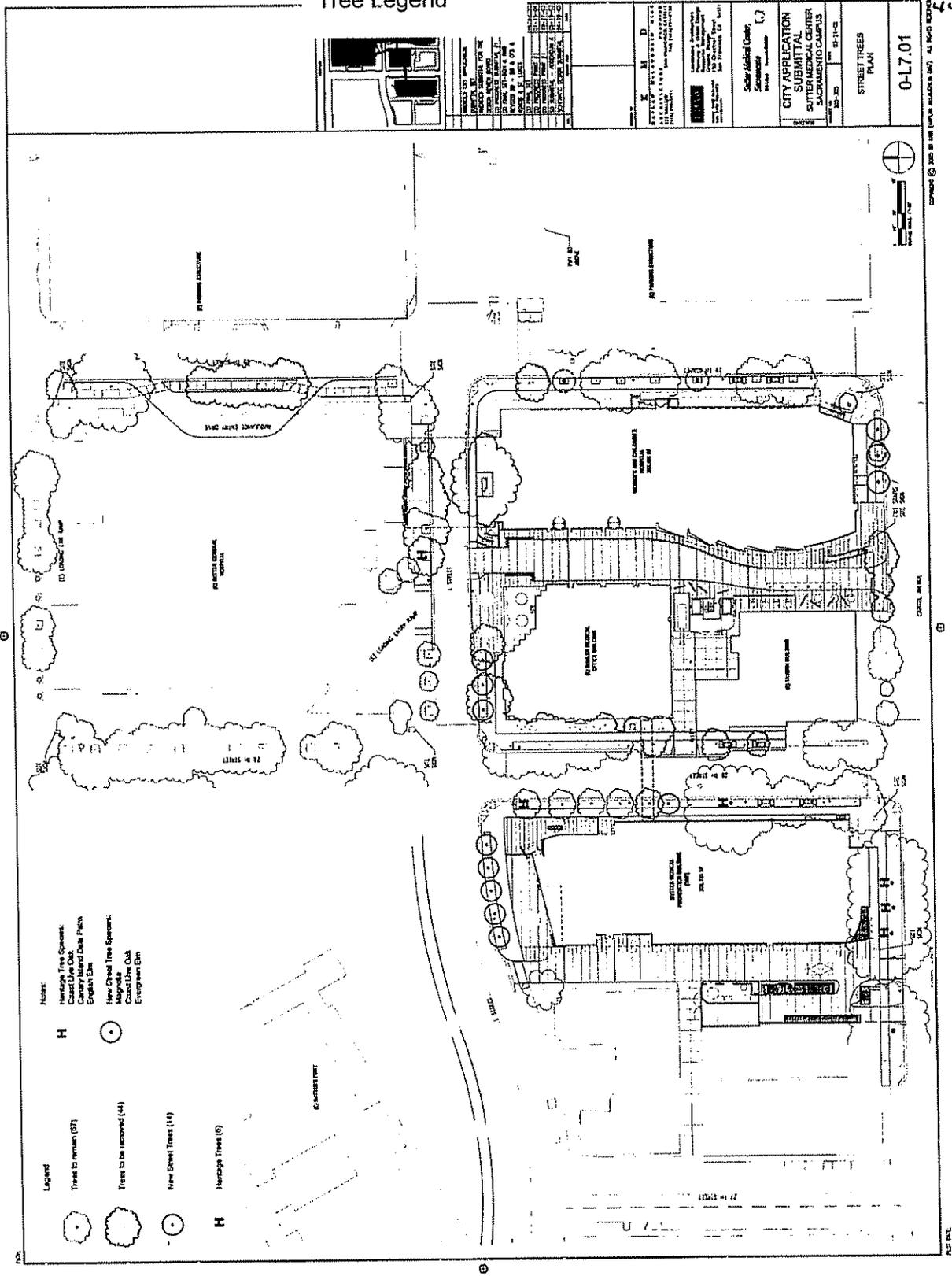


Exhibit D
Tree Legend



Notes:
 Heritage Tree Species:
 Coast Live Oak, Dogwood, English Elm, Ginkgo, Live Oak, Redwood, Sycamore, Western Red Cedar, Western White Pine, Yellow Pine

- Legend**
- Trees to remain (87)
 - Trees to be removed (44)
 - New Street Trees (14)
 - H Heritage Trees (8)

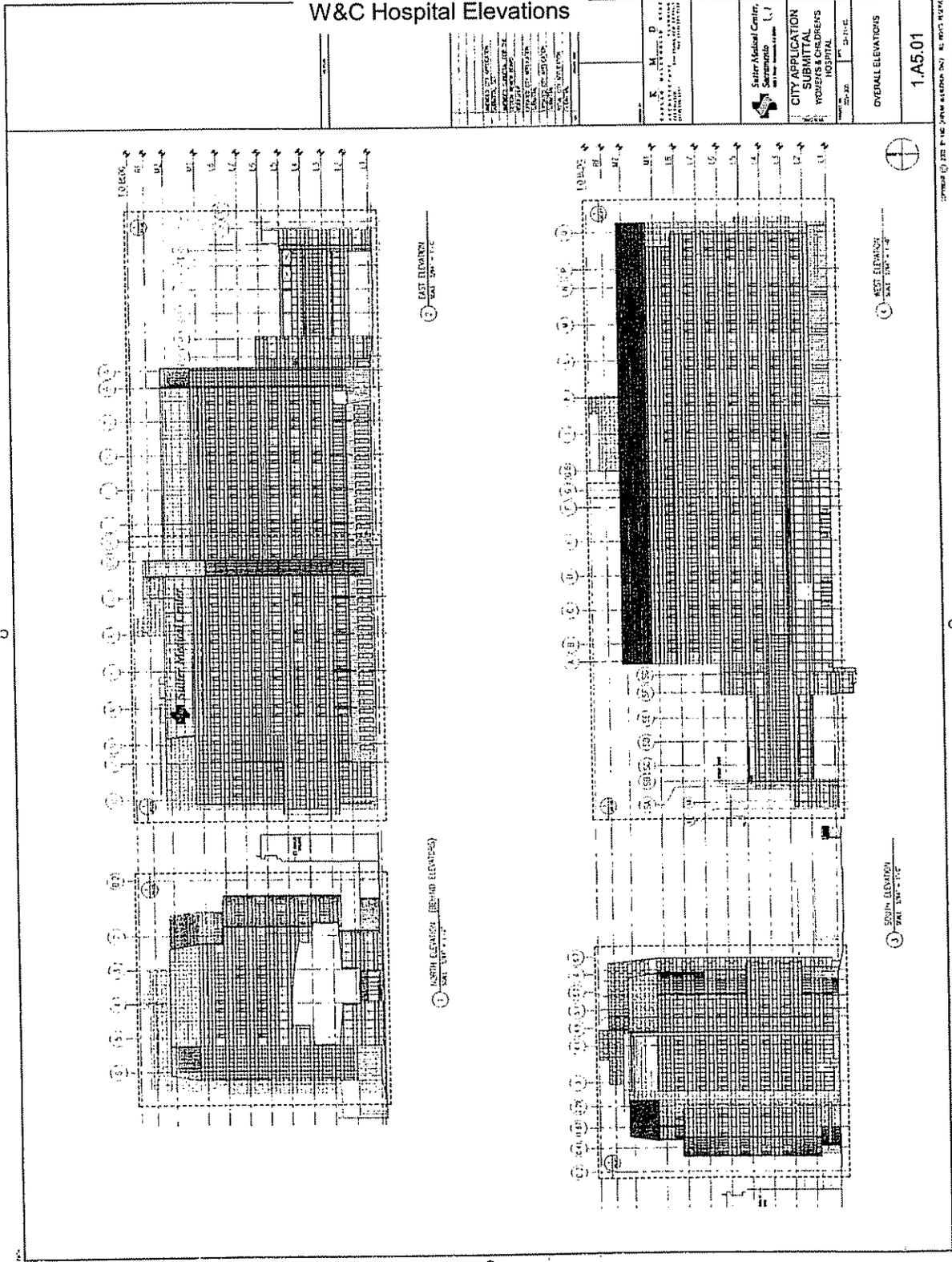
AMENDED CITY APPLICATION SUBMITTAL SET

DATE	01-17-01
PROJECT	STREET TREES PLAN
CITY APPLICATION SUBMITTAL SET	
SUTTER MEDICAL CENTER SACRAMENTO CAMPUS	
DATE	01-17-01
PROJECT	STREET TREES PLAN

City of Sacramento
 City Engineer
 City Clerk

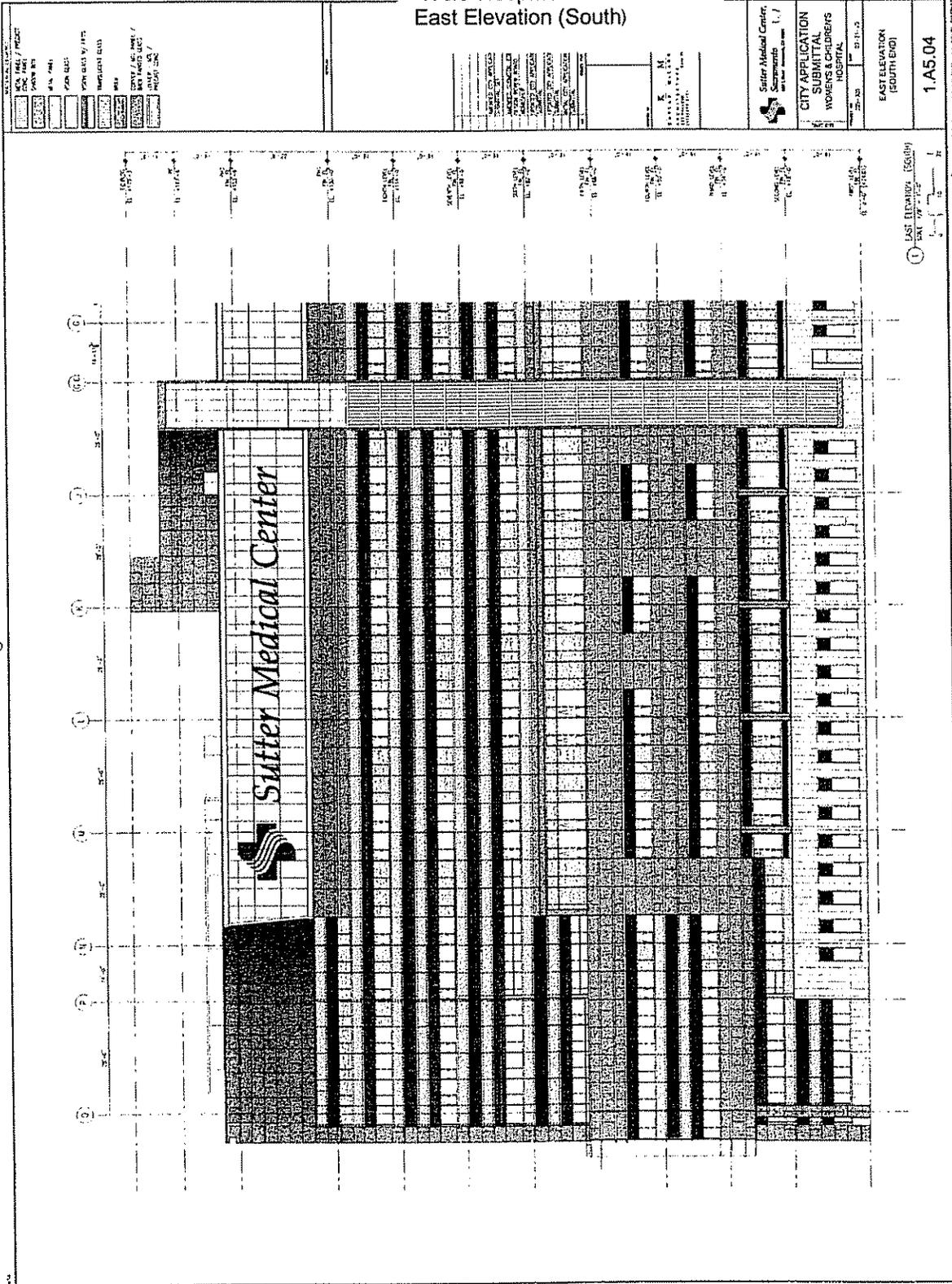
29

Exhibit F
W&C Hospital Elevations



88
59

Exhibit I
W&C Hospital
East Elevation (South)



W&C HOSPITAL
PROJECT
DATE
BY
CHECKED
DATE
BY
CHECKED
DATE
BY
CHECKED
DATE
BY
CHECKED
DATE

NO. 1	W&C HOSPITAL
NO. 2	W&C HOSPITAL
NO. 3	W&C HOSPITAL
NO. 4	W&C HOSPITAL
NO. 5	W&C HOSPITAL
NO. 6	W&C HOSPITAL
NO. 7	W&C HOSPITAL
NO. 8	W&C HOSPITAL
NO. 9	W&C HOSPITAL
NO. 10	W&C HOSPITAL
NO. 11	W&C HOSPITAL
NO. 12	W&C HOSPITAL
NO. 13	W&C HOSPITAL
NO. 14	W&C HOSPITAL
NO. 15	W&C HOSPITAL
NO. 16	W&C HOSPITAL
NO. 17	W&C HOSPITAL
NO. 18	W&C HOSPITAL
NO. 19	W&C HOSPITAL
NO. 20	W&C HOSPITAL

NO. 21	W&C HOSPITAL
NO. 22	W&C HOSPITAL
NO. 23	W&C HOSPITAL
NO. 24	W&C HOSPITAL
NO. 25	W&C HOSPITAL
NO. 26	W&C HOSPITAL
NO. 27	W&C HOSPITAL
NO. 28	W&C HOSPITAL
NO. 29	W&C HOSPITAL
NO. 30	W&C HOSPITAL
NO. 31	W&C HOSPITAL
NO. 32	W&C HOSPITAL
NO. 33	W&C HOSPITAL
NO. 34	W&C HOSPITAL
NO. 35	W&C HOSPITAL
NO. 36	W&C HOSPITAL
NO. 37	W&C HOSPITAL
NO. 38	W&C HOSPITAL
NO. 39	W&C HOSPITAL
NO. 40	W&C HOSPITAL

NO. 41	W&C HOSPITAL
NO. 42	W&C HOSPITAL
NO. 43	W&C HOSPITAL
NO. 44	W&C HOSPITAL
NO. 45	W&C HOSPITAL
NO. 46	W&C HOSPITAL
NO. 47	W&C HOSPITAL
NO. 48	W&C HOSPITAL
NO. 49	W&C HOSPITAL
NO. 50	W&C HOSPITAL
NO. 51	W&C HOSPITAL
NO. 52	W&C HOSPITAL
NO. 53	W&C HOSPITAL
NO. 54	W&C HOSPITAL
NO. 55	W&C HOSPITAL
NO. 56	W&C HOSPITAL
NO. 57	W&C HOSPITAL
NO. 58	W&C HOSPITAL
NO. 59	W&C HOSPITAL
NO. 60	W&C HOSPITAL

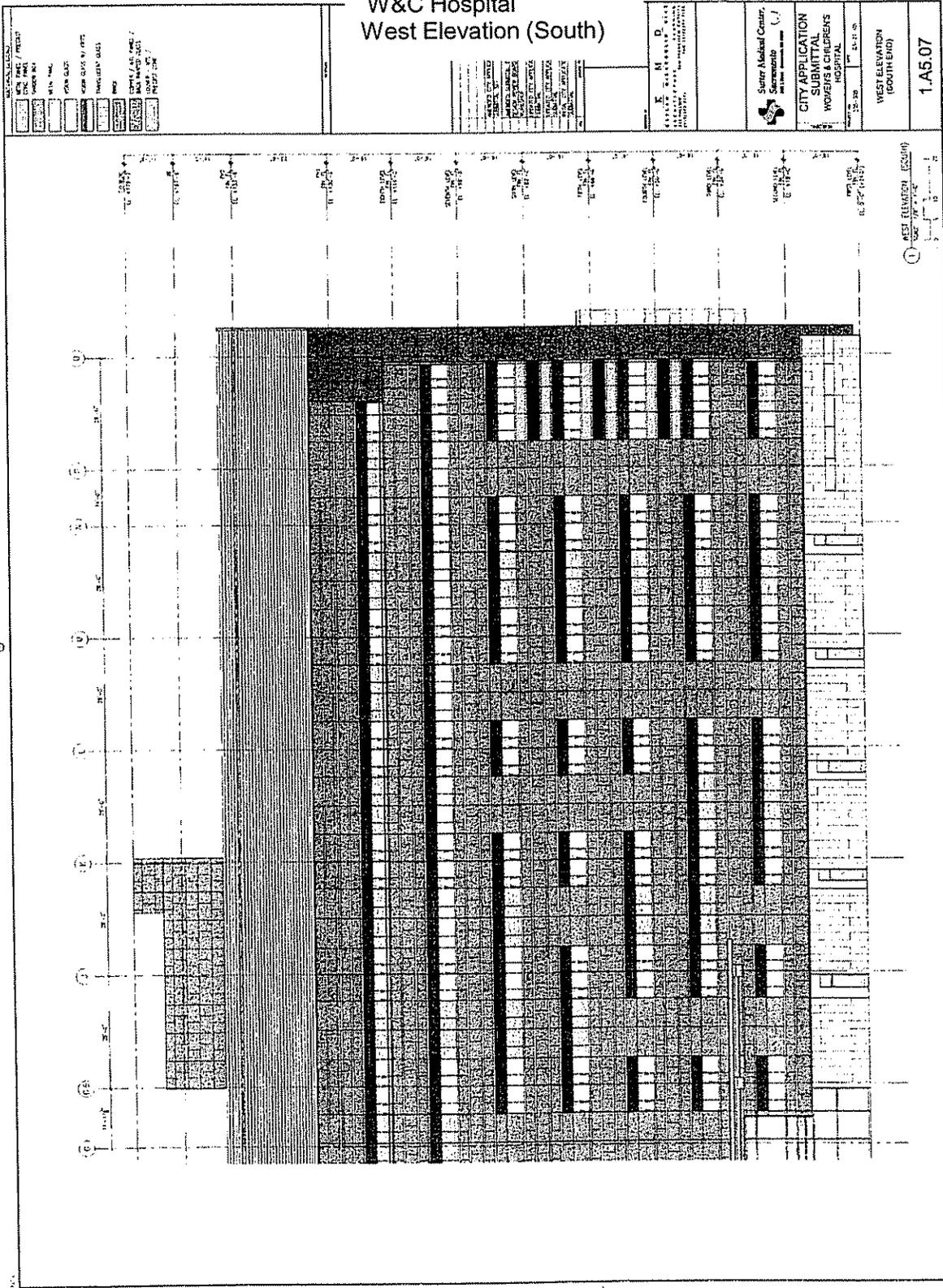
NO. 61	W&C HOSPITAL
NO. 62	W&C HOSPITAL
NO. 63	W&C HOSPITAL
NO. 64	W&C HOSPITAL
NO. 65	W&C HOSPITAL
NO. 66	W&C HOSPITAL
NO. 67	W&C HOSPITAL
NO. 68	W&C HOSPITAL
NO. 69	W&C HOSPITAL
NO. 70	W&C HOSPITAL
NO. 71	W&C HOSPITAL
NO. 72	W&C HOSPITAL
NO. 73	W&C HOSPITAL
NO. 74	W&C HOSPITAL
NO. 75	W&C HOSPITAL
NO. 76	W&C HOSPITAL
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NO. 79	W&C HOSPITAL
NO. 80	W&C HOSPITAL

NO. 81	W&C HOSPITAL
NO. 82	W&C HOSPITAL
NO. 83	W&C HOSPITAL
NO. 84	W&C HOSPITAL
NO. 85	W&C HOSPITAL
NO. 86	W&C HOSPITAL
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NO. 90	W&C HOSPITAL
NO. 91	W&C HOSPITAL
NO. 92	W&C HOSPITAL
NO. 93	W&C HOSPITAL
NO. 94	W&C HOSPITAL
NO. 95	W&C HOSPITAL
NO. 96	W&C HOSPITAL
NO. 97	W&C HOSPITAL
NO. 98	W&C HOSPITAL
NO. 99	W&C HOSPITAL
NO. 100	W&C HOSPITAL

1.45.04

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Exhibit L
W&C Hospital
West Elevation (South)



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65

Exhibit M
Spanning Structure Elevations
West Elevation (South)

