

Ranelletti, Darin

From: Vince D'Alo [vdalo@aliquot.com]
Sent: Tuesday, June 19, 2012 8:19 AM
To: Ranelletti, Darin; Mog, David
Cc: drparrott@oaklandzoo.org; Roseann Dal Bello; Jason Barish; Howard Fuchs, Construction Consultant
Subject: Relocating Bio-swale to Zoo Entrance Area
Attachments: C6.02_Storm Water Control Plan-Planter Grading.pdf; C6.01_Storm Water Control Plan-Drainage Area.pdf

Darin,

Attached is a 2 sheet plan of a bio-retention basin located near the Zoo entrance at the intersection of the main access with the driveway to the Educational Center. A brief history of this decision to relocate this BMP to another part of the zoo to compensate for impervious surfaces created by the Veterinarian Building is as follows.

The approved bio-swale shown on Aliquot plans, located below and next to the Vet hospital, was approved by the City of Oakland. This bio-swale has not been constructed. Its planned location sets the bio-swale at the toe of a relatively steep bank along the curb of the upper parking lot. From an engineering view, creating a wet situation below the proposed pump house to California is not ideal. In addition, there are several trees on the bank, which would have been removed and are now saved. Retaining walls would have been employed to gain the surface area required of this planter-swale. Construction in this location is also problematic considering a major sub-drain located along the curb. For these reasons we proposed to move the swale. On October 24th, Roseann Dal Bello, Dr. Parrott, and myself met with you for a site review of a new location.

The proposed location of a bio-retention planter (BRP) requires the loss of several eucalyptus trees and has minimal infringement under the drip line of the 2 large oaks (see attachments). The proposed SD pipes for this BRP are positioned midway between the trunks of the oaks for minimal impact.

In addition, this new location also cleans 1200 LF of access road consisting of old A.C. pavement which ravel from use, creating fines consisting of hydrocarbons and the metals introduced by automobiles accessing the roadway. Currently, these metals and hydrocarbons are washed directly into the creek. By moving the bio-swale to this location, these road fines will flow from 1200 LF of roadway to the new BRP and will be removed, greatly reducing the source pollutants entering the creek. The source pollutants from the Veterinarian hospital are far less significant since there is no traffic in the courtyard and the roofing materials with less contaminants. Moving this BMP to the proposed location is a better use of this facility.

The Zoo is also considering this an educational stop to learn about the Clean water Act; this new location is better placed for access in this area of the Zoo and in a superior setting.

As you indicated, the C.3 guidebook allows compensating areas in a different locale to meet the clean water requirements of C.3 for new construction.

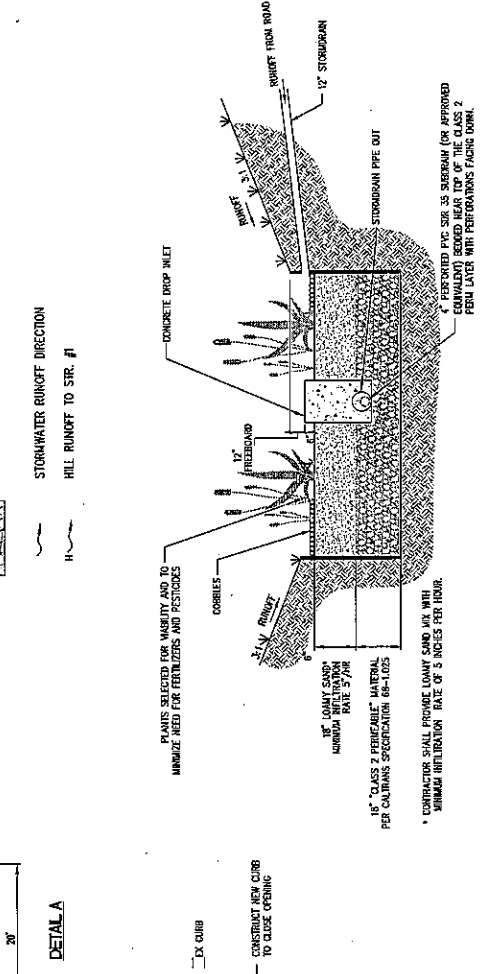
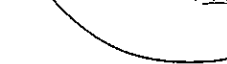
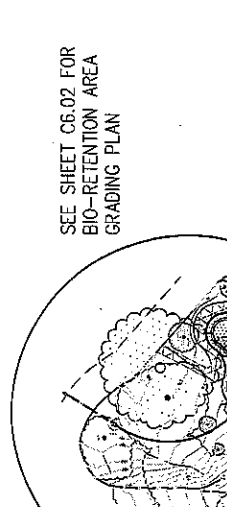
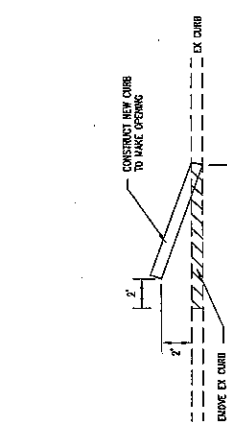
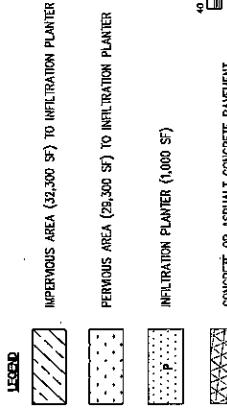
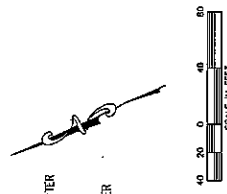
I copied Dave Mog on this, since he was not able to make our meeting earlier this April.

