APPENDIX A

Westlaw Search for Cultural Landscape Cases

3/31/08

Westlaw.

QUERY - "CULTURAL LANDSCAPE"

DATABASES(S) - CA-CSR

1. Zee Medical Distributor Association, Inc. v. Zee Medical, Inc., 80 Cal.App.4th 1, 94 Cal.Rptr.2d 829, 2000 WL 428564, 00 Cal. Daily Op. Serv. 3108, 2000 Daily Journal D.A.R. 4189, , Cal.App. 1 Dist., April 21, 2000(No. A086721.)

...Bartenders Union, supra, 165 Cal.App.2d at p. 239, 331 P.2d 789.) 5 FN5. Like stage shows at movie theaters, drive-in restaurants are all but gone from our **cultural landscape**. However, time and technological change are not always determinative. Zinn v. Ex-Cell-O Corp. (1957) 148 Cal.App.2d 56, 306 P.2d 1017, involved a detailed agreement for the...

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APPENDIX B

Transportation and Circulation Memorandums



MEMORANDUM

Date:March 11, 2008To:Gary Banks, LBNLFrom:Sam Tabibnia and Ellen RobinsonSubject:Helios Driveway Access Assessment

WC07-2499

This memorandum summarizes the analysis completed by Fehr & Peers for the proposed Helios Driveway on Centennial Drive in Oakland, CA. Based on our analysis, the most recent design for the driveway dated February 25, 2008 would accommodate most vehicles turning in and out of the driveway and would provide adequate sight distance. It is recommended that landscaping adjacent to the intersection be minimal and regularly maintained to preserve adequate sight distance.

Our assumptions and analysis methodology are summarized below.

PROJECT LOCATION

The proposed driveway would provide access between Centennial Drive and the proposed Helios Energy Research Facility Project (Helios Project). The new driveway would be located about 1,000 feet southwest of the signal-controlled pedestrian entrance to the University of California Botanical Garden, and about 300 feet east of the Fire Trail parking lot and trail head. Centennial Drive is a winding road in the hilly, heavily wooded eastern portion of the University of California's Berkeley campus. Centennial Drive provides one travel lane in each direction and a posted speed limit of 25 miles per hour. For one half mile from the proposed driveway location in either direction, Centennial Drive has a grade of approximately ten percent, with no shoulder lanes. A gravel pedestrian path extends along the southeast side of the roadway, separated from the vehicle lanes by a small asphalt berm (see figure 1).

There are two signalized pedestrian crossings on Centennial Drive, including the Botanical Garden entrance mentioned above and at the Lawrence Hall of Science. All driveways on Centennial Drive are side-street stop controlled. Except the pedestrian signals mentioned above, there are no other traffic control devices on Centennial Drive. High-visibility crosswalks (i.e., ladder-striped) are provided at a number of locations crossing Centennial Drive. Figure 2 shows the Strawberry Canyon Center driveway and pedestrian crossing, located on Centennial Drive, 1,100 feet west of the proposed project driveway location.

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Figure 1 - Pedestrian path near proposed driveway location



Figure 2 - Strawberry Canyon Center driveway, looking west

Figure 3 shows the proposed new driveway. The proposed roadway would provide access to the proposed Helios Project and 50 new parking spaces. A vehicular turnaround area would be provided at the end of the roadway to facilitate bus turnaround. The proposed new roadway would provide one 12-foot vehicle travel lane in each direction and a 4-foot pedestrian path on the east side of the roadway. Vehicular access would be controlled by a card-activated gate located about 225 feet west of Centennial Drive.

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Figure 3 - Proposed Driveway

DATA COLLECTION

A radar speed survey was conducted on Centennial Drive on Friday, November 9, 2007. The travel speeds of over 100 vehicles were recorded in each direction. Both travel directions were found to have an 85th percentile speed of 32 miles per hour. A conservative design speed of 35 miles per hour was therefore selected for the driveway geometry analysis.

Based on data obtained from the California Highway Patrol, no collisions (including vehicles, pedestrians or bicycles) were reported on Centennial Drive between 2004 and 2007.

DRIVEWAY SIGHT DISTANCE

The Caltrans *Highway Design Manual* (HDM) provides standards and guidelines for design of roadways in California. Applicable sections of the HDM were used on a project site plan dated February 25, 2008 to determine the appropriate sight distance for the proposed Helios Driveway. Both corner sight distance and stopping sight distance are discussed below.