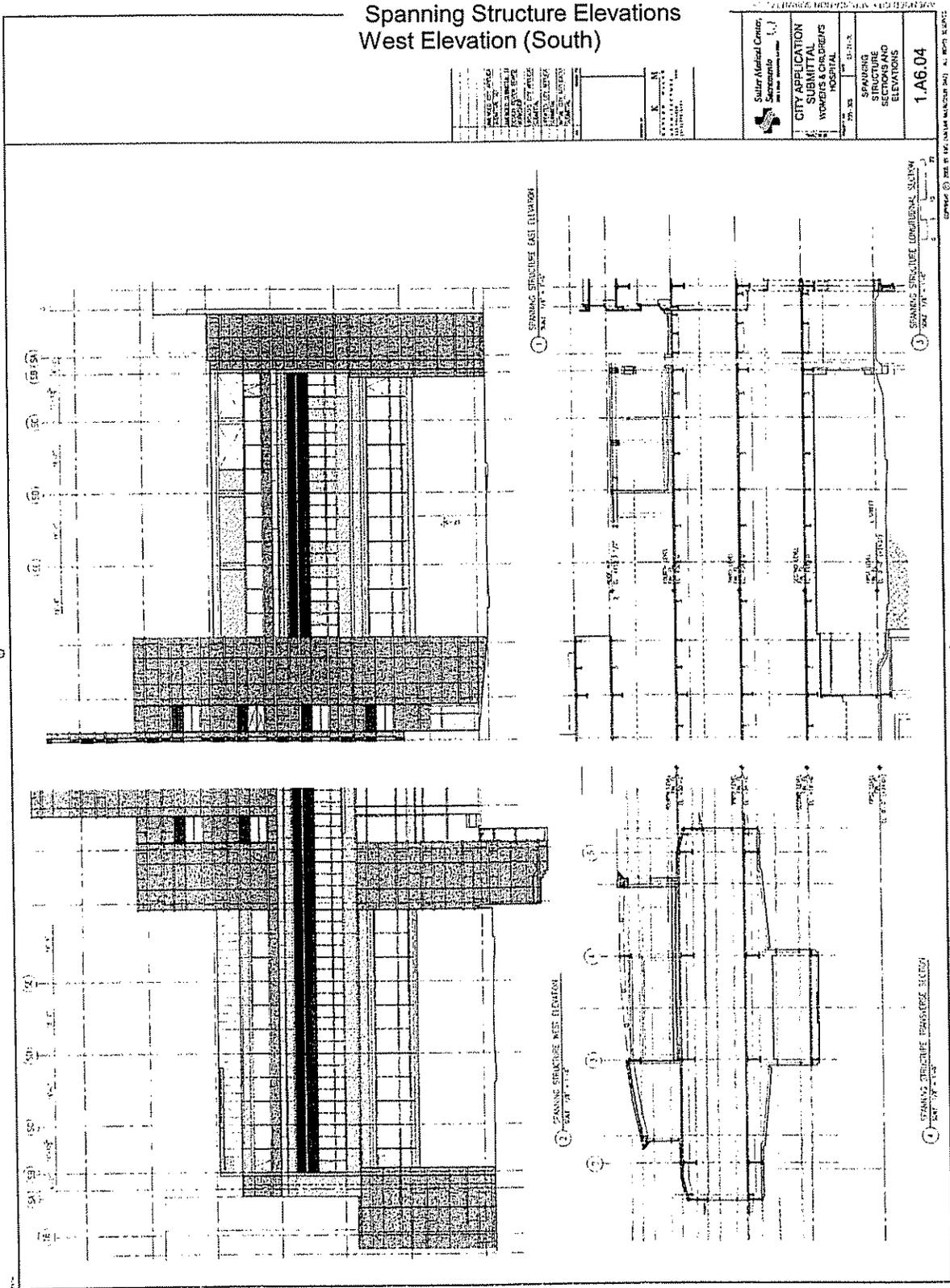
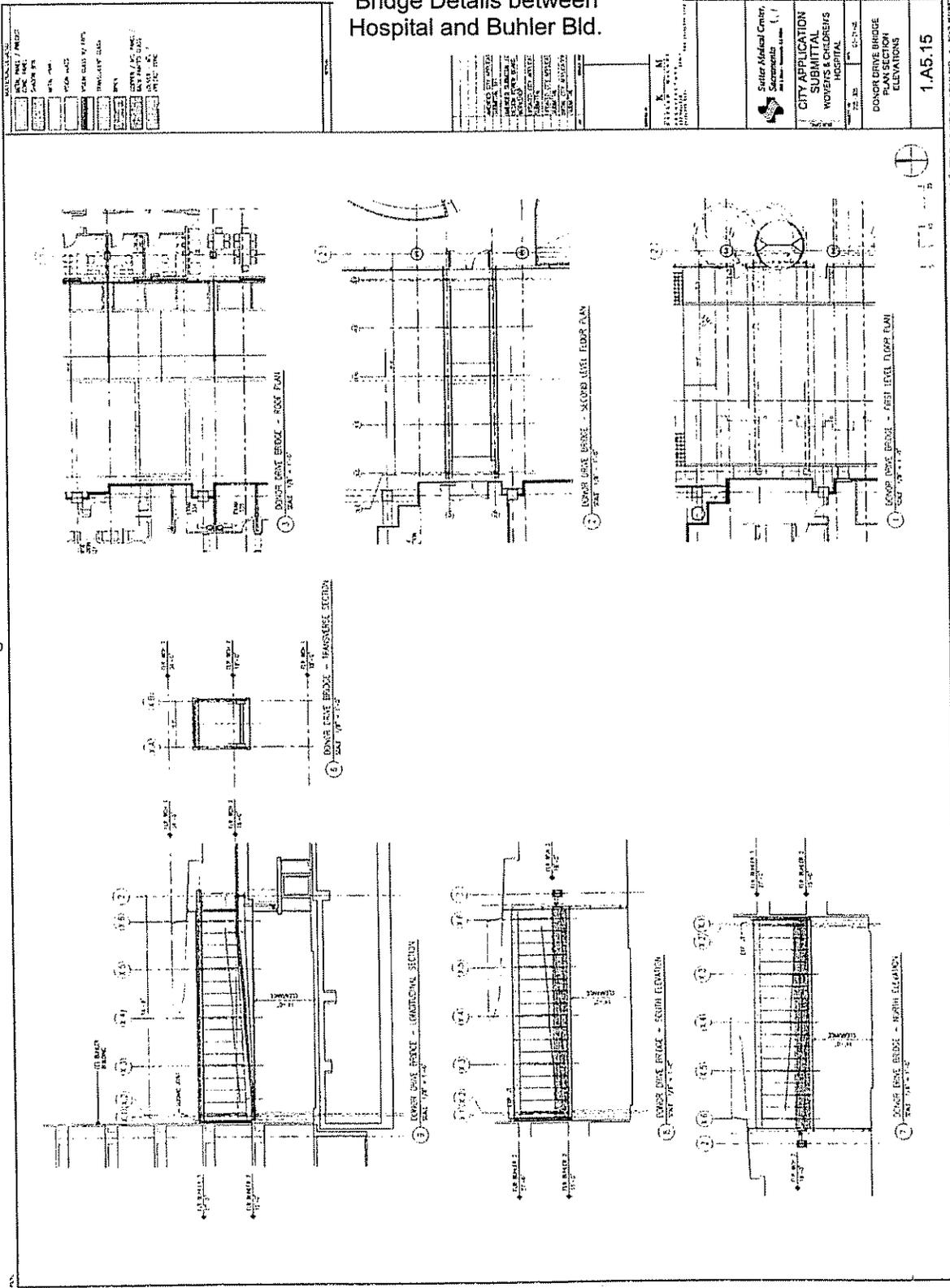


Exhibit O
 Bridge Details between
 Hospital and Buhler Blvd.



68

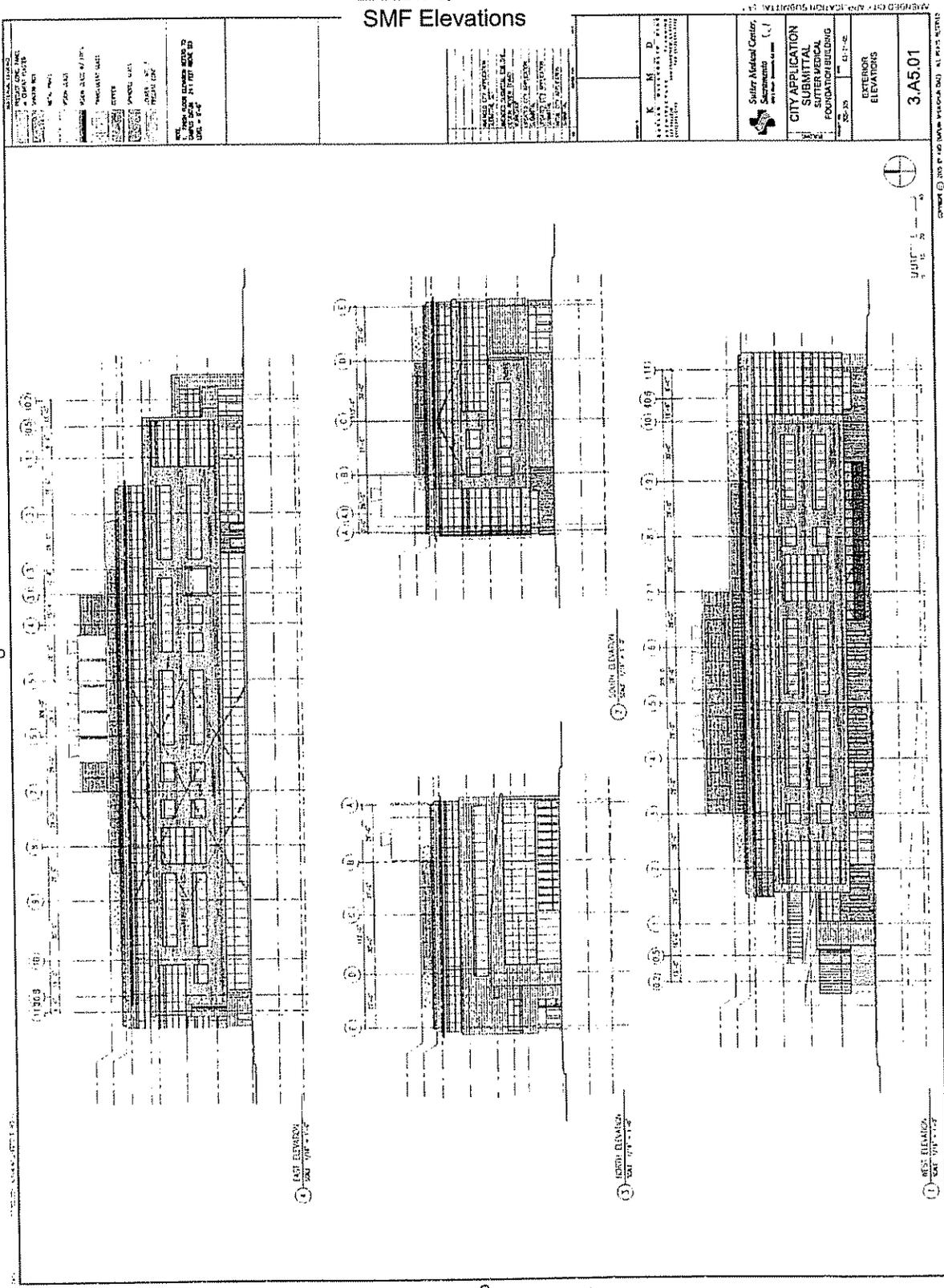
Exhibit P
Sutter Medical Foundation
Building/Energy Center

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76

	<p>K M D</p> <p>EXTERIOR RENDERING WATER MARKING: 1/11/06 10:00 AM PROJECT: SUTTER MEDICAL CENTER DRAWN BY: [Name]</p>	<p>Sutter Medical Center 1001 L Street, Sacramento, CA 95833</p>	<p>CITY APPLICATION SUBMITTAL SUTTER MEDICAL FOUNDATION BUILDING</p>	<p>EXTERIOR RENDERINGS 3, A5.00</p>
--	---	--	---	--

G

Exhibit Q
SMF Elevations



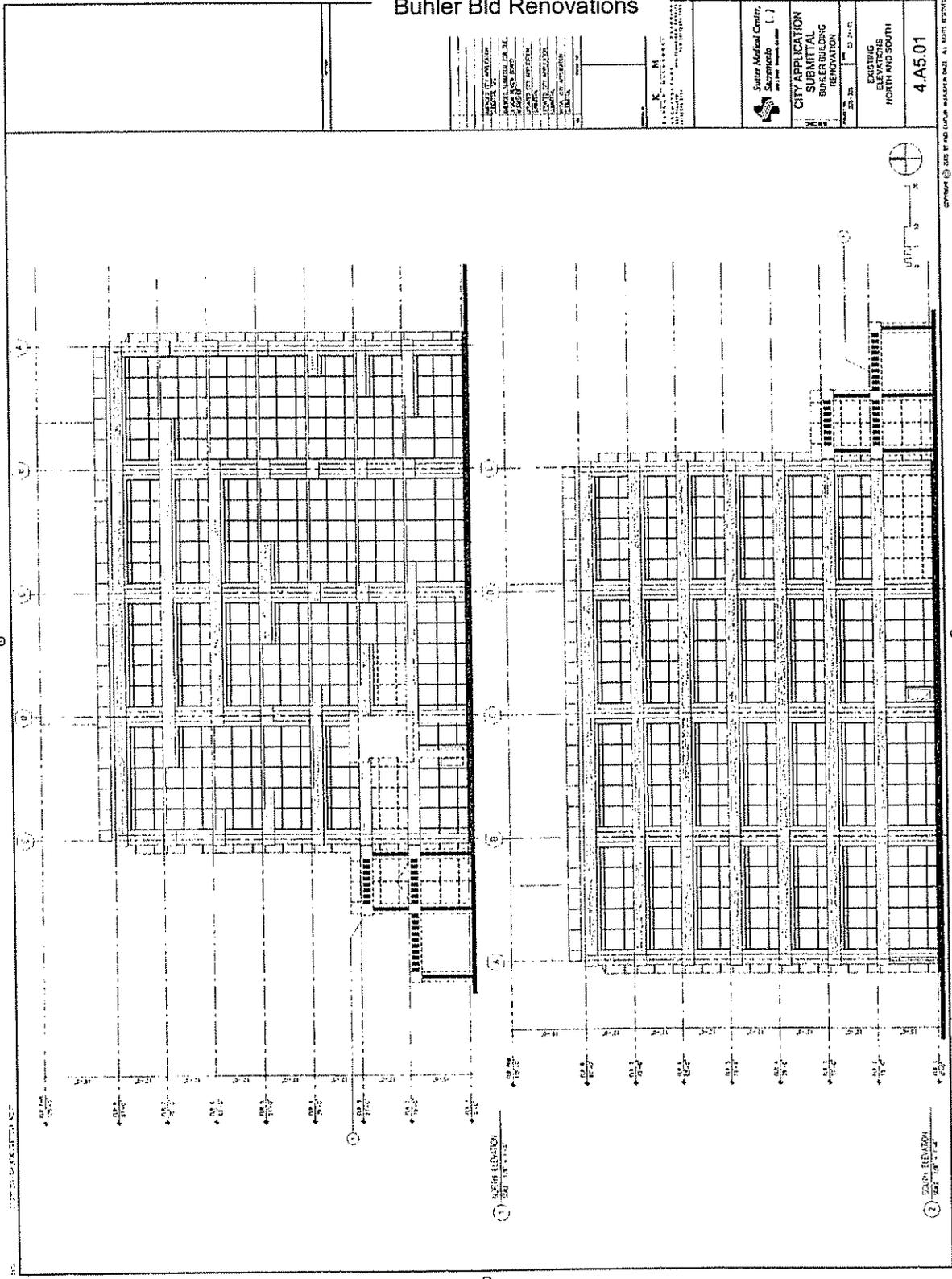
SUTTER MEDICAL CENTER
 1000 MARKET STREET
 SACRAMENTO, CA 95833
 ARCHITECT: SUTTER MEDICAL CENTER
 ENGINEER: SUTTER MEDICAL CENTER
 CONTRACTOR: SUTTER MEDICAL CENTER
 DATE: 12/12/06
 SHEET NO. 3.A5.01

K M D
 SUTTER MEDICAL CENTER
 ARCHITECT
 1000 MARKET STREET
 SACRAMENTO, CA 95833
 TEL: (916) 434-1000
 FAX: (916) 434-1001
 WWW.SUTTERMEDICAL.COM

Sutter Medical Center
 Sacramento
 CITY APPLICATION
 SUBMITTAL
 SUTTER MEDICAL
 FOUNDATION BUILDING
 12/12/06
 EXTERIOR
 ELEVATIONS
 3.A5.01

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77

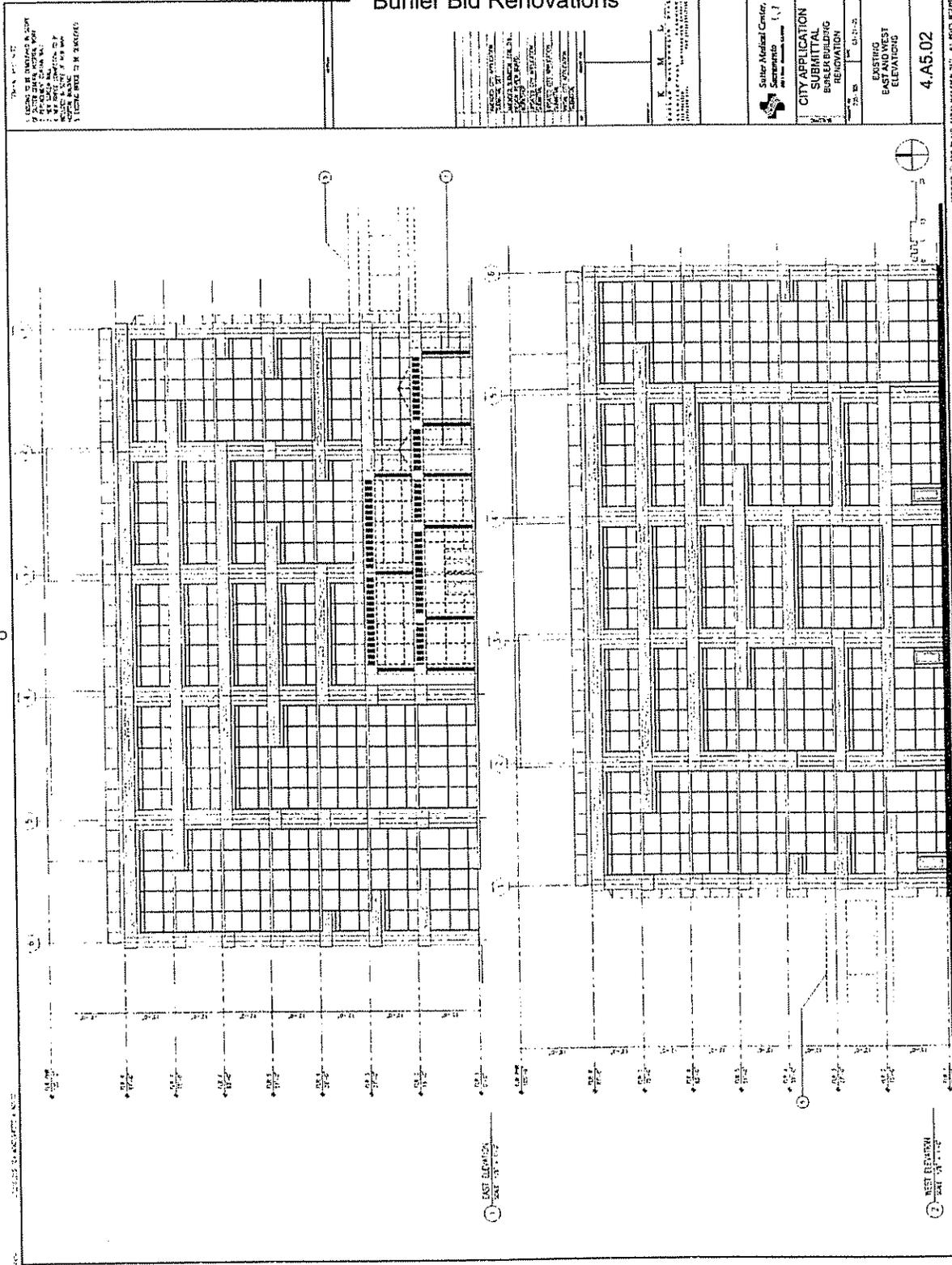
Exhibit R
Buhler Bld Renovations



Sutter Medical Center Sacramento 1715 J Street, Sacramento, CA 95811 (916) 434-2000 FAX (916) 434-2001 WWW.SUTTERMEDICAL.COM		K. M. M. ARCHITECT 1000 N. STREET SACRAMENTO, CA 95811 (916) 441-1111 WWW.KMMARCHITECTS.COM	Sutter Medical Center Sacramento 1715 J Street, Sacramento, CA 95811 (916) 434-2000 FAX (916) 434-2001 WWW.SUTTERMEDICAL.COM
CITY APPLICATION SUBMITTAL BUHLER BUILDING RENOVATION		EXISTING NORTH AND SOUTH	4.A5.01

8
PC

Exhibit S
Buhler Bld Renovations



DATE: 12/12/06
 1. CHECK FOR CONFLICTS WITH ALL OTHER SHEETS.
 2. CHECK FOR CONFLICTS WITH ALL OTHER SHEETS.
 3. CHECK FOR CONFLICTS WITH ALL OTHER SHEETS.
 4. CHECK FOR CONFLICTS WITH ALL OTHER SHEETS.
 5. CHECK FOR CONFLICTS WITH ALL OTHER SHEETS.

PROJECT: SUTTER MEDICAL CENTER
 LOCATION: SACRAMENTO, CA
 ARCHITECT: KIMLEY-HORN AND ASSOCIATES
 DATE: 12/12/06
 SHEET: 4.A5.02

Sutter Medical Center
 Sacramento, CA

CITY APPLICATION
 SUBMITTAL
 BUEHLER BUILDING
 RENOVATION

DATE: 12/12/06

EXISTING FLOOR PLAN
 ELEVATIONS

4.A5.02

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87

Exhibit T
Buhler Bld Renovations

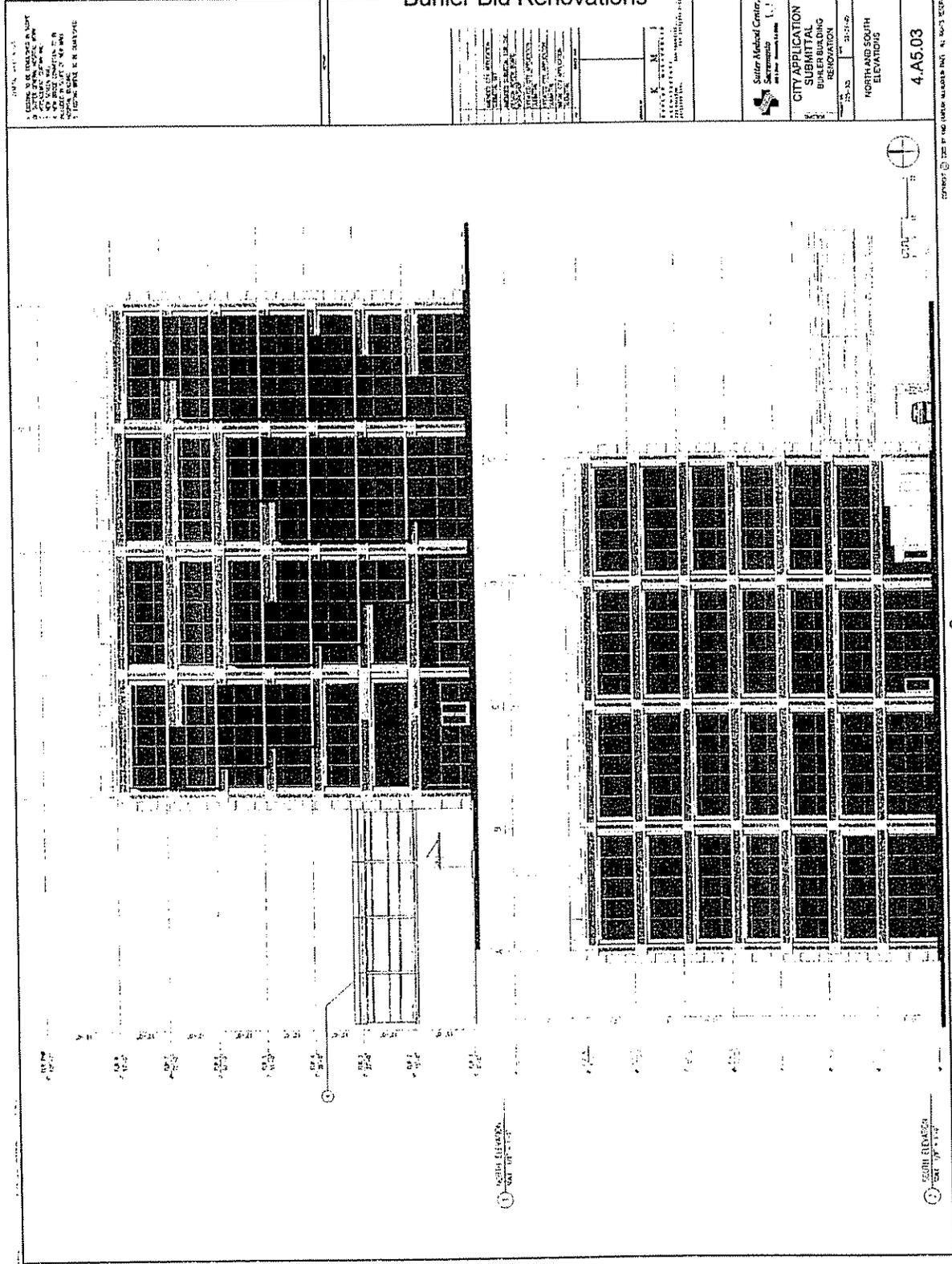
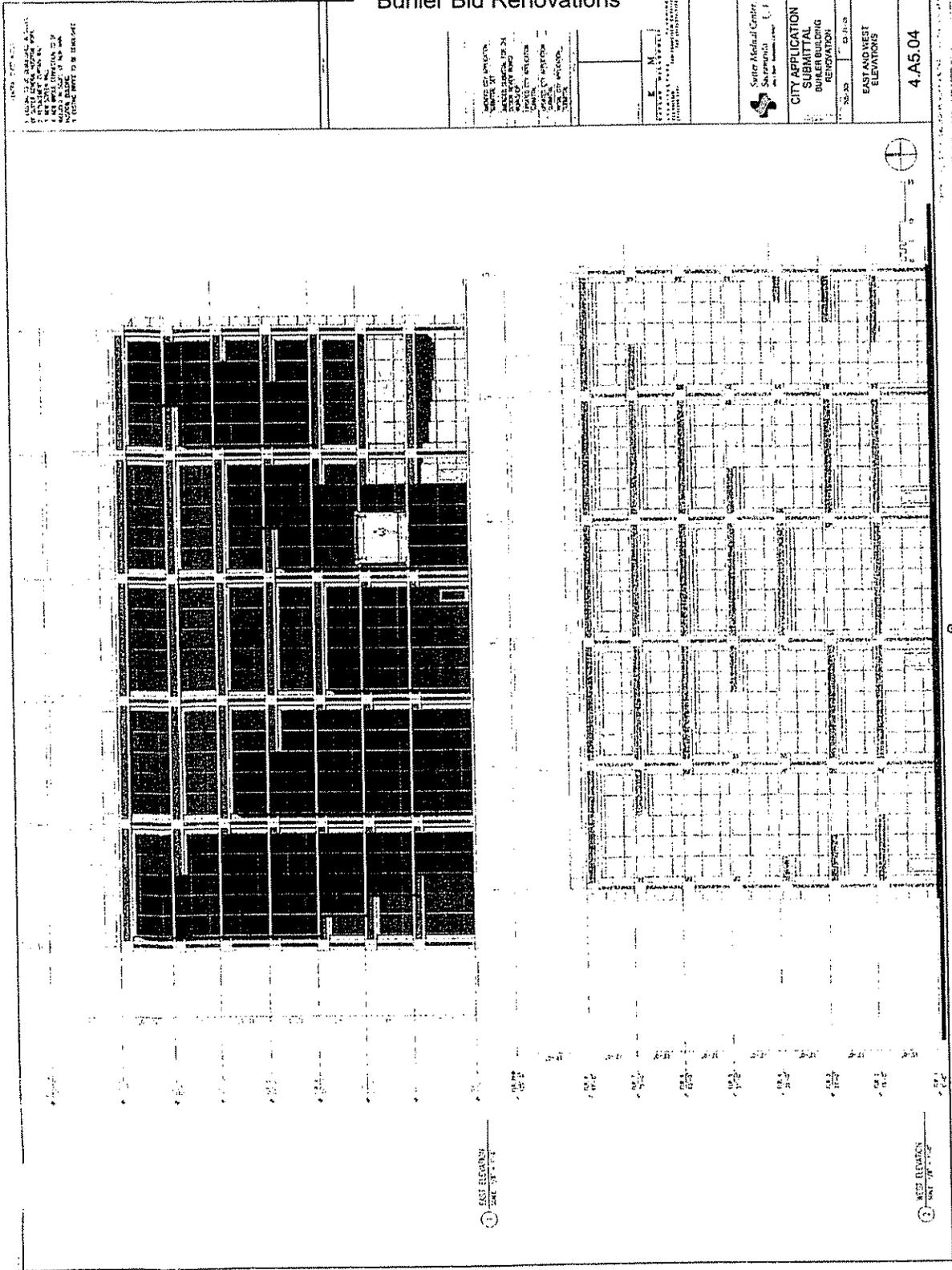


