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MECHANICAL PLANS

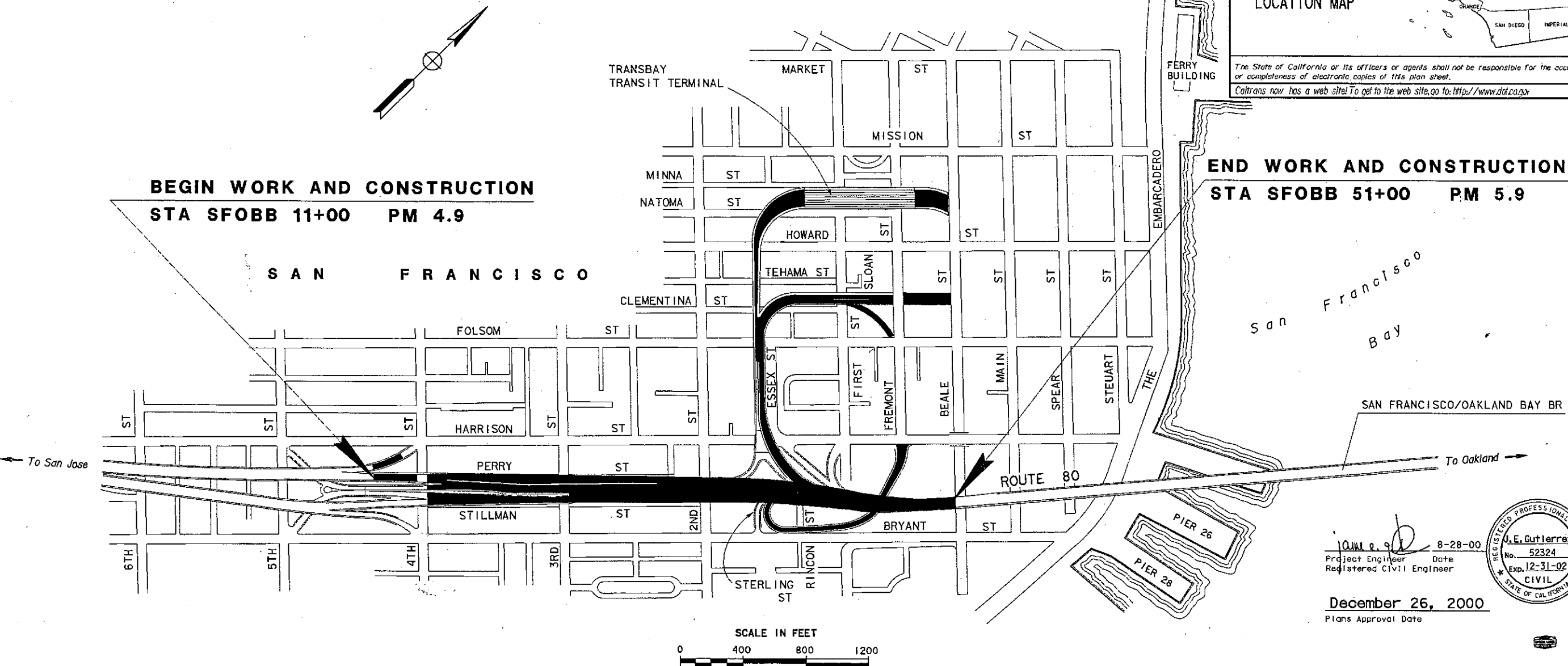
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STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY IN THE CITY AND COUNTY OF SAN FRANCISCO FROM FIFTH STREET TO BEALE STREET

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	1	166



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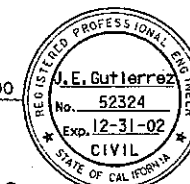


BEGIN WORK AND CONSTRUCTION
STA SFOBB 11+00 PM 4.9

END WORK AND CONSTRUCTION
STA SFOBB 51+00 PM 5.9

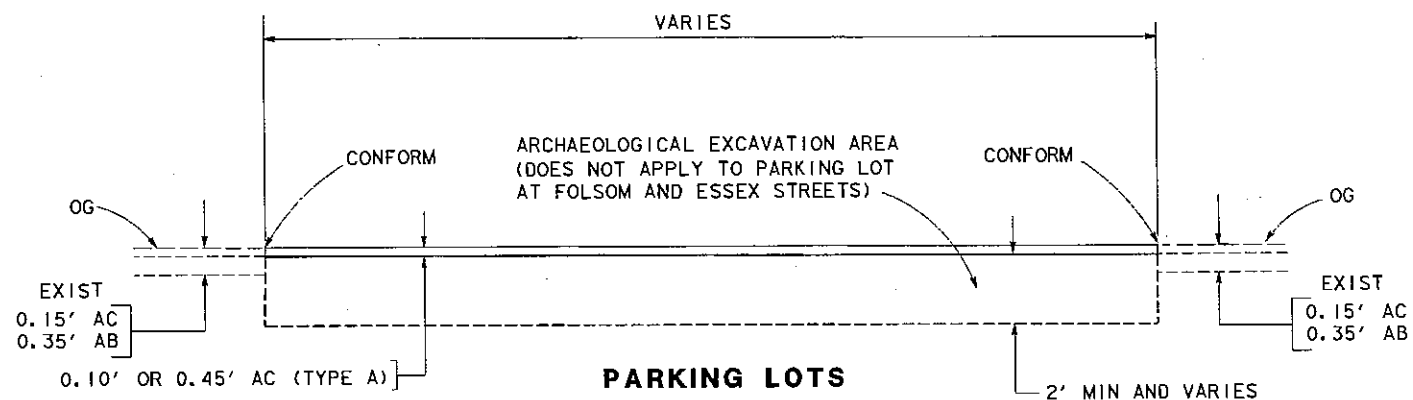
PROJECT ENGINEER	DATE	PROJECT MANAGER	DATE
J. E. GUTIERREZ	9-00	K. TERPSTRA	9-00

Project Engineer Date
Registered Civil Engineer
December 26, 2000
Plans Approval Date

