SACRAMENTO STATE

Office of Water Programs

OWP
OFFICE OF WATER PROGRAMS

A Case Study:
Cooperative Agreement with Caltrans
Opportunities and Challenges

Outline

- Background
- Founding of the Research Group
- Challenges

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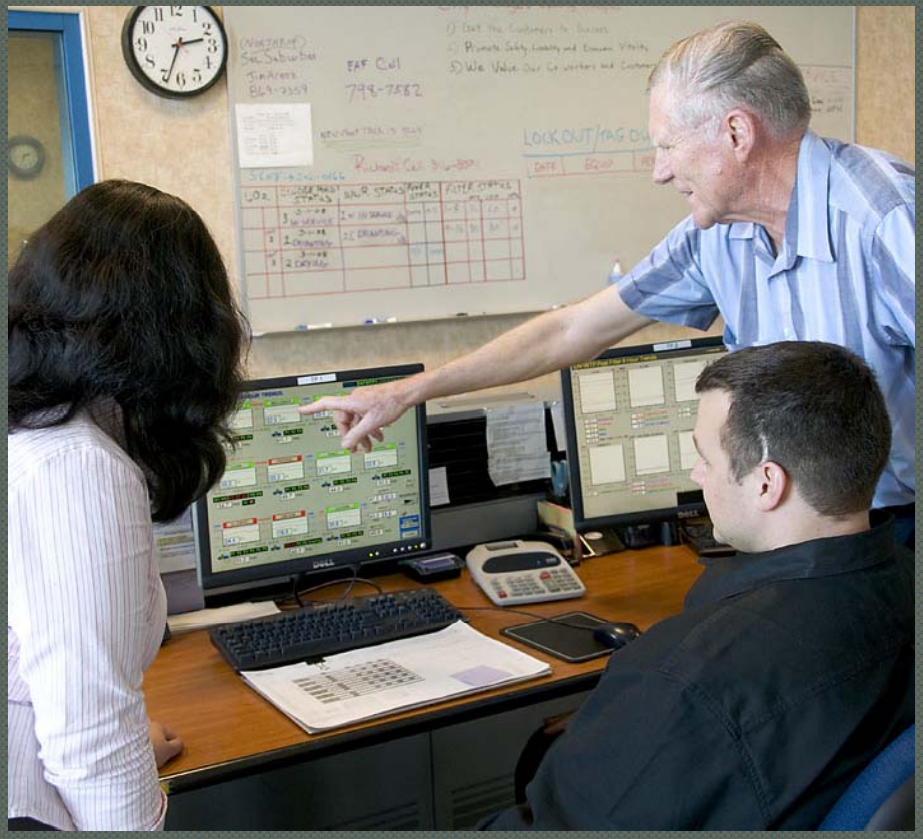
Office of Water Programs (OWP)

- Managed by Civil Engineering Dept.
- College of Engineering and Computer Science
- California State University, Sacramento
- University Enterprises Inc. (UEI)

History

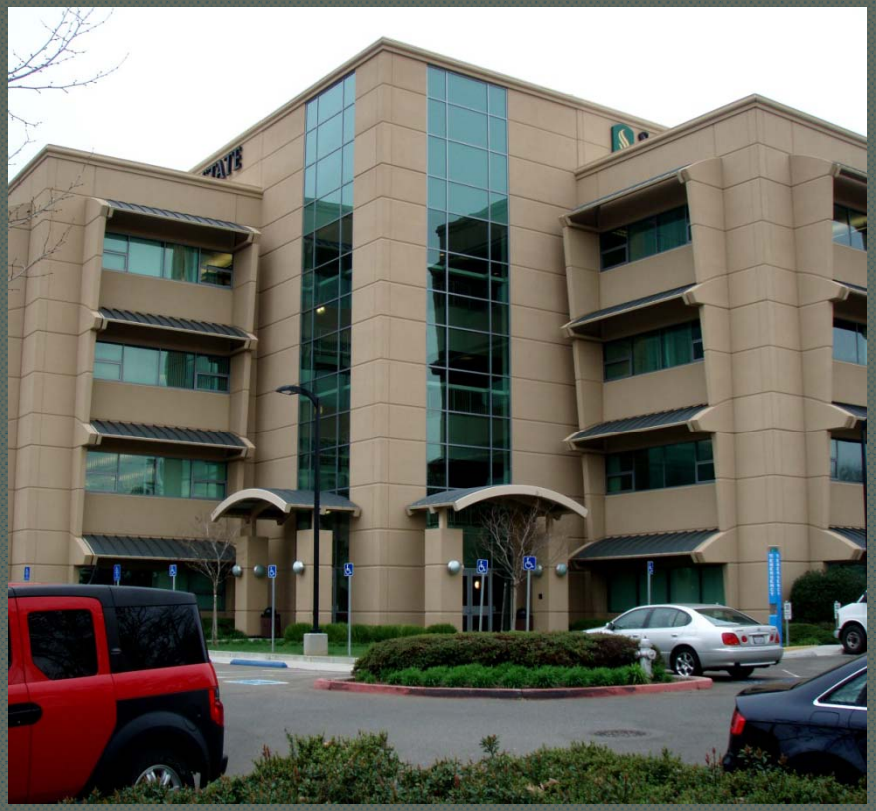
- founded by Ken Kerri
- Late 60s
- Operator training program
- Number one provider in the Nation

