RBF CONSULTING

BI-WEEKLY CONFERENCE CALL
DRAFT AGENDA

DATE:	June 29, 2000 Thursday
TIME:	10:00 am – 12 noon
PLACE:	Via phone (916-657-4102)
ATTENDEES:	Rich Horner/Chris May, Jeremy Johnstone, Rick Graff, Bruce Reznik, Steve Fleischli, Bob Wu, Steve Borroum, Brian Currier, Cid Tesoro, Sayra Ramos, Lanny Chronert, Pete Van Riper, Richard Gordon, Dean Messer, Brown and Caldwell, Montgomery Watson/Law, KLI, RBF, Dudek
COPIES TO:	File 34123, 34218
SUBJECT:	BMP Pilot Study Status

AGENDA ITEMS

1. Non-stormwater Runoff Inspection: Biweekly Update; D11 Report
2. Feedback from CDS on Operational Requirements (See Attachment 1 of the Biweekly)
3. Kearney Mesa MS StormFilter Performance (See Attachment 3 of the Biweekly)
4. Wet Basin Vegetation Management Plan and MID 13a1 – Comments (See Attachment 4 of the Biweekly)

Next conference call: July 13, 2000, Thursday 10 a.m.

BMP Pilot Studies
Bi-weekly Status Report

BMP Retrofit Pilot Projects in District 7 and District 11

June 21, 2000

**(Contributing authors: Brown and Caldwell,
Montgomery Watson Chaudhary/Law Crandall, Kinnetic Laboratories, Dudek and Associates, Larry Walker and Associates, and UCR)**

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NOTE TO READER: As agreed upon during the June 14 Quarterly, biweekly reporting during the summer months will be reduced to focus on significant issues, and only general reporting of OMM activities will be provided. Detailed biweekly reporting will resume in September 2000.

UPDATES IN THIS BI-WEEKLY REPORT COVER THE PERIOD MAY 18 – JUNE 21, 2000

Non-Stormwater Runoff Inspections

On June 7, 2000, non-stormwater discharge was noted by a KLI crew member at the Carlsbad MS BMP in District 11.

District 7 BMP Pilot Sites

Brown and Caldwell Sites

Law/Gibb will assume full responsibilty for Brown and Caldwell BMPs on July 1, 2000. Throughout the summer, Brown and Caldwell will continue maintenance and repair of BMPs where appropriate.

OMM Activities: Routine inspection and maintenance per MID have been conducted during this reporting period, and no maintenance activities were required for all BMPs except those listed in the table below.

Additional Site-Specific O&M Activities

BMP	Activities
Via Verde Park and Ride MCTT	Brown and Caldwell is working with the BMP contractor on repairing the main sedimentation chamber leakage. An assessment of repairs needed should be available within 2 to 3 weeks
Lakewood Park and Ride MCTT	No monitoring activities for this period. Water is scheduled to be removed by end of June; no other maitnenance required.

Paxton/Metro Media Filter/MCTT: Paxton and Metro designs were resubmitted to Caltrans for final District 7 OE and HQ Structures Review on June 22, 2000.

2nd Year Report Errata: A correction was made to the rainfall intensity calculations listed in the 2nd Year Report. A revised Table 1-2 (page 1-23 of the Brown and Caldwell 2nd Year Report) is included as Attachment No. 2 of this report.

MW/Law Crandall Sites

CDS Units: Construction of the CDS sites (I-210/East Orcas and I-210/E. Filmore) was completed on June 2, 2000. Caltrans Resident Engineer is preparing Final Pay Estimates.

Feedback on CDS Units operational requirements was received via e-mail from CDS. The question was raised regarding the need to fill the CDS units prior to the wet season. CDS is in the process of preparing a letter regarding this issue. This letter will be forwarded to the Plaintiffs upon receipt. Attachment 1 of this document is an email message received from CDS (correspondence dates back to May 1999 used in the development of the OMM Plan).