HDM section 405.1 (2) (a) recommends a corner sight distance to provide a line of sight between a driver waiting at the crossroad and an approaching driver 7.5 seconds from the intersection. For

a major road with a design speed of 35 miles per hour, this sight distance is 385 feet. HDM also recommends increasing this distance by 20 percent on downgrades of greater than 3 percent sustained for at least a mile. Centennial Drive meets these conditions at the proposed driveway location. Therefore the recommended corner sight distance for the proposed driveway is 462 feet looking east (at a driver coming downhill) and 385 feet looking west. Due to the vertical and horizontal curvature of the roadway, along with the topography of the site, neither of these sight distance requirements can be met.

The HDM section 405.1 (2) (b) states that when the cost to achieve the recommended, 7.5 seconds corner sight distance is excessive, the minimum corner sight distance for an intersection shall be equal to the stopping sight distance. Stopping sight distance is defined as "the distance required by the driver of a vehicle, traveling at a given speed, to bring the vehicle to a stop after an object on the road becomes visible" (HDM section 201.3). For a major road with a design speed of 35 miles per hour, the stopping sight distance is 250 feet, with a recommended 20 percent increase for steep, sustained downgrades. Therefore the required stopping sight distance for the proposed driveway is 300 feet looking east, and 250 feet looking west. Stopping sight distance of 250 feet must also be provided for drivers traveling from the west, approaching drivers waiting to turn left into the proposed driveway.

The proposed driveway design has been analyzed, and sight distances in all three directions are adequate for stopping sight distance per requirements of HDM. Landscaping adjacent to the intersection should be minimal and regularly maintained to continue to provide adequate sight distance. Figures 4 through 6 illustrate the lines of sight.

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Figure 4 - Sight Distance Plan and Profile Looking West from Driveway

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Figure 6 - Sight Distance from Centennial Drive Looking East

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TRUCK AND FIRE ENGINE ACCESS

The driveway design was assessed for adequate access by buses and fire engines using AutoTurn, a CAD-based program which simulates vehicle turning maneuvers. The design vehicles used in this assessment are a 47.5 foot ladder fire apparatus and a 40-foot bus. The dimensions of these vehicles are shown on figure 7, below.



Figure 7 - Design Vehicles

Figures 8 and 9 show the path of the fire engine and the bus entering and exiting the site, respectively. The dashed lines outlining the vehicle path represent the outer envelope of the vehicle, and the solid lines represent the wheel paths.

As shown in the figures, the fire engine and a 40-foot bus must fully occupy the opposite travel lane on Centennial Drive when turning right from the driveway. Thus, both vehicles must wait for gaps in both uphill and downhill traffic flow before completing a right-turn. However, both vehicles would have adequate sight distance in both directions. Furthermore, fire engine use of the driveway is expected to be minimal and occur during emergencies only. The 40-foot design bus represents a typical charter bus that may occasionally use the driveway. Typical LBNL or UC Berkeley shuttles, which are smaller, would navigate the driveway more easily. If feasible, the curb radius should be widened to improve right-turn from the driveway to Centennial Drive by larger vehicles.

Both fire engines and buses are also able to travel the entire length of the driveway and complete a 180-degree turn on the site.

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Figure 8 - Fire Engine Access



Figure 9 - Bus Access

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ADDITIONAL SAFETY MEASURES

Considering the estimated vehicular and pedestrian volumes expected at the proposed driveway, current vehicular speeds on Centennial Drive, and the lack of reported collisions, the intersection is not expected to satisfy the *Manual on Uniform Traffic Control Devices* (MUTCD) signal warrants. Thus, the driveway should not be signalized. A stop sign should be installed on the driveway approach of the intersection.

Installation warning signs with flashing lights on Centennial Drive would improve safety at the proposed driveway. MUTCD standard warning signs W2-2R and W2-2L (see figure 10), should be installed on the Centennial Drive approaches to the driveway. One W2-2L sign is posted on Centennial Drive, north of a driveway between the Botanical Garden entrance and proposed new driveway location. These signs should be installed approximately 100 feet in advance of the driveway on the eastbound approach, and 125 feet in advance of the driveway on the westbound approach, to provide adequate stopping distance for drivers, after reading and comprehending the signs.



Figure 10 - W2-2R and W2-2L

Considering the hilly terrain and steep slopes of the pedestrian path adjacent to Centennial Drive, pedestrian use of the path to access the site is expected to be minimal. Pedestrians crossing Centennial Drive at this location would have adequate sight distance in both directions. Crosswalks should not be installed at the driveway at this time because based on recent research completed by Federal Highway Administration, marked crosswalks on roadways with less than 15,000 daily vehicle volumes and few pedestrians do not improve pedestrian safety. However, if the path along Centennial Drive is improved in the future or the level of pedestrian activity is increased, installation of a marked crosswalk should be considered.