Exhibit U
Buhler Bld Renovations



1. WORK TO BE SHOWN AS:
 2. EXISTING WORK TO BE MAINTAINED
 3. WORK TO BE REMOVED
 4. NEW WORK TO BE ADDED
 5. WORK TO BE MAINTAINED
 6. WORK TO BE MAINTAINED
 7. WORK TO BE MAINTAINED
 8. WORK TO BE MAINTAINED
 9. WORK TO BE MAINTAINED
 10. WORK TO BE MAINTAINED

1. WORK TO BE SHOWN AS:
 2. EXISTING WORK TO BE MAINTAINED
 3. WORK TO BE REMOVED
 4. NEW WORK TO BE ADDED
 5. WORK TO BE MAINTAINED
 6. WORK TO BE MAINTAINED
 7. WORK TO BE MAINTAINED
 8. WORK TO BE MAINTAINED
 9. WORK TO BE MAINTAINED
 10. WORK TO BE MAINTAINED

Sutter Medical Center Sacramento	
CITY APPLICATION SUBMITTAL BUHLER BUILDING RENOVATION	
NO. 03-090	DATE 12-12-06
EAST AND WEST ELEVATIONS	
4-A5.04	

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D

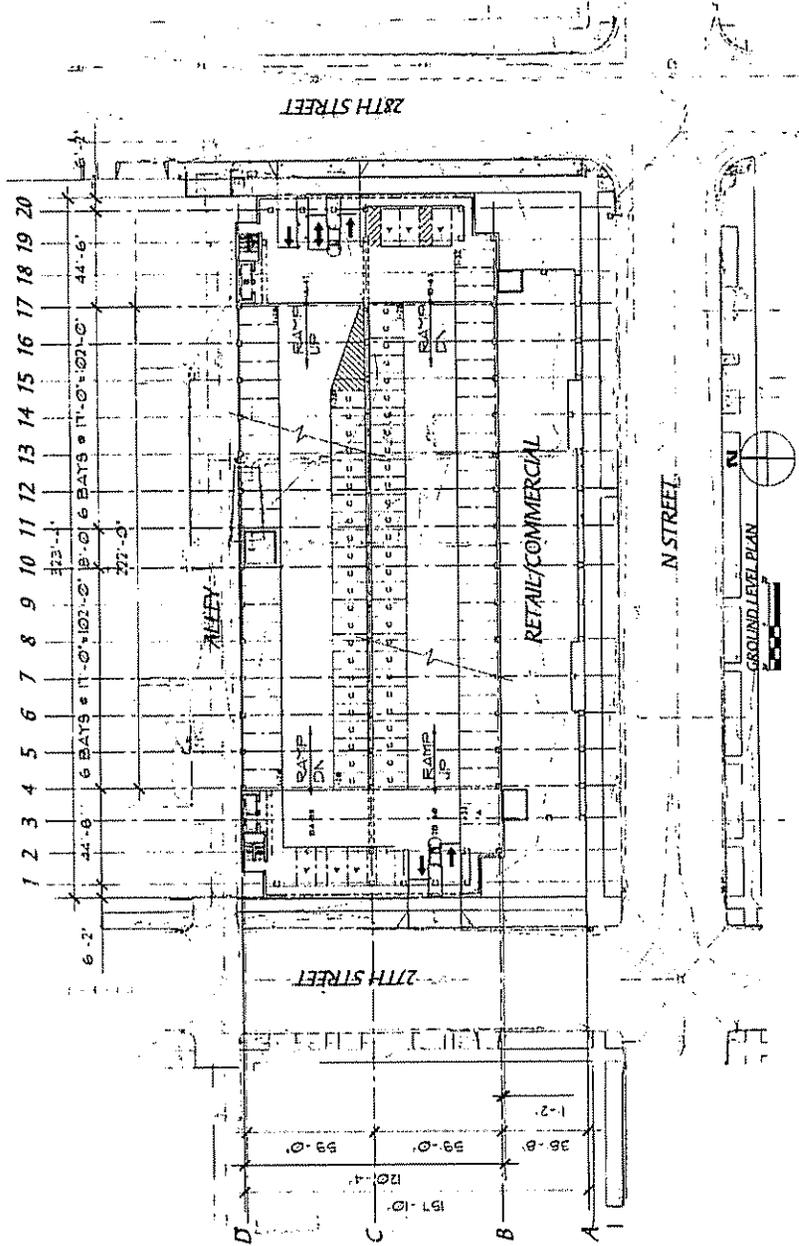
1 EAST RENOVATION
DATE 12-12-06

2 WEST RENOVATION
DATE 12-12-06

Exhibit V
Community Parking Garage
Site Layout

P03-090
REC'D Jun. 15, 2005

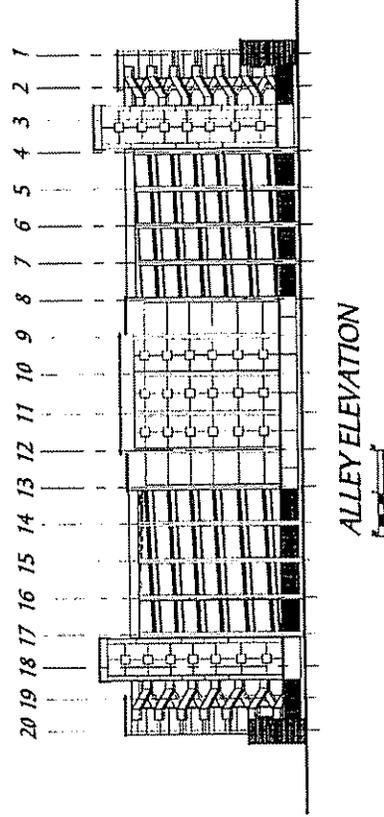
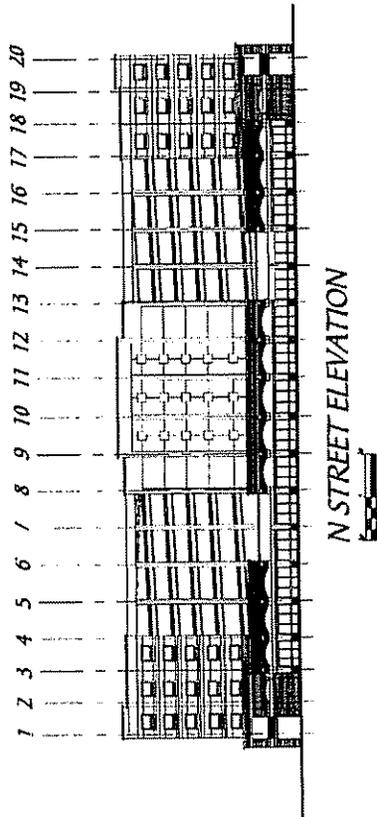
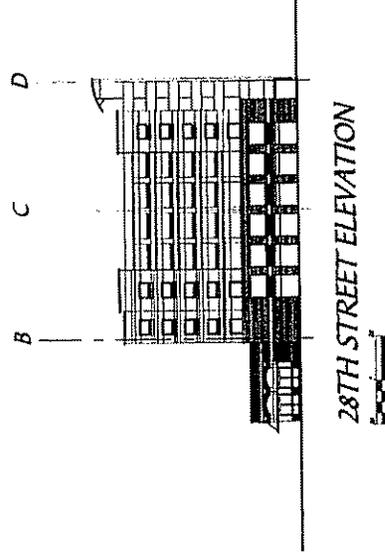
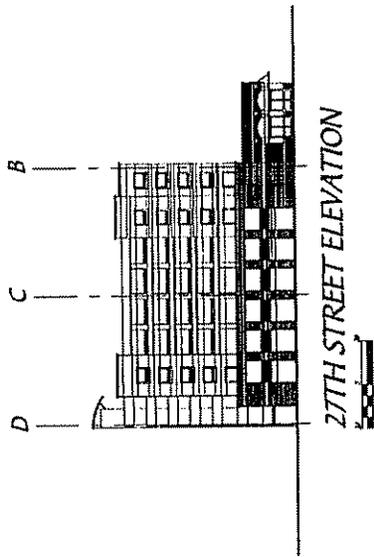
8
91



COMMUNITY PARKING GARAGE

Exhibit W
Community Parking Garage
Elevations

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97



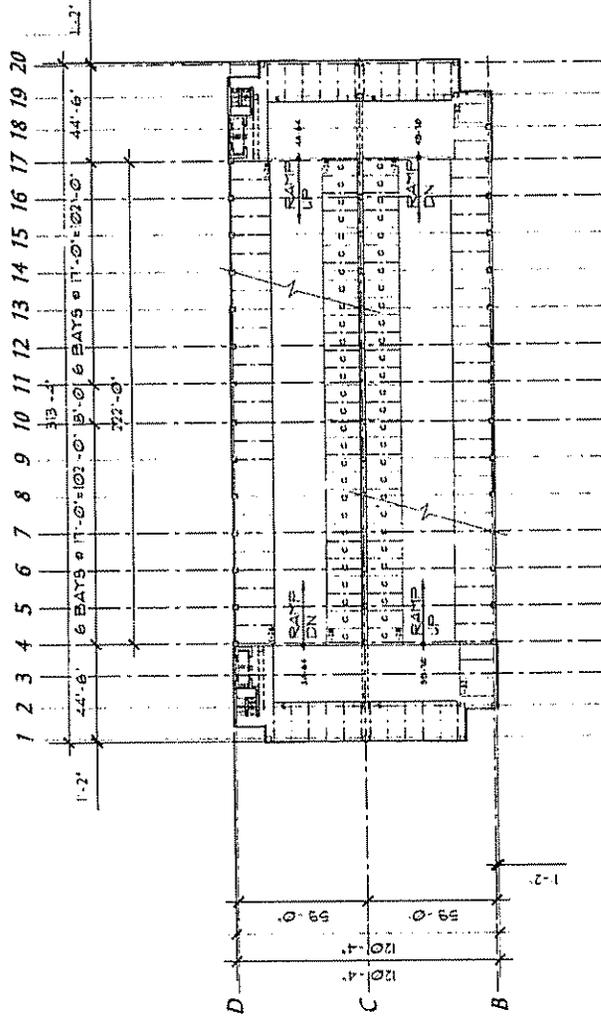
P03-090
REC'D Jun. 15, 2005

COMMUNITY PARKING GARAGE



Exhibit X
Community Parking Garage
Typical Floor Plan

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94



P03-090
REC'D Jun. 15, 2005



COMMUNITY PARKING GARAGE

CPC



RESOLUTION NO.

Adopted by the Sacramento City Council

AMENDING THE GENERAL PLAN LAND USE MAP FOR 1.68± NET ACRES FROM HIGH DENSITY RESIDENTIAL TO COMMUNITY/NEIGHBORHOOD COMMERCIAL AND OFFICES FOR PROPERTY LOCATED AT 2600, 2700, 2706 AND 2710 CAPITOL AVE.; 1315 AND 1317 27TH STREET.; 2701 AND 2720 N STREET (APN'S: 007-0166-016; 007-0172-001-002, 003, 004, 014, 016, 018, & 019 (P03-090)

BACKGROUND

- A. The General Plan Amendment will redesignate 1.68± net acres from High Density Residential to Community/Neighborhood Commercial and Offices;
- B. The Planning Commission conducted a public hearing on November 20, 2006 concerning the above General Plan Amendments and based on documentary and oral evidence submitted at the public hearing, recommended that Council approve the General Plan Amendments; and
- C. The City Council conducted a public hearing on December 12, 2006, concerning the above land use map amendment and based on documentary and oral evidence submitted at the public hearing the Sacramento City Council hereby finds:
 - 1. The proposed land use amendments are compatible with the surrounding mix of land uses in the area consisting of residential, churches, restaurants and commercial;
 - 2. The sites are suitable for medical offices, structured parking with ground floor retail and a Children's Theatre; and
 - 3. The proposed project is consistent with policies of the General Plan that support a balanced system of quality medical facilities; provide adequate parking; and preserve existing neighborhoods and add to the cultural amenities of the City.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

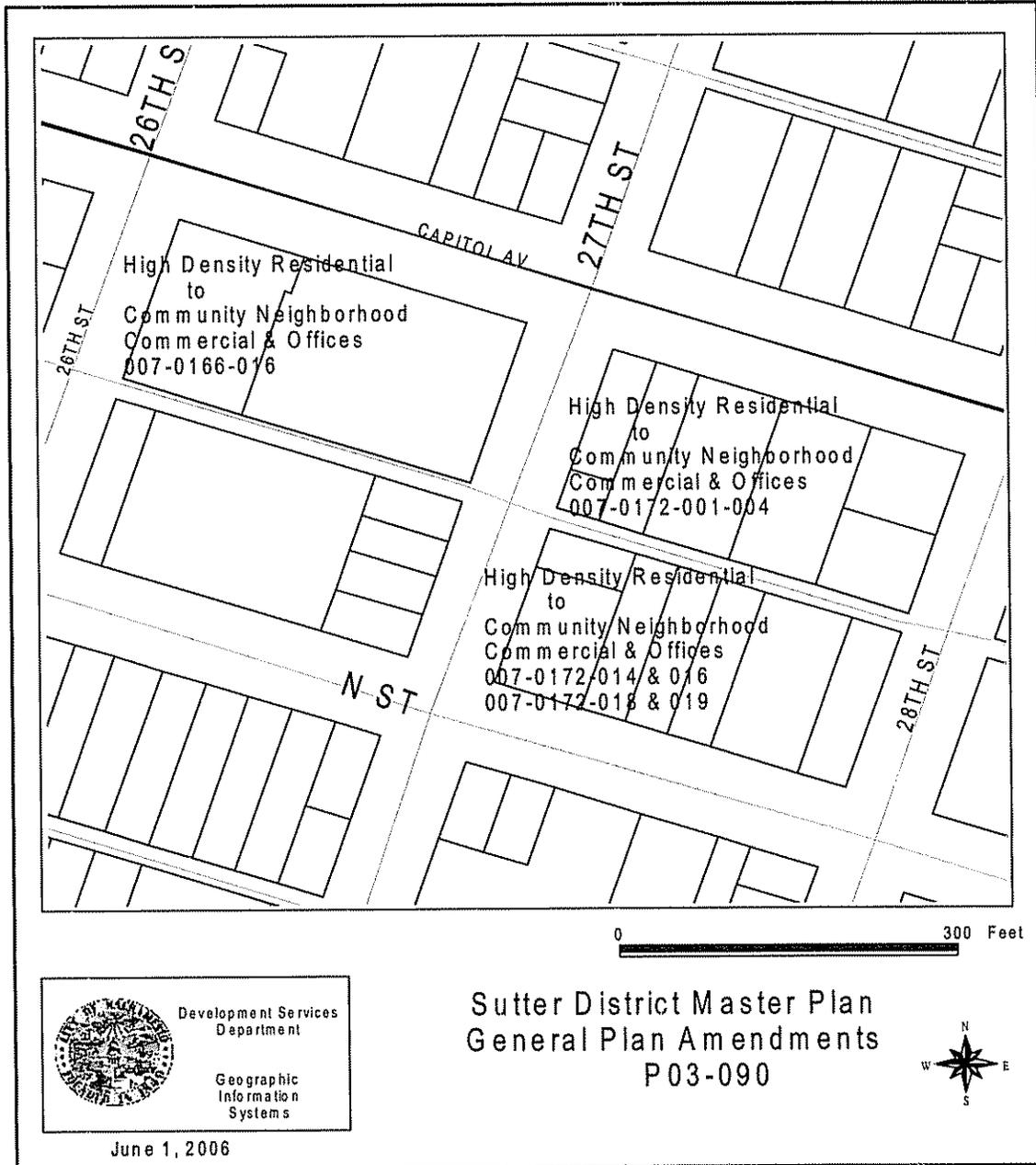
Section 1. The property described on the attached Exhibit A within the City of

Sacramento is hereby designated on the General Plan land use map as Community/Neighborhood Commercial and Offices. (APN'S: 007-0166-016; 007-0172-001-002, 003, 004, 014, 016, 018, & 019)

Table of Contents:

Exhibit A –General Plan Land Use Map-1 page

Exhibit A
General Plan Amendments



RESOLUTION NO.

Adopted By the Sacramento City Council

AMENDING THE CENTRAL CITY COMMUNITY PLAN LAND USE MAP FOR 1.11± NET ACRES FROM RESIDENTIAL OFFICE TO GENERAL COMMERCIAL AND 1.0± NET ACRES FROM MULTI-FAMILY TO GENERAL COMMERCIAL FOR PROPERTY LOCATED AT 2600, 2700, 2706, 2710 AND 2715 CAPITOL AVENUE; 1315 AND 1317 27TH STREET; 2701 AND 2720 N STREET, 2722 AND 2730 L STREET (APN'S: 007-0166-016; 007-0171-002, 003, & 017; 007-0172-001-002, 003, 004, 013, 014, 016, 018, & 019 (P03-090)

BACKGROUND

- A. The Central City Community Plan Amendment will redesignate 1.11± net acres from Residential Office to General Commercial and 1.0± net acres from Multi-Family to General Commercial;
- B. The Planning Commission conducted a public hearing on November 20, 2006 concerning the above Central City land use map amendments and based on documentary and oral evidence submitted at the public hearing, recommended that Council approve the Central City Community Plan Land Use Amendments; and
- C. The City Council conducted a public hearing on December 12, 2006, concerning the above land use map amendments and based on documentary and oral evidence submitted at the public hearing the Sacramento City Council hereby finds:
 - 1. The proposed land use amendments are compatible with the surrounding mix of land uses in the area consisting of residential, churches, restaurants and commercial;
 - 2. The sites are suitable for medical offices, structured parking with ground floor retail and a Children's Theatre; and
 - 3. The proposed project is consistent with policies of the Central City Community Plan that promote adequate parking for development; preserve and enhance existing neighborhoods and retain and increase cultural amenities of the City.

BASED ON TH FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

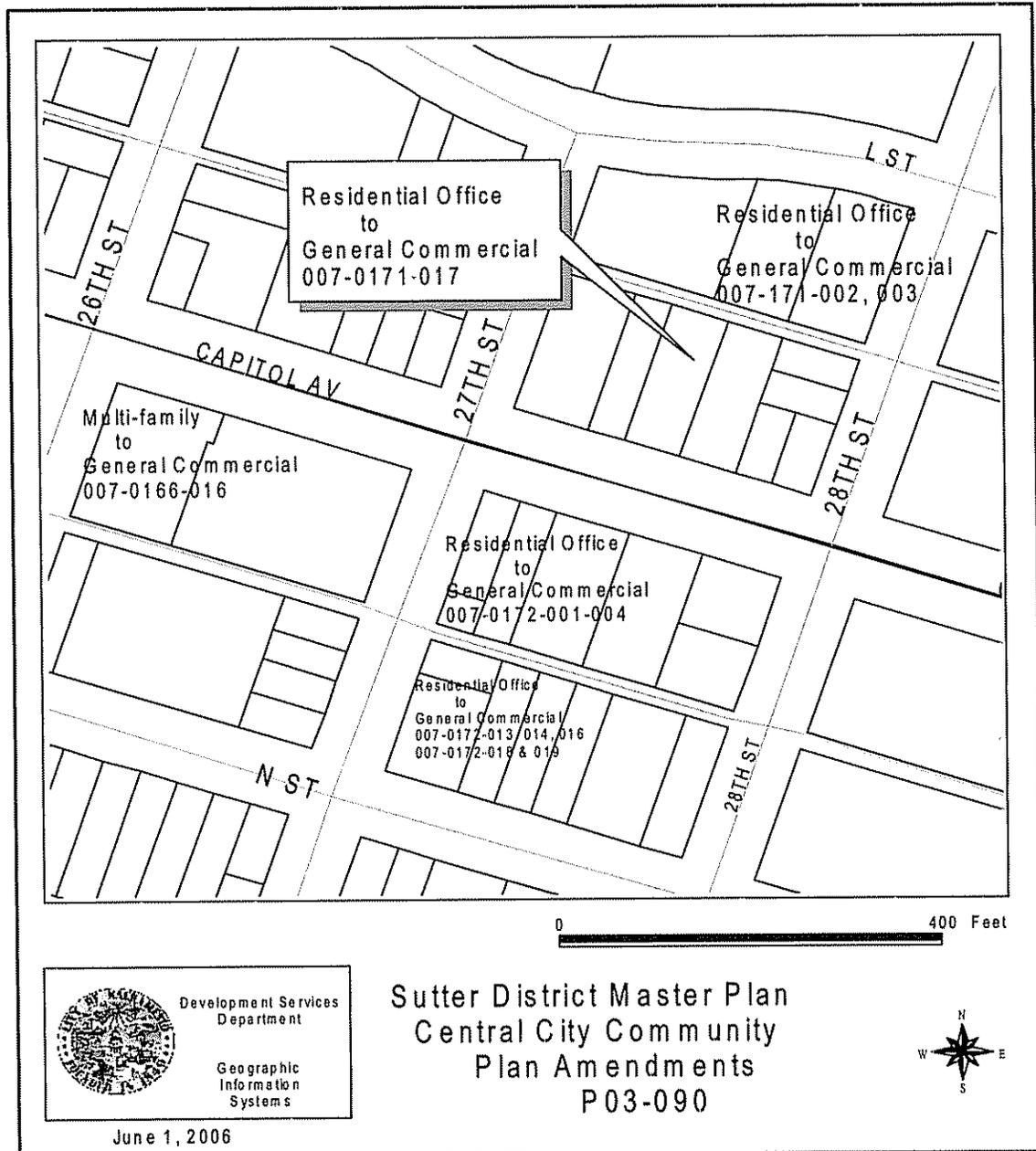
Section1. The property described on the attached Exhibit A, in the City of Sacramento

is hereby designated on the Central City Community Plan land use map as General Commercial. APN'S: 007-0166-016;007-0171-002, 003,& 017; 007-0172-001-002, 003, 004, 013, 014, 016, 018, & 019

Table of Contents:

Exhibit A: Community Plan Map-1 page

Exhibit A
Central City Community Plan Amendments



ORDINANCE NO.

