ATTACHMENT A

Project Drawings for Master Plan Amendment
March 8, 2011

Oakland Zoo *California!* Project

Purpose of the Project

With the treasure of park land available for use and immediately adjacent to the current Zoo site, the Oakland Zoo has a unique opportunity to break new ground in conservation and educadon by building an exhibit dedicated to the natural heritage of the state of Califomia. The *California!* Project will redefine the Oakland Zoo as a wildlife park with statewide significance, while boosting the Zoo's capacity to reach our audiences with new and enhanced education and conservarion programming. The project will firmly establish our role as a leader in conservation education and stewardship of the natural world, while broadening the Zoo's collaborative relationships with scientists, and environmental and conservation-based organizations working to preserve, protect, and promote our state's nahural history.

Additionally, a new Veterinary Medical Hospital will replace the small, aging facility with a modem hospital that will have the capacity to care for our existing animals as well as the new animals in the *California Trail* Exhibit, and will increase our ability to contribute to the scientific community through research projects and veterinary training.

The goals of the project are to:

- Inspire a generation of future conservationists, scientists, and educators;
- Educate learners of all ages through exceptional animal and botanical exhibits and interpretive materials supplemented by education programming;
- Lead by example by setting the standard for best practices in animal management and animal care;
- Contribute to the conservationist and scientific communities by developing new research projects and building new partnerships; and
- Present conservation as an actionable problem and impact changes in the behavior of our guests and program participants, resulting in a reduction of the ecological footprint left behind by their activities and consumption habits.

Project Overview

The *California!* Project is an approximately 60-acre extension of the Oakland Zoo which will include the *California Trail* Exhibit and a new modem Veterinary Medical Hospital. The extension will be located on the hillside above the current zoo and parking lot. An electric gondola transportation system will provide guest access to the site. The extension will include a 40-acre ecoiogical recovery zone and a 20-acre exhibit zone with animal exhibits, an interpretive overlook with dramatic vistas of the Bay, Califomia Interpretive Center, a camping area with platform tents for ovemight experiences, and a children's activity zone.

The *California Trail* Exhibit

The *California Trail* Exhibit will be focused on the theme of *California in Constant Change*. Five major animal zones – grizzly bear, wolf, black bear, mountain lion, and jaguar – will be supplemented by a variety of smaller animals and other exhibits as well as an activity zone where children will engage in hands-on learning and play. The Zoo has created a vision of how the hillside terrain might look if transformed into a series of natural spaces where guests of all ages can see California through the eyes of the earliest settlers. The animal exhibits and interpretive materials will highlight the delicate balance among plants, animals, and humans, and the impact of change on all three. Wandering on a trail passing through a series of habitats displaying the flora and fauna of California as it was before human settlement began to encroach on the delicate biodiversity of our state, guests will be filled with wonder, discovery, and inspiration.

A rich array of educational programs, from classes supplementing the California School curriculum to on-site exhibits and live demonstrations, will complement the plant and animal story. Three new classrooms located in the California Interpretive Center will house expanded programming, increasing our capacity to serve school groups from the entire San Francisco Bay Area. The California Interpretive Center will also include an area for indoor educational exhibits and a gathering place for guests arriving to and departing from the exhibit.

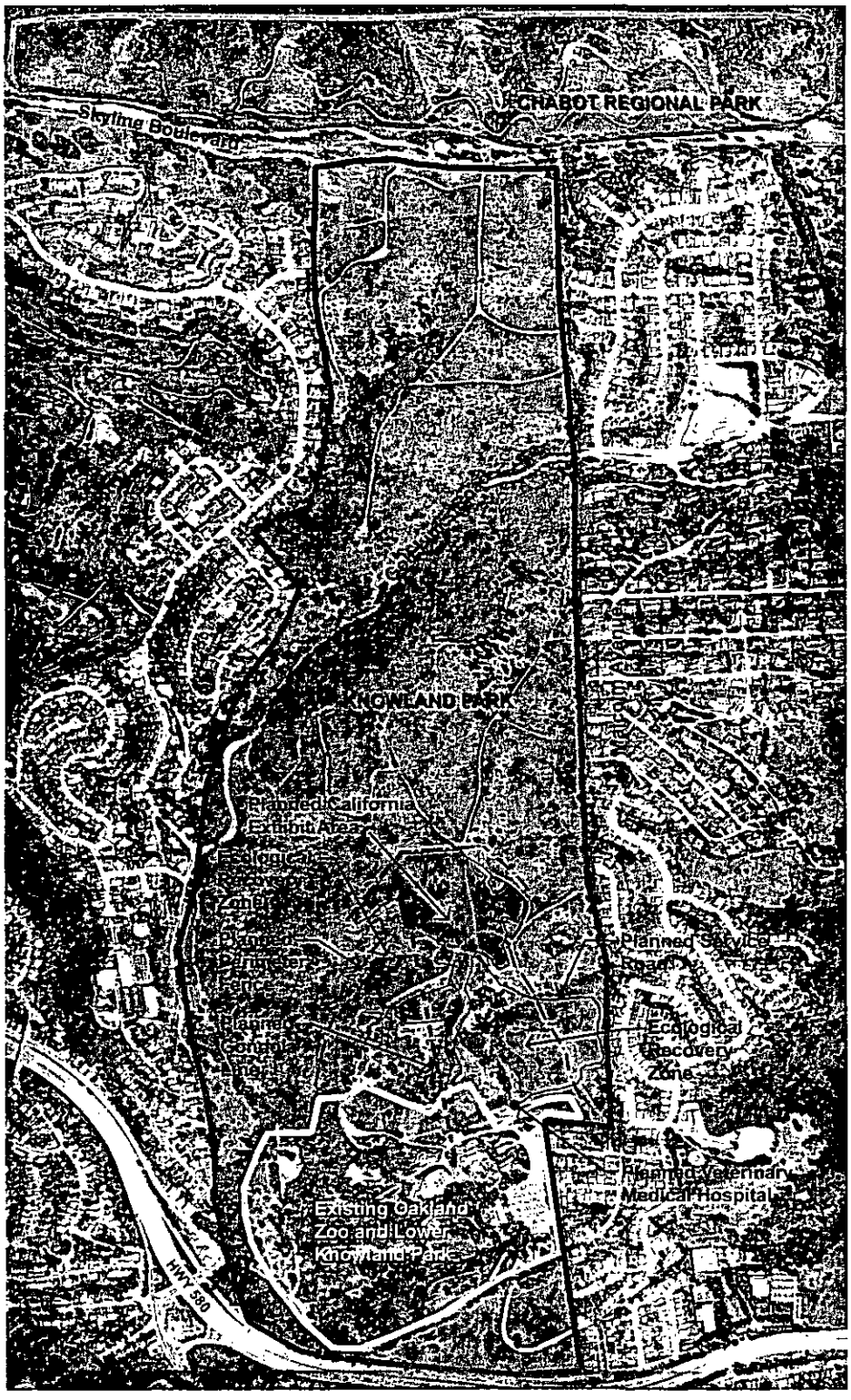
A campsite with a beautiful birds-eye view of the San Francisco Bay and 11 tent platforms, will be constructed a short distance from the *California Trail* Exhibit for overnight stays.

The Veterinary Medical Hospital

In preparation for the *California!* Project, a 17,000 square-foot new Veterinary Medical Hospital will replace the current undersized and aging facility. The new Hospital will provide for standard diagnosis, treatment, housing and quarantine for most sizes and species of animals while allowing for research and care of threatened and endangered species such as the California Condor, the Western Pond Turtle, and other native California species. It is a critical component for maintaining the Zoo's dedication to best practices in animal management and care. The new Hospital will also enable animal research and teaching opportunities with the University of California at Davis School of Veterinary Medicine and partnership opportunities for other facilities and institutions throughout the United States. Consistent with the Zoo's dedication to conservation, the building will incorporate green and sustainable construction.

Oakland Zoo in Knowland Park
May 27, 2010

Not to Scale



1998 OAKLAND CITY COUNCIL APPROVED MASTER PLAN FOR CALIFORNIA EXHIBIT

AREA CALCULATIONS

61.54 A	APPROVED DECEMBER 1998 ZOO MASTER PLAN AREA FOR CALIFORNIA EXHIBIT
14.44 A	EXISTING BISON/TULE ELK EXHIBITS WHICH WILL BE INCLUDED IN CALIFORNIA EXHIBIT
	CANYON EXHIBIT
3.7 A	RIVER EXHIBIT
0.23 A	WOODLAND EXHIBIT
0.54 A	CALIFORNIA INTERPRETIVE CENTER
	OFF-SITE BREEDING AREA
	LOOP ROAD AND SHUTTLE BUS SYSTEM
	PAVING EXISTING MAINTENANCE ROAD

pja

April 8, 2010

OAKLAND ZOO

2010 MODIFICATIONS TO CALIFORNIA EXHIBIT

AREA CALCULATIONS

56.26 A	MODIFICATIONS TO 2010 MASTER PLAN AREA FOR CALIFORNIA EXHIBIT
14.44 A	EXISTING BISON/TULE ELK EXHIBITS WHICH WILL BE INCLUDED IN CALIFORNIA EXHIBIT
	PROPOSED NEW ANIMAL EXHIBIT AREA
0.36 A	CALIFORNIA INTERPRETIVE CENTER
3.25 A	PAVING EXISTING MAINTENANCE ROAD
	VETERINARY MEDICAL HOSPITAL
0.72 A	OVERNIGHT CAMPING AREA AND PATH
0.02 A	PROPOSED GONDOLA ALIGNMENT (NOT TO SCALE)
0.26 A	PROPOSED ACCESS PATH
	PROPOSED PERIMETER FENCE RE-ALIGNED FOR 2010 PLAN
	1998 APPROVED MASTER PLAN BOUNDARY AND PERIMETER FENCE

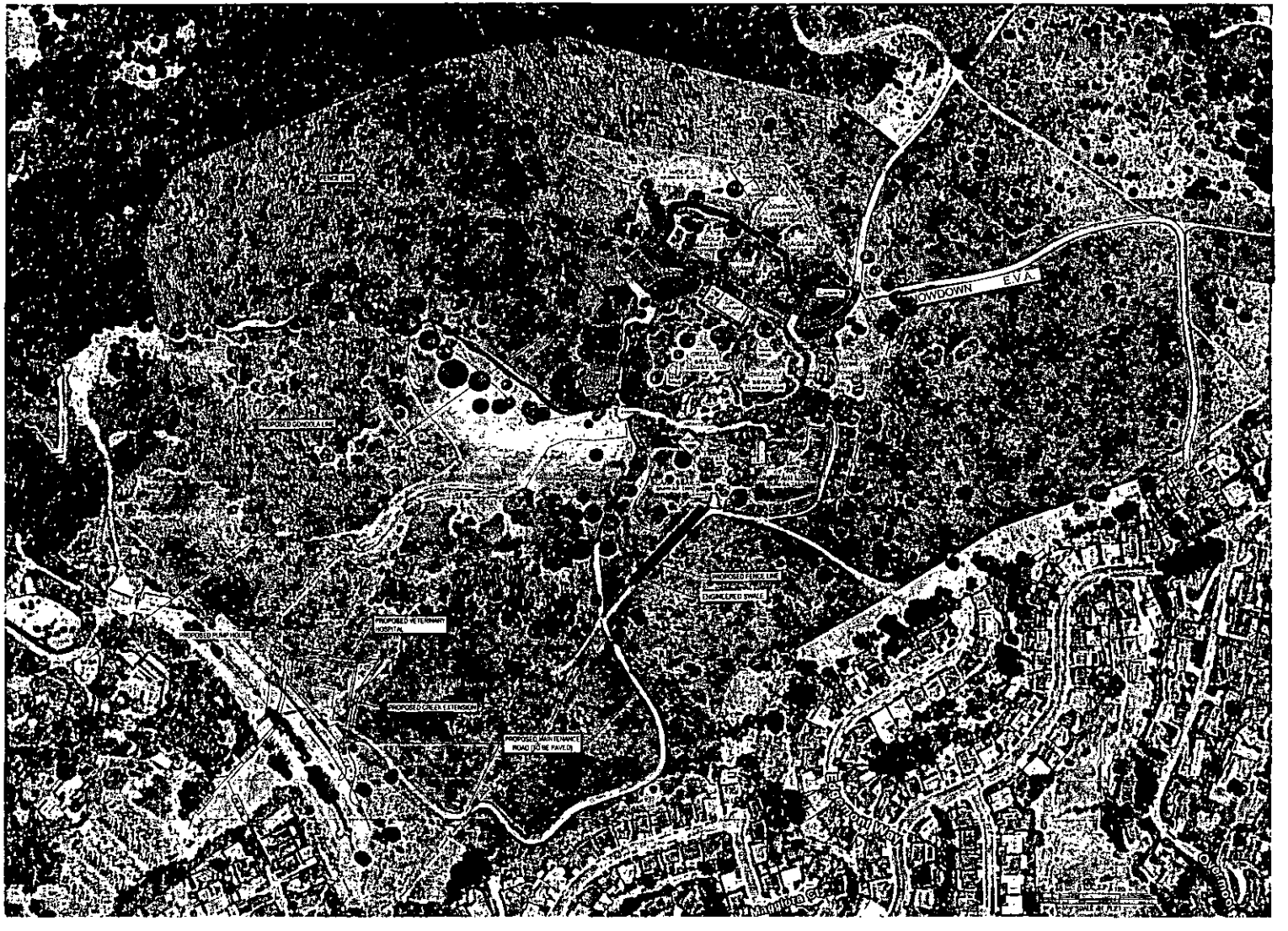
pja

June 21, 2010

OAKLAND ZOO

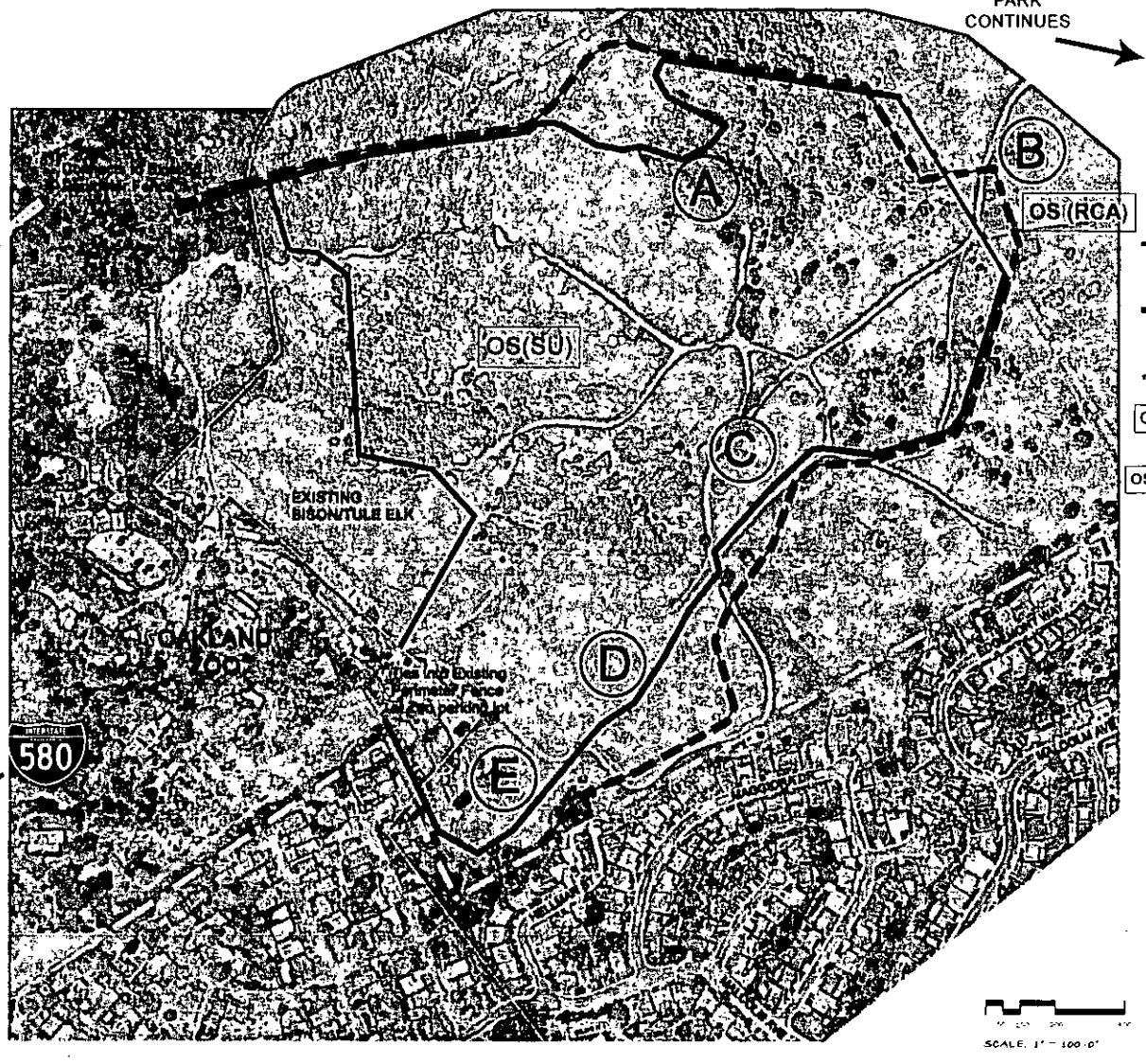
2010 Modifications to Oakland Zoo California! Exhibit

March 3, 2011



OAKLAND ZOO MASTER PLAN PREVIOUSLY APPROVED (1998) AND PROPOSED PERIMETER FENCE LINE

May 27, 2010



OVERVIEW

This perimeter fence line map has been prepared for the purposes of public review. The proposed 2010 perimeter fence line has been modified following careful review of site characteristics and informal input from the community and City of Oakland staff in efforts to refine the precise location of the perimeter fence.

LEGEND

- PROPOSED 2010 PERIMETER FENCE LINE (56.26 ACRES WITHIN FENCE LINE)
- APPROVED 1998 PERIMETER FENCE LINE (61.54 ACRES WITHIN FENCE LINE)
- ZONING BOUNDARY LINE
- OS(SU) OPEN SPACE (SPECIAL USE) ZONE
- OS (RCA) OPEN SPACE (RESOURCE CONSERVATION AREA) ZONE

A Proposed fence line adjusted in to limit incursion into chaparral habitat. Fence line to follow the interface between chaparral habitat and oak trees.

B Proposed fence line to follow City of Oakland Open Space (Special Use) Zone boundary.

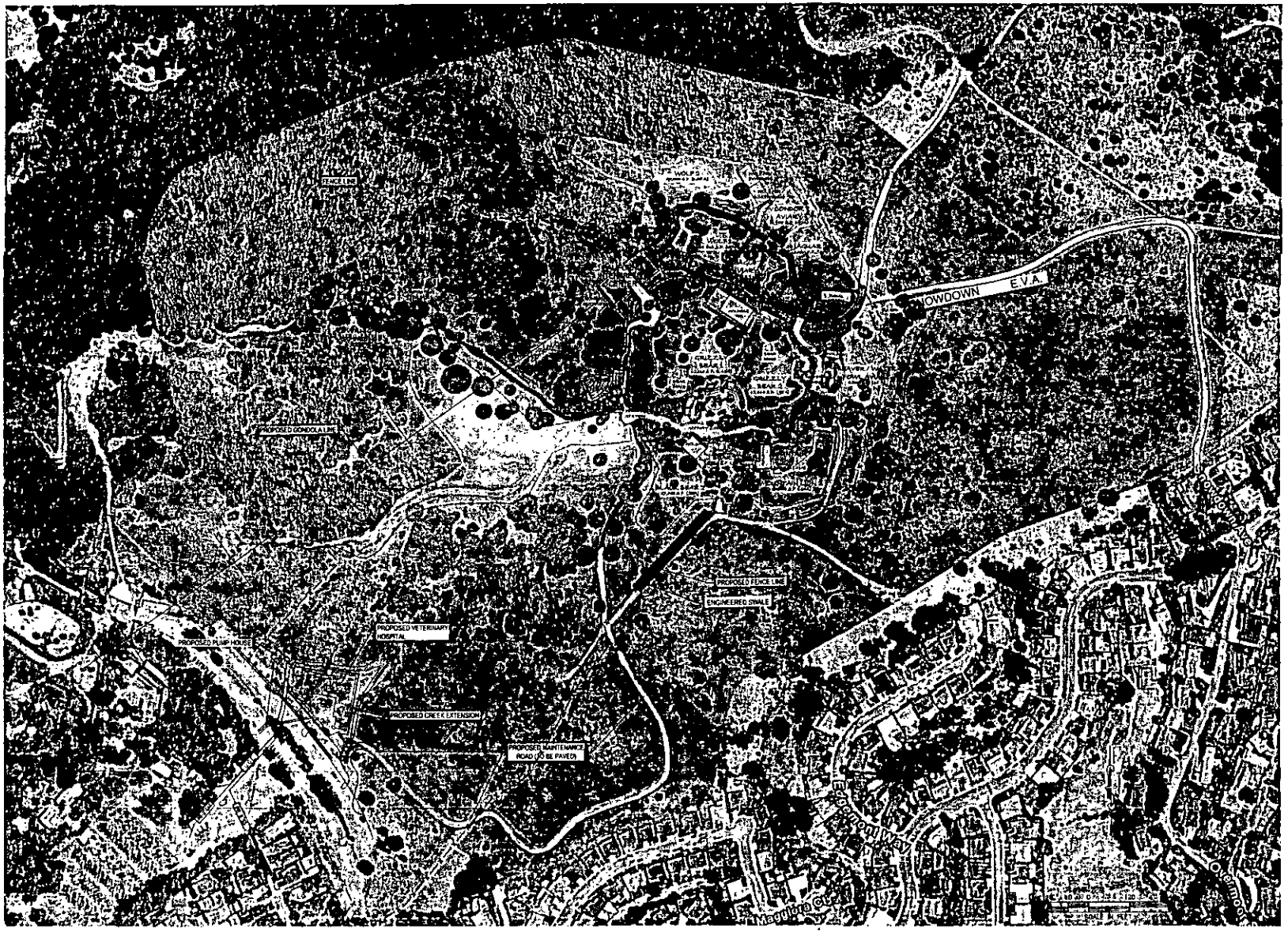
C Proposed fence line moved inward to preserve access for public on existing fire road to access knolls.

D Proposed fence line straightened and moved away from nearby houses.

E Proposed fence line moved inward and away from nearby houses and drainage area.

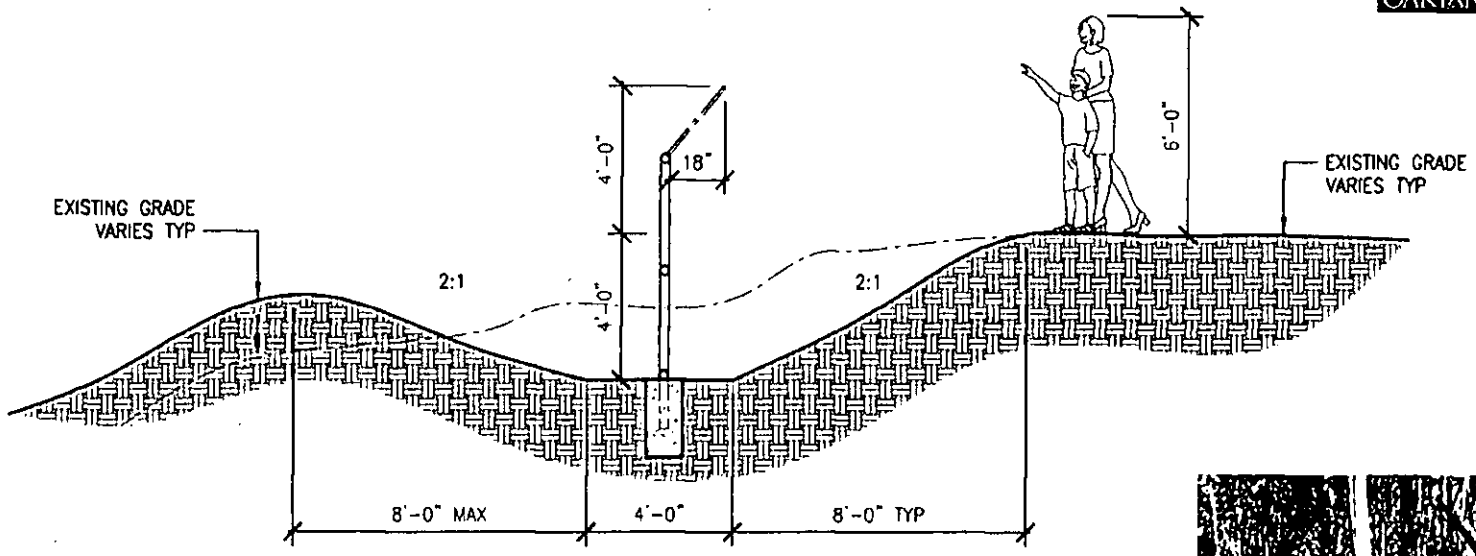
2010 Proposed Specific Location of Perimeter Fence

March 3, 2011



2010 Proposed Specific Location of Perimeter Fence

December 20, 2010



Engineered Swale
Referenced in red on site.

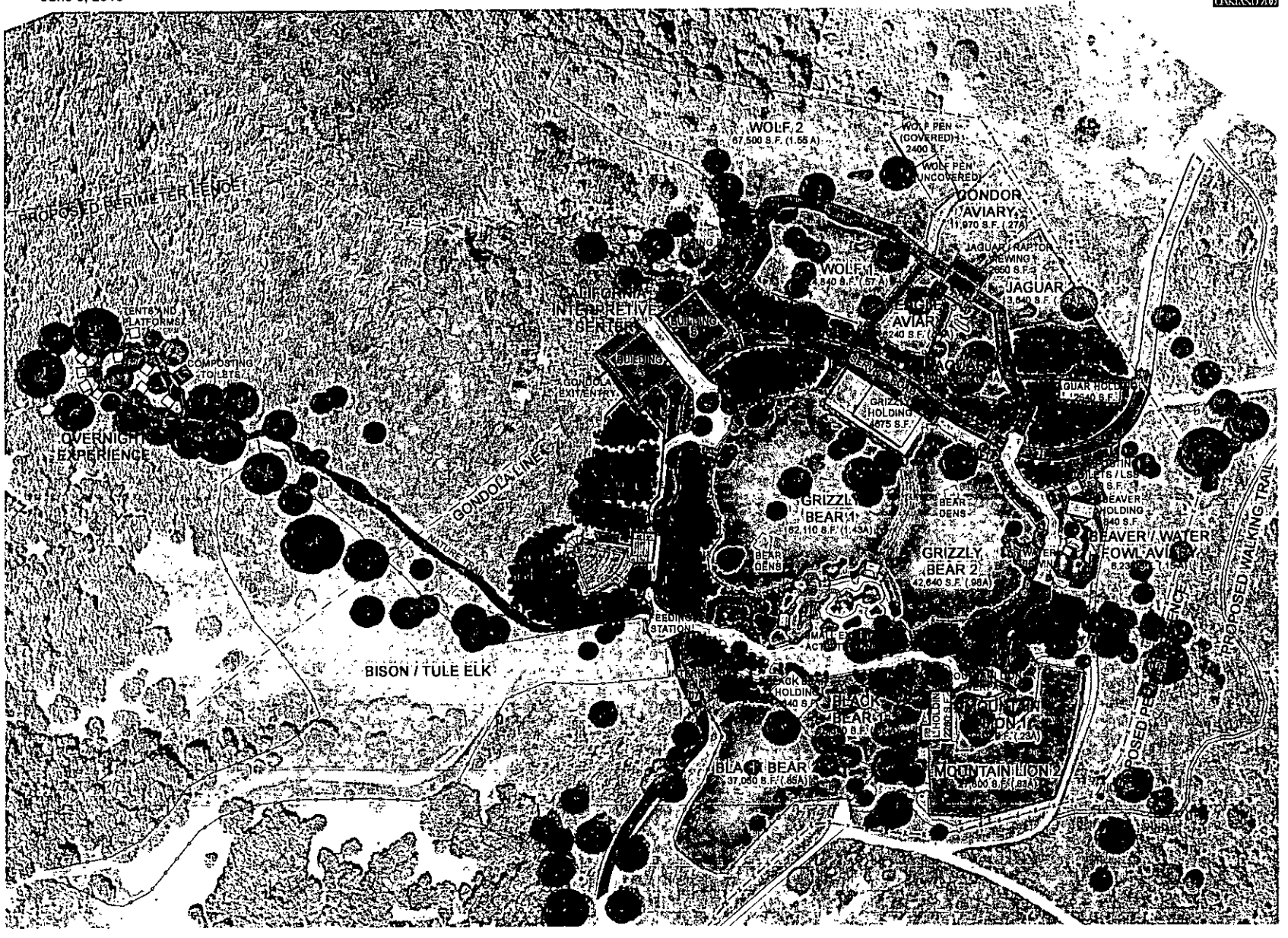
Perimeter Fence
TYPICAL REPRESENTATIVE IMAGE OF PERIMETER FENCE

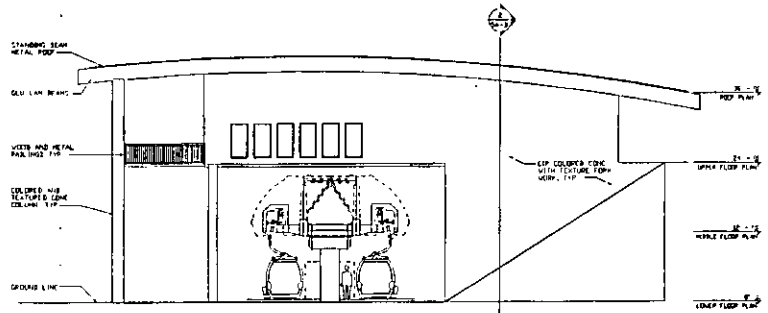
Proposed California Exhibit
Building Footprints and Useable Area Square Footage
June 21, 2010

BUILDING	AREA
CALIFORNIA INTERPRETIVE CENTER:	
BUILDING A LOWER LEVEL	6160 S.F.
BUILDING B LOWER LEVEL	4470 S.F.
BUILDING A MIDDLE LEVEL	0 S.F.
BUILDING B MIDDLE LEVEL	4470 S.F.
BUILDING A UPPER LEVEL	5040 S.F.
BUILDING B UPPER LEVEL	5320 S.F.
INTERPRETIVE CENTER FOOTPRINT	15590 S.F.
COVERED WOLF PEN BUILING FOOTPRINT	2400 S.F.
GRIZZLY HOLDING BUILDING FOOTPRINT	4675 S.F.
JAGUAR / RAPTOR VIEWING BLD FOOTPRINT	2650 S.F.
JAGUAR HOLDING BUILDING FOOTPRINT	2540 S.F.
COMPOSTING TOILET / LSS BUILDING FOOTPRINT	840 S.F.
BEAVER HOLDING BUILDING FOOTPRINT	840 S.F.
MOUNTAIN LION HOLDING BUILDING FOOTPRINT	2280 S.F.
BLACK BEAR HOLDING BUILDING FOOTPRINT	2640 S.F.
INTERPRETIVE KIOSK BUILDING FOOTPRINT	2070 S.F.

