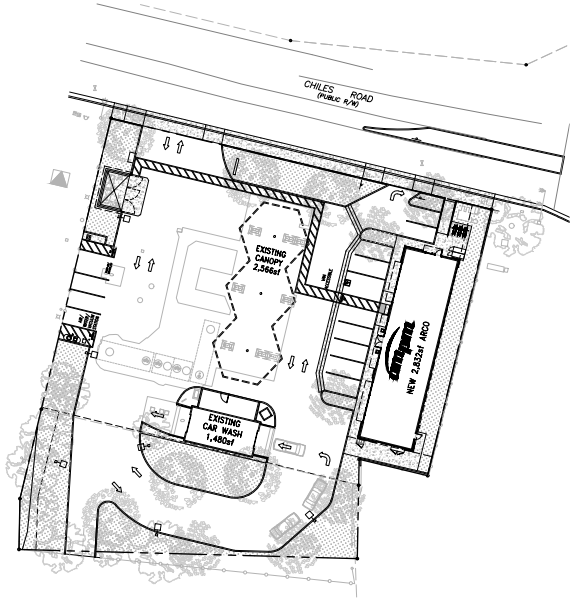
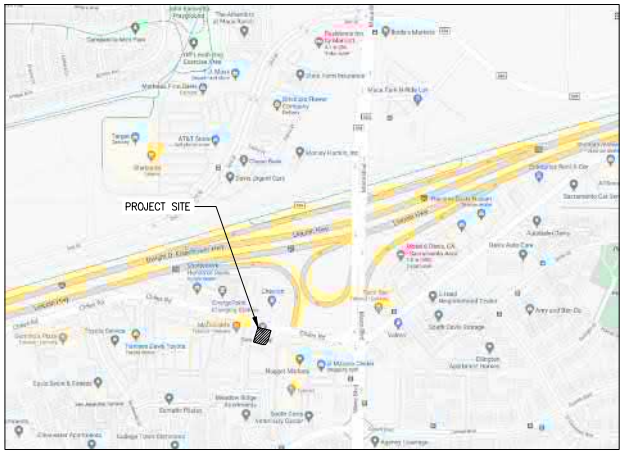
CONVENIENCE STORE & GAS STATION

4480 CHILES ROAD
DAVIS, CA



SITE PLAN
1" = 30'



VICINITY MAP
N.T.S.

PROJECT DESCRIPTION

RENOVATE THE EXISTING DAVIS GAS & SHOP TO AN ARCO AmPm. THE SCOPE OF WORKS ARE NOT LIMITED TO THE FOLLOWING:

- REMOVE THE EXISTING SERVICE KIOSK BUILDING, RESTROOM BUILDING, AND SEVERAL EXISTING SITE ELEMENTS FOR NEW IMPROVEMENTS.
- REMOVE AND REPLACE THE EXISTING FUEL MONUMENT SIGN AND ALL BUILDING SIGNAGE TO ARCO AmPm.
- REBRAND THE EXISTING CAR WASH, FUEL CANOPY, AND FUEL PUMPS TO ARCO AmPm.
- CONSTRUCT A NEW ARCO AmPm CONVENIENCE STORE BUILDING.
- CONSTRUCT A NEW COVERED TRASH ENCLOSURE.
- INSTALL NEW SOLAR PANELS ON TOP OF THE EXISTING FUEL CANOPY.
- PROVIDE NEW PARKING AND LANDSCAPE.

DEFERRED SUBMITTAL

- BUILDING SIGNS, FUEL CANOPY SIGNS, AND FUEL PRICE MONUMENT SIGN SHALL BE A DEFERRRED SUBMITTAL PROVIDED BY SIGN CONTRACTOR.
- SOLAR PANELS DESIGN BY OTHERS.

CONTACTS

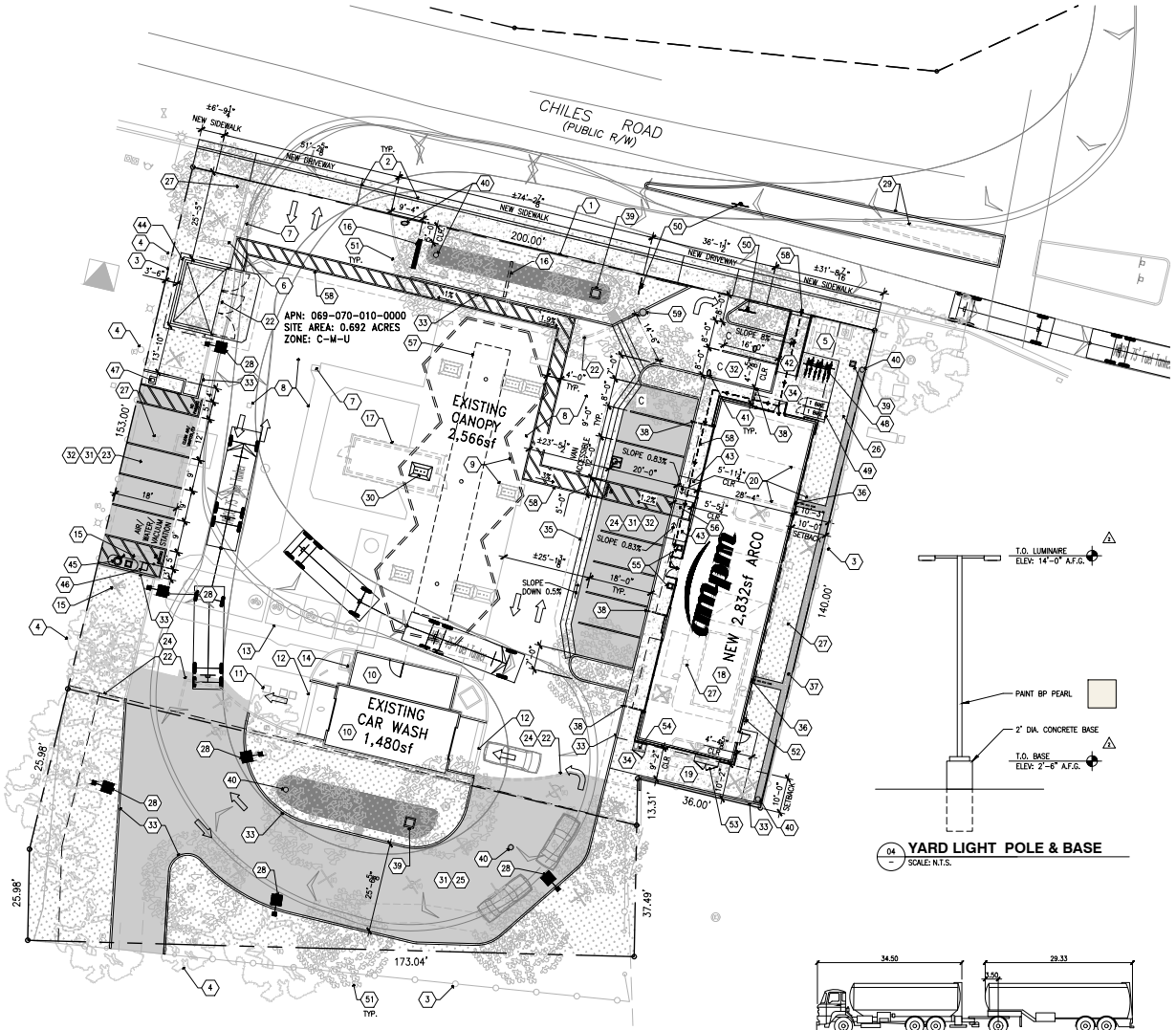
OWNER:
SELF SERVE PETRO, INC.
1045 AIRPORT BLVD., STE 12
SOUTH SAN FRANCISCO, CA 94080
CONTACT: TOM SABERI
PHONE: 650.504.7244
EMAIL: TSABERI@SELFSERVEPETRO.COM

ARCHITECT:
CSHQA
701 UNIVERSITY AVE., STE 210
SACRAMENTO, CA 95825
CONTACT: CHARLIE NATTLAND
PHONE: 916.231.0883
EMAIL: CHARLES.NATTLAND@CSHQA.COM

DRAWING INDEX

NO.	DATE	REVISION DESCRIPTION
2	06-02-21	PLANNING DEPT. COMMENTS
1	02-18-22	PLANNING DEPT. COMMENTS

Cover Sheet



01 SITE CONCEPT PLAN
SCALE: 1/16"=1'-0"

8 4 0 8 16
SCALE IN FEET

04 YARD LIGHT POLE & BASE
SCALE: N.T.S.

ARCO 75'

FIRST PART WIDTH	:8.50	LOCK TO LOCK TIME	:6.0
TRAILER WIDTH	:8.50	STEERING ANGLE	:36.0
FIRST PART TRACK	:8.50	ARTICULATING ANGLE	:70.0
TRAILER TRACK	:8.50		

PROJECT INFORMATION

APN:	069-070-062-0000
ZONE:	COMMERCIAL MIXED USE
LOT AREA:	0.91 AC (39,563 SF)
BUILDING LOT COVERAGE:	6,878 SF (17.38%)
LANDSCAPING AREAS:	9,029.61 SF (22.82%)
TYPE OF CONSTRUCTION:	V-B
OCCUPANCY:	M, B, & S1

BUILDING AREAS

(E) CAR WASH:	1,480 SF
(E) FUEL CANOPY:	2,566 SF
(N) C-STORE:	2,832 SF

PARKING TABULATION

PARKING REQUIRED:	
1/300 SF OF RETAIL AREA (2,832 / 300):	10 STALLS
PARKING PROVIDED:	
STANDARD (9' X 18')	8 STALLS
COMPACT (8' X 16')	3 STALLS
VAN ACCESSIBLE (12' X 20')	1 STALL
CLEAN AIR/VANPOOL/EV (9' X 18')	2 STALLS
FUEL PUMPS	12 STALL
TOTAL:	26 STALLS
BICYCLE PARKING PROVIDED:	
SHORT TERM PARKING	6 SPACES
LONG TERM PARKING	2 LOCKERS
TOTAL	8 SPACES

02 VICINITY MAP
SCALE: NO SCALE

KEYED NOTES

1. (E) PROPERTY LINE.
2. (E) FRONTAGE DRIVEWAY, SIDEWALK, AND GUTTER TO BE REMOVED AND REPLACED WITH (N) PER CITY STANDARDS.
3. (E) CHAIN LINK FENCE SURROUNDING PROPERTY TO REMAIN, TYP.
4. (E) TREES TO REMAIN, SEE LANDSCAPE DWGS.
5. (E) DOMESTIC/IRRIGATION SERVICES TO BE REPLACED/UPGRADED TO ALLOW MANIFOLD TO SERVE THE SITE HYDRANT, DOMESTIC, AND IRRIGATION METERS PER CITY REQUIREMENTS.
6. (E) ELECTRICAL CABINET AND PAD TO REMAIN.
7. (E) IN GROUND UTILITY VAULT TO REMAIN.
8. (E) ASPHALT PAVING, CONCRETE PAVING, AND STORM DRAIN INLETS TO REMAIN, TYP.
9. (E) FUEL CANOPY AND PUMPS TO REMAIN, SEE SHEET A5.
10. (E) CAR WASH AND EQUIPMENT ROOM BUILDING TO REMAIN, SEE SHEETS A3 AND A4.
11. (E) UNDERGROUND WATER RECOVERY SYSTEM FOR CAR WASH TO REMAIN.
12. (E) GRATED DRAINS TO REMAIN.
13. (E) UNDERGROUND FUEL TANKS TO REMAIN.
14. (E) FUEL TANK VENT RISER PIPES TO REMAIN.
15. (E) TREE STUMPS TO BE REMOVED, CW/ LANDSCAPE DWGS.
16. (E) FUEL PRICE MONUMENT SIGN TO BE REMOVED AND REPLACED WITH (N) AT (N) LOCATION, SEE 07/A5 AND ELECTRICAL DWGS. PROVIDE 5 FEET MIN. SETBACK FROM PROPERTY LINE.
17. (E) KIOSK BUILDING AND ALL RELATED ITEMS TO BE REMOVED FOR ADDITION OF (N) FUEL PUMP.
18. (E) RESTROOM BUILDING, CONCRETE PAD, WALKWAYS, AND ALL RELATED ITEMS TO BE REMOVED FOR (N) WORK.
19. (E) CHAIN LINK TRASH ENCLOSURE TO BE REMOVED.
20. (E) ASPHALT PAVING, PARKING STRIPING, CURBS, BOLLARDS, TREES, ETC. TO BE REMOVED FOR (N) WORK.
21. ~~PARTIALLY REMOVE (E) DRIVEWAY AND SIDEWALK AS REQUIRED FOR (N) CONCRETE STANDARD TYPE 1 DRIVEWAY PER CITY STANDARD DETAIL 301-1.~~
22. PARTIALLY REMOVE (E) CURB AND LANDSCAPE AS REQUIRED FOR (N) WORK.
23. PARTIALLY REMOVE (E) CONCRETE PAVING AS REQUIRED FOR (N) WORK (HATCHED AREA).
24. PARTIALLY REMOVE (E) ASPHALT PAVING AS REQUIRED FOR (N) WORK (HATCHED AREA).
25. PARTIALLY REMOVE (E) LANDSCAPE, TREES, AND ALL RELATED ITEMS AS REQUIRED FOR (N) WORK (HATCHED AREA).
26. (E) ABANDONED LARGE METAL SIGN POLE, BASE, AND ALL RELATED ITEMS TO BE REMOVED.
27. (E) YARD LIGHT POLE AND BASE TO BE REMOVED.
28. (N) YARD LIGHT POLE AND BASE, SEE 04/A2.
29. REMOVE (E) MEDIAN ISLAND AND REPLACE WITH (N), SEE CIVIL DWGS.
30. (N) FUEL PUMP, SEE SHEET 04/A5.
31. (N) ASPHALT PAVING (HATCHED AREA).
32. (N) PARKING STALLS.
33. (N) CONCRETE CURBS.
34. (N) CONCRETE PAD/SIDEWALK.
35. (N) CONCRETE VALLEY GUTTER.
36. (N) ROOF DRAIN AND OVERFLOW LEADERS INSIDE WALL. ROOF DRAIN LEADER TO (N) WATER QUALITY TREATMENT. OVERFLOW DRAIN LEADER TO DAYLIGHT AT BASE OF WALL, SEE SHEET A4.
37. (N) WATER QUALITY TREATMENT (HATCHED AREA).
38. (N) CANOPY DRAIN LINE TO DAYLIGHT AT FACE OF CURB.
39. (N) STORM DRAIN INLET.
40. (N) STORM DRAIN CLEANOUT.
41. (N) SANITARY SEWER CLEANOUT.
42. (N) SIDEWALK PEDESTRIAN RAMP WITH HAND RAILS.
43. (N) ACCESSIBLE CURB RAMP.
44. (N) COVERED TRASH ENCLOSURE WITH FROST PROOF WALL HYDRANT AND SLAB WITH DRAIN TO SANITARY SEWER, SEE 09/A4.
45. (N) VACUUM AND CEMENT TRASH RECEPTACLE ON CONCRETE PAD, SEE 05/A5.
46. (N) AIR/WATER MACHINE, SEE 11/A5.
47. (N) FUTURE ELECTRIC CAR CHARGING STATION.
48. (N) BIKE RACK: VARSITY DV211 PERPENDICULAR BIKE PARKING – 18" BIKE SEPARATION – 6 BIKES SECURED – RIGHT WHEEL FORWARD, FINISH: DURAPLAS FINISH – STANDARD BLACK, (WWW.GROUNDCONTROLSYSTEMS.COM).
49. (N) CLASS 1, ONE BIKE, SINGLE UNIT METAL BIKE LOCKER (PALMER GROUP, LLC, MODEL #BTWL01M, COLOR BG-01 "BEIGE", WWW.BIKEPARKING.COM).
50. (N) NO RIGHT TURN SIGN (R3-1) TO THE WEST OF THE EAST DRIVEWAY, (N) RIGHT TURN ARROW SIGN (R3-5) AT THE DRIVEWAY, AND (N) ONE WAY SIGN (R6-1) AT (N) BARRIER MEDIAN, SEE CIVIL DWGS.
51. (N) TREE, SEE LANDSCAPE DWGS.
52. (N) GAS METER.
53. (N) MAIN SWITCHGEAR.
54. (N) SECURED PORTABLE PROPANE TANK STORAGE CAGE, ANCHORED TO SLAB.
55. (N) NATURAL BROWN STONE AGGREGATE TRASH RECEPTACLE.
56. (N) TRUNCATED DOMES DETECTABLE WARNING SURFACE.
57. AREA OF (N) SOLAR PANELS ON TOP OF (E) FUEL CANOPY, SEE 03/A3 AND 01, 02, 03, 04/A5.
58. ACCESSIBLE PATH OF TRAVEL. SLOPE IN DIRECTION OF TRAVEL SHALL NOT EXCEED 5% MAX. AND 2% MAX. CROSS SLOPE ALONG THE PATHWAY.
59. (N) STORM DRAIN MAN HOLE.

NO.	DATE	REVISION DESCRIPTION
2	06-02-21	PLANNING DEPT. COMMENTS
1	02-18-22	PLANNING DEPT. COMMENTS

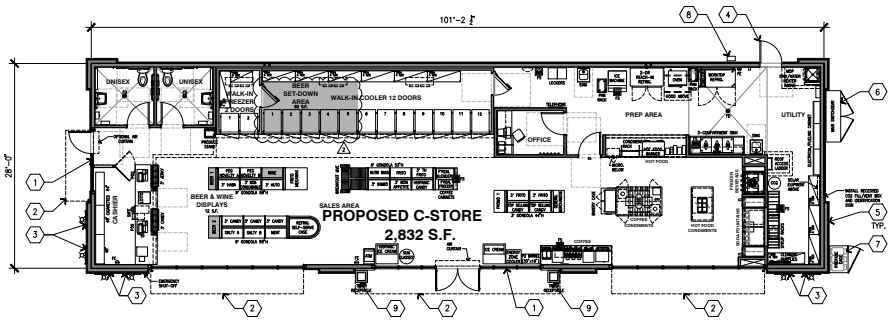
Site Plan

C-STORE KEYED NOTES

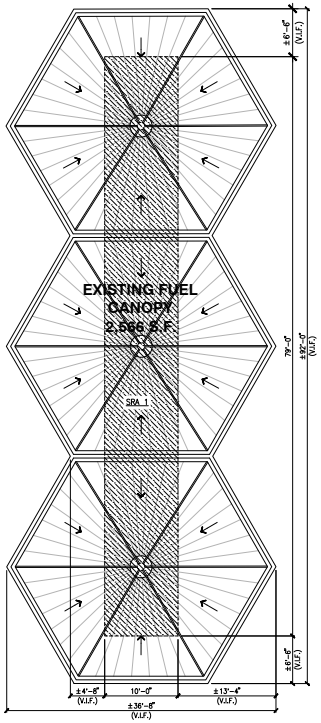
1. CLEAR ANODIZED ALUMINUM ENTRANCE STOREFRONT SYSTEM.
2. METAL AWNING.
3. WALL POSTERS W/LIGHTING.
4. HOLLOW METAL DOOR.
5. BUILT OUT PILASTERS.
6. MAIN SWITCHGEAR.
7. SECURED PORTABLE PROPANE STORAGE CAGE.
8. GAS METER.
9. NATURAL BROWN AGGREGATE TRASH RECEPTACLE.

LEGEND

BEER & WINE DISPLAY SHELVES AND SET-DOWN AREAS



NORTH — 01 C-STORE FLOOR PLAN — SCALE: 1/8"=1'-0" — 8 4 0 8 16 SCALE IN FEET



NORTH — 03 FUEL CANOPY PLAN — SCALE: 1/8"=1'-0" — 8 4 0 8 16 SCALE IN FEET

SOLAR READY AREA

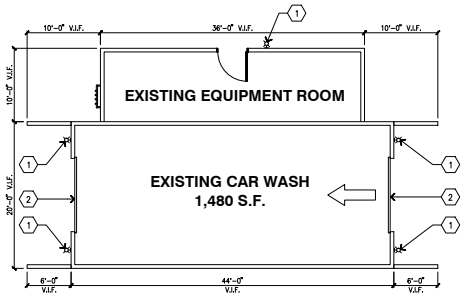
SOLAR READY AREA TABULATION

CONVENIENCE STORE	2,832 SF
CANOPY (2,566 SF EXISTING ROOF)	N/A
CAR WASH (1,480 SF EXISTING ROOF)	N/A
TOTAL ROOF AREA	2,832 SF

SOLAR READY AREA REQUIRED 15% OF TOTAL ROOF AREA
2,832 SQ FT x 0.15 = 425 SQ FT REQUIRED

SRA 1 = 790 SF (FUEL CANOPY)
TOTAL SRA 790 SF > 425 OKAY

NEW SOLAR AREA



NORTH — 02 CAR WASH PLAN — SCALE: 1/8"=1'-0" — 8 4 0 8 16 SCALE IN FEET

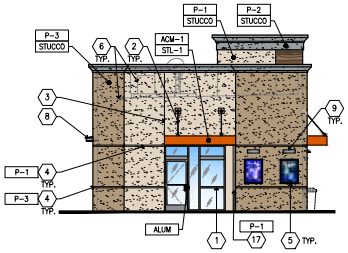
CAR WASH KEYED NOTES

1. NEW WALL LIGHT.
2. NEW ROLL-UP DOOR.

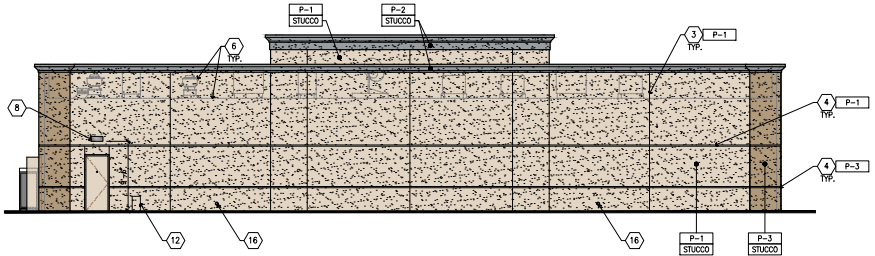
NO.	DATE	REVISION DESCRIPTION
2	06-02-21	PLANNING DEPT. COMMENTS
1		
0		

Building Plans

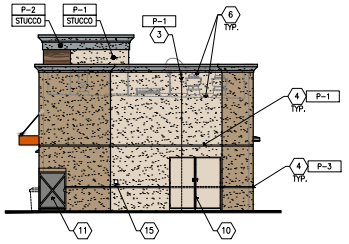
01 C-STORE - WEST ELEVATION
SCALE: 1/8"=1'-0"



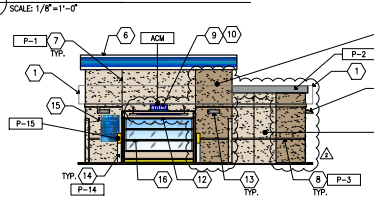
02 C-STORE - NORTH ELEVATION
SCALE: 1/8"=1'-0"



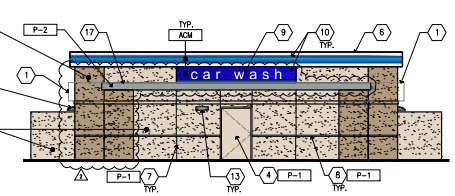
03 C-STORE - EAST ELEVATION
SCALE: 1/8"=1'-0"



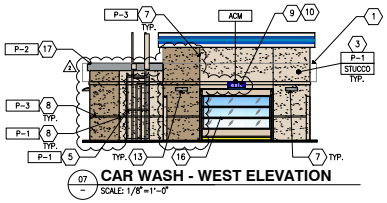
04 C-STORE - SOUTH ELEVATION
SCALE: 1/8"=1'-0"



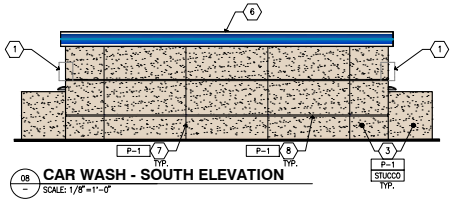
05 CAR WASH - EAST ELEVATION
SCALE: 1/8"=1'-0"



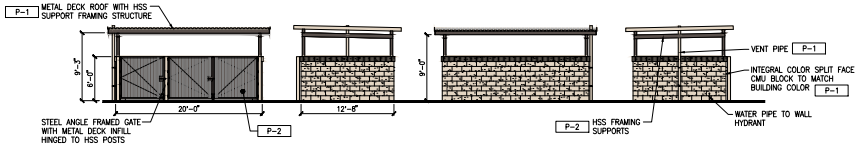
06 CAR WASH - NORTH ELEVATION
SCALE: 1/8"=1'-0"



07 CAR WASH - WEST ELEVATION
SCALE: 1/8"=1'-0"



08 CAR WASH - SOUTH ELEVATION
SCALE: 1/8"=1'-0"



09 TRASH ENCLOSURE ELEVATIONS
SCALE: 1/8"=1'-0"

GENERAL NOTES

A. HORIZONTAL REVEAL AND VERTICAL CONTROL JOINT LOCATIONS IN FINISH SYSTEM SHOWN ARE TO ALIGN AS CLOSELY AS POSSIBLE TO ELEVATIONS.

KEYED NOTES C-STORE

1. ALUMINUM ENTRANCE/STOREFRONT SYSTEM.
2. STEEL AWNING ROD AND CLEVIS.
3. VERTICAL CONTROL JOINT.
4. HORIZONTAL REVEAL.
5. WALL POSTER, SEE 10/A5.
6. ROOF LINE AND EQUIPMENT BEYOND.
7. INTERNALLY ILLUMINATED SURFACE MOUNTED WALL SIGN, SEE 09/A5.
8. WALL MOUNTED LED LIGHT FIXTURE.
9. WALL MOUNTED SIGN LED LIGHT FIXTURE.
10. MAIN SWITCHGEAR.
11. SECURED PORTABLE PROPANE TANK STORAGE CAGE.
12. GAS METER.
13. NATURAL BROWN STONE AGGREGATE TRASH RECEPTACLE.
14. EMERGENCY FUEL SHUT OFF SWITCH.
15. CO2 FIL/VENT BOX.
16. ROOF OVERFOW DRAIN, DAYLIGHT AT FACE OF WALL.
17. CANOPY DRAIN LEADER, DAYLIGHT AT FACE OF CURB

MATERIAL LEGEND

STUCCO	7/8" CEMENT PLASTER, INSTALLED PER MFG. SPECIFICATIONS; TEXTURE: FINE SAND FINISH
ALUM	CLEAR ANODIZED ALUMINUM
STL-1	STEEL AWNING

MATERIAL AND COLOR LEGEND

P-1	BENJAMIN MOORE, 1030, "BRANDY CREAM" SATIN FINISH
P-2	BENJAMIN MOORE, 2121, "PEWTER", HIGH GLOSS
P-3	BENJAMIN MOORE, 1077, GREAT PLAINS GOLD", SATIN FINISH
ACM-1	ALUMINUM COMPOSITE MATERIAL, PANTONE PMS 166c, "ORANGE"
ACM-2	ALUMINUM COMPOSITE MATERIAL, ALUCOBOND, "RUSTIC WALNUT"
P-14	BP PEARL – BENJAMIN MOORE, OC-8, "ELEPHANT TUSK"
P-15	BP YELLOW – BENJAMIN MOORE, 2022-10, "YELLOW"

GENERAL NOTES

A. HORIZONTAL REVEAL AND VERTICAL CONTROL JOINT LOCATIONS IN FINISH SYSTEM SHOWN ARE TO ALIGN AS CLOSELY AS POSSIBLE TO ELEVATIONS.
B. PREP/REPAIR EXISTING STUCCO WALL FINISH AS REQUIRED FOR (N) PAINT.