Adopted by the Sacramento City Council

AMENDING THE DISTRICTS ESTABLISHED BY THE COMPREHENSIVE ZONING ORDINANCE , TITLE 17 OF THE CITY CODE, BY REMOVING 2.31± NET ACRES FROM THE OFFICE BUILDING SPECIAL PLANNING DISTRICT (OB SPD) ZONE AND PLACING 2.31 NET ACRES IN THE GENERAL COMMERCIAL SPECIAL PLANNING DISTRICT (C-2 SPD) ZONE; REMOVING 0.29± NET ACRES FROM THE MULTI-FAMILY SPECIAL PLANNING DISTRICT (R-3A SPD) ZONE AND PLACING 0.29± NET ACRES IN THE GENERAL COMMERCIAL SPECIAL PLANNING DISTRICT (C-2 SPD) ZONE, AND; REMOVING 0.73± NET ACRES FROM THE GENERAL COMMERCIAL SPECIAL PLANNING DISTRICT WITH CONDITIONS (C-2 SPD W/C) AND PLACING 0.73± NET ACRES IN THE GENERAL COMMERCIAL SPECIAL PLANNING DISTRICT (C-2 SPD) ZONE FOR THE PROPERTY LOCATED AT: 2722 L STREET; 2730 L STREET; 1315 27TH STREET; 1317 27TH STREET; 2600 CAPITOL AVENUE; 2700 CAPITOL AVENUE; 2706 CAPITOL AVENUE; 2715 CAPITOL AVENUE; 2720 N STREET; 2701 N STREET; APN'S: 007-0171-002, 003, 017; 007-0172-001, 002, 003, 013, 014, 016, 017, 018, 019; 007-0166-016 (P03-090)

BE IT ENACTED BY THE COUNCIL OF THE CITY OF SACRAMENTO:

SECTION 1

The property generally described, known and referred to as APNs: 007-0171-002, 003, 017; 007-0172-001, 002, 003; 007-0166-016, (2722 L St., 2730 L St, 1315 27th St; 2600 Capitol Ave., 2715 Capitol Ave., 2700 Capitol Ave., 2706 Capitol Ave.) which is shown on attached Exhibit A, consists of 2.31± net acres and is currently in the Office Building Special Planning District (OB SPD) zone established by the Comprehensive Zoning Ordinance (Title 17 of the City Code). Said territory is hereby removed from the OB(SPD) zone and placed in the General Commercial Special Planning District (C-2 SPD) zone.

SECTION 2

The property generally described, known and referred to as APNs: 007-0172-016, 018 (2701 N St. and 1317 27th St.) which is shown on attached Exhibit A, consists of 0.29± net acres and is currently in the Multi-Family Special Planning District (R3A SPD) zone

established by the Comprehensive Zoning Ordinance (Title 17 of the City Code). Said territory is hereby removed from the Multi-family Special Planning District (R3A SPD) zone and placed in the General Commercial Special Planning District (C-2 SPD) zone.

SECTION 3

The property generally described, known and referred to as APNs: 007-0172-013, 014, 017, 019 (2720 N St.) which is shown on attached Exhibit A, consists of 0.73± net acres and is currently in the General Commercial/with conditions Special Planning District (C-2 w/c SPD) zone established by the Comprehensive Zoning Ordinance (Title 17 of the City Code). Said territory is hereby removed from the General Commercial/ with conditions Special Planning District (C-2 w/c SPD) zone and placed in the General Commercial Special Planning District (C-2 SPD) zone.

SECTION 4

Rezoning of the property shown in the attached Exhibit A, by the adoption of this Ordinance will be considered to be in compliance with the requirements for the zoning of property described in the Comprehensive Zoning Ordinance, Title 17 of the City Code, as amended, as those procedures have been affected by recent court decisions.

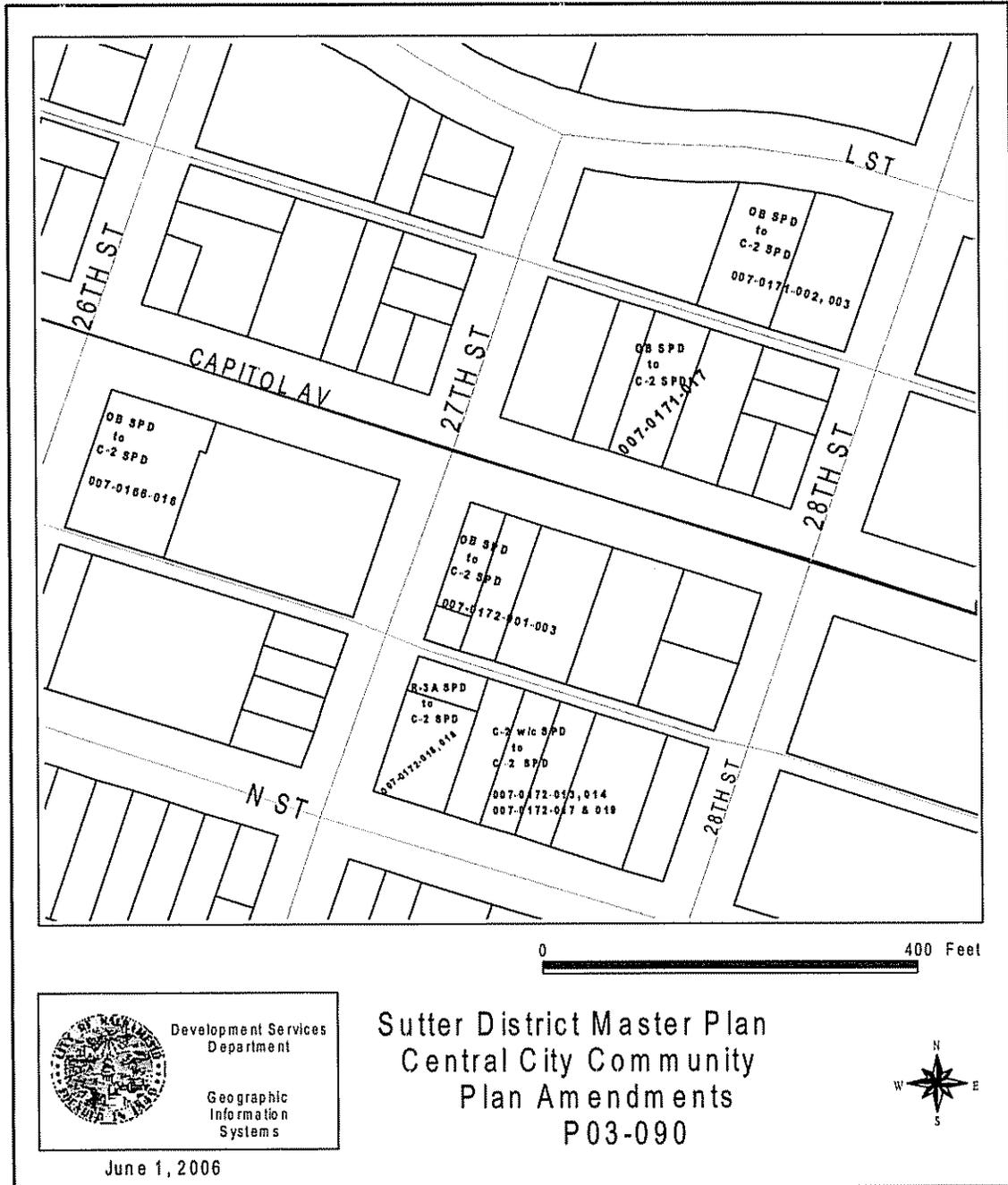
SECTION 5

The City Clerk of the City of Sacramento is hereby directed to amend the official zoning maps, which are part of said Ordinance to conform to the provisions of this Ordinance.

Table of Contents:

Exhibit A: Sutter Medical Center Master Plan Project Rezoning

Exhibit A
Rezone Exhibit



CITY OF SACRAMENTO
DEVELOPMENT SERVICES DEPARTMENT
915 I Street, New City Hall, 3rd Floor
Sacramento, CA 95814

PLANNING DIVISION
916-808-5419

APPEAL OF THE DECISION OF THE
SACRAMENTO CITY PLANNING COMMISSION

DATE: November 29, 2006

TO THE PLANNING DIRECTOR:

I do hereby make application to appeal the decision of the City Planning Commission on
11/20/2006 (hearing date), for project number (P#) 03-090 when:

- Special Permit for _____
- Variance for _____
- "R" Review for _____
- Other _____ for EIR+REIR certification and associated approvals for the Sutter Medical Center, Sacramento (Project)

was: Granted by the City Planning Commission
 Denied by the City Planning Commission

Grounds For Appeal: (explain in detail, you may attach additional pages)

Failure to comply with CEQA and applicable Court orders (see attached comments submitted to the City of Sacramento and the Planning Commission. Appellant will supply additional grounds in the near future.

- => Property Location: Midtown Sacramento, blocks bounded by 26th, N, K and 30th streets
- => Appellant: SEIU-UHW west Daytime Phone: 530 758 2377
(please print)
- => Address: Law Office of Donald B. Mooney, 129 C St, Ste 2, Davis, CA 95616
- => Appellant's Signature: [Signature]

THIS BOX FOR OFFICE USE ONLY	
FILING FEE: _____ \$1,192.00 By Applicant	RECEIVED BY: _____
_____ \$298.00 By Third Party	DATE: _____
Distribute Copies To: CAS; DK; Project Planner; Mae Saetern (original & receipt)	
P# _____	Forwarded to City Clerk: _____

LAW OFFICES OF DONALD B. MOONEY

DONALD B. MOONEY
Attorney at Law and Counselor

129 C Street, Suite 2
Davis, California 95616
Telephone (530) 758-2577
Facsimile (530) 758-7169
dbmooney@dcn.org

November 20, 2006

**VIA EMAIL & FASCIMILE
916-808-5543**

Chairperson D.E. Red Barnes and
Planning Commission Members
Planning Commission
Development Services Department
2101 Arena Blvd., Suite 200
Sacramento, CA 95834

Re: Revised Sutter Medical Center, Sacramento and Trinity Cathedral Project
Draft Environmental Impact Report

Dear Chairperson Barnes and Planning Commission Members:

The following comments are provided to the City of Sacramento ("City") on behalf of the Service Employees International Union, United Healthcare Workers – West ("SEIU-UHW") regarding the Final Revised Environmental Impact Report ("Revised EIR") for the Sutter Medical Center, Sacramento ("SMCS") and Trinity Cathedral Project. SEIU-UHW's comments on the Revised EIR consist of this letter, SEIU's letter dated November 6, 2006 with the attached reports from retained experts and the comments provided by SEIU-UHW on the July 2005 Draft EIR and October 2005 Final EIR for the SMCS/Trinity Project.

First, SEIU opposes the Planning staff's recommendation of certification of Final Revised EIR and approval of SMCS permits. SEIU basis this objection on the following:

SEIU has concerns regarding the process before the Planning Commission. Setting a special Planning Commission hearing during Thanksgiving week is not conducive to encouraging public participation. Is there any reason that the special hearing has to be heard this week as opposed to after the holiday? Does the Planning Commission normally set hearings on major projects during this time?

With the short notice provided between the release of the Final Revised EIR and the Planning Commission hearing there has been inadequate time for SEIU's consultants to assess the Final Revised EIR and comment to the Planning Commission on how the City's consultants dealt with the multiple critical issues raised not only by SEIU but also the Sacramento Metropolitan Air Quality Management District. The Planning Commission performs a critical task by sifting through all information and making informed decisions based on your professional opinions. SEIU urges to reschedule this

hearing to a time when more interested persons can attend and expert input on the final documents can be provided.

It is unclear exactly what the Planning Commission will take final action on. SEIU therefore seeks clarification of what issues will proceed to the City Council and what issues the Planning Commission will take final action on and may then be appealed to the City Council (e.g., heliport?).

There is no reason why the City cannot provide the public with a reasonable schedule. The project continues to be constructed. Why not provide the public and the Planning Commission with adequate time?

In addition to SEIU's concerns regarding process, SEIU also has substantial substantive concerns. SEIU provides the following substantive comments on the Final Revised EIR. Due to the lack of time the City has provided to SEIU and the public to review on comment on the Final Revised EIR, SEIU may have additional comments to the City Council, after SEIU has the opportunity to more fully consult with its consultants.

I. Air Quality issues:

- a. NOx analysis/URBEMIS modeling severely criticized by both the SMAQMD and Dr. Pless (SEIU's retained expert). The problem is this: the City asked the general contractor to provide a list of equipment that would be used during the Spring 2007 to use as inputs for the URBEMIS modeling. The general contractor provided this list but the City's air quality consultants used a different set of equipment that cannot be matched-up with the general contractor's list resulting in a substantial reduction in reported NOx emissions (and a final emissions number close to what the City reported in the 2005 EIR). In the Response to Comments to the SMAQMD and the SEIU, the City now says that the list provided by the GC was not the Spring 2007 list but something different. But that fact was never disclosed in the RDEIR. SEIU also demonstrated that substantial sources of NOx were simply left out of the analysis all together (e.g., all delivery trucks).

To solve the substantial analytical disconnect, the FEIR proposes to limit the number of equipment operating onsite to the subset used in the analysis. (See new mitigation measure 6.2-3(i). (RFEIR, at 2-1)) Thus rather than perform an accurate URBEMIS modeling of the equipment reported to be used, the FEIR tries to restrict the equipment to be used to that modeled. Furthermore, the City justifies the failure to model the full NOx emissions by stating that estimation of the number of concrete delivery trucks "is difficult." (RFEIR, 4-16 (Response to Comment 2-21).) SEIU respectfully urges the Planning Commission to require a straightforward honest modeling attempt rather than rely upon an

unenforceable mitigation measure design to salvage a deficient modeling effort.

In short, the City has again failed to present to the public and decisionmakers an accurate assessment of the NOx emissions expected from construction of the SMCS.

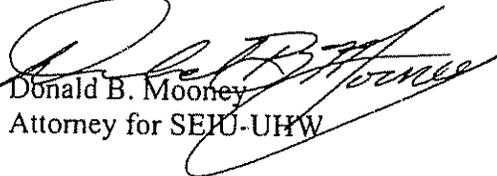
- b. Lack of PM2.5 analysis. The City agrees with SEIU's consultant that PM2.5 poses a serious health problem. The City also agrees with SEIU's consultant that its can model PM2.5 emissions generated by the SMCS construction. The City, however, chooses to remain ignorant of the emissions generated construction of a hospital built to treat people suffering from, in part, respiratory illness. Why?
- c. Mitigation Measures. The City again agrees that reasonable and feasible mitigation measures exists to reduce the amount of ozone precursors generated by the project. The City, however, asserts that there is no legal imperative to implement these efforts to improve the public health. SEIU disagrees and will litigate that point but asks you here to consider the moral imperative: you can easily and legally reduce the amount of ozone precursors by requiring additional onsite source controls outlined in Dr. Pless's comments and by requiring Sutter to fully participate in off-site available fee mitigation programs. Our question is this: why not?

II. Parking and Traffic

In SEIU's comments on the RDEIR, SEIU raised substantial issues regarding how the City's consultants generated parking demand and trip generation figures to measure the impacts associated with operation of the SMCS. In the RFEIR, the City's consultants provide responses to these comments. Because of the City's late release date of the RFEIR and the unavailability of SEIU's consultants during Thanksgiving week, SEIU has not been provided time to react to those responses.

In light of these procedural and substantive concerns, SEIU urges the PC to continue this hearing until the first full week in December.

Very truly yours,


Donald B. Mooney
Attorney for SEIU-UHW

cc: Ellie Burford

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Attorney at Law

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November 6, 2006

VIA EMAIL & HAND DELIVERY

City of Sacramento
Development Services Department
Attn: Lezley Burford, AICP
2101 Arena Blvd., Suite 200
Sacramento, CA 95834

Re: Revised Sutter Medical Center, Sacramento and Trinity Cathedral Project
Draft Environmental Impact Report

Dear Mr. Burford:

The following comments are provided to the City of Sacramento ("City") on behalf of the Service Employees International Union, United Healthcare Workers – West ("SEIU-UHW") regarding the Revised Sutter Medical Center, Sacramento ("SMCS") and Trinity Cathedral Project Draft Environmental Impact Report ("Revised DEIR"). SEIU-UHW's comments on the Revised DEIR consist of this cover letter, the attached reports from retained experts and, as discussed below, the comments provided by SEIU-UHW on the July 2005 Draft EIR and October 2005 Final EIR for the SMCS/Trinity Project.

I. Scope of the Revised DEIR

The City improperly restricts the scope of the Revised DEIR in two ways. First, in an effort to restrict public comment, the Revised DEIR republishes only 8 pages from the Air Quality Chapter and 7 pages from Transportation and Circulation Chapter of the nearly 1,000 page July 2005 Draft EIR. The Writ of Mandate, issued by the Court in the *SEIU-UHW v. City of Sacramento* litigation that controls the City's actions, requires more. The controlling Writ of Mandate – which the City excluded from its compilation of court documents in Appendix A to the Revised DEIR – requires that the City decertify the October 2005 Final EIR and recirculate "a new EIR" (Writ of Mandate, at 2 (attached hereto as Exhibit A)), rather than 15 out of 1,000 pages. The utility of such a recirculation can be easily demonstrated with reference to noise impacts associated with the SMCS heliport. In the 2005 Draft EIR, the City failed to disclose to the public and decision makers the extent and reach of significant noise impacts from helicopter overflights. The City can now disclose to the public who will be suffering from noise in excess of 70 dB standard (i.e., the 70 dB contour). The City should withdraw its so-called Revised DEIR and recirculate "a new EIR" as that term plainly means: a complete

2-1

draft EIR that the City intends to recertify in order to replace the decertified October 2005 Final EIR.

2-1
(con)

Since the City apparently intends to maintain the remaining portion of the 2005 Final EIR as certified, SEIU-UHW hereby incorporates by reference all comments it has previously submitted to the City on the 2005 Draft and Final EIRs, including its September 9, 2005 comment letter (Draft EIR) and attachments, its November 21, 2005 comment letter (Final EIR) and attachments, and its comments to the City of Sacramento Planning Commission and City Council.

2-2

Second, the City's approach to the Revised DEIR is not to faithfully disclose the environmental impacts associated with SMCS. Instead, the City admits that the purpose of the Revised DEIR is a post hoc attempt to justify the conclusions reached in the July 2005 Draft EIR. (See e.g., Revised DEIR, at 1-2 ("The purpose of this Revised Draft EIR is to set forth the underlying documentation of the analysis set forth in the [July 2005 Draft] EIR . . .").) This focus on rationalization instead of actual analysis is best illustrated in the City's approach to the NOx issue. In a memorandum from Geoffrey Hornek (EIP) to Lezley Burford (City), dated September 20, 2006 (at p. 1) and included in the unpaginated Revised DEIR, the City admits that it could not support the construction NOx numbers used in the July 2005 Draft EIR and asserts that the data (called the "2003-2004 file") was "purged."

2-3

Instead of actually assessing the generation of NOx emissions, the City uses the Revised DEIR to "re-run the project's numbers . . . to recreate the 2003-2004 file." As noted in the comments from Dr. Petra Pless (attached hereto as Exhibit B), the City's focus on recreating a number as close as possible to the NOx figures disclosed in the July 2005 Draft EIR, results in a substantial underestimation of the actual NOx emissions from the construction equipment list supplied by the SMCS general contractor. (See Pless Report, at 2-5.) Thus, the City has not undertaken an effort to actually assess the environmental impacts of the SMCS in the Revised DEIR; it is using the Revised DEIR as another vehicle to submit argument as to why its original environmental documentation was not in error. We urge the City to aggressively examine the impacts of the SMCS and disclose those impacts to the public. To comply with the Writ of Mandate issued by the Court and its obligations under CEQA, the scope of the Revised DEIR must be comprehensive.

2-4

II. Timing of Release of Revised DEIR to Minimize Public Comment

SEIU-UHW is very concerned that the City's timing of the release of the Revised DEIR is intended to minimize public awareness and participation. The City released the Revised DEIR prior to decertifying the 2005 Final EIR and the expiration of the applicable appeal period in the *SEIU-UHW v. City of Sacramento* litigation. By releasing the Revised DEIR prior to decertifying the 2005 Final EIR, it is unclear to the public what document actually controls. Please also provide the distribution list of the Revised

2-5

City of Sacramento
November 6, 2006
Page 3 of 4

DEIR and copies of all associated notices of availability. Moreover, the City announces in the Revised DEIR that it will ignore all comment on the Revised DEIR if it decides to appeal the Court's granting of the SEIU-UHW's Petitioner for Writ of Mandate. (Revised DEIR, at 1-2, footnote 4.) Such statements appear calculated to dampen any public motivation to comment. In its rush to recirculate a revised document prior to either decertifying the 2005 Final EIR or appealing the Court's action, the City leaves the public with little incentive to participate in this theoretical CEQA process.

2-5
(con't)

In this vein, we note that SEIU-UHW has recently appealed the Court's September 1, 2006 Judgment. The effect of this appeal stays the mandatory injunctive portions of the Court's Writ of Mandate but leaves intact the prohibitory injunctive provisions. (See e.g. *Hayworth v. City of Oakland* (982) 129 Cal.App.3d 723, 727-728.) Thus, the City's obligation to proceed with this CEQA process ceased as of October 30, 2006. (The City and Sutter are still enjoined pending resolution of the appeal, however, from proceeding with any activities to implement the SMCS project aside from the three elements specified in the Writ of Mandate.) Given the uncertainty associated with the this CEQA process, we urge the City to withdraw its Revised DEIR and await the determination of the Court of Appeal.

2-6

III. Substantive Comments on the Revised DEIR's Air Quality and Traffic/Circulation Contentions

As mentioned above, SEIU-UHW retained two experts to undertake an assessment of the Revised DEIR. In attached Exhibits B and C, respectively, Dr. Pless and Daniel T. Smith, Jr., a Registered Professional Engineer, critique the RDEIR. Their reports establish that despite the opportunity provided to it by Court, the City has failed again to take the data before it and produce common sense, repeatable, and rational results. Moreover, the City consistently underestimates impacts and fails to explore and adopt reasonable and feasible mitigation measures.

For example, in the Air Quality section, the City's consultant fails to take the equipment list provided by general contractor of the SMCS and input that information into the URBEMIS model. If the consultant had used this list, the URBEMIS modeling would have disclosed NOx emission numbers far in excess of that disclosed in the 2005 Draft EIR. Instead, the consultant uses a list from an unknown source that fails to correspond to the contractor list but produces NOx figures that are close to the prior NOx numbers. (See, Pless Report, at 2-5.) Likewise, the City refuses to consider much less adopt a host of reasonable and feasible mitigation measures for the SMCS project (e.g., off-site mitigation programs) despite the fact that the City requires such measures in other EIRs. (Pless Report, at 6-11.) Finally, the City should also disclose to the public and decision makers the emissions and associated health effects of PM2.5 from the construction and operation of the SMCS project, an impact it has refused to date to analyze. (Pless Report, at 11-17.)

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In the traffic and circulation section, the City again substantially underestimates effects on parking demand and trip generation from SMCS operations. (See Smith Report, at 2-11.) Not only will correction of the trip generation numbers rectify the City's errors in its traffic analysis it will also provide a more accurate operational NOx emission impact (as the significant NOx source is auto emissions from trip generation).

