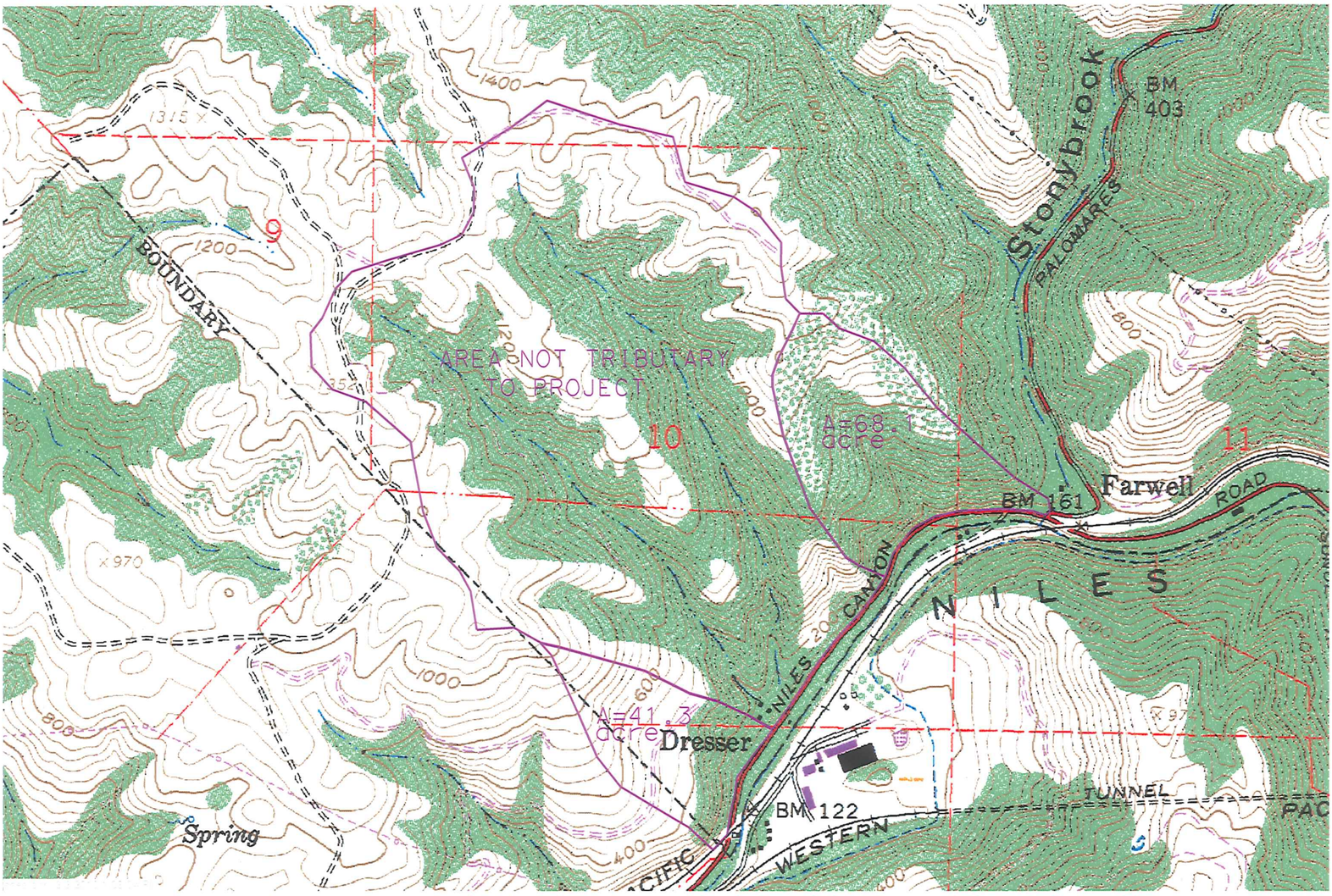
9
10
FOR UNION CITY SEE
VARD AND VICINITY MAP
LIMIT
LIMIT
CITY
CITY
Stony Brook Canyon
PALOMARES RD.
RD.
NILES
84
CANYON
UNION
NILES CANYON RD.
CANYON
U.P.R.R.
TUNNEL
FREMONT
S.P.T. CO.
NILES
CANYON
CANYON HEIGHTS
NILES DISTRICT
VALLEJO MILL HIST. PARK
SULLIVAN UNDERPASS
BLVD.
37000
BLAISDELL
SNYDER WY.
MONTALBAN
EASTERDAY
NICHOLS AV.
MAYHEWS RD. (PVT.)
HENDERSON CT.
2ND
3RD
4TH
P.O. ST.
NILES COMM. PARK
NILES COMM. CENTER
SCHOOL
RIVERSIDE AVE.
HILLVIEW DR.
WASHBURN
BODILY AVE.
RIVIERA DR.
CUENCA WAY
RANCHO
BARCELONA DR.
POSADA WY.
MONTECITO
ARROYO PK.
PACIFIC
TRAIL
Channel
B.A.R.T.
QUARRIES
ALAMEDA CREEK QUARRIES
R.R.
U.P.R.R. STATION
VON EUW COM.
GILBERT CT.
REDWOOD
FORD LN.
BUNTING LN. (PVT.)
AVE.
DASSEL RD.
HARRIS
BARTON
OLIVER
ANITA
ORCHARD DR.
JONES WY.
GOODRICH WY.
MISSION ROAD SANATORIUM
PICKERING
VALLEJO MILL PK.
ORANGEWOOD DR.
WASATCH
MOAB DR.
NEBO DR.
CLARKE DR.
OLD CANYON
STENHAMMER
DEER RD.
HEIGHTS
FILTON CT.
CHRISHOLM PL.
LOWELL PL.
TIERRA PL.
FLORA PL.
ALTURA PL.
WOODWARD DR.
TOTHERO PL.
MAAR AVE.
MAAR PL.
MORRISON
CANYON
RD.
MORRISON CANYON
CITY
VARGAS
TECADO COM. TER.
TECADO
LIMIT
UNION



