PROJECT DESCRIPTION

Proposed Chick-fil-A
SWC Hopyard Road and I-580 Off-Ramp
Pleasanton, CA

Chick-fil-A Company Profile

Chick-fil-A is a family-led company with close to 1800 quick-service restaurants in operation nationally. The company's roots can be traced back to 1946, when Truett Cathy opened The Dwarf Grill in Hapeville, Georgia. Known for its signature Chicken Sandwich, the first Chick-fil-A was opened in 1967 in Atlanta. While initially pioneering the establishment of restaurants in malls, the company now has a mix of restaurant types, including freestanding and inline restaurants, as well as drive-thru only locations. In the last ten years Chick-fil-A has opened over 75 locations throughout California, including six restaurants in the Bay Area of Northern California. Chick-fil-A reflects a strong entrepreneurial spirit through its unique franchise-operator model, which provides for small business owners to operate individual locations. This arrangement allows the independent operators to be actively involved in the communities in which they live and serve.

Chick-fil-A serves its customers hand-crafted menu items prepared with fresh, high-quality ingredients. Guests enjoy hand-breaded boneless chicken, fresh-squeezed lemonade, delicious side dishes, and quality green and fruit salads made from scratch each day. Chick-fil-A does not serve alcoholic beverages at any of its locations, and remains closed on Sundays.

A strong commitment to several new initiatives has helped Chick-fil-A continue to reduce its environmental footprint. The company's dedication toward sustainability includes measures related to more efficient packaging, greater energy and water conservation efforts, greener restaurant design and construction, and a more environmentally-sensitive supply chain.

Project Description

Chick-fil-A is proposing to construct a new, 5,159 sq. ft quick-service restaurant with two drive-thru service lanes, indoor as well as patio seating, and indoor play area. The site is located in an expansion area of the Pleasanton Square shopping center, adjacent to the southwest corner of Hopyard Road and the I-580 offramp. The project will include the construction of a 240 sq. ft. kiosk (separate from the main building) - the kiosk serves as a second, fully manned order and pick-up point.

The Chick-fil-A parcel is being created through a lot line adjustment. The newly configured lot is a combination of a recently acquired Caltrans right-of-way property as well as small portions of the existing PUD parcel and office building parcel west and south of the proposed restaurant. Parking is shared with the retail project directly adjacent to the subject parcel.

The Caltrans right-of-way was purchased by the property owner in June 2013. The property is designated "Open Space" under the General Plan. This application includes both a General Plan Amendment to conform the property to the neighboring commercial property use as well as a

rezone to include the entire Chick-fil-A parcel in the PUD. In addition to the Lot Line Adjustment, General Plan Amendment and Rezone, the Applicant also requests approval of a PUD modification.

The Chick-fil-A restaurant would include 139 indoor seats and an indoor playground. A patio providing an additional 56 outdoor seats would be constructed adjacent to the northern and eastern portions of the building. The proposed site plan features a duel drive thru lane with a kiosk within the drive thru lane allowing service to the second (outer) drive-thru lane. The inclusion of the drive-thru kiosk allows the Chick-fil-A employees to provide service to two cars simultaneously, thereby reducing the drive-thru queue.

Based on the City's parking code, a total of 67 parking spaces would be required for the Chick-fil-A. The Pleasanton Square shopping center allows reciprocal parking. The Chick-fil-A would utilize the surplus parking available in the retail area to augment proposed new parking spaces. A traffic impact analysis was completed for the site. The study confirmed that the proposed use would not result in significant traffic impacts, but identified recommendations for traffic improvements. Based on meetings with Staff, Chick-fil-A has agreed to extend the existing northbound left turn lane on Hopyard as noted in the Traffic Study.

This high quality building design features a craftsman style structure, with roof elements that are more traditionally found on homes and other non-commercial buildings. The building finishes include scored earth-toned stucco, precast accents and stacked stone along the base of the building. The building layout was specifically selected to ensure the drive-thru is screened from the public right-of-way. In addition to the building orientation, there is an eight foot grade change, placing the finished floor elevation well below street level at the corner.

At the corner, the street side landscape features two 60 inch box oak trees which flank a stone monument sign announcing this north gateway to the City of Pleasanton. The rest of the project would include substantial landscape improvements including 37 new 24" box trees in a variety of species including sycamore, magnolia, redwood, and crape myrtle both adjacent to the street and within the shopping center. A wide variety of shrubs and groundcover plantings would be planted to complement the new trees. The proposed landscaping would include several different types of low water use plants which conform to the Bay-Friendly Landscape Guidelines.

Utilities and infrastructure are in place and adequate to serve the proposed use. All mechanical equipment will be appropriately screened from view. Roof top equipment will be screened from view by roof parapets and ground mounted equipment will be screened by landscaping.

General Plan Amendment

In order to accommodate the development of the proposed Chick-fil-A, an amendment to the City's General Plan will be required.

The proposed project will be integrated into the existing Pleasanton Square shopping center, directly east of a Smart & Final store. The land is a combination of surplus Caltrans property that

has been purchased by the shopping center owner, as well as a portion of the existing PUD property and office building property.

Originally designated as "Open Space" on the General Plan land use map, the applicant is requesting a change to conform to the adjacent "Retail/Highway/Service Commercial" designation.

The existing Caltrans property will be redeveloped to accommodate the new commercial development. This involves removal of the unkempt stand of eucalyptus trees as well as relocation of the Caltrans storm drain.

The proposed landscape design incorporates an attractive manicured landscape buffer featuring two 60 inch box oak trees that flank a new "City of Pleasanton" monument sign. The finished floor elevation of the proposed restaurant will be eight feet below the landscape buffer at the corner and tapering to grade south of the building on Hopyard. A variety of ornamental trees, shrubs and groundcover are proposed on both the I-580 off ramp and Hopyard frontages. This new corner design would ensure that the frontage provides an attractive entrance to the City of Pleasanton for motorists exiting from I-580. The new landscaping would also continue serve as a buffer between the proposed use and the I-580.

An air quality memorandum was prepared (enclosed in the development application package) which analyzed the potential for harmful air quality impacts to potential customers who would dine on the patio. Based on the results of this study, air pollutants from nearby roadways would not result in Chick-fil-A customer exposure to air pollutants in concentrations that exceed existing thresholds for sensitive land uses.

The approval of the change in land use designation would accommodate the beneficial use of the site for commercial development, allowing a new restaurant be developed at the site that will serve nearby businesses and residents.

Zone Change

The current project site consists of parcels that are zoned for "Office District", "Planned Unit Development – Industrial or Commercial", and "Office" uses. Additionally, the Caltrans portion of the site does not currently have a zoning designation applied to it.

In order to accommodate the development of the site and avoid conflicting zoning designations, the proposed project includes a request to apply a PUD-I/C-O zoning designation to the entire Chick-fil-A parcel. The office building parcel will be reduced as shown on the Lot Line Adjustment.

Lot Line Adjustment

A lot line adjustment is requested which would merge the former Caltrans right-of-way with portions of two parcels that make up the project site into one lot in order to accommodate the development of the Chick-fil-A restaurant. The two parcels include small portions of the existing office building parcel and the existing PUD property (shopping center).

PUD Modification

A PUD modification is required to incorporate the Chick-fil-A site into the Pleasanton Square II business park. The PUD review also includes the required design review of the building, site and landscaping, review of building signage and review of the proposed storm drain design.

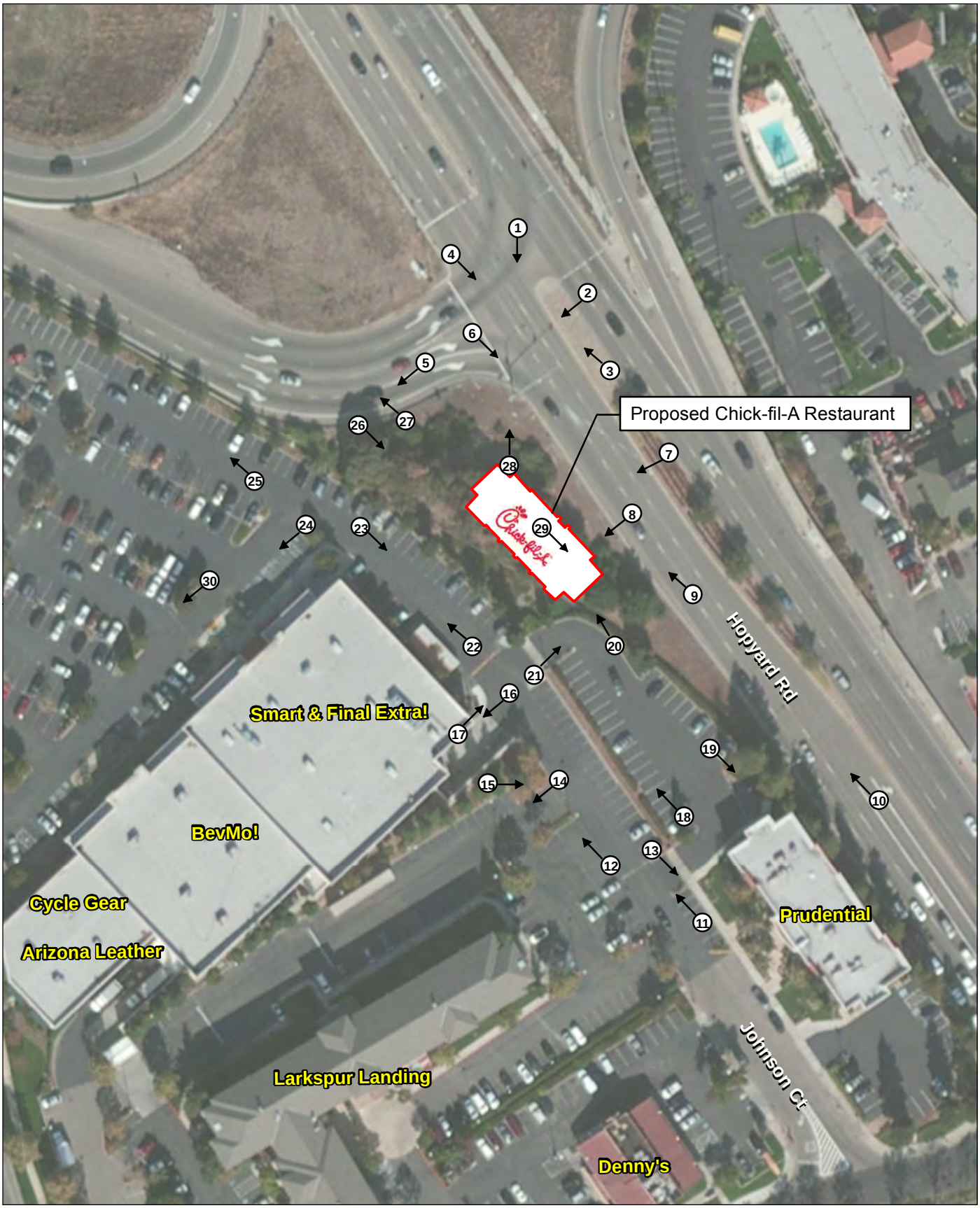
Operational Characteristics

The proposed Chick-fil-A would be a quick-service restaurant with drive-thru service, open Monday-Saturday.

Store Hours:

Monday-Thursday:	6 a.m. to midnight
Friday & Saturday:	6 a.m. to midnight
Sunday:	Closed

Approximately 15 employees would operate the restaurant, per shift.



Source: ESRI Aerial Imagery.

NORTH

100 50 0 100

Feet

Site Photograph Location Map

Photograph 1

Photograph 2

Site Photographs 1 and 2

Photograph 3

Photograph 4

Site Photographs 3 and 4

Photograph 5

Photograph 6

Site Photographs 5 and 6

Photograph 7

Photograph 8

Site Photographs 7 and 8

Photograph 9

Photograph 10

Site Photographs 9 and 10

Photograph 11

Photograph 12

Site Photographs 11 and 12

Photograph 13

Photograph 14

Site Photographs 13 and 14

Photograph 15

Photograph 16

Site Photographs 15 and 16

Photograph 17

Photograph 18

Site Photographs 17 and 18

Photograph 19

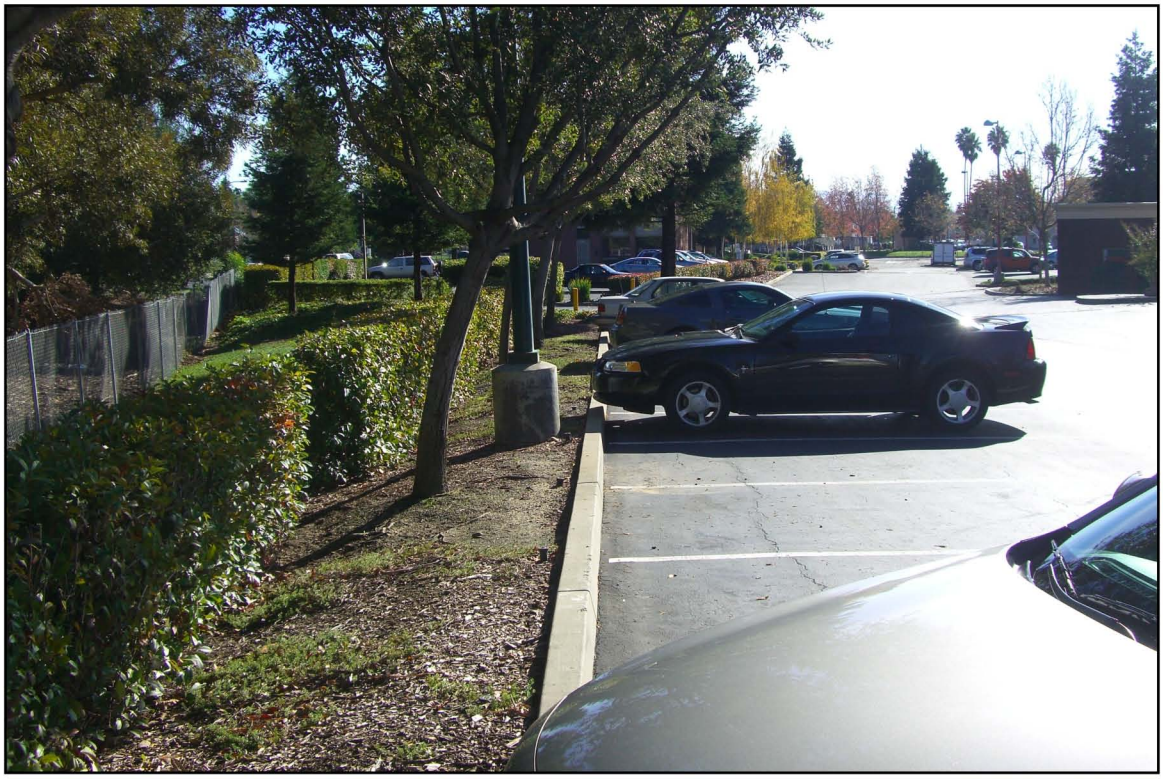
Photograph 20

Site Photographs 19 and 20

Photograph 21

Photograph 22

Site Photographs 21 and 22



Photograph 23

Photograph 24

Site Photographs 23 and 24

Photograph 25

Photograph 26

Site Photographs 25 and 26

Photograph 27

Photograph 28

Site Photographs 27 and 28

Photograph 29

Photograph 30

Site Photographs 29 and 30

2013245173 07/17/2013 12:10 PM
OFFICIAL RECORDS OF ALAMEDA COUNTY
PATRICK O'CONNELL
RECORDING FEE: 36.00
8 PGS

RECORDING REQUESTED BY
AND WHEN RECORDED RETURN TO:

Delta Properties, a
California general partnership
c/o Reynolds & Brown
1200 Concord Avenue, Suite 200
Concord, CA 94520

EASEMENT AGREEEMENT

THIS EASEMENT AGREEMENT ("Agreement") is made as of the 6th day of June, 2013, by and between Delta Properties, a California general partnership ("DELTA") and the California Department of Transportation ("CALTRANS"), with reference to the following facts:

RECITALS

A. CALTRANS has conveyed to DELTA that certain excess real property (the "Property") located in the City of Pleasanton, County of Alameda, State of California, consisting of approximately 25,910 square feet as more particularly described and depicted in Exhibit A attached hereto and incorporated herein (the "Property").

B. DELTA intends to develop and market the Property for commercial purposes in accordance with applicable land use permits and the landscaping requirements contained herein.

C. DELTA desires to grant to CALTRANS an easement on the Property for maintenance of storm drainage facilities as more particularly set forth herein.

D. Subject to the terms hereof, CALTRANS desires to grant to DELTA the right to relocate, redesign and realign the existing storm drain facilities on the Property in accordance with plans that will be developed at a future date.

NOW THEREFORE, in consideration of the mutual covenants and agreements herein contained, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, DELTA and CALTRANS agree and covenant as follows:

1. Grant of Easement to CALTRANS. CALTRANS, its successors and assigns, shall at all reasonable times have a right to enter the Property for the purpose of, and CALTRANS shall be responsible for, maintaining, repairing, operating, and inspecting the storm drain facilities thereon. CALTRANS agrees to use its best efforts in exercising the rights herein granted so as not to unreasonably disturb DELTA's use of the Property. CALTRANS agrees to return the Property to the condition which existed prior to CALTRANS's entry thereon,

including, but not limited to, the replacement of any sod, landscaping, paving or other improvements disturbed by CALTRANS in the exercise of its rights and obligations hereunder. DELTA has the right to make use of the easement area, notwithstanding the use of the easement area by CALTRANS, for purposes including, but not limited to, installing other utility lines and facilities, landscaping, signage, paved driveways, sidewalks, fences, walls, irrigation facilities, parking areas, structures, buildings and related facilities, provided that such use by DELTA does not unreasonably interfere with CALTRANS's right and obligations herein granted.

2. DELTA's Storm Drain Pipe Relocation Rights. Notwithstanding the foregoing, CALTRANS hereby grants DELTA the privilege and right to modify and relocate the storm drain pipe on the Property and connect back into the existing storm drainage structures on the Property, at DELTA's sole expense, as required for the development and drainage of the Property; provided, however, all construction plans related to the storm drain relocation shall be approved by a certified civil engineer and delivered to CALTRANS prior to the commencement of construction. Prior to and following such relocation, DELTA shall have the right to convey all storm water collected on the Property into the CALTRANS storm drain facility on the Property.

3. Future Definition of Easement Area. Upon completing the relocation of the storm drainage pipe as contemplated herein, the parties shall cooperate in the recordation of an amendment to this Agreement whereby the easement area is more particularly defined. The preparation of such amendment shall be at the sole cost of DELTA.

4. Landscaping. DELTA shall permanently maintain landscaping on not less than 11,910 square feet of the Property.

The provisions hereof shall be binding upon and inure to the benefit of the successors and assigns of the respective parties hereto, and covenants shall run with the land.

IN WITNESS WHEREOF, GRANTORS have executed these presents this 6th day of June, 2013.

DELTA:

Delta Properties, a California general partnership

By: _____

Jon Q. Reynolds, Trustee of the Jon Q. Reynolds and Ann S. Reynolds Family Trust dated 12/23/92, General Partner

RECOMMENDED FOR APPROVAL:

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Date: 6-27-13

ROBERT BACHTOLD
District Branch Chief
R/W Property Management Services and Excess Land Sales

APPROVED:

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Date: 6-27-13

MARK SHINDLER
District Office Chief
R/W Appraisals, Estimating, Property Management and Excess Land Sales

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

State of California

County of ALAMEDA

On JULY 15, 2013 before me, MICHAEL O'CALLAGHAN, NOTARY PUBLIC,
Date — Here Insert Name and Title of the Officer

personally appeared MARK SHINDLER AND ROBERT BACHTOLD,
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) ~~is~~/are subscribed to the within instrument and acknowledged to me that ~~he/she~~/they executed the same in ~~his/her~~/their authorized capacity(ies), and that by ~~his/her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

MICHAEL O'CALLAGHAN
Commission # 1930296
Notary Public - California
Alameda County
My Comm. Expires Mar 26, 2015

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____	Signer's Name: _____
☐ Corporate Officer — Title(s): _____	☐ Corporate Officer — Title(s): _____
☐ Individual	☐ Individual
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Attorney in Fact	☐ Attorney in Fact
☐ Trustee	☐ Trustee
☐ Guardian or Conservator	☐ Guardian or Conservator
☐ Other: _____	☐ Other: _____
Signer Is Representing: _____	Signer Is Representing: _____
RIGHT THUMBPRINT OF SIGNER — Top of thumb here	RIGHT THUMBPRINT OF SIGNER — Top of thumb here

Item #5907

STATE OF CALIFORNIA)
) ss.
COUNTY OF Contra Costa)

On June 6, 2013, before me, C.J. Sedar, Notary Public personally appeared Jon Q. Reynolds who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing is true and correct.

WITNESS my hand and official seal.

C.J. Sedar

Notary Public in and for said State

(SEAL)

C. J. SEDAR
Commission # 1869748
Notary Public - California
Contra Costa County
My Comm. Expires Oct 30, 2013

Number
DD-032187-01-01

EXHIBIT "A"

A portion of Parcel 1 described in Grant Deed Number 32187, to the State of California, recorded April 19, 1967 in Reel 1950, Image 100 of Official Records of Alameda County, described as follows:

COMMENCING at the southeasterly terminus of that course described as "S. 36°36'51" E., 119.15 feet" in the exception from Parcel 1 in said Grant Deed, thence along said course, N. 36°36'51" W., 117.78 feet to the POINT OF BEGINNING; thence N. 53°23'09 E., 10.93 feet; thence N. 33°03'48" W., 73.31 feet to a 250.00 foot radius curve to the left to which a radial bears N. 56°56'12" E.; thence along the arc of said curve 14.95 feet through a central angle of 3°25'31"; thence N. 36°29'19" W., 93.76 feet to a 700.00 foot radius curve to the right to which a radial bears S. 53°30'41" W.; thence along the arc of said curve 44.79 feet through a central angle of 3°39'57"; thence N. 32°49'23" W., 120.05 feet to a 50.00 foot radius curve to the left to which a radial bears N. 57°10'37" E.; thence along the arc of said curve 71.41 feet through a central angle of 81°50'07"; thence S. 65°20'30" W., 28.18 feet to a 155.00 foot radius curve to the right to which a radial bears S. 24°39'30" E.; thence along the arc of said curve 118.85 feet through a central angle of 43°55'55"; thence S.31°16'00" W., 4.42 feet to the northeasterly line of said exception; thence along said line S. 58°44'00" E., 259.31 feet to a 600.00 foot radius curve to right to which a radial bears N. 31°16'00" E.; thence along the arc of said curve 231.63 feet through a central angle of 22°07'09"; thence S. 36°36'51" E., 1.37 feet to the POINT OF BEGINNING.

CONTAINING 25,910 square feet, more or less.

There shall be no abutter's right of access appurtenant to the above-described real property in and to the adjacent State freeway.

The bearings and distances used in the above description are on the California Coordinate System, Zone 3. Multiply the above distances by 1.0000973 to obtain ground level distances.

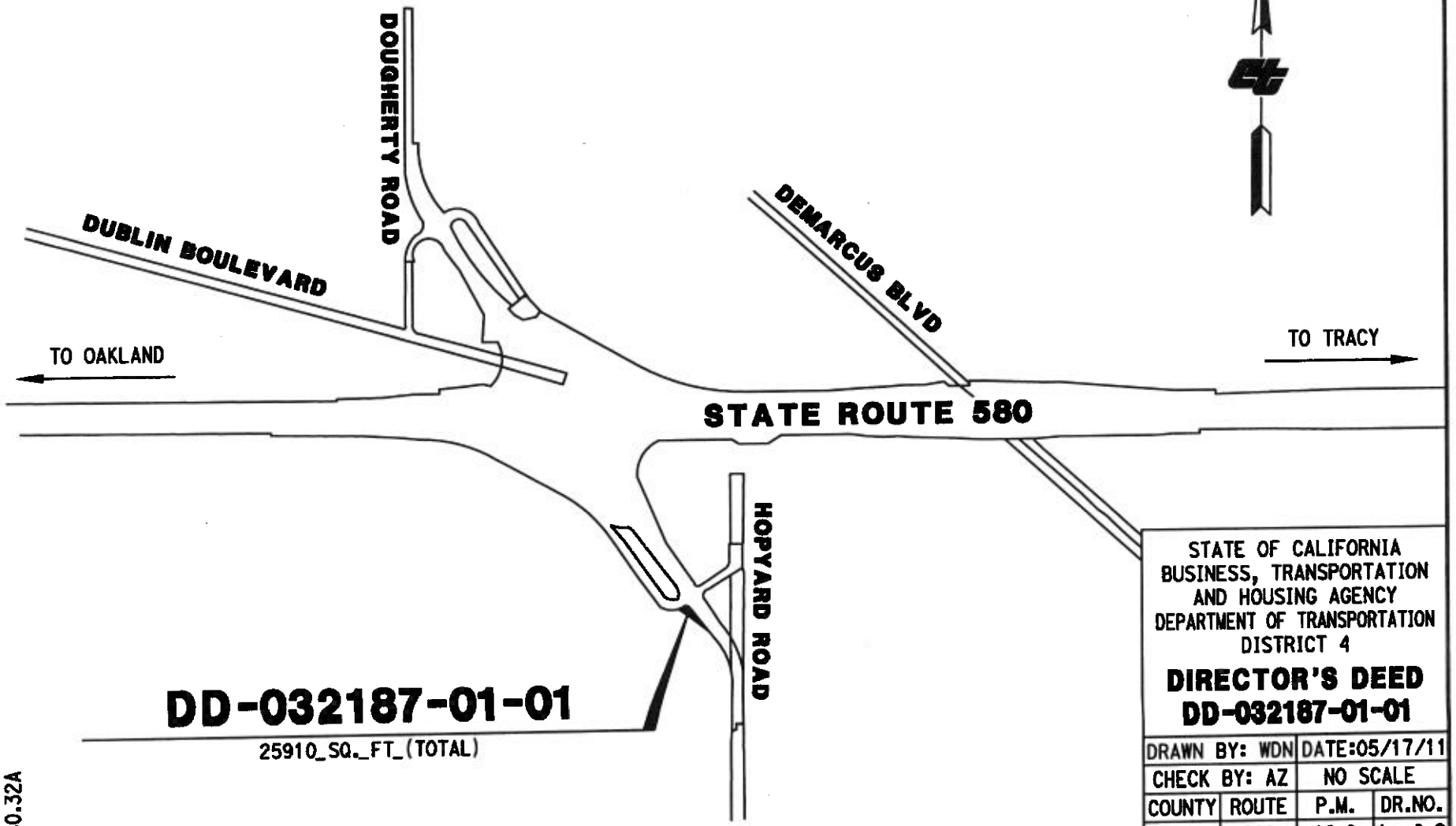
This real property description has been prepared by me, or under my direction, in conformance with the Professional Land Surveyors Act.