2-10

Perhaps even more disturbing is that the City has failed to present any assessment of the very real disputes regarding its traffic and parking assessments and to present the public with that disagreement and its rational resolution per Section 15151 of the CEQA Guidelines. The City had before it the comments of Mr. Smith on the July 2005 Draft EIR, data and conclusion from the City's traffic consultants regarding the Kaiser Roseville traffic counts, data, conclusions and critiques from the City's other traffic consultant (Nelson/Nygaard), and data from prior studies of Sutter Memorial hospital, including data collected by another consultant, the Hoyt Company, which indicated a 15% higher usage of Sutter's parking facilities than was measured in the DKS survey and which noted that the demand at Sutter Memorial often exceeded the available 960 spaces, and data used by the City in its Central City Parking Master Plan process. And yet the City in the Revised DEIR never describes these data and opinions, much less summarize them, and indicate why – in light of the contrary information – it chose to minimize traffic impacts as it did.

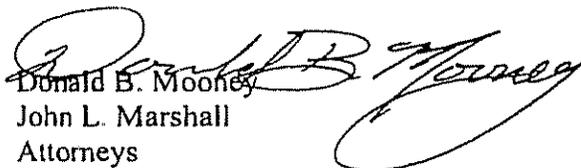
2-11

IV. Conclusion

As detailed in these comments (and SEIU-UHW's prior comments on the Draft and Final EIRs), the City's Revised DEIR fails to meet the standards for impact analysis, public disclosure and mitigation. Should the City desire to proceed with this process, it must fix the noted deficiencies and recirculate a new draft EIR for public comment.

2-12

Very truly yours,


 Donald B. Mooney
 John L. Marshall
 Attorneys

Attachments

1 TO: Respondents CITY OF SACRAMENTO and SACRAMENTO CITY COUNCIL

2 (collectively, "Respondents"):

3 Judgment having been entered in this proceeding ordering that a peremptory writ of
4 mandate issue from this Court,

5 YOU ARE HEREBY COMMANDED to comply with the following:

- 6 1. Within a time not to exceed 60 days from service of the writ of mandate,
7 Respondents shall void its certification of the EIR and approval of Resolution No.
8 2005-882, Resolution No. 2005-883, Resolution No. 2005-884, Resolution No.
9 2005-886, Resolution No. 2005-887, Resolution No. 2005-888 and Ordinance No.
10 2005-094, and all other actions taken by Respondents to approve or effectuate the
11 Sutter Medical Center, Sacramento Project (hereinafter, collectively "Sutter
12 Approvals") excluding, however, any and all separate approvals granted by
13 Respondents and relating to the Trinity Cathedral Project and Sutter Midtown
14 Housing Project which were not challenged by Petitioners.
- 15 2. Respondents shall not reapprove the Sutter Approvals unless and until Respondents
16 have first prepared, recirculated and certified a new EIR in accordance with CEQA
17 standards and procedures and this Court's Final Ruling, including provisions for
18 public comment and findings regarding the underlying documentation of trip
19 generation, parking and construction-related NOx emissions.
- 20 3. Pursuant to the discretion afforded by CEQA to fashion relief (See Pub. Resources
21 Code, § 21168.9; *Laurel Heights Improvement Ass'n v. Regents of University of*
22 *California* (1988) 47 Cal.3d 376, 423-25), the Court finds that, except as set forth
23 in paragraph 5 below, proceeding further with the Sutter Project or any portion
24

1 thereof could prejudice Respondents' consideration or implementation of
2 mitigation measures to the Sutter Approvals. Therefore, except as set forth in
3 paragraph 5 below, until this Court determines that Respondents have taken the
4 actions specified herein to bring their approval of the Sutter Approvals into
5 compliance with CEQA, the Court mandates that Respondents, Real Parties in
6 Interest, and their agents suspend all project approvals and activities that are based
7 upon the Sutter Approvals and that could result in any change or alteration to the
8 physical environment.

9 4. The Court additionally finds that equitable considerations indicate that
10 completely suspending the Sutter Project is not appropriate in light of the social and
11 economic harms that would result to the general public and Real Parties in Interest.

12 5. The Court additionally finds that Respondents may allow Real Parties in
13 Interest to proceed with the following three distinct components of construction of
14 the Project pursuant to the Sutter Approvals:

- 15 a. Excavation of the new Energy Center, including the area below grade for medical
16 office space and ninety (90) parking spaces, and excavation for the related tunnel
17 under 28th and L Streets;
- 18 b. Construction of the Community Parking Structure and associated uses; and
- 19 c. Completion of reconstructing streets after laying down utility trenches
20 (collectively the "construction activities").

21 6. The construction activities listed in paragraph 5 are severable from the remainder of
22 the Sutter Approvals because (i) each serves a separate independent and immediate
23 public need for safety and infrastructure improvements such that the benefits to the
24

1 general public and Real Parties in Interest outweigh any ongoing adverse effect on
2 the environment; and (ii) severance of the construction activities will not in any
3 way prejudice complete and full compliance with CEQA, including consideration
4 or implementation of additional mitigation measures.

5 7. Respondents shall file an initial return to the peremptory writ of mandate within 31
6 days of completion of the activities mandated by paragraph 1 of this writ.

7 Respondents shall file a supplemental return to the writ of mandate after they have
8 certified an environmental review document for the Sutter Approvals in compliance
9 with CEQA and the CEQA Guidelines, or after Respondents have determined not
10 to reapprove the Sutter Approvals. This Court shall retain jurisdiction over
11 Respondents' proceedings by way of the returns to the peremptory writ of mandate
12 until this Court has determined that Respondents have complied with CEQA or that
13 Respondents have determined not to reapprove the Sutter Approvals.

14 8. Under Public Resources Code section 21168.9, subdivision (c), this Court
15 does not direct Respondents to exercise their lawful discretion in any particular
16 way.

17
18
19
20 Date: SEP 15 2006

D. RIOS SR.

Clerk of the Superior Court

Comments

on

**Revised Draft Environmental Impact Report
Sutter Medical Center and Trinity Cathedral
Sacramento, California**

Prepared for

Law Offices of Donald Mooney
129 C Street, Suite 2
Davis, CA 95616

Prepared by

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440 Nova Albion Way, Suite 2
San Rafael, CA 94903

November 5, 2006

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Attached Tables

- Table A-1: Comparison of construction equipment list provided by Turner Construction and Revised DEIR assumptions and input into URBEMIS
- Table A-2: Photographs of construction equipment scheduled to be on site

List of Exhibits

- Exhibit 1: Letter from Turner Construction, August 16, 2000 with attached equipment list
- Exhibit 2: Revised DEIR Table summarizing equipment used for URBEMIS modeling runs
- Exhibit 3: URBEMIS model run for 7 cranes and 2 boom trucks based on URBEMIS default values for engine ratings
- Exhibit 4: URBEMIS model run for 7 cranes and 2 boom trucks based on average engine rating of construction equipment scheduled to be on site
- Exhibit 5: Excerpts from EPIC Tower Draft EIR
- Exhibit 6: Excerpts from Metropolitan Project Draft EIR
- Exhibit 7: SMAQMD Construction Air Quality Mitigation Plan Protocol
- Exhibit 8: Sacramento Metropolitan Air Quality Management District, Mitigation Fees
- Exhibit 9: Excerpts from Fulton Avenue Development Project Draft EIR
- Exhibit 10: Excerpts from 500 Capitol Mall Draft EIR
- Exhibit 11: Excerpts from Greenbriar Development Project Draft EIR
- Exhibit 12: Manufacturers of Emission Controls Association, Retrofitting Emission Controls on Diesel-Powered Vehicles
- Exhibit 13: Manufacturers of Emission Controls Association, Case Studies of Construction Equipment, Diesel Retrofit Projects
- Exhibit 14: CARB highest daily PM_{2.5} measurements at Sacramento T-Street
- Exhibit 15: CEIDARS particulate matter speciation profiles
- Exhibit 16: Kern County Planning Department, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports
- Exhibit 17: South Coast Air Quality Management District, Final—Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds

COMMENTS

The City of Sacramento ("City") as the lead agency under the California Environmental Quality Act ("CEQA") has published a Revised Draft Environmental Impact Report¹ ("Revised DEIR") for the Sutter Medical Center, Sacramento, Project ("SMCS Project" or "Project") and the Trinity Cathedral Project. This Revised DEIR presents additional information regarding construction-related air quality (NOx) impacts of the Project as analyzed in the previously certified SMCS Final Environmental Impact Report² ("Final EIR"). This additional information was provided to respond to the ruling and judgment issued by the Superior Court on August 4 and September 1, 2006 in *SEIU v. City of Sacramento*. (Revised Draft EIR, pp. 1-2.) The Revised DEIR presents a revised air quality section for Project construction and finds significant and unavoidable impacts for emissions of nitrogen oxides ("NOx") from construction equipment. The Revised DEIR claims that additional mitigation measures beyond those listed in the Revised DEIR that would substantially reduce these significant NOx emissions are not available. (Revised DEIR, pp. 6.2-4R to 6.2-87R.)

There are several problems with the Revised DEIR's presentation of construction air quality impacts and with its conclusions. First, the emissions estimates presented in the revised air quality impact assessment are not supported by the provided documentation and are riddled with errors. (See Comment I.) Second, the Revised DEIR's claim that no additional mitigation measures exist to reduce these significant NOx emissions flies in the face of ubiquitous evidence to the contrary. (See Comment II.) Numerous additional mitigation measures exist that could considerably reduce the Project's NOx and other criteria pollutant emissions. These measures are routinely required as CEQA mitigation and are common practice at many other construction sites throughout the country. (See Comment II.E.) In fact, as discussed in Comment II.C, the City itself frequently requires NOx mitigation measures beyond those required for the Project. It is perplexing why the City insists that no such additional mitigation measures exist for this project. NOx emissions from Project construction would further aggravate the already severe ozone³ problem in the Sacramento area.⁴ Third, and finally, the Revised DEIR, as the

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¹ City of Sacramento, Revised Environmental Impact Report (EIR) for the Sutter Medical Center, Sacramento (SMCS) Project and the Trinity Cathedral Project, September 2006, SCH #2003102002

² City of Sacramento, Final Environmental Impact Report for the Sutter Medical Center, Sacramento (SMCS) Project and the Trinity Cathedral Project, October 2005.

³ Ozone is a secondary pollutant, *i.e.* it is not emitted directly into the air but is formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gases ("ROG") and NOx, react in the presence of sunlight to form ozone. Ozone is a respiratory irritant and

Draft and Final EIRs before, fails to address impacts on air quality from emissions of PM2.5.

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(con't)

I previously commented on the inadequacy of the air quality impact assessment presented in the Draft EIR⁵ for this Project, including construction NOx emissions and PM2.5 emissions from both construction and operation. (Pless Comments 06/2005⁶.) The following comments discuss I) the inadequacy of the presented emissions estimates, II) feasible additional mitigation measures, and III) methodology to evaluate impacts on air quality from PM2.5 emissions.

2-16

I. NOx Emissions Estimates Unsupported and Underestimated

The Revised DEIR assumes, as a worst-case scenario, the simultaneous construction of four project components, (1) the Sutter Medical Foundation ("SMF") building; (2) the Women's and Children's Center ("WCC"); (3) the Future Medical Office Building ("Future MOB"); and (4) 32 residential units during early spring through mid-summer of 2007. Construction equipment combustion exhaust emissions were modeled using URBEMIS 2002 version 7.5, an emissions model developed by the California Air Resources Board ("CARB") as a tool for estimating air pollutant emissions from land use development projects. (Revised DEIR, pp. 6.2-4R to 6.2-87R.) As discussed in the following comments the emissions estimates based on the URBEMIS model runs are not supported by the provided information and contain a number of errors.

I.A URBEMIS Model Inputs Do Not Correspond to Contractor's Construction Equipment List

The Revised DEIR states that emissions estimates were based on information provided by Turner construction, the general contractor for the Project. (Revised DEIR, p. 6.2-2R.) This information includes a construction schedule and a list of the type and number of construction equipment expected to be on site ("Turner

2-17

an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials.

⁴ The lower Sacramento Valley air basin has been declared a serious non-attainment area for purposes of the 8-hour national ambient air quality standard ("NAAQS") and 1-hour and 8-hour California ambient air quality standards ("CAAQS").

⁵ City of Sacramento, Draft Environmental Impact Report for the Sutter Medical Center, Sacramento (SMCS) Project and the Trinity Cathedral Project, July 2005.

⁶ Petra Pless, D.Env., Comments on Air Quality and Noise, Draft Environmental Impact Report, Sutter Medical Center and Trinity Cathedral Project, Sacramento, California, September 6, 2005

Pless, Comments on Revised DEIR for Sutter Medical Center Sacramento and Trinity Cathedral Projects. November 5, 2006

equipment list”), which were provided at the end of the Revised DEIR’s air quality section. (Turner Construction 08/2006⁷, attached as Exhibit 1.) Comparison of the Turner equipment list and the Draft EIR’s input for the URBEMIS model runs shows major discrepancies, which are entirely unexplained in the Revised DEIR’s presentation. I have summarized the Turner equipment list and the Revised DEIR’s input for the URBEMIS modeling runs (attached as Exhibit 2) in attached Table A-1. For visualization purposes, I have attached photographs of the actual construction equipment scheduled to be on-site for construction of the four Project components. (See attached Table A-2.) These photographs illustrate the large number of heavy-duty equipment scheduled to be on site. Representative photographs were chosen to illustrate Table A-1.

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(con’t)

The type of equipment specified as input for the URBEMIS model runs is substantially different than that specified in the Turner equipment list. Comparison with the Revised DEIR’s equipment list (see attached Table A-1) shows that the Revised DEIR assumed considerably less heavy-duty equipment on-site, instead using smaller equipment to model the emissions from Project construction. For example, the Turner equipment list indicates the use of 5 heavy-duty excavators (list numbers 5, 6, 9, 18, and 27) on site; the Revised DEIR’s modeling does not include a single excavator. The Turner equipment list indicates the use of 9 heavy-duty backhoes; the Revised DEIR assumes the use of only 4, considerably smaller boom lifts/skid steer loaders. The Revised DEIR assumes a total of 13 welding machines for construction of the MOB and the SMF buildings; the Turner equipment list does not specify any welding machines or other such small equipment. (Because welding machines do not appear in the URBEMIS model’s internal equipment list, the Revised DEIR inputs these welding machines as “concrete saws” into the URBEMIS modeling.)

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Further, the total number of equipment used on site is also inconsistent. The Turner equipment list shows a total of at least 41 pieces of construction equipment⁸ on site (see Exhibit 1); the URBEMIS model runs were based on a total of only 35 pieces of construction equipment, 19 for construction of the SMF, 5 for the WCC, 8 for the Future MOB, and 3 for the residential units. (Exhibit 2, see also Revised DEIR, Table 2, p. 6.2-6R.) The Revised DEIR’s assumptions omit off-road dump trucks as well as on-road concrete delivery trucks.

2-19

⁷ Turner Construction Company, Letter to Christine Kronenberg, AICP, Re: Estimated Construction Equipment List, SMCS Site, August 16, 2006.

⁸ The Turner list specifies “concrete delivery trucks” without indicating how many of these trucks would be required. The total of 41 pieces of equipment includes only 1 concrete delivery truck.

It appears that the Revised DEIR assumed a different phase of construction activities than that scheduled for early spring 2007. The Revised DEIR contains no explanation whatsoever for its choices and the substantial discrepancy with the Turner equipment list upon which it allegedly relies.

2-20

I.B The Equipment List Does Not Include All Emission Sources

The equipment list provided by the general contractor, Turner Construction, does not include all equipment that will be on site for the following reasons.

First, the Turner equipment list specifies "concrete delivery trucks" without indicating how many of these trucks would be required. The total of 41 pieces of equipment mentioned above includes only 1 concrete delivery truck. Considering the size of the Project, concrete pouring will require a large number of concrete delivery trucks, certainly more than one to delivery concrete to the 2 concrete boom trucks scheduled to be on site. These trucks will add a substantial amount of emissions to the already significant Project emissions.

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Second, the letter accompanying the Turner equipment list specifies that the list only contains equipment scheduled for the Future MOB, the WCC, and the renovations of the SMF building but not the residential units. (See Exhibit 1, cover page.)

2-22

Third, the equipment list only includes off-road equipment with engine ratings higher than 50 horsepower ("Hp"). (See Exhibit 1, page 2 "mitigation measure".) Project construction will additionally require numerous deliveries of construction materials as well as the use of smaller equipment with engine ratings less than 50 hp.

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Finally, the equipment list does not appear to include water trucks. Watering of the project site is required by Mitigation Measure 6.2-2(a).

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I.C The Revised DEIR's URBEMIS Modeling Underestimates Emissions

Although the Turner equipment list provides the engine rating for most of the construction equipment scheduled to be on site, the Revised DEIR fails to use these Project-specific engine ratings and instead relies on URBEMIS default values. The URBEMIS model takes into account engine-rating of equipment and increases emission estimates with increased engine rating. With the exception of the dump trucks, the average engine rating of the construction equipment scheduled to be used on site is higher than the URBEMIS default values. (See attached Table A-1.) For example, the average engine rating for the cranes specified on the Turner

2-25

Pless, Comments on Revised DEIR for Sutter Medical Center Sacramento and Trinity Cathedral Projects, November 5, 2006

equipment list is 239 hp⁹. The URBEMIS default value is only 190 hp. The average engine rating for concrete boom trucks is 398 hp; the URBEMIS default value for "other equipment," which was assumed by the Revised DEIR for concrete pumps is only 190 hp. Consequently, the Revised DEIR considerably underestimates emissions from Project equipment.

2-25
(cont.)

To illustrate the significance of using Project-specific engine ratings, I have modeled emissions from 7 cranes and 2 boom trucks based on a) the Revised DEIR's assumptions of URBEMIS default values for engine ratings and b) based on the average engine rating of the actual construction equipment scheduled to be on site. The results are attached as Exhibits 3 and 4. The use of URBEMIS default values results in NOx emissions of 92.5 lb/day; the use of actual engine ratings results in 142.9 lb/day of NOx emissions, a more than 50% increase¹⁰ for only those 9 pieces of construction equipment. Emissions for all other criteria pollutants increase correspondingly.

2-26

Further, the Revised DEIR uses a different set of equipment than that specified in the Turner equipment list. Most of the equipment specified on the Turner equipment list has a considerably higher engine rating than that used in the Revised DEIR's URBEMIS modeling runs. (See attached Table A-1.) The average engine rating for the equipment specified by Turner is 171 hp; the average engine rating for the equipment in the Revised DEIR's URBEMIS modeling runs is considerably lower at 120 hp. Thus, the Revised DEIR's emissions estimates are considerably underestimated.

2-27

As demonstrated, the Revised DEIR considerably underestimates emissions because it does not account for all equipment on site as discussed in Comments I.B and I.C and because it relies on URBEMIS default values for engine rating and a different set of equipment than that specified by the general contractor. If modeled correctly, the already significant and allegedly not further mitigable NOx emissions would be considerably higher. Consequently, the contribution of Project construction to the region's ozone problem and the associated public health impacts would be greater than disclosed by the Revised DEIR. Emissions of other criteria pollutants such as PM10 and PM2.5 and reactive organic gases ("ROG"), also ozone precursors, would also be considerably higher. This illustrates the necessity for additional mitigation beyond that required in the Revised DEIR.

2-28

⁹ Average Hp calculated for crane Nos. 7, 10, 39, 40, and 41. No information available for crane No. 35

¹⁰ 142.9 / 92.5 = 1.54

II. The Revised DEIR's Mitigation Measures Are Inadequate and Additional Construction NOx Mitigation Is Feasible

The Revised DEIR finds that mitigated construction emissions would still exceed the quantitative threshold of significance of 85 lb/day of NOx established by the Sacramento Metropolitan Air Quality District ("SMAQMD" or "District"). The Revised DEIR states that "NOx reduction from heavy-duty equipment is limited by available technology" and claims that "[m]itigation in addition to that listed [in the Revised DEIR's mitigation section], and that would substantially reduce NOx emissions beyond this level, is not available at this time." The Revised DEIR consequently concludes that construction-related NOx emissions would remain a significant and unavoidable impact on air quality after mitigation. (Revised DEIR, pp. 6.2-8R.) The Revised DEIR's claim that no additional mitigation exists is incorrect and contradicted by the evidence, as discussed in the following comments.

2-29

II.A Mitigation Measure 6.2-3(e) Is Not Enforceable

One of the mitigation measures the Revised DEIR relies on to calculate mitigated emissions from Project construction, *i.e.*, Mitigation Measure 6.2-3(e), the use of alternative-fueled and/or catalyst-equipped diesel construction equipment, is unenforceable as a practical matter. This mitigation measure specifies the use of alternative fuels or catalyst-equipped diesel construction equipment only "if required" yet contains no explicit requirement to actually use alternative fuels or catalysts. (Revised DEIR, p. 6.2-8R.) The Revised DEIR fails to explain which circumstances would require the use of aqueous fuels or catalysts. Obviously, both measures are feasible, yet, they are not explicitly required due to the ambiguous wording of the mitigation measure. Absent any specific conditions, these measures will, in all likelihood, not be implemented. In fact, the equipment list provided by Turner construction shows that all subcontractors plan on using diesel rather than alternative fuels. Consequently, emissions will not be mitigated to the extent feasible.

2-30

The Revised DEIR acknowledges the feasibility of PuriNOx, an aqueous diesel fuel, and contains a letter from CARB verifying that the use of this fuel can achieve a 14% reduction in NOx emissions and a 63% reduction in PM10 emissions compared to CARB diesel. The CARB also determined that ROG emissions are at least 25% lower than any applicable diesel emission standard. (CARB 01/01¹¹.) PuriNOxTM fuel is available from fuel distributors Ramos Oil in Sacramento and

2-31

¹¹ Letter from Dean C. Simeroth, Chief, Criteria Pollutants Branch, to Thomas J. Sheahan, Lubrizol, Verification of Lubrizol Corporation's PuriNOx Fuel, January 31, 2001.

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R.V. Jensen in Fresno and is competitively priced at a surcharge over regular diesel of about 10 cents per gallon.¹² Thus, the use of PuriNOx should be specifically and unequivocally required for all diesel-powered construction equipment on site to reduce the significant NOx emissions found by the Revised DEIR.

2-31
(con't)

Such explicit language can be found in another recent project, the EPIC Residential Tower, also in Sacramento:

"Aqueous diesel fuel shall be used to fuel all applicable diesel equipment during construction of the proposed project. For every piece of diesel equipment for which aqueous diesel fuel is not used, the contractor shall provide the SMAQMD with an explanation of why the use of aqueous diesel fuel is not appropriate." (EPIC Tower Draft EIR¹³, Mitigation Measure 5.2-1(f), p. 5.2-18; *emphasis added*; attached as Exhibit 5.)

II.B Mitigation Measure 6.2-3(a) Is Not Stringent Enough

The only enforceable mitigation measure contained in the Revised DEIR resulting in NOx emission reductions is Mitigation Measure 6.2-3(a), which specifies that the contractor's project-specific fleet of heavy-duty (>50 hp) off-road vehicles achieve a 20% reduction of NOx emissions compared to the most recent CARB fleet average at the time of construction. (Revised DEIR, pp. 6.2-7 and 6.2-8R.) This requirement can simply be achieved by using newer equipment. Therefore, there is no reason why this requirement could not be made more stringent and require a reduction of, for example, 50%, or more, requiring the contractor to use a higher percentage of newer equipment in his fleet. Further, as discussed in Comment II.E, add-on controls could further reduce emissions even from newer equipment.

2-32

II.C The City Requires Additional Mitigation Measures for Other Projects

The City claims that no other mitigation measures beyond those required in the Draft EIR exist that would further reduce the level of NOx emissions during Project construction. Yet, for other recent Projects, the City has specifically required such additional mitigation measures. These mitigation measures are equally feasible for this Project.

¹² Personal communication, Petra Pless with Bill Hagstrand, Lubrizol (440-347-6592), June 21, 2004.