KEYED NOTES CAR WASH

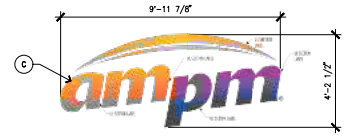
1. REMOVE PARTIAL ACM PANEL REQUIRED FOR (N) WORK.
2. ~~(E) ACM PANEL TO REMAIN FOR (N) FINISHES.~~
3. (E) STUCCO WALL FINISH TO REMAIN FOR (N) WORK AND PAINT.
4. (E) METAL DOOR & FRAME, PREP SURFACE AS REQUIRED FOR (N) PAINT.
5. (E) FUEL TANK VENT RISER PIPES, PREP SURFACE AS REQUIRED FOR (N) PAINT.
6. (N) ACM PANEL.
7. (N) VERTICAL CONROL JOINT.
8. (N) HORIZONTAL REVEAL.
9. (N) VINYL LETTERS APPLIED TO ACM, SEE 09/A5.
10. (N) VINYL DECAL APPLIED TO ACM.
11. ~~(N) "NO ENTRY" SIGN.~~
12. (N) OVERHEAD CLEARANCE BAR.
13. (N) WALL MOUNTED LED FIXTURE.
14. (N) CONCRETE FILLED BOLLARD.
15. (N) INSTRUCTIONAL SIGN PANEL.
16. (N) VINYL ROLL UP DOOR, COLOR: BEIGE.
17. (N) 4X12 FASCIA, PAINT.

MATERIAL LEGEND

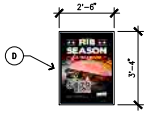
STUCCO	7/8" CEMENT PLASTER, INSTALLED PER MFG. SPECIFICATIONS; TEXTURE: FINE SAND FINISH
ACM	ALUMINUM COMPOSITE MATERIAL

NO.	DATE	REVISION DESCRIPTION
2	06-02-21	PLANNING DEPT. COMMENTS
1		
0		

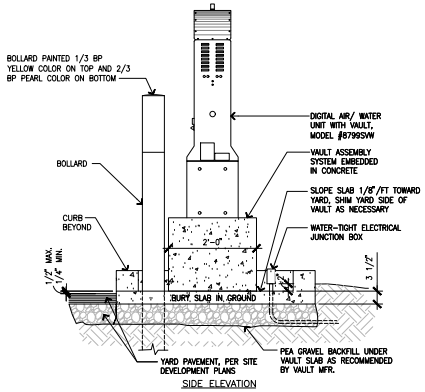
Exterior Elevations

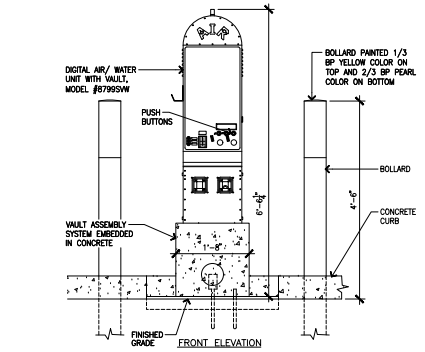


09 BUILDING SIGN
SCALE: N.T.S.

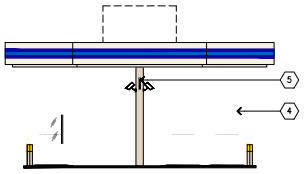


10 WALL POSTER
SCALE: N.T.S.

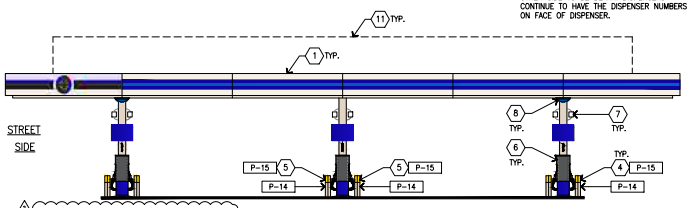




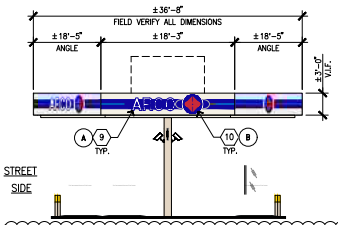
11 AIR/WATER MACHINE
SCALE: 3/4" = 1'-0"



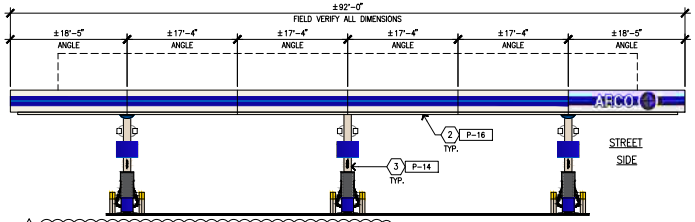
01 SOUTH ELEVATION
SCALE: 1/8"=1'-0"



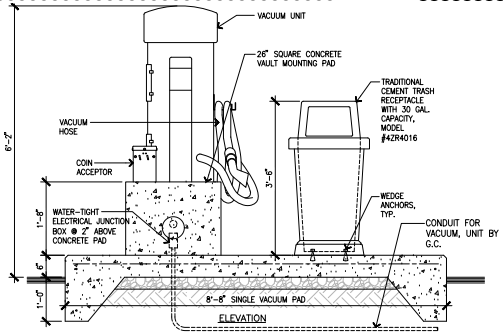
02 WEST ELEVATION
SCALE: 1/8"=1'-0"



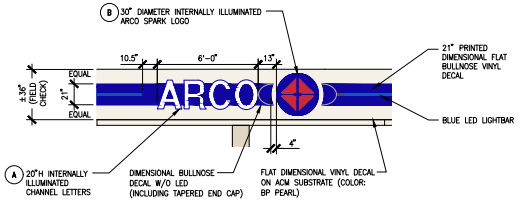
03 NORTH ELEVATION (FACING STREET)
SCALE: 1/8"=1'-0"



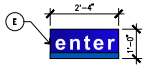
04 EAST ELEVATION (FACING BUILDING)
SCALE: 1/8"=1'-0"

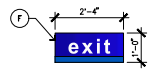


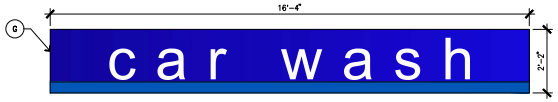
05 VACUUM & TRASH RECEPTACLE
SCALE: 3/4" = 1'-0"



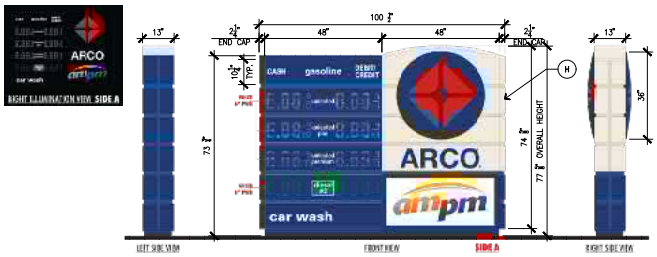
06 CANOPY DECAL ON ACM FASCIA & 20" ILLUMINATED CHANNEL LETTERS W/ 30" ILLUMINATED SPARK LOGO
SCALE: N.T.S.







08 CAR WASH SIGNS
SCALE: N.T.S.



07 FUEL MONUMENT SIGN
SCALE: N.T.S.

NOTE:
NUMBERS ONLY SHOWN FACING THE STORE. OTHER SIDE TO BE BLANK. DISPENSERS CONTINUE TO HAVE THE DISPENSER NUMBERS ON FACE OF DISPENSER.

KEYED NOTES

1. (E) CANOPY ACM FASCIA TO BE REPLACED WITH (N) PRINTED BULLNOSE DECAL, AND BLUE LED, SEE 06/A5.
2. (E) CANOPY UNDER DECKING, PAINT.
3. (E) CANOPY COLUMN, PAINT (TYP. OF 2).
4. (E) BOLLARD, PAINT.
5. (N) BOLLARD.
6. (N) FUEL DISPENSER, (TYP. OF 7).
7. (N) DISPENSER NUMBERING SYSTEM BY G.C. APPROVED MANUFACTURER IS DURACOLOR, INSTALL 10"-6" FROM SLAB TO BOTTOM OF PLACARD. (TYP. OF 8).
8. (N) CANOPY HEAD CLEARANCE SIGN ALIGNED WITH COLUMN AT WEST AND EAST SIDE.
9. (N) 20"H ALUMINUM CHANNEL LETTERS W/ LED INTERNAL ILLUMINATION, REFER TO DETAIL 6/A5, (TYP. OF 1).
10. (N) 30" DIA. LED INTERNAL ILLUMINATED LOGO, REFER TO DETAIL 6/A5, (TYP. OF 3).
11. PROPOSED (N) SOLAR PANELS, BY OTHERS.

COLOR LEGEND

- P-14 BENJAMIN MOORE, 1030, "BRANDY CREAM" SATIN FINISH
- P-15 BP YELLOW – BENJAMIN MOORE, 2022-10, "YELLOW" – P28 DTM
- P-16 BENJAMIN MOORE, 2123-70, "ICE MIST" – P28 DTM
- P-17 BP PEARL – BENJAMIN MOORE, OC8, "ELEPHANT TUSK" – P28 DTM

SIGN SCHEDULE

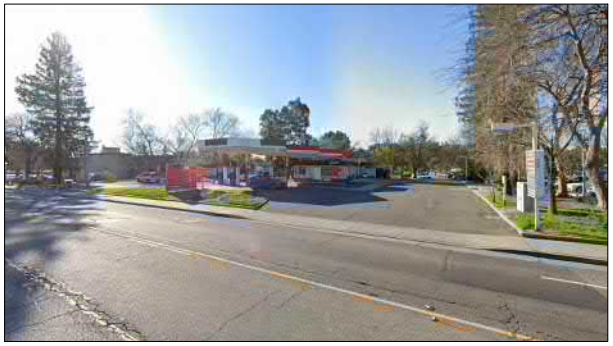
	SIGN	QTY.	AREA
C-STORE WEST ELEVATION			
C	"AMPM" SIGN (42.0 S.F. EA.)	1	42.0 S.F.
D	POSTER (8.3 S.F. EA.)	4	33.2 S.F.
C-STORE NORTH ELEVATION			
D	POSTER (8.3 S.F. EA.)	2	16.6 S.F.
FUEL CANOPY NORTH ELEVATION			
B	ARCO SPARK LOGO (6.3 S.F. EA.)	1	6.3 S.F.
FUEL CANOPY EAST ELEVATION			
A	"ARCO" CHANNEL LETTERS (10.0 S.F. EA.)	1	10.0 S.F.
B	ARCO SPARK LOGO (6.3 S.F. EA.)	1	6.3 S.F.
FUEL CANOPY WEST ELEVATION			
A	"ARCO" CHANNEL LETTERS (10.0 S.F. EA.)	1	10.0 S.F.
B	ARCO SPARK LOGO (6.3 S.F. EA.)	1	6.3 S.F.
CAR WASH NORTH ELEVATION			
G	"CAR WASH" VINYL LETTERS (35.4 S.F. EA.)	1	35.4 S.F.
CAR WASH EAST ELEVATION			
E	"ENTER" VINYL LETTERS (2.3 S.F. EA.)	1	2.3 S.F.
CAR WASH WEST ELEVATION			
F	"EXIT" VINYL LETTERS (2.3 S.F. EA.)	1	2.3 S.F.
FUEL MONUMENT SIGN			
H	TWO SIDED: ARCO SPARK LOGO, "ARCO", & "AMPM" (28.3 S.F. EA. SIDE)	1	28.3 S.F.
TOTAL SIGN AREA			199.0 S.F.

NO.	DATE	REVISION DESCRIPTION
2	06-02-21	PLANNING DEPT. COMMENTS
1		
0		

Elevations & Sign Schedule

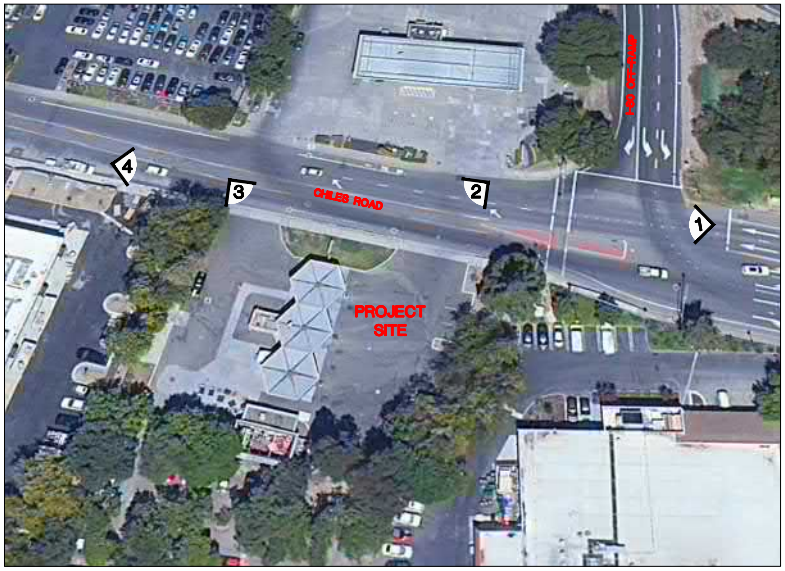
1) CHILES RD LOOKING WEST

2) CHILES RD LOOKING SOUTWEST



3) CHILES RD LOOKING SOUTHEAST

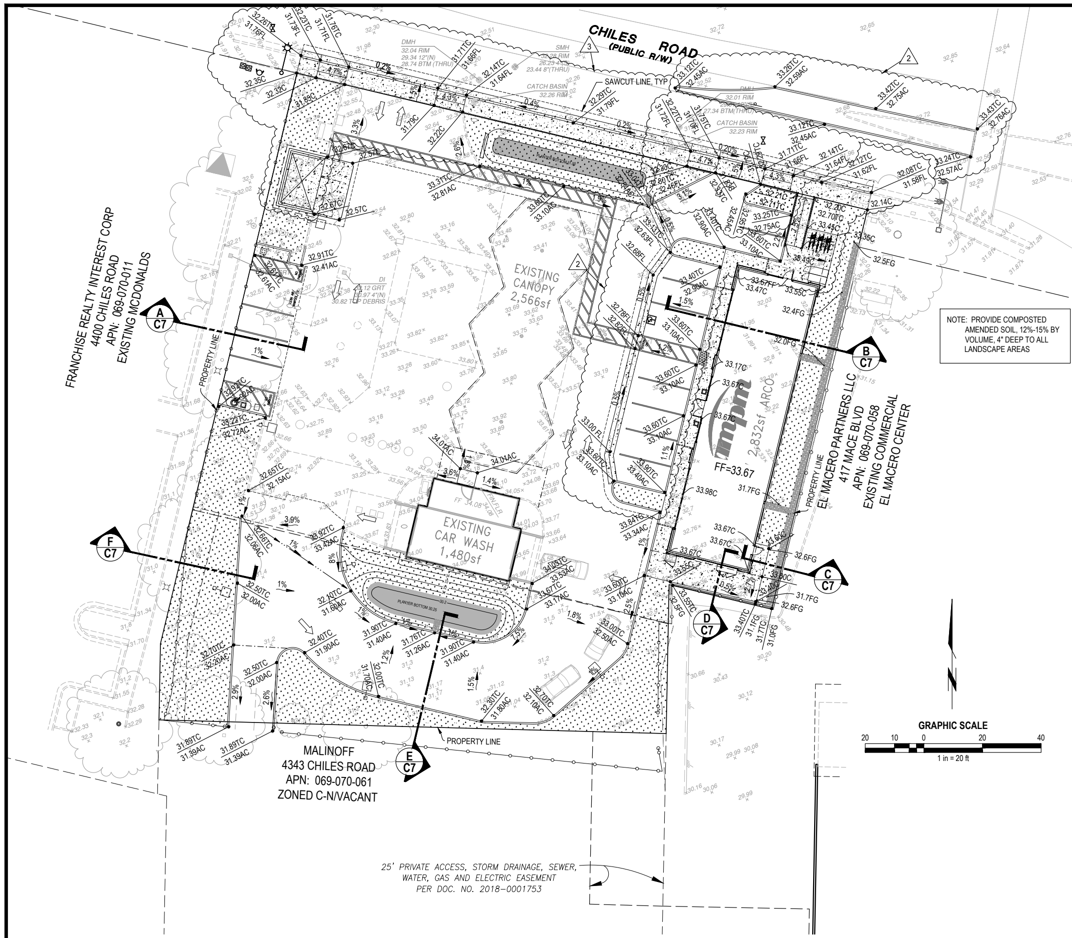
4) CHILES RD LOOKING EAST

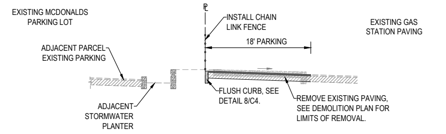


LEGEND

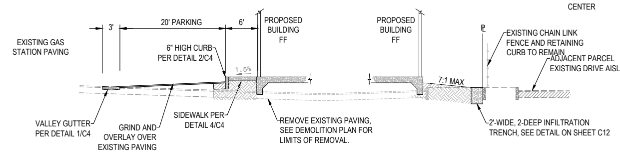
NO.	DATE	REVISION DESCRIPTION
1		
2		
3		

Street Views

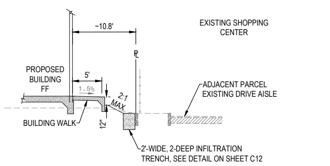

CHILES ROAD
(PUBLIC R/W)
SAWCUT LINE, TYP
EXISTING CANOPY 2,566sf
EXISTING CAR WASH 1,480sf
2,832sf ARCO
FF=33.67
FRANCHISE REALTY INTEREST CORP
4400 CHILES ROAD
APN: 069-070-011
EXISTING MCDONALDS
EL MACERO PARTNERS LLC
417 MACE BLVD
APN: 069-070-058
EXISTING COMMERCIAL
EL MACERO CENTER
MALINOFF
4343 CHILES ROAD
APN: 069-070-061
ZONED C-N/VACANT
PROPERTY LINE
25' PRIVATE ACCESS, STORM DRAINAGE, SEWER,
WATER, GAS AND ELECTRIC EASEMENT
PER DOC. NO. 2018-0001753
NOTE: PROVIDE COMPOSTED AMENDED SOIL, 12%-15% BY VOLUME, 4" DEEP TO ALL LANDSCAPE AREAS
GRAPHIC SCALE
20 10 0 20 40
1 in = 20 ft


EXISTING MCDONALDS PARKING LOT
ADJACENT PARCEL EXISTING PARKING
ADJACENT STORMWATER PLANTER
INSTALL CHAIN LINK FENCE
18' PARKING
EXISTING GAS STATION PAVING
FLUSH CURB, SEE DETAIL 8/C4.
REMOVE EXISTING PAVING, SEE DEMOLITION PLAN FOR LIMITS OF REMOVAL.

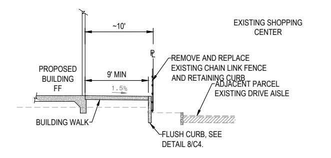
A WEST PARKING BAY
NTS


EXISTING GAS STATION PAVING
3'
20' PARKING
6'
6" HIGH CURB PER DETAIL 2/C4
PROPOSED BUILDING FF
1.5%
VALLEY GUTTER PER DETAIL 1/C4
GRIND AND OVERLAY OVER EXISTING PAVING
SIDEWALK PER DETAIL 4/C4
REMOVE EXISTING PAVING, SEE DEMOLITION PLAN FOR LIMITS OF REMOVAL.
EXISTING SHOPPING CENTER
EXISTING CHAIN LINK FENCE AND RETAINING CURB TO REMAIN
ADJACENT PARCEL EXISTING DRIVE AISLE
7:1 MAX
2'-WIDE, 2-DEEP INFILTRATION TRENCH, SEE DETAIL ON SHEET C12

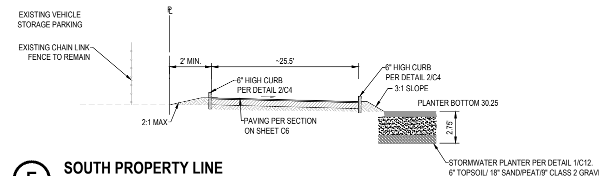
B NEW BUILDING
NTS



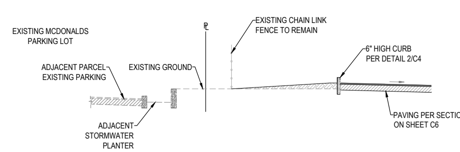
C SOUTHEAST CORNER OF NEW BUILDING
NTS



D SOUTH END OF NEW BUILDING
NTS


EXISTING VEHICLE STORAGE PARKING
EXISTING CHAIN LINK FENCE TO REMAIN
2' MIN.
~25.5'
6" HIGH CURB PER DETAIL 2/C4
6" HIGH CURB PER DETAIL 2/C4
3:1 SLOPE
PLANTER BOTTOM 30.25
2:1 MAX
PAVING PER SECTION ON SHEET C6
STORMWATER PLANTER PER DETAIL 1/C12.
6" TOPSOIL/ 18" SAND/PEAT/9" CLASS 2 GRAVEL

E SOUTH PROPERTY LINE
NTS



F WEST PROPERTY LINE
NTS

GENERAL GRADING NOTES

1. PER GEOTECHNICAL REPORT (FILE NO. 3994-003) BY RANEY GEOTECHNICAL, INC. DATED AUGUST 11, 2020, THE EARTHWORK RECOMMENDATIONS ARE AS FOLLOWS:
   a. PRIOR TO SITE GRADING, CONSTRUCTION AREA SHALL BE CLEARED OF ALL UNWANTED PAVEMENTS, PLANTERS, CONCRETE CURBS, UNWANTED STRUCTURES, FOUNDATIONS, SLABS, FLATWORK, AND FENCES. SURFACE VEGETATION, UNWANTED TREES, STUMPS ASSOCIATED ROOTS GREATER THAN ONE-HALF INCH IN DIAMETER, ROOT BALLS, RUBBLE, RUBBISH, AND ANY OTHER UNWANTED CONSTRUCTION OR DEBRIS SHOULD BE REMOVED.
   b. FOLLOWING SITE CLEARING, ANY SMALL DIAMETER (2" OR LESS) UNDERGROUND PIPES WITHIN TWO FEET (2') OF THE ORIGINAL OR FINAL SOIL GRADE, WHICHEVER IS LOWER, SHOULD BE REMOVED FROM NEW CONSTRUCTION AREAS. LARGE DIAMETER PIPES SHOULD BE REMOVED FROM THE NEW BUILDING PAD REGARDLESS OF DEPTH.
   c. EXPANSIVE CLAYS ARE PRESENT LOCALLY ON THE SURFACE. IF ENGAGED, OVEREXCAVATED TO AT LEAST ONE FOOT BELOW THE SOIL BUILDING PAD GRADE AND RESTORE TO GRADE WITH NON-EXPANSIVE ENGINEERED FILL. REPRESENTATIVE SHOULD BE PRESENT DURING OVER-EXCAVATION TO ASSIST IN DETERMINING THE LIMITS OF EXCAVATION REQUIRED.
   d. AREAS TO RECEIVE ENGINEERED FILL AS WELL AS BUILDING PAD AND FLATWORK AREAS THAT ARE COMPLETED IN EXCAVATION OR LEFT AT EXISTING GRADE SHOULD BE SCARIFIED TO A DEPTH OF EIGHT INCHES, BOUGHT TO A UNIFORM OVER OPTIMUM MOISTURE CONTENT AND RE-COMPACTED IN PLACE TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY DETERMINED BY ASTM D1557 TEST PROCEDURES. ENGINEERED FILL SHOULD BE PLACED IN LIFTS NOT EXCEEDING SIX INCHES IN COMPACTED THICKNESS, BROUGHT TO A UNIFORM OVER OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY.
   e. ON-SITE SOILS ARE SUITABLE FOR USE AS ENGINEERED FILL PROVIDED THE SOILS DO NOT CONTAIN SIGNIFICANT VEGETABLE MATTER, RUBBLE, RUBBISH, OR OTHER UNDESIRABLE SUBSTANCES. EXPANSIVE CLAYS SHOULD BE EXCLUDED FROM USE WITHIN ENGINEERED FILL. IMPORTED MATERIAL, IF REQUIRED, SHOULD CONSIST OF NON-EXPANSIVE MATERIALS. NON-EXPANSIVE MATERIALS CONSIST OF SILTS, SANDS, OR GRAVELS WITH A PLASTICITY INDEX OF TEN OR LESS AND APPROVED BY THE GEOTECHNICAL FIRM PRIOR TO IMPORTATION.
   f. THE UPPER EIGHT INCHES OF BUILDING PAD AND FLATWORK SUBGRADES SHALL BE COMPACTED TO AT LEAST 90 PERCENT THE ASTM D1557 MAXIMUM DRY DENSITY, AT A UNIFORM OVER OPTIMUM MOISTURE CONTENT, REGARDLESS OF WHETHER THE FINAL GRADE IS ACHIEVED BY CUTTING, BY FILLING, OR IS LEAST AT EXISTING GRADED.

   g. THE CONTRACTOR TO IMPLEMENT THE FOLLOWING BASIC CONSTRUCTION EMISSION CONTROL MEASURES. VISUAL SITE INSPECTIONS SHALL BE CONDUCTED THROUGHOUT CONSTRUCTION TO ENSURE THESE MEASURES ARE IMPLEMENTED APPROPRIATELY:

   a. ALL EXPOSED SURFACES SHALL BE WATERED TWO TIMES DAILY. EXPOSED SURFACES INCLUDE, BUT ARE NOT LIMITED TO SOIL PILES, GRADED AREAS, UNPAVED PARKING AREAS, STAGING AREAS, AND ACCESS ROADS.
   b. HAUL TRUCKS TRANSPORTING SOIL, SAND, OR OTHER LOOSE MATERIAL ON THE SITE SHALL BE COVERED AND/OR SHALL MAINTAIN AT LEAST TWO FEET OF FREE BOARD SPACE. ANY HAUL TRUCKS THAT WOULD BE TRAVELING ALONG FREEWAYS OR MAJOR ROADWAYS SHALL BE COVERED.
   c. WET POWER VACUUM STREET SWEEPERS SHALL BE USED TO REMOVE ANY VISIBLE TRACKOUT OF MUD OR DIRT ONTO ADJACENT PUBLIC ROADS AT LEAST ONCE A DAY. USE OF DRY POWER SWEEPING IS PROHIBITED.
   d. VEHICLE SPEEDS ON UNPAVED ROADS TO SHALL BE LIMITED TO A MAXIMUM OF 15 MILES PER HOUR.
   e. ALL ROADWAYS, DRIVEWAYS, SIDEWALKS, AND PARKING LOTS TO BE PAVED SHALL BE COMPLETED AS SOON AS POSSIBLE. IN ADDITION, BUILDING PADS SHALL BE LAID AS SOON AS POSSIBLE AFTER GRADING UNLESS SEEDING OR SOIL BINDERS ARE USED.

3. THE CONTRACTOR SHALL INSTALL HIGH VISIBILITY CONSTRUCTION FENCE (OR ACCEPTABLE ALTERNATIVE SUCH AS) AT THE OUTERMOST EDGE OF THE TREE PROTECTION ZONE FOR EACH TREE OR GROUP OF TREES.