AREA NOT TRIBUTARY
TO PROJECT
A=68.1
acre
A=41.3
acre
9
10
11
BOUNDARY
Stonybrook
PALOMARES
BM
403
Farwell
BM 161
ROAD
NILES
CANYON
NILES
Dresser
BM 122
TUNNEL
WESTERN
Spring
1400
1200
1000
800
600
400

Storm Water Calculations

Q: Water Quality Flow, cu ft/sec
I :Rainfall Intensity for region 2-SF Bay, 2 in/hr = 13mm/hr = 0.51"
I :Rainfall Intensity for region 2-SF Bay, 10 Yr 15 Minut 46mm/hr = 1.81"
I : **Rainfall total from a 25-year, 24-hour event 108 mm**
I : **Runoff coefficients C=0.95 (paved areas) C=0.55 (unpaved areas)**

A: Total Constructon Site Area = 3.69 AC
C: Average Runoff Coefficient at construction completion, 0.75

Q=CIA
2 Yr 1 Hour event
Q= (0.55)(0.51")(3.69)=1.035 ft3/sec

10 Yr 15 Minute
Q=(0.55)(1.81")(3.69)=3.67 ft3/sec

Runoff Coefficient Calculations

(0.55+0.95)/2 0.75

Q =(0.75)(1.81)(3.69)= 5.009 ft3/sec

Existing

Total construction area = 3.69 AC
Existing Pavement = 2.84 AC
Existing pervious = 1.14
Runoff coefficient paved = 0.95
Runoff coefficient unpaved = 0.55

Proposed

Construction Area
Impervous area @ completion = 1.14
Final pervious area = 3.69
Runoff coefficient paved = 0.95
Runoff coefficient unpaved = 0.55

INDEX OF SHEETS

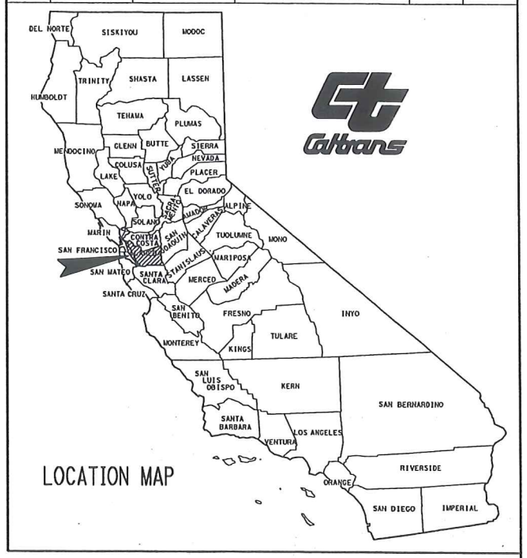
Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	84	19.5/19.9, 20.5/21.2		