¹³ City of Sacramento, EPIC Residential Tower, Draft Environmental Impact Report, July 2006.

For example, for the Metropolitan Project, a mixed-use residential tower development, the City required the following to reduce project construction NOx and ROG emissions:

“The project representative shall implement additional aggressive mitigation measures in consultation with the SMAMQD, using existing technology on construction fleet such as aqueous fuel and cooled exhaust gas recirculation systems to reduce emissions below SMAQMD thresholds, or shall pay a \$179,673 off-site mitigation fee prior to the issuance of grading permits.” (Metropolitan Project Draft EIR¹⁴, Mitigation Measure 5.1-1(d), p. 5.1-18; attached as Exhibit 6.)

2-33

Clearly, the City is aware of the feasibility of cooled exhaust gas recirculation (“EGR”) as a mitigation measure, yet has failed to acknowledge its feasibility and require this technology for this Project. Comment II.E.1 provides additional information on the feasibility of EGR and its NOx emission reduction efficiency.

II.D SMAQMD Off-site Construction and Operational Mitigation Fees

The Revised DEIR cites to and incorporates an outdated version of the SMAQMD’s recommended standard mitigation measures contained in the Districts CEQA *Guide for Assessing and Mitigating Air Quality Impacts* (“GAMAQI”) to justify its limited choice of mitigation measures but fails to mention that the District recommends payment of an off-site mitigation fee if NOx emissions from construction still exceed the District’s threshold of significance after implementation of these standard mitigation measures:

“If the projected construction related emissions for a project are not reduced to the District’s threshold of significance (85 lbs/day) by the application of the standard construction mitigation, then an off-site construction mitigation fee should be applied. This fee is used by the District to purchase off-site emissions reductions. This is done primarily through the District’s Heavy Duty Incentive Program through which select owners of heavy duty equipment in Sacramento County can repower or retrofit their old engines with cleaner engines or technologies.” (SMAQMD 06¹⁵, attached as Exhibit 7.)

2-34

¹⁴ City of Sacramento, The Metropolitan Project, Sacramento, California, Draft Environmental Impact Report, July 11, 2006

¹⁵ Sacramento Metropolitan Air Quality Management District, Construction Air Quality Mitigation Plan Protocol, June 26, 2006; <http://airquality.org/ceqa/index.shtml>, accessed October 31, 2006.

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The off-site mitigation fee for construction emissions is determined by multiplying the pounds of mitigated daily NO_x emissions over the threshold of significance of 85 pounds per day by the number of days of construction, the current District mitigation fee, and a conversion factor for converting pounds to tons. The current mitigation fee rate is \$14,300 per ton of NO_x emissions. The SMAQMD provides a construction mitigation fee calculator to determine the fee for construction projects when off-site mitigation is needed. (See Exhibit 8¹⁶.) Similarly, the SMAQMD recommends an off-site mitigation fee if operational NO_x emissions exceed the District's threshold of significance of 65 lb/day. (SMAQMD 06/2006¹⁷.) The City should utilize the SMAQMD offsite mitigation fee program to further mitigate the significant emissions of NO_x produced by the operation of the SMCS

2-34
(con't)

The City is well aware of the SMAQMD program as it has required the payment of off-site mitigation fees for a number of recent projects, for example, for the EPIC Tower (Mitigation Measure 5.2-1(e)); the Metropolitan Project (Mitigation Measure 5.2-1(d)); the Fulton Avenue Development Project¹⁸ (Mitigation Measure MM 3.1-1R); for the 500 Capitol Mall Project¹⁹ (Mitigation Measure 5.2-1(e)); and the Greenbriar Development Project²⁰ (Mitigation Measure MM 6.2-1(c)). (See Exhibits 5, 6, 9, 10, and 11.)

II.E Feasible Add-On Technologies that Would Reduce NO_x Emissions

A number of additional feasible construction management and add-on control technologies exist to reduce the significant NO_x emission levels beyond what is required by the Revised DEIR. These include the above-mentioned EGR systems, selective catalytic reduction ("SCR"), and lean NO_x catalysts ("LNC"). All these technologies have been successfully retrofitted on off-road vehicles and offer

2-35

¹⁶ Sacramento Metropolitan Air Quality Management District, Mitigation Fees; <http://www.airquality.org/ceqa/index.shtml#MitFees>, accessed October 31, 2006.

¹⁷ Sacramento Metropolitan Air Quality Management District, Operational Air Quality Mitigation Protocol, June 6, 2006; <http://www.airquality.org/ceqa/OperationalMitigationProtocol.pdf>, accessed November 5, 2006.

¹⁸ City of Sacramento, Fulton Avenue Development Project, Draft Environmental Impact Report, SCH No. 2005122130, October 5, 2006; attached as Exhibit 9.

¹⁹ City of Sacramento, 500 Capitol Mall, Draft Environmental Impact Report, SCH No. 2005112038; October 2006; attached as Exhibit 10.

²⁰ City of Sacramento and Sacramento Local Agency Formation Commission, Greenbriar Development Project, Draft Environmental Impact Report, SCH No. 2005062144; attached as Exhibit 11.

opportunities to greatly reduce NO_x and other emissions. In addition, many projects have demonstrated the feasibility of installing verified on-road technologies on construction equipment or other off-road equipment similar to that used for Project construction. These technologies have been required as CEQA mitigation measures for other projects and should be required by the City for this Project. The California Air Resources Board ("CARB") and the SMAQMD provide an incentive program for retrofitting heavy-duty construction equipment.²¹

2-35
(con't)

As discussed in Comment II.B, the City's requirement of reducing NO_x emissions by 20% compared to the most recent CARB fleet average can simply be achieved by using newer equipment. The below discussed technologies and construction management measures can be used in addition to the use of newer equipment.

II.E.1 Exhaust Gas Recirculation

Exhaust gas recirculation reduces NO_x by reducing the temperature at which fuel burns in the combustion chamber. Engines employing EGR recycle a portion of engine exhaust back to the engine air intake. The oxygen-depleted exhaust gas is mixed into the fresh air that enters the combustion chamber, which dilutes the oxygen content of the air in the combustion chamber. This reduction in oxygen reduces the engine burn temperature, and hence reduces NO_x emissions.²² In some cases, EGR can be used in conjunction with diesel particulate filters ("DPFs"). (MECA 04/2006²³, p. 7; attached as Exhibit 12.)

2-36

Engine retrofits with low pressure EGR in conjunction with a DPF can achieve NO_x reductions of over 40% and PM reductions of more than 90% and have been successfully demonstrated on off-road equipment. (MECA 04/2006, p. 14.)

II.E.2 Selective Catalytic Reduction

Selective catalytic reduction, using urea as a reducing agent, can reduce NO_x emissions from 75% to 90% while simultaneously reducing VOC emissions by up to 80% and PM emissions by 20% to 30%. SCR systems can be used in conjunction with

2-37

²¹ Sacramento Metropolitan Air Quality Management District, Heavy-Duty Vehicle Incentive Program; <http://airquality.org/mobile/hdnox.shtml>, accessed November 3, 2006.

²² Diesel Technology Forum, Retrofit; <http://www.dieselforum.org/retrofit-tool-kit-homepage/what-is-retrofit/retrofit/>, accessed November 3, 2006.

²³ Manufacturers of Emission Controls Association, Retrofitting Emission Controls on Diesel-Powered Vehicles, April 2006; [http://meca.org/galleries/default-file/MECA Diesel Retrofit White Paper 0406 \(revised\).pdf](http://meca.org/galleries/default-file/MECA_Diesel_Retrofit_White_Paper_0406_revised.pdf), accessed November 3, 2006.

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DPFs and DOCs and have been successfully demonstrated on off-road vehicles. (MECA 04/2006, pp. 2-3; MECA 03/2006²⁴, p. 17, attached as Exhibit 13.)

2-37
(con't)

For example, the City of Houston Diesel Field Demonstration Project has demonstrated an 84% reduction of NOx emissions by using a DPF/SCR combination on a 1992 MY Cummins Gradall G3WD (5.9L 190 hp). As a result of this field demonstration program, the City of Houston retrofitted 33 rubber tire excavators and a dump truck with SCR systems. (MECA 03/2006, p. 12.)

II.E.3 Lean NOx Catalysts

Lean NOx catalyst technology can achieve a 10% to 40% reduction in NOx emissions. LNC technology does not require any core engine modifications and can be used to retrofit older engines. This retrofit technology can be combined with DPFs or diesel oxidation catalysts ("DOCs") to provide both NOx and PM10 reductions. An LNC added to an exhaust system using a DPF can reduce NOx emissions from 10% to 25%. (MECA 03/2006, p. 14.)

2-38

Lean NOx catalyst technology has been demonstrated and commercialized for a variety of off-road retrofit applications, including heavy-duty earthmoving equipment. (MECA 03/2006, p. 19.)

II.E.4 Feasible Construction Management Measures

Construction management measures that are feasible and are routinely required elsewhere include limiting engine idling to two minutes for delivery trucks, dump trucks, and other construction equipment; and the employment of a construction site manager who verifies that engines are properly maintained and maintains a log.

2-39

III. The Revised DEIR Fails to Address PM2.5 Emissions from Project Construction and Operation

The Revised DEIR does not address potential adverse impacts on ambient air quality and public health from direct emissions of so-called fine particulate matter or PM2.5, i.e. particulate matter 2.5 micrometers²⁵ ("µm" or "micron") or smaller in diameter, for either construction or operation.

2-40

²⁴ Manufacturers of Emission Controls Association, Case Studies of Construction Equipment, Diesel Retrofit Projects, March 2006; http://www.meca.org/galleries/default-file/Construction_Case_Studies_0306.pdf, accessed November 3, 2006.

²⁵ A particle with a diameter of a 2.5 µm is about 1/30 the diameter of an average human hair.

III.A Background

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. PM10 refers to particulate matter 10 μm or smaller in size. PM2.5, with a diameter of 2.5 μm , is a subset of PM10, its fraction of PM10 depending on the source of the emissions.

Sources of direct PM2.5 emissions include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel powered vehicles such as buses, trucks, and construction equipment. A small fraction of fugitive dust particulate matter is also PM2.5. PM2.5 is also formed in the atmosphere when gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds (all of which are also products of fuel combustion) are transformed in the air by chemical reactions to form so-called indirect particulate matter. Fine particles are of concern because they are risk to both human health and the environment.

The size of the particle mainly determines where in the respiratory tract the particle will come to rest when inhaled. Larger particles are generally filtered in the nose and throat, but particulate matter smaller than about 10 μm , or respirable particulate matter, can settle in the bronchi and lungs and cause health problems. (The 10 micrometer size does not represent a strict boundary between respirable and non-respirable particles, but has been agreed upon for monitoring of airborne particulate matter by most regulatory agencies.) Particles smaller than 2.5 micrometers, PM2.5, tend to penetrate into the gas-exchange regions of the lung, and very small particles, smaller than 0.1 μm , may pass through the lungs and affect other organs. Particles emitted from diesel engines, commonly referred to as diesel particulate matter ("DPM"), are typically in the size range of 0.1 μm . In addition, these particles also carry carcinogenic components adsorbed on their surface.

The effects of inhaling particulate matter have been widely studied in humans and animals. Research documents that the inhalation of particulate matter, particularly the smallest particles, causes a variety of health effects, including premature mortality, aggravation of respiratory (*e.g.*, cough, shortness of breath, wheezing, bronchitis, asthma attacks) and cardiovascular disease, declines in lung function, changes to lung tissues and structure, altered respiratory defense mechanisms, and cancer, among others. (U.S. EPA 04/1996; 61 FR 65638.) There is also evidence that particles smaller than 0.1 μm , such as DPM, can pass through cell membranes and may migrate into the brain. It has been suggested that particulate matter can cause brain damage similar to that found in Alzheimer patients.

The large number of deaths and other health problems associated with particulate pollution was first demonstrated in the early 1970s. Particulate matter

2-41

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pollution is estimated to cause 20,000 to 50,000 deaths per year in the United States. Particulate matter is a non-threshold pollutant, which means that there is some possibility of an adverse health impact at any concentration. Research suggests that even short-term exposure at elevated concentrations could significantly contribute to heart disease.

2-41
(cont.)

III.B Ambient Air Quality Standards

The U.S. EPA and the State of California have established air quality standards designed to protect public health and the environment from the hazards associated with inhalation of particulate matter. In 1997 the U.S. EPA promulgated lower national ambient air quality standards for PM10 and set new standards for PM2.5. (62 FR 38652.) The annual average ambient air quality standard for PM2.5 was set at 15 micrograms per cubic meter (" $\mu\text{g}/\text{m}^3$ ") and the 24-hour average ambient air quality standard for PM2.5 was set at 65 $\mu\text{g}/\text{m}^3$. In 2002, California adopted an annual PM2.5 standard of 12 $\mu\text{g}/\text{m}^3$. (CARB/OEHHA 6/20/2002²⁶). Voting on the proposed 24-hour-average PM2.5 standard of 25 $\mu\text{g}/\text{m}^3$ has been deferred by the CARB. (CARB/OEHHA 3/12/2002²⁷). More recently, the U.S. EPA based on new scientific information tightened the federal 24-hour PM2.5 ambient air quality standard from the current level of 65 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$. This standard will become effective on December 17, 2006. (U.S. EPA 09/2006²⁸; 40 CFR 50, 10/17/2006²⁹.) The U.S. EPA's decision reflects the review of thousands of peer-reviewed scientific studies about the effects of particle pollution on public health and welfare. The federal and state ambient air quality standards are summarized in inset Table 1.

2-42

²⁶ California Air Resources Board and Office of Environmental Health Hazard Assessment, Review of the California Ambient Air Quality Standards for Particulate Matter and Sulfates, Public Review Draft, November 30, 2001, adopted June 20, 2002; <http://www.arb.ca.gov/research/aaqs/std-rs/bdsum620/bdsum620.htm>, accessed November 4, 2006.

²⁷ California Air Resources Board and Office of Environmental Health Hazard Assessment, Draft Proposal to Establish a 24-hour Standard for PM2.5, Public Review Draft, March 12, 2002.

²⁸ U.S. Environmental Protection Agency, Office of Air Quality Standards and Planning, September 2006 Revisions to the National Ambient Air Quality Standards for Particle Pollution, September 2006; http://www.epa.gov/oar/particlepollution/pdfs/20060929_presentation.pdf, accessed October 2, 2006.

²⁹ U.S. Environmental Protection Agency, National Ambient Air Quality Standards for Particulate Matter, Final Rule, Federal Register, 40 CFR Part 50, Vol. 71, No. 200, pp. 61144-61233, October 17, 2006

**Table 1:
Ambient air quality standards for PM2.5**

Standards	24-Hour ($\mu\text{g}/\text{m}^3$)	Annual ($\mu\text{g}/\text{m}^3$)
Federal	65/35 ^a	15
State	25 ^b	12

a Lower standard will become effective December 17, 2006;
<http://www.epa.gov/oar/particlepollution/standards.html>

b Proposed (CARB/OEHHA 3/12/2002)

Currently, 61% of California's population live in areas that exceed the federal PM2.5 air standard, while 89% live in areas that exceed California's PM2.5 air standard. (California Air Resources Board 2004).

Monitoring data from the T-Street monitoring station in Sacramento, the nearest monitoring station to the Project site, show that the state annual ambient air quality standard for PM2.5 was exceeded in 2005. The state annual average concentration of PM2.5 in ambient air was determined at $12.5 \mu\text{g}/\text{m}^3$ and the state 3-year annual average was determined at $13 \mu\text{g}/\text{m}^3$, exceeding the state annual ambient air quality standard of $12 \mu\text{g}/\text{m}^3$. (See Exhibit 14.) These data also show that the new Federal 24-hour PM2.5 standard of $35 \mu\text{g}/\text{m}^3$ was frequently and considerably exceeded at this monitoring site. Emissions from Project construction and operation would contribute to these existing violations of the state and Federal ambient air quality standards.

III.C PM2.5 Emissions Estimates and Dispersion Modeling

Direct emissions of PM2.5 during construction are generated by the internal combustion of fuels in construction equipment engines. A small fraction of wind-blown dust is also PM2.5. The URBEMIS model output for construction contains an estimate of PM10 exhaust emissions, labeled "PM exhaust," as well as an estimate of fugitive dust particulate matter emissions. For the operational phase, URBEMIS model results provide estimates for PM10 emissions from vehicle operations and area sources.

To determine the PM2.5 fractions of these PM10 emission results, PM10 emissions can be multiplied by the applicable PM2.5 fraction for each emission source or operation. The California Air Resources Board ("CARB") has developed a database for particulate matter speciation profiles for a variety of emission sources, the California Emission Inventory Data and Reporting System ("CEIDARS"). (Attached as Exhibit 15.) These speciation profiles can be used to determine the PM2.5 fraction of PM10 for different emission sources. For example, the PM2.5 fraction of total suspended particulate matter from construction fugitive dust

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(con't)

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emissions is about 10%. The PM10 fraction of total suspended particulate matter from construction fugitive dust emissions is about 49%. Thus, the PM2.5 fraction of PM10 fugitive dust emissions is about 21%³⁰. These 21% are applied to the URBEMIS model outputs. For example, if construction activities result in emissions of 100 lb/day of fugitive dust PM10 emissions, 21% of these PM10 emissions, or 21 lb/day, are PM2.5. Diesel exhaust particulate matter is 100% PM10 and 92% PM2.5. Inset Table 1 shows PM2.5 emissions from Project construction based on the URBEMIS model output files provided in the Revised DEIR and the CEIDARS speciation profiles.

Table 2:
Calculation of PM2.5 fraction of project construction emissions
(lb/day)

Project Component	URBEMIS PM10 Emissions		PM2.5 Emissions	
	Exhaust	Fugitive Dust	Exhaust ^a	Fugitive Dust ^b
WCC	1.70	0.15	1.56	0.03
SMF	6.16	0.08	5.67	0.02
Future MOB	2.97	0.08	2.73	0.02
Residential	1.25	0.15	1.15	0.03
Total	12.08	0.46	11.11	0.09

- a Calculated as 92% PM10 exhaust based on CEIDARS speciation profile for diesel combustion
b Calculated as 21% PM10 fugitive dust based on CEIDARS speciation profile for construction fugitive dust sources

Total PM2.5 emissions calculated from the Revised DEIR's URBEMIS model runs as described above would be 11.2 lb/day during the construction phase of the Project. (It should be noted that Table 2 is provided for illustration purposes only and should not be construed to be actual PM2.5 emissions from Project construction because the URBEMIS model runs for Project construction contain a number of erroneous assumptions as outlined in Comment I and are, thus, considerably underestimated.) Operational area source emissions and operational vehicle emissions can be calculated accordingly.

To evaluate the significance of these calculated PM2.5 mass emissions, they must be evaluated against a standard. Under CEQA, a project is considered significant if it contributes substantially to an existing or projected violation of the above-discussed ambient air quality standards. (See Comment III.B.) To evaluate the significance of PM2.5 emissions from either construction or operation, these PM2.5 mass emissions (in lb/day) must be modeled with a dispersion model to determine resulting PM2.5 concentrations in ambient air (in $\mu\text{g}/\text{m}^3$.)

³⁰ $0.10 / 0.49 = 0.21$

The most commonly used dispersion model to model particulate matter concentrations in ambient air is ISCST3, the Industrial Source Complex Short Term model, version 3, developed by the U.S. EPA. This dispersion model allows to model ambient air quality concentrations resulting from particulate matter and other primary pollutant emissions at increasing distance from the source, taking into account existing background concentrations. ISCST3 models any size fraction of suspended particulate matter including PM10 and PM2.5. It has been the standard model for modeling particulate matter concentration in ambient air, including PM10 and PM2.5, for many years. It is also the recommended model for modeling PM10 and PM2.5 concentrations for CEQA purposes. *See*, for example, the CEQA guidance published by Kern County's Planning Department and the SCAQMD guidance for modeling PM2.5 for CEQA purposes. (Kern County 01/2006³¹, No. 6, p. 2, attached as Exhibit 16; SCAQMD 10/2006³², pp. 4 and 6, attached as Exhibit 17.) *See also* the SMAQMD's website providing local meteorological data for ISCST3 modeling provided for air quality assessments for CEQA purposes. (SMAQMD 2006³³.) On November 9, 2005, the U.S. EPA published final rulemaking in the Federal Register designating AERMOD as the preferred dispersion model for regulatory applications. AERMOD can be used for PM2.5 ambient air quality concentration modeling in the same way as ISCST3.

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(con't.)

All this information regarding calculation of PM2.5 mass emissions and ambient air quality modeling was readily available to the City. As discussed above, the annual average PM2.5 concentrations in the vicinity of the Project area exceeded the state annual ambient air quality standard in 2005 and PM2.5 concentrations frequently exceed the new federal 24-hour PM2.5 ambient air quality standard, which will become effective in December 2006. Because of the already severely compromised air quality in the general area of the Sutter Medical Center, the City should have conducted ambient air quality modeling to evaluate and disclose to the public the contribution of Project construction and operation to ambient concentrations of PM2.5. Considering the location of the Project, which is

³¹ Kern County Planning Department, Guidelines for Preparing an Air Quality Assessment for Use in Environmental Impact Reports, January 13, 2006;
<http://www.co.kern.ca.us/planning/pdfs/AirQualityAssessmentPreparationGuidelines.pdf>, accessed November 3, 2006.

³² South Coast Air Quality Management District, Final – Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006;
http://www.aqmd.gov/CEQA/handbook/PM2_5/PM2_5.html, accessed November 3, 2006.

³³ Sacramento Metropolitan Air Quality Management District, CEQA and Land Use Mitigation, CEQA Guide to Air Quality Assessment, Local Meteorological Data Files;
<http://www.airquality.org/ceqa/index.shtml>, accessed November 5, 2006.

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surrounded by sensitive receptors, and the fact that the hospital will treat patients with already compromised health, the City should have made every effort to disclose the potential adverse impact on air quality and impose all feasible mitigation for the construction and operational phase of the Project to minimize the Project's adverse impacts on air quality.