CLIENT:

BP WEST COAST PRODUCTS, LLC

MORTON & PITALO, INC.
CIVIL ENGINEERING • LAND PLANNING • LAND SURVEYING
600 Coolidge Drive, Suite 140 • Folsom, CA 95630
phone: 916.984.7621 • fax: 916.984.7617

NO.	DATE	REVISION DESCRIPTION
3	09-24-21	BLDG. & PUBLIC WORKS COMMENTS
2	06-02-21	PLANNING DEPT. COMMENTS

SEAL: REGISTERED PROFESSIONAL ENGINEER — JEFFREY D. THOMPSON — No. 43068 — Exp. 03-31- — CIVIL — STATE OF CALIFORNIA

JEFFREY D. THOMPSON, PE 43068
ASSOCIATE PROJECT MANAGER, MORTON & PITALO, INC.
600 COOLIDGE DRIVE, STE. 140 FOLSOM, CA 95630
(916) 496-8771

DEVELOPMENT INFORMATION:
ARCO AMPM REBRAND

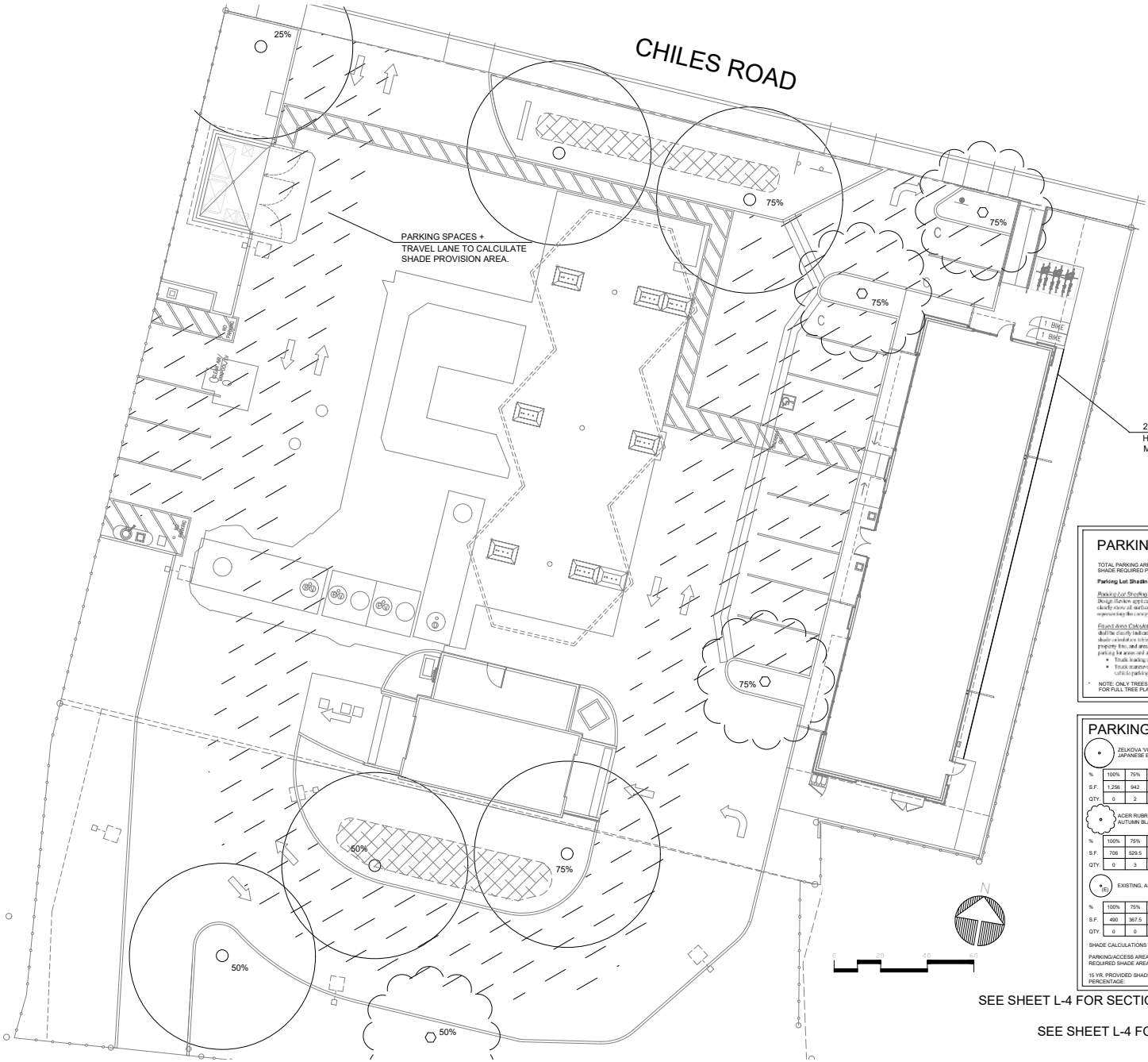
SITE ADDRESS:
4480 CHILES RD
DAVIS, CA 95618

FACILITY # 83947

DESIGNED BY:	
CHECKED BY:	
DRAWN BY:	
VERSION: - 02/18/2022	PROJECT NO: 20190.0

DRAWING TITLE:
GRADING PLAN

SHEET NO:
C7



PARKING LOT SHADE

TOTAL PARKING AREA: 10,746 S.F.
SHADE REQUIRED PER CITY OF DAVIS MUNICIPAL CODE §40.25.100 (f): 3,577 S.F.

Parking Lot Shading Calculation

Parking Lot Shading Plan: A parking lot shading plan shall be submitted with the Design Review application for all new and reconstructed parking lots. The plan shall clearly show all surfaced areas included in the calculation. Trees shall be shown to scale expected to be the canopy size of 15 years as listed in the Minimum Parking Lot Tree List.

Project Area Calculation: All surfacing on which a vehicle is designed to maneuver or on shall be clearly indicated on the shading plan and the total area calculated as noted in the shade calculation table. This includes all parking stalls, loading areas, drives within the property line, and areas for maneuvering. The following are not considered paved parking lot areas and are not required to meet the 50% shading requirement:

- Truck loading in front of overhead doors
- Truck maneuvering and parking areas unconnected to and exclusive of any vehicle parking.

* NOTE: ONLY TREES APPLIED TO SHADE CALC. ARE SHOWN, SEE SHEET L-2 FOR FULL TREE PLANTING.

PARKING LOT SHADE & TREE REMOVAL

ZELKOVA VILLAGE GREEN
JAPANESE ELM, 40 FT. DIAMETER AT 15 YRS, 1,256 S.F.

%	100%	75%	50%	25%	15-YR SHADE TOTAL
S.F.	1,256	942	628	314	
QTY.	0	2	2	1	3,454 S.F.

ACER RUBRUM
AUTUMN BLAZE MAPLE, 30 FT. DIAMETER AT 15 YRS. 706 S.F.

%	100%	75%	50%	25%	15-YR SHADE TOTAL
S.F.	706	529.5	353	176.5	
QTY.	0	3	1	0	1,941.5 S.F.

(E) EXISTING, ASSUME 25 FT. DIAMETER AT 15 YRS. 490 S.F.

%	100%	75%	50%	25%	15-YR SHADE TOTAL
S.F.	490	367.5	245	122.5	
QTY.	0	0	0	0	0 S.F.

SHADE CALCULATIONS

PARKING/ACCESS AREA:	10,746 S.F.
REQUIRED SHADE AREA 50%	5,373.0 S.F.
15 YR. PROVIDED SHADE AREA:	5,395.5 S.F.
PERCENTAGE:	50.2%

SEE SHEET L-4 FOR SECTION VIEW OF WORK AT EXISTING TREE ROOTS.
SEE SHEET L-3 FOR IRRIGATION PLAN.
SEE SHEET L-4 FOR IRRIGATION AND CONSTRUCTION DETAILS.

GREAT VALLEY DESIGN, INC.
LANDSCAPE ARCHITECTURE
LAND PLANNING
SITE MANAGEMENT

1219 SPRUCE LANE
DAVIS CA 95616
(530) 231.5890

OWNER:
TOM SABERI
1045 AIRPORT BLVD
SOUTH SAN FRANCISCO, CA

PROJECT SITE:
SERVICE STATION LANDSCAPE
4480 CHILES ROAD
DAVIS CA, 95616

ARCHITECTS STAMP:

PROJECT MANAGER
SCOTT VOLMER

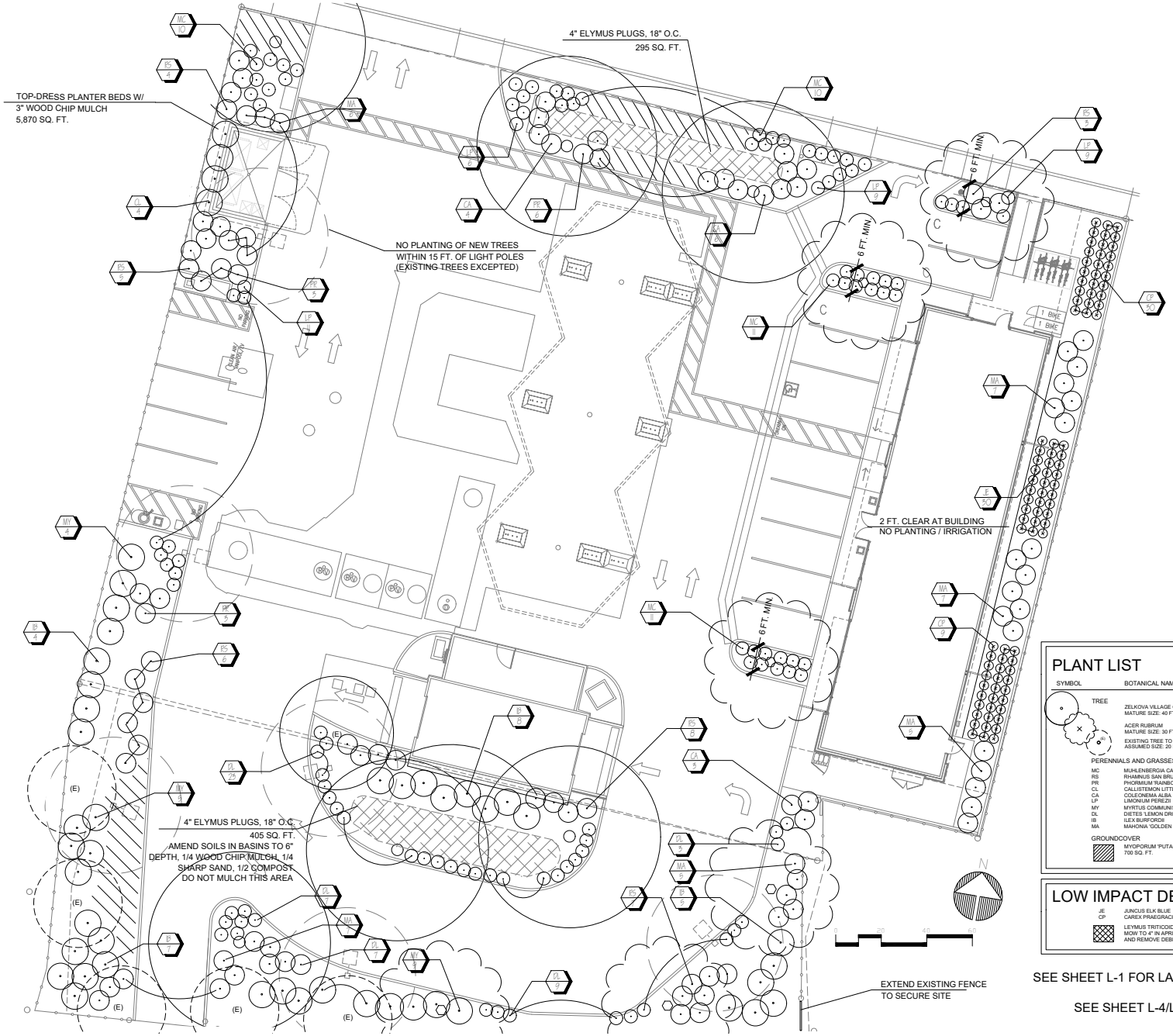
SCALE:
1" = 20' - 0"

DATE:
FEB. 25, 2022

REVISION:

SHEET NUMBER
L-1
OF: 5

TREE & SHADE PLAN



PLANTING NOTES

1. ALL NON-GROUNDCOVER AREAS TILLED TO 6" DEEP AMEND WITH 1 CU. YD. COMPOST / 100 SQ. FT.
2. PLANTING OF ALL TREES PER DETAIL A, SHEET L-4.
3. PLANTING OF ALL SHRUBS PER DETAIL B, SHEET L-4.
4. VERIFY ALL PLANT QUANTITIES, SIZES AND SOURCES IN WRITING PRIOR TO INSTALLATION. ALL PLANT MATERIALS SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE AT TIME OF DELIVERY.
5. FINISH GRADES AND IRRIGATION SYSTEMS SHALL BE COMPLETE PRIOR TO PLANTING.
6. PRIOR TO ALL PLANTING, SOILS SHALL BE AMENDED AND SATURATED.
7. AT INSTALLATION, ALL PLANTS SHALL HAVE 6-20-20 GRANULATED FERTILIZER APPLIED AND WATERED N AT THE BASIN, EVERY 90 DAYS FOR 1 YR.
7. NO PLANTING WITHIN 12" OF PAVED SURFACES.
8. IN PLANT COUNT DISCREPENCIES BETWEEN LISTED QUANTITIES AND SYMBOLS SHOWN, SYMBOLS SHALL PREVAIL.
9. PLANTING BASINS SHALL BE WATERED IN 24 HRS. PRIOR TO INSTALLATION, AND PLANTS SATURATED AT PLANTING. CONTRACTOR SHALL PROVIDE 90 DAY MAINTENANCE WHILE IRRIGATION SCHEDULE IS ADJUSTED.
10. CONTRACTOR SHALL PROVIDE A ONE-YEAR SURVIVAL GUARANTEE ON ALL PLANTS.
11. ALL PLANTING AREAS SHALL BE TREATED WITH SNAPSHOT PRE-EMERGENT PRIOR TO INSTALL.
12. ALL TREE LOCATIONS TO BE STAKED PRIOR TO INSTALLATION FOR OWNER APPROVAL.
13. TREES TO BE PLANTED WITH BEST STRUCTURE TOWARDS STREET VIEW.
14. NO TREE PLANTING WITHIN 3 FT. OF PAVING, FENCING, UTILITY LINES, VALVES OR BUILDING.
15. NO TREE PLANTING WITHIN 10 FT. OF TRANSFORMER, LIGHTING OR SIGNAGE.
16. GROUNDCOVER ROOTBALLS TO BE WELL COVERED WITH MOIST NATIVE SOIL AND WATERED-IN PRIOR TO MULCHING.
17. LINE ALL CURBS, WALKS AND FOUNDATIONS AND UTILITY RISERS WITH TYPAR BIOBARRIER SPUN FABRIC 5 FT. BOTH DIRECTIONS FROM ALL TREES, NO GAPS.
18. WRAP OR LINE ALL PIPELINES, CURBS AND SLEEVES WITH TYPAR "BIOBARRIER" FABRIC, 24" DEPTH, 5 FT. IN BOTH DIRECTIONS FROM EXISTING AND NEW TREES, NO GAPS.
19. CONTRACTOR SHALL PROVIDE (1) SOILS ANALYSIS TAKEN FROM, UNDISTURBED SITE SOIL FOR RECOMMENDATIONS OF ADJUSTMENT TO PERCOLATION, SALINITY, pH, NUTRIENTS AND MULCH, PRIOR TO CITY PLAN APPROVAL.

PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE (GAL.)	WUCOL RATING (SUNSET ZONE 14)
TREE				
	ZELKOVA VILLAGE GREEN MATURE SIZE: 40 FT. DIA.	JAPANESE ELM SEE SHEET L-1 FOR SHADE CALC.S	15 GAL.	MED
	ACER RUBRUM MATURE SIZE: 30 FT. DIA.	AUTUMN FLAME MAPLE SEE SHEET L-1 FOR SHADE CALC.S	15 GAL.	MED
	EXISTING TREE TO REMAIN ASSUMED SIZE: 20 FT. DIA.	SEE ARBORIST'S REPORT FOR SIZE AND SPECIES		
PERENNIALS AND GRASSES				
MC	MUHLENBERGIA CAPILARIS	COTTON CANDY GRASS	1 GAL.	LOW
RS	RHAMNUS SAN BRUNO	DWARF COFFEE BERRY	1 GAL.	LOW
PR	PHORMIUM 'RAINBOW WARRIOR'	RAINBOW FLAX	5 GAL.	MED
CL	CALLISTEMON LITTLE JOHN	DWARF BOTTLEBRUSH	5 GAL.	LOW
CA	COLEONEMA ALBA	BREATH OF HEAVEN	1 GAL.	MED
LP	LIMONIUM PEREZII	SEA LAVENDER	1 GAL.	LOW
MY	MYRTUS COMMUNIS	EVERGREEN MYRTLE	5 GAL.	LOW
DL	DIETES 'LEMON DROP'	YELLOW FORTNITE LILY	1 GAL.	LOW
IB	ILEX BURFORDII	DWARF HOLLY	5 GAL.	LOW
MA	MAHONIA 'GOLDEN ABUNDANCE	GOLD MAHONIA	1 GAL.	MED
GROUNDCOVER				
	MYOPORUM 'PUTAH CREEK' 700 SQ. FT.	CREEPING MYOPORUM	ROOTED CUTTINGS 18" O.C. TRIANGULAR SPACING	LOW

LOW IMPACT DEVELOPMENT PLANT LIST

JE	JUNCUS ELK BLUE	BLUE SEDGE	4" POTS	MED
CP	CAREX PRAEGRACILIS	SLENDER SEDGE	4 POTS	LOW
	LEYMUS TRITICOIDES 700 SQ.FT. MOW TO 4" IN APRIL / JUNE AND REMOVE DEBRIS	CREEPING WILD RYE	4" POTS 18" O.C. TRIANGULAR SPACING	MED

SEE SHEET L-1 FOR LAYOUT/SHADE PLAN AND TREE REMOVAL.
SEE SHEET L-3 FOR IRRIGATION PLAN.
SEE SHEET L-4/L-5 FOR PLANTING / IRRIGATION DETAILS.

GREAT VALLEY DESIGN, INC.
LANDSCAPE ARCHITECTURE
LAND PLANNING
SITE MANAGEMENT

1219 SPRUCE LANE
DAVIS CA 95616
(530) 231.5890

OWNER:
TOM SABERI
1045 AIRPORT BLVD
SOUTH SAN FRANCISCO, CA

PROJECT SITE:
SERVICE STATION LANDSCAPE
4480 CHILES ROAD
DAVIS CA, 95616

ARCHITECTS STAMP:

PROJECT MANAGER
SCOTT VOLMER

SCALE:
1" = 20' - 0"

DATE:
FEB. 25, 2022

REVISION:

SHEET NUMBER
L-2
OF: 5
PLANTING PLAN

Photo Rendering 1

Photo Rendering II

ARCO/AmPm Project - Yolo/Solano AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

ARCO/AmPm Project

Yolo/Solano AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Convenience Market with Gas Pumps	2.80	1000sqft	0.70	2,800.00	0
Parking Lot	27.00	Space	0.24	10,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	55
Climate Zone	2			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing gas station, kiosk, and car wash. Seven existing fuel pumps to be replaced and one new fuel pump added. Car wash to remain. Kiosk and restroom building to be removed. New 2,832 s.f. convenience store to be constructed. Site upgrades and improvements.
Adjusted lot acreage to project site.
Parking lot acreage is based on number of spaces which also includes potential spaces at the fuel pumps.

Demolition -

Land Use Change - Site is a developed urban site surrounded by urban development.

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.06	0.70

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0490	0.3853	0.4303	7.3000e-004	9.3800e-003	0.0188	0.0282	3.5700e-003	0.0174	0.0210	0.0000	64.0867	64.0867	0.0185	3.6000e-004	64.6565
Maximum	**0.0490**	**0.3853**	**0.4303**	**7.3000e-004**	**9.3800e-003**	**0.0188**	**0.0282**	**3.5700e-003**	**0.0174**	**0.0210**	**0.0000**	**64.0867**	**64.0867**	**0.0185**	**3.6000e-004**	**64.6565**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0490	0.3853	0.4303	7.3000e-004	9.3800e-003	0.0188	0.0282	3.5700e-003	0.0174	0.0210	0.0000	64.0866	64.0866	0.0185	3.6000e-004	64.6564
Maximum	**0.0490**	**0.3853**	**0.4303**	**7.3000e-004**	**9.3800e-003**	**0.0188**	**0.0282**	**3.5700e-003**	**0.0174**	**0.0210**	**0.0000**	**64.0866**	**64.0866**	**0.0185**	**3.6000e-004**	**64.6564**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2023	5-31-2023	0.2348	0.2348
2	6-1-2023	8-31-2023	0.1953	0.1953
		Highest	0.2348	0.2348

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0126	0.0000	2.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.3000e-004	5.3000e-004	0.0000	0.0000	5.7000e-004
Energy	1.7000e-004	1.5900e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	5.0256	5.0256	5.7000e-004	1.0000e-004	5.0685
Mobile	0.5342	0.4593	2.8340	3.1600e-003	0.2626	3.4100e-003	0.2661	0.0703	3.1800e-003	0.0735	0.0000	296.8441	296.8441	0.0486	0.0298	306.9276
Waste						0.0000	0.0000		0.0000	0.0000	1.7072	0.0000	1.7072	0.1009	0.0000	4.2294
Water						0.0000	0.0000		0.0000	0.0000	0.0658	0.1450	0.2108	6.7800e-003	1.6000e-004	0.4287
Total	**0.5470**	**0.4609**	**2.8356**	**3.1700e-003**	**0.2626**	**3.5300e-003**	**0.2662**	**0.0703**	**3.3000e-003**	**0.0736**	**1.7730**	**302.0152**	**303.7881**	**0.1568**	**0.0300**	**316.6548**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0126	0.0000	2.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.3000e-004	5.3000e-004	0.0000	0.0000	5.7000e-004
Energy	1.7000e-004	1.5900e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	5.0256	5.0256	5.7000e-004	1.0000e-004	5.0685
Mobile	0.5342	0.4593	2.8340	3.1600e-003	0.2626	3.4100e-003	0.2661	0.0703	3.1800e-003	0.0735	0.0000	296.8441	296.8441	0.0486	0.0298	306.9276
Waste						0.0000	0.0000		0.0000	0.0000	1.7072	0.0000	1.7072	0.1009	0.0000	4.2294
Water						0.0000	0.0000		0.0000	0.0000	0.0658	0.1450	0.2108	6.7800e-003	1.6000e-004	0.4287
Total	**0.5470**	**0.4609**	**2.8356**	**3.1700e-003**	**0.2626**	**3.5300e-003**	**0.2662**	**0.0703**	**3.3000e-003**	**0.0736**	**1.7730**	**302.0152**	**303.7881**	**0.1568**	**0.0300**	**316.6548**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/1/2023	3/14/2023	5	10	
2	Site Preparation	Site Preparation	3/15/2023	3/15/2023	5	1	
3	Grading	Grading	3/16/2023	3/17/2023	5	2	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	3/18/2023	8/4/2023	5	100	
5	Paving	Paving	8/5/2023	8/11/2023	5	5	
6	Architectural Coating	Architectural Coating	8/12/2023	8/18/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0.24

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 4,200; Non-Residential Outdoor: 1,400; Striped Parking Area: 648 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	5.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	5.00	2.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.00	7.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.9000e-004	0.0000	4.9000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0289	0.0370	6.0000e-005		1.4100e-003	1.4100e-003		1.3500e-003	1.3500e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328
Total	**3.2300e-003**	**0.0289**	**0.0370**	**6.0000e-005**	**4.9000e-004**	**1.4100e-003**	**1.9000e-003**	**7.0000e-005**	**1.3500e-003**	**1.4200e-003**	**0.0000**	**5.2091**	**5.2091**	**9.5000e-004**	**0.0000**	**5.2328**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.2000e-004	7.0000e-005	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1438	0.1438	0.0000	2.0000e-005	0.1506
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	1.0500e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2989	0.2989	1.0000e-005	1.0000e-005	0.3016
Total	**1.4000e-004**	**4.1000e-004**	**1.1200e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.4427**	**0.4427**	**1.0000e-005**	**3.0000e-005**	**0.4522**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.9000e-004	0.0000	4.9000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0289	0.0370	6.0000e-005		1.4100e-003	1.4100e-003		1.3500e-003	1.3500e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328
Total	**3.2300e-003**	**0.0289**	**0.0370**	**6.0000e-005**	**4.9000e-004**	**1.4100e-003**	**1.9000e-003**	**7.0000e-005**	**1.3500e-003**	**1.4200e-003**	**0.0000**	**5.2091**	**5.2091**	**9.5000e-004**	**0.0000**	**5.2328**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.2000e-004	7.0000e-005	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1438	0.1438	0.0000	2.0000e-005	0.1506
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	1.0500e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2989	0.2989	1.0000e-005	1.0000e-005	0.3016
Total	**1.4000e-004**	**4.1000e-004**	**1.1200e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.4427**	**0.4427**	**1.0000e-005**	**3.0000e-005**	**0.4522**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	3.0900e-003	1.9600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309
Total	**2.7000e-004**	**3.0900e-003**	**1.9600e-003**	**0.0000**	**2.7000e-004**	**1.1000e-004**	**3.8000e-004**	**3.0000e-005**	**1.0000e-004**	**1.3000e-004**	**0.0000**	**0.4275**	**0.4275**	**1.4000e-004**	**0.0000**	**0.4309**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0149	0.0149	0.0000	0.0000	0.0151
Total	**1.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0149**	**0.0149**	**0.0000**	**0.0000**	**0.0151**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	3.0900e-003	1.9600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309
Total	**2.7000e-004**	**3.0900e-003**	**1.9600e-003**	**0.0000**	**2.7000e-004**	**1.1000e-004**	**3.8000e-004**	**3.0000e-005**	**1.0000e-004**	**1.3000e-004**	**0.0000**	**0.4275**	**0.4275**	**1.4000e-004**	**0.0000**	**0.4309**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0149	0.0149	0.0000	0.0000	0.0151
Total	**1.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0149**	**0.0149**	**0.0000**	**0.0000**	**0.0151**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
Total	**9.3000e-004**	**0.0102**	**5.5500e-003**	**1.0000e-005**	**5.3100e-003**	**4.2000e-004**	**5.7300e-003**	**2.5700e-003**	**3.9000e-004**	**2.9600e-003**	**0.0000**	**1.2381**	**1.2381**	**4.0000e-004**	**0.0000**	**1.2481**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0478	0.0478	0.0000	0.0000	0.0483
Total	**2.0000e-005**	**1.0000e-005**	**1.7000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0478**	**0.0478**	**0.0000**	**0.0000**	**0.0483**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
Total	**9.3000e-004**	**0.0102**	**5.5500e-003**	**1.0000e-005**	**5.3100e-003**	**4.2000e-004**	**5.7300e-003**	**2.5700e-003**	**3.9000e-004**	**2.9600e-003**	**0.0000**	**1.2381**	**1.2381**	**4.0000e-004**	**0.0000**	**1.2481**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0478	0.0478	0.0000	0.0000	0.0483
Total	**2.0000e-005**	**1.0000e-005**	**1.7000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0478**	**0.0478**	**0.0000**	**0.0000**	**0.0483**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093
Total	**0.0316**	**0.3209**	**0.3549**	**5.7000e-004**		**0.0160**	**0.0160**		**0.0147**	**0.0147**	**0.0000**	**50.1042**	**50.1042**	**0.0162**	**0.0000**	**50.5093**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	4.2400e-003	1.3300e-003	2.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.8000e-004	2.0000e-005	2.1000e-004	0.0000	1.8358	1.8358	1.0000e-005	2.8000e-004	1.9192
Worker	6.6000e-004	4.3000e-004	5.2500e-003	2.0000e-005	1.8400e-003	1.0000e-005	1.8500e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4945	1.4945	5.0000e-005	4.0000e-005	1.5080
Total	**7.6000e-004**	**4.6700e-003**	**6.5800e-003**	**4.0000e-005**	**2.4700e-003**	**4.0000e-005**	**2.5100e-003**	**6.7000e-004**	**3.0000e-005**	**7.1000e-004**	**0.0000**	**3.3303**	**3.3303**	**6.0000e-005**	**3.2000e-004**	**3.4272**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093
Total	**0.0316**	**0.3209**	**0.3549**	**5.7000e-004**		**0.0160**	**0.0160**		**0.0147**	**0.0147**	**0.0000**	**50.1042**	**50.1042**	**0.0162**	**0.0000**	**50.5093**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	4.2400e-003	1.3300e-003	2.0000e-005	6.3000e-004	3.0000e-005	6.6000e-004	1.8000e-004	2.0000e-005	2.1000e-004	0.0000	1.8358	1.8358	1.0000e-005	2.8000e-004	1.9192
Worker	6.6000e-004	4.3000e-004	5.2500e-003	2.0000e-005	1.8400e-003	1.0000e-005	1.8500e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4945	1.4945	5.0000e-005	4.0000e-005	1.5080
Total	**7.6000e-004**	**4.6700e-003**	**6.5800e-003**	**4.0000e-005**	**2.4700e-003**	**4.0000e-005**	**2.5100e-003**	**6.7000e-004**	**3.0000e-005**	**7.1000e-004**	**0.0000**	**3.3303**	**3.3303**	**6.0000e-005**	**3.2000e-004**	**3.4272**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	3.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8400e-003**	**0.0138**	**0.0176**	**3.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**2.3498**	**2.3498**	**6.8000e-004**	**0.0000**	**2.3669**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	8.0000e-005	9.5000e-004	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2690	0.2690	1.0000e-005	1.0000e-005	0.2714
Total	**1.2000e-004**	**8.0000e-005**	**9.5000e-004**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2690**	**0.2690**	**1.0000e-005**	**1.0000e-005**	**0.2714**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	3.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8400e-003**	**0.0138**	**0.0176**	**3.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**2.3498**	**2.3498**	**6.8000e-004**	**0.0000**	**2.3669**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	8.0000e-005	9.5000e-004	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2690	0.2690	1.0000e-005	1.0000e-005	0.2714
Total	**1.2000e-004**	**8.0000e-005**	**9.5000e-004**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2690**	**0.2690**	**1.0000e-005**	**1.0000e-005**	**0.2714**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	9.6100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.0101**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0149	0.0149	0.0000	0.0000	0.0151
Total	**1.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0149**	**0.0149**	**0.0000**	**0.0000**	**0.0151**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	9.6100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.0101**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0149	0.0149	0.0000	0.0000	0.0151
Total	**1.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0149**	**0.0149**	**0.0000**	**0.0000**	**0.0151**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5342	0.4593	2.8340	3.1600e-003	0.2626	3.4100e-003	0.2661	0.0703	3.1800e-003	0.0735	0.0000	296.8441	296.8441	0.0486	0.0298	306.9276
Unmitigated	0.5342	0.4593	2.8340	3.1600e-003	0.2626	3.4100e-003	0.2661	0.0703	3.1800e-003	0.0735	0.0000	296.8441	296.8441	0.0486	0.0298	306.9276