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

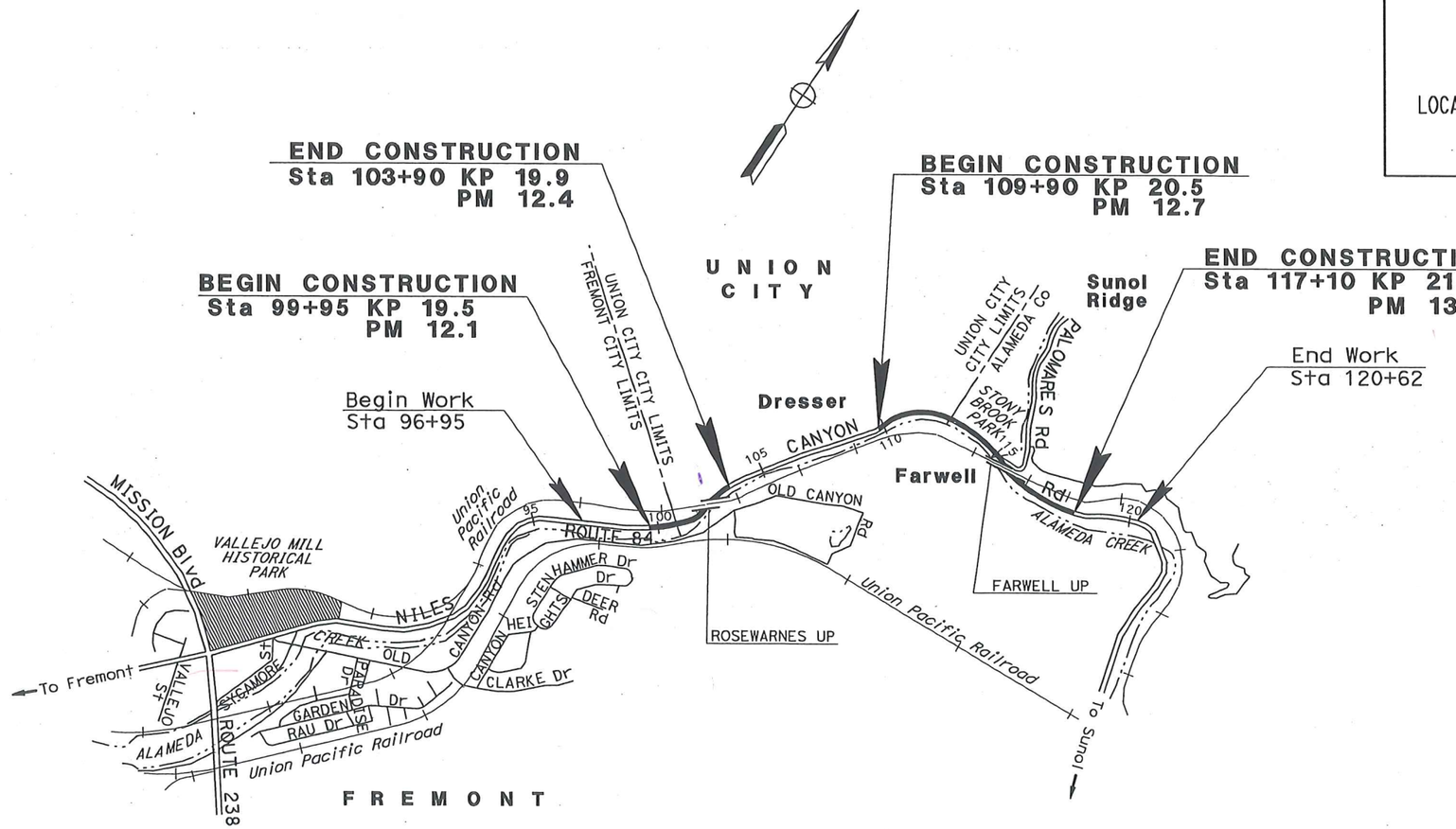
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN ALAMEDA COUNTY
IN FREMONT, UNION CITY AND AT SUNOL RIDGE
FROM 0.2 km SOUTH OF ROSEWARNES UNDERPASS
TO 0.1 km NORTH OF PALOMARES ROAD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED JULY 2004