Please review the plans; any comments will be appreciated.

Vincent J. D'Alo
Principal

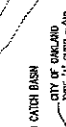
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6/28/2012



BIO-RETENTION AREA (INFILTRATION PLANTER)
NOT TO SCALE

NOTE: BIORETENTION PLANTER WAS SIZED USING BAHM



DETAIL C

SEE SHEET C6.02 FOR
BIO-RETENTION AREA
GRADING PLAN

MAKE CURB
OPENING-SEE
DETAIL A

CLOSE CURB
OPENING SEE
DETAIL B

REMOVE EX CURB

CONSTRUCT NEW CURB
TO MAKE OPENING

REMOVE EX CURB

CONSTRUCT NEW CURB
TO CLOSE OPENING

LET CATCH BASIN
STRAIN - CONSTRUCT
COMPARTMENT CURB SEE
DETAIL A

PLACE CURB OPENING
SECTION A

PLANTS SELECTED FOR WASTY AND TO
MINIMIZE NEED FOR FERTILIZERS AND PESTICIDES

18" LOAMY SAND
MINIMUM INFILTRATION
RATE 5" / HR

18" CLASS 2 PERMEABLE MATERIAL
PER CALTRANS SPECIFICATION 604-1.025

CONCRETE WALL PROTECT LOAMY SAND AND WITH
MINIMUM INFILTRATION RATE OF 3" INCHES PER HOUR.

6" PERFORMED PIP SIZE 36 SUBPUMP (OR APPROVED
EQUIVALENT) SHOULD BE LOCATED AT TOP OF CLASS 2
FILTRATION LAYER WITH PERFORMANCE FROM DOWN.

TOP OF HILL

(C) CATCH BASIN
CITY OF OAKLAND
TYPE 'A' CURB W/NO
OUTER

MAKE CURB
OPENING-SEE
DETAIL A

CLOSE CURB
OPENING SEE
DETAIL B

REMOVE EX CURB

CONSTRUCT NEW CURB
TO MAKE OPENING

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18" LOAMY SAND
MINIMUM INFILTRATION
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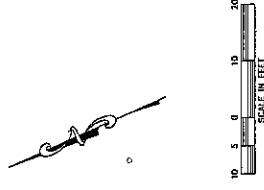
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TOP OF HILL

(C) CATCH BASIN
CITY OF OAKLAND
TYPE 'A' CURB W/NO
OUTER



STORM DRAIN SCHEDULE

STRUCTURE NO.	DESCRIPTION
SIR #1	CENTRAL PERCAST CPRIIB
SIR #2	
SIR #3	

ALL STORM DRAIN PIPE SHALL BE PVC SCH 40 OR BETTER

TREES TO BE REMOVED:
 EUCALIPTUS - E
 OAKS - O
 OTHERS - D

LEGEND
 TREE TO BE REMOVED