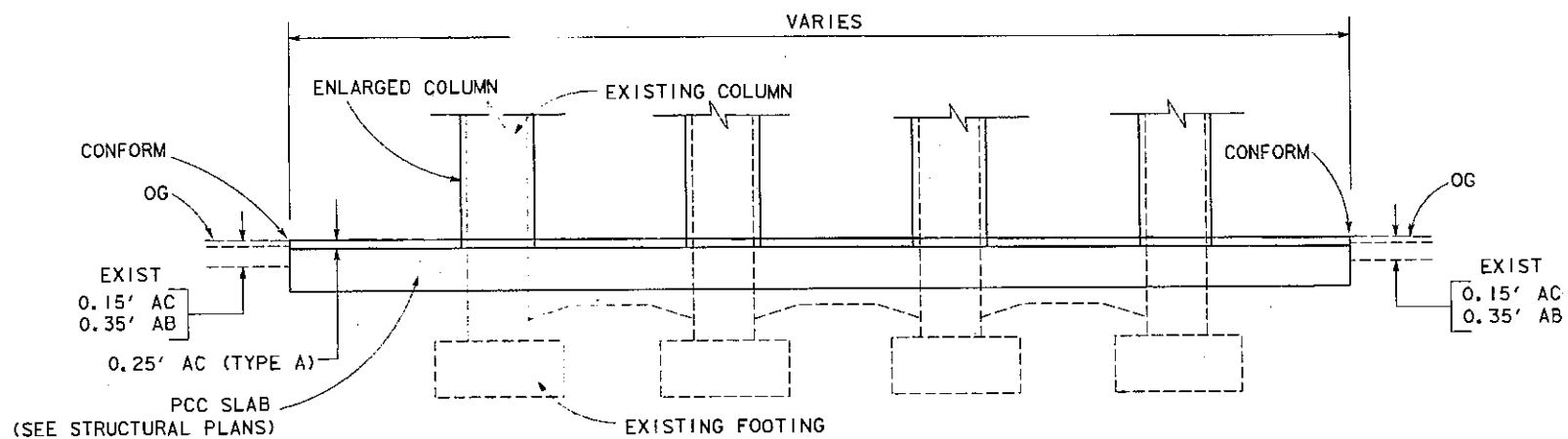


Contract No. **04-0435C4**

10 AM 2. 9/02 8-28-00
REGISTERED CIVIL ENGINEER
12-26-00
PLANS APPROVAL DATE
J. E. Gutierrez
No. 52324
Exp. 12-31-02
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1. AC SURFACING OF PARKING AREA (0.10') FOR PARKING LOT AT EAST CORNER OF FOLSOM AND ESSEX STREETS (LIMITS SHOWN ON LAYOUT SHEETS)
2. AC SURFACING OF PARKING AREA (0.45') AT ARCHAEOLOGICAL EXCAVATION LOCATIONS (LIMITS SHOWN ON STAGE CONSTRUCTION SHEETS)



**TRANSBAY TRANSIT TERMINAL
EAST AND WEST LOOP PARKING LOTS**

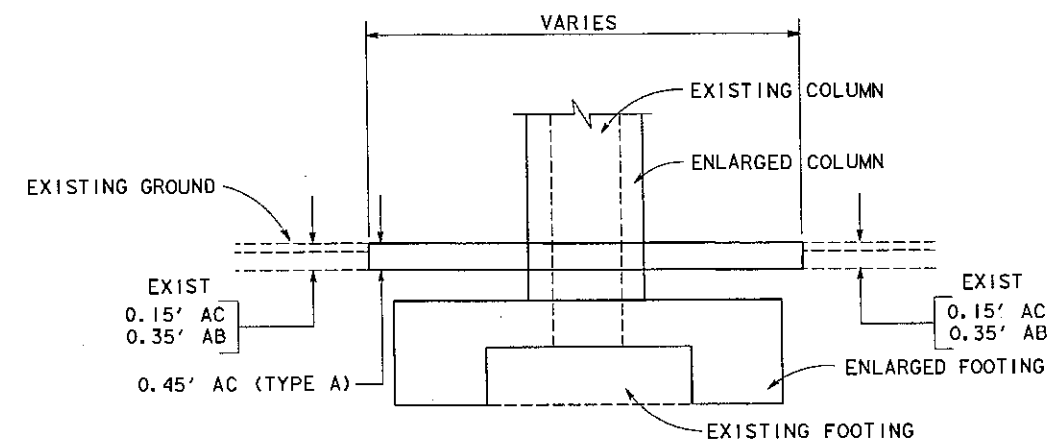
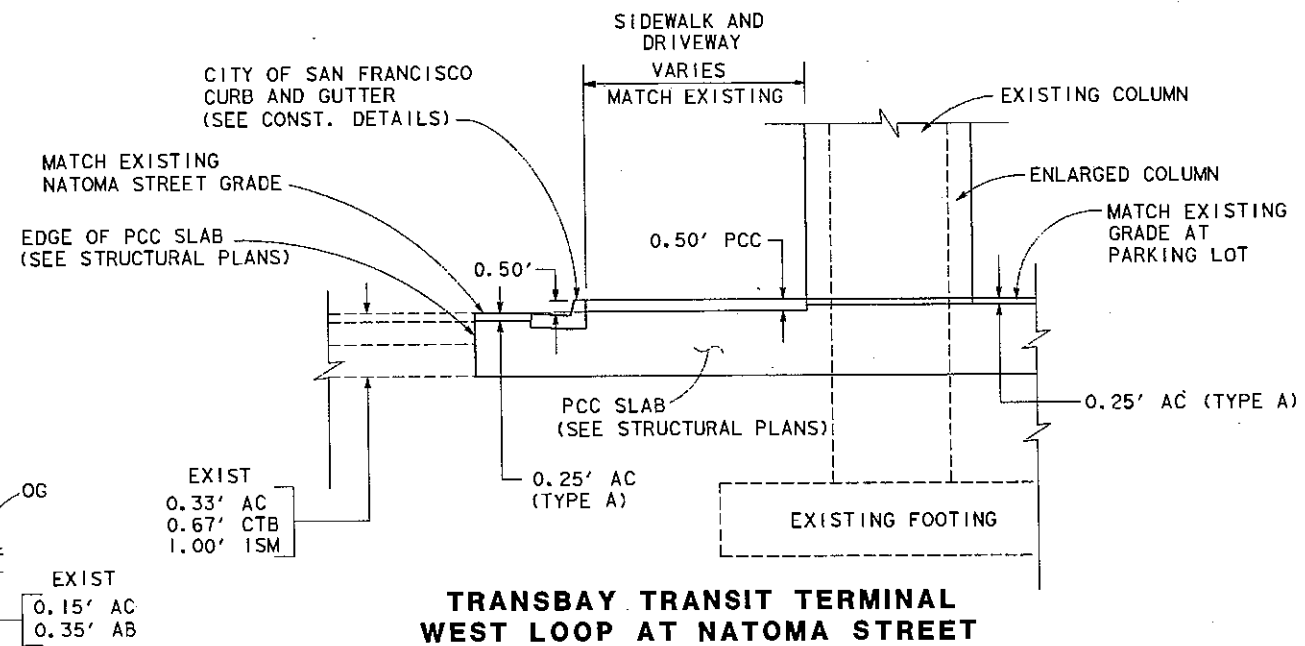
- LOCATIONS
- TL 109+30 TO TL 111+20
TL 120+05 TO TL 122+90

NOTES

1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. MATCH EXISTING CROSS SLOPES ON CITY STREETS, PARKING LOTS, AND SIDEWALKS AND DRIVEWAYS.
4. MATCH EXISTING CURB AND GUTTER HEIGHTS AS SHOWN IN CONSTRUCTION DETAILS SHEETS.

LEGEND

ISM - IMPORTED SUBBASE MATERIAL



PARKING LOT BETWEEN 4TH AND 5TH STREETS

- LOCATIONS
- AT ENLARGED STRUCTURE FOOTINGS (0.45')
(ALSO SEE CONSTRUCTION DETAILS SHEET C-20)

TYPICAL CROSS SECTIONS
NO SCALE

X-1

LEGEND

NOTES:

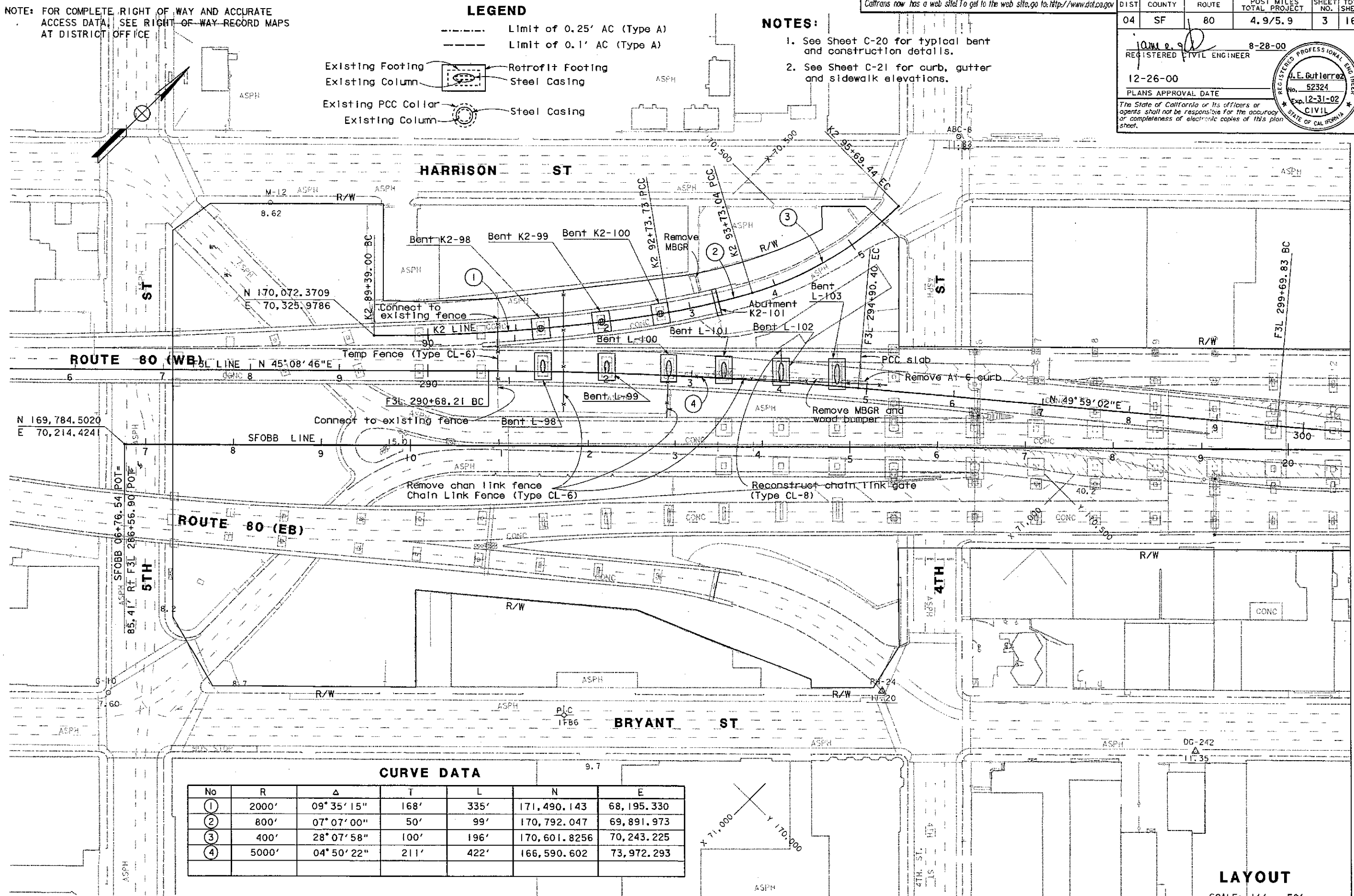
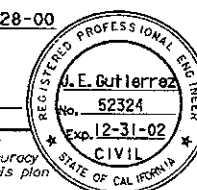
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James E. 90 8-28-01
REGISTERED CIVIL ENGINEER

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3-12333 JEE

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LAYOUT
SCALE: 1" = 50'

L-

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CU 04265

EA 0435C1

NOTE: FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE

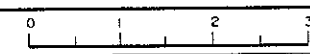
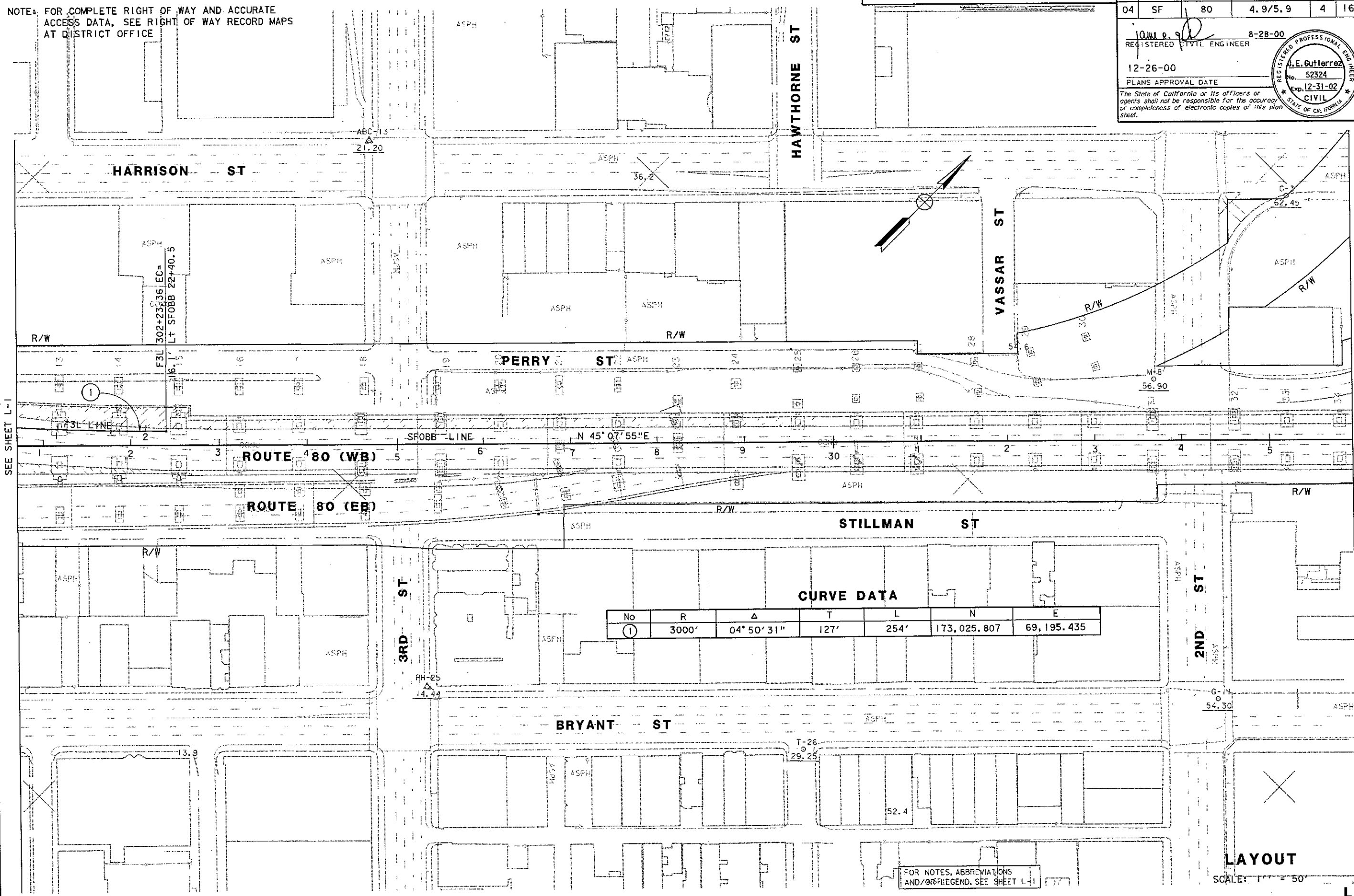
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04	SF	80	4.9/5.9	4	166

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8-28-00
12-26-00
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REGISTERED PROFESSIONAL ENGINEER
J. E. Gutierrez
No. 52324
Exp. 12-31-02
CIVIL
STATE OF CALIFORNIA