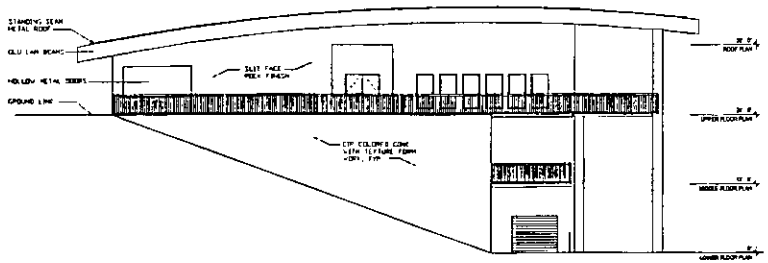
Proposed Master Plan Amendment:
Site Plan for Proposed California Exhibit
June 8, 2010

SCALE: 1" = 40'-0"

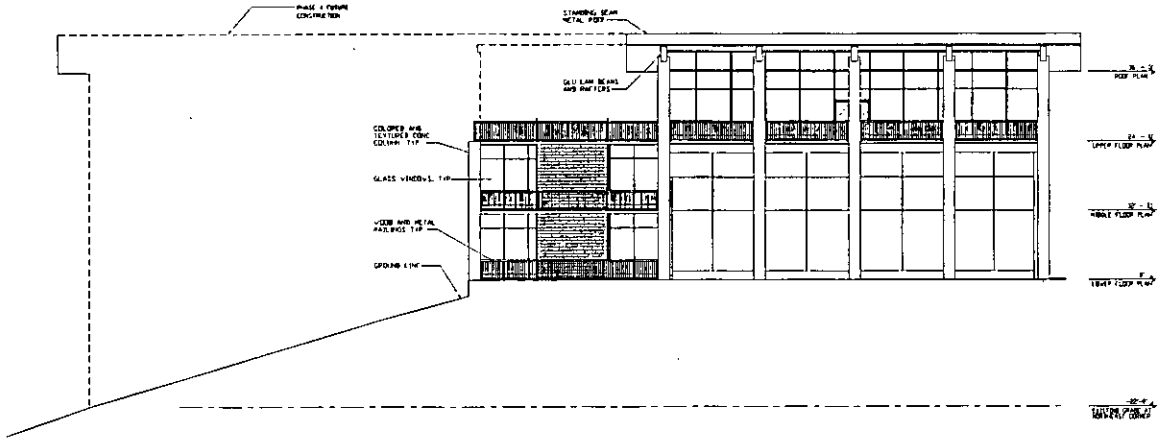




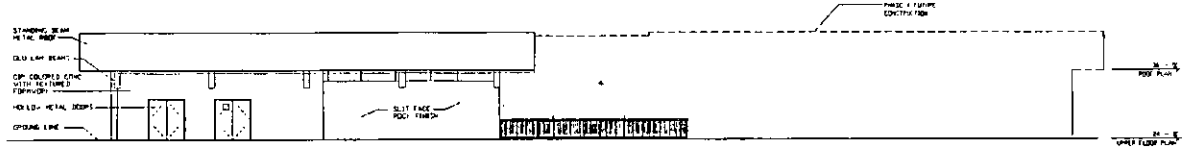
BUILDING A - SOUTHWEST ELEVATION 4



BUILDING B - NORTHEAST ELEVATION 1



BUILDING A - NORTHWEST ELEVATION 2



BUILDING A - SOUTHEAST ELEVATION 3

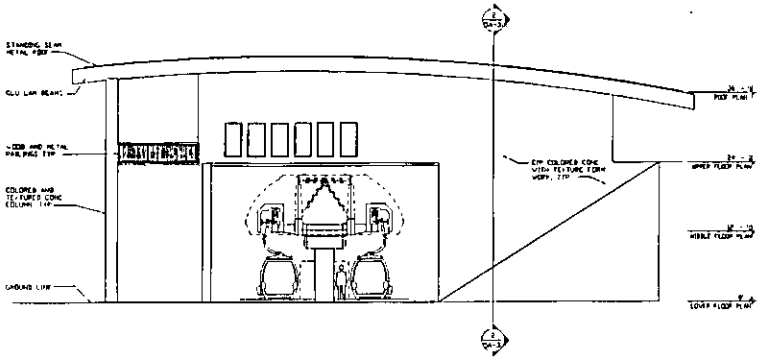
OAKLAND ZOO - OALIFORNIA BXHIBIT

Proposed Master Plan Amendment

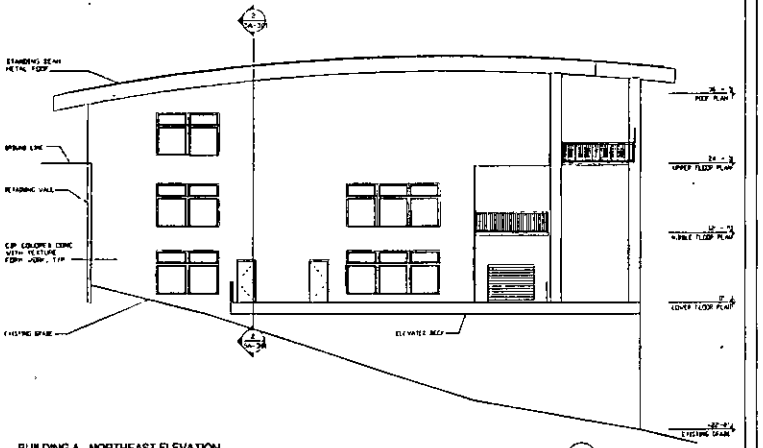
	ISSUE / REVISION

CALIFORNIA INTERPRETIVE CENTER
Exterior Elevations

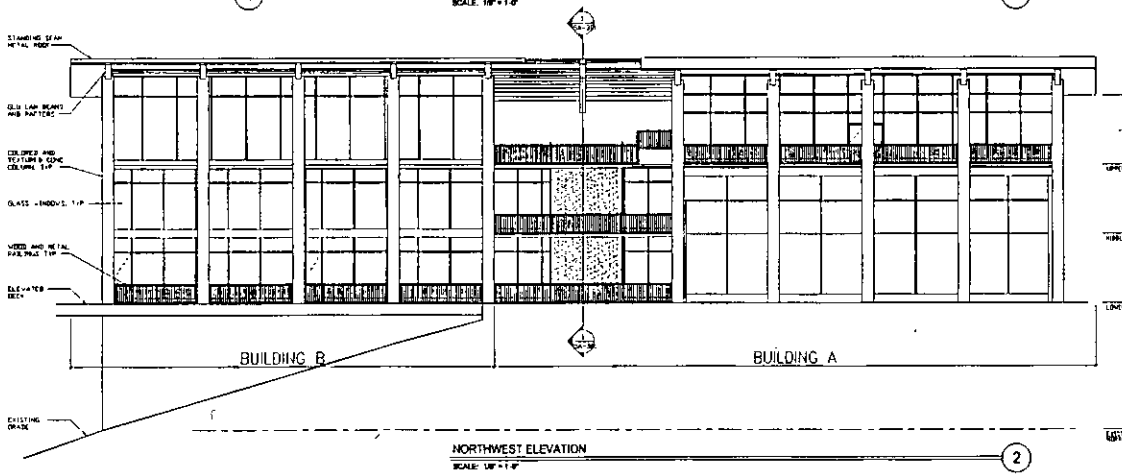
07186	5A-201
1/8" = 1'-0"	
JUNE 30, 2016	



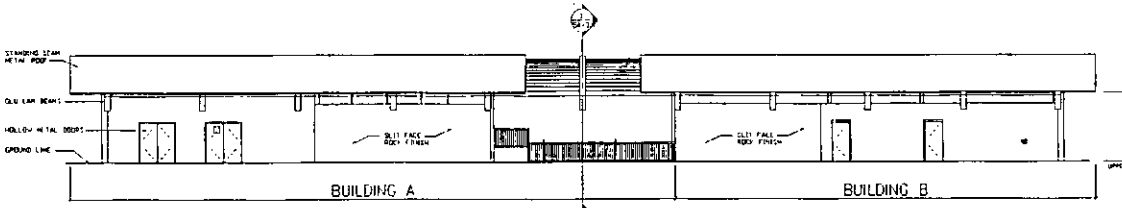
BUILDING A - SOUTHWEST ELEVATION 4



BUILDING A - NORTHEAST ELEVATION 1



NORTHWEST ELEVATION 2



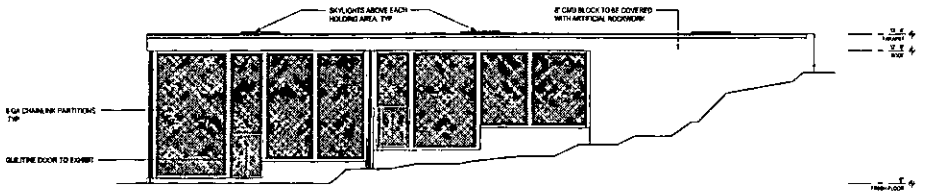
SOUTHEAST ELEVATION 3

OAKLAND ZOO -
CALIFORNIA EXHIBIT

Proposed Master Plan Amendment

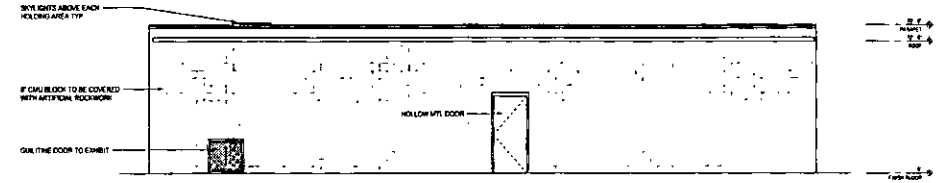
CALIFORNIA INTERPRETIVE CENTER
Exterior Elevations

5A-202



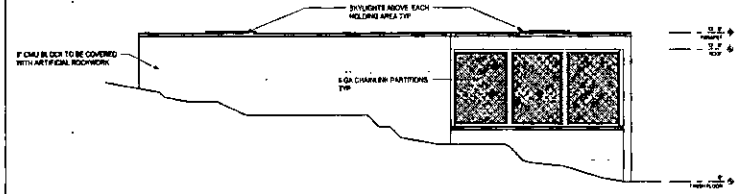
SOUTHEAST ELEVATION

SCALE 1/4" = 1'-0" (3)



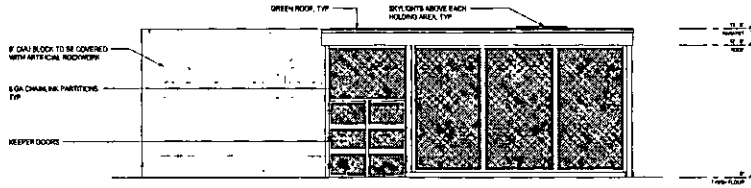
NORTHWEST ELEVATION

SCALE 1/4" = 1'-0" (2)



SOUTHWEST ELEVATION

SCALE 1/4" = 1'-0" (4)



NORTHEAST ELEVATION

SCALE 1/4" = 1'-0" (1)

OAKLAND ZOO -
CALIFORNIA EXHIBIT
ANIMAL HOLDING
BUILDINGS

pja

Proposed Master Plan Amendment

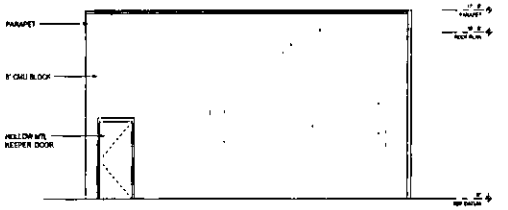
BLACK BEAR
HOLDING AREA

07160

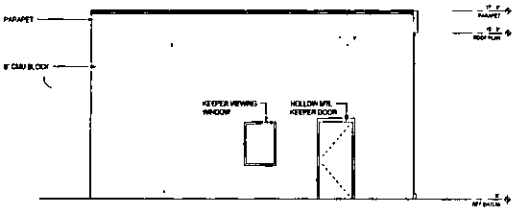
1/4" = 1'-0"

MAY 4, 2010

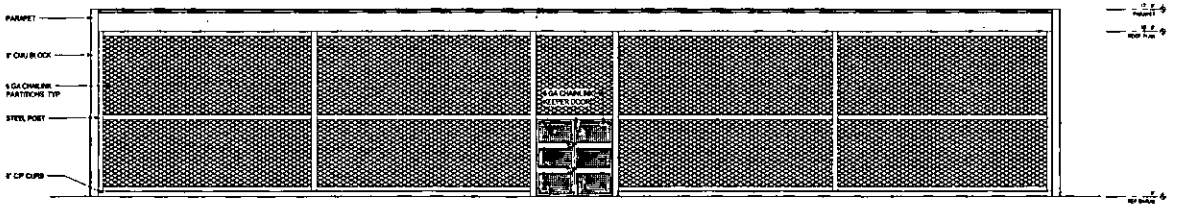
1A-201



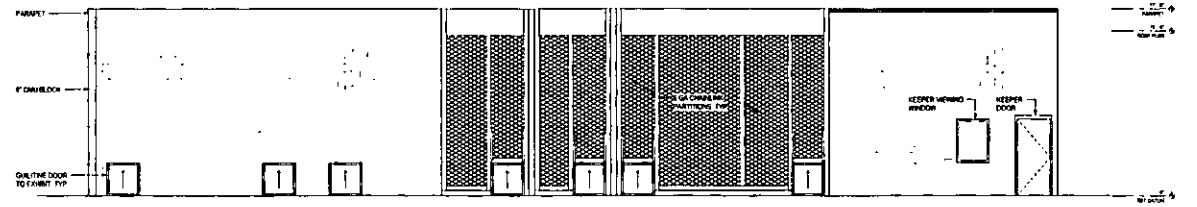
West Elevation
SCALE 1/4" = 1'-0" 4



East Elevation
SCALE 1/4" = 1'-0" 3



South Elevation
SCALE 1/4" = 1'-0" 2



North Elevation
SCALE 1/4" = 1'-0" 1

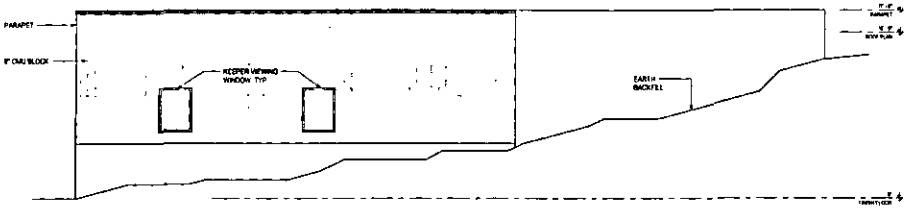
OAKLAND ZOO -
CALIFORNIA EXHIBIT
ANIMAL HOLDING
BUILDING

pja

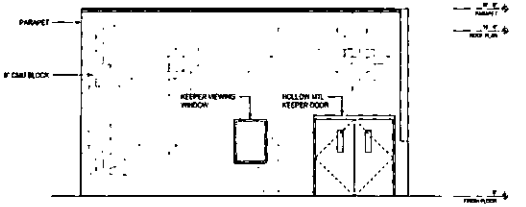
Proposed Master Plan Amendment

JAGUAR HOLDING BUILDING
EXTERIOR ELEVATIONS

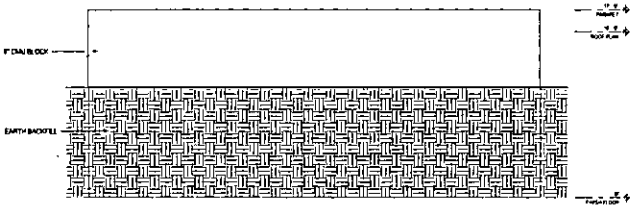
2A-201



West Elevation 3



North Elevation 2



South Elevation 4

East Elevation 1

OAKLAND ZOO - CALIFORNIA EXHIBIT ANIMAL HOLDING BUILDINGS

pja

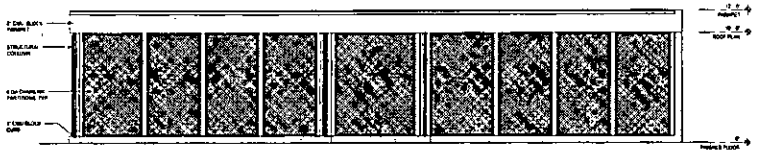
Proposed Master Plan Amendment

MOUNTAIN LION EXTERIOR ELEVATIONS

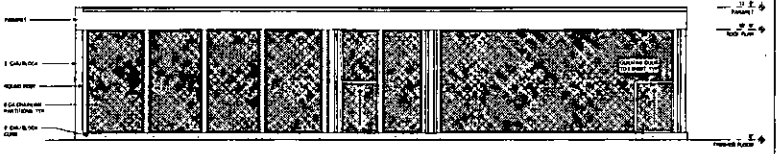
07.66

DEC 17 2007

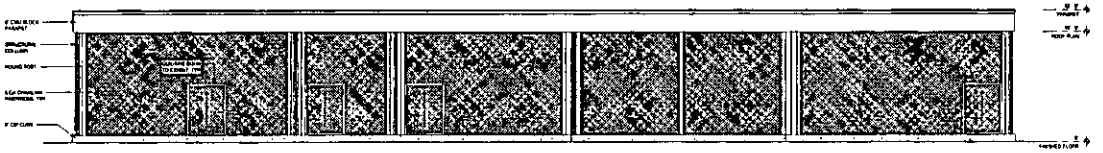
4A-201



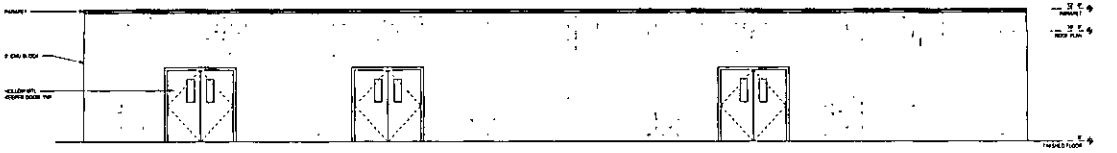
Northwest Elevation (4)



Southeast Elevation (3)



Southwest Elevation (2)



Northeast Elevation (1)

OAKLAND ZOO -
CALIFORNIA EXHIBIT
ANIMAL HOLDING
BUILDINGS

pja

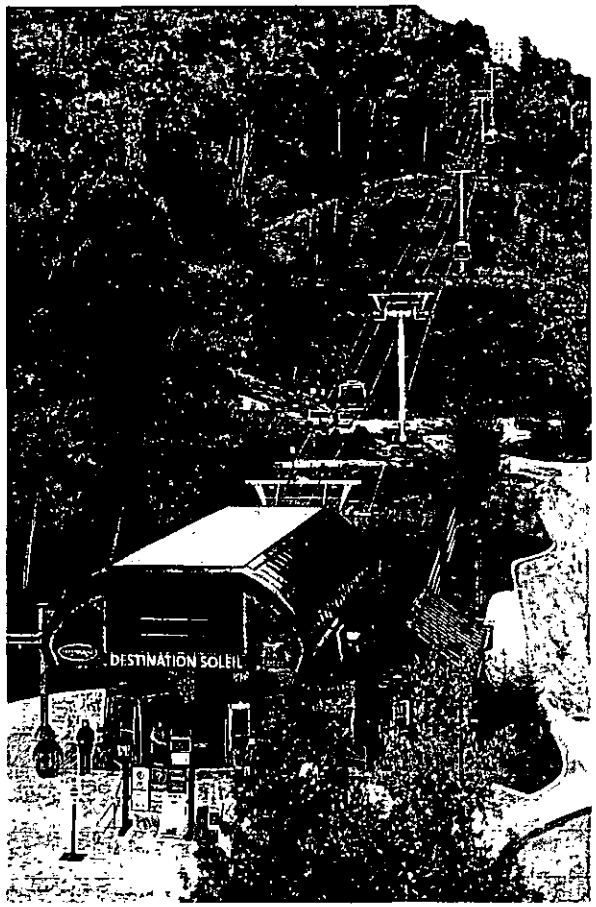
Proposed Master Plan
Amendment

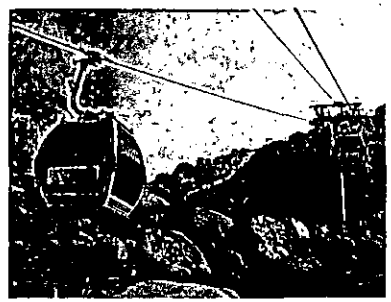
GRIZZLY HOLDING
EXTERIOR ELEVATIONS

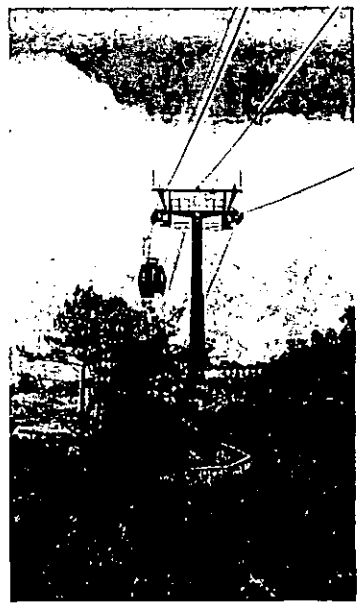
07185

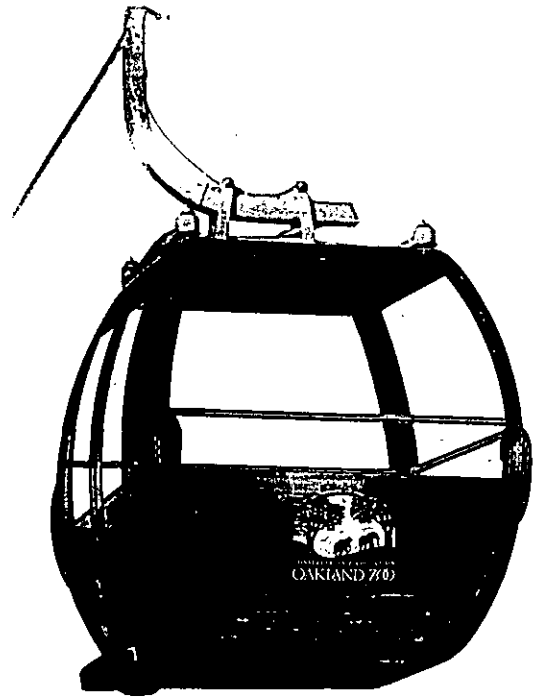
3A-201

Proposed Master Plan Amendment -
Conceptual Representative Sample of Gondola Transportation System
June 1, 2010

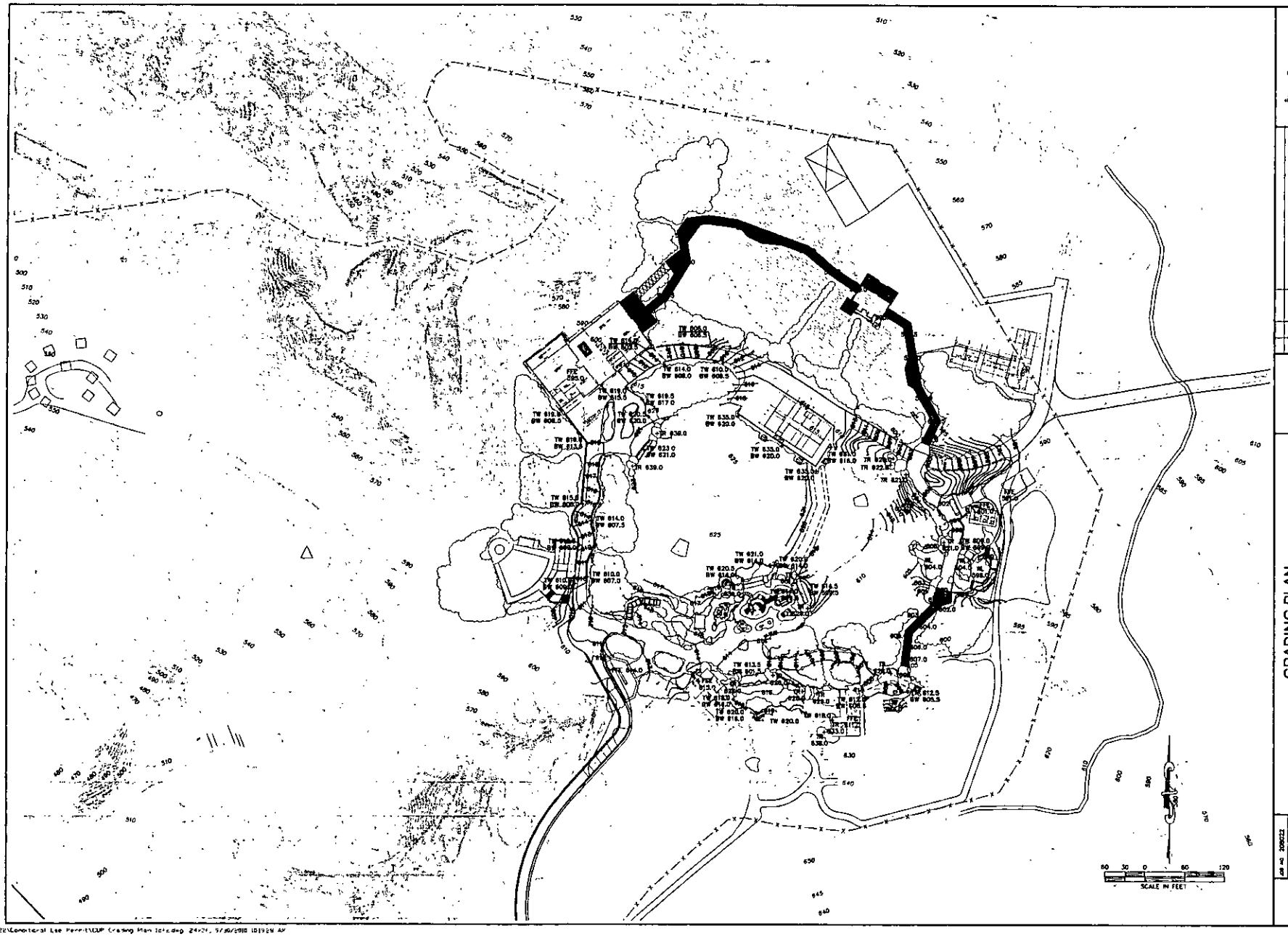








Representative sample of Gondola Terminal Station, Tower Assembly, and Cabin. Tower locations vary in height based on topography. Upper terminal location in California Exhibit will be completely enclosed within the California Interpretive Center's gondola exit and entry section of the building. Lower terminal location will be situated in the existing Zoo. Color of gondola cabins and towers will be forest green and/or other earth tones to blend into surrounding terrain.



ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS

ALIQUOT ASSOCIATES, INC
490 BOULEVARD WAY - 2ND FL
OAKLAND, CA 94610
(510) 501-3101
FAX (510) 801-5171

No.	BY	DATE	REVISIONS

GRADING PLAN

THE CALIFORNIA! EXHIBIT

CUP CM09085 - OAKLAND ZOO

ALAMEDA COUNTY CALIFORNIA

OAKLAND

JOB NO. 2080522
SCALE 1"=60'
DATE 9/28/2010
DESIGN
DRAWN MC
APPROVED

DRAWING NUMBER

G1

1 OF 2

SCALE IN FEET

\\ALIQUOT\Concord Lee Permit\CUP Grading Plan 1st.dwg 24x36, 9/30/2010 10:19:24 AM

VETERINARY MEDICAL HOSPITAL

CUT (CY)	CUT (CY) W/SHRINKAGE	FILL (CY)	DIFFERENCE (CY)
9,034	8,258	8,258	0

THE CALIFORNIA! EXHIBIT
(INCL. MAINTENANCE RD.)