OMM activities: Routine inspection and maintenance per MID has been conducted during this reporting period, and no maintenance activities were required for all BMPs except those listed in the table below. Additionally, all drain inlet inserts were removed for the summer and require no further maintenance activity.

Additional Site-Specific O&M Activities

BMP	Activities
CDS Units I-10 East of Orcas and I-210 East of Filmore	• Installation of monitoring equipment is in progress. • Manufacturer has been contacted regarding the need for the unit to be full prior to an event, and is preparing a written response
Altadena MS Bio. Strip	Water in Flow Spreader was removed on June 1 and bypass plug was removed
SR-91/Cerritos MS Bio. Swale	Installation of protective barrier along north side of swale is being planned and is scheduled for July. Routine maintenance per MID conducted

District 11 BMP Pilot Sites - KLI

As requested at the June 14 Quarterly meeting, a comparison of the analytical data for the Kearney Mesa StormFilter BMP for 1st and 2nd Year events is provided with this report as Attachment 3.

Analytical data obtained during the second year of monitoring has been shared with Stormwater Management. Analytical data was sent to Stormwater Management via email by KLI.

OMM activities: Routine inspection and maintenance per MID has been conducted during this reporting period, and minor maintenance activities (gopher hole collapsing and

trash removal) were performed. On May 26, wooden stakes were placed around the wetland vegetation boundaries at La Costa Wet Basin to determine percent open water area (calculated at 41%) and to track continued growth. The monthly baseline sampling (at the trapezoidal channel inlet) was conducted for the La Costa Wet basin on May 30. As discussed at the Quarterly meeting, successive samples obtained will be paired samples (next sampling to be conducted week of July 3).

Summary of Required And Successfully Sampled Storms Per Site

As discussed at the June 14 quarterly meeting, the column "Maximum Storms Required" for the District 11 sites reflects the agreement to extend the monitoring of the sites to 2 years. A revised table is provided below.

Location	BMP Type	Monitoring Consultant	Operational (yes/no)	Operational Date	Maximum Storms Required	Successfully Sampled Storms [1]	
						1998-1999	1999-2000 Preliminary
District 7							
I-605/SR-91	IB	MW/Law	Yes	4/9/99	4	N/A[5]	N/A[5]
I-210 East of Orcas	CDS	MW/Law	No	Fall 2000[2]	8	0	
I-210 East of Filmore	CDS	MW/Law	No	Fall 2000[2]	8	0	
I-5/I-605	EDB	BC	Yes	2/26/99	10	2	4
I-605/SR-91	EDB	BC	Yes	2/22/99	10	3	3[4]
Paxton P & R	MF	BC	No	4/22/01[2]	8	0	
Metro MS	MCTT	BC	No	4/22/01[2]	8	0	
Alameda MS	OWS	BC	Yes	5/17/99	8	0	4
Eastern MS	MF	BC	Yes	2/15/99	8	1	4
Foothill MS	MF	BC	Yes	3/8/99	8	2	4
Termination P & R	MF	BC	Yes	5/17/99	8	0	4
Via Verde P & R	MCTT	BC	Yes	5/17/99	8	0	4
Lakewood P & R	MCTT	BC	Yes	5/17/99	8	0	4
Altadena	Bio Strip	MW/Law	Yes	10/1/99	8	0	6[3]
	Infiltration Trench	MW/Law	Yes	10/1/99	8	N/A[5]	N/A[5]
Foothill MS	DII north- SG Insert	MW/Law	Yes	1/22/99	8	4	8
	DII south- FF Insert	MW/Law	Yes	1/22/99	8	3	8[3,6]
Las Flores MS	DII north-SG Insert	MW/Law	Yes	1/22/99	8	5	5
	DII south-FF Insert	MW/Law	Yes	1/22/99	8	2	5[3]
Rosemead MS	DII north-FF Insert	MW/Law	Yes	1/22/99	8	3	5[3]
	DII south-SG Insert	MW/Law	Yes	1/22/99	8	3	5
I-605/SR-91	Bio Strip	MW/Law	Yes	10/1/99	8	0	2
	Bio Swale	MW/Law	Yes	10/1/99	8	0	2
Cerritos MS	Bio Swale	MW/Law	Yes	10/1/99	8	0	4[8]
I-5/I-605	Boswell	MW/Law	Yes	10/1/99	8	0	4
I-605/ Del Amo	Boswell	MW/Law	Yes	10/1/99	8	0	2

