La Palma	4
Cypress	4
Los Alamitos	4
Seal Beach	5
Westminster	5
Huntington Beach	5
Fountain Valley	5
Costa Mesa	6
Irvine	6
Newport Beach	6
Lake Forest	7
Laguna Woods	7
Laguna Hills	7
Aliso Viejo	7
Laguna Niguel	7
Mission Viejo	8
Rancho Santa Margarita	8
San Juan Capistrano	8
Laguna Beach	9
Dana Point	9
San Clemente	9

## Implementation Schedule

The following implementation schedule is proposed for the CASC program expansion. The schedule recognizes the development phase (green) and the implementation phase (blue).

**Table 6. Implementation Schedule for the CASC Expansion Plan** (green – development phase; blue – implementation phase)

City		Zone	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
North Orange County	Orange	1										
	Villa Park	1										
	Tustin	1										
	Anaheim	2										
	Garden Grove	2										
	Santa Ana	2										
	Yorba Linda	3										
	Placentia	3										
	Fullerton	3										
	Brea	3										
	La Habra	3										
	Stanton	4										
	Buena Park	4										
	La Palma	4										
	Cypress	4										
Los Alamitos	4											
Seal Beach	5											
Westminster	5											
Huntington Beach	5											
Fountain Valley	5											
South Orange County	Costa Mesa	6										
	Irvine	6										
	Newport Beach	6										
	Lake Forest	7										
	Laguna Woods	7										
	Laguna Hills	7										
	Aliso Viejo	7										
	Laguna Niguel	7										
	Mission Viejo	8										
	Rancho Santa Margarita	8										
San Juan Capistrano	8											
Laguna Beach	9											
Dana Point	9											
San Clemente	9											