Please contact us with questions or comments.



MEMORANDUM

Date: September 24, 2007

To: Laura Chen, LBNL Susan Sakaki, EnviroSystems Group

From: Sam Tabibnia and Jamie Henson

Subject: LBNL Parking Supply and Demand

WC07-2488

This memorandum summarizes the results of a parking supply and demand study at the Lawrence Berkeley National Laboratory (LBNL) campus conducted by Fehr & Peers in September 2007. As part of the study, Fehr & Peers verified the number and designation of available parking stalls and observed parking demand during mid-morning and afternoon periods. Parking supply and demand are discussed in further detail below.

Parking Supply

An electronic file showing the location and designation of all parking stalls at LBNL was provided by LBNL staff. Based on a site visit on September 12, 2007, we verified and noted the changes in the location and designation of parking stalls. Most parking stalls are provided in small lots adjacent to individual buildings. There is also a number of larger lots and parking along on-site roadways. Figure 1 shows the location of parking facilities and approximate number of stalls at each facility. Table 1 shows the number of stalls by designation at each parking facility.

A variety of parking designations exist for employees and regular visitors at the LBNL site. They are:

- Orange Circle Reserved for Directors (31 stalls)
- Blue Triangle Reserved for Senior Scientists (333 stalls)
- Government Vehicles (262 stalls)
- General Use (1,468 stalls)
- Disabled (41 stalls)
- Time Limited (17 stalls)
- Visitor (12 stalls)

There are also areas reserved for motorcycle parking and other areas are designated as loading zones. Additionally, some stalls are reserved for specific individuals.

Due to construction, parking facilities were not available in:

• Lot Z – Above the Building 71 Complex

Parking capacity was reduced due to construction in:



- Lot N3 Along McMillan Road
- Lot T2 Adjacent to Building 62
- Lot U4 Near Building 85

About 130 parking stalls were not available due to construction.

Currently, LBNL provides 2,164 parking stalls. This includes orange circle, blue triangle, government vehicle, general, disabled, visitor and timed parking stalls. It does not include motorcycle parking, loading zones, or parking stalls not available due to construction. If parking stalls unavailable due to construction would be available in their current configuration, a total of 2,294 parking stalls would be available, consistent with the working estimate of 2,300 stalls used by LBNL.

Parking Demand

The occupancy of each parking stall was recorded both in the morning peak period and in the afternoon peak period on Wednesday, September 12, 2007. The morning occupancy survey was started at 10:45 AM and ended at approximately noon. The afternoon occupancy survey started at 2:00 PM and ended at approximately 3:15 PM.

Overall, about 80 percent, or 1,722 stalls were occupied in the morning peak period. In the afternoon peak, 1,757 stalls or 81 percent were occupied. In general, parking lots were more full in the central area of the site and less full in the more remote locations of the site. Figures 2 and 3 show the morning and afternoon parking occupancy by facility, respectively. Tables 2 and 3 show the morning and afternoon parking demand by facility and designation, respectively.

Please contact us with questions or comments.

Attachments:

- Table 1 Parking Supply By Facility and Designation
- Table 2 Mid-Morning Parking Demand and Occupancy
- Table 3 Afternoon Parking Demand and Occupancy
- Figure 1 LBNL Parking Inventory
- Figure 2 Morning (11:30 AM) Parking Occupancy
- Figure 3 Afternoon (2:30 PM) Parking Occupancy

Table 1 Parking Supply By Facility and Designation									
Parking Facility	Unavailable								
	Due To Construction	Orange Circle	Blue Triangle	Government Vehicle	General	Disabled	Timed	Visitor	i otal
A		1		4		1	-	9	15
ALI B			14	14	54 35	1	2		71
C		5	81	23	00	5	2		116
CH1					16				16
CH2				1	78	1			80
D					181				181
E			10	7	68				85
г G1			16	4	29	6			29 26
G2			9	9		, ,			18
G3			25	4					29
GL1					28				28
H1		13	15			1	1		30
H2		2	29	13	01	3			47
и К1			78	2	67	2	2		04 151
K2		3	8	6	41	2	-		60
L				9	27	4			40
LR1					20				20
LR2					18				18
M1			8	_	11				19
IVIZ MM1				/ 8	40				47
N1				1	29		1		31
N3	16	1	7	10	108	2			128
N4				19	49	1			69
Р				48	18	2		2	70
Q			10	33	61	2	1	1	108
<u> </u>			1	8	44	1	6		<u> </u>
5 T1		1	5	4	1	2	1		13
T2	31		Ŭ	5	42	-			47
U1		1	2	2	46	1			52
U2		2		1		1			4
U3			5	1	21				27
U4	17	1		1	9				11
05 V					40 17				40 17
ŵ				6	42				48
X			6	6	40				52
Y		1	4	3	95		1		104
Z	66			ļ					0
Total	130	31	333	262	1,468	41	17	12	2,164
Jotes: 1. Totals do not include stalls unavailable due to construction									