Signature _____
Licensed Land Surveyor

Date 5/17/2011

PROFESSIONAL LAND SURVEYOR
WILLIAM D. NEWTON
NO. 6900
EXP: 6/30/2011
STATE OF CALIFORNIA

ALAMEDA COUNTY
CITY OF PLEASANTON



DD-032187-01-01

25910_SQ._FT_(TOTAL)

R-60.32A

STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION
AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION
DISTRICT 4

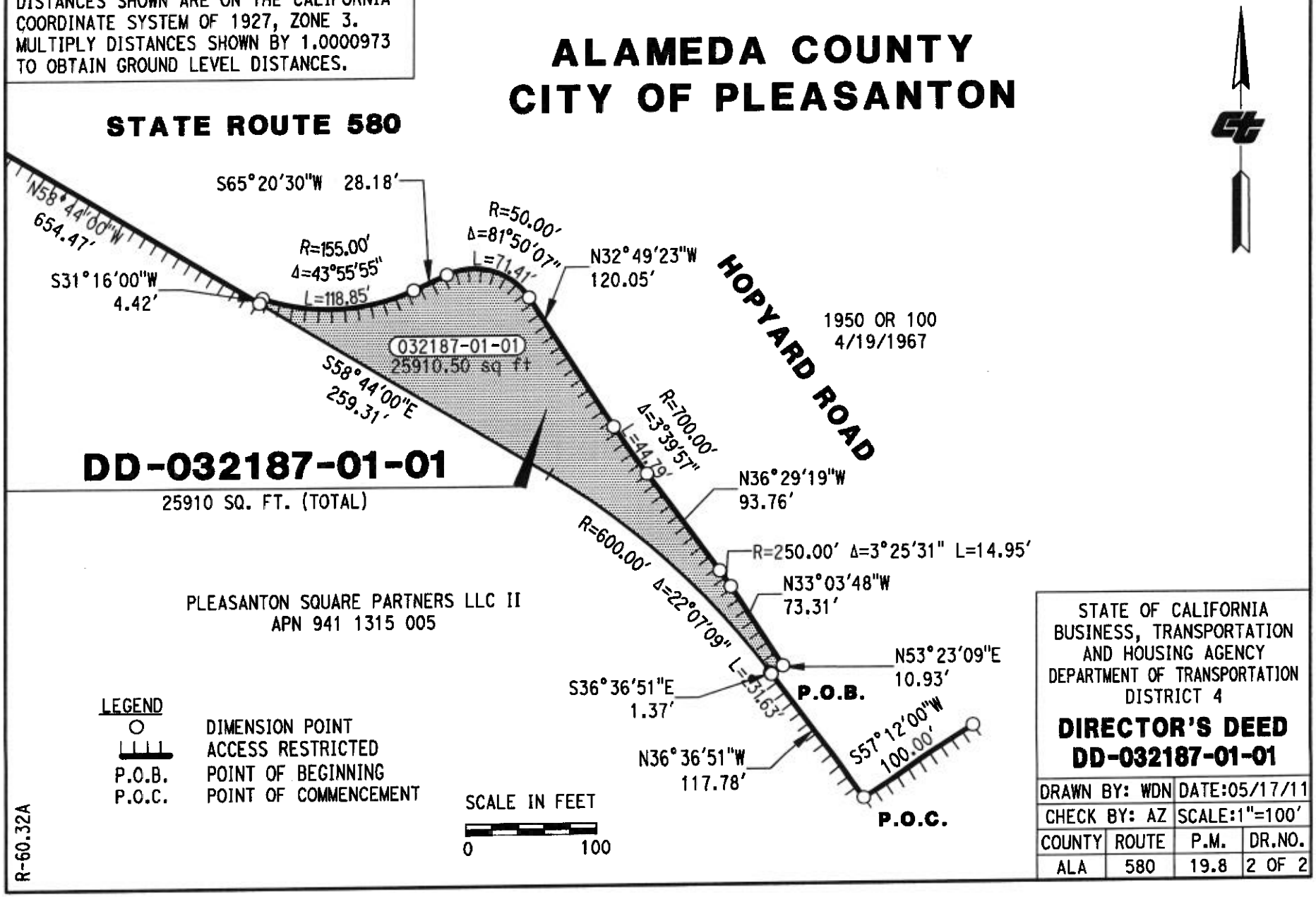
DIRECTOR'S DEED
DD-032187-01-01

DRAWN BY: WDN		DATE:05/17/11	
CHECK BY: AZ		NO SCALE	
COUNTY	ROUTE	P.M.	DR.NO.
ALA	580	19.8	1 of 2

DISTANCES SHOWN ARE ON THE CALIFORNIA COORDINATE SYSTEM OF 1927, ZONE 3. MULTIPLY DISTANCES SHOWN BY 1.0000973 TO OBTAIN GROUND LEVEL DISTANCES.

ALAMEDA COUNTY
CITY OF PLEASANTON

STATE ROUTE 580



DD-032187-01-01

25910 SQ. FT. (TOTAL)

PLEASANTON SQUARE PARTNERS LLC II
APN 941 1315 005

LEGEND

○	DIMENSION POINT
⊥⊥⊥	ACCESS RESTRICTED
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT

SCALE IN FEET

0 100

R-60.32A

STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION
DISTRICT 4

DIRECTOR'S DEED
DD-032187-01-01

DRAWN BY: WDN		DATE:05/17/11	
CHECK BY: AZ		SCALE:1"=100'	
COUNTY	ROUTE	P.M.	DR.NO.
ALA	580	19.8	2 OF 2

RECORDING REQUESTED BY
State of California

WHEN RECORDED RETURN TO
Department of Transportation
P. O. Box 23440
Oakland, CA 94623-0440

Attention: R/W Excess Lands

2013245172 07/17/2013 12:10 PM
OFFICIAL RECORDS OF ALAMEDA COUNTY
PATRICK O'CONNELL
RECORDING FEE: 27.00
COUNTY TAX: 302.50

5 PGS

COPY of Document Recorded

Documentary Stamp Tax: $302.50

Space above this line for Recorder's Use

DIRECTOR'S DEED

District	County	Route	Post	Number
04	Ala	580	19.8	DD-032187-01-01

The STATE OF CALIFORNIA, acting by and through its Director of Transportation, does hereby grant to

Delta Properties, a California general partnership

all that real property in the City of Pleasanton, County of Alameda,

State of California, described as:

See EXHIBIT "A" attached hereto and incorporated herein.

Grantee acknowledges and agrees to permanently maintain landscaping on not less than 11, 910 square feet of the property described in Exhibit A attached.

MAIL TAX
STATEMENTS TO:

Delta Properties
c/o Reynolds & Brown
1200 Concord Avenue. Suite 200
Concord. CA 94520

DOCUMENTARY TRANSFER TAX $ $302.50
☒ COMPUTED ON FULL VALUE OF PROPERTY CONVEYED, OR
☐ COMPUTED ON FULL VALUE LESS LIENS & ENCUMBRANCES REMAINING THEREON AT TIME OF SALE.

Signature of declarant or agent determining tax-firm name

☒ CITY OF PLEASANTON ☐ Unincorporated

Number
DD-032187-01-01

EXHIBIT "A"

A portion of Parcel 1 described in Grant Deed Number 32187, to the State of California, recorded April 19, 1967 in Reel 1950, Image 100 of Official Records of Alameda County, described as follows:

COMMENCING at the southeasterly terminus of that course described as "S. 36°36'51" E., 119.15 feet" in the exception from Parcel 1 in said Grant Deed, thence along said course, N. 36°36'51" W., 117.78 feet to the POINT OF BEGINNING; thence N. 53°23'09 E., 10.93 feet; thence N. 33°03'48" W., 73.31 feet to a 250.00 foot radius curve to the left to which a radial bears N. 56°56'12" E.; thence along the arc of said curve 14.95 feet through a central angle of 3°25'31"; thence N. 36°29'19" W., 93.76 feet to a 700.00 foot radius curve to the right to which a radial bears S. 53°30'41" W.; thence along the arc of said curve 44.79 feet through a central angle of 3°39'57"; thence N. 32°49'23" W., 120.05 feet to a 50.00 foot radius curve to the left to which a radial bears N. 57°10'37" E.; thence along the arc of said curve 71.41 feet through a central angle of 81°50'07"; thence S. 65°20'30" W., 28.18 feet to a 155.00 foot radius curve to the right to which a radial bears S. 24°39'30" E.; thence along the arc of said curve 118.85 feet through a central angle of 43°55'55"; thence S.31°16'00" W., 4.42 feet to the northeasterly line of said exception; thence along said line S. 58°44'00" E., 259.31 feet to a 600.00 foot radius curve to right to which a radial bears N. 31°16'00" E.; thence along the arc of said curve 231.63 feet through a central angle of 22°07'09"; thence S. 36°36'51" E., 1.37 feet to the POINT OF BEGINNING.

CONTAINING 25,910 square feet, more or less.

There shall be no abutter's right of access appurtenant to the above-described real property in and to the adjacent State freeway.

The bearings and distances used in the above description are on the California Coordinate System, Zone 3. Multiply the above distances by 1.0000973 to obtain ground level distances.

This real property description has been prepared by me, or under my direction, in conformance with the Professional Land Surveyors Act.

Signature _____
Licensed Land Surveyor

Date 5/17/2011

Number
DD-032187-01-01

Subject to special assessments if any, restrictions, reservations, and easements of record.

This conveyance is executed pursuant to the authority vested in the Director of Transportation by law and, in particular, by the Streets and Highways Code.

WITNESS my hand and the seal of the Department of Transportation of the State of California, this 2nd day of July 2013.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

APPROVED AS TO FORM AND PROCEDURE

ATTORNEY
DEPARTMENT OF TRANSPORTATION

MALCOLM DOUGHERTY
Director of Transportation

By _____
Attorney in Fact
~~MARK SHINDLER~~ MARK L. WEAVE
~~District Office Chief~~ DEPUTY DISTRIC
~~Appraisal/Estimating, Property~~ DIRECTOR
~~Management and Utility Services~~ RIGHT OF WA
AND LAND SURV

STATE OF CALIFORNIA
County of Alameda } SS

ACKNOWLEDGMENT

On July 2, 2013 before me, Qin Phu, Notary Public,
(here insert name and title of the officer)

personally appeared Mark L. Weaver,
who proved to me on the basis of satisfactory evidence to be the person~~(s)~~ whose name~~(s)~~ is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity~~(ies)~~, and that by his/~~her/their~~ signature~~(s)~~ on the instrument the person~~(s)~~, or the entity upon behalf of which the person~~(s)~~ acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
(Notary Public's signature in and for said County and State)

QIN PHU
Commission # 1983131
Notary Public - California
Alameda County
My Comm. Expires Jun 23, 2016

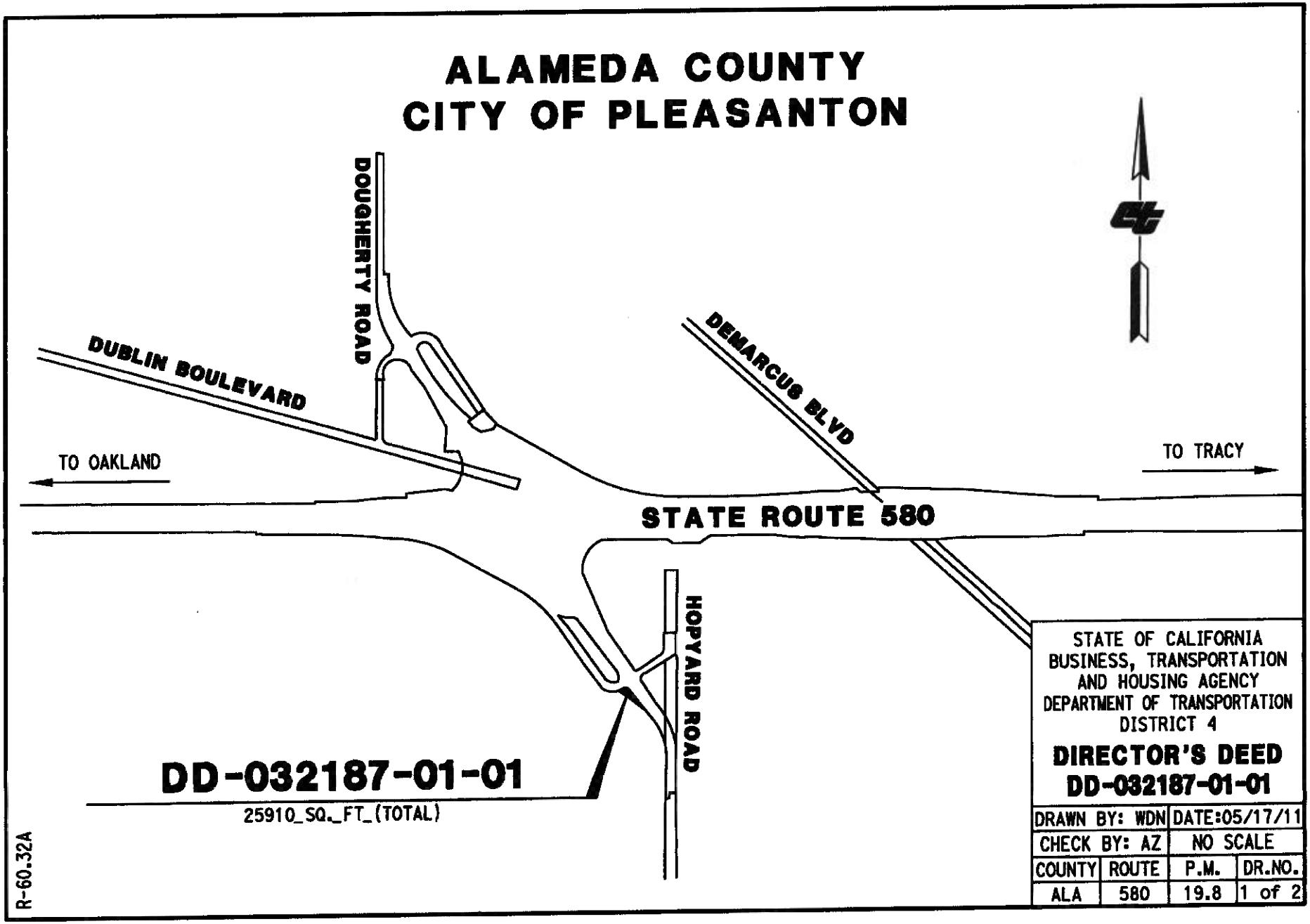
(for notary seal or stamp)

THIS IS TO CERTIFY that the California Transportation Commission has authorized the Director of Transportation to execute the foregoing deed at its meeting regularly called and held on the 7th day of May 2013, in the city of Los Angeles.