History



- Staff
  - Ken Kerri
  - Customer service staff (6)
  - Technical Editors (2)
  - An IT professional
  - Students

OWP – Training Today



- Director/Associate Director
- Ken Kerri
- Admin Manager
- Customer Service Reps (5)
- IT Professionals (3)
- Tech Editors (3.5)
- An Instructional Technologist
- A Graphic Designer
- Students

OWP – Training Products

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Caltrans

- 1994 NRDC Law Suit
- K. Kerri/J. Al-Kazily/ R. Mahmood
  - Assist Caltrans with the Court Order
- Planning and Review
- UC Davis
- 1998 – OWP research group is formed

Pre-Group Formation Issues

- An Agency Need
  - Project
  - Deployable Results
- Alignment with University's Mission
- Startup Funding

Pre-Group Formation Issues

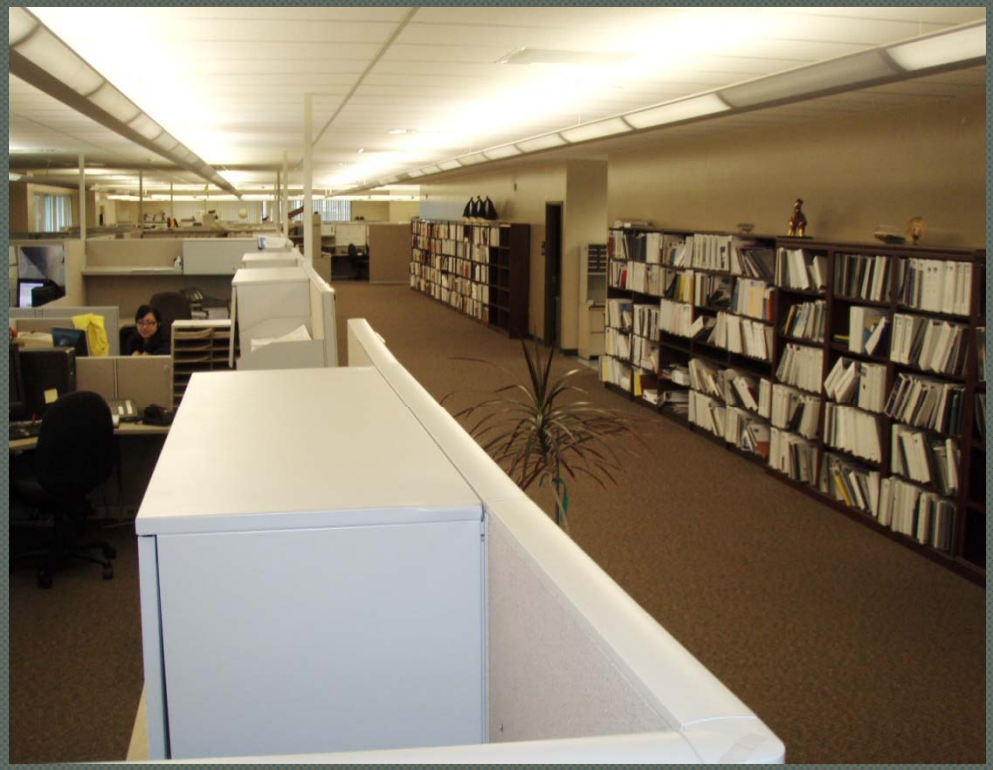
- Faculty
  - Teaching Load
  - Area(s) of Interest
  - Overload/Assigned Time
- Continuity
  - Academic Calendar vs. Project Schedule