LOCATION MAP



NO SCALE

DESIGN ENGINEER	PROJECT MANAGER
GHULAM POPAL	RON KIAAINA

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO CONTRACTORS."

PROJECT ENGINEER
REGISTERED CIVIL ENGINEER — DATE

REGISTERED PROFESSIONAL ENGINEER
Tam Ly
No. 69254
Exp. 6-30-10
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LAST REVISION 02-25-10
DATE PLOTTED => 25-FEB-2010
TIME PLOTTED => 09:09

CONTRACT No.	04-174414
CU 04231	EA 174411

BORDER LAST REVISED 3/1/2007 | CALTRANS WEB SITE IS: HTTP://WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80 | USERNAME => s132175 DGN FILE => 417441ab001.dgn

FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

SILT FENCE
CONST ENT/EXIT
DI PROTECTION
TEMP EROSION CONTROL BLANKET/TEM COVER

NOTES:

1. THE PROJECT VERTICAL DATUM IS NAVD 1988.
2. TOP OF GRATE ELEVATION (TG) IS FINISHED GRADE MINUS GUTTER DEPRESSION, AS APPLICABLE.
3. THE LOCATIONS OF EXISTING DRAINAGE FACILITIES ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION BEFORE MODIFYING EXISTING FACILITIES. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
5. FOR DRAINAGE INLET OFFSET AND TG REFERENCE LOCATIONS, SEE SHEET DD-1.

LEGEND:

(No.) DRAINAGE SYSTEM NUMBER
(a) DRAINAGE UNIT

ABBREVIATIONS:

SO SIDE OPENING
PE PERMANENT EASEMENT
TCE TEMPORARY CONSTRUCTION EASEMENT

Caltrans Metric

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Tam Ly — No. 69254 — Exp. 6-30-10 — CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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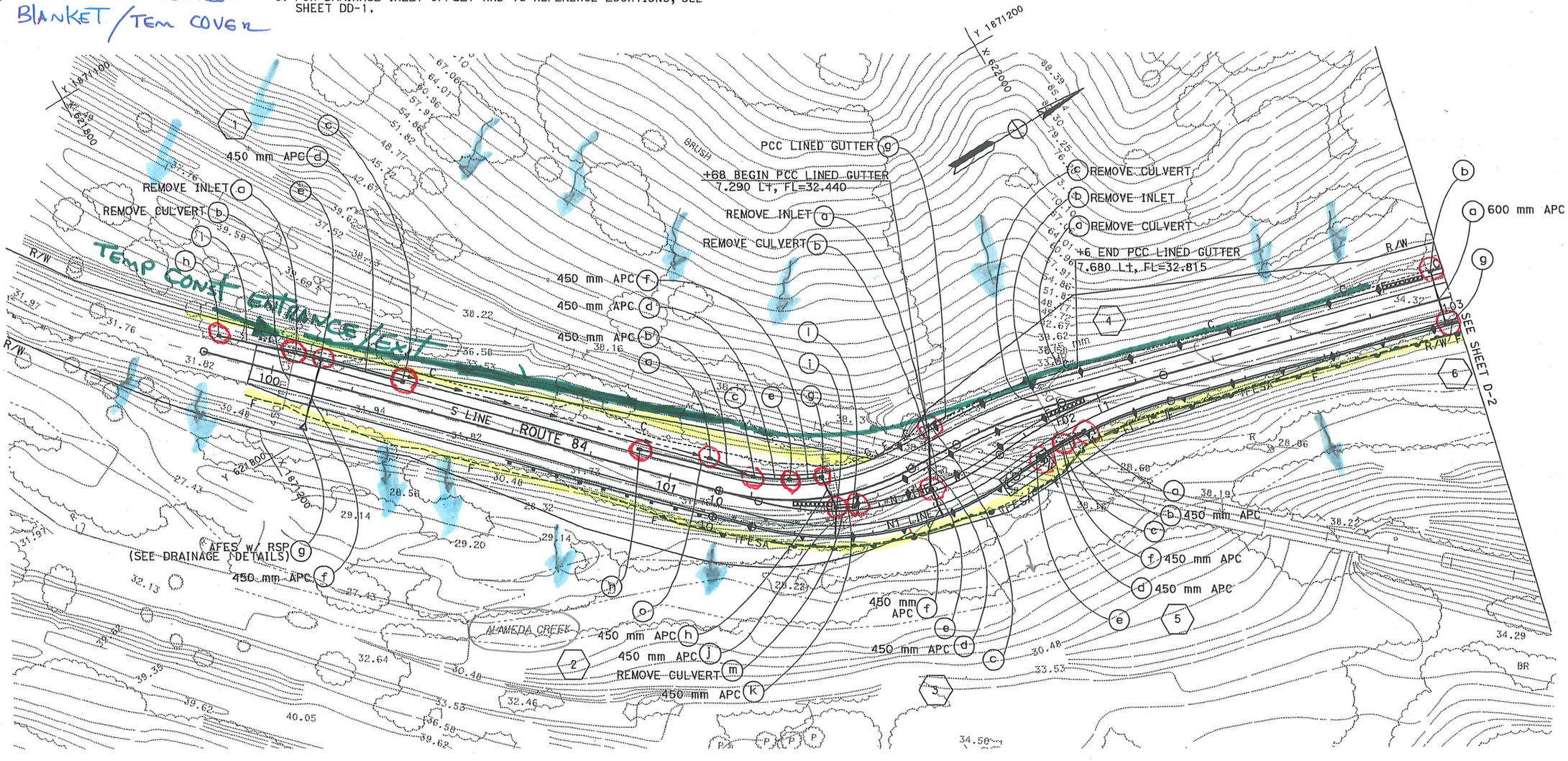

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DRAINAGE PLAN

SCALE 1:500

THIS PLAN IS ACCURATE FOR DRAINAGE WORK ONLY

D-1

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: TAM LY
CHECKED BY: GHULAM POPAL
FUNCTIONAL SUPERVISOR: GHULAM POPAL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

LAST REVISION 09-23-09 DATE PLOTTED => 17-FEB-2010 TIME PLOTTED => 10:49

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => s109484
DGN FILE => 417441o001.dgn

CU 04231

EA 174411

FOR ACCURATE RIGHT OF WAY AND
ACCESS DATA, CONTACT RIGHT OF WAY
ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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Tam Ly
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Exp. 6-30-10
CIVIL
STATE OF CALIFORNIA