CUT (CY)	CUT (CY) W/SHRINKAGE	FILL (CY)	DIFFERENCE (CY)
16,628	14,965	5,034	9,931

BALANCED SITE

CUT (CY)	CUT (CY) W/SHRINKAGE	FILL (CY)	DIFFERENCE (CY)
11,348	10,214*	10,214*	0

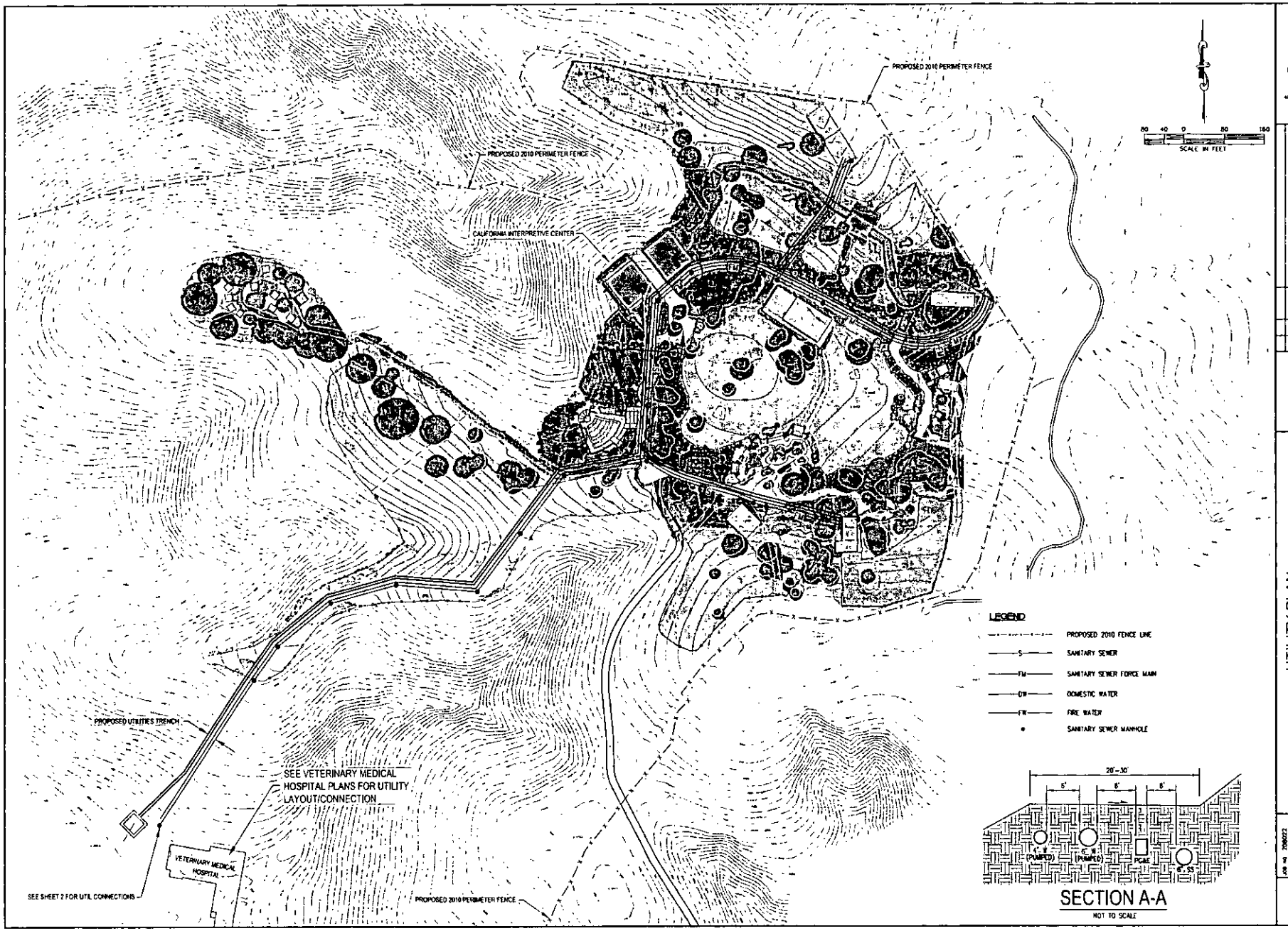
*ADJUSTED SITE WITH NO OFF-HAUL.

ALIQUOT

Planners
Civil Engineers
Surveyors

Aliquot Associates, Inc.
1390 S. Main St. - Ste. 310
Walnut Creek, CA 94596
Telephone: (925) 476-2300
Fax: (925) 476-2350

Subject DIRT QUANTITIES CUP CM09085
Job No. 208022 Scale NO SCALE
By MC Date 6/15/2010 Chkd. VJD
SHEET 1 OF 1



SECTION A-A
NOT TO SCALE

ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS
ALIQUOT ASSOCIATES, INC
480 ROLLY HARD WAY - 2ND FL
OAKLAND, CA 94610
(510) 601-3100
FAX (510) 601-3171

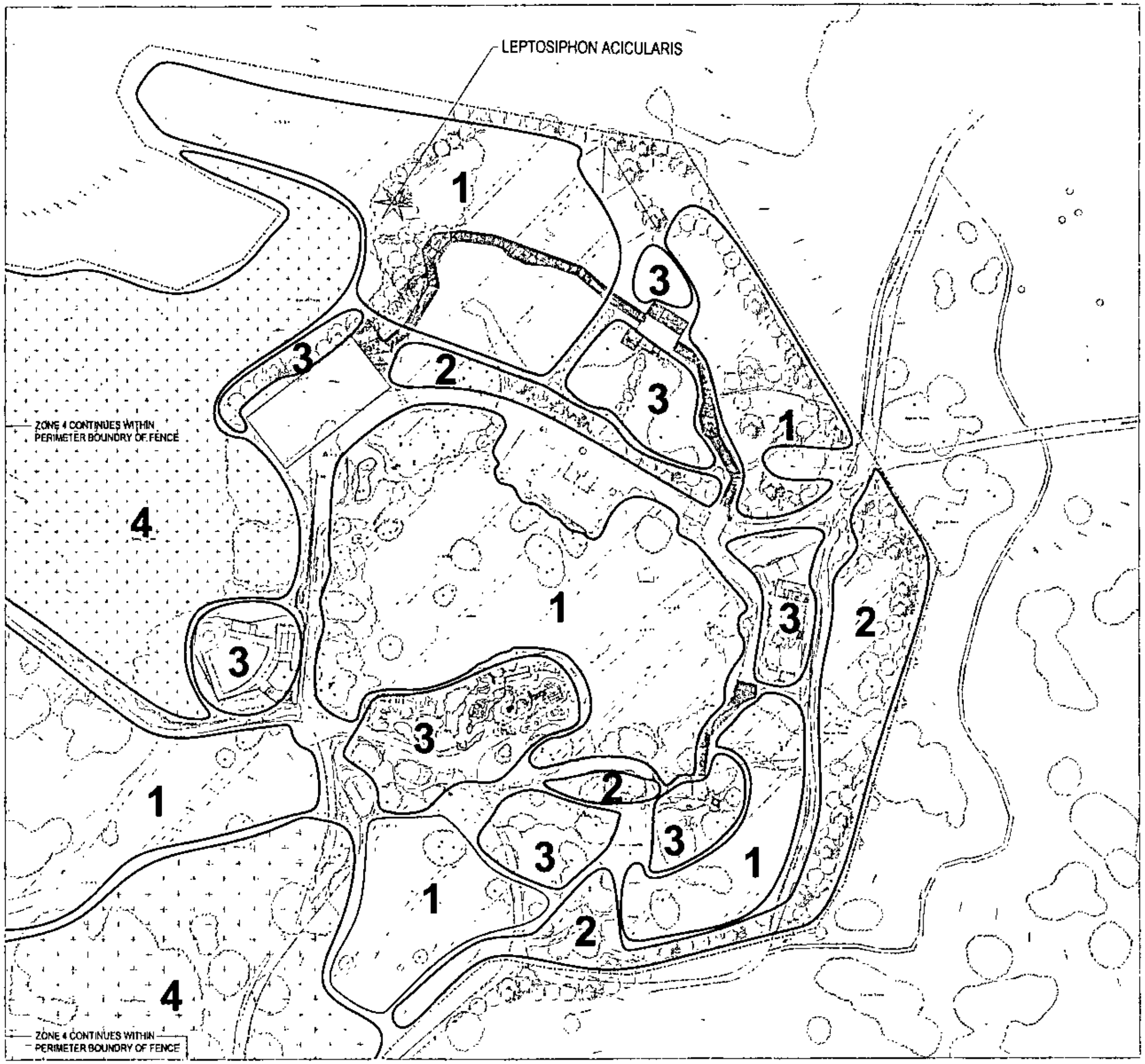
NO.	BY	DATE	REVISIONS

UTILITY PLAN
THE CALIFORNIA EXHIBIT
CUP CM09085 - OAKLAND ZOO

OAKLAND — ALAMEDA COUNTY — CALIFORNIA

JOB NO. 2006022
SCALE 1"=80'
DATE 9/28/2010
DESIGN
DRAWN MC
APPROVED
DRAWING NUMBER

1
1 of 2



SCHEMATIC PLANTING PLAN DIAGRAM
SCALE: 1" = 50'-0"

LEGEND:

SYMBOL	DESCRIPTION
	NEW NATIVE DECIDUOUS TREE
	NEW NATIVE BROADLEAF EVERGREEN TREE
	EXISTING TREE & SHRUB CANOPY
	EXISTING PLANT SPECIES - PROTECTION AND MONITORING MEASURES TO BE IMPLEMENTED
	PLANTING SCHEMATIC 1: • RETAIN ALL NATIVE PLANT SPECIES • REMOVE ALL HIGHLY INVASIVE NON-NATIVE PLANT SPECIES • PROVIDE ADDITIONAL PLANTINGS OF NATIVE TREES, SHRUBS, & GRASSES FOR HABITAT ENHANCEMENT. • NO GRADING • ANIMAL HABITAT
	PLANTING SCHEMATIC 2: • RETAIN ALL NATIVE PLANT SPECIES • REMOVE ALL HIGHTLY INVASIVE NON-NATIVE PLANT SPECIES • PROVIDE ADDITIONAL PLANTINGS OF NATIVE TREES, SHRUBS, & GRASSES FOR HABITAT ENHANCEMENT. • NO GRADING & NO ANIMALS
	PLANTING SCHEMATIC 3: • PRESERVE ALL NATIVE TREES • REMOVE ALL HIGHLY INVASIVE NON-NATIVE PLANT SPECIES • PROVIDE HABITAT ENHANCEMENT BY REPLANTING DISTURBED AREAS WITH NATIVE TREES, SHRUBS, & GRASSES • GRADING • ANIMAL HABITAT
	HABITAT PROTECTION AND ENHANCEMENT ZONE 4: • NATURAL ARES TO BE ENHANCED THROUGH INVASIVE SPECIES REMOVAL & NATIVE ENHANCEMENT PLANTINGS. • TREATMENT AREA FOR ENHANCEMENT WILL BE DEFINED AS PART OF THE HABITAT ENHANCEMENT PLAN • PROVIDE ADDITIONAL PLANTINGS OF NATIVE TREES, SHRUBS, & GRASSES FOR HABITAT ENHANCEMENT.

OAKLAND ZOO

OAKLAND ZOO CALIFORNIA EXHIBIT

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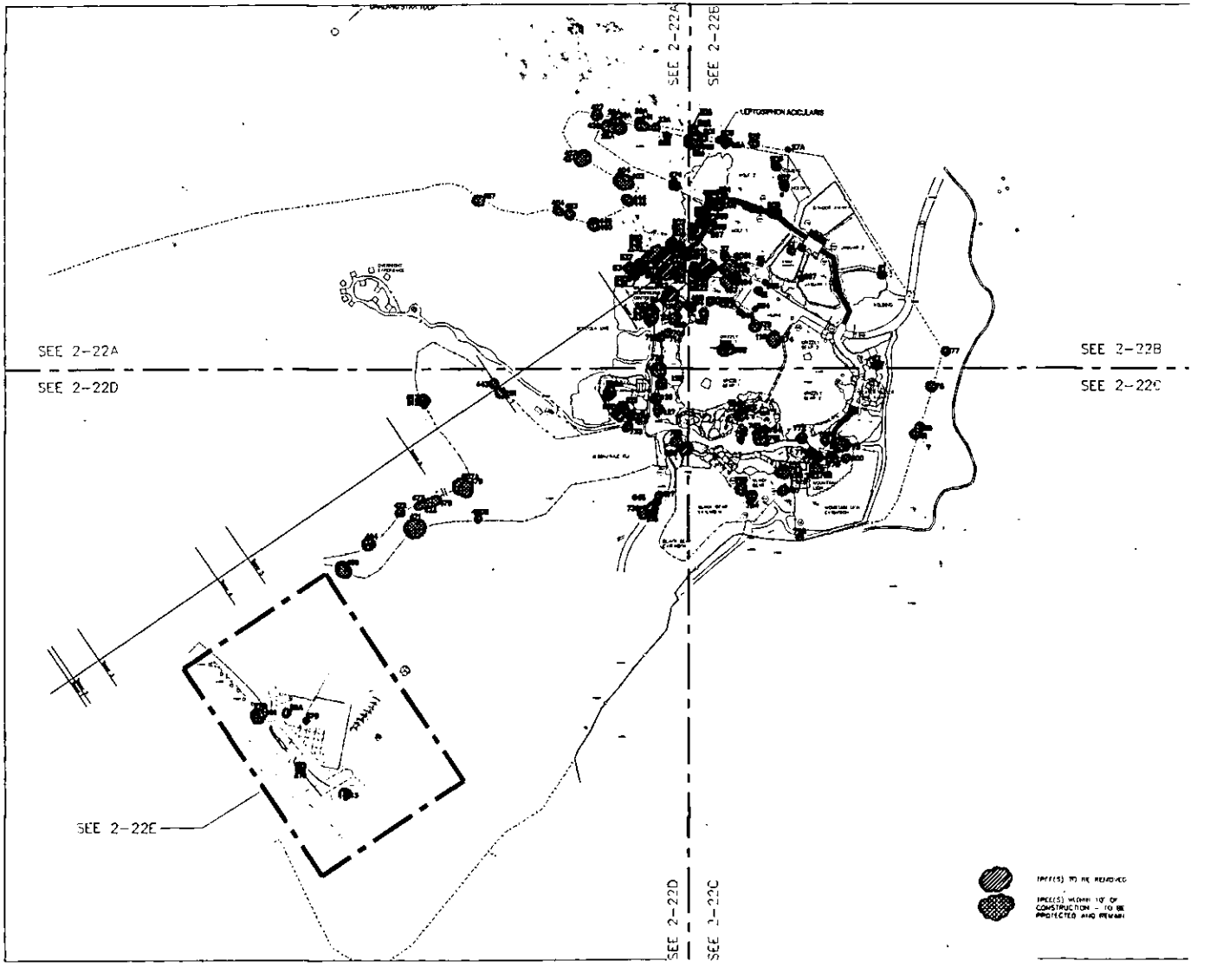
SD

SCHEMATIC PLANTING PLAN

1"=50'-0"

1



SCHEMATIC TREE IMPACT DIAGRAM
SCALE: 1" = 60'-0"

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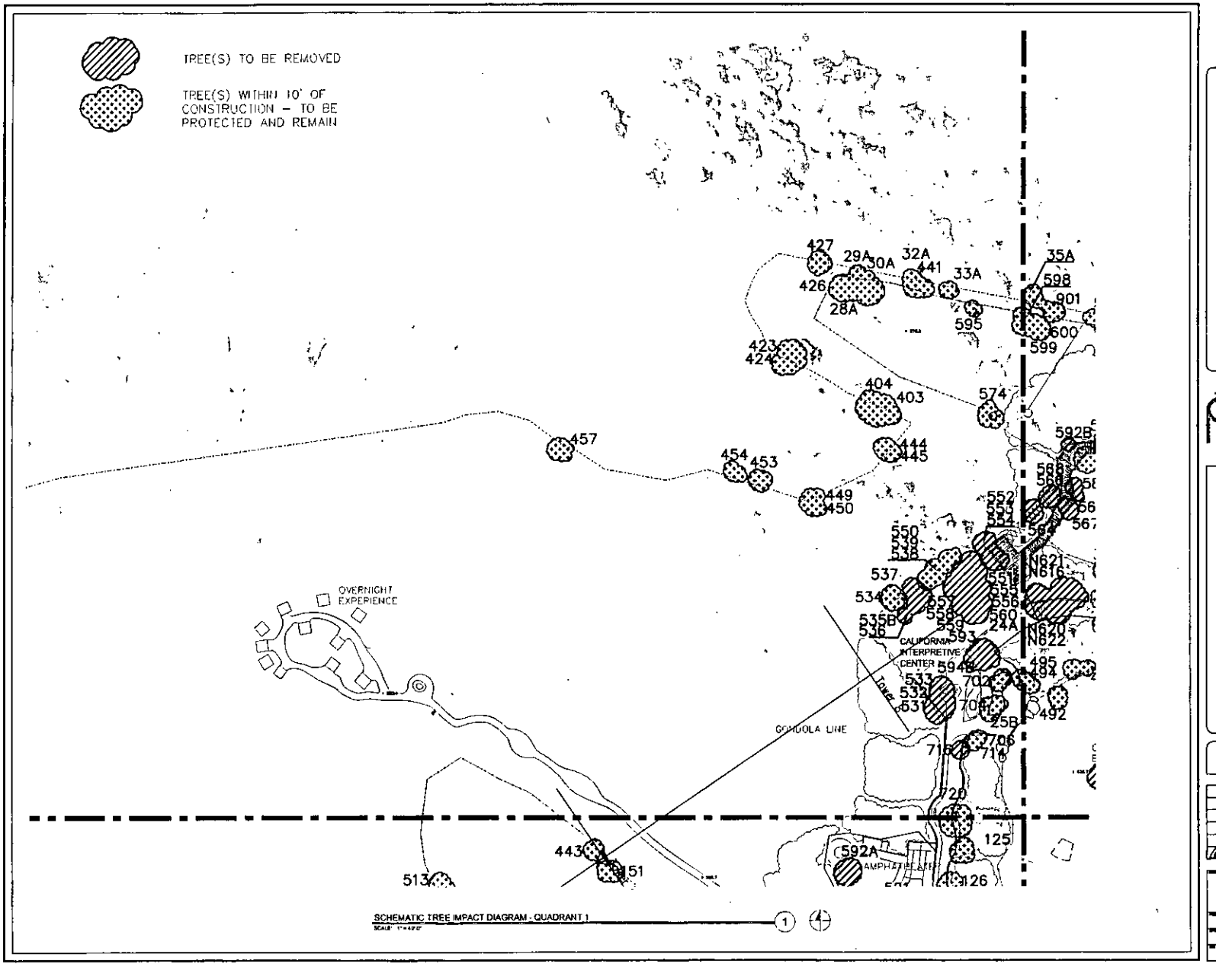
SCHEMATIC TREE IMPACT DIAGRAM

07186
1"=60'-0"
2-22



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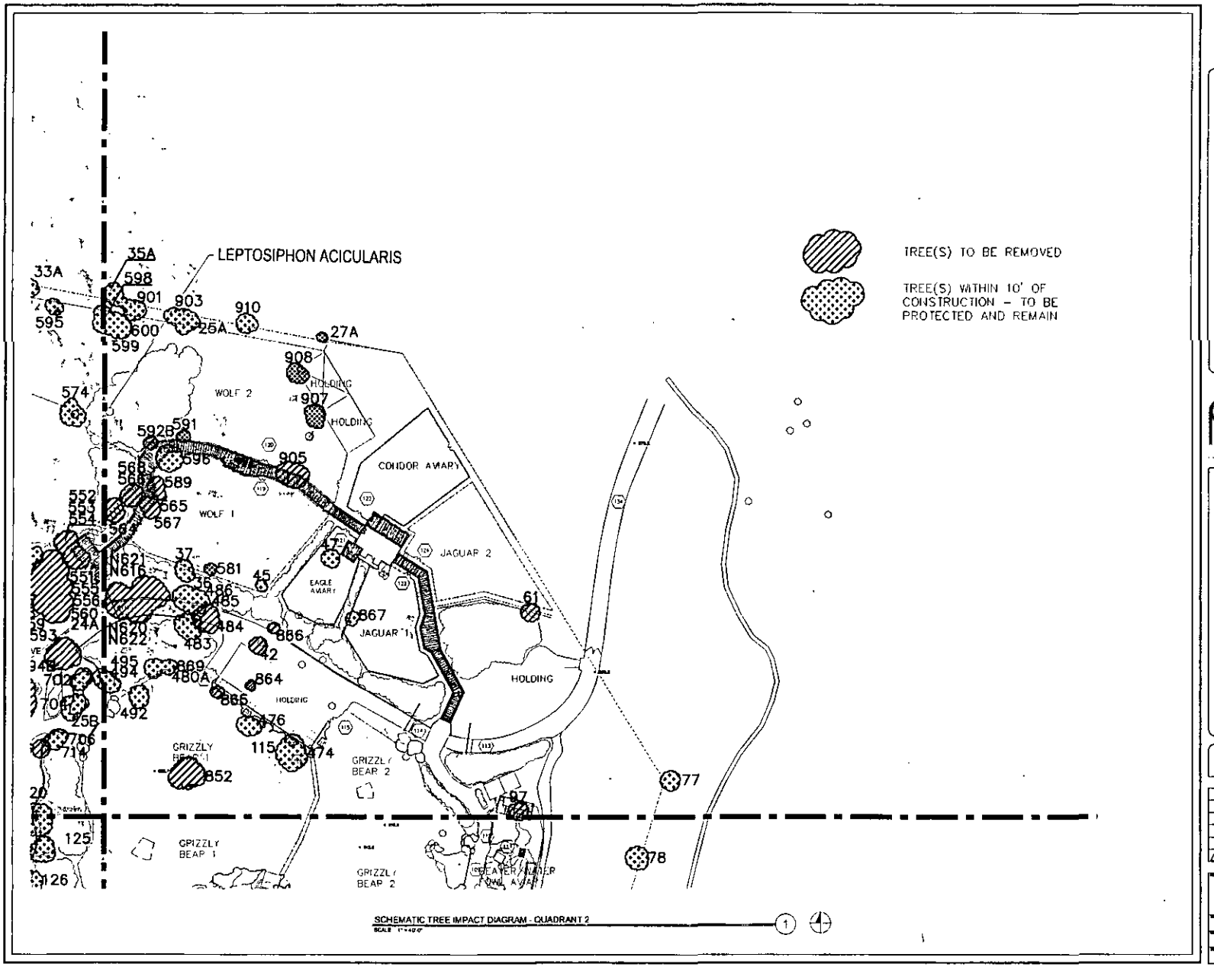
SCHEMATIC TREE IMPACT DIAGRAM

2-22A



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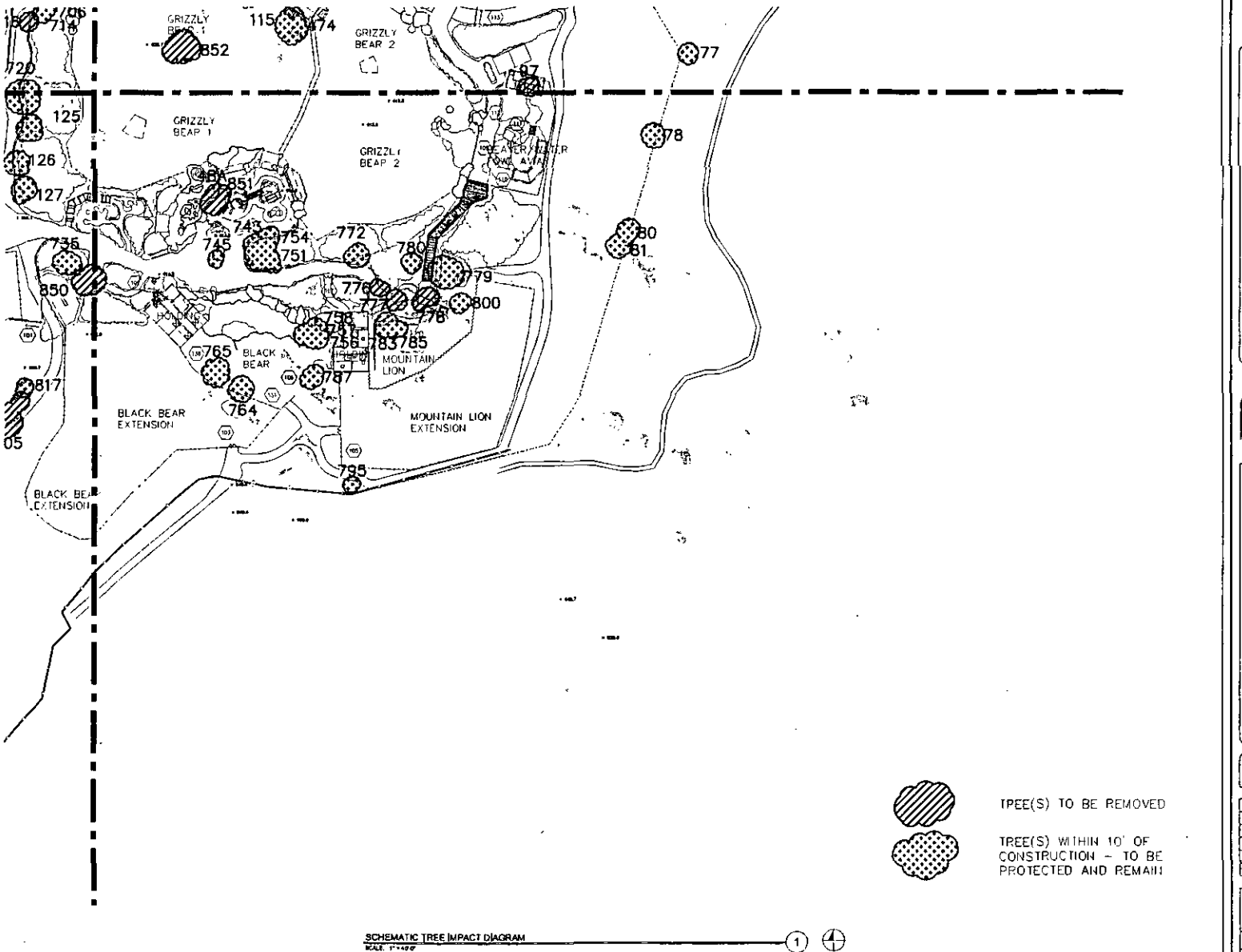
SCHEMATIC TREE IMPACT DIAGRAM

1"=40'-0"

2-22B



SCHEMATIC TREE IMPACT DIAGRAM 1

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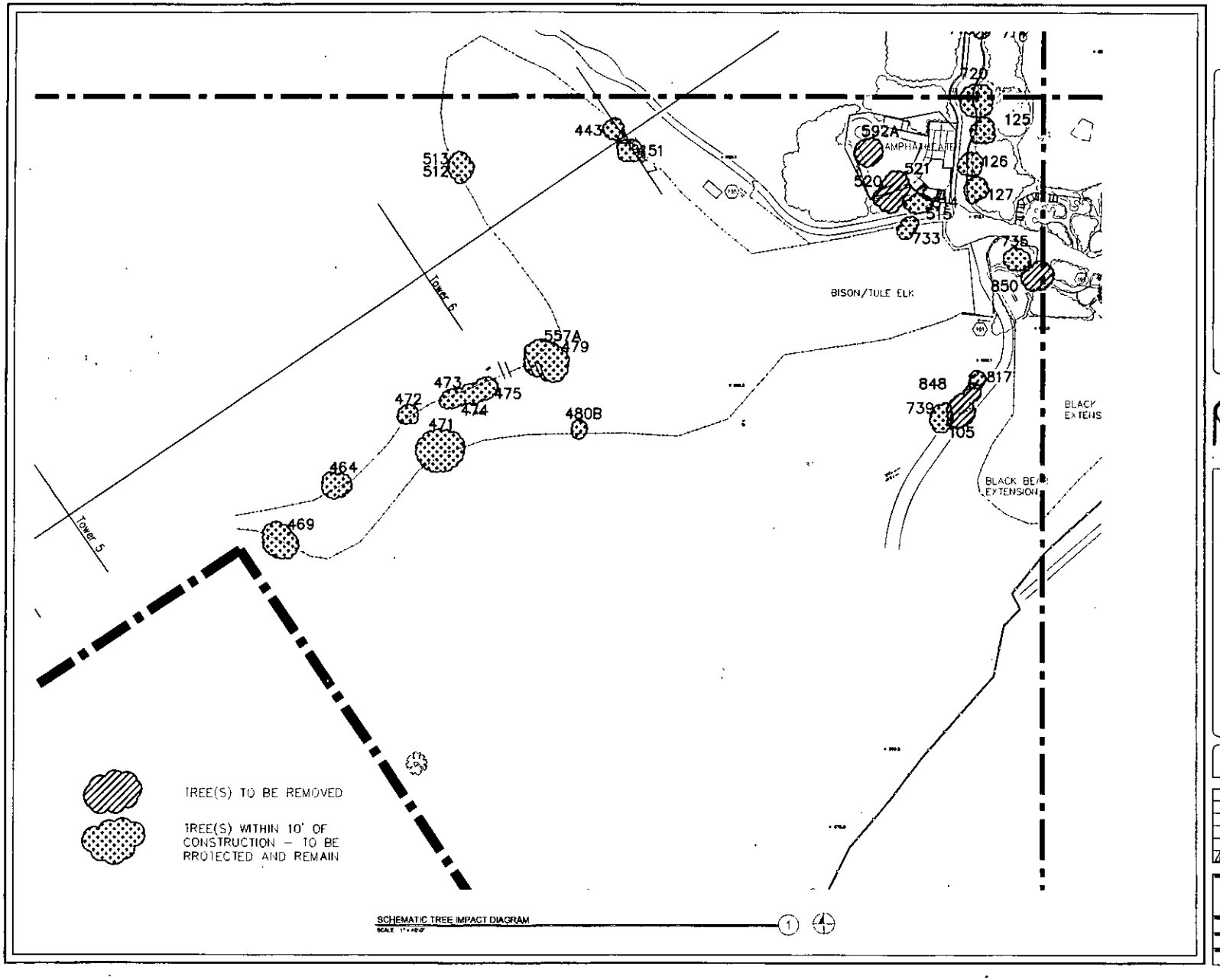
SCHEMATIC TREE IMPACT DIAGRAM