Dated this 9th day of May 2013.

_____
ANDRE BOUTROS, Executive Director
CALIFORNIA TRANSPORTATION COMMISSION

ALAMEDA COUNTY
CITY OF PLEASANTON



STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION
AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION
DISTRICT 4

DIRECTOR'S DEED
DD-032187-01-01

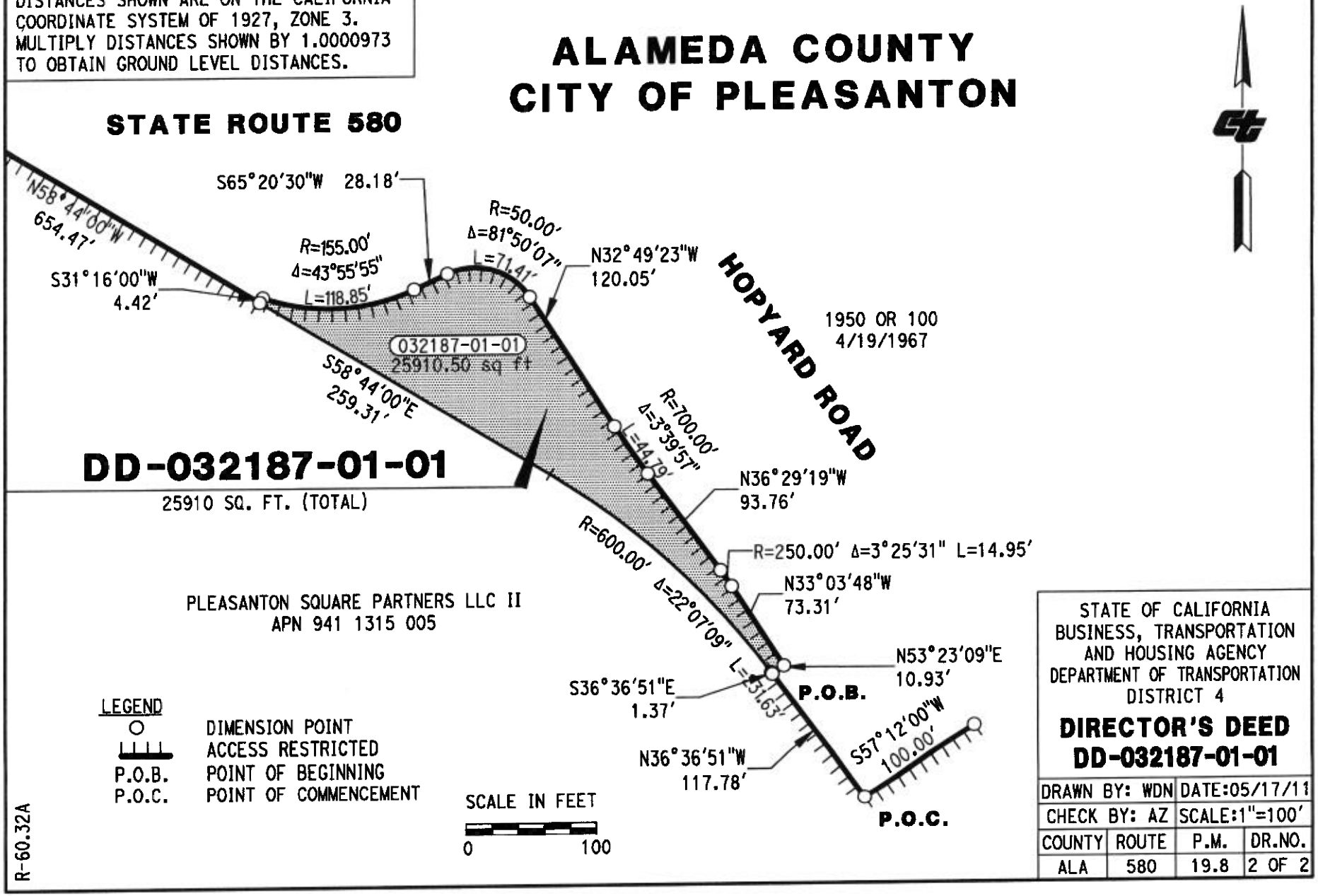
DRAWN BY: WDN		DATE:05/17/11	
CHECK BY: AZ		NO SCALE	
COUNTY	ROUTE	P.M.	DR.NO.
ALA	580	19.8	1 of 2

R-60.32A

DISTANCES SHOWN ARE ON THE CALIFORNIA COORDINATE SYSTEM OF 1927, ZONE 3. MULTIPLY DISTANCES SHOWN BY 1.0000973 TO OBTAIN GROUND LEVEL DISTANCES.

ALAMEDA COUNTY
CITY OF PLEASANTON

STATE ROUTE 580



DD-032187-01-01

25910 SQ. FT. (TOTAL)

PLEASANTON SQUARE PARTNERS LLC II
APN 941 1315 005

LEGEND

○	DIMENSION POINT
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P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT

SCALE IN FEET

0 100

R-60.32A

STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION
DISTRICT 4

DIRECTOR'S DEED
DD-032187-01-01

DRAWN BY: WDN		DATE:05/17/11	
CHECK BY: AZ		SCALE:1"=100'	
COUNTY	ROUTE	P.M.	DR.NO.
ALA	580	19.8	2 OF 2

Memo

Date: October 14, 2013

To: Don Ikeler, Chick-fil-A, Inc

From: First Carbon Solutions

Subject: Pleasanton Chick-fil-A – Health Risk Screening

Purpose of Memo

The purpose of this memorandum is to provide an health risk screening for the proposed Chick-fil-A restaurant in the City of Pleasanton, California. The following health risk screening follows Bay Area Air Quality Management District (BAAQMD) recommendations as contained in the Recommended Methods for Screening and Modeling Local Risks and Hazards version 3.0, published May 2012.

Project Description

The proposed Chick-fil-A (project) is located in the City of Pleasanton, in Alameda County, California. Specifically, the project is located on a 0.67 acre at the southwest intersection of the eastbound Interstate 580 (I-580) off ramp and Hopyard Road. The project site is within the San Francisco Bay Area Basin. The project consists of development of a 5,159 square foot Chick-fil-A restaurant, with outdoor dinning patio area and drive through.

Summary of Health Risk Impacts

- The project is not considered a sensitive receptor. Health risks of lifetime excess cancer risk, chronic hazard index, and $PM_{2.5}$ concentration at the project site fall below BAAQMD cumulative threshold of significance for risks.

BAAQMD Thresholds

The BAAQMD updated their air quality assessment guidelines (Guidelines) in June 2010 to include new to thresholds of significance (2010 Thresholds). The BAAQMD's Guidelines were further updated in May 2011. The 2010 Thresholds included new thresholds of significance for cumulative toxic air contaminant impacts to sensitive receptors and fine particulate matter concentration increases. The Guidelines outline a methodology for analyzing potential risk and hazard impacts to sensitive receptors from proposed land use developments.

On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the 2010 Thresholds. The Court did not determine whether

the 2010 Thresholds were valid on the merits, but found that the adoption of the 2010 Thresholds was a project under CEQA. The Court issued a writ of mandate ordering the BAAQMD to set aside the 2010 Thresholds and cease dissemination of them until they had complied with CEQA. The BAAQMD appealed the Alameda County Superior Court's decision and the case went to the Court of Appeal, First Appellate District. The Court of Appeals has ruled that the BAAQMD's adoption of new or revised thresholds of significance are not a 'project' under CEQA and, therefore, are not required to comply with CEQA requirements.

After the Alameda County Superior Court's Decision, the BAAQMD stopped recommending the 2010 Thresholds be used as a generally applicable measure of a project's significant air quality impacts. The BAAQMD released a new version of their Guidelines in May 2012 which removed the 2010 Thresholds. The BAAQMD, however, recommends that lead agencies determine appropriate air quality thresholds of significance based on substantial evidence in the record.

Based on substantial evidence in the record, the BAAQMD's 2010 Thresholds were utilized for the purpose of analyzing potential health risk impacts to sensitive receptors on the project site.

Toxic Air Contaminants and Health Concerns

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

The California Almanac of Emissions and Air Quality (ARB 2009b[1]) presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. These TACs are as follows: acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM).

Some studies indicate that diesel PM poses the greatest health risk among the TACs listed above. A 10-year research program (ARB 1998[2]) demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to diesel PM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

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[1] California Air Resources Board (ARB). 2009b. The California Almanac of Emissions and Air Quality - 2009 Edition. Chapter 4, Air Basin Trends and Forecasts - Criteria Pollutants. Website: www.arb.ca.gov/aqd/almanac/almanac09/chap409.htm. Accessed July 18, 2013.

[2] California Air Resources Board (ARB). 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Website: www.arb.ca.gov/toxics/dieseltac/factsht1.pdf. Accessed July 18, 2013.

However, some researchers that think the risk from diesel PM is over exaggerated (Enstrom 2008[3]). Moreover, the current methodological protocols required by BAAQMD and ARB when studying the health risk posed by diesel PM assume the following:

(1) 24-hour constant exposure;

(2) 350 days a year; and

(3) For a continuous period lasting 70 years.

These are incredibly conservative assumptions that are not replicated in reality. Most people are indoors for 18-20 hours a day (at their place of employment or home) and most people do not live in the same location for a 70-year period. Thus, the health risk assessments prepared pursuant to these protocols exaggerate the risk of cancer associated with diesel PM exposure.

Diesel PM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists.

Impacted Communities

In 2004, BAAQMD initiated the Community Air Risk Evaluation (CARE) program to reduce health risks associated with exposure to TACs in the Bay Area. As part of the CARE program, the BAAQMD identified 'impacted communities', communities in which sensitive populations are exposed to the highest cancer risks levels from ambient TACs. The CARE program has identified six impacted communities in the Bay Area including Concord, eastern San Francisco, western Alameda County, Redwood City/East Palo Alto, Richmond/San Pablo, and San Jose. The project is not located within an impacted community as identified by the BAAQMD.

BAAQMD Regulations

BAAQMD Toxics New Source Review (Regulation 2, Rule 5) applies preconstruction permit review to new and modified sources of TACs; contains project health risk limits and requirements for Toxics Best Available Control Technology. The proposed project would not contain an emissions unit or source subject to BAAQMD Regulation 2, Rule 5 requirements. Therefore, application of Regulation 2, Rule 5 requirements is not required.

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[3] Enstrom, James E. 2008. Misrepresentation of the Health Effects of Diesel Exhaust in California by the California Air Resources Board and the Goods Movement Emission Reduction Plan. Website: www.scientificintegrityinstitute.org/GMERPEnstrom050808.pdf. Accessed July 18, 2013.

Health Risk Screening

As identified in BAAQMD's guidance, exposure of receptors to substantial concentrations of TACs and $PM_{2.5}$ could occur from the following situations:

1. Siting a new TAC and/or $PM_{2.5}$ source (e.g., diesel generator, truck distribution center, freeway) near existing or planned receptor; and
2. Siting a new receptor near existing TACs and/or $PM_{2.5}$ emissions.

Per the BAAQMD's guidance, this screening analysis identifies the potential sources of risk, which receptors should be considered.

Identification of Receptors

As stated in the BAAQMD's 2012 CEQA Guidance:

> *If a project is likely to be a place where people live, play, or convalesce, it should be considered a receptor. It should also be considered a receptor if sensitive individuals are likely to spend a significant amount of time there. Sensitive individuals refer to those segments of the population most susceptible to poor air quality: children, the elderly, and those with pre-existing serious health problems affected by air quality (ARB 2005). Examples of receptors include residences, schools and school yards, parks and play grounds, daycare centers, nursing homes, and medical facilities. Residences can include houses, apartments, and senior living complexes. Medical facilities can include hospitals, convalescent homes, and health clinics. Playgrounds could be play areas associated with parks or community centers.*

As further provided in the BAAQMD's 2012 Recommended Methods for Screening and Modeling Local Risks and Hazards:

> *For the purpose of this document, receptors are defined as people—children, adults, and seniors—occupying or residing in:*
>
> - *Residential dwellings, including apartments, houses, condominiums;*
> - *Schools, colleges, and universities;*
> - *Daycares;*
> - *Hospitals; and*
> - *Senior Care Facilities*
>
> *Modeling should assume that these dwellings and facilities shelter receptors. At this time, the methodology does not address on-site and off-site worker exposures. The Occupation Safety and Health Administration (OSHA) is the main federal agency that adopts laws and regulations for ensuring safe and healthful work environment to prevent injuries and protect the health of workers. All employers must follow OSHA regulations to ensure the health and well being of their employees. As part of the District's permitting process, exposures to off-site workers and residents are evaluated prior to issuing any permits*

The project includes the construction of a Chick-fil-A restaurant. The project would not include any facilities or land uses that would be considered a location of sensitive receptors. .