2-43
(con't)



Table A-1: Comparison of construction equipment list provided by Turner Construction and Revised EIR assumptions and input into URBEMIS

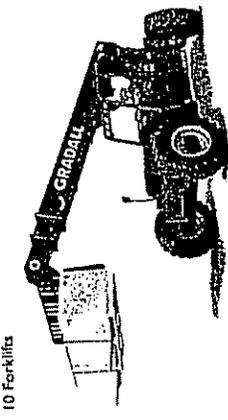
Turner Construction Equipment List		avg Hp	Revised EIR		URBEMIS Input	
Running No.	# Description		# Description in Table 2	URBEMIS Input	# Description in URBEMIS	Hp
1,2,3,13,14,33,34,36,37,38	10 Forklift	102	6 Forklift	Forklift	6 Rough terrain forklifts	94
5,6,9,18,27	5 Excavator	134			Excavators	180
4,8	2 Wheel loader	148			Rubber tired loaders	165
7,10,11,35,39,40,41	7 Crane**	239	8 Tract crane/small crane	Crane	8 Cranes	190
12,19,20,21,22,23,24,25,26	9 Backhoe***	97			Tractors/loaders/backhoes	79
15,16,17,28,29	5 6 cubic yard dump trucks	264			Off-highway trucks	417
30	1 Concrete delivery truck**	360				
31,32	2 Concrete boom truck	398	4 Concrete pump	Other	4 Other	190
			13 Welding machine	Concrete saw	13 Concrete/industrial saws	84
			4 Boom lift	Skid steer loader	4 Skid steer loaders	62
			35 Total			
	41 Total	171				120

* average Hp calculated from Nos. 7,10,39,40,41

** average Hp calculated from Nos. 19,20,21,22,23,24,25,26

*** Turner equipment list specifies "concrete delivery trucks" but does not provide the number of trucks

Turner Construction Equipment List

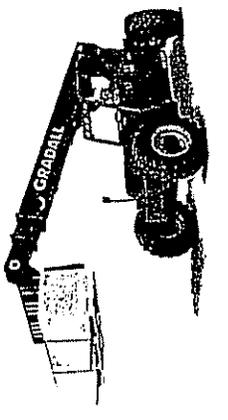


10 Forklifts



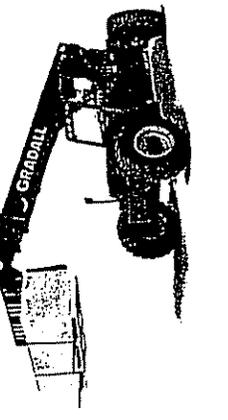
5 Excavators

Revised EIR



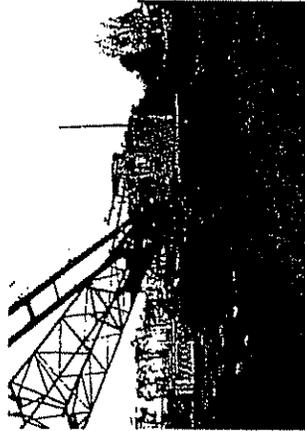
6 Forklifts

URBEMIS Input

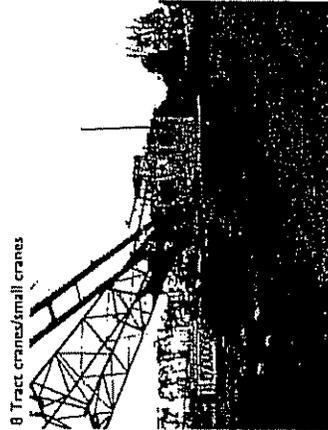


6 Forklifts

URBEMIS Input

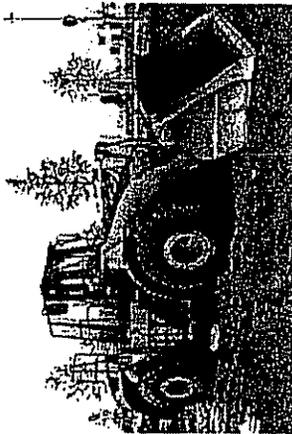


Revised EIR

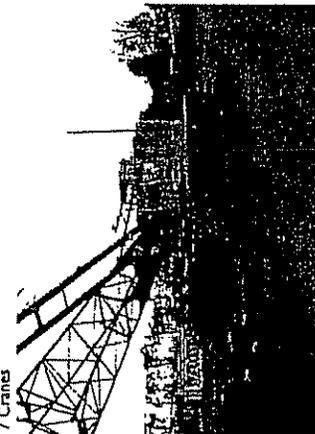


Turner Construction Equipment List

2 Wheel loaders



7 Cranes



9 Backhoes



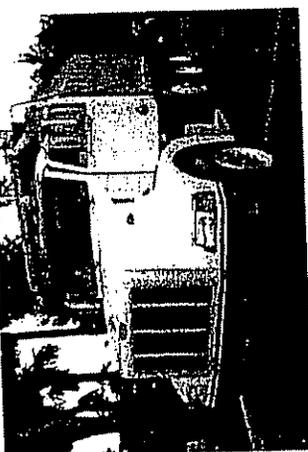
Table A-1, page 2

URBEMIS Input

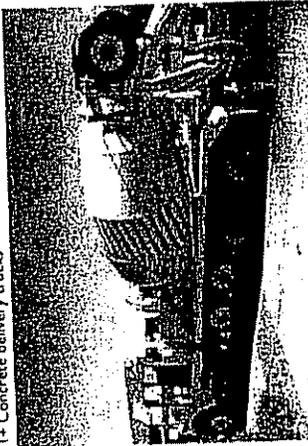
Revised EIR

Turner Construction Equipment List

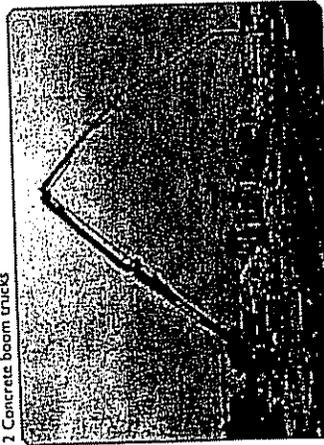
5 6-cubic yard dump trucks



1+ Concrete delivery trucks



2 Concrete boom trucks



4 concrete pumps



Table A-1, page 3

Turner Construction Equipment List

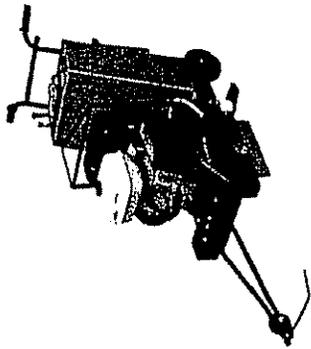
Revised EIR

URBEMIS Input

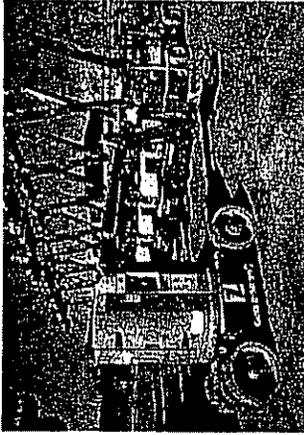
13 Welding machines



13 Concrete/Industrial saws



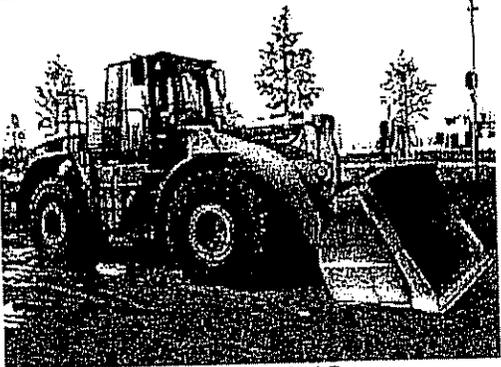
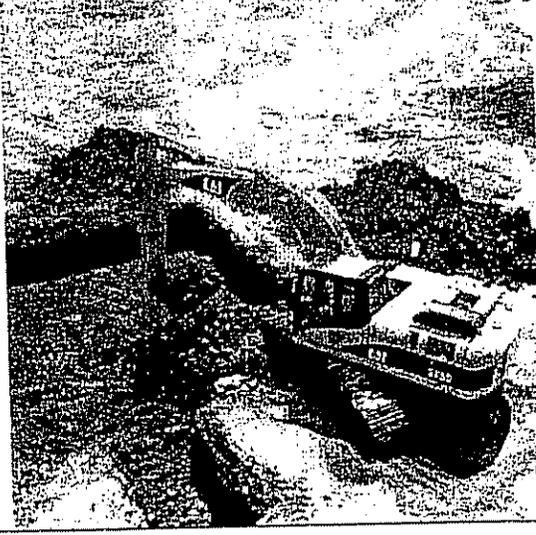
4 Boom lifts

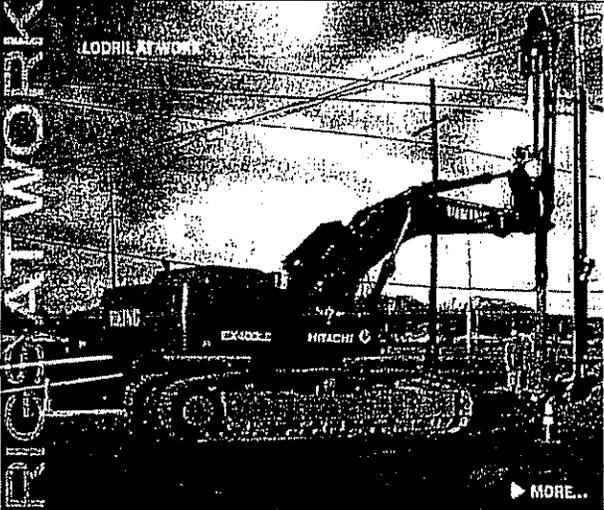


4 Skid steer loaders

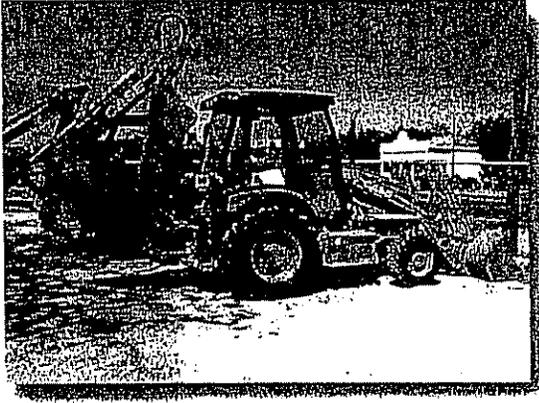
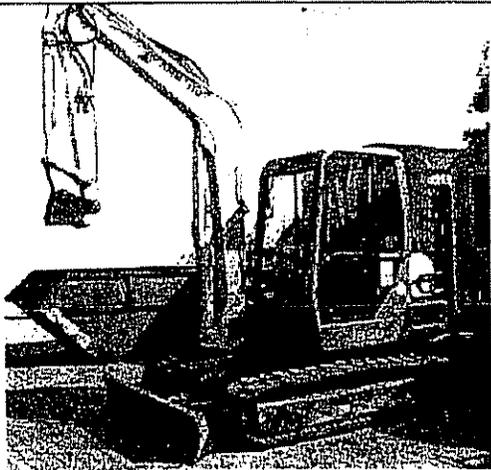


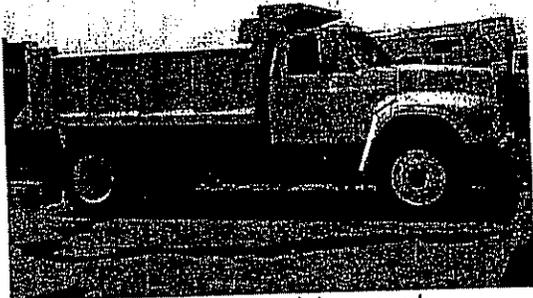
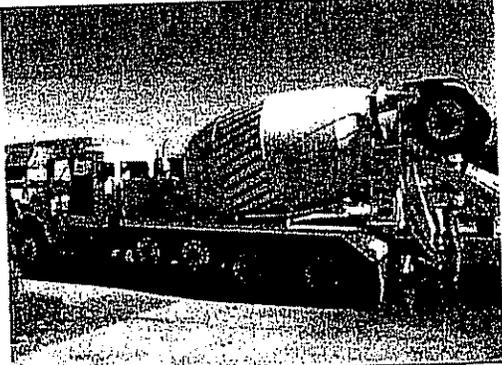
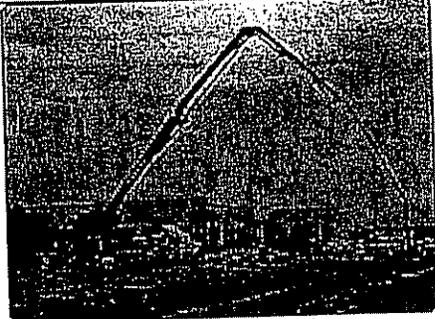
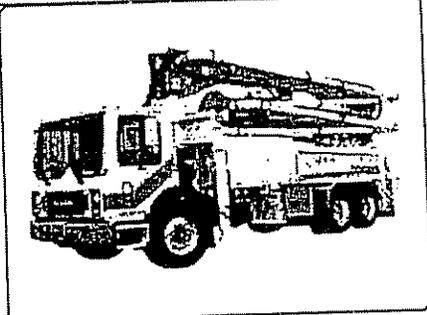
**Table A-2: Photographs of construction equipment scheduled to be on site
(based on equipment list provided by Turner Construction)**

	Turner Equipment Description	Actual or Representative Photo
1.	Forklift variable reach 6,000 lb	See No. 36
2.	Forklift variable reach 6,000 lbs	See No. 36
3.	Forklift variable reach 10,000 lbs	See No. 37
4.	Caterpillar 966G wheel loader	 <p data-bbox="914 919 1092 951">Caterpillar 966G</p>
5.	Kobelco 330 excavator	 <p data-bbox="946 1318 1076 1350">Kobelco 330</p>
6.	Caterpillar 325D excavator	

<p>7. Kobelco 325 excavator (list cites "excavator" instead of crawler crane)</p>		<p style="text-align: center;">Caterpillar 325D</p>  <p style="text-align: center;">Kobelco 325</p>
<p>8. John Deere 444 loader</p>		 <p style="text-align: center;">John Deere 444]</p>
<p>9. Hitachi EX300LC drill rig</p>		 <p style="text-align: center;">Hitachi EX400LC excavator with Lodril attachment</p>

10.	Grove HL 150C crawler crane	 <p data-bbox="906 646 1084 676">Grove HL 150C</p>
11.	Crane	See Nos. 10 & 41
12.	Backhoe	See Nos. 19 & 21
13.	Gradall 7,000 lbs	See Nos. 36
14.	Gradall 10,000 lbs	See No. 37
15.	Peterbilt 385 10 yard dump truck	 <p data-bbox="912 1243 1107 1272">1998 Peterbilt 385</p>
16.	Peterbilt 385 10 yard dump truck	See No. 15
17.	Peterbilt 385 10 yard dump truck	See No. 15
18.	Yanmar 100 excavator	 <p data-bbox="945 1789 1107 1818">Yanmar SV100</p>

19.	Case 580l backhoe	 <p data-bbox="943 600 1057 630">Case 580l</p>
20.	Case 580l backhoe	See No. 19
21.	Case 580m backhoe	 <p data-bbox="943 1087 1057 1117">Case 580m</p>
22.	Case 580l backhoe	See No. 19
23.	Case 580m backhoe	See No. 21
24.	Case 580m backhoe	See No. 21
25.	Case 580m backhoe	See No. 21
26.	Case 580m backhoe	See No. 21
27.	Yanmar 50 excavator	 <p data-bbox="938 1738 1084 1766">Yanmar B50V</p>

28.	GMC 6-yard dump truck	 <p data-bbox="834 606 1154 667">1999 Ford 6-yard dump truck See No. 28</p>
29.	GMC 6-yard dump truck	See No. 28
30.	Concrete delivery trucks	
31.	Concrete boom truck, 42 m pump	 <p data-bbox="927 1392 1109 1415">Putzmeister 42X</p>
32.	Concrete boom truck, 32 m pump	 <p data-bbox="938 1738 1122 1799">Putzmeister 32Z See No. 36</p>
33.	Gradall 7,000 lbs	See No. 37
34.	Gradall 10,000 lbs	See No. 37

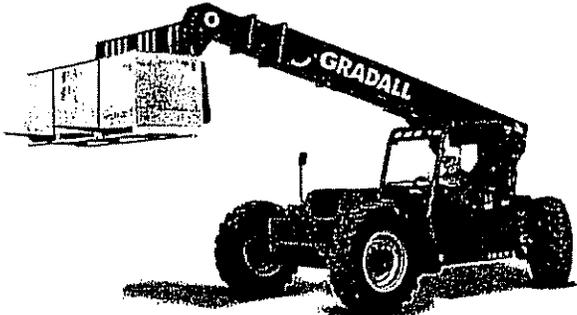
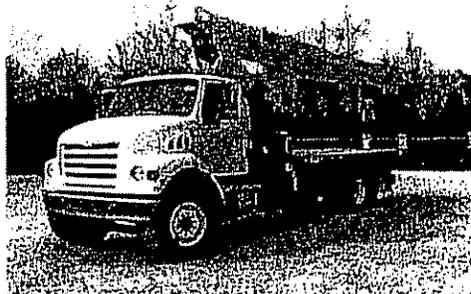
35.	Crane	See Nos. 10 & 41
36.	Gradall G642P 6,600 lbs, 42' lift 2006	 <p data-bbox="925 577 1096 609">Gradall G642-P</p>
37.	Gradall 534D9-45 9000 lbs, 45' lift 2006	 <p data-bbox="917 955 1112 987">Gradall 534D9-45</p>
38.	Gradall G1055A 10,000 lbs, 55' lift 2006	See No. 36
39.	Terex TC3470 crane	See No. 41
40.	Terex TC3874 crane	See No. 41
41.	Terex TC4792 crane	 <p data-bbox="812 1480 1209 1512">Terex TC4792 crane truck-mounted</p>

Exhibit I:
Letter from Turner Construction, August 16, 2000 with attached equipment list



Turner Construction Company
2710 Capitol Avenue
Sacramento, CA 95816
Tel-916-329-4505
Fax- 916-329-4504

August 16, 2006

Christine Kronenberg, AICP
Senior Environmental Project Manager
EIP Associates, Division of PBS&J
1200 2nd Street
Sacramento, CA 95814

Re: Sutter Medical Center
Sacramento, CA

Subject: Estimated Construction Equipment List, SMCS Site

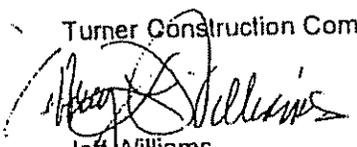
Christine:

We have contacted all subcontractors currently scheduled to be working on the SMCS sites; specifically for the Medical Office Building, the Womens and Childrens Hospital and the renovations of Sutter General Hospital.. Based on information received to date, the attached equipment list is provided for your use.

If you have any questions, please contact me.

Sincerely,

Turner Construction Company



Jeff Williams
Project Executive

CC: File
Tom O'Leary via email
Pam Brink via email



Turner Construction Healthcare

SMCS Project - EIR Mitigation Plan 6.2-3: Off-Road Vehicle/Equipment Inventory

Inventory Survey _____ Monthly Survey _____ (Check Date)

Monthly Summary Survey _____ X _____

Approx. 50 off-road vehicles to be used on project shall average 20% hour reduction and 45% particulate reduction as compared to CARB requirements for same make, year, model of equipment. Provide written inventory of all equipment greater than 50 hp and 40 hrs of use. Responder rating, engine production year, and projected hours of use or fuel throughput. Inventory shall be updated MONTHLY and SQA/QAD shall be notified of Required: any new equipment 4

Tuner Construction

No.	Equipment Description	Engine Manufacturer / Notes	Mr. Date	Serial No.	Hp Rating	Fuel Type	Projected Hours of Use per day	Fuel Burn per Hr	Engine Total Hrs	Factory Exhaust	Sub.	Date on Site	Date Off Site	Total Monthly Hours
1	Ford 4.0L Diesel	Calpanas ACERT	7-2005		100	Diesel					Adco			45
2	Ford 4.0L Diesel	Mitsubishi 6D16-TLAZA	2005		115	Diesel					Adco			45
3	Ford 4.0L Diesel	Calpanas ACERT	5-2005		115	Diesel					Adco			45
4	Cat 330 Excavator	Calpanas ACERT	1-2003		180	Diesel					Blue Iron			
5	Kobalt 330 Excavator	Mitsubishi 6D16-TLAZA	2003		217	Diesel					Blue Iron			
6	Cat 325D Excavator	Cat C7 ACERT	2008		204	Diesel					Blue Iron			
7	Kobalt 325 Excavator	Mitsubishi 6D24-TE1	2008		143	Diesel					Blue Iron			
8	Leaker John Deere 4447 JD #415	John Deere	2000	DW54472598717	115	Diesel					United Rentals			40
9	Old Rip-Hatch EX303.C Load. ID #30	Hepco	1994		217	Diesel					United Rentals			
10	Genie 160 C Drawler Crane	Calpanas	1997		325	Diesel					Henrick-Steel			170
11	Crane					Diesel					Booth			
12	Booth					Diesel					Booth			
13	Grain 7,000#	(hp data used for estimate)	2006		80	Diesel					Booth			
14	Grain 10,000#	(hp data used for estimate)	2000		125	Diesel					Booth			
15	Peterbilt 345/10 Yard Jumb		1997		300	Diesel					Schaefer			
16	Peterbilt 345/10 Yard Jumb		1997		300	Diesel					Schaefer			
17	Peterbilt 345/10 Yard Jumb		1999		300	Diesel					Schaefer			
18	Case 580P Backhoe		2000		73.5	Diesel					Schaefer			
19	Case 580P Backhoe		2000		65	Diesel					Schaefer			
20	Case 580P Backhoe		2000		65	Diesel					Schaefer			
21	Case 580P Backhoe		2001		95	Diesel					Schaefer			
22	Case 580P Backhoe		2001		95	Diesel					Schaefer			
23	Case 580P Backhoe		2003		98	Diesel					Schaefer			
24	Case 580P Backhoe		2004		98	Diesel					Schaefer			
25	Case 580P Backhoe		2004		98	Diesel					Schaefer			
26	Case 580P Backhoe		2004		34.5	Diesel					Schaefer			
27	Yanmar 50 Reservoir		1991		210	Diesel					Schaefer			
28	Genie yard pump		1991		210	Diesel					Schaefer			
29	Genie yard pump		2000		360	Diesel					Wendax			
30	Concrete Delivery Truck	Trucks varies by vendor	2000		475	Diesel					Genco			
31	Genie Boom Truck 43meter pulmo	Schwinn/Pulmatator (hp 2007 in file)	2005		370	Diesel					Genco			
32	Genie Boom Truck 32meter pulmo	Schwinn/Pulmatator (hp 2007 in file)	2005		80	Diesel					Genco			
33	Grain 7,000#	(hp data used for estimate)	2006		125	Diesel					Genco			
34	Grain 10,000#	(hp data used for estimate)	2006		125	Diesel					Genco			
35	Crane		2006		60	Diesel					AGA			
36	Genie 60' 27' 6.6008' (47' lift ht.)		2006		110	Diesel					United Rentals			
37	Genie 60' 27' 6.6008' (47' lift ht.)		2006		110	Diesel					United Rentals			
38	Genie 60' 27' 6.6008' (47' lift ht.)		2000		125	Diesel					United Rentals			
39	Genie 60' 27' 6.6008' (47' lift ht.)		2000		210	Diesel					United Rentals			
40	Genie 60' 27' 6.6008' (47' lift ht.)		2000		243	Diesel					United Rentals			
41	Genie 60' 27' 6.6008' (47' lift ht.)		2005		274	Diesel					United Rentals			

Exhibit 2:

Revised DEIR Table summarizing equipment used for URBEMIS modeling runs

Sutter Medical Center - NOX Construction During Building Construction - Early Spring 2007						
Building	Equipment Number	Equipment	Quantity	Equipment	Specified by	NOX (lbs/day)
SMF	1	Concrete Pump	1	Other		143.93
	1	Tract crane	1	Drill Rig		
	2	Small crane	2	Crane		
	10	Welding machines	10	Concrete saw		
	3	Boom lift	3	Skid steer loader		
	2	Forklift	2	Forklift		
WCC	1	Concrete Pump	1	Other		45.89
	2	Small crane	2	Crane		
	2	Forklift	2	Forklift		
MOB	2	Small crane	2	Crane		68.82
	1	Concrete Pump	1	Other		
	1	Boom lift	1	Skid steer loader		
	3	Welding machines	3	Concrete saw		
	1	Forklift	1	Forklift		
Residential	1	Concrete Pump	1	Other		34.35
	1	Small crane	1	Crane		
	1	Forklift	1	Forklift		
Total						292.99

Exhibit 3:

URBEMIS model run for 7 cranes and 2 boom trucks
based on URBEMIS default values for engine ratings

Page: 1
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URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Default.urb
 Project Name: cranes & concrete boom trucks
 Project Location: Lower Sacramento Valley Air Basin
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: January, 2007
 Construction Duration: 12
 Total Land Use Area to be Developed: 0 acres
 Maximum Acreage Disturbed Per Day: 0 acres
 Single Family Units: 0 Multi-Family Units: 0
 Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	RGG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	14.23	92.54	116.38	-	3.53	3.53	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	14.23	92.54	116.38	0.00	3.53	3.53	0.00
Max lbs/day all phases	14.23	92.54	116.38	0.00	3.53	3.53	0.00

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions
 Start Month/Year for Phase 3: Jan '07
 Phase 3 Duration: 12 months
 Start Month/Year for SubPhase Building: Jan '07
 SubPhase Building Duration: 12 months

Off-Road Equipment	No.	Type	Horsepower	Load Factor	Hours/Day
	7	Cranes	190	0.430	8.0
	2	Other Equipment	190	0.620	8.0

SubPhase Architectural Coatings Turned OFF
 SubPhase Asphalt Turned OFF

Exhibit 4:

URBEMIS model run for 7 cranes and 2 boom trucks
based on average engine rating of construction equipment scheduled to be on site

Page: 1
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URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Turner equipment list.urb
 Project Name: cranes & concrete boom trucks
 Project Location: Lower Sacramento Valley Air Basin
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: January, 2007
 Construction Duration: 12
 Total Land Use Area to be Developed: 0 acres
 Maximum Acreage Disturbed Per Day: 0 acres
 Single Family Units: 0 Multi-Family Units: 0
 Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007 ***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	21.37	142.92	172.10	-	5.62	5.62	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	21.37	142.92	172.10	0.00	5.62	5.62	0.00
Max lbs/day all phases	21.37	142.92	172.10	0.00	5.62	5.62	0.00

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions
 Start Month/Year for Phase 3: Jan '07
 Phase 3 Duration: 12 months
 Start Month/Year for SubPhase Building: Jan '07
 SubPhase Building Duration: 12 months
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
7	Cranes	239	0.430	8.0
2	Other Equipment	398	0.620	8.0

SubPhase Architectural Coatings Turned OFF
 SubPhase Asphalt Turned OFF

Exhibit 5:
Excerpts from EPIC Tower Draft EIR

5.2 AIR QUALITY

Following SMAQMD's recommended methodology and assumptions, construction emissions were modeled for the proposed project with the results illustrated in Table 5.2-6. Modeling indicated that NO_x emissions during construction could reach a maximum of 293.14 pounds per day. This would be above the 85 pounds-per-day threshold of significance for construction NO_x, and would be a *significant impact*.