[1] All 1998-1999 DII data in question. A criteria for acceptance has been established . 1998-1999 Data will be reviewed at the end of the year (2000).
[2] Subject to Schedule Update
[3] OMM Manual goal of 12 aliquot minimum sample not attained (January 2000 event)
[4] Less than 12 aliquots collected (at the influent at Altadena, at the effluent at the I-605/SR-91 EDB)
[5] N/A – Groundwater or Vadose Zone Samples
[6] OMM Manual goal of 12 aliquot minimum sample not attained (January 30, 2000 event)
[7] OMM Manual goal of 12 aliquot minimum sample not attained (February 16, 2000 event)
[8] OMM Manual goal of 12 aliquot minimum sample not attained (February 2000 event)
[9] OMM Manual goal of 12 aliquot minimum sample not attained (March 8, 2000 event)
[10] January 25 event at La Costa Wet Basin, % capture at the effluent, 31%

SUMMARY OF REQUIRED AND SUCCESSFULLY SAMPLED STORMS PER SITE

Location	BMP Type	Monitoring Consultant	Operational (yes/no)	Operational Date	Maximum Storms Required	Successfully Sampled Storms [1]	
						1998-1999	1999-2000 Preliminary
District 11							
I-5/SR-56	EDB	KLI	Yes	1/24/99	8	4	5[3]
I-15/SR-78	EDB	KLI	Yes	1/24/99	10	4	5
I-5/La Costa (West)	IB	KLI	Yes	1/24/99	8	N/A[5]	N/A[5]
I-5/La Costa (East)	WB	KLI	Yes	10/1/99	8	0	5[3,10]
I-5/Manchester (East)	EDB	KLI	Yes	10/1/99	8	0	5
Kearney Mesa MS	StormFilter	KLI	Yes	10/1/99	8	3	6[3]
Escondido MS	MF	KLI	Yes	2/16/99	8	3	5
La Costa P & R	MF	KLI	Yes	2/16/99	8	3	5[3,7]
SR-78/I-5 P& R	MF	KLI	Yes	2/26/99	8	2	5[7,9]
Melrose Ave/SR-78	Bio Swale	KLI	Yes	3/1/99	8	0	
I-5 Palomar Airport Rd	Bio Swale	KLI	Yes	10/1/99	8	0	3
Carlsbad MS	Bio Strip	KLI	Yes	10/1/99	8	0	3
	Infiltration Trench	KLI	Yes	10/1/99	8	N/A[5]	N/A[5]

[1] All 1998-1999 DII data in question. A criteria for acceptance has been established . 1998-1999 Data will be reviewed at the end of the year (2000).
[2] Subject to Schedule Update
[3] OMM Manual goal of 12 aliquot minimum sample not attained (January 25, 2000 event)
[4] Less than 12 aliquots collected (at the influent at Altadena, at the effluent at the I-605/SR-91 EDB)
[5] N/A – Groundwater or Vadose Zone Samples
[6] OMM Manual goal of 12 aliquot minimum sample not attained (January 30, 2000 event)
[7] OMM Manual goal of 12 aliquot minimum sample not attained (February 16, 2000 event)
[8] OMM Manual goal of 12 aliquot minimum sample not attained (February 27, 2000 event)
[9] OMM Manual goal of 12 aliquot minimum sample not attained (March 8, 2000 event)
[10] January 25 event at La Costa Wet Basin, % capture at the effluent, 31%

OMM PLAN ACTIVITIES

Maintenance Indicator Document

Latest version of the MID version 13a1 was provided at the June 14 Quarterly meeting. The Wet Basin Vegetation Management Plan (dated June 5, 2000) was provided to the Plaintiffs during the Quarterly meeting. This is an item for discussion during the upcoming Biweekly meeting. See Attachment 4 for a copy of the Wet Basin Plan.