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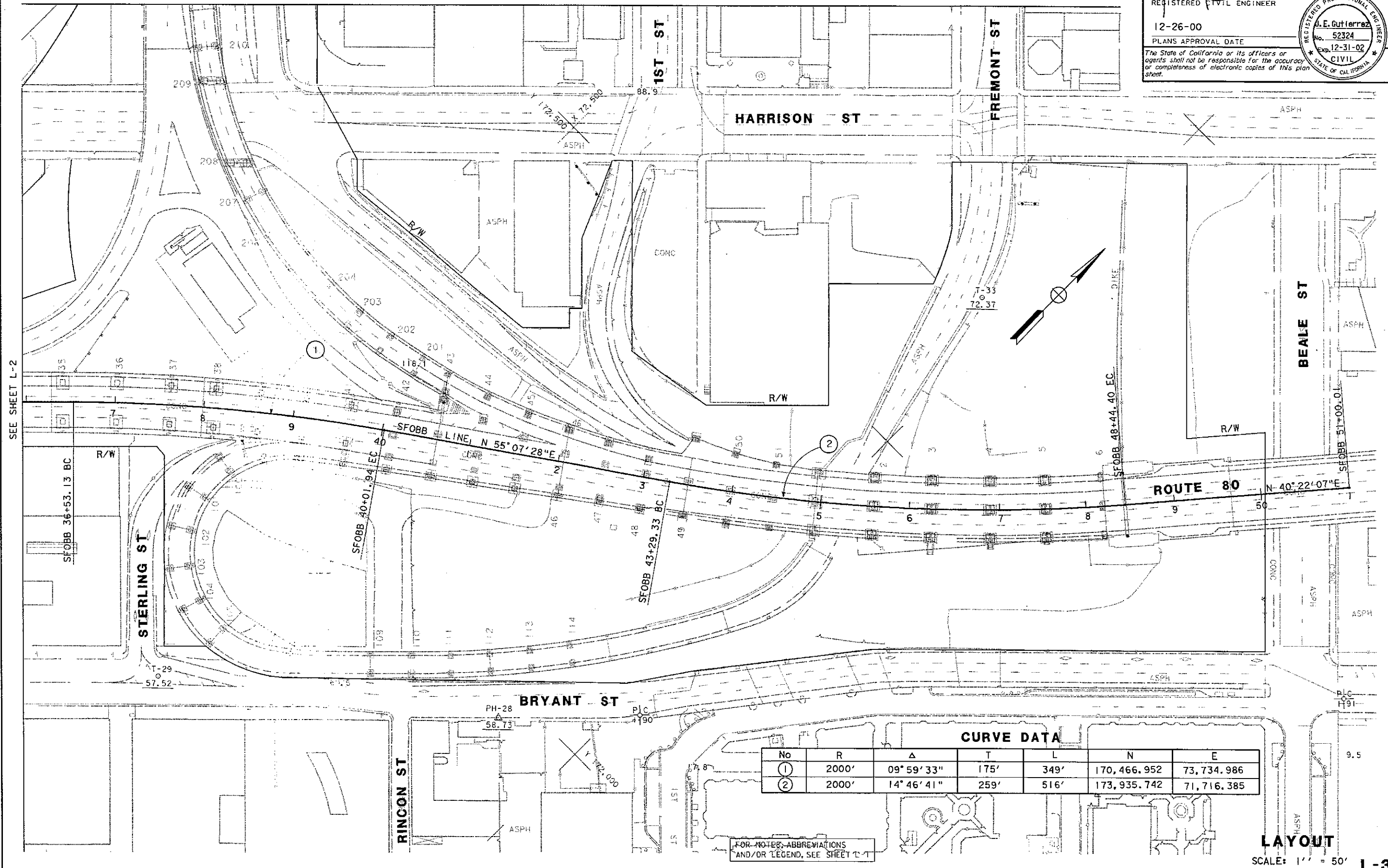
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SEE SHEET L-4



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SEE SHEET L-5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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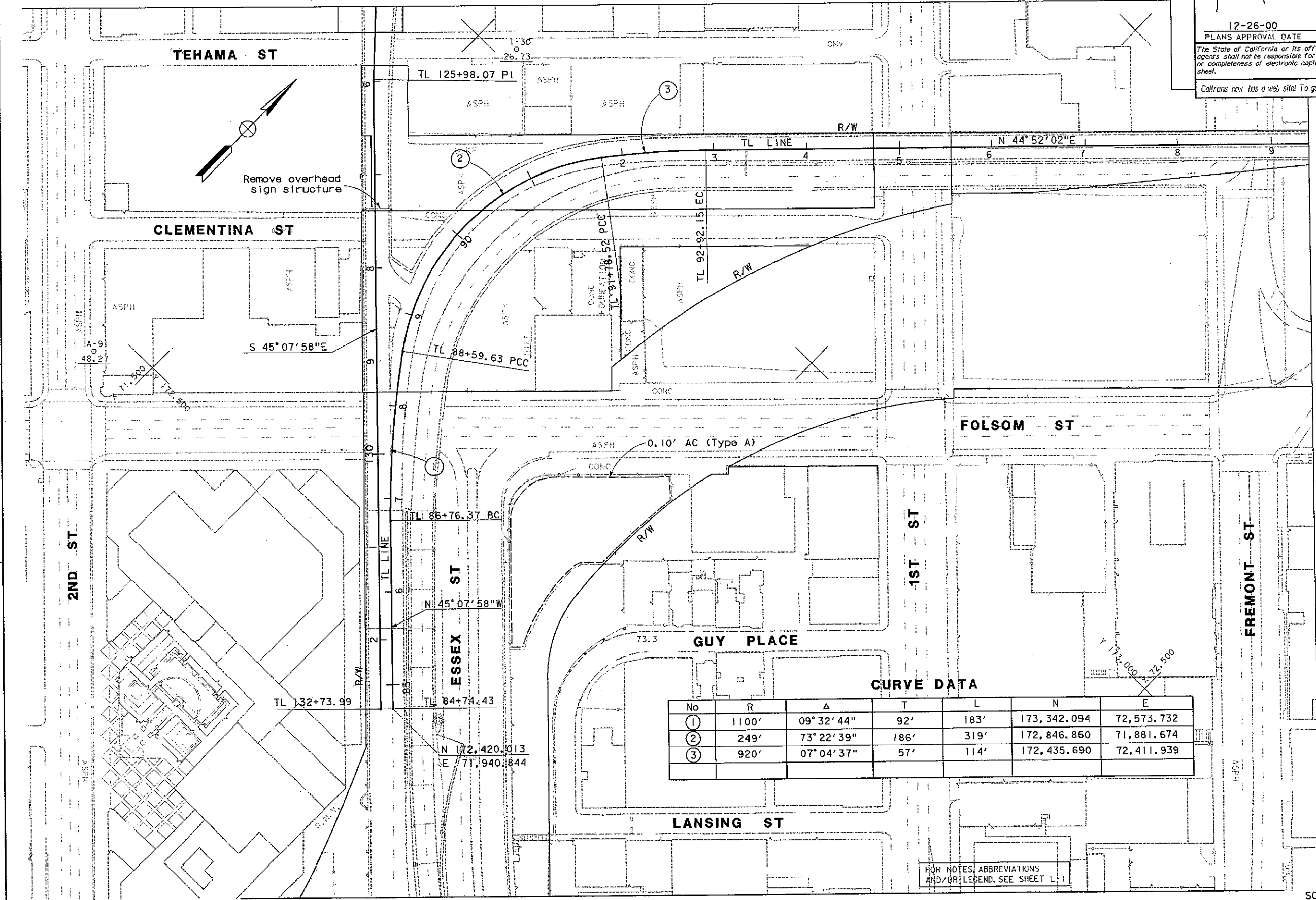
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No. 52324
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CIVIL
STATE OF CALIFORNIA