Identification of Sources of Toxic Air Contaminants

Screening Tools

The BAAQMD provides three tools for use in screening potential sources of TACs. These tools are:

Surface Street Screening Tables. The BAAQMD pre-calculated potential cancer risk and $PM_{2.5}$ concentration increases for each county within their jurisdiction. The look-up tables are used for roadways that meet the BAAQMD's 'major roadway' criteria of 10,000 vehicles or 1,000 trucks per day. Risks are assessed by roadway volume, roadway direction, and distance to sensitive receptor.

Freeway Screening Analysis Tool. The BAAQMD prepared a GoogleEarth file that contains pre-estimated cancer risk, hazard index, and $PM_{2.5}$concentration increases for highways within the Bay Area. Risks are provided by roadway link and are estimated based on elevation and distance to the sensitive receptor.

Stationary Source Risk and Hazard Screening Tool. The BAAQMD prepared a GoogleEarth file that contains the locations of all stationary sources within the Bay Area that have BAAQMD permits. For each emissions source, the BAAQMD provides conservative cancer risk and $PM_{2.5}$concentration increase values.

The BAAQMD recommends the use of these three tools in a screening process to identify whether further environmental review of potential TAC or $PM_{2.5}$concentration risk for a project is warranted. Specifically, emissions sources within 1,000 feet of the project boundary should be evaluated. The area within 1,000 feet of the project boundary is the study area.

Emissions Sources Near Project

The project site is located near Interstate 580 (I-580) which is located 430 feet to the north. In addition, Hopyard Road and Owens Drive meet the BAAQMD's major roadway criteria . Hopyard Road averages approximately 37,300 vehicles per day while Ownes Drive averages approximately 13,800 vehicles per day[4]. No stationary sources were identified within the study area.

Risks from I-580 are provided in the BAAQMD's Highway Screening Analysis Tool. Risks associated with Hopyard Road and Owens Drive were estimated with the BAAQMD's County Surface Street Screening Tables. Table ~~Table~~ 1 provides the cancer risk, chronic hazard index, and annual $PM_{2.5}$ concentration from major roadways and surface streets at the property boundary.

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If the project site were to include sensitive receptors (such as a housing component), the project would not expose receptors to a significant health risk from adjacent roadways. Lifetime excess cancer risk, chronic hazard index, and $PM_{2.5}$ concentration fall below the BAAQMD screening thresholds. However

[4] California Environmental Health Tracking Program. 2013. CEHTP Traffic Linkage Service Demonstration. Website: http://www.ehib.org/traffic_tool.jsp. Accessed October 14, 2013.

the project is not a location of sensitive receptors. Restaurant customers are not considered sensitive receptors because visits to the restaurant would be short term in duration and episodic.

Table 1: Surface Street Screening Analysis

Roadway	Lifetime Excess Cancer Risk (in a million)	Chronic Hazard Index	$PM_{2.5}$ Concentration ($\mu g/m^2$)
Interstate 580 (I-580)	57.69	0.052	0.397
Hopyard Road	8.11	-	0.342
Owens Drive	0.84	-	0.024
Total Risk From All Local Sources	**66.64**	**0.052**	**0.763**
BAAQMD Cumulative Threshold	100	10	0.8
Exceeds Threshold?	No	No	No
Source: BAAQMD Tools and Methodology 2011			

Conclusion

The project is not considered a location of sensitive receptors. As such, the health risk screening prepared for the project is a gross over estimation of risks to customers and workers who would access the project site. Even so, if the project were to include a sensitive receptor land use, the potential risks to receptors on the project site would be less than the BAAQMD's 2010 Thresholds for cumulative risks. Therefore, the project would not expose customers to a significant health risk by location near I-580, Hopyard Road, and Owens Drive.

Red

Geotechnical Engineering Exploration and Analysis (Draft)

Proposed Chick-fil-A Restaurant #3207
Hopyard and 580 FSU
Hopyard Road and 580 Highway
Pleasanton, California

Prepared for:

Chick-fil A, Inc.
Irvine, California

May 3, 2013

Project No. 2G-1303002

GILES
ENGINEERING ASSOCIATES, INC.

GILES
ENGINEERING ASSOCIATES, INC.
GEOTECHNICAL, ENVIRONMENTAL & CONSTRUCTION MATERIALS CONSULTANTS

• Atlanta, GA
• Baltimore/Wash. DC
• Dallas, TX
• Los Angeles, CA
• Milwaukee, WI
• Orlando, FL

May 3, 2013

Chick-fil-A, Inc.
15635 Alton Parkway, Suite 350
Irvine, California 92618

Attention: Mr. Don Ikeler, III
Development Manager

Subject: Geotechnical Engineering Exploration and Analysis (Draft)
Proposed Chick-fil-A Restaurant #3207
Hopyard and 580 FSU
Hopyard Road and 580 Highway
Pleasanton, California
Project No. 2G-1303002

Dear Mr. Ikeler:

In accordance with your request and authorization, a *Geotechnical Engineering Exploration and Analysis* report has been prepared for the above-referenced project. Conclusions and recommendations developed from the exploration and analysis are discussed in the accompanying report.

We appreciate the opportunity to be of service on this project. If we may be of additional assistance, should geotechnical related problems occur or to provide construction observation and testing services, please do not hesitate to call at any time.

Respectfully submitted,

GILES ENGINEERING ASSOCIATES, INC.

Edgar L. Gatus, P.E.
Assistant Branch Manager
RCE 70687

Terry L. Giles, P.E., G.E.
President and CEO
GE 00342

Distribution: Chick-fil-A, Inc.
Attn: Mr. Don Ikeler (email: Don.Ikeler@chick-fil-a.com)
Attn.: Ms. Kimberly Nicolson (email: Kimberly.Nicolson@chick-fil-a.com)
Attn.: Ms. Leslie Clay (email: Leslie.Clay@chick-fil-a.com)
Attn.: Mr. Vance Burgess (1 US Mail)
5200 Buffington Road, Atlanta, GA 30349-2998
Buzzsaw

G/Data/Geotechnical/2013/2G-1303002 CFA #3207 Pleasanton, CA/Geotech Draft Rpt (5-3-13)

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HOPYARD AND 580 FSU
HOPYARD ROAD AND 580 HIGHWAY
PLEASANTON, CALIFORIA
PROJECT NO. 2G-1303002

APPENDICES

RED - This site has been given a Red designation as draft report due to potential increased improvement costs associated with moist to very moist and variable strength characteristics of the near surface on-site soils.

GEOTECHNICAL ENGINEERING EXPLORATION AND ANALYSIS (DRAFT)

CHICK-FIL-A RESTAURANT #3207
HOPYARD AND 580 FSU
SWC OF HOPYARD ROAD AND I-580 HIGHWAY
PLEASANTON, CALIFORNIA
PROJECT NO. 2G-1303002

1.0 EXECUTIVE SUMMARY OUTLINE

The executive summary is provided solely for purposes of overview. Any party who relies on this report must read the full report. The executive summary omits a number of details, any one of which could be crucial to the proper application of this report.

Subsurface Conditions

- According to the California Geological Survey *2008 Seismic Hazard Zone Report for the Dublin Quadrangle, Alameda County, California,* the subject property is located in an area of Holocene alluvial fan deposits composed primarily of clays and silts with interbedded layers of loose sands and gravels.
- Fill materials were encountered within our exploratory test borings B-1 and B-2 to depths of approximately 8 feet below existing grades. The fill materials were noted to be generally moist, medium stiff to very stiff in comparative consistency fine to coarse sandy clay with little gravel, and firm to very dense silty sand with gravel. Possible fill was encountered within exploratory test boring B-5 to a depth of about 2.5 feet below existing grade and was noted to be generally moist and stiff in comparative consistency sandy clay cobbles and boulders may be present in the fill.
- Native soils were encountered beneath the fill soils within test borings B-1 and B-2 and generally consisted of soft to stiff silty clay and sandy clay, and firm sand. A granular layer (sand) was encountered at a depth of about 40 to 45 feet below existing ground surface. Possible native soils were encountered underneath the existing pavement area within exploratory test borings B-3 and B-4 and consisted of soft to stiff sandy clay to silty clay.
- Groundwater was encountered to depths of about 10 to 27 feet below existing ground surfaces during our subsurface exploration.
- Very moist soil conditions were encountered during our subsurface investigation. It is expected that similar conditions are likely to be encountered during construction operations and may require provisions for drying of the soils prior to compaction.

Site Development

- Proposed site development will include the construction of a new one-story Chick-fil-A restaurant building and site improvements.
- New Building: Proposed grading on the building pad area will require cut and fill of about 3 to 2 feet, respectively based on tentative finish floor elevation of 299. In order to promote uniform bearing pressure, it is recommended that portion of the building pad that will require cut should be further over-excavated at least 1foot below bottom of footing and floor slab. Building pad area to receive new fill should be over-excavated to a depth of at least 1 foot below existing grades. The over-excavation should extend laterally at least 5 feet beyond the foundation footprint. The soils exposed at the base of the over-excavation (following examination by the geotechnical engineer)

above the soil's optimum moisture content, and then recompacted in place to at least 90 percent of the soil's maximum dry density, per ASTM D-1557.
- The potential for liquefaction and associated hazards at the site were evaluated and determined to have minimal effect in the d.evelopment design.

Building Foundation
- Shallow spread footing foundation systems or turned-down slabs designed for a maximum, net allowable soil pressure of 2,500 psf soil bearing pressure supported on newly placed structural compacted fill layer at least 1 foot thick.
- Minimum reinforcing in the strip footings is recommended to consist of four No. 5 bars (2 top and 2 bottom).
- Some over-excavation may be required due to existing fill and limited boring location.

Building Floor Slab
- It is recommended that on grade slab be a minimum 5-inch thick slab-on-grade or turned-down slab, underlain by a minimum 4-inch thick granular base supported on a properly prepared subgrade consisting of at least a 1 foot layer of structural fill.
- Minimum slab reinforcing recommended consisting of No. 3 rebars spaced at 18 inches on center, each way.

Parking Improvement
- Asphalt Pavements: 3 inches of asphaltic concrete underlain by 7 and 10 inches of base course aggregate in parking stalls and driveways, respectively.
- Portland Cement Concrete: 7 inches in thickness underlain by 4 inches of base course in high stress areas such as entrance/exit aprons and the trash enclosure-loading zone.
- Increased pavement maintenance and periodic repairs should be anticipated due to the presence of variable strength and expansion potential of the near on-site soils and the presence of moderate depth of existing fill.

2.0 SCOPE OF SERVICES

This report provides the results of the *Geotechnical Engineering Exploration and Analysis* that Giles Engineering Associates, Inc. ("Giles") conducted regarding the proposed development. The *Geotechnical Engineering Exploration and Analysis* included several separate, but related, service areas referenced hereafter as the Geotechnical Subsurface Exploration Program, Geotechnical Laboratory Services, and Geotechnical Engineering Services. The scope of each service area was narrow and limited, as directed by our client and in consideration of the proposed project. The scope of each service area is briefly explained in this report.

Geotechnical-related recommendations for design and construction of the foundation and ground-bearing floor slab for the proposed building addition are provided in this report. Geotechnical-related recommendations are also provided for the proposed parking lot improvement. Site preparation recommendations are also given; however, those recommendations are only preliminary since the means and methods of site preparation will depend on factors that were unknown when this report was prepared. Those factors include the weather before and during construction, the water table at

the time of construction, subsurface conditions that are exposed during construction, and finalized details of the proposed development.

Giles is conducting a Phase 1 on the subject site. The results of that assessment will be provided under separate cover.

3.0 SITES AND PROJECT DESCRIPTION

3.1 Site Description

The subject property, which is a vacant lot, is located at the southwest corner of Hopyard Road and Interstate 580 in the City of Pleasanton, Alameda County, California. The site is situated along the east side of Pleasanton Square II shopping center and is bordered on the northeast by Hopyard Road, on the southeast and south by parking stalls then Smart and Final store and on the northwest by Interstate 580 off ramp. The subject property will mostly be comprised of Caltrans Right-of Way to be acquired by the property owner.

The subject vacant lot is lightly vegetated that includes several planter areas that include few trees, shrubs and grasses.

Other existing site improvements include asphaltic concrete parking stalls, concrete curb and gutter, chain linked fence, low height concrete block retaining wall, lighting poles and underground utilities. The existing parking pavement to the south of the subject site is considered to be in fair condition.

The subject property is situated at latitude 37.7000º north, longitude 121.9061º west. As noted on the ALTA survey plan provided to us, the elevations within the subject site range from approximately 306 feet along the northerly portion of the property to 297 feet along the southerly portion of the property. There is about 8 to 9-foot grade change between the property edge next to I-580 freeway off ramp and the shopping center (Pleasanton Square II).

3.2 Proposed Project Description

Although detailed building plans are not yet ready for our review, it is our understanding that a new single-story building with a conventional slab-on-grade with no basement or underground level will be constructed at the site. The structure addition is anticipated to be supported by bearing walls and/or columns with maximum loads of approximately 1,200 to 3,000 pounds per lineal foot for walls and 20 to 75 kips for interior and exterior columns. The floor is expected to support a maximum 100 pounds per square foot live load.

Other planned improvements include new parking stalls, a drive-thru single story building, two drive-thru lanes, menu board signs, a new trash enclosure, a patio area, new concrete walkways and new planter areas.

Preliminary project information did not indicate the planned finished floor elevation for the proposed building. The existing grades within the proposed building footprint are about El 302 to El 297. According to the project civil engineer the tentative finish floor elevation of the new building will be at elevation 299. Therefore, site grading is anticipated to include relatively minor grading (up to 2 to 3 feet of cut and fill) in order to establish the necessary site grade to accommodate the tentative finish floor elevation, exclusive of site preparation or over-excavation requirements necessary to create a stable site suited for the proposed development.