Database

The last update of the database was on June 15, 2000. Database includes Inspection and Maintenance, 1st and 2nd Year Analytical Data, and the DHS Summary Report. Data is posted on the website www.rbf.com/caltrans.

VECTOR ACTIVITIES

Both DHS and the VCDs continued monitoring BMPs within their respective districts. In District 7, the MCTT at Lakewood P&R (Site No. 74208) and the CDS units in Pacoima (Site Nos. 73102 and 73103) continued to breed and required continual abatement. In District 11, The wet basin (Site No. 111104) and the infiltration basin (Site No. 111103) at La Costa continued to breed, however, these sites have not been abated since May 22, 2000. Breeding was also noted at the StormFilter at Kearny Mesa (Site No. 112201) but thus far no abatement has been required.

DHS has obtained the assistance of an engineer in undertaking the general design review and formulating design recommendations with regard to vector production problems associated with the BMPs. In the near-term, the engineer will assist in identifying solutions to "mosquito-proofing" the CDS units and the MCTTs.

ENVIRONMENTAL ISSUES

During this period, Dudek conducted a site visit to all BMPs. There are no significant issues to report.

A letter was sent to the USFWS to inform them of utilization by a sensitive species (Least tern) at the Wet Basin. The letter also requests that the USFWS comment on the Wet Basin maintenance plan. Copies of the signed letter were sent to the Plaintiffs and consultants (under separate cover). Dudek will contact the USFWS within the next 2 weeks to follow up on any comments regarding the maintenance plan.

ATTACHMENTS

Attachment 1: Correspondence with Manufacturers on CDS Units

Attachment 2: Revised Table 1-2 of the Brown and Caldwell 2nd Year Report (page 1-23)

Attachment 3: Kearny Mesa StormFilter Data Comparison 1998-1999 /1999-2000 Season

Attachment 4: La Costa Wet Basin Vegetation Management Plan

Attachment 1:

Correspondence with Manufacturers on CDS Units

From: <bhoward@cdstech.com>
To: Matt lee <mattl@foundation.fnd.csus.edu>
Date: Mon, May 10, 1999 2:00 PM
Subject: RE: CALTRANS CDS

Hi Matt,
I have not seen the the draft final maintenance table, but have had a conversation with my staff who provided the input to the program. The need to top off the CDS unit in the wet season is not a realistic practical operational requirement. Once the wet season is under way there is no need to top off the unit.
We do have a concern about going into a wet season with a totally empty unit depending on the character of the watershed. We have experienced operational difficulty where we started a unit at Lake Merced in San Francisco totally empty at the beginning of the rainy season with the first flows trickling into the unit being heavily ladened with pine needles. The needles lodged in the screen during the filling process during which time there was no rotational energy imparted to the unit so it was simply filling in direct filtration allowing the needles to lodge in the screen as water moved through the screen to fill the outlet chamber behind it. At this point, we know that organics such as pine needles filling an empty unit can have an adverse impact. We also know that a unit that is partially full at the commencement of an event can complete filling in the direct filtration mode, then go into its normal self cleaning mode. I am of the opinion that until we gain more experience that dictates otherwise, we not be concerned about water levels at startup that are at least half way up the screen. Since it is unusual to get rain before September 15th, I recommend that the unit be topped off between Sept 15th and 30th in preparation for operation into the wet season. I doubt that we will experience enough evaporation before the first storm to expose 12 inches of the screen. If we do, I suggest that we simply watch the performance. Both of the drainages that we are working in appear to have organic material that are near as detrimental to our unit as pine needles are.
Bob

> -----Original Message-----
> From: Matt lee [mailto:mattl@foundation.fnd.csus.edu]
> Sent: Friday, May 07, 1999 4:00 PM
> To: 'Bob Howard'
> Cc: 'Walter Stein'
> Subject: CALTRANS CDS
> Importance: High
>
>
> Bob
>
> I received an email this morning regarding the draft final maintenance
> table. I realize your schedule is extremely busy, but if you could give
> it a quick review and comment on its acceptability, I would greatly
> appreciate it. My specific concern is in regards to topping off the CDS
> continuously during the wet season; Please provide some guidance here.
>
>
>