SEE SHEET L-6

SEE SHEET L-3

CURVE DATA						
No	R	Δ	T	L	N	E
①	1100'	09°32'44"	92'	183'	173,342.094	72,573.732
②	249'	73°22'39"	186'	319'	172,846.860	71,881.674
③	920'	07°04'37"	57'	114'	172,435.690	72,411.939

FOR NOTES, ABBREVIATIONS AND/OR LEGEND, SEE SHEET L-1

LAYOUT
SCALE: 1" = 50'
L-4

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USERNAME => trph11s
DGN FILE => 40435ce04.dgn

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EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 13:31
LAST REVISION
09-20-00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	7	166

James R. Galt 8-28-00
 REGISTERED CIVIL ENGINEER

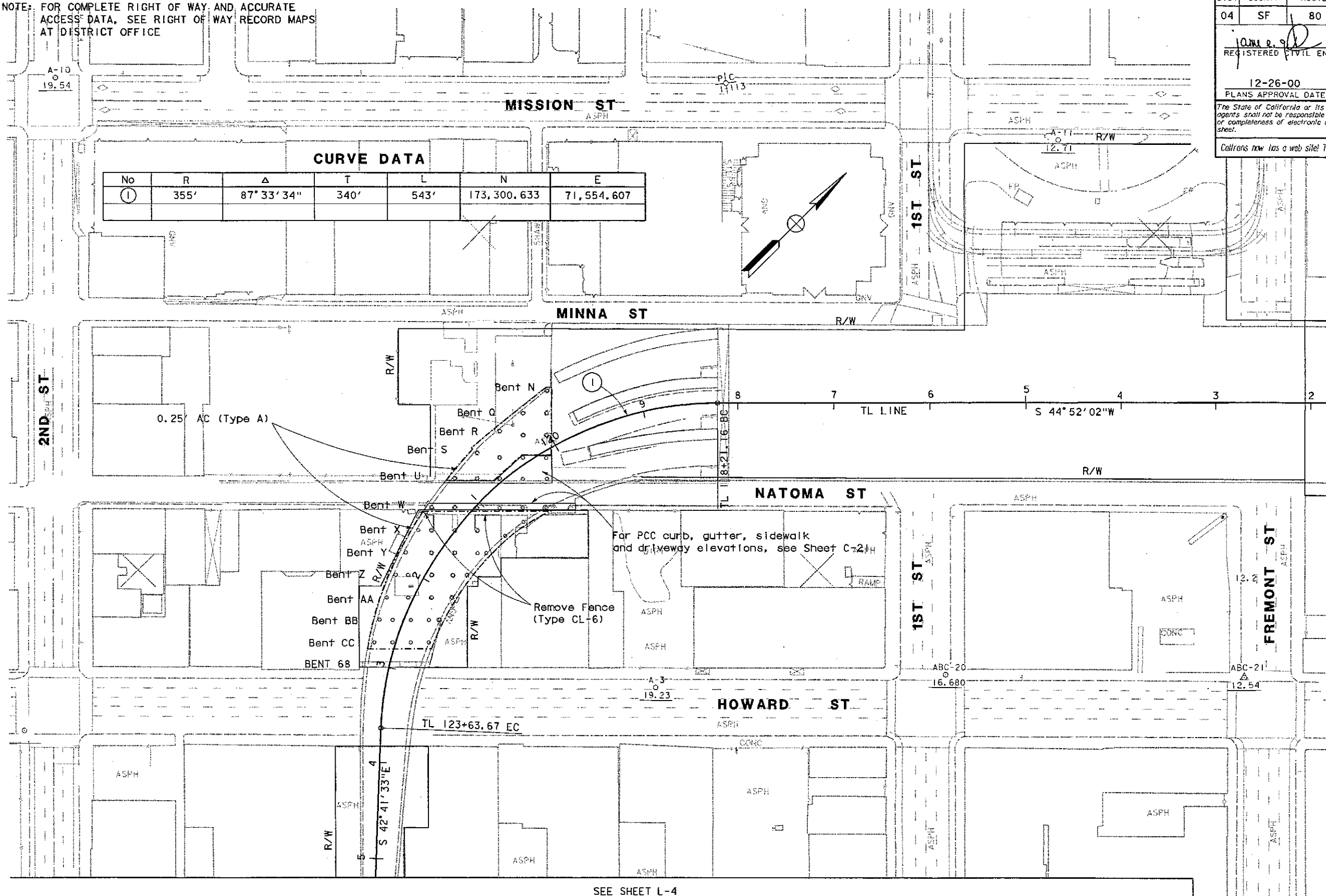
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REGISTERED PROFESSIONAL ENGINEER
 J.E. Gutierrez
 No. 52324
 Exp. 12-31-02
 CIVIL
 STATE OF CALIFORNIA

No	R	Δ	T	L	N	E
①	355'	87° 33' 34"	340'	543'	173,300.633	71,554.607



SEE SHEET L-6

LAYOUT
SCALE: 1" = 50'

L-5

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AND/OR LEGEND, SEE SHEET L-1

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LAST REVISION	DATE PLOTTED => 15-DEC-2000
09-20-00	TIME PLOTTED => 13:30

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		PROJECT ENGINEER					
et Caltrans PROJECT DEVELOPMENT		JAIME E. GUTIERREZ	CALCULATED/ DESIGNED BY	REVIEWED BY	DATE		
			CHECKED BY	DATE REVISED			

No	R	Δ	T	L	N	E
①	600'	13° 42' 15"	72'	144'	174,011.4332	71,835.750
②	305'	83° 02' 36"	270'	442'	173,858.777	72,088.183
③	344'	83° 15' 9"	306'	500'	173,828.095	72,064.108