Table 2 Mid-Morning Parking Demand and Occupancy										
Parking										
Facility	Orange Circle	Blue Triangle	Government Vehicle	General	Disabled	Timed	Visitor	Total	Occupancy	
Α	1		2		1		5	9	60%	
AL1			13	47	1	2		63	89%	
В		14		35				49	100%	
С	4	73	12		3	2		94	81%	
CH1				12				12	75%	
CH2				65				65	81%	
D				98				98	54%	
E		8	5	41				54	64%	
F				28				28	97%	
G1		14	4		6			24	92%	
G2		9	7					16	89%	
G3		22	4					26	90%	
GL1	-	10		9				9	32%	
	1	13	0		0			20	67% 01%	
H2	1	27	8	74	2			38	81%	
		70	2	74 67	1	2		150	92%	
	2	70	2	40	1	2		150	99%	
	3	5	5	40	2			20 24	93%	
			5	25	4			34 7	00 % 35%	
				18				18	100%	
M1		7		11				18	95%	
M2		,	5	29				34	72%	
MM1			6	5				11	79%	
N1			1	29		1		31	100%	
N3	1	7	9	102	2			121	95%	
N4			12	38	1			51	74%	
Р			30	11	2		2	45	64%	
Q		8	28	60	2	1	1	100	93%	
R			4	34	1	2		41	68%	
S			1	3	1			5	50%	
T1	1	5	3		2			11	85%	
T2			5	37				42	89%	
U1	1	2	2	40				45	87%	
U2			1					1	25%	
U3		4	1	21				26	96%	
U4	1		1	9				11	100%	
U5				26				26	65%	
V				17				17	100%	
W			3	14				17	35%	
X		6	4	36				46	88%	
Y _	1	3	2	69		1		76	73%	
Z								0		
Total	21	305	188	1,157	32	11	8	1,722	80%	
Occupancy	68%	92%	72%	79%	78%	65%	67%	80%		

Table 3 Afternoon Parking Demand and Occupancy										
Parking										
Facility	Orange Circle	Blue Triangle	Government Vehicle	General	Disabled	Timed	Visitor	Total	Occupancy	
Α	1		3		1		5	10	67%	
AL1			12	45	1	2		60	85%	
В		14		33				47	96%	
С	3	74	16		3	2		98	84%	
CH1				16				16	100%	
CH2				66	1			67	84%	
D				109				109	60%	
E		9	6	44				59	69%	
F				29				29	100%	
G1		15	3		6			24	92%	
G2		9	7					16	89%	
G3		20	4	_				24	83%	
GL1	0	10		5				5	18%	
H1	9	12			1	1		23	11%	
H2	2	26	11	75	3			42	89%	
I Ka		77	2	/5	1	0		/8	93%	
KI KO	0	//	2	62	2	2		145	96%	
K2	3	ь	6	40	1			50	93%	
			6	25	4			30	88% 40%	
				10				10	40%	
LNZ M1		0		10				10	100%	
M2		0	6	20				19	7/10//0	
			5	25				35	61%	
N1			1	4		1		9 25	04 % 91%	
N3	1	7	8	103	2	1		101	95%	
N3 N4	•	,	10	46	2			56	9378 81%	
D			24	10	2		2	38	54%	
0		6	26	55	2	1	1	Q1	84%	
R		0	6	34	1	4		45	75%	
S			1	3	1			5	50%	
T1	1	4	4	Ū	2	1		12	92%	
T2			5	33	_			38	81%	
U1		2	2	46	1			51	98%	
U2	1		1					2	50%	
U3		5	1	21				27	100%	
U4	1		1	8				10	91%	
U5				32				32	80%	
V				15				15	88%	
w			4	25				29	60%	
Х		6	6	39				51	98%	
Y	1	4	2	69		1		77	74%	
z								0		
Total	23	304	191	1,181	35	15	8	1,757	81%	
Occupancy	74%	91%	73%	80%	85%	88%	67%	81%		



September 2007 WC07-2488_1



September 2007 WC07-2488_2



September 2007 WC07-2488_3

Figure 3