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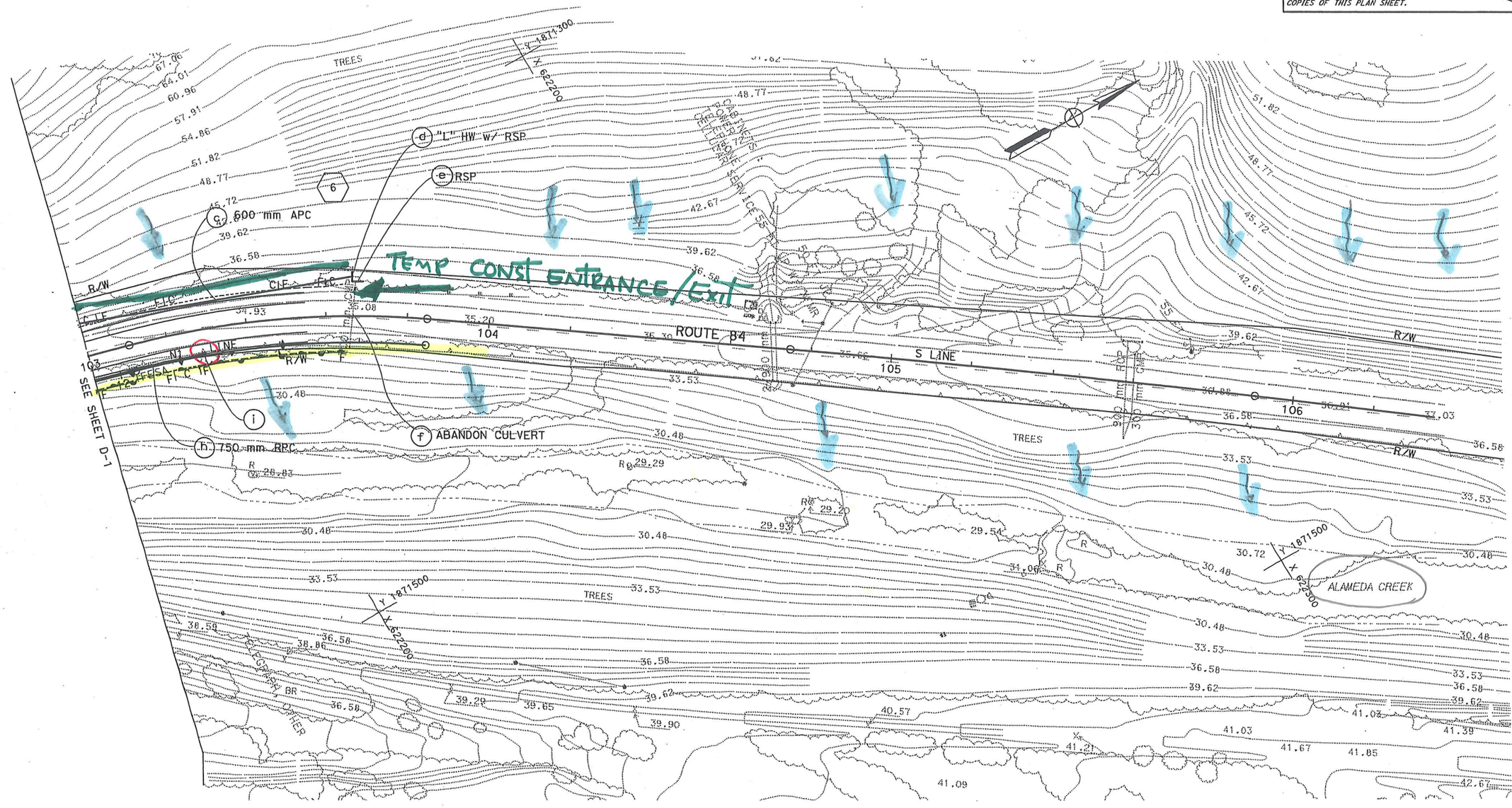