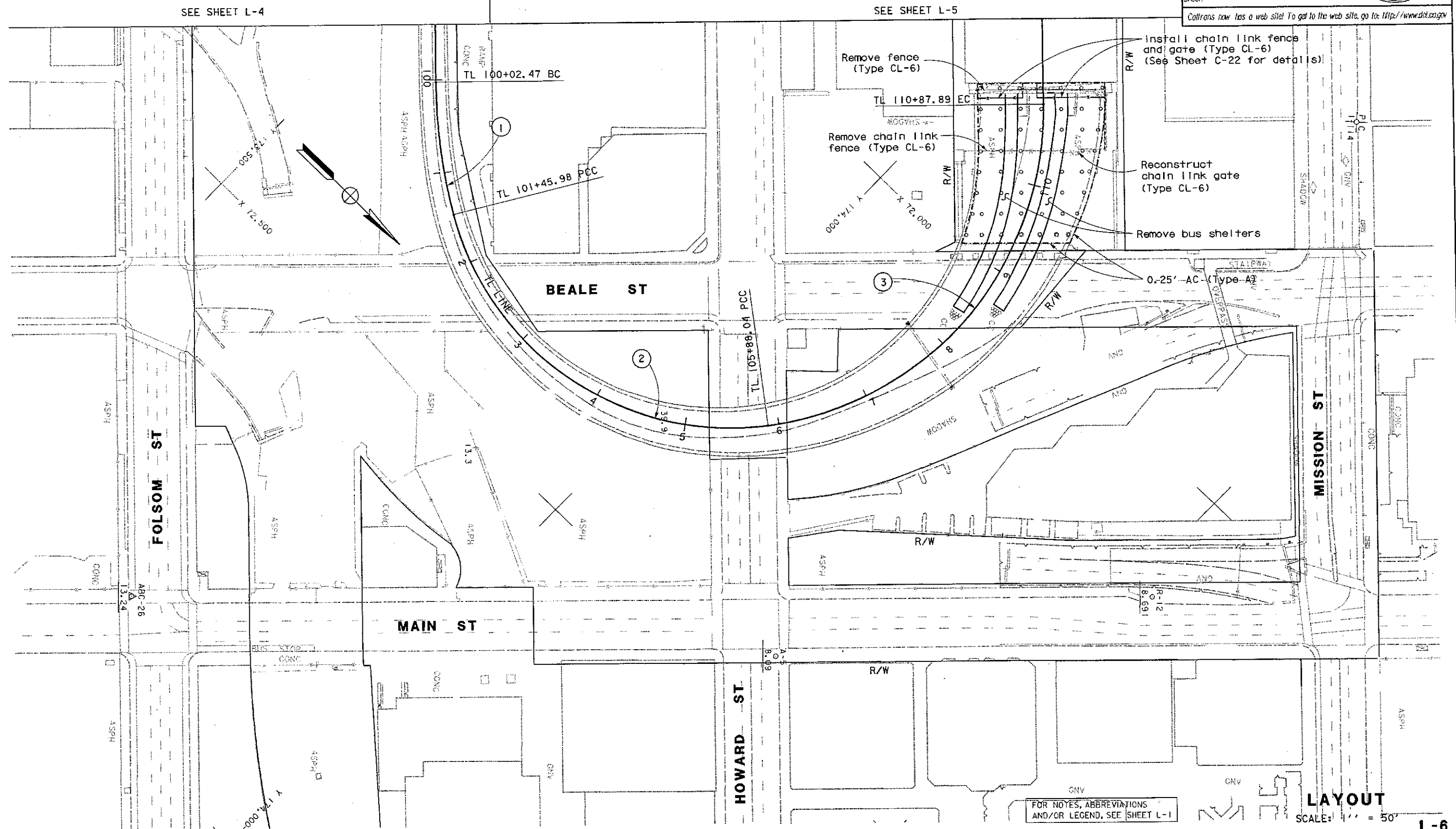
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	8	166

JOHN R. GUTIERROZ 8-28-00
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LAYOUT

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L-6

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A	
AB	aggregate base
ABBC	asbestos bonded bituminous coated
ABM	air-blown mortar
Abn	abandon
Abut	abutment
AC	asphalt concrete
ACB	asphalt concrete base
ACP	asbestos cement pipe
AFES	alternative flared end section
Ahd	ahead
Adj	adjust
Alt	alternate
AP	alternative pipe
APC	alternative pipe culvert
APU	alternative pipe underdrain
AS	aggregate subbase
ASRP	aluminum spiral rib pipe
Assy	assembly
ATPB	asphalt treated permeable base
ATPM	asphalt treated permeable material
Ave	avenue

	B
BB	beginning of bridge
BC	begin horizontal curve
BCR	begin curb return
Beg	begin
Bit Ctd	bituminous coated
Bk	back
Bkf	backfill
Bldg	building
Blyd	boulevard
BM	bench mark
Br	bridge
BVC	begin vertical curve
BW	barbed wire

CAA	cable anchor assembly
CAP	corrugated aluminum pipe
CAPA	corrugated aluminum pipe arch
CAS	construction area sign
C-C	center to center
Chnl	channel
CIDH	cast-in-drilled-hole
CIP	cast iron pipe
CIPCP	cast-in-place concrete pipe
CL	centerline
CL	chain link
Cl	class
Clr	clear, clearance
Co	county
Col	column
Conc	concrete
Cond	conduit
Conn	connector
Const	construct(ion)
Coord	coordinate
Cr	creek
CRSP	concreted rock slope protecti
CSP	corrugated steel pipe
CSPA	corrugated steel pipe arch

CTB	cement treated base
CTPB	cement treated permeable base
CTPM	cement treated permeable material
Culv	culvert

D	depth
Dbi	double
DD	downdrain
Del	delineator
Det	detour or detail
DF	Douglas Fir
DI	drainage inlet
Dia	diameter
Dist	distance
DMBB	double metal beam barrier
Dr	drive
DTBB	double thrie beam barrier
Dwy	driveway

EA	each
Ease	easement
EB	end of bridge or eastbound
EC	end horizontal curve
ECR	end curb return
ED	edge drain
EDC	edge drain cleanout
EDO	edge drain outlet
EDV	edge drain vent
Elev	elevation
Emb	embankment
EP	edge of pavement
Eq	equation
ES	edge of shoulder
ETW	edge of traveled way
EVC	end vertical curve
EW	endwall
Exc	excavation
Exist	existing
Exp	expressway
Exp Jt	expansion joint

F

F & C	frame and cover
Fdn	foundation
FEBT	facing eastbound traffic
FNBT	facing northbound traffic
FSBT	facing southbound traffic
FWBT	facing westbound traffic
FES	flared end section
FF	filter fabric
F & G	frame and grate
FG	finished grade
FH	fire hydrant
FL	flow line
Fr Rd	frontage road
Ftg	footing
Fwy	freeway

G

Ga	gage
Galv	galvanized
GP	grading plane
GR	guard railing

GSP	galvanized steel pipe
H	height, hour
HD	horizontal drain
Hortz	horizontal
HP	hinge point
HS	high strength
HW	headwall
Hwy	highway

IB	imported borrow
ID	inside diameter
Inv	invert
irr	irrigation
J	
JP	joint pole
JS	junction structure
Jt	joint

	K
KP	kilometer post
	L
L	length, liter
LCB	lean concrete base
Loc	location
LOL	layout line
Ln	lane
LS	lump sum
Lt	left

M	
Max	maximum
MB	metal beam
MBB	metal beam barrier
MBGR	metal beam guard railing
Med	median
MH	manhole
Mkr	marker
Min	minimum, minutes
Misc I&S	miscellaneous iron and steel
Misc	miscellaneous
Mod	modified or modify
Mon	monument
MP	metal plate
MPGR	metal plate guard railing
MR	movement rating
Mtl	material

	N
NB	northbound
No.	number
NPS	nominal pipe size
Ø	nominal diameter

O	
Oblr	obliterate
OC	overcrossing
OD	outside diameter
OG	original ground
OGAC	open graded asphalt concrete
OH	overhead

	P
PAP	perforated aluminum pipe
PB	pull box
PC	point of curvature
PCC	point of compound curve or portland cement concrete
PCP	perforated concrete pipe
PCVC	point of compound vertical curve
Ped	pedestrian
Ped OC	pedestrian overcrossing
Ped UC	pedestrian undercrossing
Perm Mtl	permeable material
PG	profile grade
PI	point of intersection
PL, P/L	property line
PL	plate
PM	post mile
PN	paving notch
POC	point on horizontal curve
POT	point on tangent
POVC	point on vertical curve
PP	power pole, plastic pipe
PPP	perforated plastic pipe
PPL	preformed permeable liner
PRC	point of reverse curve
PRF	pavement reinforcing fabric
PRVC	point of reverse vertical curve
PSP	perforated steel pipe
PVC	polyvinyl chloride
Pvmt	pavement

R	
R	radius
RCA	reinforced concrete arch
RCB	reinforced concrete box
RCP	reinforced concrete pipe
RCPA	reinforced concrete pipe arch
R & D	remove and dispose
Rd	road
ReInf	reinforced or reinforcing
Rel	relocate
Ret	retaining
RM	road-mixed
RP	reference point
RR	railroad
R & S	remove and salvage
RSP	rock slope protection
Rt	right
Rte	route
RW	retaining wall
R/W	right of way