The traffic loading on the proposed parking lot improvement is understood to predominantly consist of automobiles with occasional heavy trucks resulting from deliveries and trash removal. The parking lot pavement sections have been designed on the basis of daily traffic intensity equivalent to five equivalent 18-kip single axle loads and 1,500 automobiles within the main drive lanes and only automobiles of a lesser intensity within the parking stalls. Pavement designs are based on a 20-year design period. Therefore, the parking lot pavement sections have been designed on the basis of a Traffic Index (TI) of 4.0 for the automobile traffic parking stalls (light duty) and a TI of 5.0 for drive lane areas (medium duty).

4.0 SUBSURFACE EXPLORATION

4.1 Subsurface Exploration

Our subsurface exploration was performed by a representative of this firm and consisted of the drilling of five (5) exploratory test borings to depths of about 5 to 51.5 feet below existing ground surfaces. The approximate test boring locations are shown in the Test Boring Location Plan (Figure 1). The test boring locations are somewhat limited due to existing trees, bushes and chain linked fence. Test boring elevations presented in our Test Boring Logs were based on the ALTA survey prepared by the project civil engineer (Truxaw and Associates, Inc.) plan provided to us. The Test Boring Location Plan and Test Boring Logs (Records of Subsurface Exploration) are enclosed in Appendix A. Field and laboratory test procedures and results are enclosed in Appendix B and C, respectively. The terms and symbols used on the Test Boring Logs are defined on the General Notes in Appendix D.

Our subsurface exploration included the collection of relatively undisturbed samples of subsurface soil materials for laboratory testing purposes. Bulk samples consisted of composite soil materials obtained at selected depth intervals from the borings. Relatively undisturbed samples were collected using a 3-inch outside-diameter, modified California split-spoon soil sampler (CS) lined with 1-inch high brass rings. The sampler was driven with successive 30-inch drops of a hydraulically operated, 140-pound automatic trip hammer. Blow counts for each 6-inch driving increment were recorded on the field exploration logs. The central portions of the driven core samples were placed in sealed containers and transported to our laboratory for testing.

Where deemed appropriate, standard split-spoon tests (SS), also called Standard Penetration Test (SPT), were also performed at selected depth intervals in accordance with the American Society for Testing Materials (ASTM) Standard Procedure D 1586. This method consists of mechanically driving an unlined standard split-barrel sampler 18 inches into the soil with successive 30-inch drops of the

140-pound automatic trip hammer. Blow counts for each 6-inch driving increment were recorded on the exploration logs. The number of blows required to drive the standard split-spoon sampler for the last 12 of the 18 inches was identified as the uncorrected standard penetration resistance (N). Disturbed soil samples from the unlined standard split-spoon samplers were placed in plastic containers and transported to our laboratory for testing.

4.2 Subsurface Conditions

The subsurface conditions as subsequently described have been simplified somewhat for ease of report interpretation. A more detailed description of the subsurface conditions at the test boring locations is provided by the logs of the test borings enclosed in Appendix A of this report.

Pavement

Existing pavement at the boring locations (B-3 to B-5) consisted of approximately 3 to 4-inches of asphaltic concrete over 8 to 12–inches of aggregate base materials. Based on our visual observation, the existing pavement is in fair condition.

Soil

According to the California Geological Survey *2008 Seismic Hazard Zone Report for the Dublin Quadrangle, Alameda County, California,* the subject property is located in an area of Holocene alluvial fan deposits composed primarily of clays and silts with interbedded layers of loose sands and gravels.

Fill materials were encountered within our exploratory test borings B-1 and B-2 to depths of approximately 8 feet below existing grades. The fill materials were noted to be generally moist, medium stiff to very stiff in comparative consistency fine to coarse sandy clay with little gravel, and firm to very dense silty sand with gravel. Possible fill was encountered within exploratory test boring B-5 to a depth of about 2.5 feet below existing grade and was noted to be generally moist and stiff in comparative consistency sandy clay. The fill may contain cobbles and boulders.

Native soils were encountered beneath the fill soils within test borings B-1 and B-2 and generally consisted of soft to stiff silty clay and sandy clay, and firm sand. A granular layer (sand) was encountered at a depth of about 40 to 45 feet below existing ground surface. Possible native soils were encountered underneath the existing pavement area within exploratory test borings B-3 and B-4 and consisted of soft to stiff sandy clay to silty clay.

Groundwater

Groundwater was encountered during our subsurface investigation to depths of about 10 to 27 feet below existing ground surface. However, fluctuations of the groundwater table, localized zones of perched water, and rise in soil moisture content should be anticipated during and after the rainy

season. Irrigation of landscape areas on or adjacent to the site can also cause fluctuations of local or shallow perched groundwater levels.

4.3 Percolation Testing

It is our understanding that an on-site below grade storm water infiltration system is being considered for the subject site.

Percolation test was conducted along the eastern portion of the property and involved the drilling of one test boring utilizing a hollow-stem auger drill rig with an outside diameter of approximately 8 inches.

The approximate percolation test boring location (B-4) is shown in the Test Boring Location Plan (Figure 1). A perforated 2-inch diameter pvc pipe was installed inside the Test Boring 5. Percolation test involved presoaking the boring and filling the test hole with water, recording the drop in water surface with time, and refilling the hole with water after every reading. The result of the percolation test is presented on the following table.

Percolation Test Results			
Test No.	**Test Depth (Feet) below Existing Surface Grade**	**Infiltration Rate In/hr**	**Soil Type**
B-4	5.0	0.0 in/hr	Silty Clay

In/hr = inch per hour

It should be noted that the infiltration rate of the on-site soils represents a specific area and depth tested and may fluctuate throughout other parts of the site.

5.0 LABORATORY TESTING

Several laboratory tests were performed on selected samples considered representative of those encountered in order to evaluate the engineering properties of on-site soils. The following are brief description of our laboratory test results.

In Situ Moisture and Density

Tests were performed on select samples from the test borings to determine the subsoils dry density and natural moisture contents in accordance with Test Method ASTM 2216-05. The results of these tests are included in the Test Boring Logs enclosed in Appendix A.

Sieve Analysis

Sieve Analyses (Passing No. 200 Sieve) were performed on selected samples from various depths within test boring B-1 to assist in soil classification and to aid in the liquefaction analysis. These tests were performed in accordance with Test Method ASTM D 1140-00 (Reapproved 2006). The results of these tests are presented in Test Boring Logs, Appendix A.

Expansive Potential

To evaluate the expansive potential of the near surface soils encountered during our subsurface exploration, a composite sample collected from Test Boring B-1 (1 to 5 feet) was subjected to Expansive Index (EI) testing in accordance with Test Method ASTM D 4829-08a. The result of our expansion index (EI) test indicates that the near surface sample has a *medium* expansion potential (EI= 51).

Atterberg Limits

The Atterberg Limits (liquid limit, plastic limit and plasticity index) were determined for a representative sample of the on-site soils in accordance with Test Method ASTM D 4318-00. The result of the Atterberg Limits is included on the Test Boring Logs enclosed in Appendix A.

Consolidation Test

Settlement prediction under anticipated load was made on the basis of one-dimensional consolidation test. This test was performed in general conformance with Test Method ASTM D 2435-96. The test sample was inundated at near overburden pressure in order to evaluate the sudden increase in moisture condition (collapse potential). Result of this test indicated that the near surface soils have very low swell potential (0.28%). The Consolidation test curve, Figure 2, is included in Appendix A.

Soluble Sulfate Analysis and Soil Corrosivity

A representative sample of the near surface soils which may contact shallow buried utilities and structural concrete was performed to determine the corrosion potential for buried ferrous metal conduits and the concentrations present of water soluble sulfate which could result in chemical attack of cement. The following table presents the results of our laboratory testing.

Parameter	**B-1 1 to 5 feet**
pH	7.67
Chloride	38 ppm
Sulfate	0.0048%
Resistivity	8,530 ohm-cm

The chloride content of near-surface soils was determined for a selected sample in accordance with California Test Method No. 422. The results of this test indicated that tested on-site soils have a Low exposure to chloride. The results of limited in-house testing of soil pH and resistivity were determined in accordance with California Test Method No. 643.

These test results have been evaluated in accordance with criteria established by the Cast Iron Pipe Research Association, Ductile Iron Pipe Research Association, the American Concrete Institute and the National Association of Corrosion Engineers. The test results on a near surface bulk sample from the site generally indicate that on-site soils have low corrosive potential when in contact with ferrous materials.

Corrosivity testing also included determination of the concentrations of water-soluble sulfates present in the tested soil sample. Our laboratory test data indicated that near surface soils contain approximately 0.0048 percent of water soluble sulfates. Based on Section 1904.3 of the 2010 California Building Code (CBC), concrete that may be exposed to sulfate containing soils shall comply with the provisions of ACI 318-05, Section 4.3. Therefore, according to Table 4.3.1 of the ACI 318-05, a negligible exposure to sulfate can be expected for concrete placed in contact with the on-site soils. No special sulfate resistant cement is considered necessary for concrete which will be in contact with the tested on-site soils.

6.0 GEOLOGIC AND SEISMIC HAZARDS

6.1 Active Fault Zones

The project site is located in a highly seismic region of California within the influence of several fault systems. However, the site does not lie within the boundaries of an Earthquake Fault Zone as defined by the State of California in the Alquist-Priolo Earthquake Fault Zoning Act.

6.2 Seismic Hazard Zones

Based on our review of the Seismic Hazard Zone report for the Dublin Alto Quadrangle (2008), the site is located within a designated liquefaction hazard zone.

General types of ground failures that might occur as a consequence of severe ground shaking typically include landsliding, ground subsidence, ground lurching and shallow ground rupture. The probability of occurrence of each type of ground failure depends on the severity of the earthquake, distance from faults, topography, subsoils and groundwater conditions, in addition to other factors. Based on our subsurface exploration and the seismic designation for this site, all of the above effects of seismic activity are considered unlikely at the site.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our subsurface exploration and laboratory testing, the planned development for the subject site is considered feasible from a geotechnical point of view provided the following conclusions and recommendations are incorporated in the design and project specifications.

Conditions imposed by the proposed improvement have been evaluated on the basis of the engineering characteristics of the subsurface materials encountered during our subsurface investigation and their anticipated behavior both during and after construction. Conclusions and recommendations, along with site preparation recommendations and construction considerations are discussed in the following sections of this report.

7.1 Seismic Design Considerations

Faulting/Seismic Design Parameters

Research of available maps published by the California Geological Survey (CGS) indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. The potential for fault rupture through the site is, therefore, considered to be low. The site may however be subject to strong groundshaking during seismic activity. The proposed structure should be designed in accordance with the current version of the 2010 California Building Code (CBC) and applicable local codes. Based upon the encountered subsurface soils, a Site Class D is recommended for design.

According to the maps of known active fault near-source zones (ICBO, 1998) to be used with the 2010 CBC, the Calaveras (No. of Calaveras Res.) and Hayward (Total Length) faults are the closest known active faults and are located about 2.4 and 13.6 kilometers, respectively, from the site. The Calaveras fault would probably generate the most severe site ground motions at the site with an anticipated maximum moment magnitude (Mw) of 6.8.

Within the International Code Council's 2009 International Building Code (IBC), the five-percent damped design spectral response accelerations at short periods, S_{DS}, and at 1-second period, S_{D1}, are used to determine the seismic design base shear. These parameters, which are a function of the site's seismicity and soil, are also used as parts of triggers for other code requirements. The following values are determined by using the program Java Ground Motion Parameter Calculator- Version 5.10.0 written by the ICC.

IBC 2009/ CBC 2010, Earthquake Loads	
Site Class Definition (Table 1613.5.2)	D
Mapped Spectral Response Acceleration Parameter, S_s (Figure 1613.5(3) for 0.2 second)	1.799
Mapped Spectral Response Acceleration Parameter, S_1 (Figure 1613.5(4) for 1.0 second)	0.650
Site Coefficient, F_a (Table 1613.5.3 (1) short period)	1.0
Site Coefficient, F_v (Table 1613.5.3 (2) 1-second period)	1.5
Adjusted Maximum Considered Earthquake Spectral Response Acceleration Parameter, S_{MS} (Eq. 16-37)	1.799
Adjusted Maximum Considered Earthquake Spectral Response Acceleration Parameter, S_{M1} (Eq. 16-38)	0.975
Design Spectral Response Acceleration Parameter, S_{DS} (Eq. 16-39)	1.199
Design Spectral Response Acceleration Parameter, S_{D1} (Eq. 16-40)	0.650

Liquefaction

According to the Seismic Hazard Zones map for the Dublin Quadrangle published by the California Geological Survey (CGS), the site is located within an area that has been designated by the State Geologist as a "zone of required investigation" due to the potential for earthquake-induced liquefaction. Therefore, a site liquefaction evaluation consistent with the guidelines contained in

CDMG Special Publication 117A (2008) along with a report by Southern California Earthquake Center (SCEC) has been performed as part of the current investigation.

Our site-specific probabilistic seismic hazard analysis was performed using the computer program FRISKSP (Version 4.0), originally developed by the United States Geological Survey (USGS), and later adapted by Thomas F. Blake (2000). FRISKSP estimates the probability of experiencing various ground accelerations within the site over a period of time and the probability of exceeding expected ground accelerations within the lifetime of the proposed structure from all significant earthquakes within a specific radius of search. For the present case, a search radius of 62 miles (100 kilometers) was selected. In evaluating liquefaction potential, the California Geological Survey adopted the standard of using a peak ground acceleration that has a 10 percent probability of being exceeded in 50 years. The ground-motion with a recurrence interval of about 475 years is used. The estimated magnitude-weighted peak ground acceleration at the site was determined to be 0.59g. Additionally based on the Seismic Hazard report for the Dublin Quadrangle Map, the peak ground acceleration is anticipated to be 0.59g for a 10% probability of exceedance in 50 years. A magnitude weighting with respect to a Magnitude 7.5 earthquake was performed using a magnitude-weighting factor recommended by Idriss.