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET D-1

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

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DRAINAGE PLAN

SCALE 1:500

D-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: GHULAM POPAL

CALCULATED-DESIGNED BY: TAM LY
CHECKED BY: GHULAM POPAL

REVISED BY
DATE REVISED

LAST REVISION
DATE PLOTTED => 17-FEB-2010
09-23-09 TIME PLOTTED => 10:49

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IN INCHES 0 20 40 60 80

USERNAME => s109484

CU 04231

EA 174411

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REGISTERED PROFESSIONAL ENGINEER
Tam Ly
No. 69254
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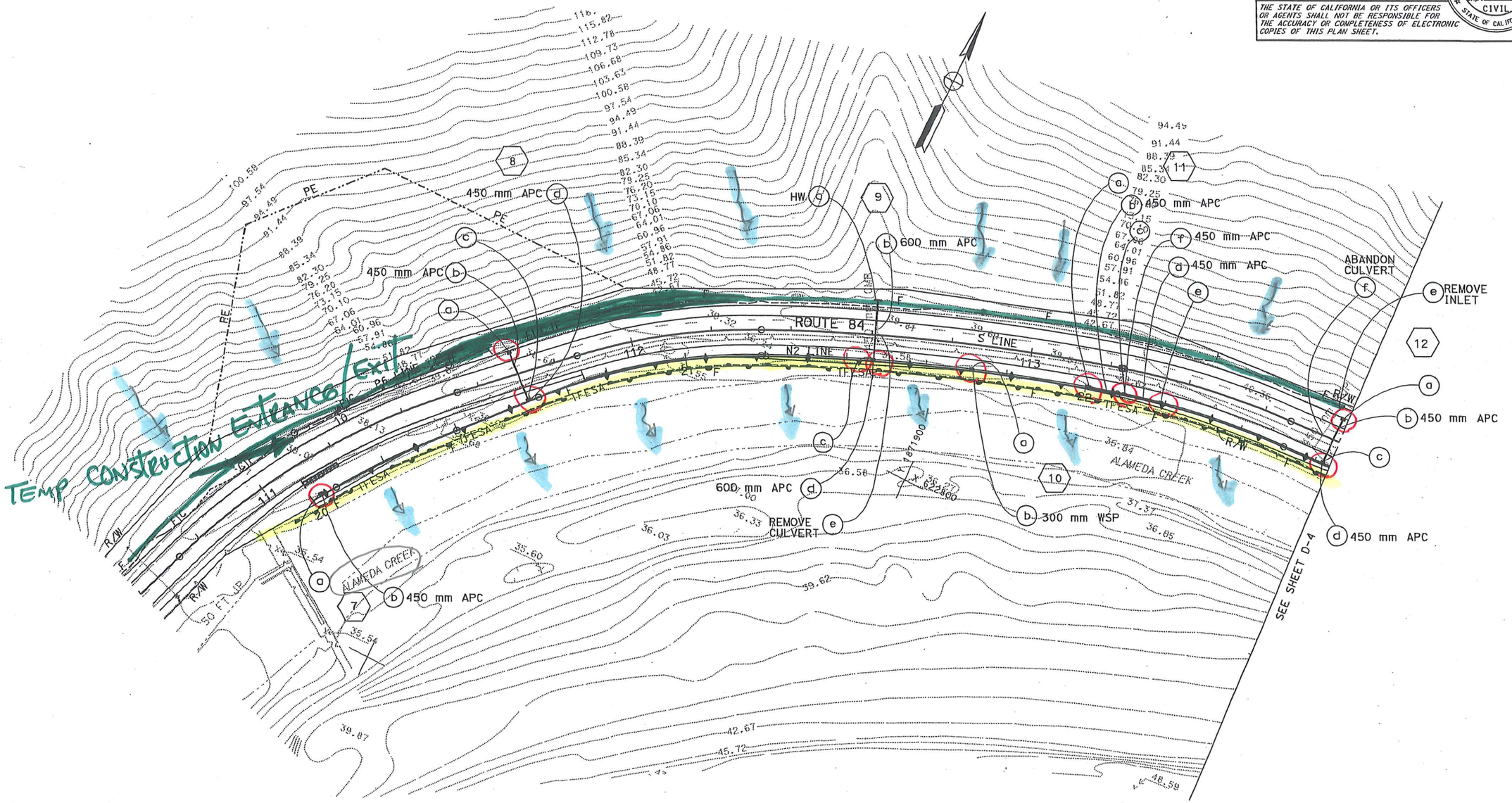
STATE OF CALIFORNIA



ALL DIMENSIONS ARE IN
METERS UNLESS OTHERWISE SHOWN

DRAINAGE PLAN

SCALE 1:500

D-3

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET D-1

THIS PLAN IS ACCURATE FOR DRAINAGE WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR: GHULAM POPAL
CALCULATED-DESIGNED BY: TAM LY
CHECKED BY: GHULAM POPAL
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 17-FEB-2010
09-23-09 TIME PLOTTED => 10:50

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => s109484

CU 04231

EA 174411

FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

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REGISTERED CIVIL ENGINEER DATE

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REGISTERED PROFESSIONAL ENGINEER — Tam Ly — No. 69254 — Exp. 6-30-10 — CIVIL — STATE OF CALIFORNIA