CC: Walt Stein wstein@cdstech.com

Attachment 2:

Revised Table 1-2 of the Brown and Caldwell 2nd Year Report (page 1-23)

Site/Event	Start Rain Date/Time (mm/dd/yy hh:mm)	Stop Rain Date/Time (mm/dd/yy hh:mm)	Duration Rain (hh:mm)	Total Rain (inches)	Maximum Intensity (in./hr)	Antecedent Rain (days)	Antecedent Rain (in.)
January 25 Event							
I-5/I605	25-Jan-00 01:00	1/25/2000 21:00	20:00:00	0.55	0.84	24.9	0.21
I-605/SR-91	25-Jan-00 05:00	1/25/2000 22:00	17:00:00	0.48	0.96	24.1	0.42
Alameda	25-Jan-00 03:00	1/25/2000 21:00	18:00:00	0.51	0.36	24.5	0.11
Eastern	25-Jan-00 00:00	1/25/2000 22:00	22:00:00	0.71	1.80	24.1	0.27
Foothill	25-Jan-00 02:00	1/25/2000 21:45	19:45:00	0.68	1.68	24.3	0.28
Lakewood	24-Jan-00 23:10	1/25/2000 21:05	21:55:00	0.53	0.36	24.3	0.06
Termination	25-Jan-00 00:00	1/25/2000 20:55	20:55:00	0.61	1.44	24.2	0.10
Via Verde Verde	25-Jan-00 00:00	1/25/2000 21:00	21:00:00	0.88	1.68	24.2	0.35
February 20 Event							
I-5/I605	20-Feb-00 06:00	2/21/2000 16:40	34:40:00	2.29	1.32	3.4	0.65
I-605/SR-91*	20-Feb-00 05:49	2/21/2000 17:19	35:30:00	2.14	0.96	3.3	0.62
Alameda	20-Feb-00 06:20	2/21/2000 13:55	31:35:00	1.69	0.96	3.4	0.79
Eastern	20-Feb-00 06:20	2/21/2000 18:35	36:15:00	2.35	0.72	3.4	0.72
Foothill	20-Feb-00 06:45	2/21/2000 17:50	35:05:00	2.95	1.08	3.4	0.91
Lakewood	20-Feb-00 05:55	2/21/2000 16:40	34:45:00	1.89	0.60	3.4	0.55
Termination	20-Feb-00 05:55	2/21/2000 17:20	35:25:00	2.16	0.96	3.4	0.66
Via Verde Verde	20-Feb-00 06:35	2/21/2000 17:10	34:35:00	2.52	1.44	3.4	1.15
February 27 Event							
I-5/I605	27-Feb-00 13:00	2/27/2000 14:15	1:15:00	0.21	0.84	3.9	1.06
I-605/SR-91*	27-Feb-00 13:04	2/27/2000 14:08	1:04:00	0.16	0.36	4.0	0.98
Alameda	27-Feb-00 12:00	2/27/2000 15:25	3:25:00	0.20	0.48	3.9	1.40
Eastern	27-Feb-00 12:20	2/27/2000 14:30	2:10:00	0.33	0.36	3.9	1.44
Foothill	27-Feb-00 12:00	2/27/2000 17:40	5:40:00	0.49	0.60	3.9	1.01
Lakewood	27-Feb-00 12:40	2/27/2000 14:15	1:35:00	0.14	0.24	3.9	1.06
Termination	27-Feb-00 13:10	2/27/2000 15:30	2:20:00	0.15	0.24	4.0	1.01
Via Verde Verde	27-Feb-00 12:55	2/27/2000 14:45	1:50:00	0.40	0.48	3.9	1.47
March 8 Event							
I-5/I605	08-Mar-00 02:55	3/8/2000 11:00	8:05:00	0.96	0.72	1.5	1.66
I-605/SR-91*	08-Mar-00 02:12	3/8/2000 10:58	8:46:00	0.83	0.48	2.7	0.92
Alameda	08-Mar-00 00:45	3/8/2000 13:45	13:00:00	0.68	0.36	1.8	2.53
Eastern	08-Mar-00 03:20	3/8/2000 11:15	7:55:00	1.21	0.60	2.0	2.40
Foothill	08-Mar-00 02:00	3/8/2000 11:20	9:20:00	0.80	0.48	2.5	2.14
Lakewood	08-Mar-00 03:00	3/8/2000 11:00	8:00:00	0.98	3.00	1.9	1.63
Termination	08-Mar-00 03:00	3/8/2000 11:00	8:00:00	0.92	1.44	1.9	1.53
Via Verde Verde	08-Mar-00 01:45	3/8/2000 13:15	11:30:00	0.75	0.36	1.9	1.50