	ROG	NO _x	CO	SO ₂	PM ₁₀ Total	
					Exhaust	Dust
Construction Phase - Demolition						
Fugitive Dust	-	-	-	-	-	-
Off-Road Diesel	-	-	-	-	-	-
On-Road Diesel	-	-	-	-	-	-
Worker Trips	-	-	-	-	-	-
Total Demolition	-	-	-	-	-	-
<i>Exceeds SMAQMD Threshold</i>						
Construction Phase - Site Grading						
Fugitive Dust	-	-	-	-	-	10.00
Off-Road Diesel	11.05	68.67	92.29	-	2.44	-
On-Road Diesel	-	-	-	-	-	-
Worker Trips	0.06	0.16	1.54	-	-	0.01
Total Site Grading	11.11	68.83	93.83	-	-	12.45
<i>Exceeds SMAQMD Threshold</i>						
Construction Phase - Building Construction						
Building Construction Off-Road Diesel	39.70	292.57	301.07	-	12.68	-
Building Construction Worker Trips	0.93	0.56	11.91	-	0.01	0.14
Architectural Coatings Off-Gas	-	-	-	-	-	-
Architectural Coatings Worker Trips	-	-	-	-	-	-
Total Building Construction	40.64	293.14	312.98	-	-	12.83
Total Building Construction (Mitigated)	-	234.51	-	-	-	12.83
<i>Exceeds SMAQMD Threshold</i>						
Operational Phase						
Mobile Emissions	34.46	54.84	418.75	.23	-	39.35
Area Source Emissions	24.29	5.15	2.41	0.01	-	0.16
Total Operational Emissions	58.75	59.99	421.16	0.24	-	39.51
<i>Exceeds SMAQMD Threshold</i>						

Source: EIP Associates, a division of PBS&J, 2006.

Mitigation Measures

Implementation of the following measures would result in a minimum 20 percent reduction of NO_x construction emissions and a minimum 45 percent reduction in particulate emissions. While the proposed project's impact would be substantially reduced through implementation of these measures, the impact during construction would remain *significant*. In order to reduce the impact to a less-than-significant level, the SMAQMD requires implementation of a NO_x off-site mitigation fee of \$14,300 per ton. Compliance with all measures would reduce the impact a *less-than-significant impact*.

5.2-1 The following measures shall be incorporated into construction bid documents as recommended by the SMAQMD:

- a) *The project applicant shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, shall achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction.*
- b) *The following measure shall be incorporated into the construction bid documents as recommended by the SMAQMD: At least one piece of diesel equipment used on the site during the demolition, earthmoving and clearing stages of construction shall be fitted with a level 3 California Air Resources Board verified diesel emission control system. The construction contractor shall provide documents to the SMAQMD and the City of Sacramento to verify this measure has been completed prior to the issuance of a demolition or grading permit.*
- c) *The project applicant and/or contractor shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that shall be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project applicant and/or contractor shall provide SMAQMD with the anticipated construction timeline, including start date and name and phone number of the project manager and on-site foreman.*
- d) *The project applicant and/or contractor shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.*
- e) *Prior to issuance of a grading permit, the project applicant shall provide the City with proof of payment of the NO_x off-site mitigation fee. If it can be verifiably demonstrated to the SMAQMD that the submitted equipment list as referenced in 5.2-1 (c) shall produce NO_x emissions different from those detailed in Table 5 2-7, the SMAQMD shall re-calculate the off-site mitigation fee to reflect such information.*
- f) *Aqueous diesel fuel shall be used to fuel all applicable diesel equipment during construction of the proposed project. For every piece of diesel equipment for which aqueous diesel fuel is not used, the contractor shall provide the SMAQMD with an explanation of why the use of aqueous diesel fuel is not appropriate.*

Exhibit 6:
Excerpts from Metropolitan Project Draft EIR

5.1 AIR QUALITY/MICROCLIMATE

Mitigation measures exist that can reduce emissions of construction NO_x. SMAQMD requires standard mitigation measures to result in a minimum 20 percent NO_x reduction. Additional aggressive measures are available to further reduce impacts if the required mitigations would not put the emissions below the threshold; in lieu of additional measures, SMAQMD would require an off-site mitigation fee based on pounds of NO_x remaining above the threshold.

As of June 1, 2006, the SMAQMD is using an updated mitigation fee rate of \$14,300 per ton of emissions. The mitigation fee is based on the Carl Moyer Program cost effectiveness cap; in January 2006, the Carl Moyer Program Guidelines were amended, accounting for this increase in mitigation fee rate. Assuming the construction mitigation measures outlined below achieve a 20 percent NO_x reduction, the fee required for this project is calculated to be \$179,673. The mitigation fee calculations are shown in Appendix C.

Mitigation

- 5.1-1 *The following measures shall be incorporated into construction practices and approved by SMAQMD prior to the start of demolition and construction:*
- (a) *The project shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet average of 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at the time of construction.*
 - (b) *The project representative shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline, including start date and name and phone number of the project manager and on-site foreman.*
 - (c) *The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The AQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other AQMD or state rules or regulations.*

5.1 AIR QUALITY/MICROCLIMATE

- (d) *The project representative shall implement additional aggressive mitigation measures in consultation with SMAQMD, using existing technology on the construction fleet such as aqueous diesel fuel and cooled exhaust gas recirculation systems to reduce emissions below SMAQMD thresholds, or shall pay a \$179,673 off-site mitigation fee prior to the issuance of grading permits.*

Significance after Mitigation

Less than significant

Impact 5.1-2: Short-term construction increases in PM₁₀ emissions

Construction will include demolition of the existing structures, grading, and site preparation for new construction. PM₁₀ emissions in the form of fugitive dust would vary from day to day, depending on the level and type of construction activity (demolition and grading), silt content of the soil, prevailing weather, and result from construction equipment and motor vehicles. While grading emissions are below SMAQMD criteria, demolition emissions have the potential to cause or contribute to violations of the PM₁₀ ambient air quality standards, in particular, the more stringent CAAQS. This would be a **significant** impact.

One of the largest sources of construction-related PM₁₀ emissions would be associated with the demolition of the existing structures. Demolition activities are required to conform to the rules and guidelines outlined in SMAQMD Rule 403 (Fugitive Dust) concerning fugitive dust associated with construction activities, including demolition. Rule 403 requires the application of water or chemicals for the control of fugitive dust associated with demolition, clearing of land, construction of roadways, and any other construction operation that may potentially generate dust—including the stockpiling of dust-producing materials.

Demolition activity is also subject to SMAQMD Rule 902 (Asbestos). This rule is intended to limit asbestos emissions from demolition or renovation of structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) and provides additional requirements to cover non-NESHAP areas. The rule requires SMAQMD to be notified before demolition or renovation activity occurs. This notification includes a description of structures and methods utilized to determine the presence of asbestos or lack thereof. All asbestos-containing material found on the site must be removed prior to demolition or renovation activity in accordance with the requirements of Rule 902. Project compliance with Rule 902 would ensure that asbestos-containing materials would be disposed of appropriately. Compliance with the requirements of this measure would avoid a significant construction-related air quality impact of demolition by preventing the release of asbestos emissions. Although PM₁₀ emissions associated with demolition can be quite large, these emissions will be reduced by compliance with Rules 403 and 902, and will take place over a relatively short period of time.

The region is currently in non-attainment for PM₁₀, with regular and frequent violations of the State 24-hour standard occurring over the past five years. The State 24-hour PM₁₀ standard is sometimes exceeded in the vicinity of construction-sites during construction. Air pollution-sensitive land uses and activities adjacent to construction-sites may also be exposed more frequently to ambient dust concentrations that exceed the ambient standards. In order to reduce construction-phase dust emissions, standard dust abatement measures are routinely required by the City as a part of the development permit process. Such measures typically

Exhibit 7:
SMAQMD Construction Air Quality Mitigation Plan Protocol

Mass Emission Threshold

Project Type	Ozone Precursor Emissions (pounds per day)	
	ROG	NOx
Short-term Effects (Construction)	None	85
Long-term Effects (Operation)	65	65

Emission Concentration Threshold

In addition to the Mass Emission Threshold, the California Ambient Air Quality Standards (CAAQS) are applied as significance criteria to all phases of a project.

Substantial Contribution Threshold

If a project emits pollutants at a level equal to or greater than 5% of the CAAQS, it is considered to contribute substantially to an existing or projected CAAQS violation.

Frequently Asked Questions - URBEMIS and Training

The [CEQA FAQ](#) (revised May 2006) (PDF 186 Kb) provides answers to frequently asked questions about CEQA and air quality analysis.

URBEMIS is the most common model used to calculate project emissions. Visit www.URBEMIS.com for more information or to download the model.

If you are interested in an air quality mitigation program and URBEMIS model training session, contact J.J. Hurley at jhurley@airquality.org or (916) 874-2694.

Construction Emissions Mitigation

Projects that exceed the short-term construction threshold of 85 pounds per day of NOx must mitigate the air quality impact. [Standard Construction Mitigation Language](#) is recommended for these projects. When the standard mitigation does not reduce the impact to below the threshold a [mitigation fee](#) is recommended.

In addition to the URBEMIS model, the [Roadway Construction Emissions Model](#) (revised version 5.2, 2006, in Excel - 2 Mb) is available to assess the emissions of linear construction projects. Questions should be addressed to Peter Christensen (pchristensen@airquality.org or (916) 874-4886).

The following tools and procedure assist in determining if the heavy-duty off-road mobile equipment fleet meets the standard mitigation:

- Use the [Model Equipment List](#) (XLS 18 Kb) to gather fleet information.
- Use the [Construction Mitigation Calculator](#) (Dec 2005) (XLS 967 Kb) to determine if the fleet meets the emission reductions.
- Submit the equipment list and calculator run to Karen Huss (khuss@airquality.org or (916) 874-4881) or Charlene McGhee (cmcghee@airquality.org or (916) 874-4883).
- Obtain an endorsement letter from AQMD staff prior to starting construction.

Jurisdictions may consult the [construction mitigation protocol fact sheet](#) (PDF 19 Kb) and **contractors and developers** may consult the [tips fact sheet](#) (PDF 112 Kb) on the construction mitigation requirements and process.

Operational Emissions Mitigation

Projects that exceed the long-term operation threshold of 65 pounds per day of NOx or ROG must mitigate the air quality impact using all feasible mitigation. The AQMD recommends the project proponent develop an Air Quality Mitigation Plan describing how the project will reduce emissions by 15% (standard goal). A list of [feasible measures](#) (PDF 25 Kb) is available. Air Quality Mitigation Plans must be endorsed by AQMD staff. The AQMD is currently updating its [Guidance for Land Use Emission Reductions](#) which includes an updated list of feasible measures. Questions on the update should be directed to J.J. Hurley (hhurley@airquality.org or 916 874.2694).

Jurisdictions may consult the [operational mitigation protocol fact sheet](#) (PDF 12 Kb) and developers may consult the [tips fact sheet](#) (PDF 112 Kb) on the air quality mitigation plan requirements and process.

Mitigation Fees

The current mitigation fee rate is \$14,300 per ton of emissions. The [mitigation fee calculator](#) (XLS 28 Kb) (revised September 2006) should be used to determine the fee for construction projects when off-site mitigation is needed.

Emission reduction projects funded with mitigation fees are described in these [fact sheets](#) (PDF 674 Kb).

Protocol For Evaluating The Location Of Sensitive Land Uses Adjacent To Major Roadways

The [public notice for the proposed Protocol](#) includes the downloadable Protocol document and its appendix, which provide guidance on how to assess potential cancer risk of sensitive receptors exposed to diesel particulate matter from major roadways.

The notice also includes a downloadable map showing highways with 100,000 AADT in Sacramento County. Additionally there are two roadways with ADT greater than 100,000 not shown on the map: Watt Avenue between US50 and Fair Oaks Boulevard and Sunrise Boulevard between Folsom Boulevard and Fair Oaks Boulevard.

Questions should be addressed to Rachel Dubose (rdubose@airquality.org or (916) 874-4876).



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Thursday 02-Nov-2006 19:06:03 EST

concentrations are estimated to result in a cancer risk of between 750 and 1,500 per million. Operation of the proposed project would contribute to ambient TAC levels; however, while receptors would be exposed to significant ambient TAC levels, the project itself would not qualify as a significant stationary source of TAC.

Standards of Significance

For the purposes of this EIR, impacts to air quality would be considered significant if the proposed project would:

- Cause a predicted violation of the CO ambient air quality standards (8-hour or 1-hour state standards) due to an increase in project traffic on the local street network on either a project-specific or cumulative level;
- Create emissions of an ozone precursor exceeding the following SMAQMD recommended thresholds of significance:

SMAQMD THRESHOLDS		
Pollutant	Construction	Operation
ROG	None	65 lbs/day
NO _x	85 lbs/day	65 lbs/day

Source: SMAQMD, 2006.

- Expose sensitive receptors to pollutant concentrations in excess of the California Ambient Air Quality Standards (CAAQS).

Project-Specific Impacts and Mitigation Measures

5.2-1 Construction of the proposed project would generate emissions of ozone precursors. This is a significant impact.

Since ozone has significant adverse health effects, it is important to consider ozone precursors ROG and NO_x when addressing project development impacts. The SMAQMD has not developed a threshold of significance for ROG associated with construction activities because the main source of ROG during construction, architectural coatings, can be effectively regulated by SMAQMD Rule 442, Architectural Coatings. Although some measures address NO_x emissions from heavy-duty diesel construction equipment, the SMAQMD has found it necessary to develop a construction threshold for NO_x of 85 pounds per day.

Following SMAQMD's recommended methodology and assumptions, construction emissions were modeled for the proposed project with the results illustrated in Table 5.2-6. Modeling indicated that NO_x emissions during construction could reach a maximum of 239.07 pounds per day. This would be above the 85 pounds-per-day threshold of significance for construction NO_x, and would be a significant impact.

Mitigation Measures

Implementation of the following measures would result in a minimum 20 percent reduction of NO_x construction emissions and a minimum 45 percent reduction in particulate emissions. While the proposed project's impact would be substantially reduced through implementation of these measures, the impact during construction would remain significant. In order to reduce the impact to a less-than-significant level, the SMAQMD requires implementation of a one-time NO_x off-site

TABLE 5.2-6						
CONSTRUCTION AND OPERATIONAL PEAK POUNDS PER DAY						
	ROG	NO _x	CO	SO ₂	PM ₁₀ Total	
					Exhaust	Dust
Construction Phase - Demolition						
Fugitive Dust	-	-	-	-	-	55.19
Off-Road Diesel	5.04	31.45	42.42	-	1.20	-
On-Road Diesel	10.40	207.47	38.37	3.02	4.45	0.77
Worker Trips	0.06	0.15	1.38	-	-	-
Total Demolition	15.50	239.07	82.17	3.02	-	61.61
Exceeds SMAQMD Threshold?	-	YES	-	-	-	-
Construction Phase - Site Preparation						
Fugitive Dust	-	-	-	-	-	33.90
Off-Road Diesel	14.18	90.82	116.92	-	3.39	-
On-Road Diesel	-	-	-	-	-	-
Worker Trips	0.25	0.49	5.25	-	-	0.02
Total Site Grading	14.43	91.31	122.17	-	-	37.31
Exceeds SMAQMD Threshold?	-	YES	-	-	-	-
Construction Phase - Building Construction						
Building Construction Off-Road Diesel	7.75	52.75	61.97	-	2.15	-
Building Construction Worker Trips	4.97	5.97	107.91	0.06	0.17	0.29
Total Building Construction	12.72	58.72	169.88	0.06	-	2.61
Exceeds SMAQMD Threshold?	-	No	-	-	-	-
Operational Phase						
Mobile Emissions	49.69	80.14	605.87	.33	-	57.74
Area Source Emissions	7.18	3.38	2.84	0.00	-	0.01
Total Operational Emissions	56.87	83.52	608.71	0.33	-	57.75
Exceeds SMAQMD Threshold?	No	YES	-	-	-	-

Source: EIP Associates, a division of PBS&J, 2006.

mitigation fee of \$14,300 per ton. Compliance with these measures would reduce the impact to a **less-than-significant level**.

5.2-1 The following measures shall be incorporated into construction bid documents as recommended by the SMAQMD:

- a) The project applicant shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, shall achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction.
- b) The following measure shall be incorporated into construction bid documents: At least one piece of diesel equipment used on the site during the demolition, earthmoving and clearing stages of construction shall be fitted with a level 3 California Air Resources Board verified diesel emission control system.
- c) The project applicant and/or contractor shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that shall be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the

Exhibit II:
Excerpts from Greenbriar Development Project Draft EIR



In summary, modeled emissions of NO_x, during all phases of construction, would exceed the SMAQMD's significance threshold of 85 lb/day and, because of the project's size, short-term construction-generated PM₁₀ emissions would result in or substantially contribute to emissions concentrations that exceed the CAAQS. In addition, because Sacramento County is currently designated as a nonattainment area for ozone and PM₁₀, construction-generated emissions could further contribute to pollutant concentrations that exceed the CAAQS. As a result, this impact would be *significant*.

Mitigation Measure 6.2-1: (City of Sacramento and LAFCo)

In accordance with the recommendations of the SMAQMD, the project applicant shall implement the following measures to reduce temporary construction emissions.

- a. The project applicant shall implement the following measures to reduce NO_x and visible emissions from heavy-duty diesel equipment
 - i. Before issuance of a grading permit, the project applicant shall provide a plan for approval by the lead agency, in consultation with SMAQMD, demonstrating that the heavy-duty (>50 horsepower), off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project-wide fleet-average 20% NO_x reduction and 45% particulate reduction compared to the most recent ARB fleet average at the time of construction. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, particulate matter traps, engine retrofit technology, after-treatment products, and/or such other options as become available.
 - ii. Before issuance of a grading permit, the project applicant shall submit to the lead agency and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 hp, that will be used an aggregate of 40 or more hours during any portion of project construction. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction operations occur. At least 48 hours before heavy-duty off-road equipment is used, the project applicant shall provide the SMAQMD with the anticipated construction timeline including start date, and the name and phone number of the project manager and on-site foreman.
 - iii. Before issuance of a grading permit, the project applicant shall ensure that emissions from off-road, diesel-powered equipment used on the project site do not exceed 40% opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40% opacity (for white smoke) or Ringlemann 2.0 (for black smoke) shall be repaired immediately, and the SMAQMD shall be notified of non-compliant equipment within 48 hours of identification. A visual survey of all in-operation equipment shall be made at least weekly by the construction contractor, and the contractor shall submit a monthly summary of visual survey results throughout the duration of the construction project, except that the monthly summary shall not be required for any 30-day period in which no construction operations occur. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance.
- b. As recommended by the SMAQMD, the project applicant shall reduce fugitive dust emissions by implementing the measures listed below during construction.
 - i. All disturbed areas, including storage piles that are not being actively used for construction purposes, shall be effectively stabilized of dust emissions using water, a chemical stabilizer or suppressant, or vegetative ground cover. Soil shall be kept moist at all times.
 - ii. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or a chemical stabilizer or suppressant.

- iii. When materials are transported off-site (e.g., trees, plantings), all material shall be covered, effectively wetted to limit visible dust emissions, or maintained with at least 2 feet of freeboard space from the top of the container.
 - iv. All operations shall limit or expeditiously remove the accumulation of project-generated mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring.
 - v. After materials are added to or removed from the surfaces of outdoor storage piles, the storage piles shall be effectively stabilized of fugitive dust emissions using sufficient water or a chemical stabilizer or suppressant.
 - vi. On-site vehicle speeds on unpaved roads shall be limited to 15 mph.
 - vii. Wheel washers shall be installed for all trucks and equipment exiting unpaved areas, or wheels shall be washed to remove accumulated dirt before such vehicles leave the site.
 - viii. Sandbags or straw waddles shall be installed to prevent silt runoff to public roadways from adjacent project areas with a slope greater than 1 %.
 - ix. Excavation and grading activities shall be suspended when winds exceed 20 mph.
 - x. The extent of areas simultaneously subject to excavation and grading shall be limited, wherever possible, to the minimum area feasible.
 - xi. Emulsified diesel, diesel catalysts, or SMAQMD-approved equal, shall be used on applicable heavy-duty construction equipment that can be operated effectively and safely with the alternative fuel type.
- c. The applicant shall pay \$1,525,537 into SMAQMD's off-site construction mitigation fund to further mitigate construction-generated emissions of NO_x that exceed SMAQMD's daily emission threshold of 85 lb/day. The calculation of daily NO_x emissions is based on the current cost of \$14,300 to reduce a ton of NO_x. The determination of the final mitigation fee shall be conducted in coordination with SMAQMD. The fee shall be paid to the SMAQMD prior to any ground disturbance in total or on an acre bases (\$5,959.13/acre) as development occurs and permits are sought. (See Appendix D for calculation worksheet.)
- d. In addition to the measures identified above, construction operations are required to comply with all applicable SMAQMD rules and regulations.

Significance After Mitigation

Implementation of the measures under part a above would result in a 20% reduction in NO_x emissions and a 45% reduction in visible emissions from heavy-duty diesel equipment according to SMAQMD. Implementation of the measures under part (b) would reduce fugitive dust emissions by up to 75%, according to estimates provided by SMAQMD. Daily construction emissions would still exceed the SMAQMD's significance threshold (Table 6.2-3) despite implementation of all feasible mitigation measures, and thus would potentially result in or substantially contribute to pollutant concentrations that exceed the CAAQS. As a result, this would be considered a *significant and unavoidable* impact.

IMPACT
6.2-2

Generation of Long-Term Operational (Regional) Emissions ROG, NO_x, and PM₁₀. Long-term operation of the proposed project would result in emissions of ozone-precursor pollutants that would exceed SMAQMD's threshold. Furthermore, the project's operational emissions would potentially conflict with or obstruct implementation of applicable air quality plans. As a result, this impact would be considered significant.

Regional area- and mobile-source emissions of ROG, NO_x, and PM₁₀ associated with implementation of the proposed project were estimated using URBEMIS 2002 Version 8.7.0 computer program, which is designed to model emissions for land use development projects.