1"=40'-0"

2-22C



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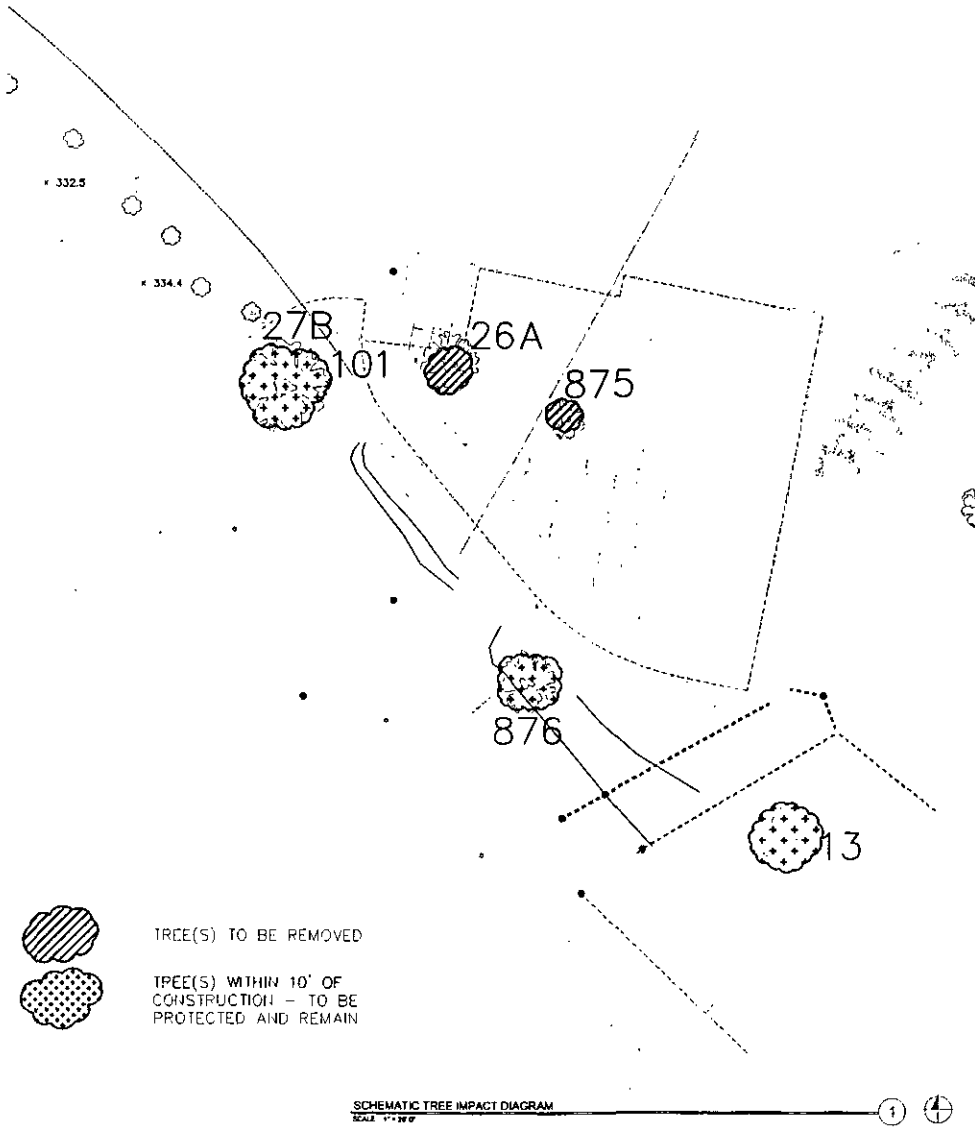
SCHEMATIC TREE IMPACT DIAGRAM

1"=40'-0"

2-22D



SCHEMATIC TREE IMPACT DIAGRAM 1

OAKLAND ZOO

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SCHEMATIC TREE IMPACT DIAGRAM

2-22E

Oakland Zoo - California Project - Tree Survey

Tree Number	Type	Trunk Diameter	Remove	To Remain - 10' of Const.	Sheet Location
403	BAY	48B*		X	2-22A
404	OAK	24-20		X	2-22A
423	OAK	36B		X	2-22A
424	BAY	30B		X	2-22A
426	OAK	18		X	2-22A
427	OAK	36B-24-24		X	2-22A
441	OAK	18		X	2-22A
444	OAK	18		X	2-22A
445	OAK	16		X	2-22A
449	OAK	8		X	2-22A
450	OAK	24		X	2-22A
453	OAK	24		X	2-22A
454	OAK	10		X	2-22A
457	OAK	12		X	2-22A
531	OAK	30	X		2-22A
532	OAK	12	X		2-22A
533	OAK	30	X		2-22A
533	OAK	30	X		2-22A
534	OAK	18		X	2-22A
536	OAK	10-12-10-8	X		2-22A
537	OAK	12-8	X		2-22A
555	OAK	10		X	2-22A
539	OAK	18		X	2-22A
550	OAK	12		X	2-22A
551	OAK	36	X		2-22A
552	OAK	12/9/2004	X		2-22A
555	OAK	8	X		2-22A
554	OAK	10	X		2-22A

Oakland Zoo - California Project - Tree Survey

Tree Number	Type	Trunk Diameter	Remove	To Remain - 10' of Const.	Sheet Location
555	OAK	12-8	X		2-22A
556	OAK	16	X		2-22A
558	OAK	10	X		2-22A
559	OAK	18	X		2-22A
560	OAK	24	X		2-22A
574	OAK	18		X	2-22A
593	OAK	16	X		2-22A
595	OAK	12		X	2-22A
702	OAK	18		X	2-22A
704	OAK	16		X	2-22A
706	OAK	18		X	2-22A
714	OAK	8		X	2-22A
716	OAK	8	X		2-22A
720	OAK	24		X	2-22A
25B	OAK	4		X	2-22A
26A	OAK	18		X	2-22A
29A	OAK	18		X	2-22A
30A	OAK	18		X	2-22A
32A	OAK	10-10-10-8		X	2-22A
33A	OAK	30		X	2-22A
535B	OAK	10-8	X		2-22A
557B	OAK	16		X	2-22A
594B	OAK	12-12	X		2-22A
36	OAK	8		X	2-22B
37	OAK	20		X	2-22B
42	OAK	4-6	X		2-22B
45	BAY	12		X	2-22B
47	OAK	24		X	2-22B

Oakland Zoo - California Project - Tree Survey

Tree Number	Type	Trunk Diameter	Remove	To Remain - 10' of Const.	Sheet Location
61	BAY	12	X		2-22B
77	OAK	14		X	2-22B
97	OAK	12	X		2-22B
115	OAK	10-12		X	2-22B
474	OAK	8		X	2-22B
476	OAK	16		X	2-22B
483	OAK	12		X	2-22B
484	OAK	18	X		2-22B
485	OAK	12	X		2-22B
486	OAK	12		X	2-22B
492	OAK	18		X	2-22B
494	OAK	12		X	2-22B
495	OAK	10		X	2-22B
564	OAK	4	X		2-22B
565	OAK	4	X		2-22B
566	OAK	6	X		2-22B
567	OAK	4	X		2-22B
568	OAK	6	X		2-22B
581	OAK	4		X	2-22B
589	OAK	6-6	X		2-22B
581	BAY	12		X	2-22B
596	OAK	24		X	2-22B
598	OAK	18		X	2-22B
599	OAK	10		X	2-22B
600	OAK	36		X	2-22B
852	EUC	60	X		2-22B
864	OAK	4	X		2-22B

GENERAL NOTES:

1. PLS Surveys Inc., an Oakland-based surveying company, surveyed the trees within the Oakland Zoo's California Exhibit and Veterinary Medical Hospital Master Plan area on several occasions in 2009 and 2010. Provided with a plan of the Zoo's project, PLS Surveys tagged those trees projected for removal and within 10-feet of construction. Some trees already included a unique identifying tag resulting from prior surveys while other trees required new tags and number systems. The latest tree surveys were then reviewed by Seattle-based PJA Architects, the Oakland Zoo's principal architect for the Master Plan. PJA Architects compared and verified the PLS Surveys tree survey against the latest planned project to determine potential impact to trees.

OAKLAND ZOO
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SCHEMATIC TREE IMPACT SCHEDULE

1"=20'-0"

2-22F

Oakland Zoo - California Project - Tree Survey

Tree Number	Type	Trunk Diameter	Remove	To Remain - 10' of Const.	Sheet Location
865	OAK	4	X		2-22B
866	OAK	4	X		2-22B
867	OAK	6		X	2-22B
869	OAK	4		X	2-22B
876	OAK	10		X	2-22B
901	OAK	24		X	2-22B
908	OAK	12 18		X	2-22B
905	BAY	10	X		2-22B
907	BAY	30-30		X	2-22B
908	TREE	12-10-10		X	2-22B
910	TREE	30		X	2-22B
24A	OAK	12	X		2-22B
25A	OAK	18		X	2-22B
27A	OAK	18		X	2-22B
35A	OAK	30		X	2-22B
480A	OAK	8		X	2-22B
5929	OAK	4	X		2-22B
N618	OAK	42		X	2-22B
N620	OAK	18	X		2-22B
N621	OAK	8		X	2-22B
N622	BAY	18	X		2-22B
78	OAK	14		X	2-22C
80	OAK	12		X	2-22C
81	OAK	12		X	2-22C
743	BAY	12		X	2-22C
745	OAK	6		X	2-22C
751	OAK	12		X	2-22B
754	OAK	12		X	2-22C

Oakland Zoo - California Project - Tree Survey

Tree Number	Type	Trunk Diameter	Remove	To Remain - 10' of Const.	Sheet Location
756	BAY	18		X	2-22C
757	BAY	12		X	2-22C
758	OAK	16		X	2-22C
764	OAK	30		X	2-22C
765	OAK	30B		X	2-22C
772	BAY	12		X	2-22C
776	OAK	12		X	2-22C
777	OAK	8	X		2-22C
778	BAY	12	X		2-22C
779	OAK	24		X	2-22C
780	OAK	24B		X	2-22C
783	BAY	10		X	2-22C
785	BAY	14		X	2-22C
787	BAY	12		X	2-22C
795	BAY	10		X	2-22C
800	OAK	8		X	2-22C
851	BAY	24	X		2-22C
48A	BAY	12	X		2-22C
105		12 20	X		2-22D
125	OAK	24		X	2-22D
126	OAK	30		X	2-22D
127	OAK	16		X	2-22D
151	OAK	36B		X	2-22D
443	OAK	36B		X	2-22D
464	OAK	24		X	2-22D
469	OAK	36B		X	2-22D
471	OAK	50B		X	2-22D

Oakland Zoo - California Project - Tree Survey

Tree Number	Type	Trunk Diameter	Remove	To Remain - 10' of Const.	Sheet Location
472	OAK	8		X	2-22D
473	OAK	12		X	2-22D
475	OAK	18		X	2-22D
479	OAK	18		X	2-22D
512	OAK	18-18		X	2-22D
513	OAK	10-10		X	2-22D
514	OAK	10-8		X	2-22D
515	OAK	6		X	2-22D
520	OAK	8	X		2-22D
521	OAK	12 12-10-10	X		2-22D
733	OAK	14		X	2-22D
735	OAK	18		X	2-22D
739	OAK	18		X	2-22D
817	OAK	10		X	2-22D
848	OAK	8	X		2-22D
850	BAY	12	X		2-22D
4008	OAK	10		X	2-22D
557A	OAK	12-8	X		2-22D
562A	OAK	30	X		2-22D
13	OAK	10		X	2-22E
101	OAK	8		X	2-22E
875	OAK	8	X		2-22E
26A	OAK	6-4	X		2-22E
27B	OAK	24		X	2-22E
			Total	Total	
			52	110	

* The designation "B" after the trunk diameter indicates the measurement is taken at the base of the trunk.

GENERAL NOTES:

1. PLS Surveys Inc., an Oakland-based surveying company, surveyed the trees within the Oakland Zoo's California Exhibit and Veterinary Medical Hospital Master Plan area on several occasions in 2009 and 2010. Provided with a plan of the Zoo's project, PLS Surveys tagged those trees projected for removal and within 10-feet of construction. Some trees already included a unique identifying tag resulting from prior surveys while other trees required new tags and number systems. The latest tree surveys were then reviewed by Seattle-based PJA Architects, the Oakland Zoo's principal architect for the Master Plan. PJA Architects compared and verified the PLS Surveys tree survey against the latest planned project to determine potendal impact to trees.

OAKLAND ZOO

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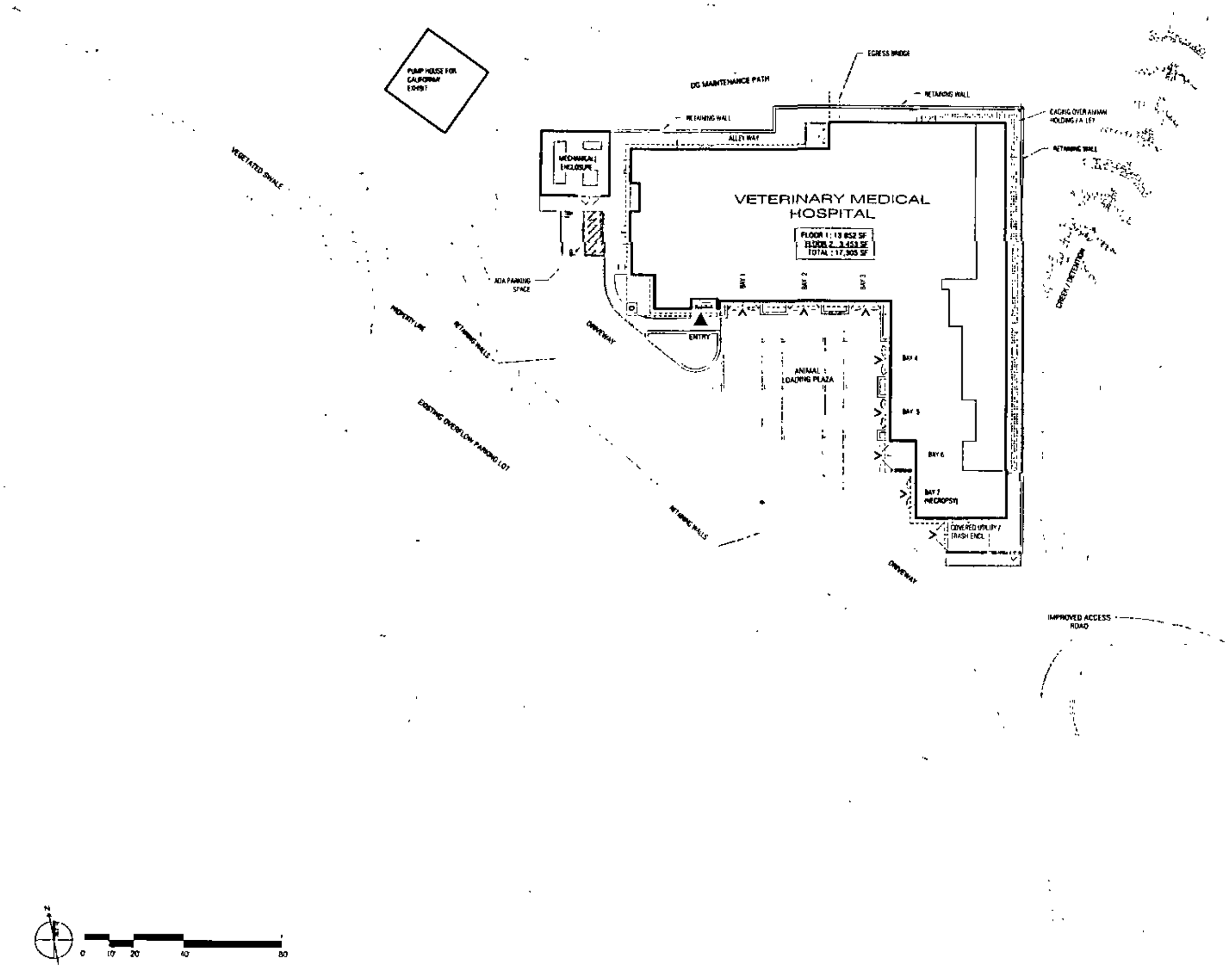
SCHEMATIC TREE IMPACT SCHEDULE

1"=20'-0"

2-22G



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architects and planners
729 Heinz Avenue
Berkeley, CA 94710
510 649.8295
fax 510 649 2009

OAKLAND ZOO

VETERINARY HOSPITAL

9777 GOLF LINKS ROAD
OAKLAND, CALIFORNIA 94605

PERMIT SET

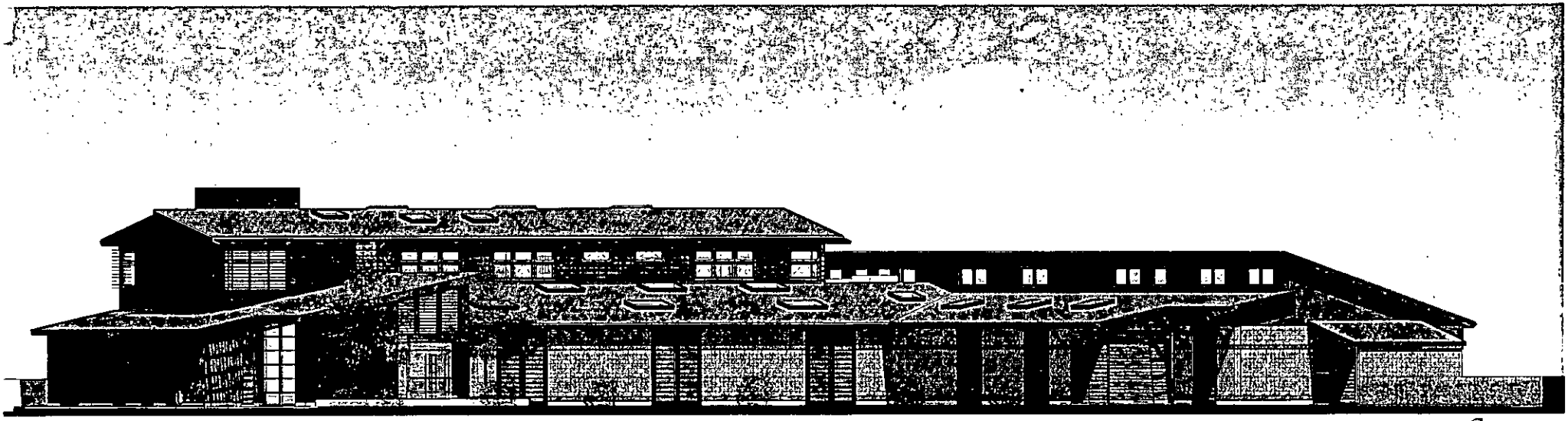
SHEET TITLE
CEQA Site Plan

REVISIONS

NO	DATE	DESCRIPTION

DATE	12/28/2009
DRAWN	Author
CHECKED	Checker
SCALE	1" = 20'-0"
JOB NO	2819

SHEET NUMBER
X1.01



Planned Veterinary Medical Building
South West Elevation: Shadows at Spring Equinox

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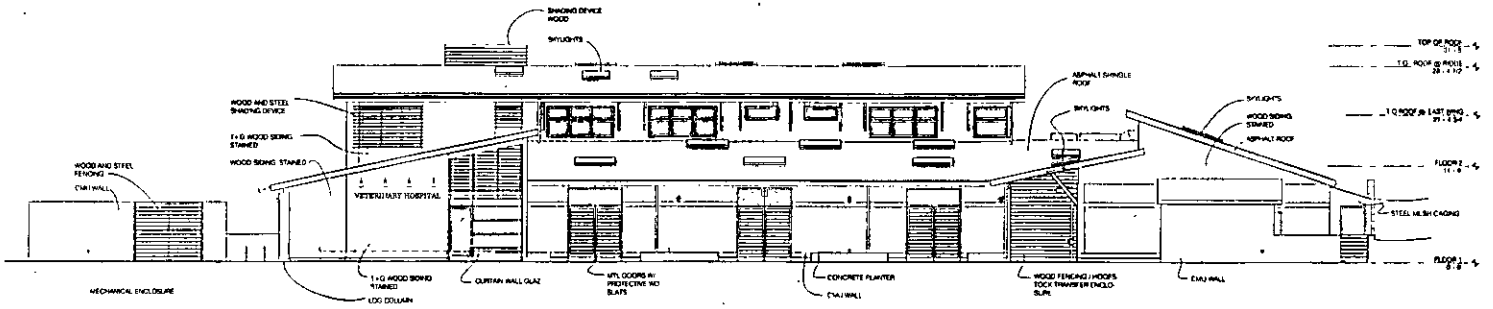
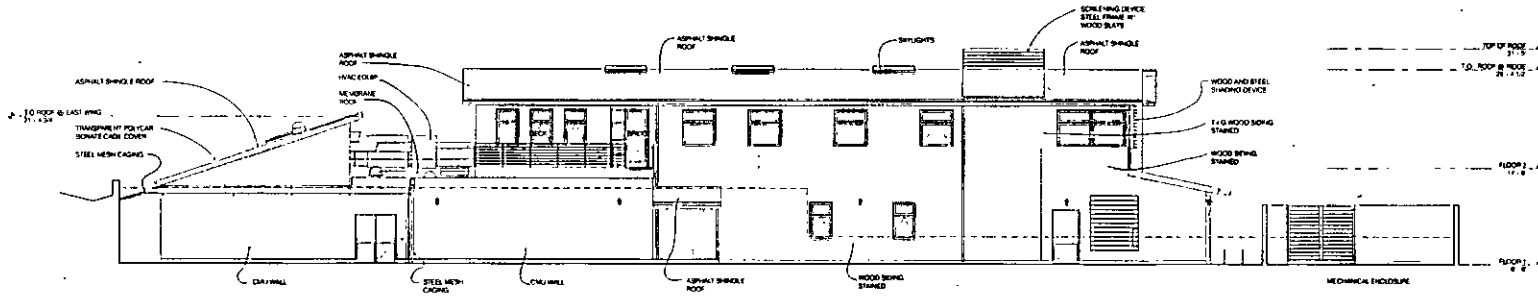
architects and planners



1 A3.01 SOUTH ELEVATION
1/8" = 1'-0"



2 A3.01 NORTH ELEVATION
1/8" = 1'-0"

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510 845 9288
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9777 GOLF LINKS ROAD
OAKLAND, CALIFORNIA 94605

PERMIT SET

SHEET TITLE
BUILDING ELEVATIONS

NO	DATE	DESCRIPTION

DATE	12/21/2009
DRAWN	JB
CHECKED	MM
SCALE	1/8" = 1'-0"
JOB NO	2819

SHEET NUMBER
A3.01

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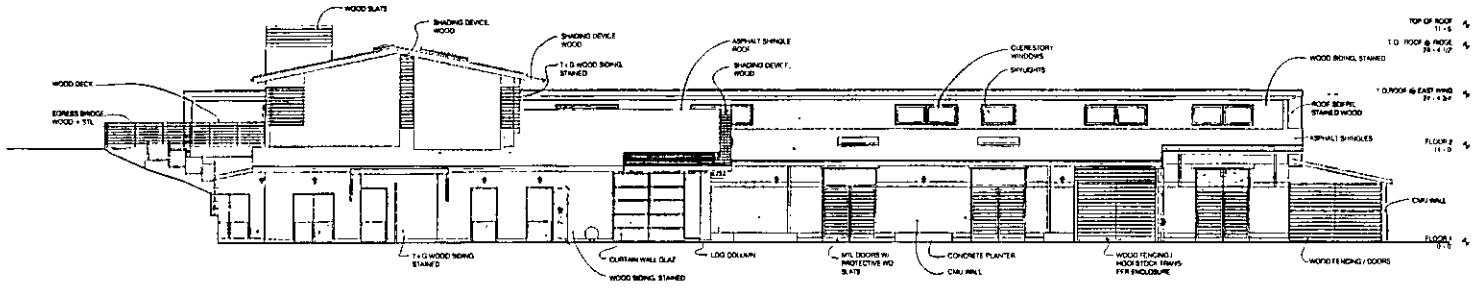

1 A3.02 WEST ELEVATION
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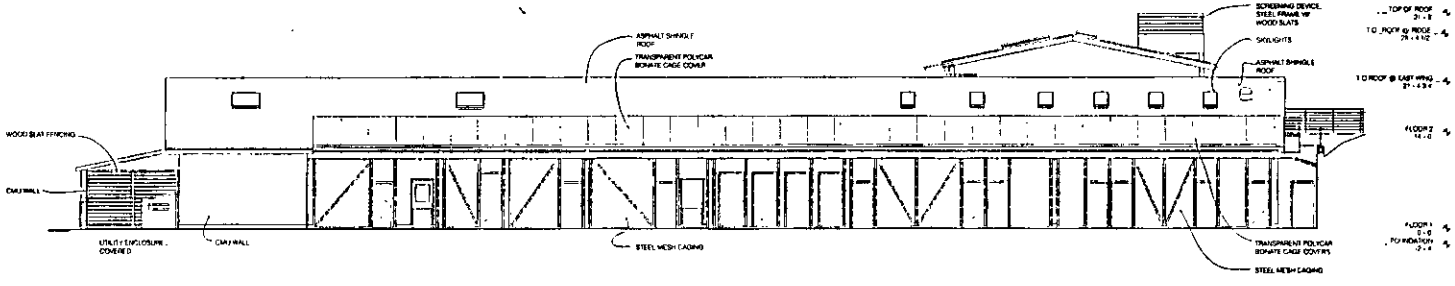

2 A3.02 EAST ELEVATION
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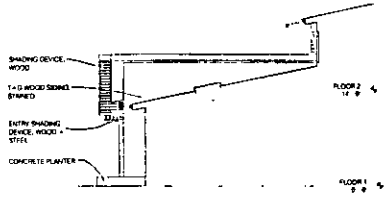
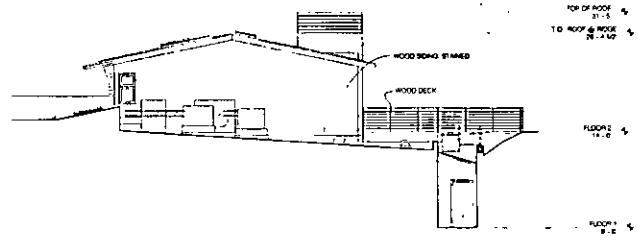


4 A3.02 PARTIAL EAST ELEVATION @ COL 4
1/8" = 1'-0"



3 A3.02 PARTIAL EAST ELEVATION @ COL 7
1/8" = 1'-0"

3/29/2010 10:33:34 AM

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9777 GOLF LINKS ROAD
OAKLAND, CALIFORNIA 94605

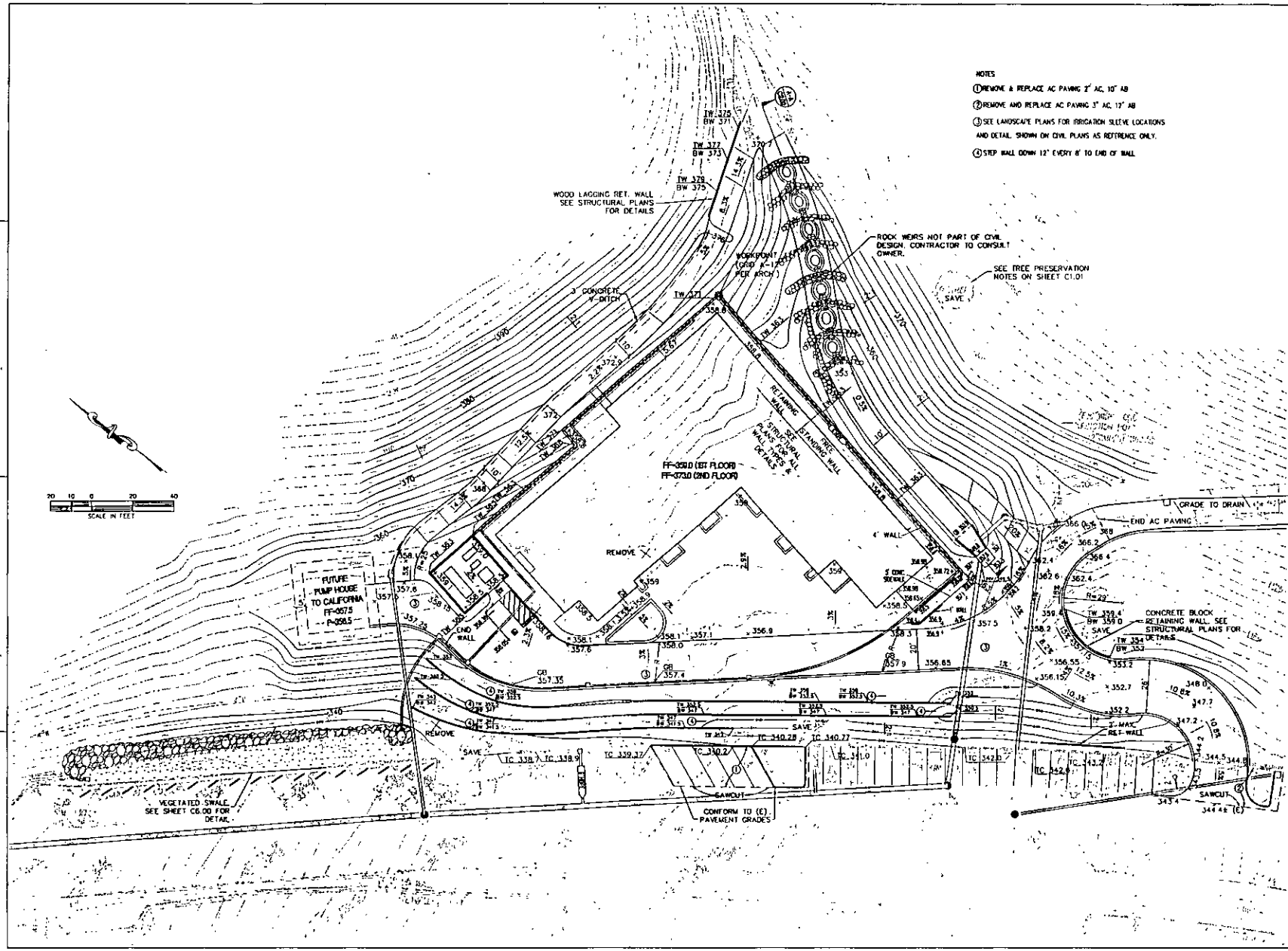
PERMIT SET

SHEET TITLE
BUILDING ELEVATIONS

REVISIONS
NO | DATE | DESCRIPTION

DATE 12/28/2009
DRAWN JB
CHECKED MM
SCALE 1/8" = 1'-0"
JOB NO 2010

SHEET NUMBER
A3.02



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fax 510 649 3099

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FAX (510) 601-5171

OAKLAND ZOO

VETERINARY HOSPITAL

9777 GOLF LINKS ROAD
OAKLAND, CALIFORNIA 94605

PERMIT SET

SHEET TITLE
GRADING AND DRAINAGE PLAN

NO	DATE	REVISIONS DESCRIPTION
1		DESIGN CLARIFICATION

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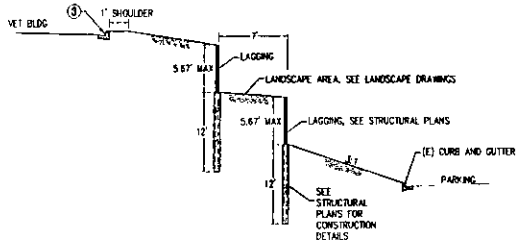
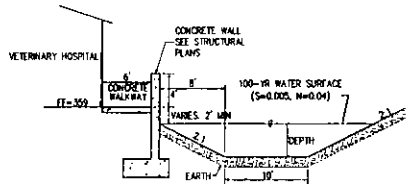
DRAWN	MC
CHECKED	VJD
SCALE	AS SHOWN
JOB NO	2080220

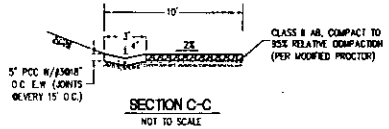
SHEET NUMBER
C2.00



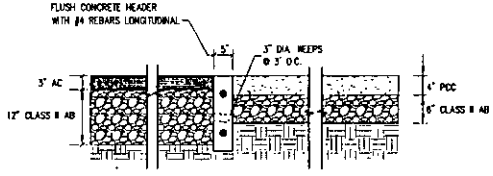
SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

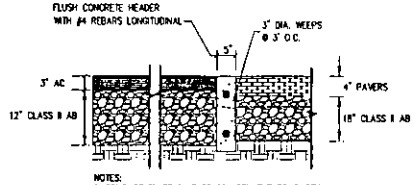


SECTION C-C
NOT TO SCALE



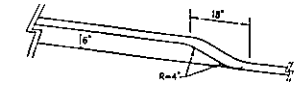
NOTES:
1. COMPACT CLASS II AB TO 95% RELATIVE COMPACTION (PER MODIFIED PROCTOR)
2. SCARIFY AND COMPACT SUBGRADE PER GEOTECHNICAL REPORT BEFORE PLACING AB.