Pre-Group Formation Issues

- Staffing needs
  - Job classification
  - Salary Survey
- Recruiting Staff
  - Time
  - Risk
- Funding and Timing

Pre-Group Formation Issues

- Space
  - Availability
  - Non-state space
- Organizational
  - System
  - Structure



Pre-Group Formation Issues

- Partnerships
  - Foundation/UEI
  - Agencies
- A Champion
  - Execution
  - Time commitment

Post-Group Formation Issues

- Staff Retention
  - Development
  - Compensation
    - Salary
    - Benefits
  - Retention
- Organizational Issues
- Space
- Partnerships

Agency Partners

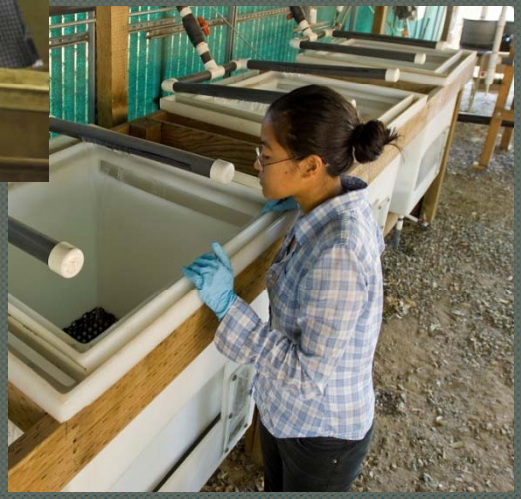
- Caltrans
- Integrated waste management board
- State water board
- Department of Health Services (now Department of Public Health)

Agencies

- Department of Toxic Substance Control
- Sacramento County
- El Dorado County
- CWEA
- USGS