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market with Gas Pumps	1,747.76	1,747.76	1747.76	705,115	705,115
Parking Lot	0.00	0.00	0.00		
Total	1,747.76	1,747.76	1,747.76	705,115	705,115

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market with Gas	10.00	5.00	7.00	0.80	80.20	19.00	14	21	65
Parking Lot	10.00	5.00	7.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market with Gas Pumps	0.508386	0.056948	0.178426	0.142719	0.032913	0.007228	0.019592	0.017032	0.000592	0.000589	0.030937	0.000618	0.004020
Parking Lot	0.508386	0.056948	0.178426	0.142719	0.032913	0.007228	0.019592	0.017032	0.000592	0.000589	0.030937	0.000618	0.004020

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.2953	3.2953	5.3000e-004	6.0000e-005	3.3279
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3.2953	3.2953	5.3000e-004	6.0000e-005	3.3279
NaturalGas Mitigated	1.7000e-004	1.5900e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7303	1.7303	3.0000e-005	3.0000e-005	1.7406
NaturalGas Unmitigated	1.7000e-004	1.5900e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7303	1.7303	3.0000e-005	3.0000e-005	1.7406

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market with Gas Pumps	32424	1.7000e-004	1.5900e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7303	1.7303	3.0000e-005	3.0000e-005	1.7406
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.7000e-004**	**1.5900e-003**	**1.3400e-003**	**1.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**1.7303**	**1.7303**	**3.0000e-005**	**3.0000e-005**	**1.7406**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market with Gas Pumps	32424	1.7000e-004	1.5900e-003	1.3400e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7303	1.7303	3.0000e-005	3.0000e-005	1.7406
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.7000e-004**	**1.5900e-003**	**1.3400e-003**	**1.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**1.7303**	**1.7303**	**3.0000e-005**	**3.0000e-005**	**1.7406**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market with Gas Pumps	31836	2.9456	4.8000e-004	6.0000e-005	2.9747
Parking Lot	3780	0.3497	6.0000e-005	1.0000e-005	0.3532
Total		**3.2953**	**5.4000e-004**	**7.0000e-005**	**3.3279**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market with Gas Pumps	31836	2.9456	4.8000e-004	6.0000e-005	2.9747
Parking Lot	3780	0.3497	6.0000e-005	1.0000e-005	0.3532
Total		**3.2953**	**5.4000e-004**	**7.0000e-005**	**3.3279**

6.0 Area Detail

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0126	0.0000	2.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.3000e-004	5.3000e-004	0.0000	0.0000	5.7000e-004
Unmitigated	0.0126	0.0000	2.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.3000e-004	5.3000e-004	0.0000	0.0000	5.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.3000e-004	5.3000e-004	0.0000	0.0000	5.7000e-004
Total	**0.0126**	**0.0000**	**2.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.3000e-004**	**5.3000e-004**	**0.0000**	**0.0000**	**5.7000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.3000e-004	5.3000e-004	0.0000	0.0000	5.7000e-004
Total	**0.0126**	**0.0000**	**2.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.3000e-004**	**5.3000e-004**	**0.0000**	**0.0000**	**5.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.2108	6.7800e-003	1.6000e-004	0.4287
Unmitigated	0.2108	6.7800e-003	1.6000e-004	0.4287

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market with Gas Pumps	0.207403 / 0.127118	0.2108	6.7800e-003	1.6000e-004	0.4287
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.2108**	**6.7800e-003**	**1.6000e-004**	**0.4287**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market with Gas Pumps	0.207403 / 0.127118	0.2108	6.7800e-003	1.6000e-004	0.4287
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.2108**	**6.7800e-003**	**1.6000e-004**	**0.4287**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.7072	0.1009	0.0000	4.2294
Unmitigated	1.7072	0.1009	0.0000	4.2294

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market with Gas Pumps	8.41	1.7072	0.1009	0.0000	4.2294
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**1.7072**	**0.1009**	**0.0000**	**4.2294**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market with Gas Pumps	8.41	1.7072	0.1009	0.0000	4.2294
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**1.7072**	**0.1009**	**0.0000**	**4.2294**

9.0 Operational Offroad

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

California Tree and Landscape Consulting, Inc.

Arborist Report

December 5, 2021

Mr. Tom Saberi
tsaberi@selfservepetro.com

Work location
4480 Chiles Rd
Davis, CA 95618

Amended Arborist Report for City of Davis Tree Preservation and Protection

Prepared by:
Gordon Mann, Consulting Arborist

359 Nevada St, Suite 201, Auburn, CA 95603
Office: (530) 745-4086 Direct: (650) 740-3461
www.caltlc.com

September 5, 2021

Mr. Tom Saberi
1045 Airport Blvd
South San Francisco, CA 94080
tsaberi@selfservepetro.com

SUBJECT: ARBORIST REPORT FOR TREE PRESERVATION AND PROTECTION FOR TREES GROWING AT 4480 CHILES RD, DAVIS, CA

Dear Mr. Saberi,

Thank you for the opportunity to provide Arborist Consulting Services. This report includes the observations and assessment of the trees growing on the property and adjacent to the property at 4480 Chiles Drive, Davis, CA. The site was visited on Monday, August 30, 2021 at approximately 10:00 am. An April 2015 report prepared by Tree Associates was provided for the inspection.

Summary: The property consists of a gas station and non-functioning carwash, and a lot with gravel and parking among trees to the south. The proposal is to construct a store on the site and increase parking and drive through on the south lot. A total of 35 entries were made in the inventory including 1 stump (#2) and 1 undersized tree (#1). The plans propose the removal of 22 trees. There are 10 unprotected trees numbered 1, 2 (stump), 3881, 3882, 3883, 3884, 3886, 3886A, 3887, & 3891. The 12 protected trees of significance are trees numbered 3862, 3867, 3868, 3869, 3870, 3871, 3872, 3880, 3885, 3888, 3889, & 3890. Total diameter inches of the 12 protected trees was calculated as 269 inches. Total calculated Mitigation Fee at $189 per inch, for a total of $50,841. The appraised value of the protected trees to be removed was $42,595 rounded up to $42,600. The appraised value of the 9 retained trees to be protected was found to be $31,100.

# of trees on site	# of protected trees	# of trees proposed for removal	# of trees required for mitigation	Total Mitigation inches	Total Mitigation Fees (subtract landscape trees)
34	24	22	12	270	$50,030
34	24	22	12 - Appraised	Value	$42,600

# of trees on site	# of protected trees to be retained				Rounded Appraised value of retained trees
34	9				$31,100

Assignment: Mr. Saberi contacted our office requesting assistance with an arborist site review and updated report for the trees growing on the property at 4480 Chiles Rd., Davis, CA. We scheduled a scope and an appointment.

All site information and history were provided by Mr. Saberi. The assignment requires the following activities: visit the site, locate and identify the trees growing on the property and any trees on adjacent property with canopy growing into the property:

- A tree survey with the accurate location, number, species, size (DBH), crown radius, and condition
- A report to meet the City of Davis tree protection requirements

Protected trees:
Tree of Significance means any tree included but not limited to those listed as per section 37.03.050 as small and large trees which measure five inches or more in diameter (DBH).

The species in this project that are protected are Coast Redwood, Chinese Pistache, Evergreen Chinese Elm, Valley Oak, and Arizona Ash. The unprotected species are Privet, Callery Pear, a stump, Eucalyptus rudis, and Red Willow.

Tree Preservation and protection standards are the standards for preservation and protection of trees during construction as per section 37.03.070 and Article 37.05 and standards available form the City of Davis community services department and/or the community development and sustainability department.

The results of the inspection are included in this report.

Observations: The site was visited on Monday, August 31, 2021 at about 10:00 am. The trees were observed and tagged with an aerial image showing the approximate location.

The tools used were a diameter tape, screwdriver as a probe, hand mattocks, mallet, tape measure, hammer, nails, and tree tags. The Tree Protection Zone is calculated by the longest dripline measurement. Any height references were estimated. Trees were assessed and rated for health and structure, and overall condition considering branch structure, decay, leaf quality, vitality, dieback, lean, and other issues that affect the condition of the trees.

The trunk diameters were measured at approximately 4.5 feet above grade unless trunk characteristics or branch growth prevented a reasonable trunk diameter to be measured and then the most appropriate height to determine diameter was used, and the height measured was included on the spreadsheet.

The tree health condition rating was determined by observing the leaves or buds, fruit, twig growth, live branches, and dead branches. The structure rating was determined by observing branch attachment, crotch structure, trunk flare, surface roots, decay, insects and diseases, growth habit, and any physical damages. The overall condition combines the health the structure ratings, based on the most significant conditions present.

The rating system used for both health, structure, and overall condition is:

(0) 0% dead;
(1) 1-20% very poor/severe decline; extreme problems, non-repairable with any amount of work, likelihood of failure cannot be reduced
(2) 21-40% poor/declining; Major health and structural problems, serious issues may be partially correctable, and tree may continue to grow and failure risk will still be present
(3) 41-60% fair; minor health problems, and structural problems that can be corrected, condition can be stabilized and tree can continue to grow
(4) 61-80% good; and Minor visible problems with health and structure, can be corrected
(5) 81-100% excellent; no visible problems, excellent health and structure

Thirty-four (34) trees were included in the inspection as the trees on the property, including one stump and one undersized tree. There were no trees from adjacent properties included in the inspection. The inspection data is included in the attached 4480 Chiles Rd, Davis Tree List.

Other testing or examination: No other testing or examination was requested at the time of the site inspection or recommended as a result of the inspection. Exploratory trenching is proposed to be a function of the tree protection process on the site.

Discussion: The property is a Gas station and an inoperable car wash. The site is proposed for a new convenient store and restore the car wash and utilize the rear part of the property for a driveway. There are 22 trees proposed for removal and 12 trees proposed for removal are protected trees of significance in Davis. A total of 269 diameter inches of protected trees is proposed for removal. The per inch mitigation fee in Davis is $189. The total mitigation required will be $50,841, less any trees planted on the site credited towards the mitigation requirement.

For the trees that will remain on the site, tree protection should be set up with sturdy fencing around the soil zone to protect the soil and root system from compaction and excavation damage. In those areas where encroachment into the protected root zone is approved, the soil within the protected fencing should be covered with four inches of wood chip mulch.

The ordinance requires the value of the trees to be retained to be determined for potential bonding to assure the trees are protected for long term retention during the construction process. Based on the site design, the trees to be retained on the property should be able to be protected from damage with proper tree protection. The trees were appraised using the CTLA 10th Edition. There were 9 trees to be retained and protected, and the total rounded appraised value is $31,100. The values are shown in the attached Appraisal Worksheet for 4480 Chiles Dr, Davis Tree Appraisal Worksheet, 10th Edition.

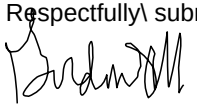
Conclusion: The property is an existing gas station with a proposed convenience store and enlarged driveway area. There are 33 trees 5 inches diameter and greater. 22 trees are proposed for removal. Ten trees to be removed are unprotected trees. Twelve

protected trees are to be removed with a total of 269 diameter inches. The fee for mitigation is $189 per diameter inch, for a total mitigation fee of $50,841, less any trees planted with the landscaping as part of the project. The nine trees on the property to be retained will be protected to meet the City of Davis tree protection requirements. The appraised value of the nine trees is $31,100.

General Notes: Tree protection shall be in place prior to any grading or construction activities. Tree fencing shall be placed at the farthest distance from the trunk as approved by the City. Existing concrete that can be left in place serves as the best soil protection and should be the last improvement to be excavated and replaced when the construction design permits. Signs identifying the Tree Protection fencing shall be installed on the fencing.

Please contact me at 650-740-3461, or gordon@mannandtrees.com, if you have any questions about this report or desire any other services for this project.

Respectfully\ submitted,



Gordon Mann
Consulting Arborist and Urban Forester
Registered Consulting Arborist #480
ISA Certified Arborist and Municipal Specialist #WE-0151AM
CaUFC Certified Urban Forester #127
ISA Qualified Tree Risk Assessor #1005
Nevada County Fire Safe Council Defensible Space Advisory Training
California Tree and Landscape Consulting, Inc.
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650-740-3461
gordon@caltlc.com

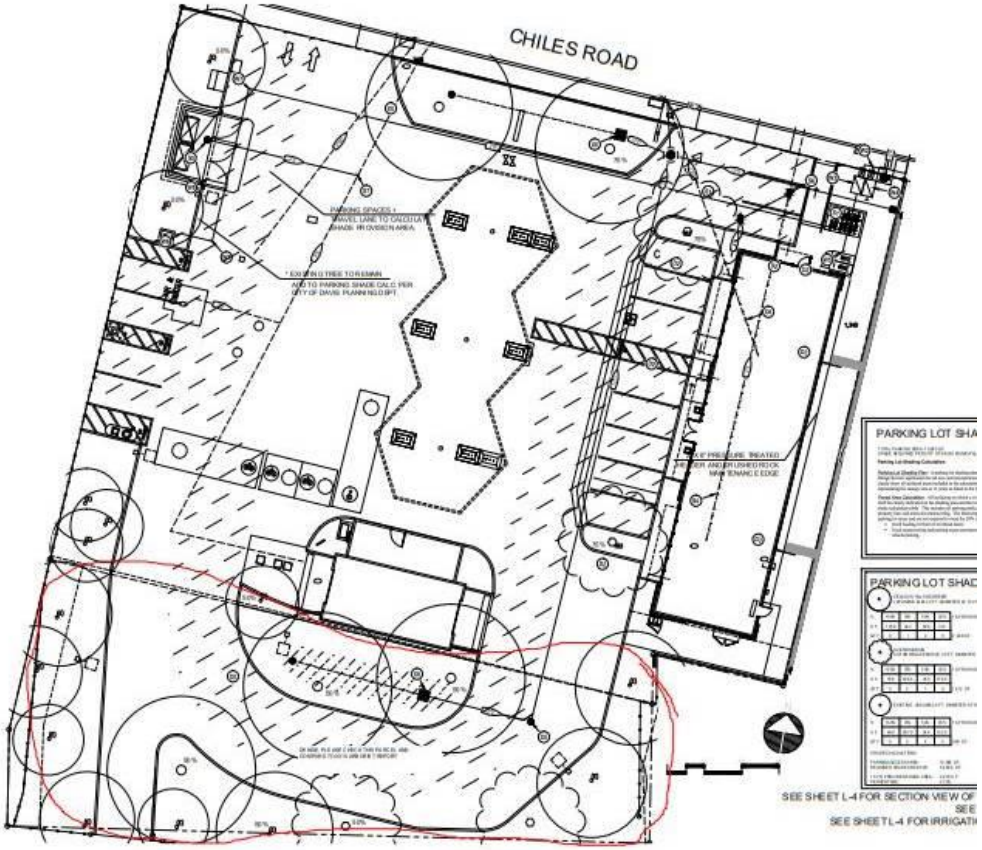
Attachments:

- Appendix A Images
- Appendix B Tree Protection Specifications
- Appendix C Tree Planting Specifications
- Appendix D Avoiding Tree Damage During Construction
- Appendix E Tree Pruning
- Appendix F Tree Appraisal
- Resume for Gordon Mann
- 4480 Chiles Rd, Davis Tree List
- 4480 Chiles Rd, Davis Tree Appraisal Worksheet 10th Edition

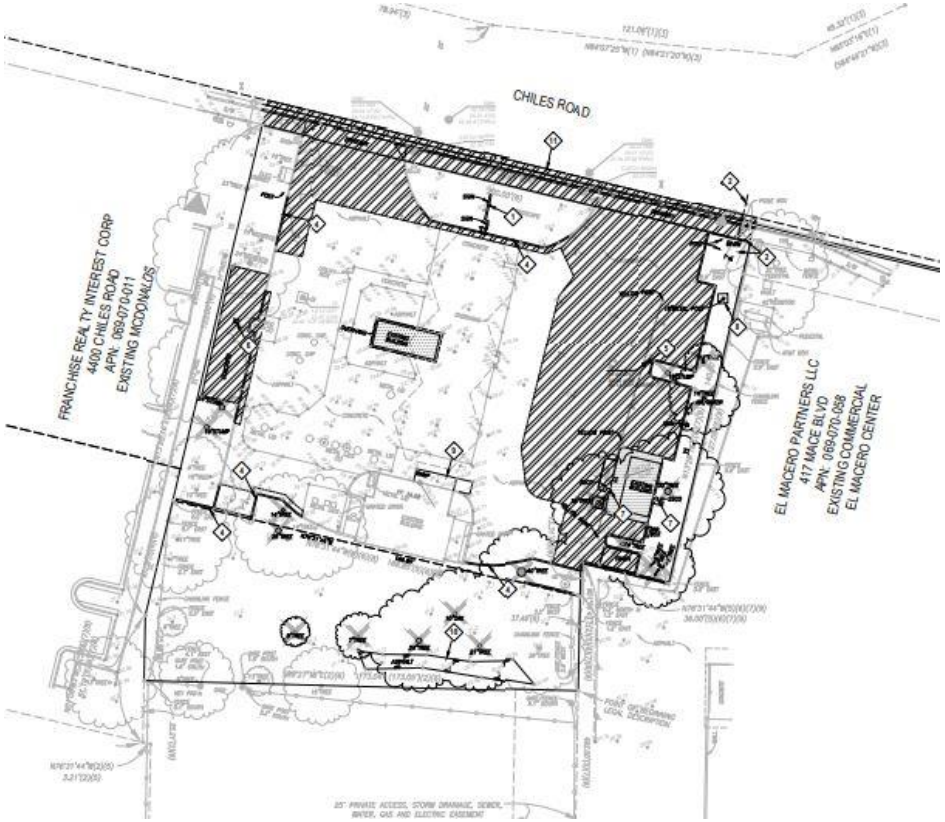
Appendix A Images

Street View, panoramic image

Aerial image with tree numbers in approximate locations



Site plan provided for site inspection



Demolition plan for the project


West side of site proposed parking spaces


East side of site proposed building location

Appendix B

Tree Protection Specifications

Trees protection fencing shall be installed prior to construction. Soil compaction under trees is to be avoided. The fence shall prevent equipment traffic, material storage under the trees, and parking of construction vehicles from under the trees and should extend just beyond the drip-line. Excavation within this zone shall be accomplished by hand, and roots 2" and larger shall be preserved.

Trenching within the drip-line shall be performed only with prior approval of the Urban Forest Manager or his/her designee. Directional boring is preferred when feasible.

All trees to be retained will have fencing placed around the trees to protect them from disturbance and soil compaction. Where there is an existing concrete paving or planting curbs, the fencing can be placed at the edge of the concrete and the concrete will serve as tree protection. If there are low branches that must be protected from equipment impact, the fencing shall be extended to protect the branching from damage by equipment.

The trees in gravel and soil areas to be protected will have the fencing placed as far out to the drip lines from the trunk as possible, unless there is approved construction encroachment. If encroachment is approved, the fencing shall be placed at the edge of the approved encroachment, or the fence will be maintained at the drip line and the encroachment will be carefully performed in the fenced area. If people are working inside the fenced area, a 4” layer of wood chip mulch will be placed over the soil. If equipment is to be working inside the fenced area, steel plates or 1” thick plywood shall be placed over the mulch layer.

Fencing shall remain in place until the construction is completed, or the removal approved by the Urban Forest Manager or designee.

Appendix C

Tree Planting Specifications

The tree shall be free of major injury such as scrapes that remove greater than 20% of the bark circumference, a broken central leader, or constrictions from staking or support. The graft, if present, shall be consistent for the production of the cultivar or species. The trunk flare shall be at grade, not buried by soil, and adventitious roots shall not be growing from above the trunk flare.

The tree shall not be root bound in the container, and the trunk diameter relative to the container sizes, within the limits of American National Standards Institute (ANSI) Z-60 Nursery Standards.

Prior to acceptance, upon delivery, trees may be pulled from the container, so the rootball can be inspected for compliance with the specifications. An agreed upon maximum percent of trees may be checked for compliance. The nursery should provide post-delivery care specifications to keep the trees in optimum condition until planting.

<u>Tree Planting</u>

1.0 INSPECT THE TREE

1.1 Carefully remove the soil at the top of the container to locate the trunk flare. Check for girdling roots and damage to the root system and lower trunk.

1.2 Until a relationship is established with the supplying nursery, randomly select an acceptable sample for the delivery. Inspect the root system by taking the rootball out of the container, and remove all the soil from the root system. Inspect the inner roots to verify that the roots were properly pruned when moved from the initial container to the next larger size. Keep the root system moist during the check. If the roots were properly pruned during container transfer, and the roots have been kept moist, the tree can be planted as a bare root tree.

1.3 If the trees are acceptable, each tree shall be removed from the container prior to digging the hole, and the depth of the rootball from the trunk flare to the bottom of the rootball shall be measured. This measurement, less 1" is the depth the pedestal in the center of the planting hole shall be excavated to.

2.0 DIG THE HOLE

2.1 Shave and discard grass and weeds from the planting site.

2.2 The hole should be a minimum 3 times the diameter of the container diameter.

2.2.1 Square containers shall be dug with a circular hole 3 times the container measurement.

2.3 Dig the hole, leaving an undisturbed pedestal in the center that the root ball will be set on.

2.4 The pedestal shall be excavated to the depth measurement determined above

3.0 ROOT BALL PREPARATION

3.1 Loosen and straighten outside and bottom roots prior to placing the rootball on the pedestal. The trunk flare (the point where the trunk meets the roots) should be 1" above ground level.

3.2 Winding and girdling roots shall be pruned to either the point they are perpendicular to the root ball, or a point where they can be straightened and placed perpendicular to the rootball.

3.3 Keep the roots moist during this process so they do not dry out.

4.0 BACKFILL

4.1 Hold the tree so the trunk and central leader are in a straight upright position.

4.2 Backfill soil with the soil you removed around the base of the pedestal and rootball no higher than 2/3, so the tree stands in the upright position

4.3 Tamp the soil to remove air gaps, or fill with water and allow soil to settle and drain. Continue to fill the entire hole with existing soil in layers and tamping, up to finished grade. Backfill soil shall not be placed on top of the rootball.

4.4 Build a berm at the outside edge of the rootball. The berm shall be a minimum 3 inches high and wide.

4.5 Cover the remainder of the backfill soil outside the berm with a set level of mulch (2 to 4 inches deep).

5.0 STAKING

5.1 Remove the nursery stake (the thin stake tied to the trunk) that is secured to the tree.

5.2 Install the appropriate number of stakes – for example, two stakes on the windward and leeward side of the tree, set at least 2 feet into the native soil outside the rootball.

5.2.1If the area is exceptionally windy, high traffic, or when specified, install 3 or 4 stakes spaced evenly around the circumference, outside the rootball.

5.3 One tie per stake shall be placed at the lowest point on the trunk where the tree crown stands upright. Ties shall be placed using a “figure 8” crossing pattern wrapped around the trunk and firmly tied or attached to the stake.
5.3.1 Ties shall be loose enough so the tree crown moves up to 3 times the trunk diameter in the wind, and taut enough that the trunk does not rub the stakes during movement.
5.4 The stakes shall be cut off above the tie point so branches do not rub the stake above the tie point.
5.5 Check the stakes and ties periodically, removing them when the tree is able to stand on its own.
5.6 If a leader that should be vertical is drooping, the leader may be temporarily straightened using a bamboo or small diameter wood splint approximately 25% longer than the drooping section of stem, tied to the stem at the top and bottom of the splint to hold the stem vertical. The splint shall be removed prior to girdling or constricting the stem, and may be re-installed as necessary.

6.0 MULCH

6.1 Apply a set depth (2 to 4 inches) of wood chips or other organic mulch over the planting hole excavated soil.
6.2 Mulch may be placed inside the berm and shall be kept at least 4” away from the trunk flare.
6.3 The soil area of the planting hole shall be kept clear of grass and landscape plantings.