SECTION D-D
NOT TO SCALE

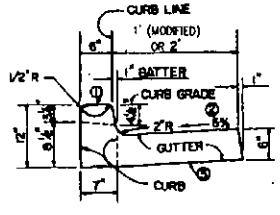


NOTES:
1. COMPACT CLASS II AB TO 95% RELATIVE COMPACTION (PER MODIFIED PROCTOR)
2. SCARIFY AND COMPACT SUBGRADE PER GEOTECHNICAL REPORT BEFORE PLACING AB.

SECTION E-E
NOT TO SCALE

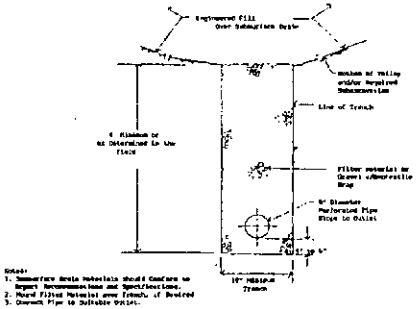


VERTICAL CURB TO FLUSH CURB DETAIL (A C2.01)
NOT TO SCALE



PLACE 4" OF PROCESSED MISC. BASE UNDER CURB, GUTTER, & SIDEWALK

TYPE 'A' and MODIFIED TYPE 'A'
CURB AND GUTTER
PER OAKLAND STANDARD DETAILS S-1 (B C2.01)
NOT TO SCALE



SUBSURFACE DRAIN BENEATH FILL (C C2.01)
NOT TO SCALE

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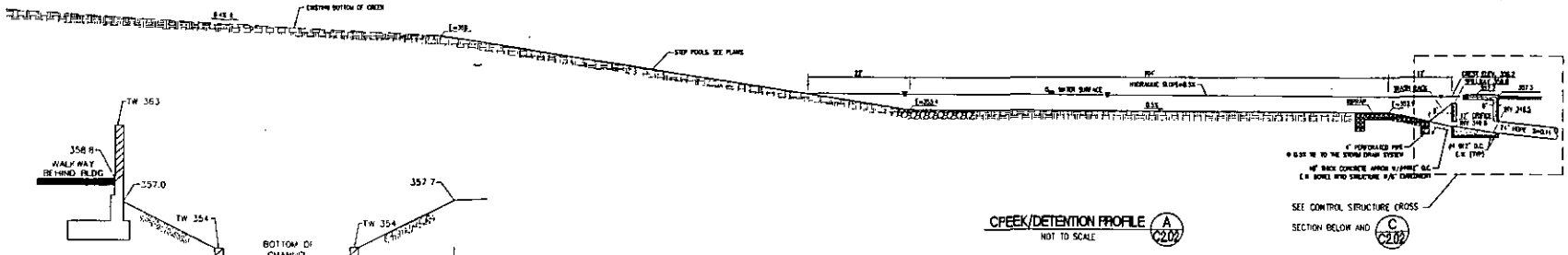
PERMIT SET

SHEET TITLE
SECTIONS AND DETAILS

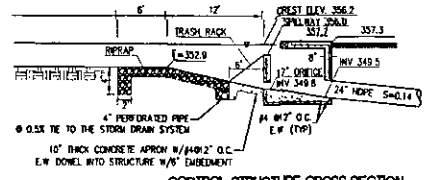
REVISIONS		
NO	DATE	DESCRIPTION

DATE	12/8/2009
DRAWN	MC
CHECKED	VJD
SCALE	AS SHOWN
JOB NO	208822.00

SHEET NUMBER
C2.01



B C202 CONTROL STRUCTURE CROSS SECTION
NOT TO SCALE



CONTROL STRUCTURE CROSS SECTION
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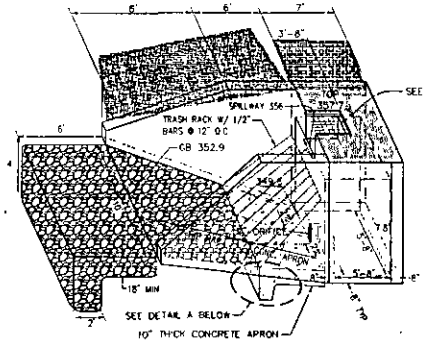
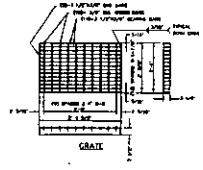
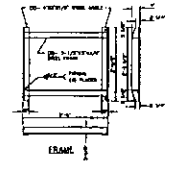


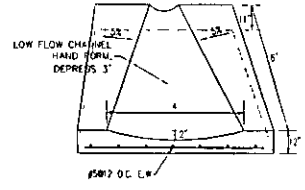
C C202 CONTROL STRUCTURE DETAIL
NOT TO SCALE



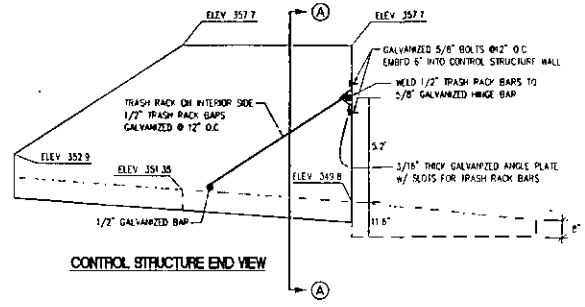
GRATE DETAIL



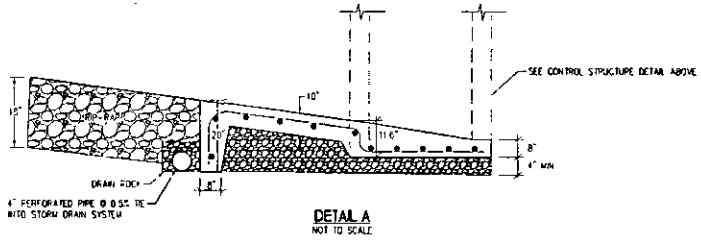
FRAME DETAIL



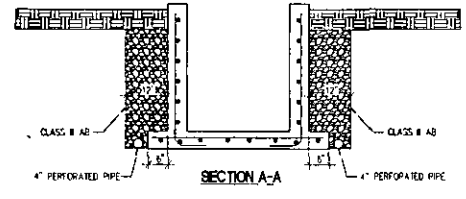
CONCRETE APRON



CONTROL STRUCTURE END VIEW



DETAIL A
NOT TO SCALE



SECTION A-A

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REGISTERED PROFESSIONAL ENGINEER ROBERT C. PAM No. 43748 CIVIL STATE OF CALIFORNIA

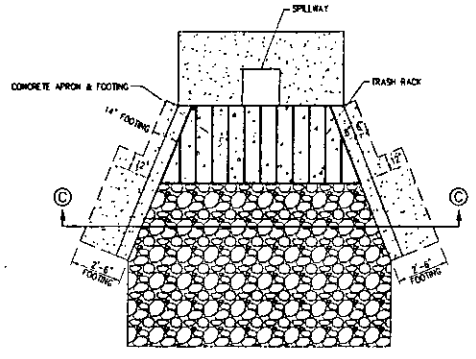
PERMIT SET

SHEET TITLE
SECTIONS AND DETAILS

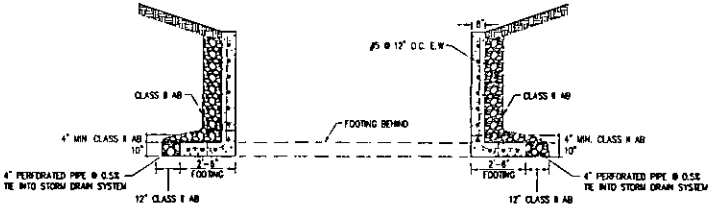
NO.	DATE	DESCRIPTION
△		REVISIONS

DATE	12/28/2009
DRAWN	MC
CHECKED	VJD
SCALE	AS SHOWN
JOB NO.	208222.00

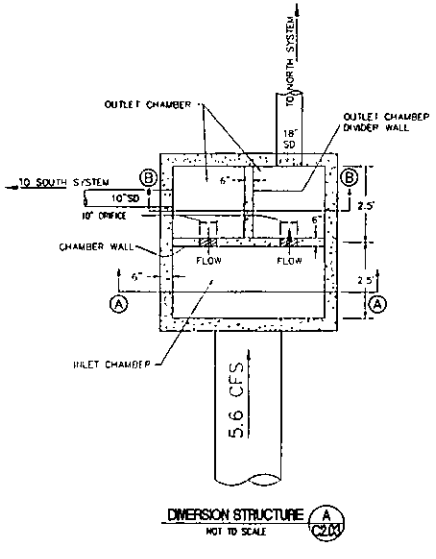
SHEET NUMBER
C2.02



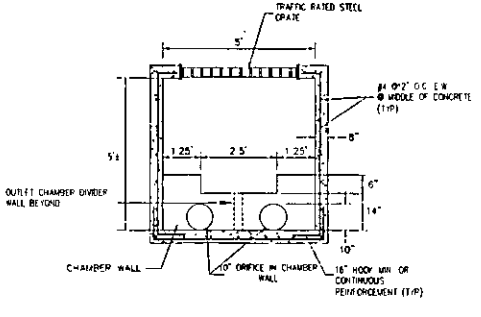
CONTROL STRUCTURE PLAN VIEW



SECTION C-C



DIVERSION STRUCTURE (A / C2.01)
NOT TO SCALE



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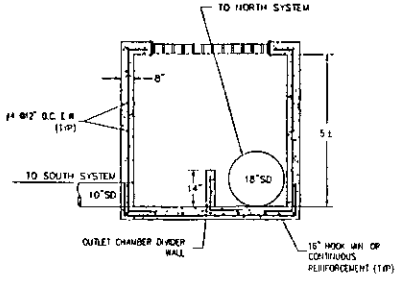

SECTION (B)

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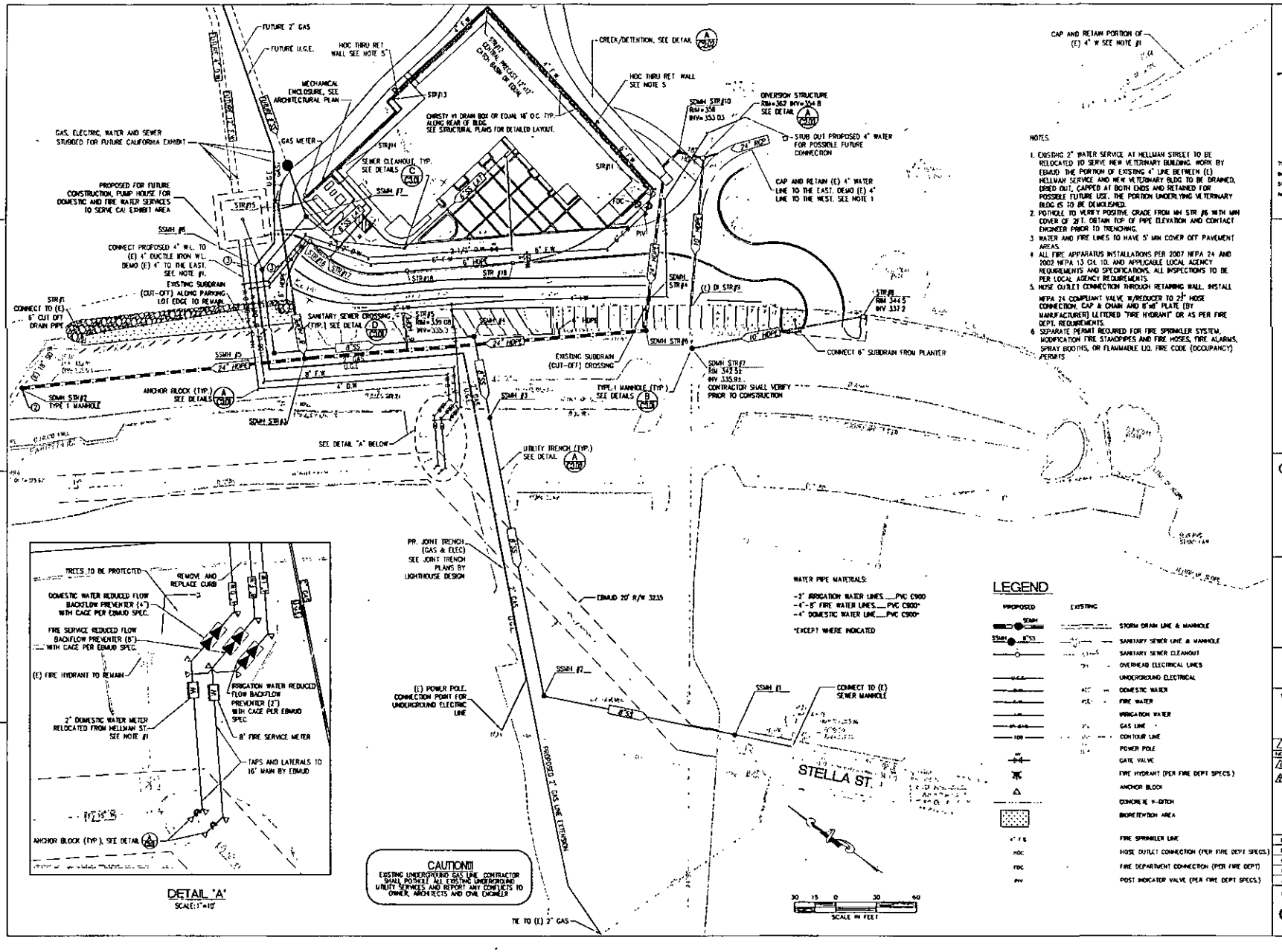
PERMIT SET

SHEET TITLE
SECTIONS AND DETAILS

NO	DATE	DESCRIPTION
1		

DATE	12/29/2009
DRAWN	MC
CHECKED	VJI
SCALE	AS SHOWN
JOB NO	208022.00

SHEET NUMBER
C2.03



NOTES:

1. EXISTING 2" WATER SERVICE AT HELLMAN STREET TO BE RELOCATED TO SERVE NEW VETERINARY BUILDING. WORK BY EBMUD. THE PORTION OF EXISTING 4" LINE BETWEEN (E) HELLMAN SERVICE AND NEW VETERINARY BLDG TO BE DRAINED, DRIED OUT, CAPPED AT BOTH ENDS AND RETAINED FOR POSSIBLE FUTURE USE. THE PORTION UNDERLYING VETERINARY BLDG IS TO BE DEMOLISHED.
2. POTHOLE TO VERIFY POSITIVE GRADE FROM MH STR #6 WITH MIN COVER OF 2FT. OBTAIN TOP OF PIPE ELEVATION AND CONTACT ENGINEER PRIOR TO TRENCHING.
3. WATER AND FIRE LINES TO HAVE 5' MIN COVER OFF PAVEMENT AREAS.
4. ALL FIRE APPARATUS INSTALLATIONS PER 2007 NFPA 24 AND 2002 NFPA 13 CH. 10, AND APPLICABLE LOCAL AGENCY REQUIREMENTS AND SPECIFICATIONS. ALL INSPECTIONS TO BE PER LOCAL AGENCY REQUIREMENTS.
5. HOSE OUTLET CONNECTION THROUGH RETAINING WALL. INSTALL NFPA 24 COMPLIANT VALVE W/REDUCER TO 2½" HOSE CONNECTION, CAP & CHAIN AND 6"x6" PLATE (BY MANUFACTURER) LETTERED "FIRE HYDRANT" OR AS PER FIRE DEPT. REQUIREMENTS.
6. SEPARATE PERMIT REQUIRED FOR FIRE SPRINKLER SYSTEM, MODIFICATION FIRE STANDPIPES AND FIRE HOSES, FIRE ALARMS, SPRAY BOOTHS, OR FLAMMABLE LIQ. FIRE CODE (OCCUPANCY) PERMITS

DETAIL "A"
SCALE: 1"=10'

CAUTION!!!
EXISTING UNDERGROUND GAS LINE. CONTRACTOR SHALL POTHOLE ALL EXISTING UNDERGROUND UTILITY SERVICES AND REPORT ANY CONFLICTS TO OWNER, ARCHITECTS AND CIVIL ENGINEER

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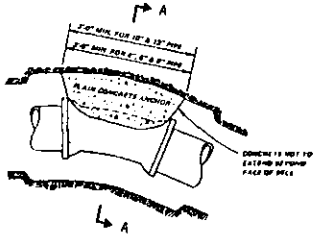
PERMIT SET

SHEET TITLE
UTILITY PLAN

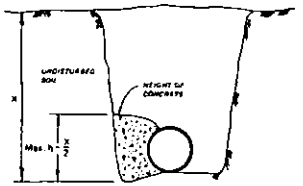
NO.	DATE	DESCRIPTION
1		DESIGN CLARIFICATION

DATE	12/28/2009
DRAWN	MC
CHECKED	VJD
SCALE	AS SHOWN
JOB NO.	2090220.00

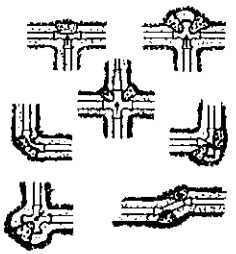
SHEET NUMBER
C3.00



PLAN



ANCHOR BLOCK SECTION A-A



ANCHOR BLOCK LOCATIONS

REQUIRED SIZE OF ANCHOR BEARING AREA IN SQ. FT.				
PIPE SIZE	FITTING	SOFT CLAY	MEDIUM CLAY or LOOSE GRANULAR SOIL	HARD CLAY or MEDIUM GRANULAR SOIL
4"	TEE/CROSS	4	2	2
4"	22½° ELL	3	2	2
4"	45° ELL	3	2	2
4"	90° ELL	6	3	2
6"	TEE/CROSS	9	5	3
6"	22½° ELL	5	3	2
6"	45° ELL	10	4	3
6"	90° ELL	18	7	4
8"	TEE/CROSS	16	11	6
8"	22½° ELL	13	8	5
8"	45° ELL	18	8	6
8"	90° ELL	36	16	9

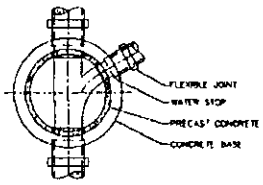
P USE ONLY RESTRAINED JOINTS - WHEN SIZE OF ANCHOR BEARING AREA REQUIRED BY THE SOFT CLAY IS TOO LARGE TO OBTAIN, USE 5/8" ϕ RODS AND CONCRETE ANCHORS TO RESTRAIN THE FITTING FROM MOVING OFF THE STABBED PIPE ENDS, SIMILAR TO DWG 194—EA.

ANCHOR BLOCK NOTES:

1. POUR CONCRETE AGAINST UNDISTURBED SOIL.
2. NO CONCRETE IS TO BE PLACED BEYOND THE FACE OF THE BELL.
3. MAXIMUM HEIGHT OF ANCHOR IS HALF THE DEPTH FROM GROUND SURFACE TO BASE OF ANCHOR AT THE TRENCH WALL.
4. COAT PORTION OF FITTING IN CONTACT WITH CONCRETE WITH MASTIC OR POLYWRAP IN ACCORDANCE WITH OAKLAND PUBLIC WORKS SPECIFICATIONS.
5. CONTRACTOR SHALL INSTALL THRUST BLOCK ANCHORAGES ON ALL PRESSURIZED WATER PIPE TURNS AND TEES.

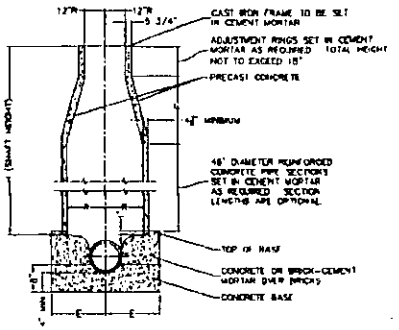
A C3.01 PRESSURIZED WATER PIPE ANCHORAGE

NOT TO SCALE

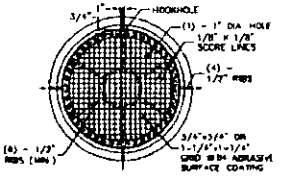


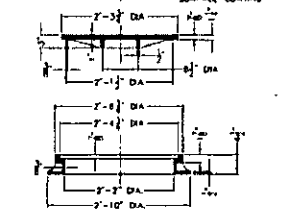
SECTIONAL PLAN

H	A	E	t
3'-0" OR LESS	1'-8"	2'-3"	1'-6" MINIMUM
OVER 3'-0"	2'-0"	2'-9"	1'-9" MINIMUM



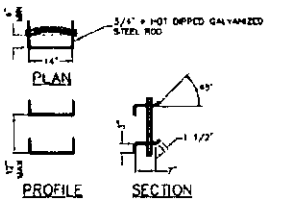
SECTIONAL ELEVATION





TYPE H

FRAME AND COVER DETAILS



STEP DETAILS

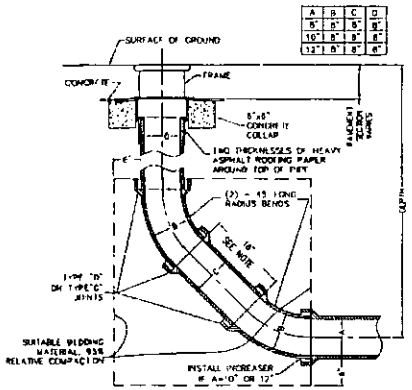
NOTE: STEPS ARE REQUIRED WHEN DEPTH OF MANHOLE OR DROP INLET EXCEEDS 4 FT

TYPE F MANHOLE

PER OAKLAND STANDARD DETAILS D-11 B C3.01

NOT TO SCALE

A	B	C	D
8"	8"	8"	8"
10"	8"	8"	8"
12"	8"	8"	8"

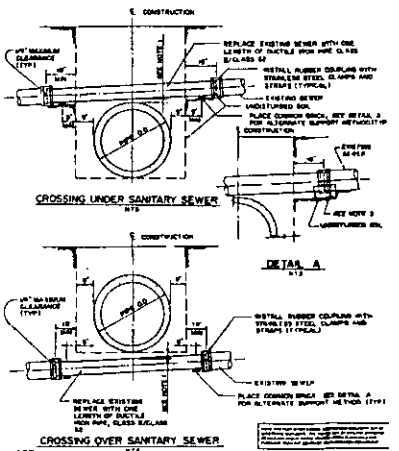


NOTE: FOR CLEANOUT LESS THAN 4' DEEP, OMIT 18" SECTION

SEWER CLEANOUT

PER OAKLAND STANDARD DETAILS D-2 C C3.01

NOT TO SCALE



NOTES:

1. PROVIDE MINIMUM CLEARANCE OF 6", IF LESS THAN 6", USE LAYERS OF STYROFOAM.
2. THE WORK SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER.
3. PLACE 450-0-2000 CONCRETE SUPPORT UNDER COUPLING.

SANITARY SEWER CROSSING DETAIL

PER OAKLAND STANDARD DETAILS D-23 D C3.01

NOT TO SCALE

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PERMIT SET

SHEET TITLE
UTILITY PLAN DETAILS

NO	DATE	DESCRIPTION

DATE	12/29/2008
DRAWN	MC
CHECKED	VJD
SCALE	AS SHOWN
JOB NO	208027.00

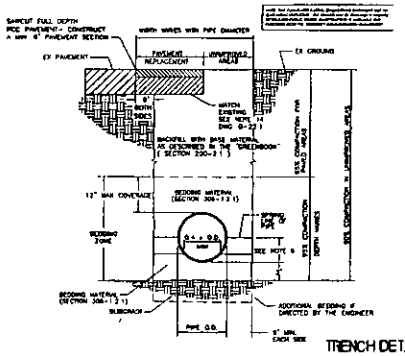
SHEET NUMBER
C3.01

TRENCHING NOTES:

1. MINIMUM COVER FOR SIDE SEWER IN TRAFFIC AREAS SHALL BE FIVE FEET
2. MINIMUM COVER FOR SIDE SEWER OUTSIDE OF TRAFFIC AREAS SHALL BE THIRTY INCHES.
3. ALL TRENCHES TO BE REVIEWED AND APPROVED BY OAKLAND DEPARTMENT OF PUBLIC WORKS
4. THE MINIMUM ALLOWABLE HORIZONTAL SEPARATION BETWEEN PG&E FACILITIES AND "MET" FACILITIES IS 6 FEET.