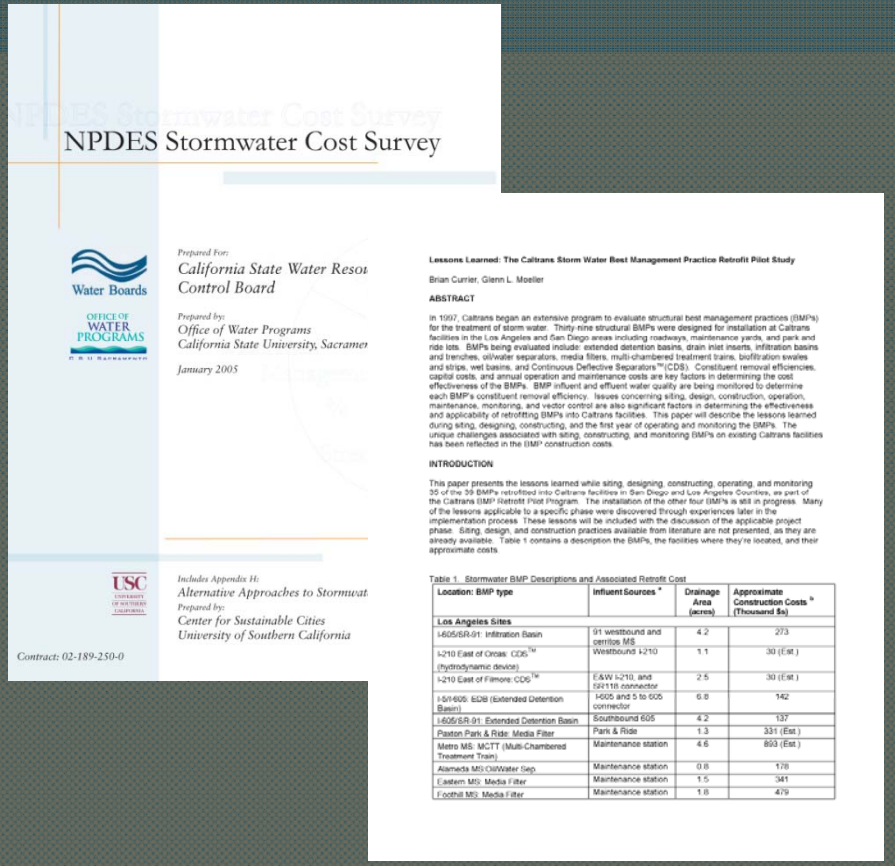
OWP – Research Group Today

- Faculty Advisor (John Johnston)
- Research Engineers (5)
- A Chemist
- A Geologist/GIS specialist
- A Hydrologist
- Admin Manager
- Support Staff
- Students



Challenges

- Publishing
  - CSU problem
- Intellectual Property/ Ownership
- Compensation
- Market forces
- Overhead rate



NPDES Stormwater Cost Survey

Water Boards

OFFICE OF WATER PROGRAMS

Prepared For:
California State Water Resou
Control Board

Prepared by:
Office of Water Programs
California State University, Sacrame

January 2005

USC

Includes Appendix H:
Alternative Approaches to Stormwat
Prepared by:
Center for Sustainable Cities
University of Southern California

Contract: 02-189-250-0

Lessons Learned: The Caltrans Storm Water Best Management Practice Retrofit Pilot Study

Brian Currier, Glenn L. Moeller

ABSTRACT

In 1997, Caltrans began an extensive program to evaluate structural best management practices (BMPs) for the treatment of storm water. Thirty-nine structural BMPs were designed for installation at Caltrans facilities in the Los Angeles and San Diego areas including roadways, maintenance yards, and park and ride lots. BMPs being evaluated include: extended detention basins, drain inlet inserts, infiltration basins and trenches, oil/water separators, media filters, multi-chambered treatment trains, biofiltration swales and strips, wet basins, and Continuous Deflective Separators™(CDS). Constituent removal efficiencies, capitol costs, and annual operation and maintenance costs are key factors in determining the cost effectiveness of the BMPs. BMP influent and effluent water quality are being monitored to determine each BMP's constituent removal efficiency. Issues concerning siting, design, construction, operation, maintenance, monitoring, and vector control are also significant factors in determining the effectiveness and applicability of retrofitting BMPs into Caltrans facilities. This paper will describe the lessons learned during siting, designing, constructing, and the first year of operating and monitoring the BMPs. The unique challenges associated with siting, constructing, and monitoring BMPs on existing Caltrans facilities has been reflected in the BMP construction costs.

INTRODUCTION

This paper presents the lessons learned while siting, designing, constructing, operating, and monitoring 35 of the 39 BMPs retrofitted into Caltrans facilities in San Diego and Los Angeles Counties, as part of the Caltrans BMP Retrofit Pilot Program. The installation of the other four BMPs is still in progress. Many of the lessons applicable to a specific phase were discovered through experiences later in the implementation process. These lessons will be included with the discussion of the applicable project phase. Siting, design, and construction practices available from literature are not presented, as they are already available. Table 1 contains a description the BMPs, the facilities where they're located, and their approximate costs.

Table 1. Stormwater BMP Descriptions and Associated Retrofit Cost

Location: BMP type	Influent Sources [a]	Drainage Area (acres)	Approximate Construction Costs [b] (Thousand $s)
Los Angeles Sites			
I-605/SR-91: Infiltration Basin	91 westbound and cerritos MS	4.2	273
I-210 East of Orcas: CDS™ (Hydrodynamic device)	Westbound I-210	1.1	30 (Est.)
I-210 East of Filmore: CDS™	E&W I-210, and SR118 connector	2.5	30 (Est.)
I-5/I-605: EDB (Extended Detention Basin)	I-605 and 5 to 605 connector	6.8	142
I-605/SR-91: Extended Detention Basin	Southbound 605	4.2	137
Paxton Park & Ride: Media Filter	Park & Ride	1.3	331 (Est.)
Metro MS: MCTT (Multi-Chambered Treatment Train)	Maintenance station	4.6	893 (Est.)
Alameda MS: Oil/Water Sep.	Maintenance station	0.8	178
Eastern MS: Media Filter	Maintenance station	1.5	341
Foothill MS: Media Filter	Maintenance station	1.8	479

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