	S	
SAE	structure approach embankment	
Salv	salvage	
SAPP	structural aluminum plate pipe	
SB	southbound	
SC	sand cushion	
SL	station line	
SCSP	{ slotted corrugated steel pipe or sacked concrete slope protection	
SD	{ storm drain structural section drain	
	{ subgrade drain	
Sec	section	

Se	separation	agents shall not be responsible for completeness of alternate.
SG	subgrade	
Shld	shoulder	Caltrans now has a website
Sht	sheet	
SI	International System of Units	
SM	selected material	
Spec	special	
SPP	slotted plastic pipe	
SS	slope stake	
SSBM	strap and saddle bracket method	
SSPA	structural steel plate arch	
SSPP	structural steel plate pipe	
SSPPA	structural steel plate pipe arch	
SSRP	steel spiral rib pipe	
St	street	
STA, Sta	station	
STBB	single three beam barrier	
Std	standard	
Str	structure	
Surf	surfacing	
SW	sidewalk or sound wall	
Swr	sewer	

T	semi-tangent
TAB	tablet
TBB	thrie beam barrier
Tbr	timber
TC	top of curb
TCB	traffic control box
Temp	temporary
TG	top of grate
TP	telephone pole
TPB	treated permeable base
TPM	treated permeable material
Trans	transition
TS	traffic signal or tubular steel
Typ	typical
Typ Sec	typical section

	U
UC	undercrossing
UD	underdrain
UP	underpass

V	
V	design speed, valve
Var	variable
VC	vertical curve
VCP	vitrified clay pipe
Vert	vertical
Via	viaduct

	W
W	width
WB	westbound
WH	weep hole
WM	wire mesh
WSP	welded steel pipe

WV water valve
WW wing wall

X

Xing crossing
X Sec cross section

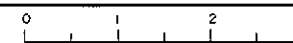
CONSTRUCTION DETAILS

ABBREVIATIONS

NO SCALE

C-1

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT
PROJECT ENGINEER
JAIMIE E. GUTIERREZ
CALCULATED/DESIGNED BY
CHECKED BY
DATE
REVISED BY
DATE
REVISED BY
DATE

EXISTING TOPOGRAPHIC LINES AND SYMBOLS

	Building		Orchard,
	Foundation or Ruin		Missing Tree,
	Shoulder		Interior Trees
	Surfaced Road with Lane Stripes		Tree
	Curb without Gutter		Trees
	Curb with Gutter		Ground Cover
	Gravel or Dirt Road Drives or Walks		Freeway Signs (Overhead)
	Trail		2 Posts
	Railroad		1 Post
	Bridge		Roadside Signs (New & Existing)
	Culvert and Headwalls		1 Post
	Fence and Gate		Transmission Tower
	Retaining Wall with Fence on Top		Fire Hydrant
	Wall		Power Pole (New & Existing)
	Median Barrier		Utility Pole (New & Existing)
	Guard Rail		Stand Pipe, Flagpole, Pullbox, Windmill, Well, Crash Cushion, Valve Cover
	Small Stream or Ditch		Aerial Photo Center
	Large Body of Water		
	Small Body of Water		
	Vineyard (Show row direction)		

CONTROL POINTS

	Horizontal and Vertical Control Point
	Horizontal Control Point
	Vertical Control Point
	Bench Mark

NEW CONSTRUCTION AND CADASTRAL SYMBOLS

	Centerline Station Line Layout Line		Existing Wall
	Right of Way Line		New Wall
	Slope Line		Existing Guard Railing
	Original Ground Line		New Guard Railing
	Boundary Line		Concrete Barrier
	Structure (Bridge)		Double Metal Beam Barrier, Double Thrie Beam Barrier
	Underground Utilities		Curb without Gutter
			Curb with Gutter
			Fence
			Ditch Flow Line
			Dike and Overside Drain
			Pipe Culvert (36" or less in diameter)
			Pipe Culvert (greater than 36" in diameter)
			Railroad

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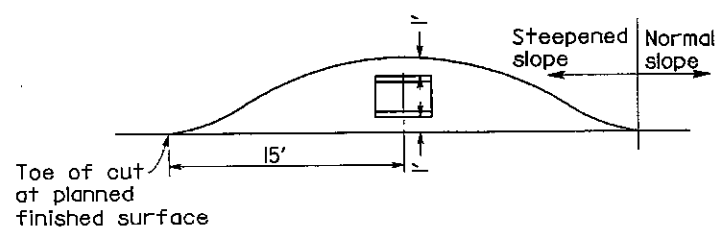
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STATE OF CALIFORNIA

CONSTRUCTION DETAILS SYMBOLS
NO SCALE
C-2

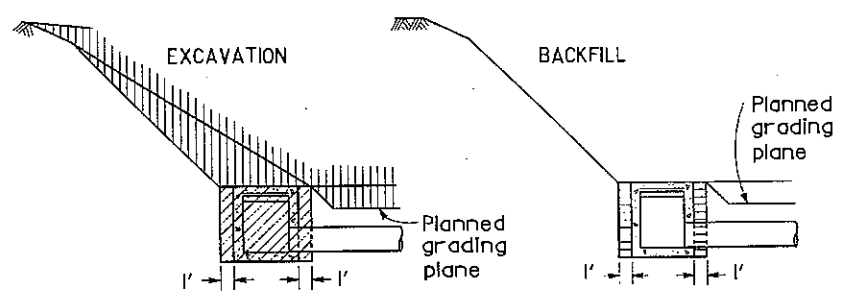
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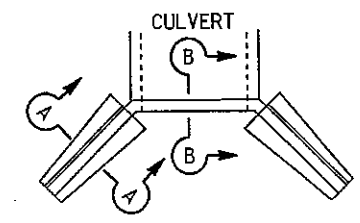
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PLAN
See Note 2