PAVEMENT TYPES

TYPE A	TYPE B	TYPE C	TYPE D	TYPE F
6" P.C.C. PER SECTION 301-1.1.2	3" A.C. PER SECTION 209-1.2.2	3" A.C. PER SECTION 209-1.2.2	3" A.C. PER SECTION 209-1.2.2	VARIABLE DEPTH A.C. PER SECTION 209-1.2.2
	6" P.C.C. PER SECTION 301-1.1.2			
12" A.B. PER SECTION 301-1.3.1	12" A.B. PER SECTION 301-1.3.1	12" A.B. PER SECTION 301-1.3.1	12" A.B. PER SECTION 301-1.3.1	12" A.B. PER SECTION 301-1.3.1



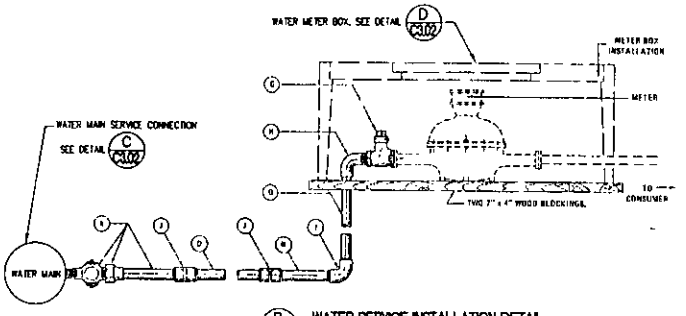
TRENCH DETAIL AND NOTES
PER OAKLAND STANDARD DETAILS D-22 (A C3.02)
NOT TO SCALE

NOTES:

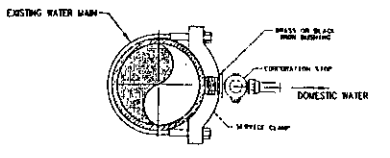
1. Excavated material shall not be used to fill voids caused by overexcavation, such voids shall be filled with compacted bedding material. Unless directed by the Engineer, no separate payment will be made for overexcavation.
2. Import backfill material shall conform to Subsection 306-1.3.1
3. Aggregate base shall conform to crushed miscellaneous base (Section 200-2.2) or better. The base material must be approved by the Engineer
4. The streets of Oakland are generally paved with either AC, PCC, or a combination of the two. The existing pavement may differ from the replacement Pavement Types (A to F) indicated on the plans.
5. Compaction by jetting is not permitted
6. When flexible pipe (HDPE, etc.) is used, pipe shall be backfilled to the spring line compacted and backfill tested prior to completing initial backfill
7. The compacted temporary resurfacing shall be a minimum of 2" thick placed on the required base and shall be removed prior to placing the permanent paving
8. Backfill testing is required and results shall be approved by the Engineer prior to paving
9. No longitudinal joints or seams are allowed in bike lanes. If a longitudinal joint is constructed due to the Contractor's work or lane requirements, the Contractor shall remove a minimum of 2' of asphalt from the pavement centers the entire bike lane using a method approved by the City and then resurface the bike lane to the Engineer's satisfaction
10. During backfill operations, the trench shall be backfilled, compacted and tested in the spring line of any utilities crossing the trench before proceeding with further backfill
11. Unless specified otherwise, measurement for payment of additional bedding, imported backfill and temporary paving (when listed as separate pay items) shall be based upon the trench widths defined on this detail. The lower trench width for 8" pipe shall be 30".
12. Clean and tackcoat edges of intersection and between paving sessions with spray application of SS-1 emulsion before placing asphalt-concrete pavement section
13. If the distance to the edge of gutter is less than 3' from one trench edge, the pavement replacement shall extend to the edge of existing gutter
14. In areas where existing paving consists of rubberized AC, the trench area should be repaved with the equivalent pavement portion of rubberized AC. As an alternate, a denser graded AC section equivalent to two-times the the thickness of the rubberized AC may be substituted.

USES

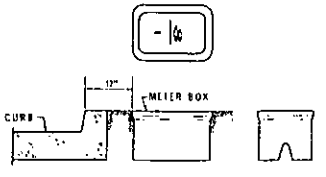
D: COPPER WATER PIPE
G: BALL VALVE, T HEAD INLET IPT, OUTLET METER FLANGE
H: ELBOW, COPPER TO IPT M
I: ELBOW, COPPER TO COPPER
J: COUPLING, COPPER TO COPPER
K: COPPER JOINT ASSEMBLY--INCLUDING: COPPER WATER TUBE & CORPORATION STOP



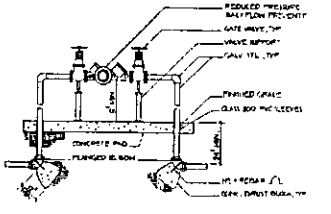
B C3.02 WATER SERVICE INSTALLATION DETAIL
NOT TO SCALE



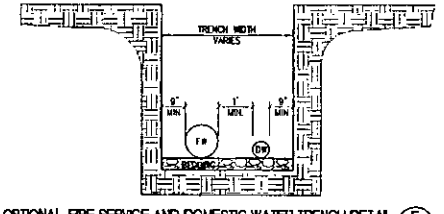
C C3.02 DISTRIBUTION MAIN SERVICE CONNECTION DETAIL
NOT TO SCALE



D C3.02 WATER METER BOX INSTALLATION DETAIL
NOT TO SCALE



REDUCE PRESSURE BACKFLOW PREVENTER
FOR 2" WATER SERVICE (E C3.02)
NOT TO SCALE



OPTIONAL FIRE SERVICE AND DOMESTIC WATER TRENCH DETAIL (F C3.02)
NOT TO SCALE

noll & tam
architects and planners
729 Heinz Avenue
Berkeley, CA 94710
510 649 8290
fax 510 649 3008

ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS
ALIQUOT 4350 DUBLIN BLVD, SUITE 202
DUBLIN, CA 94568
(510) 301-5900
FAX (510) 601-5171

OAKLAND ZOO

VETERINARY HOSPITAL

9777 GOLF LINKS ROAD
OAKLAND, CALIFORNIA 94605

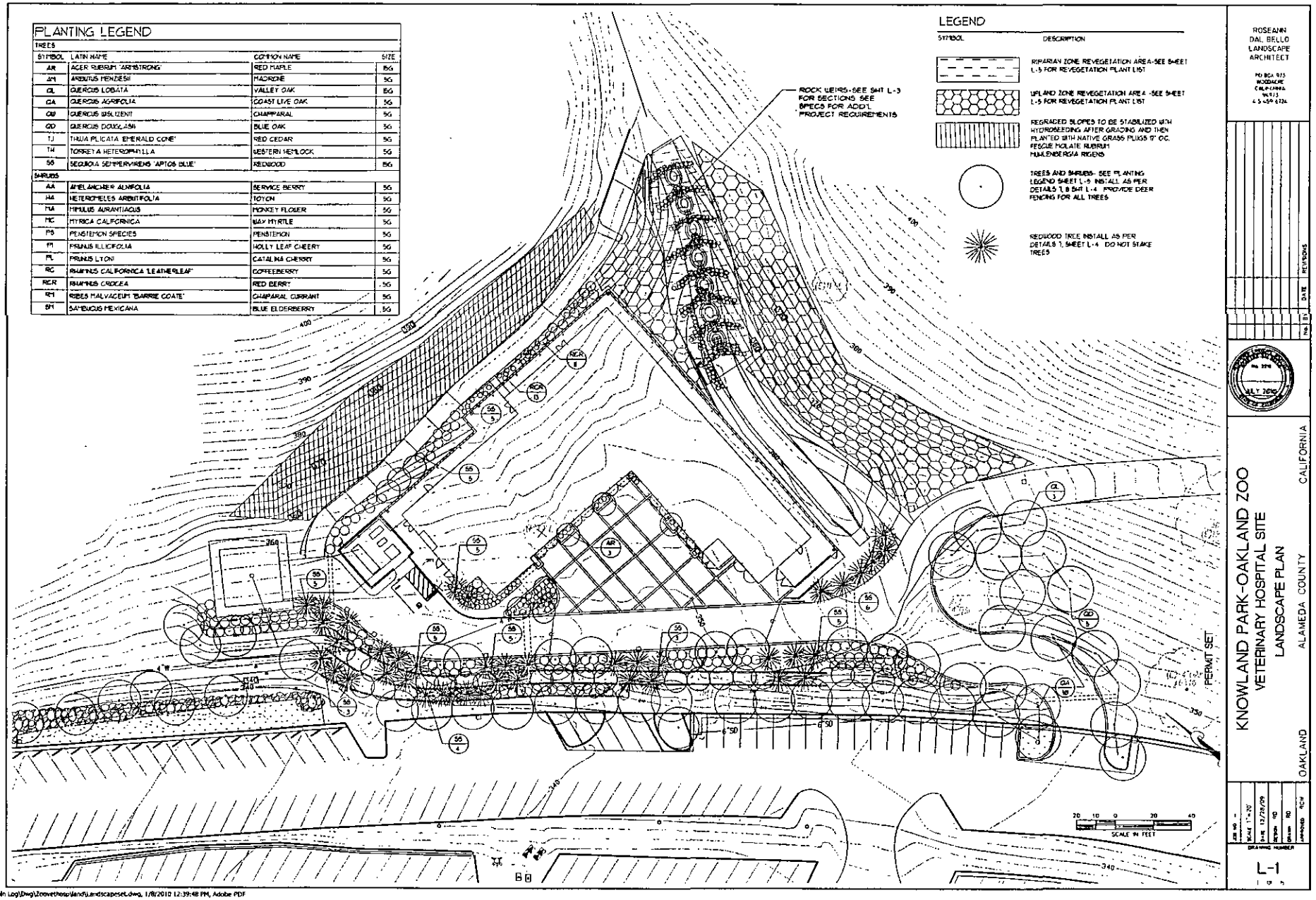
PERMIT SET

SHEET TITLE
UTILITY PLAN DETAILS

NO	DATE	DESCRIPTION
1		REVISIONS

DATE	12/28/2009
DRAWN	MC
CHECKED	VJD
SCALE	AS SHOWN
JOB NO	708022.00

SHEET NUMBER
C3.02



ROSEANN DAL BELLO LANDSCAPE ARCHITECT

PO BOX 975
MORAGA
CALIFORNIA
94553
(925) 376-6724

REVISIONS

No.	BY	DATE

JULY 2010

KNOWLAND PARK-OAKLAND ZOO
VETERINARY HOSPITAL SITE
LANDSCAPE PLAN

OAKLAND ALAMEDA COUNTY CALIFORNIA

JOB NO. -
SCALE 1"=20'
DATE 12/28/09
DESIGN RD
DRAWN RD
APPROVED RDW

DRAWING NUMBER
L-1
OF 5

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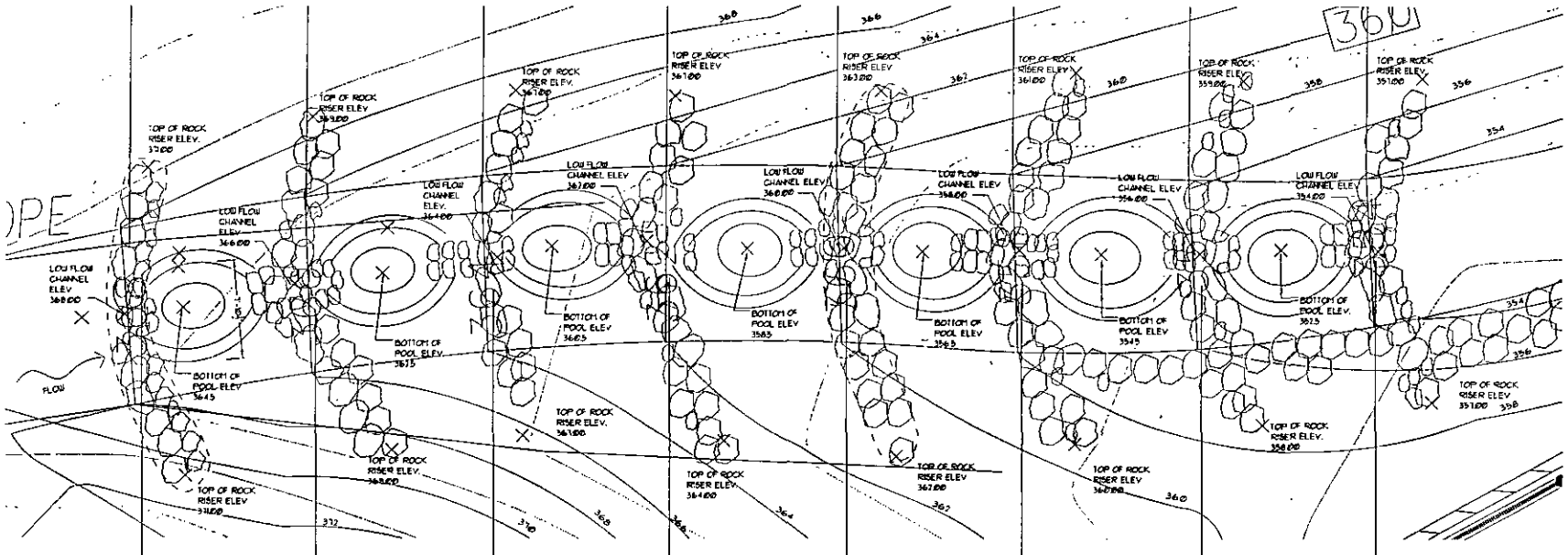
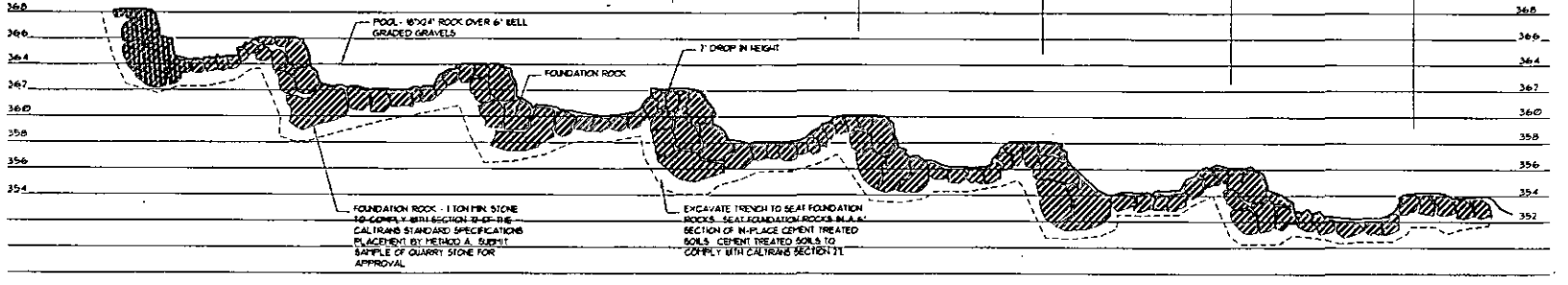


ROCK WEIRS WITH SOFT GRAVEL BOTTOM- PLAN
1/4" = 1'-0"
1 L-3



ROCK WEIRS WITH SOFT GRAVEL BOTTOM- SECTION @ LOW FLOW CHANNEL
1/4" = 1'-0"
2 L-4

SCALE IN FEET

NOTES

1. FINAL CONFIGURATION OF ROCK WEIRS TO BE DETERMINED IN THE FIELD AFTER THE COMPLETION OF ROUGH GRADING ASSESMENT OF TRANSLATERAL SOIL MOISTURE AND VOLUME OF STORM WATER FLOWS BY ENGINEER WILL DETERMINE FINAL WEIR PLACEMENT
2. CONTRACTOR TO STAKE LAYOUT OF ONE TON STONES FOR APPROVAL BY ENGINEER AND LANDSCAPE ARCHITECT
3. CONTRACTOR TO HAVE SUCCESSFULLY COMPLETED 5 CREEK STABILIZATION PROJECTS IN THE LAST 3 YEARS
4. CONTRACTOR TO BE RESPONSIBLE FOR PROVIDING ALL SAFETY PROTECTION AT THE PROJECT SITE

PERMIT SET

ROSEANN DAL BELLO LANDSCAPE ARCHITECT
PO BOX 973
WOODACRE
CALIFORNIA
94973
415 459 1724

No. | BY | DATE | REVISIONS

No. 2248
JULY 2010

VETERINARY HOSPITAL SITE
KNOWLAND PARK-OAKLAND ZOO
CREEK PLAN AND SECTION

JOB NO. -
SCALE 1"=4'
DATE 12/28/09
DESIGN RD
DRAWN MD
APPROVED RDW

DRAWING NUMBER
L-3
OF

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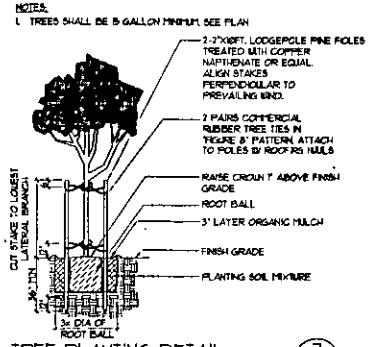
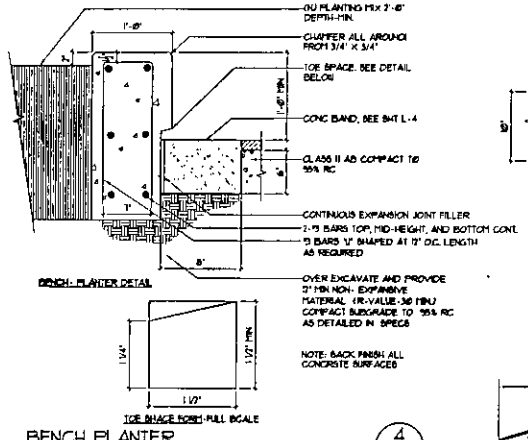
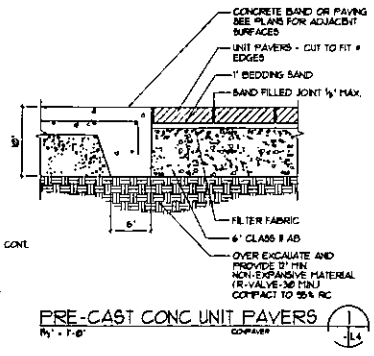


TREE PLANTING DETAIL

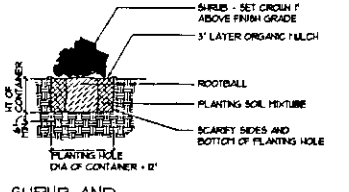
NTS



BENCH PLANTER

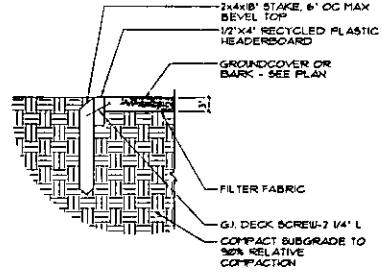


PRE-CAST CONC UNIT PAVERS

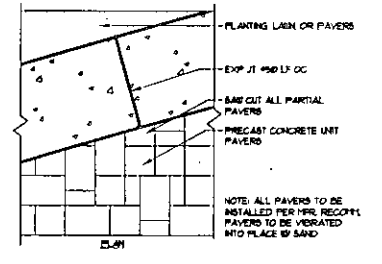


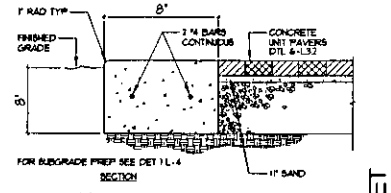
SHRUB AND GROUNDCOVER PLANTING

NTS

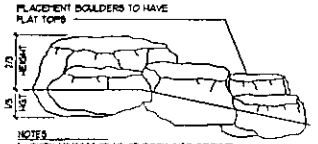


RECYCLED PLASTIC HEADER





PRE-CAST CONC. UNIT PAVERS WITH CONC. BAND



NOTES

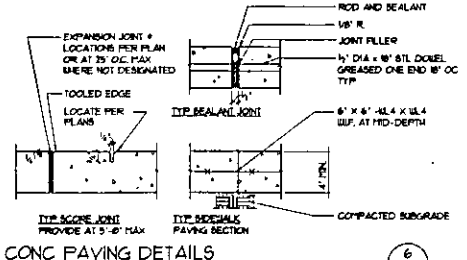
1. BURY MINIMUM OF 1/3 OF ROCK INTO GROUND.
2. BOULDERS TO BE 'TENESTA' OR 'BONOMA' FIELD STONE.
3. BOULDERS TO BE FIELD LOCATED UNDER DIRECTION OF OAR.
4. BOULDERS TO HAVE SMOOTH TOPS. NO SHARP EDGES
5. BOULDERS WITH CRACKS WILL NOT BE ACCEPTED

PLACEMENT BOULDER DETAIL

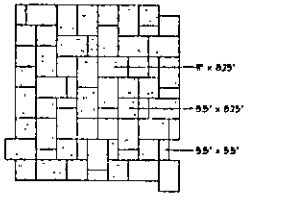
STONE / BOULDER SCHEDULE

(MINIMUM SIZE)

TYPE	LENGTH	WIDTH	DEPTH	NOTES
A	1'-6"	1'-6"	1'-0"	STONE EDGING, STONE BALL
B	2'-6"	1'-6"	1'-6"	PLACEMENT BOULDER
C	2'-6"	2'-0"	2'-0"	
D	3'-0"	3'-0"	2'-0"	
E	3'-0"	3'-0"	3'-0"	
F	4'-0"	4'-0"	3'-6"	



CONC PAVING DETAILS



PAVING PATTERN FOR UNIT PAVERS 'COBBLE'

PERMIT SET

ROSEANN DAL BELLO LANDSCAPE ARCHITECT

PO BOX 913
WOODACRE
CALIFORNIA
94973
415-459 0724

NO.	BY	DATE	REVISIONS

JULY 31, 2010

VETERINARY HOSPITAL SITE
KNOWLAND PARK-OAKLAND ZOO

NOTES AND DETAILS

JOB NO. –
SCALE: 1"=20"
DATE: 12/28/09
DESIGN: RD
DRAWN: RD
APPROVED: RDB

DRAWING NUMBER
L-4
4 OF 6

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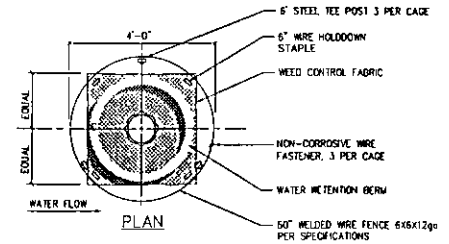
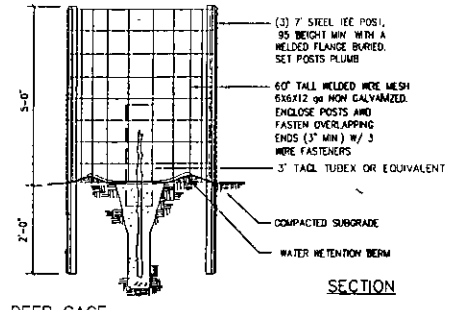




DEER CAGE

NOT TO SCALE

CONTRACTOR FURNISHED REVEGETATION PLANT MATERIAL

RIPARIAN ZONE

Tree Species

Scientific Name	Common Name	Container Size	Spacing		Percent	Quantity
QUERCUS LOBATA	Valley Oak	Treepot	10 FT	O.C.	0.10	5
QUERCUS AGRIFOLIA	Coast Live Oak	Treepot	10 FT	O.C.	0.10	5
POPULUS FREMONTII	Fremont Cottonwood	Treepot	10 FT	O.C.	0.10	5
ACER NEGUNDO	Boxelder	Treepot	10 FT	O.C.	0.10	5
					40%	19

Shrub Species

Scientific Name	Common Name	Container Size	Spacing		Percent	Quantity
SALIX LASIOLEPIS	Arroyo Willow	Deepot	6 FT	O.C.	0.10	11
ROSA CALIFORNICA	California Wild Rose	Deepot	6 FT	O.C.	0.10	11
RUBUS SPECTABILIS	Salmonberry	Deepot	6 FT	O.C.	0.10	11
HETEROMELES ARBUTIFOLIA	Toyon	Deepot	6 FT	O.C.	0.10	11
RHAMNUS CALIFORNICA	Coffeeberry	Deepot	6 FT	O.C.	0.10	11
SYMPHORICARPOS ALBUS	Snowberry	Deepot	6 FT	O.C.	0.10	11
					60%	67
			Riparian Total		100%	85

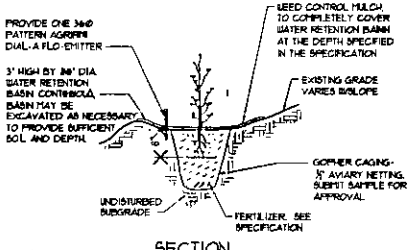
UPLAND ZONE

Tree Species

Scientific Name	Common Name	Container Size	Spacing		Percent	Quantity
QUERCUS LOBATA	Valley Oak	Treepot	10 FT	O.C.	0.10	9
QUERCUS AGRIFOLIA	Coast Live Oak	Treepot	10 FT	O.C.	0.25	23
QUERCUS WISLIZENI	Chapparal Oak	Treepot	10 FT	O.C.	0.10	9
QUERCUS DOUGLASII	Blue Oak	Treepot	10 FT	O.C.	0.05	5
UMBELLULARIA CALIFORNICA	Bay Tree	Treepot	10 FT	O.C.	0.05	5
					55%	51

Shrub Species

Scientific Name	Common Name	Container Size	Spacing		Percent	Quantity
BACCHARIS PILULARIS	Coyote Brush	Deepot	10 FT	O.C.	0.05	5
ROSA CALIFORNICA	California Wild Rose	Deepot	10 FT	O.C.	0.10	9
SAMBUCUS MEXICANA	Blue Elderberry	Deepot	10 FT	O.C.	0.10	9
RHAMNUS CALIFORNICA	Coffeeberry	Deepot	10 FT	O.C.	0.10	9
PRUNUS ILICIFOLIA	Hollyleaf Cherry	Deepot	10 FT	O.C.	0.10	9
					45%	41
			Upland Total		100%	92



SECTION

NOTES:

1. SET PLANTS ROOT CROWN 1/2" ABOVE EXISTING GRADE OF WATER RETENTION BASIN.
2. PLANTING STOCK: TREEPOT D4 OR APPROVED EQUAL.
3. PLANTING PIT: A MINIMUM OF TWO TIMES THE DIAMETER AND TWO TIMES DEPTH OF THE ROOTBALL. SCARIFY EDGES.
4. WEED CONTROL FABRIC 2' DIA FOR EACH PLANT. SUBMIT SAMPLE.

CONTAINER STOCK PLANTING

NOT TO SCALE

REVEGETATION PLANTING NOTES:

1. PROVIDE EROSION CONTROL FOR AREA THAT HAVE BEEN DISTURBED DUE TO SITE DEVELOPMENT AND CONSTRUCTION CONTRACTOR TO FOLLOW REQUIREMENTS OF SWPP.
2. PROTECT IN PLACE EXISTING SHRUBS AND TREES UNLESS OTHERWISE NOTED ON PLANS.
3. RIPARIAN PLANTS AND UPLAND PLANTS TO BE PLANTED IN THE HATCHED AREAS AS SHOWN ON SHEET L-1.
4. THE LIMITS OF THE REVEGETATION AREAS SHOWN ARE APPROXIMATE. THE LOCATION OF THE LIMITS OF THE REVEGETATION AREA AND THE PLANTING AREAS AS SHOWN ON THESE PLANS SHALL BE LAID OUT AND MARKED BY THE CONTRACTOR. THE LANDSCAPE ARCHITECT WILL THEN DIRECT THE CONTRACTOR TO MAKE ADJUSTMENTS AS DEEMED NECESSARY PRIOR TO APPROVAL OF THE LAYOUT.
5. CONTRACTOR TO PROVIDE DRIP IRRIGATION TO EACH PLANT. SEE IRRIGATION PLANS FOR VALVE LOCATIONS
6. REVEGETATION AREA TO BE WEED FREE BEFORE PLANTING BEGINS SEE REVEGETATION SPECIFICATIONS FOR WEED REMOVAL REQUIREMENTS.
7. REMOVE OR CUT ALL FRENCH BROOM WITHIN THE LIMITS OF CONSTRUCTION

PERMIT SET

ROSEANN DAL BELLO LANDSCAPE ARCHITECT
PO BOX 973
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94973
(415) 459-0774

No.	BY	DATE	REVISIONS

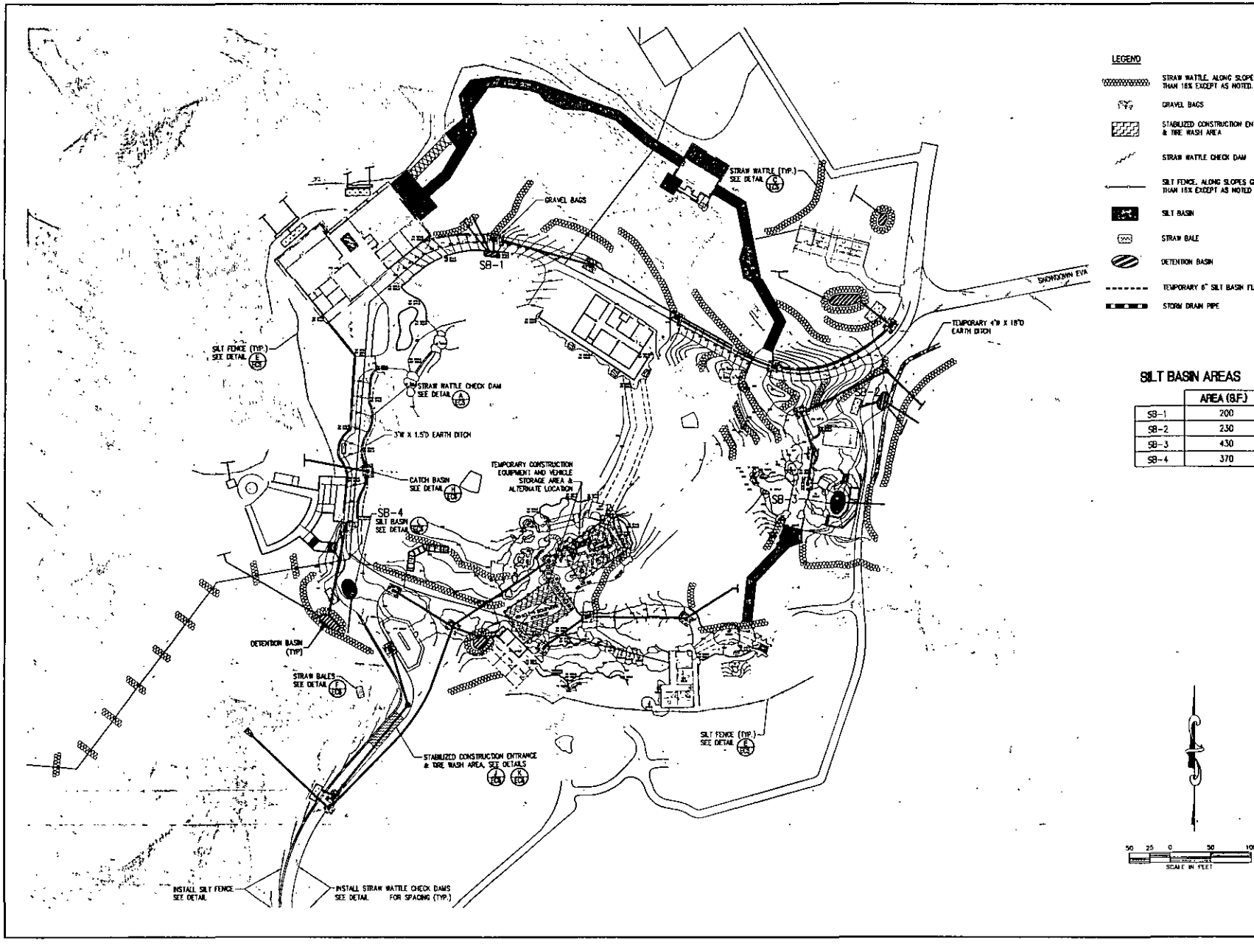
JULY 2010

VETERINARY HOSPITAL SITE
KNOWLAND PARK-OAKLAND ZOO

REVEGETATION PLANT LIST AND DETAILS

JOB NO. -
SCALE 1"=1'
DATE 12/28/09
DESIGN RD
DRAWN RD
APPROVED RDW

DRAWING NUMBER
L-5
1 OF 1



ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS
ALIQUOT ASSOCIATES, INC
1900 BOULEVARD WAY - 2ND FL.
OAKLAND, CA 94610
(510) 804-3101
FAX (510) 804-3171