7.0 WATER/IRRIGATION

7.1 Apply water using a low pressure application, i.e.: trickle from a hose, soaker hose, or bubbler.
7.2 Use low water volume to apply the water. Add water long enough to saturate the rootball and planting area.
7.2.1 Lawn sprinklers shall not be considered an acceptable method of applying irrigation to newly planted trees.
7.3 The initial watering frequency shall be checked by monitoring the soil moisture. Based on the temperature and humidity, learn how long the soil retains the moisture.
7.4 After the soil is below field capacity, and before it dries out, repeat the watering process, every so determined days.
7.4.1 As the weather and seasons change, the irrigation frequency may change. This will be evaluated by checking soil moisture following water application.
7.4.1.1 For example: you may learn irrigation should be applied twice a week during the fall, except in cool or rainy weather. Irrigation may need to be applied every two days during hot dry summer periods.
7.5 Irrigation shall be continued for the first three years after planting.
7.5.1 Avoiding drying out the rootball and adjacent soil is critcal for tree growth and establishment.

8.0 PROTECT THE TRUNK

8.1 Avoid damage from mowers and string trimmers to the tender bark of the young tree.
8.2 Maintain a clear area free of vegetation around the trunk in the berm or basin area.
8.3 Keep the set depth of mulch (2 to 4 inches) coverage of the area around the tree.
8.4 Retain temporary low branches along the trunk to shade and feed the trunk.

9.0 PRUNING NEWLY PLANTED TREES

9.1 Broken and dead branches shall be pruned.
9.2 A central leader shall be identified and retained if present. If co-dominant leaders are present, they shall be pruned to be shorter than the central leader by 20%.
9.3 All low temporary branches on the lower trunk shall be retained, and if needed shortened for clearance.

Detail for #1, #5 and #15 container, and boxed container planting stock

10. **FUTURE CARE**
10.1 During subsequent years, the berm should be enlarged or removed to in order to provide water to the increasing root growth. The watering area should target new root growth and projected root growth.
10.2 Pruning should retain a dominant central leader; and retain low temporary branches until trunk bark hardens or remove before branch diameter becomes too large.

Appendix C-1

Nursery Stock and Tree Planting

Nursery Stock purchase
Trees purchased for the subject project shall be the Genus, species, and cultivar specified in the purchase documents. Trees shall be grown to be free of bound root systems caused by winding roots or kinked roots from a previous smaller container. As trees are moved to larger containers, circling roots shall be either pruned to a point where they can grow straight, straightened in the new container, or removed. Kinked roots shall be pruned to a point where they will grow straight outward or downward.

The trunk and branches shall be of a structure where a central leader is defined, or the central leader can be easily selected. The competing leaders have a smaller diameter, and can be pruned shorter.

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Appendix D
Avoiding Tree Damage During Construction

Edited from the ISA's tree protection guidelines

As cities and suburbs expand, wooded lands are being developed into commercial and residential sites. Homes are constructed in the midst of trees to take advantage of the aesthetic and environmental value of the wooded lots. Wooded properties can be worth as much as 20 percent more than those without trees, and people value the opportunity to live among trees.

Unfortunately, the processes involved with construction can be deadly to nearby trees. Unless the damage is extreme, the trees may not die immediately but could decline over several years. With this delay in symptom development, you may not associate the loss of the tree with the construction.

It is possible to preserve trees on building sites if the right measures are taken. The most important step is to hire a professional arborist during the planning stage. An arborist can help you decide which trees can be saved and can work with the builder to protect the trees throughout each construction phase.

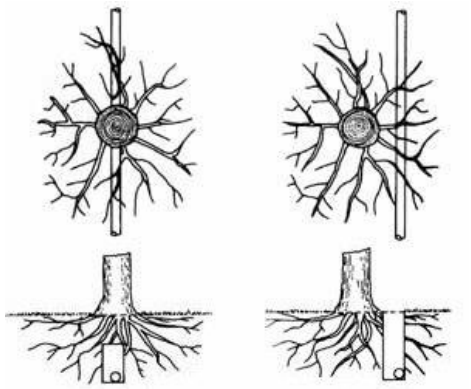
How Trees Are Damaged During Construction

Physical Injury to Trunk and Crown. Construction equipment can injure the aboveground portion of a tree by breaking branches, tearing the bark, and wounding the trunk. These injuries are permanent and, if extensive, can be fatal.

Cutting of Roots. The digging and trenching that are necessary to construct a house and install underground utilities will likely sever a portion of the roots of many trees in the area. It is easy to appreciate the potential for damage if you understand where roots grow. The roots of a tree are found mostly in the upper 6 to 24 inches of the soil. In a mature tree, the roots extend far from the trunk. In fact, roots typically are found growing a distance of one to three times the height of the tree. The amount of damage a tree can suffer from root loss depends, in part, on how close to the tree the cut is made. Severing one major root can cause the loss of 5 to 20 percent of the root system.

The roots of a tree extend far from the trunk and are found mostly in the upper 6 to 12 inches of soil.

Another problem that may result from root loss caused by digging and trenching is that the potential for the trees to fall over is increased. The roots play a critical role in anchoring a tree. If the major support roots are cut on one side of a tree, the tree may fall or blow over.



Less damage is done to tree roots if utilities are tunneled under a tree (right, top and bottom) rather than across the roots (left, top and bottom).

Less damage is done to tree roots if utilities are tunneled under a tree rather than across the roots.

Soil Compaction. An ideal soil for root growth and development is about 50 percent pore space. These pores—the spaces between soil particles—are filled with water and air. The heavy equipment used in construction compacts the soil and can dramatically reduce the amount of pore space. This compaction not only inhibits root growth and penetration but also decreases oxygen in the soil that is essential to the growth and function of the roots, and water infiltration.

Smothering Roots by Adding Soil. Most people are surprised to learn that 90 percent of the fine roots that absorb water and minerals are in the upper 6 to 12 inches of soil. Roots require space, air, and water. Roots grow best where these requirements are met, which is usually near the soil surface. Piling soil over the root system or increasing the grade smothers the roots. It takes only a few inches of added soil to kill a sensitive mature tree.

Exposure to the Elements. Trees in a forest grow as a community, protecting each other from the elements. The trees grow tall, with long, straight trunks and high canopies. Removing neighboring trees or opening the shared canopies of trees during construction exposes the remaining trees to sunlight and wind. The higher levels of sunlight may cause sunscald on the trunks and branches. Also, the remaining trees are more prone to breaking from wind or ice loading.

Getting Advice

Hire a professional arborist in the early planning stage. Many of the trees on your property may be saved if the proper steps are taken. Allow the arborist to meet with you and your building contractor. Your arborist can assess the trees on your property, determine which are healthy and structurally sound, and suggest measures to preserve and protect them.

One of the first decisions is determining which trees are to be preserved and which should be removed. You must consider the species, size, maturity, location, and condition of each tree. The largest, most mature trees are not always the best choices to preserve. Younger, more vigorous trees usually can survive and adapt to the stresses of construction better. Try to maintain diversity of species and ages. Your arborist can advise you about which trees are more sensitive to compaction, grade changes, and root damage.

Planning

Your arborist and builder should work together in planning the construction. The builder may need to be educated regarding the value of the trees on your property and the importance of saving them. Few builders are aware of the way trees' roots grow and what must be done to protect them.

Sometimes small changes in the placement or design of your house can make a great difference in whether a critical tree will survive. An alternative plan may be more friendly to the root system. For example, bridging over the roots may substitute for a conventional walkway. Because trenching near a tree for utility installation can be damaging, tunneling under the root system may be a good option.

Erecting Barriers

Because our ability to repair construction damage to trees is limited, it is vital that trees be protected from injury. The single most important action you can take is to set up construction fences around all of the trees that are to remain. The fences should be placed as far out from the trunks of the trees as possible. As a general guideline, allow 1 foot of space from the trunk for each inch of trunk diameter. The intent is not merely to protect the aboveground portions of the trees but also the root systems. Remember that the root systems extend much farther than the drip lines of the trees.

Instruct construction personnel to keep the fenced area clear of building materials, waste, excess soil, and equipment. No digging, trenching, or other soil disturbance such as driving vehicles and equipment over the soil should be allowed in the fenced area.

Protective fences should be erected as far out from the trunks as possible in order to protect the root system prior to the commencement of any site work, including grading, demolition, and grubbing.

Limiting Access

If at all possible, it is best to allow only one access route on and off the property. All contractors must be instructed where they are permitted to drive and park their vehicles. The construction access drive should be the route for utility wires; underground water, sewer, or storm drain lines; roadways; or the driveway.

Protective fences should be erected as far out from the trunks as possible in order to protect the root systems.

Specify storage areas for equipment, soil, and construction materials. Limit areas for burning (if permitted), cement wash-out pits, and construction work zones. These areas should be away from protected trees.

Specifications

Specifications are to be put in writing. All of the measures intended to protect your trees must be written into the construction specifications. The written specifications should detail exactly what can and cannot be done to and around the trees. Each subcontractor must be made aware of the barriers, limitations, and specified work zones. It is a good idea to post signs as a reminder.

Fines and penalties for violations should be built into the specifications. Not too surprisingly, subcontractors are much more likely to adhere to the tree preservation clauses if their profit is at stake. The severity of the fines should be proportional to the potential damage to the trees and should increase for multiple infractions.

Maintaining Good Communications

It is important to work together as a team. You may share clear objectives with your arborist and your builder, but one subcontractor can destroy your prudent efforts. Construction damage to trees is often irreversible.

Visit the site at least once a day if possible. Your vigilance will pay off as workers learn to take your wishes seriously. Take photos at every stage of construction. If any infraction of the specifications does occur, it will be important to prove liability.

Final Stages

It is not unusual to go to great lengths to preserve trees during construction, only to have them injured during landscaping. Installing irrigation systems and roto-tilling planting beds are two ways the root systems of trees can be damaged. Remember also that small increases in grade (as little as 2 to 6 inches) that place additional soil over the roots can be devastating to your trees. ANSI A300 Standards Part 5 states that tree protection shall be in place for the landscape phase of the site development. Landscape tree protection may be different than other construction

process tree protection, and a conference with the landscape contractor should be held prior to the commencement of the landscape work. Careful planning and communicating with landscape designers and contractors is just as important as avoiding tree damage during construction.

Post-Construction Tree Maintenance

Your trees may require several years to adjust to the injury and environmental changes that occur during construction. The better construction impacts are avoided, the less construction stress the trees will experience. Stressed trees are more prone to health problems such as disease and insect infestations. Talk to your arborist about continued maintenance for your trees. Continue to monitor your trees, and have them periodically evaluated for declining health or safety hazards. Despite the best intentions and most stringent tree preservation measures, your trees still might be injured from the construction process. Your arborist can suggest remedial treatments to help reduce stress and improve the growing conditions around your trees. In addition, the International Society of Arboriculture offers a companion to this brochure titled “Treatment of Trees Damaged by Construction”.

Appendix E
Pruning

Trees shall be pruned with the objective to obtain clearance, reduce risk, and retain as large a crown and canopy as possible. The pruning system to be used is natural, retain as much of the natural appearance of the crown as possible. The smallest size branches possible to accomplish the objective should be removed. Remove dead branches with branch removal cuts and reduction cuts; shorten long heavy branches by at least 15% leverage weight using branch removal cuts or reduction cuts; and where necessary to avoid removing a large live branch greater than 4 inches diameter at the main trunk or leader, use a heading cut. The cuts should be made as much as possible from the branch end tips back towards the center leaving live interior growth unless there are branches crossing or damaging other branches and then those branches causing the damage should be shortened using reduction cuts or removed using branch removal or reduction cuts. The maximum amount of live foliage to be removed on the oak tree should not exceed 15%. Sharp tools of the appropriate size for the cut to be made shall be used. Cuts shall be made at the proper place in accordance with ANSI A300 Part 1 Pruning and ISA BMPs.

Appendix F
Tree Appraisal

The Cost Approach to Tree Appraisal Using the Trunk Formula Technique.

Purpose and technique

The current Guide is the 10th Edition, Second Printing of the "Guide to Tree and Landscape Appraisal" authored by the Council of Tree and Landscape Appraisers (CTLA), and published by the International Society of Arboriculture (ISA), 2019. The Trunk Formula Technique (TFT), which appraisers use on larger trees in the landscape utilizing the cost approach. This technique extrapolates the costs to purchase the largest, commonly available nursery plant to the size of the appraised plant. This means we can take the costs of a nursery plant and proportionally increase it to infer the cost of a larger plant. Small trees that can be replaced in kind would be replaced using retail purchase cost.

Values based on application of the TFT is a calculation generated by developing "unit costs." The unit costs required for the formula must be obtained either from local resources determined by the consulting arborist or collected by the Regional Plant Appraisal Committee (RPAC). This committee is comprised of industry experts in your state or region. The RPAC gathers data based on statewide survey information to determine unit costs for commonly available trees, availability and functional limitations of common trees in your area. The information and data provided by the RPAC is a baseline for species; it is the responsibility of the appraiser to determine tree-species ratings and wholesale values based on availability in their region. The RPAC for the Western Chapter of the ISA (WCISA) worked to create the book used in this appraisal - The Species Classification and Group Assignment "A Reginal Supplement to the CTLA Guide for Plant Appraisal, 9th Edition", published by the Western Chapter of the International Society of Arboriculture, 2004. This guide covers the chapter's 4 state region of California, Hawaii, Arizona, and Nevada.

For example, the species ratings for common Nevada tree species can be found in the companion supplement. The northern California and Nevada arborists have their classification guide that has agreed upon growth rates, compatibility, and species quality for the regions in the Western Chapter. It has been determined that for the the largest commonly available transplanted container Scots Pine tree, the species is a Group 4 species and the typical stem caliper would be would be 2.46 inches with a trunk area of 4.75 square inches, and a unit (per diameter inch) cost of $46.40.

Condition

Condition refers to assessing overall tree health looking at vigor, presence of pest issues and any stress symptoms. Condition is a key component in the appraisal. A healthy, well-managed tree has a higher value. (Photo 2) Another consideration is assessing the structure and form of the tree. Review the branch habit to determine if it is a strong, stable structure with good branch attachments and spacing. Does the tree have a good form for the species? Each species has a typical, genetic form – or "normal" traits – that should be representative of the species. However, most trees aren't normal or typical. See Table 1 below for more information on how condition rating is determined.

CONDITION RATING FOR LANDSCAPE TREES

Condition Rating	Tree Structure *Consider root condition/formation, trunk condition and branch assembly and arrangement*	Tree Health *Consider crown indicators including vigor, density, leaf size, quality and stem shoot extensions*	Formula Values
Excellent	Root plate undisturbed and clear of any obstructions. Root flare has normal development. No visible trunk defects or cavities. Branch spacing/structure and attachments are free of any defects.	Perfect specimen with excellent form and vigor, well-balanced crown. Trunk is sound and solid. No apparent pest problems. Normal to exceeding shoot length on new growth. Leaf size and color normal. Exceptional life expectancy for the species.	1.0-.90
Good	Root plate appears normal; only minor damage may be found. Possible signs of root dysfunction around trunk flare. Minor trunk defects from previous injury, with good closure; less than 25% of bark section is missing. Good branch habit, minor dieback with some signs of previous pruning. Codominant stem formation may be present. Minor corrections required.	Imperfect canopy density in few parts of the tree, 10% or less, lacking natural symmetry. Less than half normal growth rate and minor deficiency in leaf development. Few pest issues or damage, controllable. Normal branch and stem development with healthy growth. Typical life expectancy for the species.	.90-.75
Fair	Root plate reveals previous damage or disturbance and dysfunctional roots may be visible around main stem. Evidence of trunk damage or cavities with decay or defects present. Less than 30% of bark sections missing on trunk. Codominant stems are present. Branching habit and attachments indicate poor pruning or damage, which requires moderate corrections.	Crown decline and dieback up to 30% of the canopy. Overall poor symmetry. Leaf color somewhat chlorotic with smaller leaves. Shoot extensions indicate some stunting and stressed growing conditions. Obvious signs of pest problems contributing to lesser condition. Some decay areas found in main stem and branches. Below average life expectancy.	.75-.50
Poor	Root plate disturbance and defects indicate major damage with girdling roots around the trunk flare. Trunk reveals more than 50% of bark section missing. Branch structure has poor attachments, with several structurally important dead or broken. Canopy reveals signs of damage or previous topping or lion-tailing, with major corrective actions required.	Lacking full crown, more than 50% decline and dieback, especially affecting larger branches. Stunting obvious with little evidence of growth on smaller stems. Leaf size and color reveals overall stress in the plant. Insect or disease infestation may be severe. Extensive decay or hollow. Life expectancy is low.	.50-.30
Very Poor	Severe damage within the root plate and root collar exhibits major defect which could lead to death or failure. A majority of the bark or trunk is affected with decay or missing. Branching is extremely poor or severely topped with severe dieback in canopy. Little or no opportunity for mitigation of any tree parts.	More than 70% of the canopy is in severe decline or dead. Canopy density is extremely low with chlorotic and necrotic tissue dominating the canopy. Severe decay in the trunk and major branches. Root plate damage with a majority of roots damaged, diseased or missing.	.30 -.10

Table 1: This rating combines health, structure above and below ground and form. Each plant can have any combination of the following health or structural issues, and others. The expression of symptoms and signs is subjective. The appraiser should consider the individual species characteristics and use existing circumstances as a reasonable scale for condition determination. This table is a general representation to assist in formula values

Depreciation

Most trees growing are not found to be excellent or perfect specimens. There are conditions and circumstances that may have impacted the growth rate, appearance, form, or structure. These factors are depreciated from the base cost of the tree after extrapolation.

An accurate appraised value will require the application of depreciation factors. Appraisers use depreciation in the valuation process to justify differences in a new,

perfect tree as compared to the appraised tree. This will account for less-than-ideal plant characteristics, placement in the landscape or the site it occupies. The three factors or variables for depreciation include actual condition of the tree, functional limitations and external limitations.

Depreciation Categories

Functional limitations

The type of depreciation applied is associated primarily with the tree itself or the location. (Photo 3) These are factors which may limit future growth and development and overall health. Consider the site conditions and placement, such as proximity to utility lines, which could limit full development due to necessary pruning for clearance. Finally, investigate for any genetic limitations related to the genus and species itself. This would include naturally poor branch systems, susceptibility to pests and invasive tendencies as examples of what would depreciate the value of the tree. Refer to your RPAC data for more specific information.

External limitations

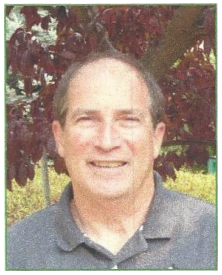
These factors include issues outside the control of the tree owner that may affect sustainability, structure health or form. Examples include environmental issues such as water availability, threat of pest issues or utility-vegetation-management concerns, where there are impending conflicts between power lines and the tree.

The appraiser will assign a rating to each of the depreciation categories when applied to the basic value. These are condition, functional limitations and external limitations. The basic cost is multiplied by each of the three categories to estimate the depreciated cost, which would be the final, functional reproduction value using the Trunk Formula Technique.

There are other approaches, methods and techniques used to estimate costs and tree value dependent upon appraisal situations. These applications may be found in the Guide for Plant Appraisal, 10th Edition. Arboricultural consultants should utilize the Guide for development of a professional work product.

California Tree and Landscape Consulting, Inc.

GORDON MANN



EDUCATION AND QUALIFICATIONS

1977	Bachelor of Science, Forestry, University of Illinois, Champaign.
1982 - 1985	Horticulture Courses, College of San Mateo, San Mateo.
1984	Certified as an Arborist, WE-0151A, by the International Society of Arboriculture (ISA).
2004	Certified as a Municipal Specialist, WE-0151AM, by the ISA.
2011	Registered Consulting Arborist, #480, by the American Society of Consulting Arborists (ASCA).
2003	Graduate of the ASCA Consulting Academy.
2006	Certified as an Urban Forester, #127, by the California Urban Forests Council (CaUFC).
2011	TRACE Tree Risk Assessment Certified, continued as an ISA Qualified Tree Risk Assessor (T.R.A.Q.).

PROFESSIONAL EXPERIENCE

2016 – Present CALIFORNIA TREE AND LANDSCAPE CONSULTING, INC (CalTLC). Vice President and Consulting Arborist. Auburn. Mr. Mann provides consultation to private and public clients in health and structure analysis, inventories, management pianning for the care of trees, tree appraisal, risk assessment and management, and urban forest management plans.

1986 - Present MANN MADE RESOURCES. Owner and Consulting Arborist. Auburn. Mr. Mann provides consultation in municipal tree and risk management, public administration, and developing and marketing tree conservation products.

2015 – 2017 CITY OF RANCHO CORDOVA, CA. Contract CityArborist. Mr. Mann serves as the City's first arborist, developing the tree planting and tree maintenance programs, performing tree inspections, updating ordinances, providing public education, and creating a management plan,

1984 - 2007 CITY OF REDWOOD CITY, CA. City Arborist, Arborist, and Public Works Superintendent.

Mr. Mann developed the Tree Preservation and Sidewalk Repair Program, supervised and managed the tree maintenance program, performed inspections and administered the Tree Preservation Ordinance. Additionally, he oversaw the following Public Works programs: Streets, Sidewalk, Traffic Signals and Streetlights, Parking Meters, Signs and Markings, and Trees.

1982 - 1984 CITY OF SAN MATEO, CA. Tree Maintenance Supervisor.
For the City of San Mateo, Mr. Mann provided supervision and management of the tree maintenance program, and inspection and administration of the Heritage Tree Ordinance.

1977 - 1982 VILLAGE OF BROOKFIELD, IL. Village Forester.
Mr. Mann provided inspection of tree contractors, tree inspections, managed the response to Dutch Elm Disease. He developed an in-house urban forestry program with leadworker, supervision, and management duties to complement the contract program.

1979 – Present INTERNATIONAL SOCIETY OF ARBORICULTURE. Member.

- Board of Directors (2015 - Present)
- True Professional ofArboriculture Award (2011) o In recognition of material and substantial contribution to the progress of arboriculture and having given unselfishly to support arboriculture.

1982 - Present WESTERN CHAPTER ISA (WCISA). Member.

- Chairman of the Student Committee (2014 - Present)
- Member of the Certification Committee (2007 - Present)
- Member of the Municipal Committee (2009 - 2014) • Award of Merit (2016) In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.
- Annual Conference Chair (2012)
- President (1992 - 1993)
- Award of Achievement and President's Award (1990)
- 1985 - Present CALIFORNIA URBAN FORESTS COUNCIL (CaUFC). Member; Board Member (2010 - Present)

1985 - Present SOCIETY OF MUNICIPAL ARBORISTS (SMA). Member. e Legacy Project of the Year (2015) o In recognition of outstanding meritorious service in advancing the principles, ideals and practices of arboriculture.
• Board Member (2005 - 2007)

2001 - Present AMERICAN SOCIETY OF CONSULTING ARBORISTS.
Member. e Board of Directors (2006 - 2013)
• President (2012)

2001 - Present CAL FIRE. Advisory Position.
• Chairman of the California Urban Forestry Advisory Committee (2014 - Present)

2007 – Present AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI): A300 TREE MAINTENANCE STANDARDS COMMITTEE. SMA Representative and Alternate.

- Alternative Representative for SMA (2004 - 2007; 2012 - Present)
- Representative for SMA (2007 - 2012)

2007 - Present SACRAMENTO TREE FOUNDATION. Member and Employee.

- Co-chairman of the Technical Advisory Committee (2012 - 2018), member 2018- present
- Urban Forest Services Director (2007 - 2009)
- Facilitator of the Regional Ordinance Committee (2007 - 2009)

1988 - 1994 TREE CLIMBING COMPETITION. Chairman.

- Chairman for Northern California (1988 - 1992)
- Chairperson for International (1991 - 1994)

PUBLICATIONS AND LECTURES

Mr. Mann has authored numerous articles in newsletters and magazines such as Western Arborist, Arborist News, City Trees, Tree Care Industry Association, Utility Arborists Association, CityTrees, and Arborists Online, covering a range of topics on Urban Forestry, Tree Care, and Tree Management. He has developed and led the training for several programs with the California Arborist Association. Additionally, Mr. Mann regularly presents at numerous professional association meetings on urban tree management topics.

Assignment Assumptions and Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services as described in the Consulting Arborist Agreement.
5. Unless otherwise required by law, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed, without the prior express written consent of the Consultant.
6. Unless otherwise required by law, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news, sales or other media without the Consultant‘s prior express written consent.
7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant’s fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing or coring. Consultant makes no warranty or guarantee, express or implied that the problems or deficiencies of the plans or property in question may not arise in the future.
10. Loss or alteration of any part of this Agreement invalidates the entire report.

Report Assumptions and Limitations:

This report provides information about the subject trees at the times of the inspection. Trees and conditions may change over time. This report is only valid for the trees with the conditions present at the times of the inspections. All observations were made while standing on the ground. The inspection consisted of visual observations, using a probe to gain additional information about decay and hollow portions of the tree, and if needed, light excavation was performed to observe shallow depth areas below grade at the base of the trees. No further examinations were requested or performed.

Sincere attempts were made to accurately locate the trees and show the trees on the pan. All tree locations were attempted to be shown as observed in the field.

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist or seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that can fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatments, pruning, and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, landlord-tenant matters, etc. Arborists cannot take such issues into account unless complete and accurate information is given to the arborist. The person hiring the arborist accepts full responsibility for authorizing the recommended treatment or remedial measures.

Trees can be managed, but they cannot be controlled. To live near a tree is to accept some degree of risk. The only way to eliminate all risks is to eliminate all trees. Our company goal is to help clients enjoy life with trees, and grow better trees.

Certificate of Performance

I, Gordon Mann, certify that:

I have inspected the site and trees. I have personally reviewed the tree details and site information referred to in this report, and have stated my findings accurately. The extent of the inspection is stated in the attached report under Assignment;

I have no current or prospective interest in the vegetation, or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved;

The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts;

My analysis, opinions, and conclusions were developed, and this report has been prepared according to commonly accepted arboricultural practices;

No one provided significant professional assistance to me, except as indicated within the report;

My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client, or any other party, nor upon the results of the assignment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the International Society of Arboriculture (ISA) and an ISA Certified Arborist and Municipal Specialist. I am also a Registered Consulting Arborist member in good standing of the American Society of Consulting Arborists. I have been involved in the practice of arboriculture and the care and study of trees for over 43 years.