The on-site fine grained soils (clay) were evaluated to determine susceptibility to liquefaction during ground shaking in accordance with the criteria outlined within the California Geological Survey (CGS) Special Publication 117A (2008). Soils considered to be potentially susceptible to undergo seismically induced deformation during liquefaction are classified in the following manner:

1. Plastic Index (PI) <12 and moisture content greater than 85 percent of the Liquid Limit
2. Sensitive soils with PI>18.
3. All loose to medium dense granular soils.

The clayey soils obtained during our subsurface exploration, which were considered non-liquefiable, were tested for CGS Special Publication 117A guidelines. Our laboratory results showed that the on site fine grained soils have Plastic Index (PI) greater than 12 and less than 18 and the in-place moisture contents are less than 85 percent of the liquid limit. Therefore, these on site fine grained soils are considered non-liquefiable. The following table presents the results of our laboratory testing.

Test Boring No. & Depth	Liquid Limit (LL)	Plastic Index (PI)	In-situ Moisture<85% of LL	Wc/LL
B-1 @ 10’	59	39	24<50.2	0.4
B-1 @ 20’	53	36	30<45.1	0.6
B-1 @ 30’	39	18	28<33.2	0.7
B-1 @ 45’	40	18	26<34	0.7

Based on Bray and Sancio (2006) criteria and Figure 3 (attached to this report, Appendix A), the fine grained soils when plotted for Plastic Index and in-place moisture content/ Liquid Limit indicated not susceptible for liquefaction potential.

Our liquefaction study was based on the NCEER procedure (Youd & Idriss, 1998) using a magnitude-weighted peak ground acceleration of 0.59g as determined by our probabilistic seismic analysis. The peak ground acceleration was weighted on an earthquake magnitude of 7.5 and was used in our liquefaction analysis. Liquefaction analysis was performed using the computer program Liquefypro (version 5) developed by Civil Tech Software. The program is based on the most recent publications of the NCEER Workshop and SP117 Implementation. Corrected SPT blow counts were accounted in the program for hammer energy ratio, borehole diameter and sampling method. A conservative historic high groundwater of 10 feet was used in our liquefaction analysis. The liquefiable layers at the location of boring B-1 are presented graphically in Plate A1 of Appendix A. The computer output files are also included.

In order to estimate the amount of post-earthquake settlement, methods proposed by Tokimatsu and Seed (1987) were used for the settlement calculations. Based on our analysis and under the current site conditions (with an assumed high water table of 20 feet), we estimate that the maximum total seismic-induced ground settlement at the site would be about 0.96 inch during the design level earthquake and the maximum differential settlement is estimated to be about 0.5 inch over a horizontal span of 30 feet.

Liquefaction-Induced Lateral Spreading

Lateral spreading of the ground surface during a seismic activity usually occurs along the weak shear zones within a liquefiable soil layer and has been observed to generally take place toward a free face (i.e. retaining wall, slope or channel) and to lesser extent on ground surfaces with a very gentle slope. Due to absence of any slope or channel within or near the subject site, the potential for lateral spread occurring within the site in our opinion is considered to be low.

Liquefaction–Induced Potential for Surface Manifestation

Based on our review of the relationships between the thickness of potentially liquefiable soil layers relative to the thickness of non-liquefiable soil layers developed by Ishihara (1985), it is our opinion that surface manifestations resulting from soil liquefaction at this site is not likely and should not be considered a design constraint for the project.

7.2 Site Recommendations

The recommendations for site development as subsequently described are based upon the conditions encountered at the test boring locations. Very moist soil conditions were encountered within the near surface on-site soils during our subsurface investigation. It is expected that similar conditions are likely to be encountered during grading operations. Grading operations may require significant provisions for drying of soils prior to compaction. Grading contractor should include contingencies for air-drying of excessively moist soil, as well as the stabilization of excavation bottoms in their bids. Imported soils may be required if on-site soils cannot be air-dried on site due to space, time constraints, or weather.

Site Clearing

Clearing operations should include the removal of all landscape vegetation, low height retaining block wall, concrete curb and gutter and asphaltic concrete within the area of the proposed site improvements. Trees and large shrubs to be removed should be grubbed out to include removal of their stumps and major root systems. Existing pavement within areas of proposed improvement should be removed or crushed to a maximum 3-inch size and stockpiled for use as compacted fill or stabilizing material for the new improvement area.

Should any unusual soil conditions or subsurface structures be encountered during demolition operations or during grading, they should be brought to the immediate attention of the project geotechnical consultant for corrective recommendations.

Existing Utilities

Any existing utilities should be located. Utilities that are not reused should be capped off and removed or properly abandoned in-place in accordance with local codes and ordinances. The excavations made for removed utilities that are in the influence zone of new construction are recommended to be backfilled with structural compacted fill. Underground utilities, which are to be reused or abandoned in-place, are recommended to be evaluated by the structural engineer and utility backfill is recommended to be evaluated by the geotechnical engineer, to determine their potential effect on the new improvement. If any existing utilities are to be preserved, grading operations must be carefully performed so as not to disturb or damage the existing utility.

Building Area

Proposed grading on the building pad area will require cut and fill of about 3 to 2 feet, respectively based on tentative finish floor elevation of 299. In order to promote uniform bearing pressure and resulting settlements within tolerable limits, it is recommended that portion of the building pad that will require cut should be further over-excavated at least 1 foot below bottom of footing and floor slab. Building pad area to receive new fill should be over-excavated to a depth of at least 1 foot below existing grades. The over-excavation should extend laterally at least 5 feet beyond the foundation footprint. The soils exposed at the base of the over-excavation (following examination by the geotechnical engineer) should then be scarified to a depth of about 8 inches, moisture conditioned or air-dried to slightly above the soil's optimum moisture content, and then recompacted in place to at least 90 percent of the soil's maximum dry density, per ASTM D-1557. Possible additional over-excavation other than provided above due to limited test boring location and possible cobbles and boulders present at the site.

Wet Weather/Conditions Construction

Subgrade stability problems should be expected if site development and grading activities are conducted during wet weather. If subgrade stability problems are encountered, undercutting on the order of 8 to 12 inches or more should be expected to be necessary to achieve a stable subgrade.

The estimated depth of over-excavation is based upon the moisture sensitivity of the soils and the anticipated effect of wet weather grading. Alternatively, subgrade stability may be achieved by chemical modification of the soils through the addition of hydrated lime or Portland cement (depending upon soil type and testing soils sensitivity to modification) followed by proper compaction or through placement of a coarse aggregate working mat. If over-excavation or specialized subgrade stabilization techniques are required, the actual depth of over-excavation or stabilization method should be determined by a representative of our firm to provide the appropriate recommendations based on field evaluation and testing.

Proofroll and Compact Subgrade

The subgrades within the new pavement should be proofrolled in the presence of the geotechnical engineer with appropriate rubber-tire mounted heavy construction equipment or a loaded truck to detect very loose/soft yielding soil which should be removed to a stable subgrade. Following proofrolling and completion of any necessary over-excavation, the subgrades should be scarified to a minimum depth of 6 inches, watered or air dried and recompacted to at least 95 percent of the Modified Proctor (ASTM D1557-00) maximum density. Low areas and excavations may then be backfilled in lifts with suitable very low to low expansive (EI less than 51) structural compacted fill. The selection, placement and compaction of structural fill should be performed in accordance with the project specifications. The Guide Specifications included in Appendix D (Modified Proctor) of this report are recommended to be used, at a minimum, as an aid in developing the project specifications.

Positive drainage devices such as sloped concrete flatwork, earth swales and sheet flow gradients in landscape area and surface drain system should be designed for the site. The drainage system should drain to a suitable discharge area. The purpose of this drainage system is to reduce water infiltration into the subgrade soils and to direct water away from buildings and site improvements.

All utility trench backfill should be placed in lifts no greater than 8 inches in thickness, moisture conditioned and then compacted in place to a minimum relative compaction of 90 percent of the soil's maximum density. A representative of the project geotechnical engineer should probe and test the backfills to document adequacy of compaction.

Reuse of On-site Soil

On-site material may be reused as structural compacted fill within the proposed building and pavement improvement area provided they do not contain oversized materials and significant quantities of organic matter or other deleterious materials. Care should be used in controlling the moisture content of the soils to achieve proper compaction for pavement support. Due to the elevated moisture contents of the near-surface soils, some drying of these soils is expected to be necessary prior to their use as fill. All subgrade soil compaction as well as the selection, placement and compaction of new fill soils should be performed in accordance with the project specifications under engineering controlled conditions.

Import Structural Fill

The soils imported to the site (if required) for use as structural fill should within the building pad area consist of very low expansive soils (EI less than 21). Material designated for import should be submitted to the project geotechnical engineer no less than three working days for evaluation.

In addition to expansion criteria, soils imported to the site should exhibit adequate characteristics for the recommended pavement support characteristics and soluble sulfate content.

Subgrade Protection

The near surface soils that are expected to comprise the subgrade are sensitive to water. Unstable soil conditions will develop if these soils are exposed to moisture increases or are disturbed (rutted) by construction traffic. The site should be graded to prevent water from ponding within construction areas and/or flowing into excavations. Accumulated water must be removed immediately along with any unstable soil. Foundation concrete should be placed and excavations backfilled as soon as possible to protect the bearing grade. The degree of subgrade instability and associated remedial construction is dependent, in part, upon precautions taken by the contractor to protect the subgrade during site development.

Silt fences or other appropriate erosion control devices should be installed in accordance with local, state and federal requirements at the perimeter of the development areas to control sediment from erosion. Since silt fences or other erosion control measures are temporary structures, careful and continuous monitoring and periodic maintenance to remove accumulated soil and/or replacement should be anticipated.

Fill Placement

Material for engineered fill should be select free of organic material, debris, and other deleterious substances, and should not contain fragments greater than 3 inches in maximum dimension. On-site excavated soils that meet these requirements may be used to backfill the excavated pavement areas.

All fill should be placed in 8-inch-thick maximum loose lifts, moisture conditioned and then compacted in accordance with the enclosed “Guide Structural Fill Specifications”. A representative of the project consultant should be present on-site during grading operations to verify proper placement and compaction of all fill, as well as to verify compliance with the other geotechnical recommendations presented herein.

7.3 Construction Considerations

Construction Dewatering

As mentioned previously, moist to very moist soil conditions were encountered during our subsurface investigation. In the event that shallow perched water is encountered, filter sump pumps placed within pits in the bottoms of excavations are expected to be the most feasible method of construction dewatering.

Soil Excavation

During remedial grading of the site, temporary excavations with sidewalls varying up to approximately 5 feet in height will be necessary to accommodate construction of the new building. The sidewalls of these excavations are expected to expose generally cohesive fills that consist predominantly of soft to stiff sandy clays and slightly cohesive fills that consist of firm to very dense silty sand. Based on these conditions, temporary excavations may be cut vertical to a maximum height of 3 feet; however, the upper portions of the excavation sidewalls above a height of 3 feet should be cut back at a slope ratio of 1:1 (horizontal to vertical) or flatter. Deeper excavations or excavations in areas where adequate back sloping cannot be performed for stability may require some form of external support such as shoring or bracing.

All excavations must be performed in accordance with CAL-OSHA requirements, which is the responsibility of the contractor. Shallow excavations may be adequately sloped for bank stability while deeper excavations or excavations where adequate back sloping cannot be performed may require some form of external support such as shoring or bracing.

7.4 Foundation Recommendations

Vertical Load Capacity

Upon completion of the recommended building addition pad over-excavation and recompaction, it is our opinion the proposed building may be supported by a shallow foundation system underlain by properly compacted engineered fill. Foundations may be designed for a maximum, net, allowable soil-bearing pressure of 2,500 pounds per square foot (psf). Minimum foundation widths for walls and columns should be 16 and 24 inches, respectively, for bearing considerations, regardless of actual soil pressure. The maximum bearing value applies to combined dead and sustained live loads. These allowable soil bearing pressures may be increased by one-third for short term wind and/or seismic loads.

Reinforcing

The recommended minimum quantity of longitudinal reinforcing for geotechnical considerations within continuous strip footing is four No. 5 bars (2 top and 2 bottom) continuous through column pads within the strip footings. The recommended quantity of longitudinal reinforcing pertains to a minimum 12-inch thick and a maximum 24-inch wide footing pad; additional reinforcing may be necessary if a

thinner or wider footing pad is used to develop equivalent rigidity. The reinforcing recommendation is intended to provide greater rigidity due to the variable strength characteristics and medium expansion potential of the on-site soils. Conventional reinforcing is considered suitable in isolated column pad footings. The final design of the foundations as well as determination of the actual quantity of steel reinforcing and the footing dimensions should be performed by the project structural engineer.

Lateral Load Resistance

Lateral load resistance will be developed by a combination of friction acting at the base of foundations and slabs and the passive earth pressure developed by footings below grade. Passive pressure and friction may be used in combination, without reduction, in determining the total resistance to lateral loads. A one-third increase in the passive pressure value may be used for short duration wind or seismic loads.

A coefficient of friction of 0.30 may be used with dead load forces for footings placed on newly placed compacted fill soil. An allowable passive earth pressure of 225 psf per foot of footing depth (pcf) below the lowest adjacent grade may be used for the sides of footings placed against newly placed structural fill. The maximum recommended allowable passive pressure is 1,500 psf.