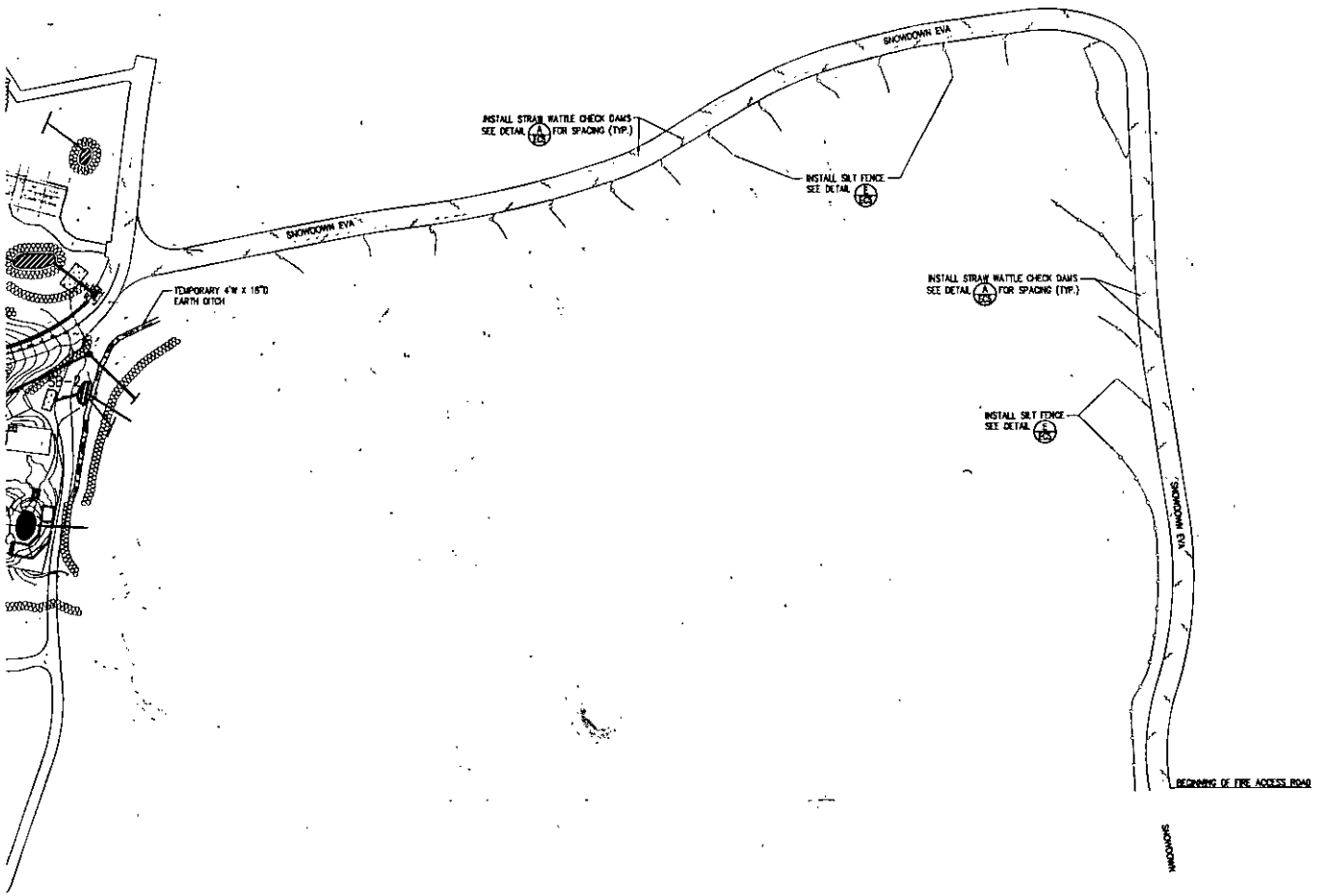
NO.	BY	DATE	REVISIONS

EROSION CONTROL PLAN
THE CALIFORNIAI EXHIBIT
CUP CM09085 - OAKLAND ZOO

OAKLAND — ALAMEDA COUNTY — CALIFORNIA

JOB NO. 2080522
SCALE 1"=50'
DATE 6/15/2010
DESIGN
DRAWN MC
APPROVED

DRAWING NUMBER
EC1
1 of 6



LEGEND

- STRAW WATTLE, ALONG SLOPE LESS THAN 18% EXCEPT AS NOTED.
- GRAVEL BAGS
- STABILIZED CONSTRUCTION ENTRANCE & TIRE WASH AREA
- STRAW WATTLE CHECK DAM
- SILT FENCE, ALONG SLOPES GREATER THAN 18% EXCEPT AS NOTED.
- SILT BASIN
- STRAW BALE
- DETENTION BASIN
- TEMPORARY 6" SILT BASIN FLEX PIPE
- STORM DRAIN PIPE

ALIQUOT
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SURVEYORS
ALIQUOT ASSOCIATES, INC
460 BOULEVARD WAY - 2ND FL.
OAKLAND, CA 94610
(510) 601-5101
FAX (510) 601-5171

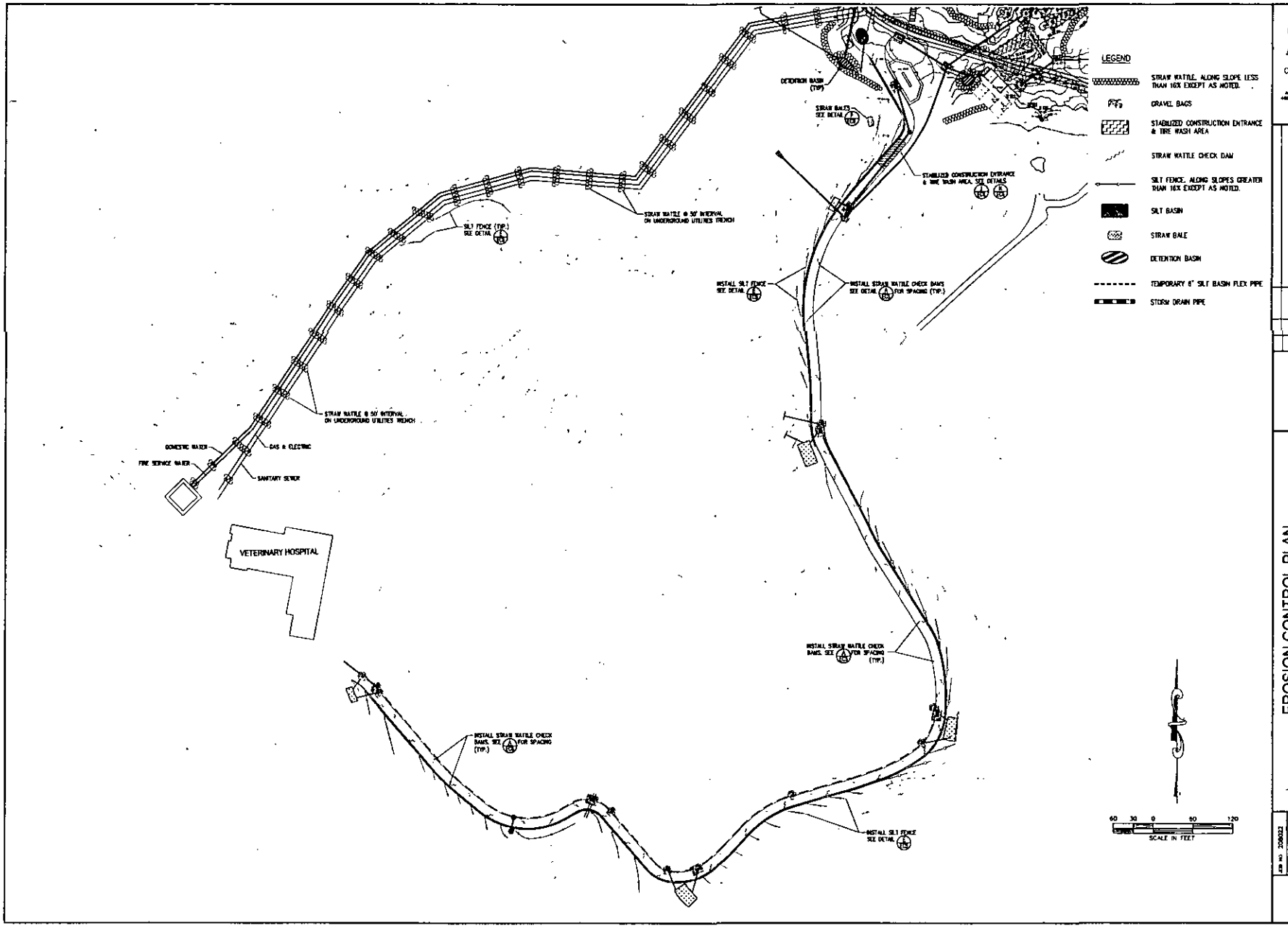
No.	BY	DATE	REVISIONS

EROSION CONTROL PLAN
THE CALIFORNIA EXHIBIT
CUP CM09085 - OAKLAND ZOO

OAKLAND — ALAMEDA COUNTY — CALIFORNIA

JOB NO. 208022
SCALE 1"=50'
DATE 8/13/2010
DESIGN
DRAWN MC
APPROVED

DRAWING NUMBER
EC2
2 of 6



ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS
ALIQUOT ASSOCIATES, INC.
4180 BOULEVARD WAY, 2ND FL.
OAKLAND, CA 94610
(510) 601-5301
FAX (510) 601-5311

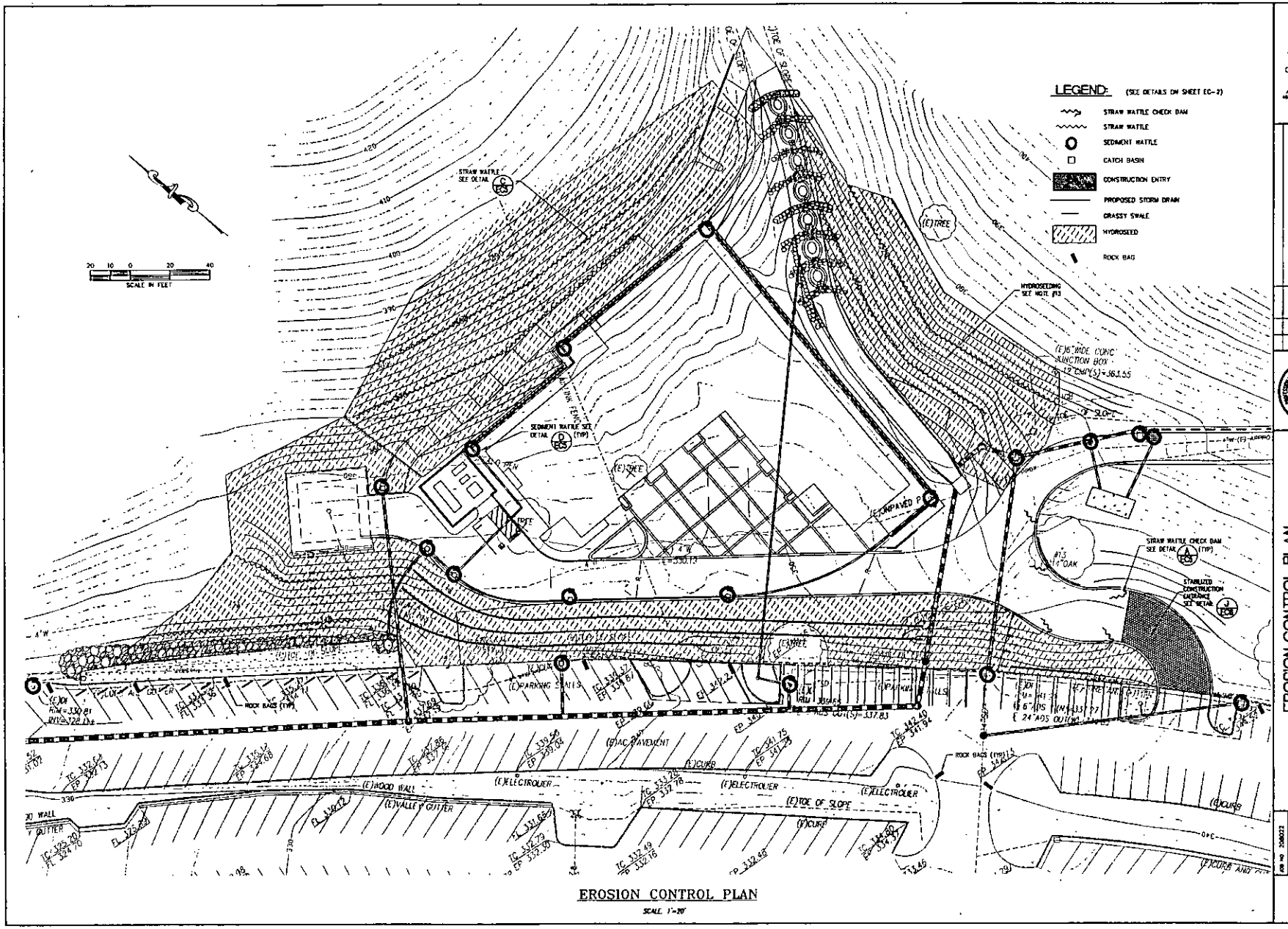
NO.	BY	DATE	REVISIONS

EROSION CONTROL PLAN
THE CALIFORNIA EXHIBIT
CUP CM09085 - OAKLAND ZOO

OAKLAND — ALAMEDA COUNTY — CALIFORNIA

JOB NO. 209022
SCALE 1"=60'
DATE 6/15/2010
DESIGN
DRAWN MC
APPROVED

DRAWING NUMBER
EC3
3 of 6



EROSION CONTROL PLAN

SCALE 1"=20'

ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS

ALIQUOT ASSOCIATES, INC.
488 BOULEVARD WAY - 740
P.O.
OAKLAND, CA 94610
(510) 869-3900
FAX (510) 489-3171

No.	BY	DATE	REVISIONS

EROSION CONTROL PLAN
THE CALIFORNIA EXHIBIT
CUP CM09085 - OAKLAND ZOO
OAKLAND ALAMEDA COUNTY CALIFORNIA

JOB NO.	208023
SCALE	1"=20'
DATE	6/15/2010
DESIGN	
DRAWN	MC
APPROVED	
DRAWING NUMBER	

EC4
4 OF 6

EROSION CONTROL NOTES:

1. TEMPORARY EROSION CONTROL DEVICES SHOWN ON GRADING PLAN WHICH INTERFERE WITH THE WORK SHALL BE RELOCATED OR MODIFIED WHEN THE INSPECTOR SO DIRECTS AS THE WORK PROGRESSES

2. EXCEPT AS OTHERWISE DIRECTED BY THE INSPECTOR, ALL DEVICES SHOWN ON THE EROSION CONTROL PLAN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY. ALL EROSION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY DURING THE RAINY SEASON AND MAINTAINED DURING THE RAINY SEASON (OCTOBER 1 TO APRIL 15).

3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PROVISIONS OF THE ASSOCIATION OF BAY AREA GOVERNMENTS (ABAG) "MANUAL OF STANDARDS FOR EROSION AND SEDIMENT CONTROL MEASURES" UNLESS OTHERWISE STATED WITHIN THESE GENERAL NOTES. CONTROL MEASURES ARE SUBJECT TO THE INSPECTION AND APPROVAL OF THE CITY ENGINEER.

4. ALL LOOSE SOIL AND DEBRIS SHALL BE REMOVED FROM THE STREET AREAS UPON STARTING OPERATIONS AND PERIODICALLY THEREAFTER AS DIRECTED BY THE INSPECTOR. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF TO ANY STORM DRAIN SYSTEM.

5. THE CONTRACTOR SHALL PLACE 3"-4" FRACTURED STONE AGGREGATE AS A GRAVEL ROADWAY (8" MINIMUM THICKNESS FOR THE FULL WIDTH AND 50 FEET LONG) AT EACH ROAD ENTRANCE TO THE SITE. ANY MUD THAT IS TRACKED ONTO PUBLIC STREETS SHALL BE REMOVED THE SAME DAY AS REQUIRED BY THE CITY ENGINEER. MINIMUM WIDTH OF GRAVEL ROADWAY IS 10 FEET.

6. A CONCRETE WASHOUT IS REQUIRED FOR ALL CONCRETE WORK. THE WASHOUT SHALL CONSIST OF A CONTAINMENT AREA ENCLOSED BY AN EARTHEN DIKE. PLASTIC TARP, COVERING THE CONTAINMENT AREA AND EARTHEN DIKE, SHALL BE STAKED IN AT OUTSIDE EDGE OF EARTHEN DIKE.

7. ADDITIONAL CONTAINMENT METHODS MUST BE PROVIDED FOR ANY WASTE STORAGE AREA, STOCKPILE/MATERIAL STORAGE AREA AND/OR CONSTRUCTION TOILET AREA.

8. STAND-BY CREWS SHALL BE ALERTED BY THE PERMITTEE OR CONTRACTOR FOR EMERGENCY WORK DURING RAINSTORMS.

9. AFTER OCTOBER 1, ALL EROSION CONTROL MEASURES WILL BE INSPECTED DAILY AND AFTER EACH STORM. AFTER OCTOBER 1, BREACHES IN DIKES AND SWALES WILL BE REPAIRED AT THE CLOSE OF EACH DAY AND WHENEVER RAIN IS FORECAST.

10. ALL GRADED AREAS, INCLUDING, BUT NOT LIMITED TO, CUT AND FILL SLOPES, STREETS, PARKING AREAS, AND BUILDING PADS SHALL BE HYDROSEEDED PER ABAG. IN ADDITION TO HYDROSEEDING, APPLICATION OF STRAW WITH A TACKIFIER OR MULCH MAY BE REQUIRED BY THE CITY ENGINEER.

11. TO MINIMIZE EROSION OF GRADED BANKS, ALL GRADED BANKS STEEPER THAN 2% AND HIGHER THAN 3 FEET, SHALL BE HYDROSEEDED, LANDSCAPED, OR SEALED. IN ADDITION TO HYDROSEEDING, APPLICATION OF STRAW WITH A TACKIFIER OR MULCH MAY BE REQUIRED BY THE CITY ENGINEER. IF THE PERMANENT STORM DRAIN SYSTEM IS NOT INSTALLED BY OCTOBER 1, TEMPORARY DITCHES SHALL BE CONSTRUCTED TO CONTAIN THE STORM WATER AND DIRECT IT, IN A MANNER THAT AVOIDS EROSION OF THE BANKS, TO THE EROSION AND SEDIMENT CONTROL FACILITIES.

12. ALL CUT AND FILL SLOPES ARE TO BE PROTECTED TO PREVENT OVERBANK FLOW USING 4" EARTH BERMS OR SILT FENCES.

13. ALL GRADED AREAS, INCLUDING, BUT NOT LIMITED TO, CUT AND FILL SLOPES, STREETS, PARKING AREAS, AND BUILDING PADS SHALL BE HYDROSEEDED PER CITY'S REQUIREMENT. SUGGESTED MIX DESIGN FOLLOWS:

'BLANDO' BROME	40 LBS/ACRE
ZORRO FESCUE	10 LBS/ACRE
HYKON ROSE CLOVER	9 LBS/ACRE
SUB CLOVER	5 LBS/ACRE
CALIFORNIA NATIVE WILDFLOWER	5 LBS/ACRE
FERTILIZER	300 LBS/ACRE
ORGANIC BINDER	100 LBS/ACRE
STRAW MULCH	4000 LBS/ACRE

14. BORROW AREAS AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES TO THE SATISFACTION OF THE CITY ENGINEER.

15. SANDBAGS OR STRAW BALES SHALL BE STOCKPILED ON SITE AND PLACED AT INTERVALS SHOWN ON EROSION CONTROL PLANS, WHEN THE RAIN FORECAST IS 40% OR GREATER, OR WHEN DIRECTED BY THE INSPECTOR.

16. SANDBAGS REFERRED TO IN THE PRECEDING ITEMS MUST BE FULL. APPROVED SANDBAG FILL MATERIALS ARE DECOMPOSED GRANITE AND/OR GRAVEL, OR OTHER MATERIALS APPROVED BY THE INSPECTOR.

17. WHEN DIRECTED BY THE INSPECTOR, A 12-INCH BERM SHALL BE MAINTAINED ALONG THE TOP OF THE SLOPE OF THOSE HILLS ON WHICH GRADING IS NOT IN PROGRESS.

18. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED STREETS AT THE INTERVALS INDICATED BELOW IN NOTE #19. VELOCITY CHECK DAMS MAY BE CONSTRUCTED OF STRAW BALES, SANDBAGS OR OTHER EROSION RESISTANT MATERIALS APPROVED BY THE INSPECTOR, AND SHALL EXTEND COMPLETELY ACROSS THE STREET OR CHANNEL AT RIGHT ANGLES TO THE CENTERLINE. EARTH DIKES MAY NOT BE USED AS VELOCITY CHECK DAMS.

19. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS INDICATED BELOW:

GRADE OF CHANNEL	INTERVAL
LESS THAN 3%	100 FEET
3% TO 6%	50 FEET
OVER 6%	25 FEET

20. SEWER OR STORM DRAIN TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES, SHALL BE PLUGGED WITH SANDBAGS FROM TOP OF PIPE TO TOP OF DIKE. SEWER LINES SHALL FIRST BE ENCASED IN CONCRETE BEFORE SANDBAGS ARE PLACED.

21. ALL OPEN UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS FROM THE BOTTOM TO TOP WITH A DOUBLE ROW OF SANDBAGS PRIOR TO BACKFILL. SEWER TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF SANDBAGS EXTENDING DOWNWARD, TWO SANDBAGS FROM THE GRADED SURFACE OF THE STREET. SANDBAGS ARE TO BE PLACED WITH ALTERNATE HEADER AND STRETCHER COURSES. THE INTERVALS PRESCRIBED BETWEEN SANDBAG LOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE, BUT NOT EXCEED THE FOLLOWING:

GRADE OF THE STREET	INTERVAL
LESS THAN 2%	AS REQUIRED
2% TO 4%	100 FEET
4% TO 10%	50 FEET
OVER 10%	25 FEET

22. AFTER STORM DRAIN, SANITARY SEWER AND UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTER LINE OF A CROWNED STREET.

23. SEDIMENT TRAPS SHALL BE CLEANED OUT WHENEVER SEDIMENT REACHES THE SEDIMENT CLEANOUT LEVEL INDICATED ON THE DETAIL ON THIS SHEET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN THE DESILTING BASINS AND THE SEDIMENT TRAPS.

24. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THESE PLANS IN THE FIELD, SUBJECT TO APPROVAL OF THE CITY ENGINEER.

25. EROSION CONTROL STRUCTURES SHALL BE ADJUSTED BY THE CONTRACTOR TO REFLECT ALL CHANGES IN DRAINAGE AS STREETS AND BUILDING PADS ARE BEING INSTALLED.

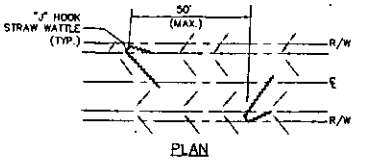
26. THE CONTRACTOR SHALL HAVE A COMPREHENSIVE PROGRAM FOR INSPECTION AND MAINTENANCE DURING WINTER SEASON, INCLUDING PROVISION FOR DOCUMENTING MAINTENANCE ACTIVITIES.

27. THE CONTRACTOR CAN STORE TEMPORARILY STOCKPILES AND EROSION CONTROL SUPPLIES TO HANDLE EMERGENCIES, AND SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES TO THE SATISFACTION OF THE CITY ENGINEER.

28. THE CONTRACTOR SHALL KEEP AN EMERGENCY PHONE # OF CREW CAPTAIN THAT WILL HANDLE EMERGENCIES.

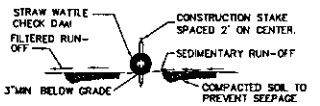
29. THE CONTRACTOR-ASSIGNED STANDBY CREWS 24 HOURS SEVEN DAYS PER WEEK TO BE CALLED TO WORK DURING EACH RAINSTORM EMERGENCY.

30. THE CONTRACTOR SHALL ASSIGN ONE CREW CAPTAIN RESPONSIBLE FOR DAILY, WEEKLY, MONTHLY INSPECTION DURING WET AND DRY WEATHER TO BE SURE ALL EROSION CONTROL MEASURES ARE WORKING PROPERLY AND RECORD THEIR INSPECTIONS ESPECIALLY AFTER EACH STORM IN A LOG.



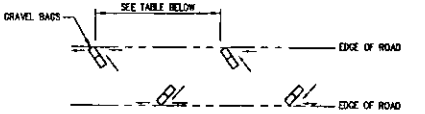
PLAN

NOTE: STREETS UP TO 1% PLACE BERMS EVERY 150', BETWEEN 1% & 5% EVERY 100', BETWEEN 8% & 15% EVERY 50' AND BETWEEN 15% & 20% EVERY 25' OR CENTER OF DRIVEWAY.

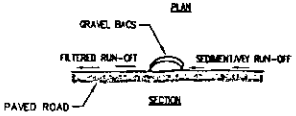


SECTION

A STRAW WATTLE CHECK DAM DETAIL
NOT TO SCALE



PLAN

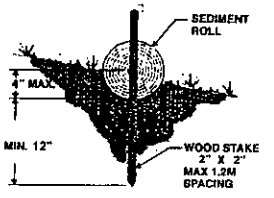


SECTION

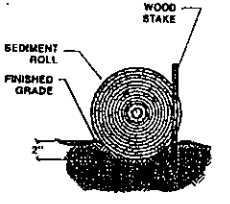
GRADE	INTERVAL
UP TO 1%	150 FEET
1% - 5%	100 FEET
5% - 15%	50 FEET
15% - 20%	25 FEET

NOTE:
IF REQUESTED BY CITY/COUNTY ENGINEER, USE ONLY ON PAVED ROAD TO REPLACED STRAW WATTLE CHECK DAM.

B GRAVEL BAGS CHECK DAM DETAIL
NOT TO SCALE



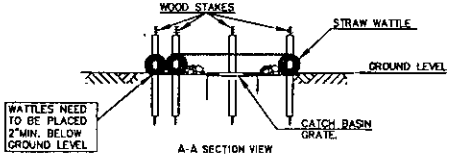
ENTRENCHMENT DETAIL IN SLOPE AREA



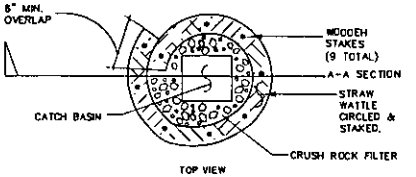
ENTRENCHMENT DETAIL IN FLAT AREA

C SEDIMENT WATTLE DETAIL
NOT TO SCALE

NOTE: WATTLE FENCE SHALL BE PROPERLY INSTALLED, MAINTAINED AND INSPECTED REGULARLY, TO MAXIMIZE FUNCTION.