Signed:

Gordon Mann
Date: December 5, 2021

4480 Chiles Rd, Davis
Tree List

Tree #	Old Tag No	Common Name Species	DBH (in)	Ht Dia Meas At (in)	Canopy Radius (ft)	Condition Rating	Comments	Protect-ed By Code	Project Status	Mitigation inches
3850	87	Chinese Pistache Pistacia chinensis	10.4	54	14	2 Major Structure or Health Problems	Topped, large lateral W cut, 2' from electrical box	Yes	Retain & Protect	0
3851	86	Evergreen Chinese Elm Ulmus parvifolia	20.7	54	26	3 Fair - Minor Problems	Normal flare, previous W branch failure at 20', thinned and reduced branches	Yes	Retain & Protect	0
3852		Coast Redwood Sequoia sempervirens	21.2	54	14	3 Fair - Minor Problems	Close to 3853, central leader	Yes	Retain & Protect	0
3856	85	Evergreen Chinese Elm Ulmus parvifolia	19.6	54	27	2 Major Structure or Health Problems	Co dom at 6', 3 leaders, growing around Redwood, reduced and thinnedlarge flare,	Yes	Retain & Protect	0
3853		Coast Redwood Sequoia sempervirens	20.8	54	12	3 Fair - Minor Problems	Sprouts around base, central leader appears reduced	Yes	Retain & Protect	0
1		Chinese Pistache Pistacia chinensis	2	54	4	4 Good - No Apparent Problems	Recently planted pistache, undersized if not a conditional planting	No	Remove; no mitigation	0
3854	83	Chinese Pistache Pistacia chinensis	12.2	54	16	3 Fair - Minor Problems	Normal flare, concrete retaining wall for recent McDonald's 12"☒away, co dom at 15', next to & over new street light	Yes	Retain & Protect	0
3855		Glossy Privet Ligustrum lucidum	11	54	9	2 Major Structure or Health Problems	2 stems at base 5.9&5.5, under 3856	No	Retain & Protect	0

4480 Chiles Rd, Davis
Tree List

Tree #	Old Tag No	Common Name Species	DBH (in)	Ht Dia Meas At (in)	Canopy Radius (ft)	Condition Rating	Comments	Protect-ed By Code	Project Status	Mitigation inches
3856		Chinese Pistache Pistacia chinensis	13.8	54	22	2 Major Structure or Health Problems	Normal flare, trunk bends E at 6' then N 30 deg, dead stub at 5.5', 4"□lm to W,	Yes	Retain & Protect	14
3857		Valley Oak Quercus lobata	19.5	12	27	3 Fair - Minor Problems	Normal flare, low NE lateral at 3' included bark, co dom at 9',	Yes	Retain & Protect	20
3858		Arizona Ash Fraxinus velutina	15.4	54		1 Extreme Structure or Health Problems	4 stump sprouts 7,5,9,9, 3 W stems tight together included bark, decay in cut basal sprouts	Yes	Retain & Protect	0
3859		Arizona Ash Fraxinus velutina	9.2	54	14	2 Major Structure or Health Problems	Normal flare, Vertical leader stubbed at 6', N leader self correcting with bend S	Yes	Retain & Protect	0
3860		Arizona Ash Fraxinus velutina	21.4	54	21	2 Major Structure or Health Problems	4 stems at base, 10.5,15.2,8.5,6.7, cavity in main crotch, branch dieback	Yes	Retain & Protect	0
3861		Arizona Ash Fraxinus velutina	14.1	12	12	2 Major Structure or Health Problems	Co dom at 2' & 6', included bark, normal flare	Yes	Retain & Protect	14
3862		Arizona Ash Fraxinus velutina	13.4	54	20	1 Extreme Structure or Health Problems	3 stems at base, 6.7,8.9.7.4, decayed cut 2 of 3 stems lean outward, branch dieback	Yes	Remove & mitigate	13
3867		Arizona Ash Fraxinus velutina	6.2	36	8	1 Extreme Structure or Health Problems	Low trunk damage W, cut stem at base S, severe dieback	Yes	Remove & mitigate	6

4480 Chiles Rd, Davis
Tree List

Tree #	Old Tag No	Common Name Species	DBH (in)	Ht Dia Meas At (in)	Canopy Radius (ft)	Condition Rating	Comments	Protect-ed By Code	Project Status	Mitigation inches
3868		Arizona Ash Fraxinus velutina	30.2	12	2	1 Extreme Structure or Health Problems	5 stems at base, included bark, branch dieback	Yes	Remove & mitigate	30
3869		Arizona Ash Fraxinus velutina	28.7	6	22	1 Extreme Structure or Health Problems	5 stems at base, included bark, branch dieback	Yes	Remove & mitigate	29
3870		Arizona Ash Fraxinus velutina	23.7	6	21	1 Extreme Structure or Health Problems	Tags 63-66 missing, 3 stems at base, cut stubs in main crotch, co dom s at 2&3', branch dieback	Yes	Remove & mitigate	24
3871		Valley Oak Quercus lobata	11.2	54	22	3 Fair - Minor Problems	Normal flare, leans N 25/deg, crown mostly N, co dom at 15', end wts	Yes	Remove & mitigate	11
3872		Chinese Pistache Pisacia chinensis	14.6	54	22	2 Major Structure or Health Problems	Low W lateral at 6', topped at 20', normal flare broken willow branch in upper crown	Yes	Remove & mitigate	15
3880		Chinese Pistache Pisacia chinensis	17.8	54	25	2 Major Structure or Health Problems	73-79 missing, 3 co doms at 9', 1-sided crown E, growing into old car wash, and next to S of concrete retaining wall, appears raised	Yes	Remove & mitigate	18
3881		Red Willow Salix laevigata	25.3	24	30	2 Major Structure or Health Problems	Co dom at 36"⍰basal decay SW 18"⍰dead branches to 4"⍰ failed branches N leader branch dieback, end wts	No	Remove; no mitigation	0

4480 Chiles Rd, Davis
Tree List

Tree #	Old Tag No	Common Name Species	DBH (in)	Ht Dia Meas At (in)	Canopy Radius (ft)	Condition Rating	Comments	Protect-ed By Code	Project Status	Mitigation inches
3882	58	Red River Gum Eucalyptus rudis	24.7	54	32	2 Major Structure or Health Problems	3 stems at base, 13.6,15.6,13.4, central stem co dom at 13', included bark, N stem leans 1-sided W 10 deg 10 deg, 4th stem cut and failed at base - decay, basal sprouts, E stem decay at 15-20',	No	Remove; no mitigation	0
3883	59	Red River Gum Eucalyptus rudis	24.8	54	27	2 Major Structure or Health Problems	4 stems at base, included 13.1,12.7,16.2, 4.6, stump sprouts, crown mostly E, end wts	No	Remove; no mitigation	0
3884	69	Bradford Pear Pyrus calleryana	19.3	36	17	2 Major Structure or Health Problems	Growing in 4x4 planter, slightly buried flare, crown mostly E from 3 previous branch breaks, 3 co doms headed branches at 4'	No	Remove; no mitigation	0
3885	60	Chinese Pistache Pistacia chinensis	15.8	54	23	2 Major Structure or Health Problems	Normal flare, crown 1-sided S, end wts, low branches	Yes	Remove & mitigate	16
3886	61	Shiny Xylosma Xylosma congestum	6.5	48	11	2 Major Structure or Health Problems	Low laterals at 6&18"; crowded; understory vegetation	No	Remove; no mitigation	0
3886A	62	Shiny Xylosma Xylosma congestum	8.4	54	14	2 Major Structure or Health Problems	Crown 1-sided S, low W lateral at 12"; understory vegetation	No	Remove; no mitigation	0

4480 Chiles Rd, Davis
Tree List

Tree #	Old Tag No	Common Name Species	DBH (in)	Ht Dia Meas At (in)	Canopy Radius (ft)	Condition Rating	Comments	Protect-ed By Code	Project Status	Mitigation inches
3887	63	Shiny Xylosma Xylosma congestum	8	54	13	2 Major Structure or Health Problems	Bends SE at base, suppressed crown E, S, crowded; understory vegetation	No	Remove; no mitigation	0
3888	64	Evergreen Chinese Elm Ulmus parvifolia	23.2	18	24	3 Fair - Minor Problems	Basal cavity, 10"□decay E, Girdling root SW, low N laterals 2&6', 1-sided crown S	Yes	Remove & mitigate	23
3889	65	Evergreen Chinese Elm Ulmus parvifolia	18.6	54	22	2 Major Structure or Health Problems	2 stems at base 10.2&15.5, cut leader W at 2', E leans E, W leans W, end wts	Yes	Remove & mitigate	19
3890	66	Evergreen Chinese Elm Ulmus parvifolia	17	54	23	3 Fair - Minor Problems	Normal flare, leans N to E at 12', 20 deg lean E, end wts, low N lateral horizontal growth	Yes	Remove & mitigate	17
3891	67	Glossy Privet Ligustrum lucidum	7.7	54	12	2 Major Structure or Health Problems	3 co dom at 6"□1 cut, remaining 5.9 & 5.0", topped	No	Remove; no mitigation	0
2	68	Stump	19	3		0 Dead		No	Remove; no mitigation	0
Total 35 entries; 1 stump, 1 undersized tree; 33 total trees; 27 protected trees, 6 unprotected trees; 21 trees proposed for removal; including 1 stump (#2) and 1 undersized tree (#1). The removals include 8 unprotected trees (3881, 3882, 3883, 3884, 3886, 3886A, 3887, & 3891) and 13 protected trees (3861, 3862, 3867, 3868, 3869, 3870, 3871, 3872, 3880, 3885, 3888, 3889, & 3890) Total Mitigation calculated 269 inches. Total calculated Mitigation Fee at $189 per inch = $50,841.									269
									Total Mitigation Fee	$50,841

4480 Chiles Dr, Davis

Tree Appraisal Worksheet, 10th Edition

tree #	species	trunk dia (in)	x-sect area (sq in)	condition rating	health rating	structure rating	form rating	Functional Limitations	External Limitations	replacement species	nursery trunk dia	nursery x-sect area	Repl. tree cost (24" boxed)	Unit tree cost	basic reproduction cost	Depreciated Reproduction cost
3850	Chinese Pistache Pisacia chinensis	10.4	84.95	0.35	0.4	0.35	0.3	0.8	0.8	Chinese Pistache Pisacia chinensis	1.69	2.24	195.66	$87.35	$7,420.13	$1,662.11
3851	Evergreen Chinese Elm Ulmus parvifolia	20.7	336.54	0.50	0.5	0.5	0.5	0.8	0.9	Evergreen Chinese Elm Ulmus parvifolia	1.69	2.24	195.66	$87.35	$29,395.82	$10,582.50
3856	Evergreen Chinese Elm Ulmus parvifolia	19.6	301.72	0.43	0.45	0.45	0.4	0.8	0.9	Evergreen Chinese Elm Ulmus parvifolia	1.69	2.24	195.66	$87.35	$26,354.64	$8,222.65
3852	Coast Redwood Sequoia sempervirens	21.2	352.99	0.50	0.55	0.5	0.45	0.8	0.8	Coast Redwood Sequoia sempervirens	2.46	4.75	195.66	$41.19	$14,540.22	$4,652.87
3853	Coast Redwood Sequoia sempervirens	20.8	339.80	0.50	0.55	0.5	0.45	0.8	0.8	Coast Redwood Sequoia sempervirens	2.46	4.75	195.66	$41.19	$13,996.71	$4,478.95
1	Chinese Pistache Pisacia chinensis	2	3.14	0.65	0.7	0.6	0.65	0.8	0.9	Chinese Pistache Pisacia chinensis	1.69	2.24	195.66	$87.35	$274.41	$128.43
3854	Chinese Pistache Pisacia chinensis	12.2	116.90	0.45	0.65	0.6	0.65	0.7	0.9	Chinese Pistache Pisacia chinensis	1.69	2.24	195.66	$87.35	$10,210.91	$2,894.79
3855	Glossy Privet Ligustrum lucidum	11	95.03	0.37	0.5	0.3	0.3	0.7	0.9	Glossy Privet Ligustrum lucidum	2.2	3.8	195.66	$51.49	$4,893.22	$1,130.33

4480 Chiles Dr, Davis

Tree Appraisal Worksheet, 10th Edition

tree #	species	trunk dia (in)	x-sect area (sq in)	condition rating	health rating	structure rating	form rating	Functional Limitations	External Limitations	replacement species	nursery trunk dia	nursery x-sect area	Repl. tree cost (24" boxed)	Unit tree cost	basic reproduction cost	Depreciated Reproduction cost
3856	Chinese Pistache Pisacia chinensis	13.8	149.57	0.33	0.4	0.3	0.3	0.8	0.8	Chinese Pistache Pisacia chinensis	1.69	2.24	195.66	$87.35	$13,064.81	$2,787.16
3857	Valley Oak Quercus lobata	19.5	298.65	0.48	0.5	0.45	0.5	0.8	0.8	Valley Oak Quercus lobata	1.69	2.24	195.66	$87.35	$26,086.40	$8,069.39
3858	Arizona Ash Fraxinus velutina	15.4	186.27	0.17	0.15	0.15	0.2	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$7,672.57	$818.41
3859	Arizona Ash Fraxinus velutina	9.2	66.48	0.37	0.4	0.35	0.35	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$2,738.26	$642.58
3860	Arizona Ash Fraxinus velutina	21.4	359.68	0.35	0.4	0.3	0.35	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$14,815.86	$3,318.75
3861	Arizona Ash Fraxinus velutina	14.1	156.15	0.37	0.4	0.3	0.4	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$6,431.87	$1,509.35
3862	Arizona Ash Fraxinus velutina	13.4	141.03	0.40	0.4	0.4	0.4	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$5,809.10	$1,487.13
3867	Arizona Ash Fraxinus velutina	6.2	30.19	0.13	0.2	0.1	0.1	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$1,243.61	$106.12

4480 Chiles Dr, Davis

Tree Appraisal Worksheet, 10th Edition

tree #	species	trunk dia (in)	x-sect area (sq in)	condi-tion rating	health rating	struc-ture rating	form rating	Func-tional Limita-tions	Extern-al Limita-tions	replace-ment species	nur-sery trunk dia	nur-sery x-sect area	Repl. tree cost (24" boxed)	Unit tree cost	basic reproduc-tion cost	Depreciat-ed Reproduc-tion cost
3868	Arizona Ash Fraxinus velutina	30	706.86	0.15	0.2	0.15	0.1	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$29,116.68	$2,795.20
3869	Arizona Ash Fraxinus velutina	28.7	646.93	0.15	0.2	0.15	0.1	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$26,647.91	$2,558.20
3870	Arizona Ash Fraxinus velutina	23.7	441.15	0.13	0.2	0.1	0.1	0.8	0.8	Arizona Ash Fraxinus velutina	2.46	4.75	195.66	$41.19	$18,171.72	$1,550.65
3871	Valley Oak Quercus lobata	11.2	98.52	0.48	0.5	0.5	0.45	0.8	0.8	Valley Oak Quercus lobata	1.69	2.24	195.66	$87.35	$8,605.60	$2,662.00
3872	Chinese Pistache Pisacia chinensis	14.6	167.42	0.33	0.4	0.3	0.3	0.5	0.8	Chinese Pistache Pisacia chinensis	1.69	2.24	195.66	$87.35	$14,623.48	$1,949.80
3880	Chinese Pistache Pisacia chinensis	17.8	248.85	0.35	0.4	0.35	0.3	0.6	0.8	Chinese Pistache Pisacia chinensis	1.69	2.24	195.66	$87.35	$21,736.26	$3,651.69
3881	Red Willow Salix laevigata	25	490.88	0.32	0.4	0.25	0.3	0.7	0.8	Red Willow Salix laevigata	2.46	4.75	195.66	$41.19	$20,219.92	$3,585.67
3882	Red River Gum Eucalyptus rudis	24.7	479.16	0.33	0.4	0.3	0.3	0.8	0.8	Red River gGum Eucalyptus rudis	2.2	3.8	195.66	$51.49	$24,671.94	$5,263.35

tree #	species	trunk dia (in)	x-sect area (sq in)	condition rating	health rating	structure rating	form rating	Functional Limitations	External Limitations	replacement species	nursery trunk dia	nursery x-sect area	Repl. tree cost (24" boxed)	Unit tree cost	basic reproduction cost	Depreciated Reproduction cost
3883	Red River Gum Eucalyptus rudis	24.8	483.05	0.33	0.4	0.3	0.3	0.8	0.8	Red River Gum Eucalyptus rudis	2.2	3.8	195.66	$51.49	$24,872.11	$5,306.05
3884	Bradford Pear Pyrus calleryana	19.3	292.55	0.35	0.4	0.3	0.35	0.7	0.8	Bradford Pear Pyrus calleryana	1.69	2.24	195.66	$87.35	$25,554.04	$5,008.59
3885	Chinese Pistache Pisacia chinensis	15.8	196.07	0.35	0.45	0.3	0.3	0.8	0.8	Chinese Pistache Pisacia chinensis	1.69	2.24	195.66	$87.35	$17,126.13	$3,836.25
3886	Shiny Xylosma Xylosma congestum	6.5	33.18	0.40	0.4	0.4	0.4	0.8	0.8	Shiny Xylosma Xylosma congestum	1.63	2.09	195.66	$93.62	$3,106.51	$795.27
3886A	Shiny Xylosma Xylosma congestum	8.4	55.42	0.40	0.4	0.4	0.4	0.8	0.8	Shiny Xylosma Xylosma congestum	1.63	2.09	195.66	$93.62	$5,188.06	$1,328.14
3887	Shiny Xylosma Xylosma congestum	8	50.27	0.32	0.4	0.3	0.25	0.8	0.8	Shiny Xylosma Xylosma congestum	1.63	2.09	195.66	$93.62	$4,705.73	$953.69
3888	Evergreen Chinese Elm Ulmus parvifolia	23.2	422.73	0.40	0.4	0.4	0.4	0.8	0.8	Evergreen Chinese Elm Ulmus parvifolia	1.69	2.24	195.66	$87.35	$36,925.04	$9,452.81
3889	Evergreen Chinese Elm Ulmus parvifolia	18.6	271.72	0.45	0.5	0.4	0.45	0.8	0.8	Evergreen Chinese Elm Ulmus parvifolia	1.69	2.24	195.66	$87.35	$23,733.99	$6,835.39

4480 Chiles Dr, Davis

Tree Appraisal Worksheet, 10th Edition

tree #	species	trunk dia (in)	x-sect area (sq in)	condi-tion rating	health rating	struc-ture rating	form rating	Func-tional Limita-tions	Extern-al Limita-tions	replace-ment species	nur-sery trunk dia	nur-sery x-sect area	Repl. tree cost (24" boxed)	Unit tree cost	basic reproduc-tion cost	Depreciat-ed Reproduc-tion cost
3890	Evergreen Chinese Elm Ulmus parvifolia	17	226.98	0.45	0.5	0.45	0.4	0.8	0.8	Evergreen Chinese Elm Ulmus parvifolia	1.69	2.24	195.66	$87.35	$19,826.35	$5,709.99
3891	Glossy Privet Ligustrum lucidum	7.7	46.57	0.35	0.4	0.4	0.25	0.8	0.8	Glossy Privet Ligustrum lucidum	2.2	3.8	195.66	$51.49	$2,397.68	$537.08
Total tree appraisal on site															Total	$101,035.97
9 retained tree appraisal on site															Total	$31,130.33
Site total - 32 trees; Total on-site appraisal $101,035.97; rounded to nearest $100 appraised value = $101,000. However, the only the 9 trees to be retained are required to be appraised for the project, for a total of $31,130.33; rounded to the nearest $100 appraised value = $31,100.																

Color Key

- Removal protected
- Removal unprotected
- undersized
- retained on site
- outside of project area

TRAFFIC IMPACT ANALYSIS

FOR

ARCO AM/PM
4480 CHILES ROAD
Davis, CA 95618

Prepared For:

Andy's BP Inc. of Davis
4480 Chiles Road
Davis, CA 95618

Prepared By:

KD Anderson & Associates, Inc.
3853 Taylor Road, Suite G
Loomis, California 95650
(916) 660-1555

December 9, 2021

Job No. 0481-01

0 4480 Chiles ARCO AMPM TIA.rpt

ARCO AM/PM
TRAFFIC IMPACT ANALYSIS

TABLE OF CONTENTS

KDA

ARCO AM/PM
TRAFFIC IMPACT ANALYSIS

INTRODUCTION

Study Purpose and Objectives

This study evaluates the traffic impacts associated with the proposed gas station expansion at 4480 Chiles Road in Davis. The project is located on the south side of Chiles Road, just west of the I-80 Eastbound off-ramp and is opposite the existing Chevron gas station (Figure 1). The site is currently a 10-fueling position gas station with a decommissioned drive-through car wash. The existing gas station is intended to be modified by adding two additional fueling positions, recommissioning the car wash and constructing a 2,832 square foot AM/PM convenience store. The site plan is illustrated in Figure 2. Primary access to the site will continue to be at the west side of the site with a full access driveway. The existing east driveway will be reconstructed to provide right-out only movements.

The study parameters are consistent with City of Davis guidelines and recently prepared studies of similar projects in the vicinity. The study addresses the following traffic scenarios:

1. Existing A.M. and P.M. Peak Hour Traffic Conditions;
2. Existing Plus Project A.M. and P.M. Peak Hour Traffic Conditions;

The objective of this study is to identify what effects the project will have on the area roadway network and local intersections.

In addition to analyzing roadway conditions for consistency with the City's General Plan vehicle miles travelled (VMT) was also considered, consistent with the updated 2018 CEQA guidelines. Site conditions were also reviewed including identifying projected inbound and outbound vehicle queues, sight distance at the driveways and confirmation of fuel truck access.

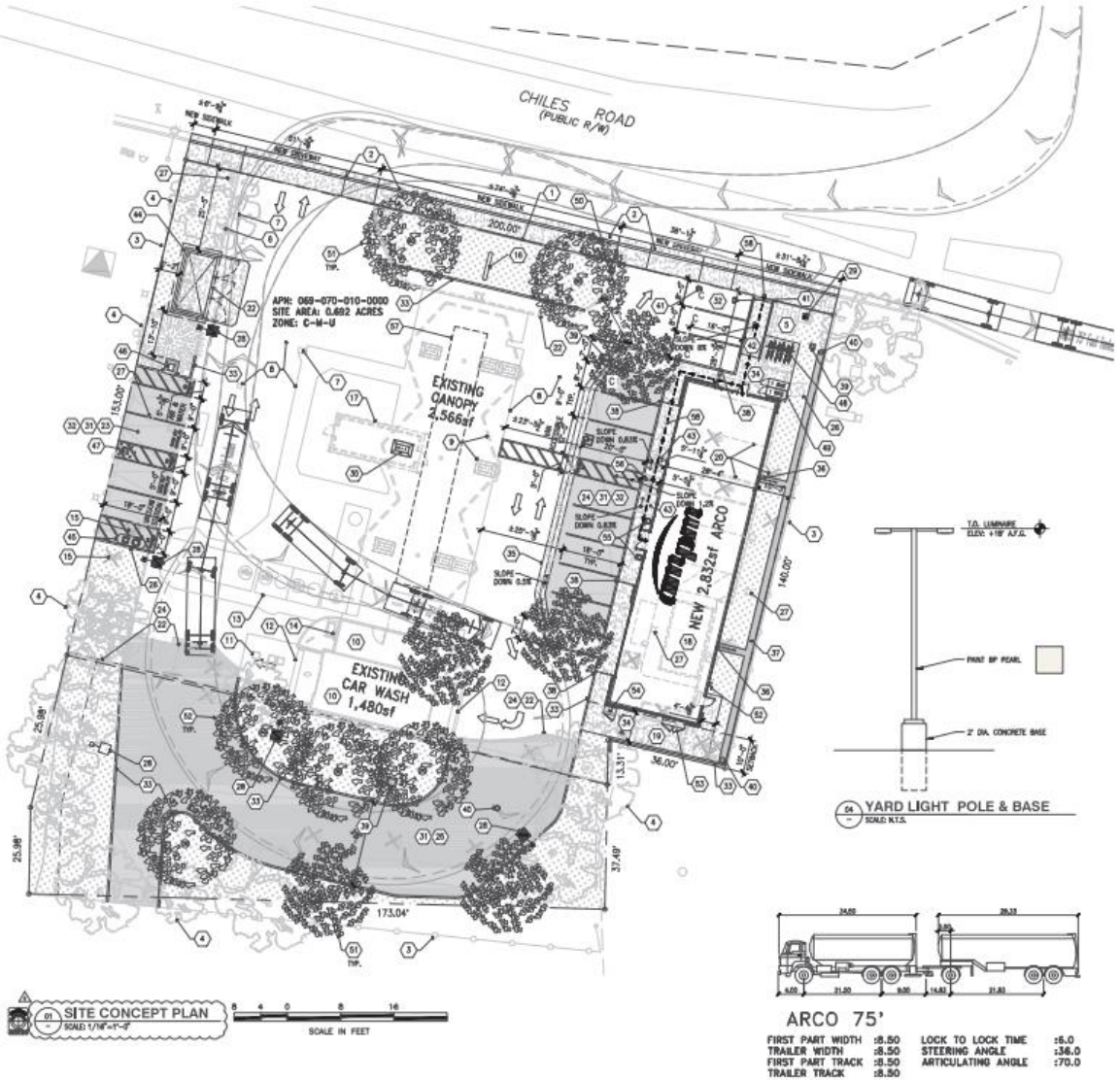
VICINITY MAP

KD Anderson & Associates, Inc.
Transportation Engineers

0481-01 RA 11/29/2021

figure 1

CSHQA 701 University Ave. Suite 210 Sacramento, California 95825 | ARCO AMPM | 4480 Chiles Road Davis, California | April 9, 2021



01 SITE CONCEPT PLAN
SCALE 1/16"=1'-0"

8 4 0 8 16
SCALE IN FEET

04 YARD LIGHT POLE & BASE
SCALE: N.T.S.

ARCO 75'

FIRST PART WIDTH	:8.50	LOCK TO LOCK TIME	:6.0
TRAILER WIDTH	:8.50	STEERING ANGLE	:36.0
FIRST PART TRACK	:8.50	ARTICULATING ANGLE	:70.0
TRAILER TRACK	:8.50		

KEYED NOTES

1. PROPERTY LINE.
2. (E) DRIVEWAY AND SIDEWALK TO BE REMOVED AND REPLACED WITH (N) PER CITY STANDARDS.
3. (E) CHAIN LINK FENCE SURROUNDING PROPERTY TO REMAIN, TYP.
4. (E) TREES TO REMAIN.
5. (E) DOMESTIC/IRRIGATION SERVICES TO BE REPLACED/UPGRADED TO ALLOW MANIFOLD TO SERVE THE SITE HYDRANT, DOMESTIC, AND IRRIGATION METERS PER CITY REQUIREMENTS.
6. (E) ELECTRICAL CABINET AND PAD TO REMAIN.
7. (E) IN GROUND UTILITY VAULT TO REMAIN.
8. (E) ASPHALT PAVING, CONCRETE PAVING, AND STORM DRAIN INLETS TO REMAIN, TYP.
9. (E) FUEL CANOPY AND PUMPS TO REMAIN, SEE SHEET A5.
10. (E) CAR WASH AND EQUIPMENT ROOM BUILDING TO REMAIN, SEE SHEETS A5 AND A4.
11. (E) UNDERGROUND WATER RECOVERY SYSTEM FOR CAR WASH TO REMAIN.
12. (E) GRATED DRAINS TO REMAIN.
13. (E) UNDERGROUND FUEL TANKS TO REMAIN.
14. (E) FUEL TANK VENT RISER PIPES TO REMAIN.
15. (E) TREE STUMPS TO BE REMOVED.
16. (E) FUEL PRICE MONUMENT SIGN TO BE REMOVED AND REPLACED WITH (N), SEE 07/A5.
17. (E) KIOSK BUILDING AND ALL RELATED ITEMS TO BE REMOVED FOR ADDITION OF (N) FUEL PUMP.
18. (E) RESTROOM BUILDING, CONCRETE PAD, WALKWAYS, AND ALL RELATED ITEMS TO BE REMOVED FOR (N) WORK.
19. (E) CHAIN LINK TRASH ENCLOSURE TO BE REMOVED.
20. (E) ASPHALT PAVING, PARKING STRIPING, CURBS, BOLLARDS, TREES, ETC. TO BE REMOVED FOR (N) WORK.
21. ~~PARTIALLY REMOVE (E) DRIVEWAY AND SIDEWALK AS REQUIRED FOR (N) CONCRETE STANDARD TYPE I DRIVEWAY PER CITY STANDARD DETAIL SD-1.~~
22. PARTIALLY REMOVE (E) CURB AND LANDSCAPE AS REQUIRED FOR (N) WORK.
23. PARTIALLY REMOVE (E) CONCRETE PAVING AS REQUIRED FOR (N) WORK (HATCHED AREA).
24. PARTIALLY REMOVE (E) ASPHALT PAVING AS REQUIRED FOR (N) WORK (HATCHED AREA).
25. PARTIALLY REMOVE (E) LANDSCAPE, TREES, AND ALL RELATED ITEMS AS REQUIRED FOR (N) WORK (HATCHED AREA).
26. (E) ABANDONED LARGE METAL SIGN POLE, BASE, AND ALL RELATED ITEMS TO BE REMOVED.
27. (E) YARD LIGHT POLE AND BASE TO BE REMOVED.
28. (N) YARD LIGHT POLE AND BASE, SEE 04/A3.
29. (N) FIRE HYDRANT PER CITY REQUIREMENTS.
30. (N) FUEL PUMP, SEE SHEET 04/A5.
31. (N) ASPHALT PAVING (HATCHED AREA).
32. (N) PARKING STALLS.
33. (N) CONCRETE CURBS.
34. (N) CONCRETE PAD/SIDEWALK.
35. (N) CONCRETE VALLEY GUTTER.
36. (N) ROOF DRAIN AND OVERFLOW LEADERS INSIDE WALL. ROOF DRAIN LEADER TO (N) WATER QUALITY TREATMENT. OVERFLOW DRAIN LEADER TO DAYLIGHT AT BASE OF WALL, SEE SHEET A4.
37. (N) WATER QUALITY TREATMENT (HATCHED AREA).
38. (N) CANOPY DRAIN LINE TO DAYLIGHT AT FACE OF CURB.
39. (N) STORM DRAIN INLET.
40. (N) STORM DRAIN CLEANOUT.
41. (N) SANITARY SEWER CLEANOUT.
42. (N) SIDEWALK PEDESTRIAN RAMP WITH HAND RAILS.
43. (N) ACCESSIBLE CURB RAMP.
44. (N) COVERED TRASH ENCLOSURE WITH FROST PROOF WALL HYDRANT AND SLAB WITH DRAIN TO SANITARY SEWER, SEE 08/A4.
45. (N) VACUUM AND CEMENT TRASH RECEPTACLE ON CONCRETE PAD, SEE 06/A5.
46. (N) AIR/WATER MACHINE, SEE 11/A5.
47. (N) FUTURE ELECTRIC CAR CHARGING STATION.
48. (N) BIKE RACK – CLASS 3, SINGLE HOOP (PALMER GROUP, LLC MODEL #RSH3602-10-P, COLOR: RAL 9005 – JET BLACK, WWW.BIKEPARKING.COM).
49. (N) CLASS 1, ONE BIKE, SINGLE UNIT METAL BIKE LOCKER (PALMER GROUP, LLC, MODEL #BTBLOTM, COLOR 80-01 "BOSC", WWW.BIKEPARKING.COM).
50. (N) DOUBLE SIDED EXIT ONLY TRAFFIC SIGN. SIGN TO FACE DIRECTION OF TRAFFIC.
51. (N) TREE.
52. (N) GAS METER.
53. (N) MAIN SWITCHGEAR.
54. (N) SECURED PORTABLE PROPANE TANK STORAGE CAGE, ANCHORED TO SLAB.
55. (N) NATURAL BROWN STONE AGGREGATE TRASH RECEPTACLE.
56. (N) TRUNCATED DOMES DETECTABLE WARNING SURFACE.
57. AREA OF (N) SOLAR PANELS ON TOP OF (E) FUEL CANOPY, SEE 03/A3 AND 01, 02, 03, 04/A5.
58. ACCESSIBLE PATH OF TRAVEL. SLOPE IN DIRECTION OF TRAVEL SHALL NOT EXCEED 5% MAX. AND 2% MAX. CROSS SLOPE ALONG THE PATHWAY.