Bearing Material Criteria

Structural fill placed and compacted under engineering controlled conditions is considered to be suitable for direct foundation support. For design and construction estimating purposes, suitable bearing soils are anticipated to exist at nominal depth within newly placed structural compacted fill upon completion of the recommended building area preparation. Soil suitable to serve as the subgrade for placement of structural fill within the zone of footing should exhibit at least a stiff comparative consistency (average q_u of at least 1.25 tsf) for cohesive soils for the recommended 2,500 psf allowable soil bearing pressure. For design and construction estimating purposes, suitable bearing existing soils are expected to be encountered at nominal foundation embedment depth based upon the manner in which the building area is recommended to be prepared.

Evaluation of the foundation bearing soils is recommended to be performed by a qualified geotechnical engineer at the time of construction prior to placement of reinforcing steel. Evaluation is recommended to be performed to a sufficient depth below the bearing grade to verify the recommended minimum thickness of structural fill below the footings.

Foundation Embedment

The California Building Code (CBC) requires a minimum 12-inch foundation embedment depth. However, it is recommended that exterior foundations extend at least 18 inches below the adjacent exterior grade for bearing capacity consideration and the expansive characteristics of the on-site soils. Interior footings may be supported at nominal depth below the floor. All footings must be protected against weather and water damage during and after construction, and must be supported within suitable bearing materials.

Estimated Foundation Settlement

Post-construction total and differential static movement (settlement and/or heave) of a shallow foundation system designed and constructed in accordance with the recommendations provided in this report are estimated to be less than ¾ and ½ inch, respectively, for static conditions. The estimated differential movement is anticipated to result in an angular distortion of less than 0.002 inches per inch on the basis of a minimum clear span of 20 feet. The maximum estimated total and differential movement is considered within tolerable limits for the proposed structure provided it is considered in the structural design.

7.5 Floor Slab Recommendations

Subgrade

The floor slab subgrade should be prepared in accordance with the appropriate recommendations presented in the Site Development Recommendations section of this report. Foundation, utility trenches and other below-slab excavations should be backfilled with structural compacted fill in accordance with the project specifications.

Design

The floor of the proposed building may be designed and constructed as a conventional slab-on-grade supported on a properly prepared subgrade with a minimum 1 foot structural fill layer. If desired, the floor slab may be poured monolithically with perimeter foundations where the foundations consist of thickened sections thereby using a turned-down slab construction technique. The minimum slab reinforcing for geotechnical considerations is recommended to consist of No. 3 rebars at 18 inches on center, each way. Based on the recommended reinforcing and the assumed live loading, the slab is recommended to be a minimum of 5 inches in thickness. A qualified structural engineer should perform the actual design of the slab to ensure proper thickness and reinforcing.

The slab is recommended to be underlain by a 4-inch thick layer of granular material. A minimum 10-mil synthetic sheet should be placed below the floor slab to serve as a vapor retarder where required to protect moisture sensitive floor coverings (i.e. tile, or carpet, etc.). The sheets of the vapor retarder material should be evaluated for holes and/or punctures prior to placement and the edges overlapped and taped. If materials underlying the synthetic sheet contain sharp, angular particles, a layer of coarse sand (Sand Equivalent>30) approximately 2 inches thick or a geotextile should be provided to protect it from puncture. An additional 2-inch thick layer of coarse sand may be needed between the slab and the vapor retarder to promote proper curing. The sand layers above and below the synthetic sheeting may be used as a substitute for the granular material below the slab. Proper curing techniques are recommended to reduce the potential for shrinkage cracking and slab curling.

Estimated Movements

Post-construction total and differential movements (settlement or heave) of the floor slab designed and constructed in accordance with the recommendations provided in this report are estimated to be less than ½ and ⅓ inch, respectively. Movements on the order of those estimated for foundations should be expected when the foundation and floor slab are structurally connected or constructed monolithically. The estimated differential movement is anticipated to occur across the short dimension of the structure. The maximum total and differential movement is considered within tolerable limits for the proposed structure, provided that the structural design adequately considers this distortion.

7.6 Retaining Wall Recommendations

The retaining wall(s) may be supported by conventional shallow spread footings designed for an allowable soil bearing pressure of 2,500 psf with a minimum 1 foot structural fill layer and structural fill subgrade and supporting soils as received for the building foundations. A higher allowable soil bearing pressure may be possible but that determination should be based on a review of the locations and details of the planned wall.

Design of walls should incorporate an adequate factor-of-safety against both over-turning (FS=2.0) and sliding (FS=1.5). The overturning resultant should also fall within the center third (kern) of the retaining wall footing for stability, or the design must be re-evaluated with a reduced bearing area.

Static Lateral Earth Pressures

Retaining walls should be designed to resist the applicable lateral earth pressures. On-site soil materials may be used as backfill behind walls, provided they are confirmed to have very low to low expansive characteristic and allow for a drainage layer as discussed in subsequent paragraphs. For on-site soils and/or imported soils (EI less than 21) to be used as backfill materials, an active earth pressure of 40 pounds per cubic foot (equivalent fluid pressure) should be used assuming a level adjacent backfill and drained conditions. For walls to be restrained at the top, an at-rest pressure of 60 pcf should be used for design. All retaining walls should be supplied with a proper subdrain system. All walls should be designed to support any adjacent structural surcharge loads imposed by other nearby walls or footings in addition to the above recommended earth pressure.

Pea gravel, crushed rock or clean sand exhibiting a sand equivalent of 30 or greater may also be used for retaining wall backfill. If these materials are used as backfill, the retaining wall may be designed for an at rest earth pressure of 45 pounds per cubic foot (equivalent fluid pressure).

Drainage and Damp-proofing

Retaining walls are recommended to be designed for drained earth pressures and therefore, adequate drainage should be provided behind the walls. This can be accomplished by installing subdrains at the base of the walls. Wall footing-drains should consist of a system of filter material and

perforated pipe. The perforated pipe system should consist of 4-inch diameter, schedule 40, PVC pipe or equivalent, embedded in 1 cubic foot of Class II Permeable Material (CALTRANS Standard Specifications, latest edition) or equivalent per lineal foot of pipe. Alternatively, ¾-inch open graded gravel or crushed rock enveloped in Mirafi 140 geofabric or equivalent may be used instead of the Class II Permeable Material. The pipe should be placed at the base of the wall, and then routed to a suitable area for discharge of accumulated water.

Wall backfill should be protected against infiltration of surface water. Portions of the retaining walls supporting backfill should be coated with an approved waterproofing compound or covered with a similar material to inhibit infiltration of moisture through the walls.

Wall Backfill

Retaining wall backfill behind the drainage layers should consist of very low-expansive on-site or imported soils with an E.I. less than 21, as determined by the Uniform Building Code (UBC) Standard Test Number 18-2 or ASTM D 4829-03 method. Wall backfill should not contain organic material, rubble, debris, and rocks or cemented fragments larger than 3 inches in greatest dimension. A 1 foot thick low-expansive cohesive layer should be placed at the surface to help prevent surface water intrusion. A geotextile or filter fabric should be placed between the granular drainage layers and adjacent soils (excavated face or compacted materials) to prevent fines from migrating into the drainage layers.

Backfill should be placed in lifts not exceeding 8 inches in thickness, moisture conditioned to slightly above optimum moisture content, and mechanically compacted. Retaining walls should be properly braced prior to placement and compaction of backfill should be performed with extreme care not to damage the walls.

7.7 New Pavement

The following recommendations for the new pavement are intended for vehicular traffic associated with the restaurant development within the subject property.

New Pavement Subgrades

Following completion of the recommended subgrade preparation procedures, the subgrade in areas of new pavement construction are expected to consist of existing on-site soil that exhibit a medium expansion potential. The anticipated subgrade soils are classified as a fair subgrade material with estimated R-value of 5-10 when properly prepared based on the Unified Soil Classification System designation of CL. An R-value of 5 has been assumed in the preparation of the pavement design. It should however, be recognized that the City of Pleasanton may require a specific R-value test to verify the use of the following design. It is recommended that this testing, if required, be conducted following completion of rough grading in the proposed pavement areas so that the R-value test results are indicative of the actual pavement subgrade soils. Alternatively, a minimum code pavement section may be required if a specific R-value test is not performed. To use this R-value, all fill added to the pavement subgrade must have pavement support characteristics at least equivalent to the existing soils, and must be placed and compacted in accordance with the project specifications.

Asphalt Pavements

The following table presents recommended thicknesses for a new flexible pavement structure consisting of asphaltic concrete over a granular base, along with the appropriate CALTRANS specifications for proper materials and placement procedures. An alternate pavement section has been provided for use in parking stall areas due to the anticipated lower traffic intensity in these areas. However, care must be used so that truck traffic is excluded from areas where the thinner pavement section is used, since premature pavement distress may occur. In the event that heavy vehicle traffic cannot be excluded from the specific areas, the pavement section recommended for drive lanes should be used throughout the parking lot.

ASPHALT PAVEMENTS

Materials	Thickness (inches)		CALTRANS Specifications
	Parking Stalls (TI=4.0)	Drive Lanes (TI=5.0)	
Asphaltic Concrete Surface Course (b)	1	1	Section 39, (a)
Asphaltic Concrete Binder Course (b)	2	2	Section 39, (a)
Crushed Aggregate Base Course	7	10	Section 26, Class 2 (R-value at least 78)

NOTES:
(a) Compaction to density between 95 and 100 percent of the 50-Blow Marshall Density
(b) The surface and binder course may be combined as a single layer placed in one lift if similar materials are utilized.

Pavement recommendations are based upon CALTRANS design parameters for a twenty-year design period and assume proper drainage and construction monitoring. It is, therefore, recommended that the geotechnical engineer monitors and tests subgrade preparation, and that the subgrade be evaluated immediately before pavement construction.

Portland Concrete Pavements

Portland Cement Concrete pavements are recommended in areas where traffic is concentrated such as the entrance/exit aprons as well as areas subjected to heavy loads such as the trash enclosure loading zone. The preparation of the subgrade soils within concrete pavement areas should be performed as previously described in this report. Portland Cement Concrete pavements in high stress areas are recommended to be at least 6 inches thick containing No. 3 bars at 18-inch on-center both ways placed at mid-height. The pavement should be constructed in accordance with Section 40 of the CALTRANS Standard Specifications. A minimum 4-inch thick layer of base course (CALTRANS Class 2) is recommended below the concrete pavement. This base course should be compacted to at least 95% of the material's maximum dry density.

The maximum joint spacing within all of the Portland Cement Concrete pavements is recommended to be 15 feet to control shrinkage cracking. Load transfer reinforcing is recommended at construction joints perpendicular to traffic flow if construction joints are not properly keyed. In this event, ¾-inch diameter smooth dowel bars, 18 inches in length placed at 12 inches on-center are recommended where joints are perpendicular to the anticipated traffic flow. Expansion joints are recommended only where the pavement abuts fixed objects such as light standard foundations. Tie bars are recommended at the first joint within the perimeter of the concrete pavement area. Tie bars are recommended to be No. 4 bars at 42-inch on-center spacings and at least 48 inches in length.

General Considerations

Pavement recommendations assume proper drainage and construction monitoring and are based on traffic loads as indicated previously. Pavement designs are based on either PCA or CALTRANS design parameters for twenty (20) year design period. However, these designs are also based on a routine pavement maintenance program and significant asphalt concrete pavement rehabilitation after about 8 to 10 years, in order to obtain a reasonable pavement service life.

7.8 Exterior Concrete Flatworks

Exterior slabs should be a minimum of 4 ½ inches thick and provided with adequate amount of construction joints and/or expansion joints to accommodate anticipated concrete shrinkage and expansion. Reinforcing requirements is a function at the slab thickness and subjected loading. For light pedestrian traffic, control joints should be maintained at a maximum of 8 feet for a 4 ½ inch slab thickness considering the moderate depth of existing fill. Consideration should be given to reinforcing all concrete exterior flatwork with No. 3 rebars spaced at 18 inches on center, both ways, placed at the center of the slab. A minimum of 4-inch thick layer of base course (Caltrans Class 2) is recommended below the concrete slab and should be compacted to at least 95% of the material's maximum dry density. The subgrade soils beneath the base course layer should be scarified to a depth of 12-inch, watered or air dried, and then compacted to a minimum relative compaction of 90 percent.

A representative of the project geotechnical consultant should observe and verify the density, moisture content of the subgrade soils and the depth of moisture penetration prior to concrete placement.

7.9 Recommended Construction Materials Testing Services

The report was prepared assuming that Giles will perform Construction Materials Testing (CMT) services during construction of the proposed development. In general, CMT services are recommended (and expected) to at least include observation and testing of: foundation and pavement support soil and other construction materials. It might be necessary for Giles to provide supplemental geotechnical recommendations based on the results of CMT services and specific details of the project not known at this time.

7.10 Basis of Report

This report is based on Giles' proposal, which is dated March 7, 2013 and is referenced by Giles' proposal number 2GEP-13030040. The actual services for the project varied somewhat from those described in the proposal becaus0e of the conditions that were encountered while performing the services and in consideration of the proposed project.

This report is strictly based on the project description given earlier in this report. Giles must be notified if any parts of the project description or our assumptions are not accurate so that this report can be amended, if needed. This report is based on the assumption that the facility will be designed and constructed according to the codes that govern construction at the site.
The conclusions and recommendations in this report are based on estimated subsurface conditions as shown on the *Records of Subsurface Exploration*. Giles must be notified if the subsurface conditions that are encountered during construction of the proposed development differ from those shown on the *Records of Subsurface Exploration* because this report will likely need to be revised. General comments and limitations of this report are given in the appendix.

APPENDIX

DOCUMENTS AVAILABLE ON REQUEST