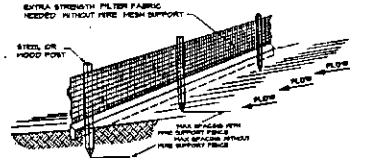


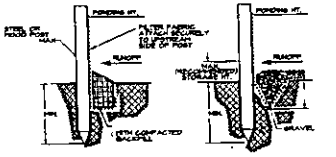
A-A SECTION VIEW



TOP VIEW

B SEDIMENT WATTLE DETAIL
NOT TO SCALE





STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

ALTERNATE DETAIL
TRENCH WITH GRAVEL

D SILT FENCE DETAIL
NOT TO SCALE

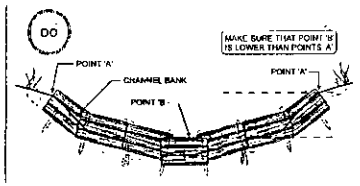
ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS
ALIQUOT ASSOCIATES, INC.
466 BOULEVARD WAY - 2ND FL.
OAKLAND, CA 94610
(510) 601-5101
FAX (510) 601-5111

NO.	BY	DATE	REVISIONS

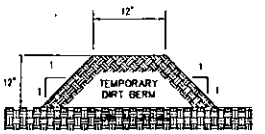
EROSION CONTROL PLAN
THE CALIFORNIA EXHIBIT
CUP CM09085 - OAKLAND ZOO
OAKLAND ALAMEDA COUNTY CALIFORNIA

JOB NO. 208022
DATE 6/15/2010
DESIGN
DRAWN MC
CHECKED
APPROVED

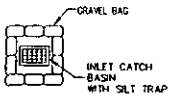
DRAWING NUMBER
EC5
5 OF 6



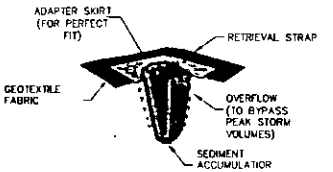
F EC6 **STRAW BALE DETAIL**
NOT TO SCALE



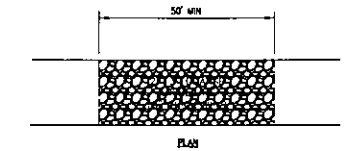
D EC6 **TEMPORARY DIRT BERM DETAIL**
NOT TO SCALE



H EC6 **CATCH BASIN DETAIL**
NOT TO SCALE

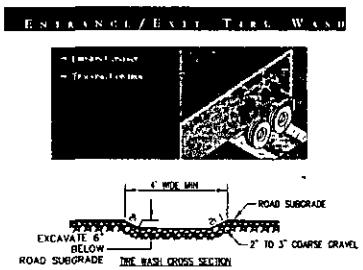


I EC6 **SILT TRAP DETAIL**
NOT TO SCALE

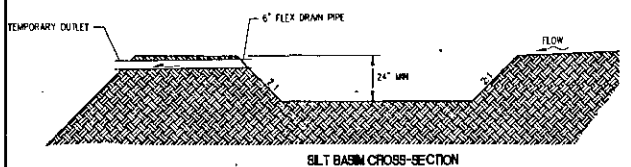


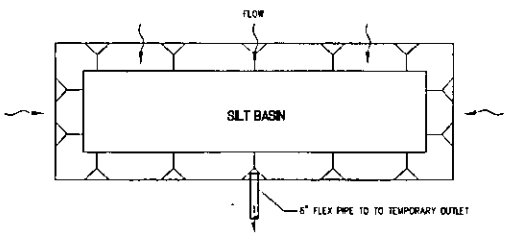
NOTE:
1. SEE EROSION CONTROL PLAN FOR STABILIZED ENTRANCE LOCATION
2. THE ENTRANCE SHALL BE MAINAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY.

J EC6 **STABILIZED CONSTRUCTION ENTRANCE DETAIL**
NOT TO SCALE

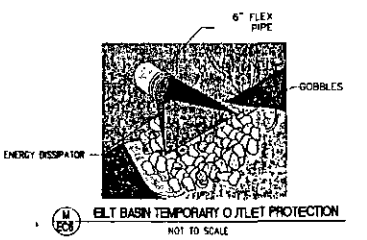


K EC6 **TIRE WASH DETAIL**
NOT TO SCALE





L EC6 **TYPICAL SILT BASIN**
NOT TO SCALE



M EC6 **SILT BASIN TEMPORARY OUTLET PROTECTION**
NOT TO SCALE

ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS
ALIQUOT ASSOCIATES, INC
460 BOULEVARD WAY - 2ND FL
OAKLAND, CA 94610
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FAX (510) 601-3171

NO.	BY	DATE	REVISIONS

EROSION CONTROL PLAN
THE CALIFORNIA EXHIBIT
CUP CM09085 - OAKLAND ZOO

OAKLAND — ALAMEDA COUNTY — CALIFORNIA

JOB NO. 230072
SCALE: NTS
DATE: 8/15/2013
DESIGN:
DRAWN: MC
APPROVED:

DRAWING NUMBER
EC6
6 OF 6

FIRE SERVICE PLAN

CALIFORNIA EXHIBIT - CUP CM09085 - OAKLAND ZOO

OAKLAND ALAMEDA COUNTY CALIFORNIA

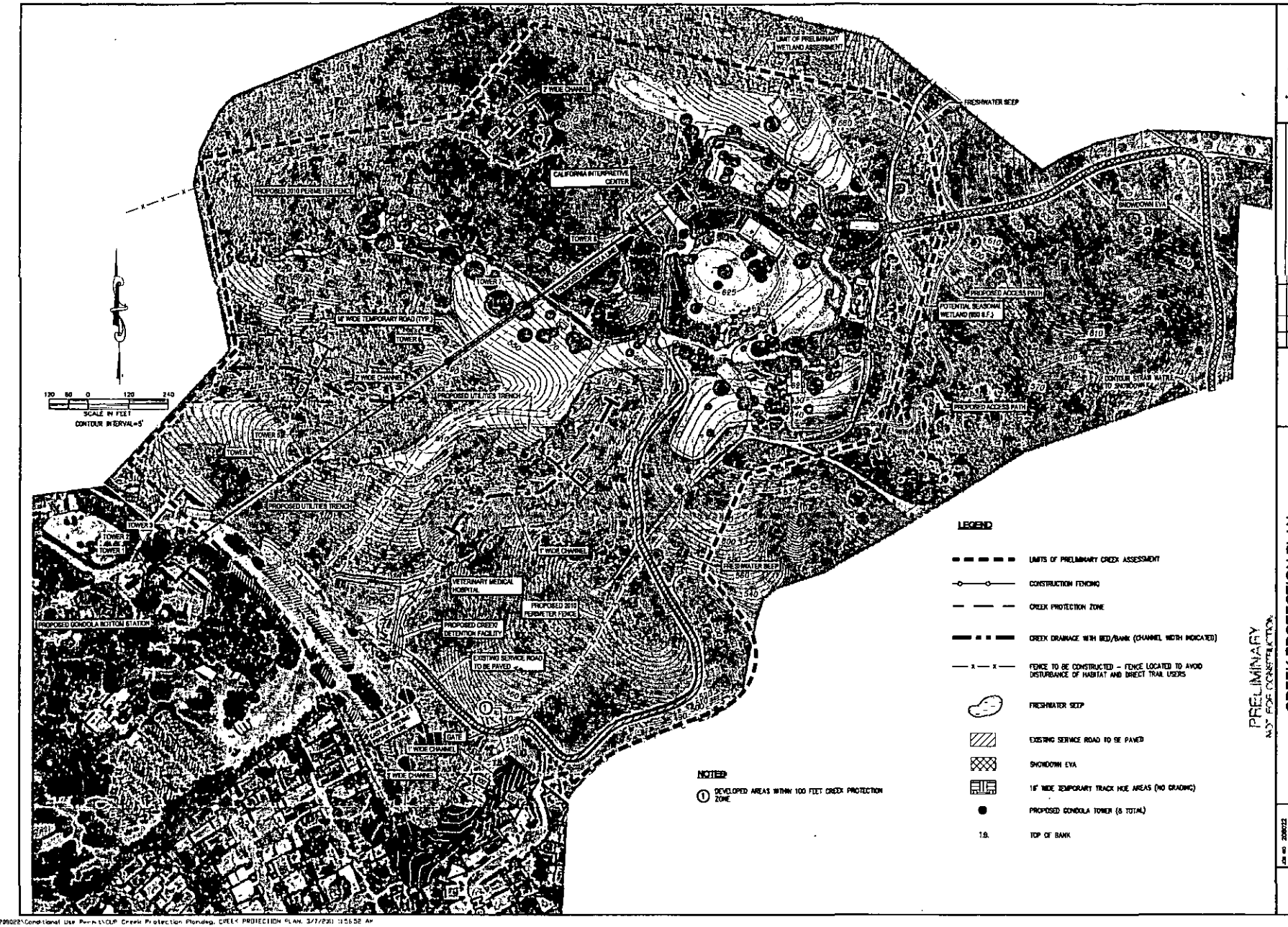
JOB NO.	208022
SCALE	1"=120'
DATE	8/15/2010
DESIGN	
DRAWN	MC
APPROVED	

SHEET NUMBER 1 OF 1

NO	BY	DATE	REVISIONS

ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS

ALIQUOT ASSOCIATES, INC.
400 SOUTH HOPE STREET, SUITE 700
LOS ANGELES, CA 90071
(213) 683-1560



PRELIMINARY
NOT FOR CONSTRUCTION

ALIQUOT
PLANNERS
CIVIL ENGINEERS
SURVEYORS

ALIQUOT ASSOCIATES, INC.
460 SOLEY/1460 BAY - 3RD FL.
OAKLAND, CA 94610
(510) 601-2101
FAX (510) 601-2121

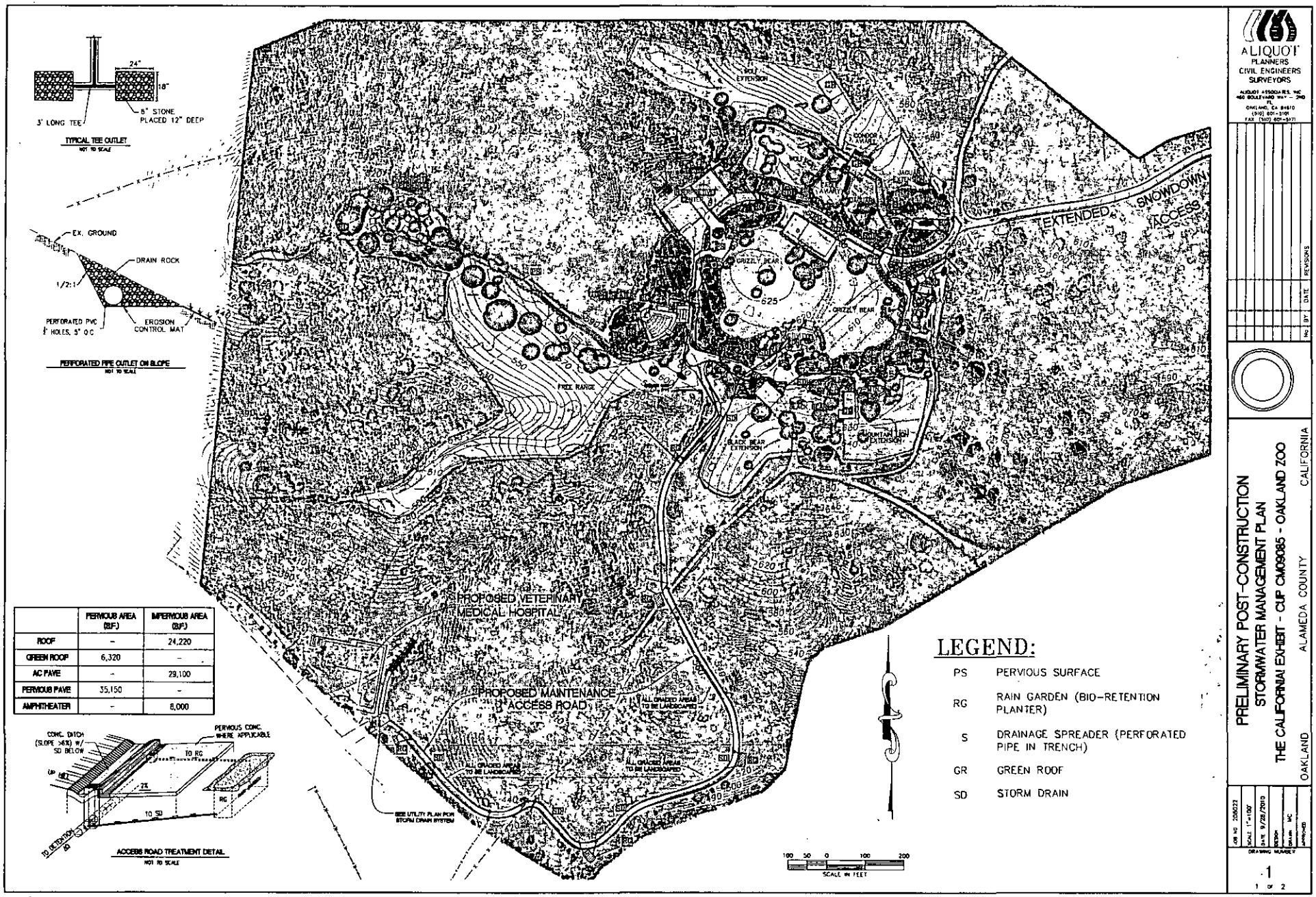
No.	BY	DATE	REVISIONS

CREEK PROTECTION PLAN
THE CALIFORNIA EXHIBIT
CUP CM09085 - OAKLAND ZOO

OAKLAND — ALAMEDA COUNTY — CALIFORNIA

JOB NO. 280022
SCALE 1"=120'
DATE 3/7/2011
DESIGN
DRAWN MC
APPROVED

DRAWING NUMBER
1
1 OF 1



	PERVIOUS AREA (SF.)	IMPERVIOUS AREA (SF.)
ROOF	-	24,220
GREEN ROOF	6,320	-
AC PAVE	-	29,100
PERVIOUS PAVE	35,150	-
AMPHITHEATER	-	8,000

LEGEND:

PS	PERVIOUS SURFACE
RG	RAIN GARDEN (BIO-RETENTION PLANTER)
S	DRAINAGE SPREADER (PERFORATED PIPE IN TRENCH)
GR	GREEN ROOF
SD	STORM DRAIN

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SURVEYORS
ALIQUOT ASSOCIATES, INC.
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OAKLAND, CA 94610
(510) 601-3100
FAX (510) 601-3177

NO.	BY	DATE	REVISIONS

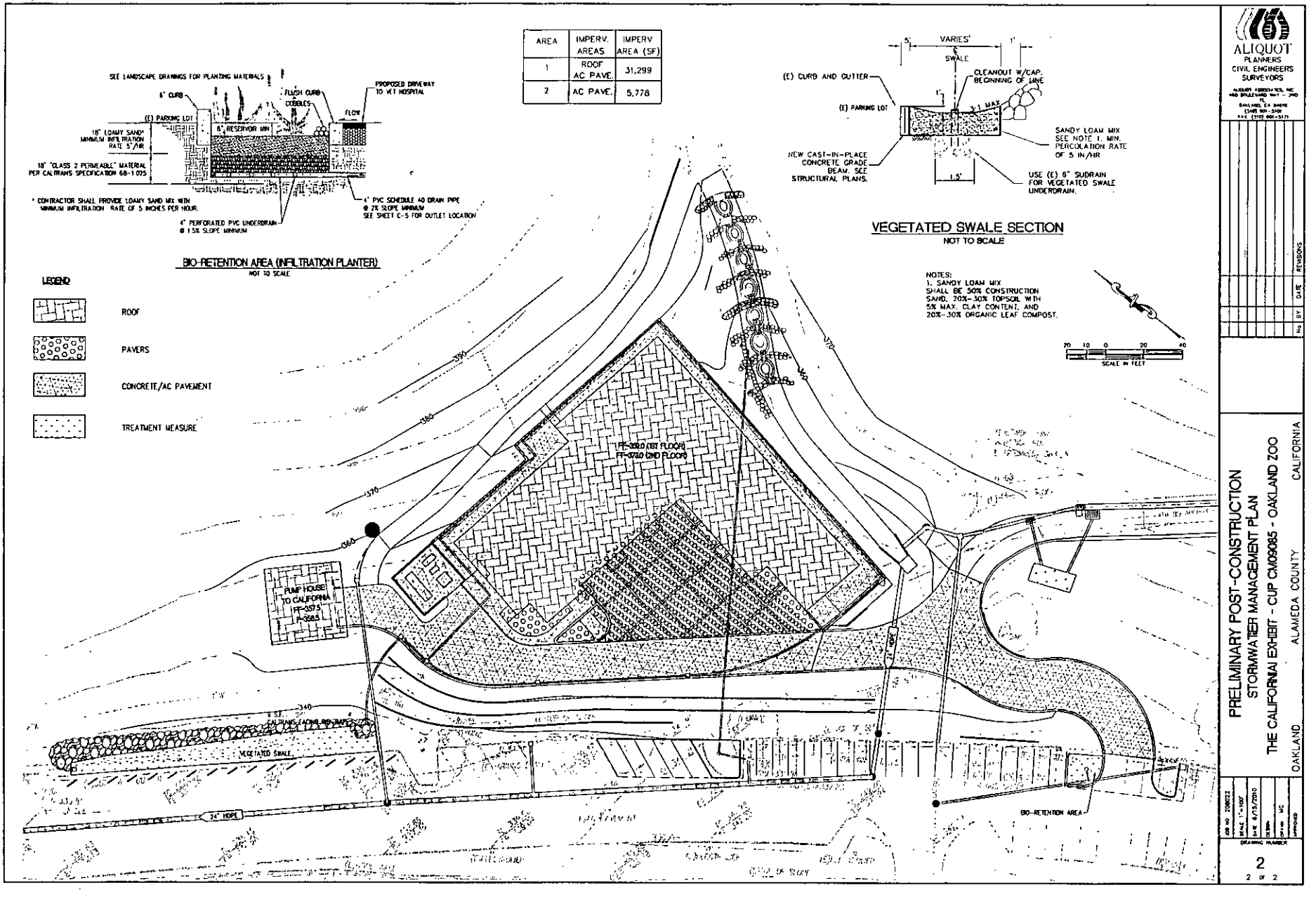
PRELIMINARY POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

THE CALIFORNIA EXHIBIT - CUP CM09085 - OAKLAND ZOO

OAKLAND — ALAMEDA COUNTY — CALIFORNIA

JOB NO. 205022
SCALE 1"=100'
DATE 9/28/2010
DESIGN
DRAWN MC
APPROVED

DRAWING NUMBER
1
1 OF 2



AREA	IMPERV. AREAS	IMPERV AREA (SF)
1	ROOF AC PAVE.	31,299
2	AC PAVE.	5,778

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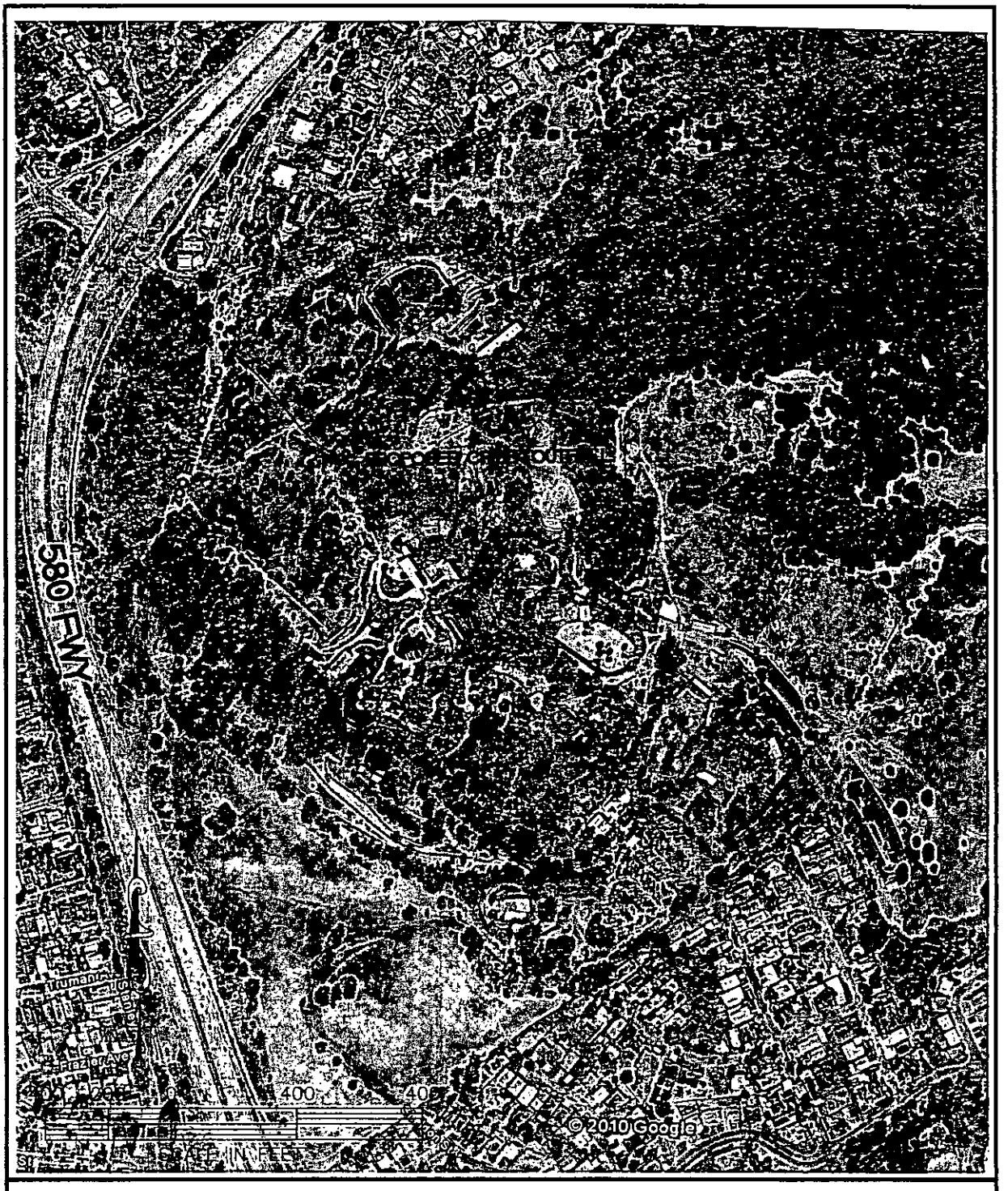
SURVEYORS

No	BY	DATE	REVISIONS

PRELIMINARY POST-CONSTRUCTION
STORMWATER MANAGEMENT PLAN
THE CALIFORNIA EXHIBIT - CUP CM09085 - OAKLAND ZOO
OAKLAND ALAMEDA COUNTY CALIFORNIA

JOB NO. 208022
SCALE 1"=100'
DATE 6/15/2010
DESIGN
DRAWN MC
APPROVED

DRAWING NUMBER
2
2 OF 2



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PLANNERS
CIVIL ENGINEERS
SURVEYORS

1390 SOUTH MAIN STREET
SUITE 310
WALNUT CREEK, CA. 94596
(925) 476-2300
FAX (925) 476-2350

Subject LOCATION MAP

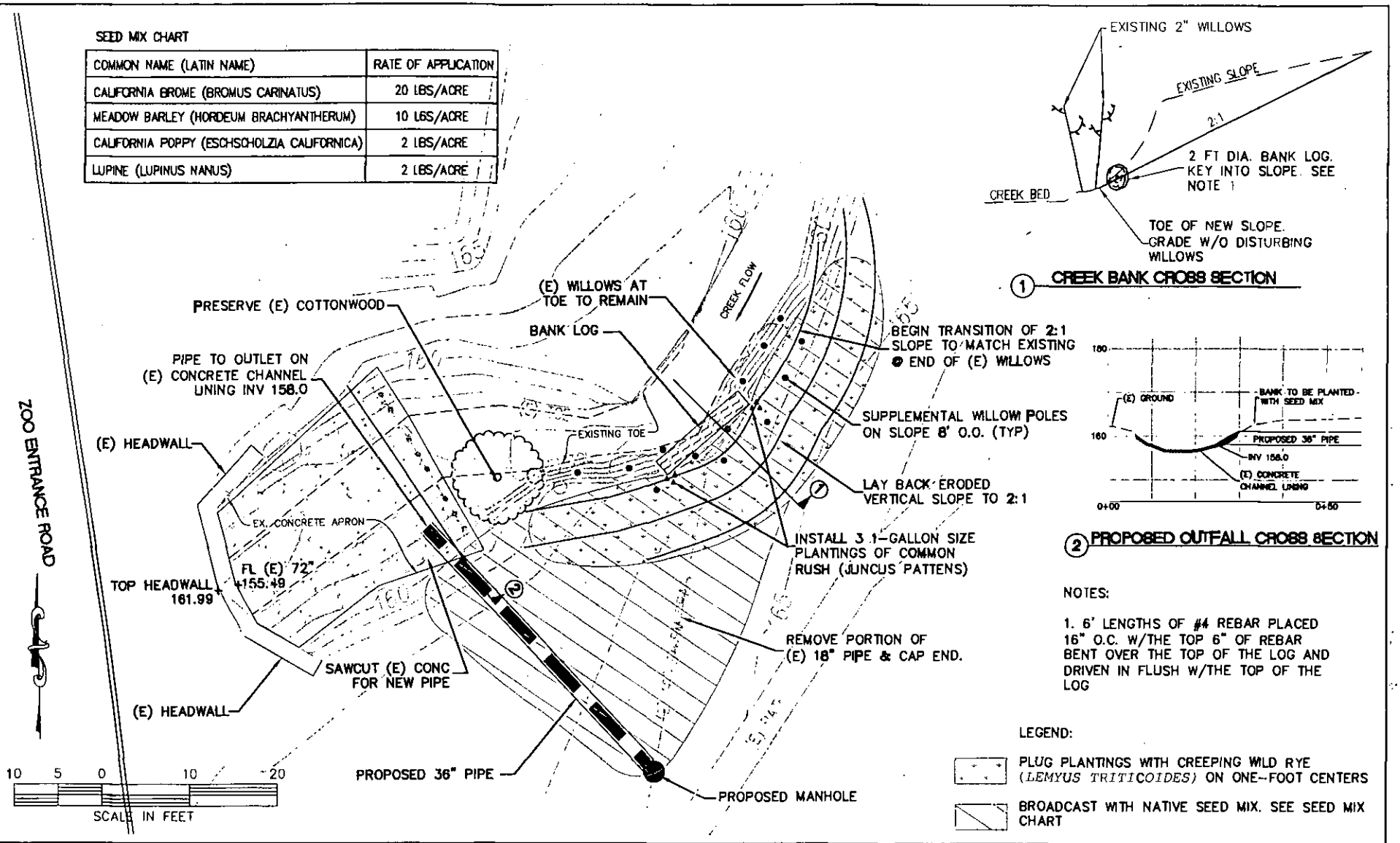
Job No. 208022 Scale _____

By _____ Date 11/29/2010 Chkd. _____

SHEET _____ OF _____

SEED MIX CHART

COMMON NAME (LATIN NAME)	RATE OF APPLICATION
CALIFORNIA BROME (BROMUS CARINATUS)	20 LBS/ACRE
MEADOW BARLEY (HORDEUM BRACHYANTHERUM)	10 LBS/ACRE
CALIFORNIA POPPY (ESCHSCHOLZIA CALIFORNICA)	2 LBS/ACRE
LUPINE (LUPINUS NANUS)	2 LBS/ACRE



1 CREEK BANK CROSS SECTION

2 PROPOSED OUTFALL CROSS SECTION

NOTES:

1. 6' LENGTHS OF #4 REBAR PLACED 16" O.C. W/THE TOP 6" OF REBAR BENT OVER THE TOP OF THE LOG AND DRIVEN IN FLUSH W/THE TOP OF THE LOG

LEGEND:

PLUG PLANTINGS WITH CREEPING WILD RYE (*LEMYUS TRITICOIDES*) ON ONE-FOOT CENTERS

BROADCAST WITH NATIVE SEED MIX. SEE SEED MIX CHART

ALIQUOT

Planners
Civil Engineers
Surveyors

Aliquot Associates, Inc.
1390 S. Main St., Ste 310
Walnut Creek, CA 94596
Telephone: (925) 476-2300
Fax: (925) 476-2380

PROPOSED OUTFALL MODIFICATION AT ARROYO VIEJO CREEK KNOWLAND PARK-OAKLAND ZOO

OAKLAND ALAMEDA COUNTY CALIFORNIA

Date 11/28/2010
Scale 1"=10'
Design
Drawn
Approved
Job No. 1004002

Drawing Number 1

1 OF 1

ALIQUOT

Proposed Outfall Modification at Arroyo Viejo Creek in Knowland Park
Description of Creek and Outfall Repair
November 30, 2010

An existing stormwater outfall in Arroyo Viejo Creek is located just east of the main entrance to the Zoo off Golf Links Road and is causing bank erosion by pipe flow originating within the Project area.

The bank erosion at the outfall is aggravated by an undersized 18 inch pipe, causing increased velocity, and the position of this outfall in the creek bank. In its current state the18-inch clay pipe protrudes from the bank at an opposing angle to the direction of creek flow. Judging by the age of this clay culvert and the near vertical slope of the bank, erosion has been occurring at the outlet for years. Its location at a bend in the creek exasperates the opposing currents due to the creek flow, velocity, increase around the concave bed and bank. The bank has been sliding at the outfall location due to erosion caused by turbulence with no bank protection. As the toe of the bank recedes the pipe has been cracking and breaking off. Clay pipe was a poor choice for a storm drain outfall and its direction opposing the direction of creek flow was poor design.

The proposed outfall repair and replacement will relocate the pipe downstream of its current location and replace the pipe with a standard pipe type used for storm drainage conveyance. The proposed storm drain pipe construction will abandon or remove approximately 35 feet of the existing pipe, install a manhole, and install a 36-inch pipe directed to the northwest that will outlet to the creek onto an existing concrete apron at the bridge culvert. The 36-inch pipe will be angled to outlet with direction of creek flow.

To repair the bank at the location of the former existing outfall, a minimum of 10 feet of the existing clay culvert will be removed. A two foot diameter bank log will be keyed in across the eroded bank at its toe. Recently planted willows exist at the toe of this bank. The bank excavation and fill will begin behind the willows to minimize disturbance; the bank will be graded at a 2:1 slope. The existing willows will remain and additional willows will be planted on the new slope intermittently to approximately 5 feet up the slope and placed 8 feet on-center. Plug plantings with creeping rye will be installed 1 foot on-center above the willows to the top of the 2:1 slope. A broader area, from the concrete lining to the newly graded bank, will be broadcast with a seed mix containing Califomia Brome, Meadow Barley, Califomia Poppy, and Lupine. These improvements will curtail future erosion and enhance existing habitat values in this area.

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