02 VICINITY MAP
SCALE: NO SCALE

03 AREA MAP
SCALE: NO SCALE

PROJECT DATA

LOT AREA:	0.91 AC (39,563 SF)
BUILDING LOT COVERAGE:	6,878 SF (17.38%)
LANDSCAPING AREAS:	9,029.61 SF (22.82%)

BUILDING AREA:

(E) CAR WASH	1,480 SF
(E) FUEL CANOPY	2,566 SF
(N) C-STORE	2,832 SF

NO.	DATE	REVISION DESCRIPTION
1	06-02-21	PLANNING DEPT. COMMENTS
2		
3		

Site Plan

Project No: 20190

Planning Entitlement Review | A2

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SITE PLAN

figure 2

EXISTING SETTING

Intersections

The quality of traffic flow is often governed by the operation of the local intersections. For this study one existing intersection was identified for evaluation. The City identified two study location for analysis. These include:

The **Chiles Road / I-80 Eastbound Off-Ramp intersection** is a signal controlled intersection east of the project site. The intersection has three legs. The eastbound approach includes a single through lane while the westbound approach includes two through lanes that merge into a single lane west of the intersection. The eastbound hook off-ramp includes a dual lane off-ramp that widens prior to the intersection to provide two left turn lanes and one right turn lane. Bicycle lanes are present along on the west leg of Chiles Road.

The **Mace Blvd / Chiles Road intersection** is a four-way signal controlled intersection east of the project site. The eastbound approach includes two left turn lanes, a through lane and a free right turn lane with yield control while the westbound approach includes left, through and right turn lanes. The northbound Mace Blvd approach includes a left turn lane, a through lane and a through-right lane with a free right and yield control for a single vehicle while the southbound approach includes a left turn lane, two through lanes and a free right turn lane.

Analysis Criteria

Vehicle Miles Traveled. In the City of Davis, the impact of a project on LOS is an important factor in determining whether a project has a significant impact. However, changes made in 2018 to CEQA have changed how lead agencies use LOS in determining whether a project has a significant impact on transportation. As noted in the California Governor's Office of Planning and Research (OPR) document Technical Advisory on Evaluating Transportation Impacts in CEQA (California Governor's Office of Planning and Research 2018),

> "Senate Bill 743 (Steinberg, 2013), which was codified in Public Resources Code section 21099, required changes to the guidelines implementing CEQA (CEQA Guidelines) (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. . . OPR has proposed, and the California Natural Resources Agency (Agency) has certified and adopted, changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA. (Pub. Resources Code, § 21099, subd. (b)(3).)"

Certain types of projects as identified in statute, the CEQA Guidelines, or in OPR's Technical Advisory are presumed to have a less than significant impact on VMT and therefore a less than significant impact on transportation. Generally, the identified projects contribute to efficient land

use patterns enabling higher levels of walking, cycling, and transit as well as lower average trip length. These projects include, for example, projects in transit priority areas, projects consisting of residential infill or those located in low VMT areas.

Caltrans references OPR's December 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which identifies projects and areas presumed to have a less than significant transportation impact. Those include:

1. Residential, office, or retail projects within a Transit Priority Area, where a project is within a ½ mile of an existing or planned major transit stop or an existing stop along a high-quality transit corridor.

    a. A major transit stop is defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (Pub. Resources Code, § 21064.3).

    b. A high-quality transit corridor is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (Pub. Resources Code, § 21155).

2. An area pre-screened by an agency as having low residential or office VMT:

    a. An area where existing residential projects exhibit VMT per capita 15 percent or more below city or regional average.

    b. An area where existing office projects exhibit VMT per capita 15 percent or more below regional average.

3. Residential projects composed of 100 percent or near-100 percent affordable housing located in any infill location. Additionally, per OPR's Technical Advisory, "Lead agencies may develop their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units."

4. A locally-serving retail project (such a project typically reduces vehicle travel by providing a more proximate shopping destination, i.e., better accessibility).

5. Mixed-use projects composed entirely of the above low-VMT project types.

6. In any area of the state, absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities

Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact.

However, a land use project near transit may have a significant impact on VMT if it:

1. Has a floor area ratio less than 0.75.
2. Includes more parking than required by the local permitting agency.
3. Is inconsistent with the region's Sustainable Communities Strategy (i.e., development is outside region's development footprint, or in area specified as open space).
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

In very limited situations, analysis or mitigation may be appropriate in low VMT areas to address specific multimodal access management issues directly caused by the project such as issues related to line of sight caused by the placement of a driveway. These situations are to be determined based on the details of development proposals and their setting and will be addressed in future guidance.

Should a project not meet the minimum screening thresholds, a VMT analysis should be conducted. The OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018) identifies a threshold of 15 percent below the baseline for determining the significance of VMT impacts associated with residential and office land use developments. Locally-serving retail projects, such as a project that reduces vehicle travel by providing a more proximate shopping destination, i.e., better accessibility is considered to have a less than significant transportation impact.

General Plan Policy Consistency Level of Service Analysis Methodology

Level of Service Analysis has been employed to provide a basis for describing existing traffic conditions and for evaluating the significance of project traffic impacts. Level of Service measures the *quality* of traffic flow and is represented by letter designations from "A" to "F", with a grade of "A" referring to the best conditions, and "F" representing the worst conditions. Table 1 presents typical Level of Service characteristics.

Local agencies adopt minimum Level of Service standards for their facilities. The City of Davis identifies LOS 'E' as the acceptable Level of Service within the City during the peak hour while LOS F is acceptable for the 'Core Area'. The *Highway Capacity Manual 6th Edition* was used to provide a basis for describing existing traffic conditions and for evaluating the significance of project traffic impacts.

Synchro 11 / SimTraffic micro-simulation software was used to analyze the study intersections. The SimTraffic software is a stochastic model, i.e. randomness is present when running the simulations. The results will vary between computers and within each scenario and between scenarios. This may result in intersections having lower delays or queues in the Plus Project scenario than in the No Project scenario. The simulation results contained in this report reflect the average of the mean 10 one-hour simulation runs selected from a 20-run sample. The intersection Levels of Service presented in this analysis are based on the delay thresholds shown in Table 1.

TABLE 1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Sources: Highway Capacity Manual 6th Edition, Transportation Research Board (TRB).

Significance Thresholds

Intersections. Significant traffic impacts at intersections within the City of Davis jurisdiction are defined when the addition of proposed project traffic causes any of the following:

a) For signalized intersections outside the Core Area, causes overall intersection operations to deteriorate from an acceptable level (LOS E or better in the AM or PM peak hour) to an unacceptable level (LOS F in the AM or PM peak hour);

b) For signalized intersections outside the Core Area, exacerbate unacceptable (LOS F) operations by increasing an intersection's average delay by five seconds or more;

c) For unsignalized intersections outside the Core Area, causes the worst-case movement (or average of all movements for all-way stop-controlled intersections) to deteriorate from an acceptable level (LOS E or better in the AM or PM peak hour) to an unacceptable level

(LOS F in the AM or PM peak hour) and meet the California Manual on Uniform Traffic Control Devices (MUTCD) peak hour signal warrant;

d) For unsignalized intersections outside the Core Area that operate unacceptably (LOS F in the AM or PM peak hour) and meet MUTCD's peak hour signal warrant without the project, exacerbate operations by increasing the overall intersection's volume by more than one percent; or

e) For unsignalized intersections that operate unacceptably, but do not meet MUTCD's peak hour signal warrant without the project, add sufficient volume to meet the MUTCD peak hour signal warrant.

Existing Traffic Conditions

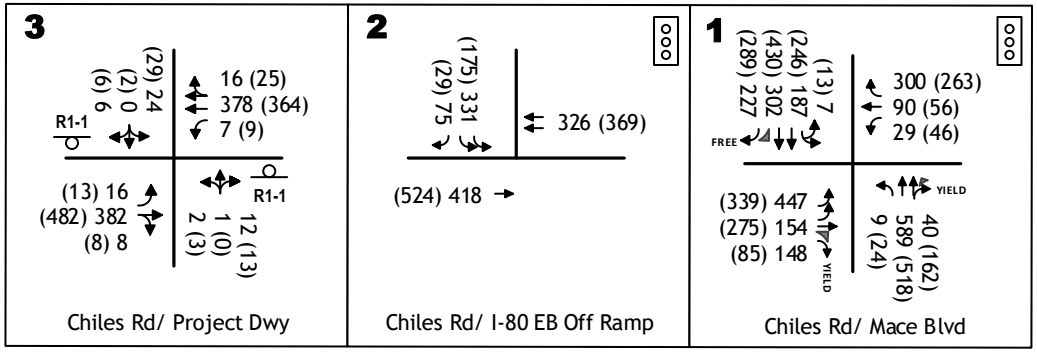
Fehr and Peers recently completed a traffic study for a similar project at 4810 Chiles Road. Their Synchro files were obtained from the City and the existing volumes contained in these files were used for the study intersections. Additional counts at the existing site driveways were conducted in early October 2021 after the Davis Joint Unified School District and UC Davis schools were in session. The Synchro/SimTraffic files were calibrated at the study intersections to represent existing conditions from the Fehr and Peers study. Figure 3 displays the existing traffic volumes for the study intersections.

Intersection Levels of Service. Table 2 summarizes the current Levels of Service at the study intersections. During the a.m. peak hour the intersections operate at LOS C or better while in the p.m. peak hour the intersections operate at LOS E or better. This meets the minimum City standards.

TABLE 2
EXISTING PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay (secs)	LOS	Average Delay (secs)
1. Mace Blvd / Chiles Rd	Signal	C	28.0	E	60.0
2. Chiles Rd / I-80 EB Ramp	Signal	A	9.2	C	33.7

Bicycle and Pedestrian Facilities. Bicycle and pedestrian facilities are available throughout the City of Davis. The City has developed an extensive bicycle system extending into the University and Yolo County. On-street facilities exist along Chiles Road with the eastbound bike lane extending along Chiles Road from the west to the Mace Blvd intersection. Westbound, a shoulder is present from Mace Blvd to the I-80 Eastbound Off-Ramp transitioning into a bike lane on the departure leg of the intersection. In the project vicinity, sidewalks are present along both sides of Chiles Road.



Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Signalized Intersection

NORTH

N.T.S.

EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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figure 3

PROJECT IMPACTS

Project Characteristics

The development of this project will attract additional traffic to the project site. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

I. Trip Generation, the number of new vehicular trips generated by the project, and
II. Trip Distribution and Assignment, the specific routes that the new traffic takes.

Vehicular Trip Generation. Trip generation is determined by identifying the type and size of development. The Institute of Transportation Engineers (ITE) publication *Trip Generation, 11th Edition, 2021* publishes trip generation rates for a variety of land uses. Land-Use 945 "Convenience Store / Gas Station" was used to estimate project trips and are shown in Table 3. The site is projected to generate 160 a.m. peak hour trips and 154 p.m. peak hour trips. Traffic counts were conducted at the project driveways to determine the existing traffic entering and exiting the site. After accounting for existing traffic the site is projected to generate 122 new a.m. peak hour trips and 121 new p.m. peak hour trips.

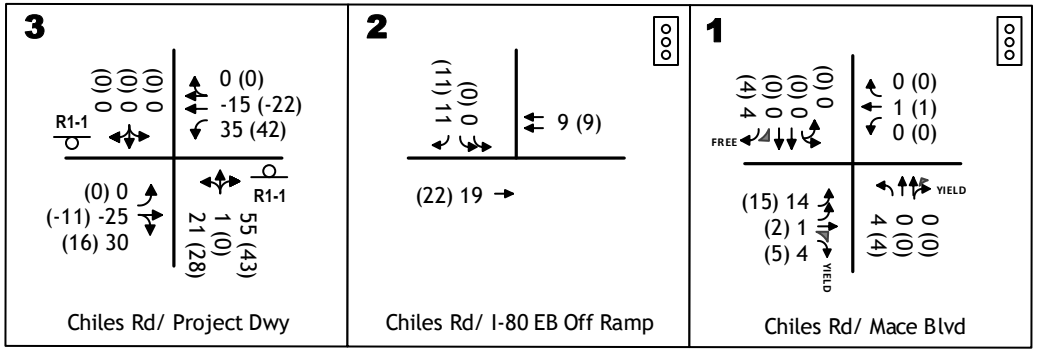
Pass-By Trips. Trips generated by retail projects fit into two categories. Some trips will be made by patrons who would not otherwise be on the local street system and who go out of their way to reach the site. These are "new" primary trips. Other trips will be made by patrons who are already in the roadway network and stop by the site as part of a trip made for another purpose. These "pass-by" trips do not add traffic to the overall system. The ITE *Trip Generation Handbook* provides information on pass-by trips. Data for convenience store / gas stations (LU 945) is available and shows pass-by rates of 62% in the a.m. peak hour and 56% in the p.m. peak hour. Application of these rates yields 76 a.m. peak hour pass-by trips and 68 p.m. peak hour pass-by trips. After accounting for pass-by traffic, the project is expected to generate 46 new primary a.m. peak hour trips and 53 new primary p.m. peak hour trips.

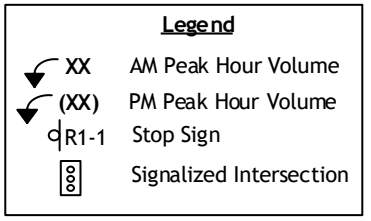
TABLE 3 TRIP GENERATION							
Land Use	**Amount**	**Peak Hour**					
		Rate			**Rate**		
		AM	**In**	**Out**	**PM**	**In**	**Out**
Convenience Store / Gas Station (LU 945)	2.83 ksf	56.52	0.50	0.50	54.52	0.50	0.50
		Trips			**Trips**		
		AM	**In**	**Out**	**PM**	**In**	**Out**
Convenience Store / Gas Station (LU 945)		160	80	80	154	77	77
Total Trips		**160**	80	80	**154**	77	77
Existing Gas Station Trips		**(38)**	(15)	(23)	**(33)**	(17)	(16)
Net New Trips Generated		**122**	65	57	**121**	60	61
Pass-By Trips							
Convenience Store / Gas Station (LU 945) *(62% AM, 56% PM)*		(76)	(38)	(38)	(68)	(34)	(34)
Total New Pass-By Trips		**(76)**	(38)	(38)	**(68)**	(34)	(34)
Net New trips		**46**	**27**	**19**	**53**	**26**	**27**
ITE Trip Generation, 11th Edition		ksf – thousand square feet					

Vehicle Trip Distribution / Assignment. The distribution of project vehicular traffic was determined based on review of the existing traffic counts at the surrounding intersections, knowledge of the City's attractors and destinations including the adjacent I-80 freeway. Table 4 displays the trip distribution assumptions used for the proposed project.

Traffic generated by the project was assigned to the study area street system based on the projected distribution percentages. It is expected that traffic will be mostly from I-80 and south Davis. Figure 4 displays the project generated traffic with existing driveway traffic shifted to account for the change in operation of the east driveway. Figure 5 displays the resulting sum of existing a.m. and p.m. peak hour volumes and project trips at the study intersections.

TABLE 4 TRIP DISTRIBUTION	
Route	**% of Total Trips**
North on Mace Blvd / I-80 East	16%
I-80 West	44%
East on Chiles Rd	4%
West on Chiles Rd	20%
South on Mace Blvd	16%
Total	100%





N.T.S.

PROJECT ONLY TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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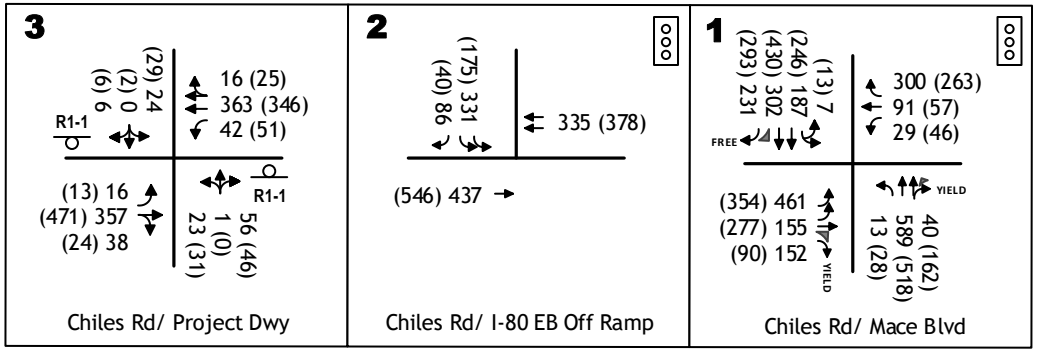

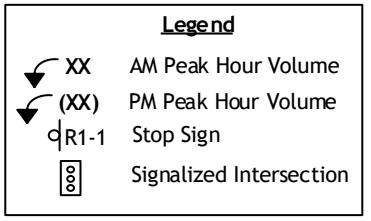

N.T.S.

EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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figure 5

Existing Plus Project Level of Service Impacts

Vehicle Miles Traveled. The project serves as both a local use to the south Davis community as well as an additional location for freeway traffic to stop in an existing highway commercial area. The City currently does not have adopted VMT standards; therefore the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* is used as the standard. OPR notes that local retail projects less than 50,000 square feet shall be presumed to have less than significant VMT effects. The project will add two fueling positions to an existing gas station, and the new convenience store will be about 2,900 square feet. Based on the project size relative to OPR standards this project is considered to have less than significant VMT effects.

Intersection Levels of Service. Table 5 displays the a.m. and p.m. peak period level of service at the study intersections under Existing plus Project conditions. Both intersections will see minimal change in intersection delays with the Mace Blvd / Chiles Road intersection continuing to operate at LOS E conditions in the p.m. peak hour and the Chiles Road / I-80 Eastbound Ramp intersection operating at LOS C.

TABLE 5
EXISTING PLUS PROJECT PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour		PM Peak Hour	
		LOS	Average Delay (secs)	LOS	Average Delay (secs)
1. **Mace Blvd / Chiles Rd**	Signal				
Existing		C	28.0	E	60.0
Existing Plus Project		C	33.5	E	60.2
2. **Chiles Rd / I-80 EB Ramp**	Signal				
Existing		A	9.2	C	33.7
Existing Plus Project		A	9.4	C	33.5

Cumulative Conditions

The project is consistent with the existing CMU zoning; therefore, a Cumulative analysis was not conducted.

Left Turn / Intersection Queuing Analysis. The quality of traffic flow can also be affected by queuing at signalized and unsignalized intersections. For this assessment the procedure used by Fehr and Peers for their 4810 Chiles Road traffic study was utilized. This methodology was presented in the November 2001 ITE Journal, titled, *Estimation of Maximum Queue Lengths at Unsignalized Intersections*. Table 6 presents the projected queues for the inbound left turn and the outbound movement at both driveways. A maximum queue of four vehicles (100 feet) is projected for the westbound left turn into the site. A maximum outbound queue of two vehicles (50 feet) is

projected at the west driveway and a queue of one vehicle (25 feet) is projected at the east driveway. Adequate space is available for these queues.

TABLE 6
QUEUES AT DRIVEWAYS

	AM Peak Hour	PM Peak Hour
West Driveway		
Inbound	3	4
Outbound	1	2
East Driveway		
Outbound	1	1

Site Circulation

The project will modify the existing driveways and add a circulating roadway around the car wash as illustrated in Figure 2. Full access will be provided at the west driveway while right-out only movements will be provided at the east driveway. New parking spaces will be installed along the west side of the site and in front of the AM/PM convenience store on the east side. Cars using the car wash will enter from the east side and exit to the west, then proceeding to the west driveway to exit the site.

Sight Distance. Sight distance at the existing project driveways along Chiles Road was compared to the requirements of the Caltrans Highway Design Manual (HDM), Chapters 2 and 4. Chiles Road is level and straight within 500 feet of the driveways. The posted speed limit on Chiles Road is 40 mph. The driveways are considered urban driveways as defined in the HDM, as the surrounding development includes urban type development, including curbs, gutters and sidewalks. Therefore, Minimum Stopping Sight Distance standards (MSSD) was used. For 40 mph speeds the MSSD is 300 feet.

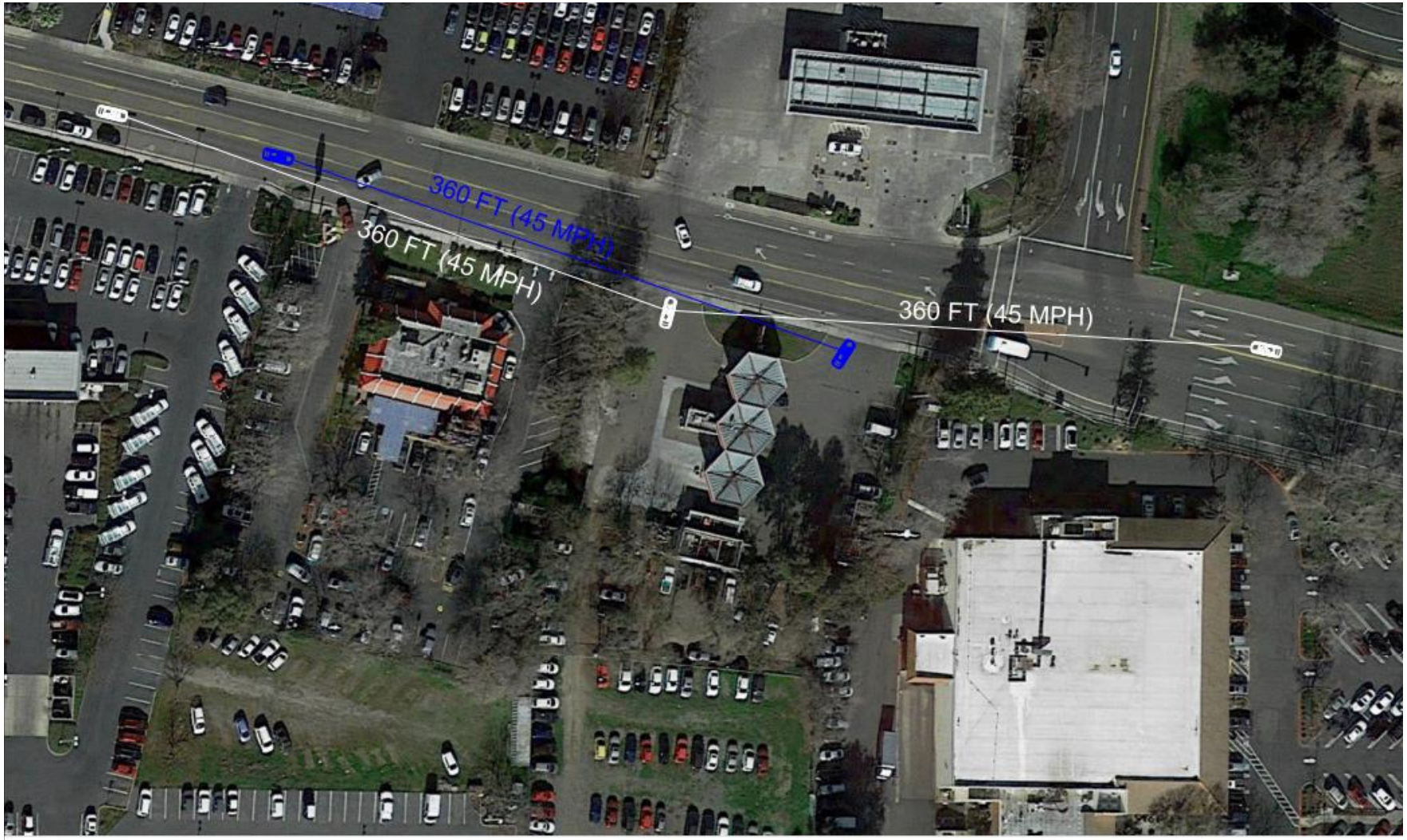
Figure 6 illustrates the sight lines from the approximate location of an outbound vehicle 15 feet behind the edge of travel way at both east and west driveways. The sight distance, with clear lines of sight, appears to be at least 360 feet in both directions which is consistent with a 45-mph approach.