* Rain gauge malfunction suspected. Data reflects Law/Gibb rain gauge at nearby I-605/SR-91 swale or Cerritos swale.

Attachment 3:

Kearny Mesa StormFilter Data Comparison
1998-1999 /1999-2000 Season

Provided in a separate file: ATT3.XLS

Attachment 4:

La Costa Wet Basin Vegetation Management Plan

Draft

Proposed Maintenance Plan
Typha sp. and Scirpus sp. Zone 1[1] and Zone 2[2]
La Costa Wet Basin

June 5, 2000

Removal of nuisance or excess pond plants should occur early to late summer to ensure that the maximum amount of actively growing plant material and nutrients are removed from the system and that vector control is sustained during the summer breeding season. Cutting or mechanically removing the plants at times of major growth can weaken the plants and re-growth after harvest may be slower than normal. It is recommended that the plants be removed at the end of the monitoring season or about May 30. This will allow for the plants to re-establish themselves by the wet season for maximum stormwater quality benefit. It is also recommended that this plan be revisited each spring to assess its efficacy. The following is the recommended procedure for removing the Zone 1 and Zone 2 plant material from the basin (See attached figures):

If the plant density is too high (prevents the mosquito fish from freely swimming among the plants) , the plants should be thinned by uprooting. Alternatively if the density is relatively low (dense but does not totally keep the mosquito fish from swimming around the plants) , the plants may be cut. The maintenance supervisor will determine the appropriate method.

Annually, or at a special request of the local vector control agency, excess plants shall be reduce to ensure that the vector control personnel can access the pond for monitoring, that the mosquito fish can swim freely; and, that excess plant material is removed from the treatment system.

Maintenance Procedure:

1. Have a biologist survey the Wet Basin to determine if any birds are nesting or other sensitive animals are present. If birds are nesting, with advice from the biologist, proceed with the maintenance.
2. Lower and maintain the water level to expose the area to be maintained, do not completely drain basin
3. In Zone 1, mechanically[3] remove all plants
4. In Zone 2, mechanically remove Typha sp. (cattail), Scirpus sp. (bulrush) to produce random plant clusters (2-5 plants) with clusters at approximately 0.5 meters on center[4]. An effort should be made to maintain a ratio of Scirpus to Typha of 2:1. If the plants are cut, cut the plant to below the permanent pool water surface.
5. Dispose of the plant material in a landfill or other appropriate offsite disposal area.
6. Monitor plant density quarterly to determine grow back rate.

Notes:

1. Zone 1 is the designated open water area
2. Zone 2 is the designated shallow water bench
3. Mechanically = physical removal of vegetation by uprooting plants by hand, rake, or mechanical harvesting equipment.
4. This is consistent with the design planting scheme.

Reference:

1. Michigan State University, *Mechanical Harvest of Nuisance Pond and Lake Weeds*, 1997
2. Consultation with Martha Blane, May 22, 2000
3. Consultation with Jean Nichols, May 18, 2000
4. Consultation with Dudek and Associates, May 30, 2000
5. Consultation with County of San Diego, Environmental Health, June 1, 2000