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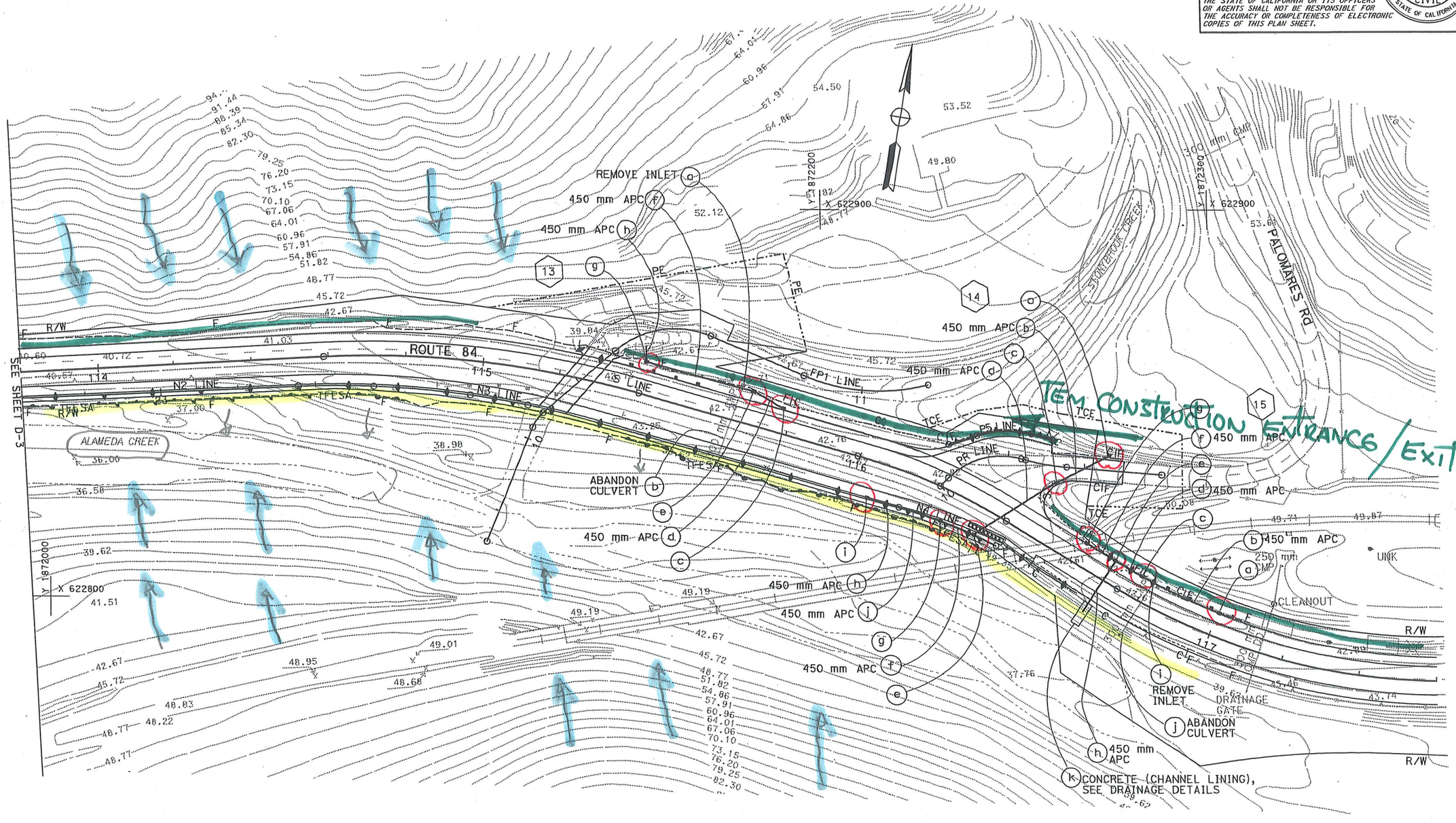

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DRAINAGE PLAN

SCALE 1:500

D-4

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET D-1

THIS PLAN IS ACCURATE FOR DRAINAGE WORK ONLY

CALCULATED-DESIGNED BY	TAM LY	REVISED BY	DATE REVISED
CHECKED BY	GHULAM POPAL		
FUNCTIONAL SUPERVISOR	GHULAM POPAL		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN		

LAST REVISION 09-23-09 DATE PLOTTED => 17-FEB-2010 TIME PLOTTED => 10:50

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USERNAME => s109484

CU 04231

EA 174411