Design Vehicle. The design vehicle used for the site is a dual-tanker fuel truck. The paths and turning requirements for the site were identified through application of AASHTO standards using *AutoTurn* software.

***AutoTurn* Site Evaluation.** The site plan was reviewed to confirm that the design vehicle can navigate the site to unload fuel at the underground tanks and exit the site without operational constraints. The fuel trucks will enter the site from westbound Chiles Road; it is assumed they

will enter the site from the adjacent I-80 Eastbound Mace Road Off-Ramp. The underground tanks are located linearly east-west to the west side of the car wash, and about midway between the car wash and the southerly fuel islands. Fuel trucks will have to orient themselves east-west to unload fuel. Two options are available, a counterclockwise movement and a clockwise movement. For clockwise movements the fuel truck orients the truck facing east to unload fuel. Upon departure they would circle around the car wash and exist the west driveway. The counterclockwise movement would first circle the car wash and orient the cab facing west to unload fuel. They would then turn right to head to the driveway along Chiles Road. Both alternatives will exit from the west driveway and are assumed to head east, back to I-80. To exit the driveway the trucks will need to use the west side of the driveway to avoid overtopping the curb. This will require the driver to consider customer traffic about to enter the site. It is recommended that fuel deliveries be scheduled during off-peak periods. Figures 7 and 8 illustrate the fuel tanker movements on-site in both clockwise and counter-clockwise directions.

Accident Review of Local Roadways. SWITRS collision data in the project vicinity was reviewed for the period January 2017 through July 2021. Two crashes were noted in the area, a rear end crash occurring eastbound between Mace Blvd and the I-80 Eastbound ramps, and a broadside crash occurring about 200 feet west of the project. This crash involved a left turning motorist failing to yield while entering Chile Road from the north and crashing into an eastbound bicyclist. No additional reported crashes were identified in this widened segment of Chiles Road west of Mace Blvd.



SIGHT DISTANCE

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figure 6

FUEL TRUCK CLOCKWISE

FUEL TRUCK COUNTER CLOCKWISE

FINDINGS / RECOMMENDATIONS/ IMPROVEMENTS

The preceding analysis has identified project impacts that may occur without identifying any recommendations or improvements. The text that follows identifies a strategy for recommendations to the 'No Project' conditions or improvements to the 'Plus Project' conditions.

Existing Conditions

The study intersections are projected to operate at LOS E or better during both a.m. and p.m. peak periods. This is within the City's LOS thresholds.

Existing Plus Project Conditions

The project will add two fueling positions and a 2,830 square foot convenience store to the existing gas station site. The site is a locally serving retail location for south Davis residents and will also provide continued use by freeway motorists. Based on the OPR definition for local serving retail the project is considered to have a less than significant impact on VMT.

Adequate operating level of service will be maintained at the two study intersections with both continuing to operate at LOS E or better during both peak periods. The maximum inbound left turn queue is projected to be four vehicles, 100 feet. This is accommodated in the existing two way left turn lane. The maximum outbound queue at the west driveway is projected to be two vehicles (50 feet) while the east driveway is projected to have a maximum queue of one vehicle (25 feet).

The following improvements are identified:

- The existing bike lane markings along the project frontage should be refreshed to provide positive guidance for bicyclists and motorists.
- A 75-foot raised median curb should be installed from the existing center median west, along the south side of the existing two-way-left-turn-lane. This will remove left turn movements at the existing east driveway.
- The east driveway should be redesigned to be angled towards eastbound Chiles Road to discourage eastbound traffic from entering this driveway.
- A 'no right turn sign (R3-1) west of the east driveway should also be installed to prohibit right turns.
- A R3-5 (right) sign (right turn arrow) and Type IV right arrow should be installed at the east driveway.

APPENDIX

Prepared by National Data & Surveying Services

4480 Chiles Rd/Gas & Shop - Petrol Pump /Chevron Dwy & Chiles Rd

Peak Hour Turning Movement Count

ID: 21-070185-001
City: Davis

Day: Monday
Date: 10/11/2021

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND — 4480 Chiles Rd/Gas & Shop - Petrol Pump /Chevron Dwy

AM	6	0	24	0	32	AM
NOON	0	0	0	0	0	NOON
PM	6	1	29	0	38	PM

EASTBOUND — Chiles Rd

AM	NOON	PM	
393	0	282	⇦
0	0	0	↩ 0
16	0	13	↱ 0
312	0	356	→ 0
8	0	8	↳ 0

WESTBOUND — Chiles Rd

PM	NOON	AM	
25	0	16	0 ↰
275	0	386	0 ←
5	0	7	0 ↰
1	0	0	0 ↰
389	0	337	⇨

NORTHBOUND — 4480 Chiles Rd/Gas & Shop - Petrol Pump /Chevron Dwy

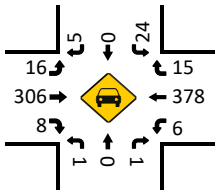
PM	14	0	1	0	3	PM
NOON	0	0	0	0	0	NOON
AM	15	0	1	0	1	AM

CONTROL

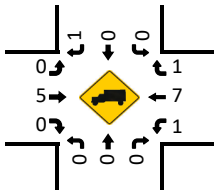
No Control

TEV	777 AM	0 NOON	723 PM
PHF	0.79		0.88

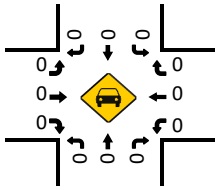
Cars (AM)



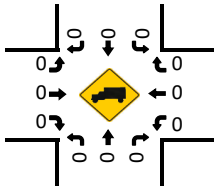
Duals (AM)



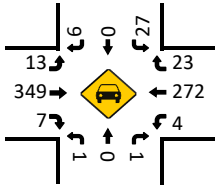
Cars (NOON)



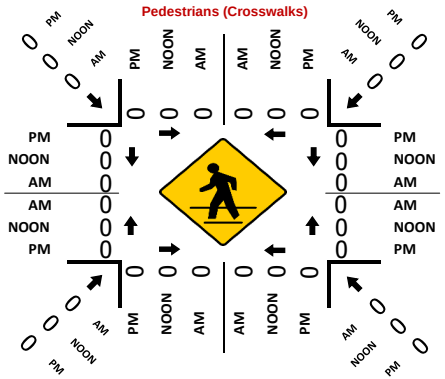
Duals (NOON)



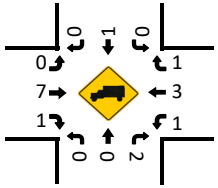
Cars (PM)



Pedestrians (Crosswalks)



Duals (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: 4480 Chiles Rd/Gas & Shop - Petrol Pump /Chevron Dwy & Chiles Rd
City: Davis
Control: No Control

Project ID: 21-070185-001
Date: 10/11/2021

Data - Total

NS/EW Streets:	4480 Chiles Rd/Gas & Shop - Petrol Pump /Chevron Dwy				4480 Chiles Rd/Gas & Shop - Petrol Pump /Chevron Dwy					Chiles Rd					Chiles Rd								
AM	NORTHBOUND				SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	NL	NT	NR	NU	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2R2	TOTAL
7:00 AM	0	0	1	0	6	0	1	0	0	3	42	2	0	0	2	40	6	0	1	0	0	4	108
7:15 AM	0	0	0	0	7	0	2	0	0	4	40	1	0	0	0	37	2	0	1	0	0	1	95
7:30 AM	0	0	0	0	5	0	2	0	0	5	53	0	0	0	2	60	3	0	0	0	0	0	130
7:45 AM	0	0	1	0	5	0	3	0	0	2	58	2	0	0	2	60	8	2	1	0	0	3	147
8:00 AM	1	0	1	0	2	0	3	0	0	3	84	3	0	0	3	79	0	0	0	0	1	5	185
8:15 AM	0	0	0	0	6	0	1	0	0	9	101	4	0	0	2	121	3	0	0	0	0	3	250
8:30 AM	0	0	0	0	8	0	1	0	0	1	63	1	0	0	0	121	8	0	0	1	0	2	206
8:45 AM	0	0	0	0	8	0	1	0	0	3	64	0	0	0	2	65	5	0	0	0	0	1	149
	NL	NT	NR	NU	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2R2	TOTAL
TOTAL VOLUMES :	1	0	3	0	47	0	14	0	0	30	505	13	0	0	13	583	35	2	3	1	1	19	1270
APPROACH %'s :	25.00%	0.00%	75.00%	0.00%	77.05%	0.00%	22.95%	0.00%	0.00%	5.47%	92.15%	2.37%	0.00%	0.00%	2.04%	91.67%	5.50%	0.31%	0.47%	4.76%	4.76%	90.48%	
PEAK HR :	08:00 AM - 09:00 AM																						TOTAL
PEAK HR VOL :	1	0	1	0	24	0	6	0	0	16	312	8	0	0	7	386	16	0	0	1	1	11	790
PEAK HR FACTOR :	0.250	0.000	0.250	0.000	0.750	0.000	0.500	0.000	0.000	0.444	0.772	0.500	0.000	0.000	0.583	0.798	0.500	0.000	0.000	0.250	0.250	0.550	0.790
		0.250					0.833					0.737					0.793						

PM	NORTHBOUND				SOUTHBOUND					EASTBOUND					WESTBOUND								
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2R2	TOTAL
4:00 PM	0	0	0	0	8	0	2	0	0	4	106	1	0	0	1	79	6	1	0	1	0	1	210
4:15 PM	0	0	0	0	9	0	1	0	1	3	93	2	0	0	1	60	8	0	1	1	0	1	181
4:30 PM	0	0	3	0	7	1	1	0	0	1	74	2	0	0	0	74	6	0	2	0	0	4	175
4:45 PM	1	0	0	0	5	0	2	0	0	5	83	3	0	0	3	62	5	0	1	0	0	4	174
5:00 PM	0	0	1	0	4	0	0	0	0	2	83	1	0	0	0	73	4	0	0	0	0	2	170
5:15 PM	0	0	1	0	10	0	4	0	0	5	74	1	0	0	2	73	13	0	0	0	0	1	184
5:30 PM	1	0	0	0	8	0	3	0	0	4	79	3	0	0	1	85	4	0	1	0	0	4	193
5:45 PM	0	0	0	0	2	0	3	0	0	2	61	1	0	0	1	76	4	0	1	0	0	1	152
	NL	NT	NR	NU	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L2	N2T2	N2R2	TOTAL
TOTAL VOLUMES :	2	0	5	0	53	1	16	0	1	26	653	14	0	0	9	582	50	1	6	2	0	18	1439
APPROACH %'s :	28.57%	0.00%	71.43%	0.00%	74.65%	1.41%	22.54%	0.00%	1.41%	3.75%	94.23%	2.02%	0.00%	0.00%	1.39%	89.81%	7.72%	0.15%	0.93%	10.00%	0.00%	90.00%	
PEAK HR :	04:00 PM - 05:00 PM																						TOTAL
PEAK HR VOL :	1	0	2	0	29	1	6	0	1	13	356	8	0	0	5	275	25	1	4	2	0	10	740
PEAK HR FACTOR :	0.250	0.000	0.250	0.000	0.806	0.250	0.750	0.000	0.250	0.650	0.840	0.667	0.000	0.000	0.417	0.870	0.781	0.250	0.500	0.500	0.000	0.625	0.881
		0.333					0.841					0.849					0.891						

National Data & Surveying Services Intersection Turning Movement Count

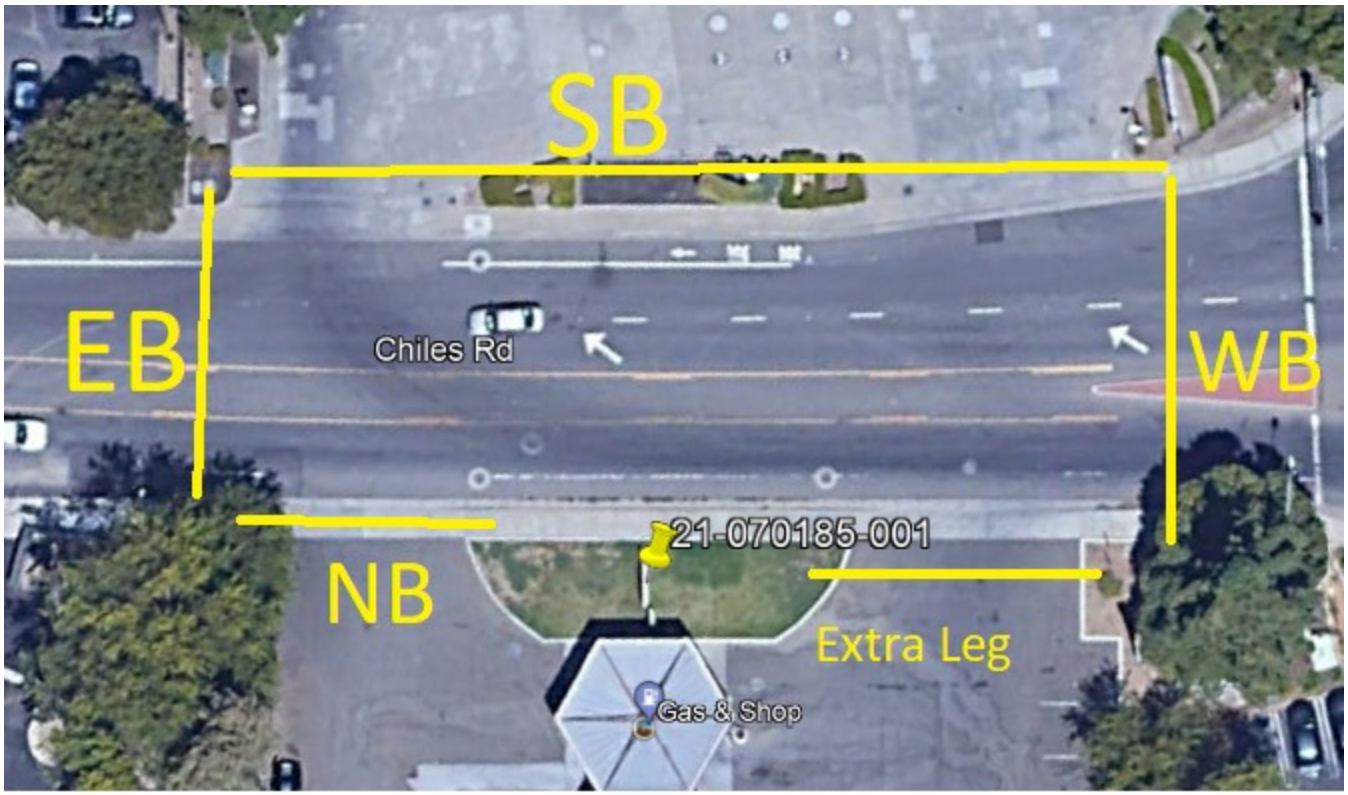
Explanation for extra leg movements

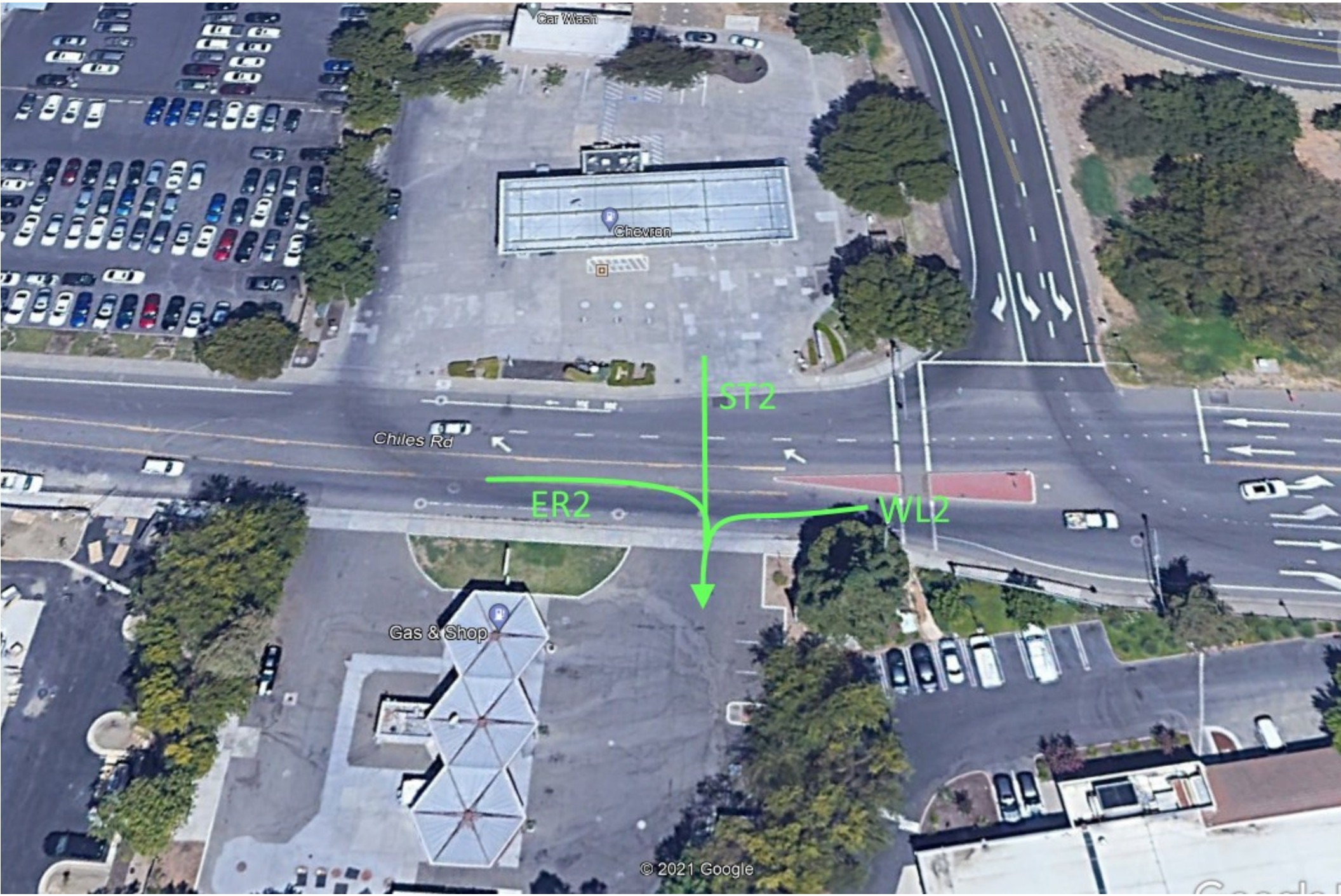
Movements entering the extra leg

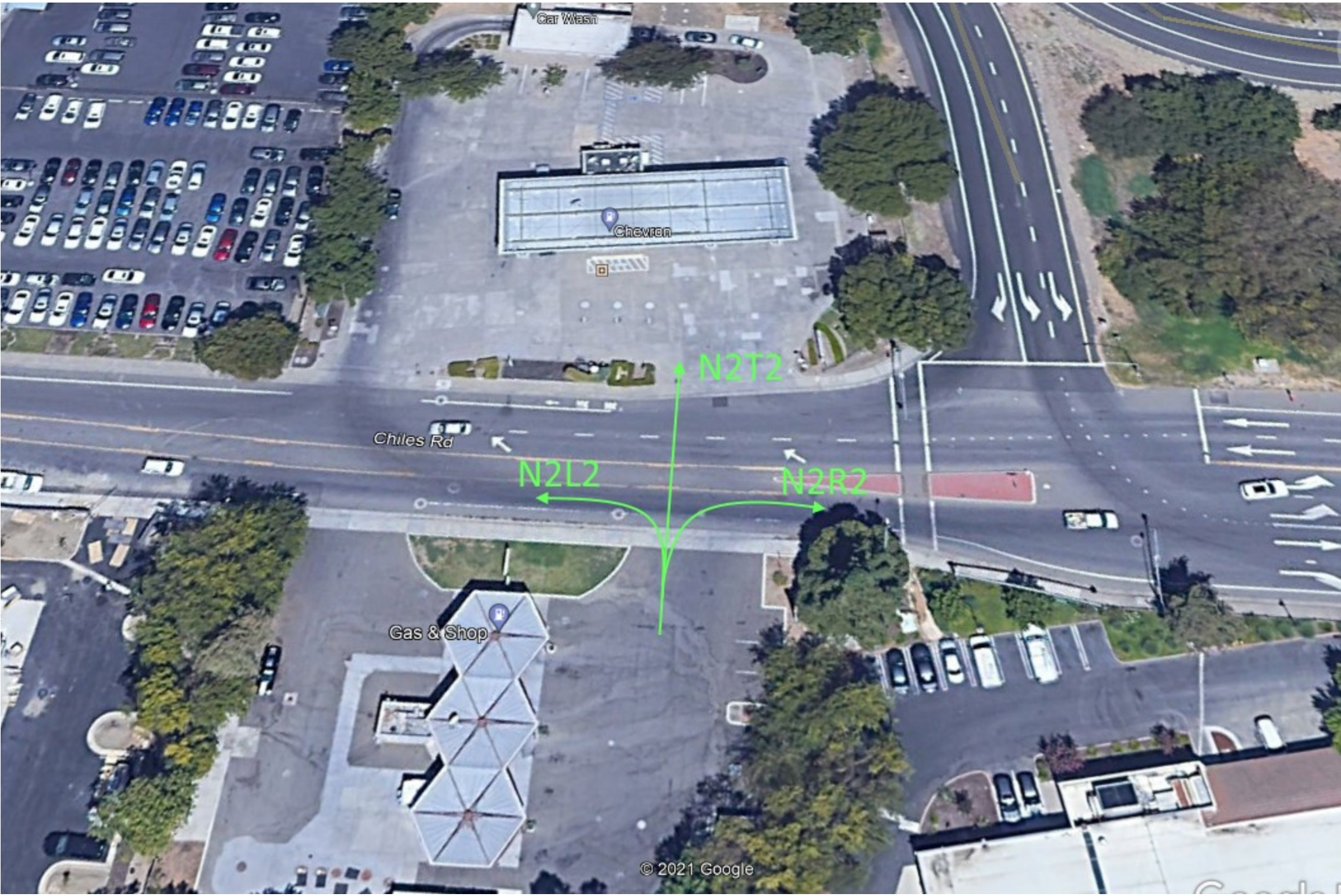
ST2	Movements coming from SB on Chevron Dwy entering into the Extra Leg (Gas & Shop - Petrol Pump)
ER2	Movements coming from EB on Chiles Rd entering into the Extra Leg (Gas & Shop - Petrol Pump)
WL2	Movements coming from WB on Chiles Rd entering into the Extra Leg (Gas & Shop - Petrol Pump)

Movements exiting the extra leg

N2L2	Movements exiting from Extra Leg (Gas & Shop - Petrol Pump) entering into Chiles Rd heading EB
N2T2	Movements exiting from Extra Leg (Gas & Shop - Petrol Pump) entering into Chevron Dwy heading SB
N2R2	Movements exiting from Extra Leg (Gas & Shop - Petrol Pump) entering into Chiles Rd heading WB


SB
EB
Chiles Rd
WB
21-070185-001
NB
Extra Leg
Gas & Shop


Car Wash
Chevron
ST2
Chiles Rd
ER2
WL2
Gas & Shop
© 2021 Google


Car Wash
Chevron
N2T2
Chiles Rd
N2L2
N2R2
Gas & Shop
© 2021 Google

KDA

1: Mace Blvd & Chiles Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	3.0	0.0	0.0	0.5
Total Del/Veh (s)	38.2	20.5	27.8	18.3	27.0

2: Chiles Rd & I-80 EB Off-Ramp Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.7	0.3
Total Del/Veh (s)	11.2	11.1	6.7	9.6

1: Mace Blvd & Chiles Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.0	3.2	0.0	0.0	0.7
Total Del/Veh (s)	127.0	26.7	13.0	103.6	69.4

2: Chiles Rd & I-80 EB Off-Ramp Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	1.4	0.0	0.5	0.7
Total Del/Veh (s)	73.8	26.1	9.0	42.1

1: Mace Blvd & Chiles Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	3.0	0.0	0.0	0.5
Total Del/Veh (s)	47.5	20.6	27.8	18.3	29.8

2: Chiles Rd & I-80 EB Off-Ramp Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.8	0.3
Total Del/Veh (s)	11.6	10.8	6.4	9.5

1: Mace Blvd & Chiles Rd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	3.1	0.0	0.0	0.5
Total Del/Veh (s)	116.6	37.0	13.7	108.4	69.2

2: Chiles Rd & I-80 EB Off-Ramp Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.7	0.2
Total Del/Veh (s)	47.9	23.3	11.7	29.6

KDA

REGRESSION EQUATIONS
ITE JOURNAL NOVEMBER 2001
AM

ALL TURNING VOLS <100
VOL = VPH/PHF

MAJOR STREET LEFT TURN	MAX QUEUE = -2.042 + 1.167 LN(APPR VOL) + 0.975(TS)
MINOR STREET - SHARED LEFT-THRU-RIGHT TURN	MAX QUEUE = -12.916 + 3.225 LN(APPR VOL) + 0.00569(Conflict Vols for Lefts & Thrus) - 0.000177 (Conflict Vols Rights) - 2.109 (Rt Turn %) -3.157(TS)
MINOR STREET - RIGHT TURN	MAX QUEUE = -19.822 + 0.688 LN(APPR VOL) + 1.886 TS + 0.369 (Lanes)^2 + 0.000000288 (Conflict Vols)^2 + 0.401 (Speed)

		vol	vol / phf	**QUEUES**	
LEFT TURN IN	APPR VOL	42	46	**3**	LEFT TURN IN
	TS	1	1		
MINOR LTR OUT	APPR VOL	38	41	**1**	MINOR LTR OUT
	Confl Lt/Th	800	1014		
	Confl Rt	38	50		
	RT%		0.395		
	TS		1		
MINOR RT OUT	APPR VOL	42	46	**1**	MINOR RT OUT
	TS		1		
	Lanes		1		
	Confl Vol	396	503		
	Speed		40		

REGRESSION EQUATIONS
ITE JOURNAL NOVEMBER 2001
PM

ALL TURNING VOLS <100
VOL = VPH/PHF

MAJOR STREET LEFT TURN — MAX QUEUE = -2.042 + 1.167 LN(APPR VOL) + 0.975(TS)

MINOR STREET - SHARED LEFT-THRU-RIGHT TURN — MAX QUEUE = -12.916 + 3.225 LN(APPR VOL) + 0.00569(Conflict Vols for Lefts & Thrus) - 0.000177 (Conflict Vols Rights) - 2.109 (Rt Turn %) -3.157(TS)

MINOR STREET - RIGHT TURN — MAX QUEUE = -19.822 + 0.688 LN(APPR VOL) + 1.886 TS + 0.369 (Lanes)^2 + 0.000000288 (Conflict Vols)^2 + 0.401 (Speed)

		vol	vol / phf	**QUEUES**	
LEFT TURN IN	APPR VOL	50	54.35	**4**	LEFT TURN IN
	TS	1	1		
MINOR LTR OUT	APPR VOL	45	49	**2**	MINOR LTR OUT
	Confl Lt/Th	887	1023.56		
	Confl Rt	24	28.22		
	RT%		0.311		
	TS		1		
MINOR RT OUT	APPR VOL	33	35.86957	**1**	MINOR RT OUT
	TS		1		
	Lanes		1		
	Confl Vol	514	604.0825		
	Speed		40		