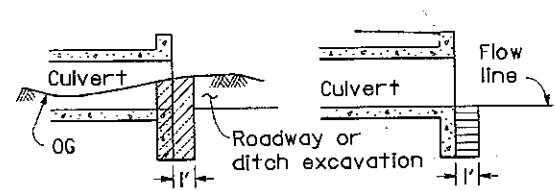
SECTION
RECESSES AT DRAINAGE INLETS



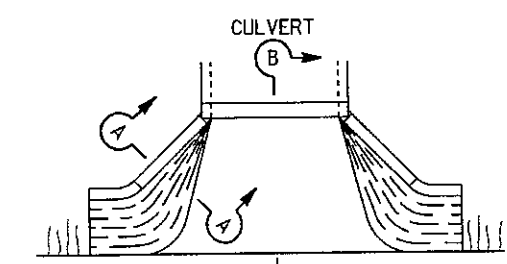
PLAN OF WING WALL



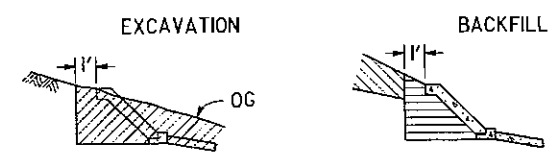
SECTION A-A



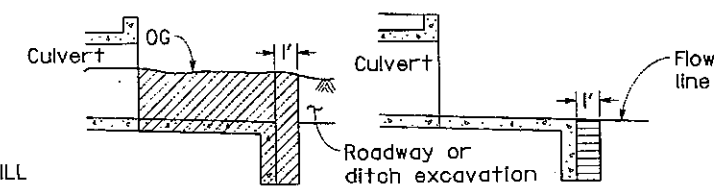
SECTION B-B
WING WALLS



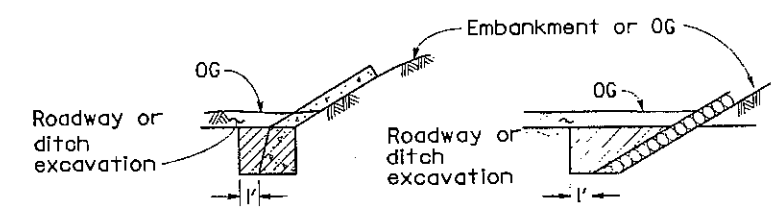
PLAN OF WRAPPED WING WALL



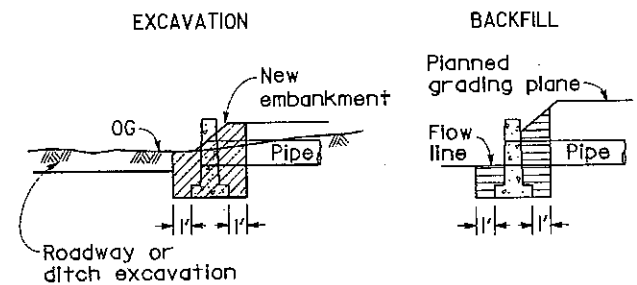
SECTION A-A



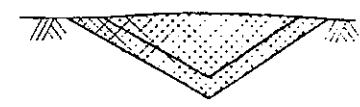
SECTION B-B
WRAPPED WING WALLS



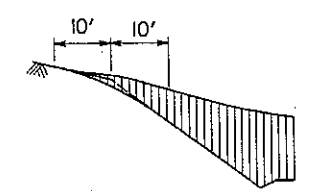
SLOPE PROTECTION
See Note 3



PIPE HEADWALLS



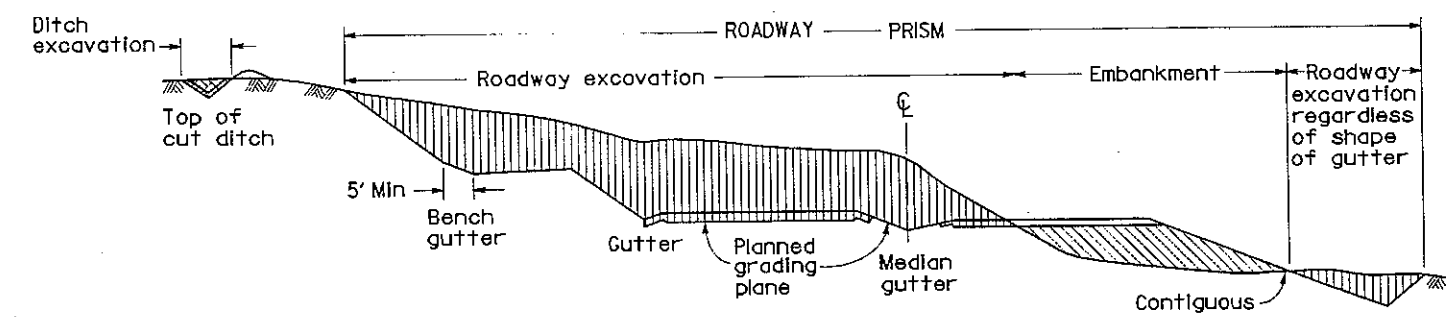
PAVED OR LINED DITCH



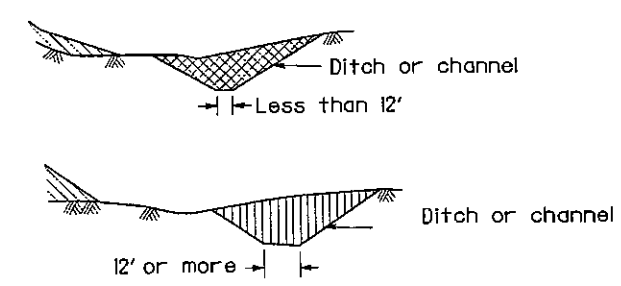
SLOPE ROUNDING



DIKE AND GUTTER



ROADWAY EXCAVATION - DITCH EXCAVATION



NOTES

1. This drawing indicates the work to be done and limits of payment for:
 Roadway Excavation
 Ditch Excavation
 Structure Excavation for Slope Protection
2. Slopes and dimensions may vary to fit field conditions.
3. Top limit of structure excavation is original ground
 If ditch is not excavated.

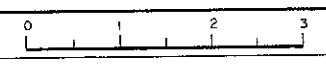
LEGEND

- | | | | |
|--|----------------------|--|--------------------|
| | Structure Excavation | | Roadway Excavation |
| | Structure Backfill | | Roadway Embankment |
| | Ditch Excavation | | Original Ground |
| | Slope Protection | | |

CONSTRUCTION DETAILS
EXCAVATION AND BACKFILL
MISCELLANEOUS DETAILS

NO SCALE **C-4**

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



USERNAME => trph11s
DGN FILE => 40435cg04.dgn

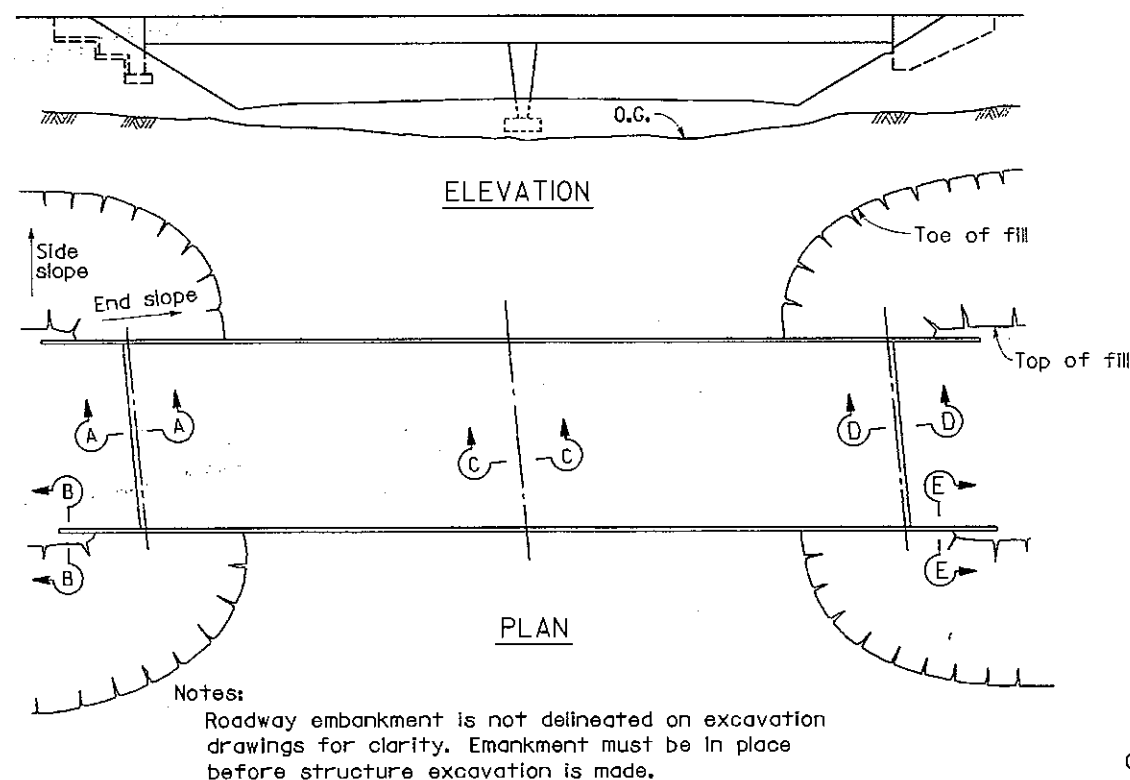
CU 04265

EA 0435C1

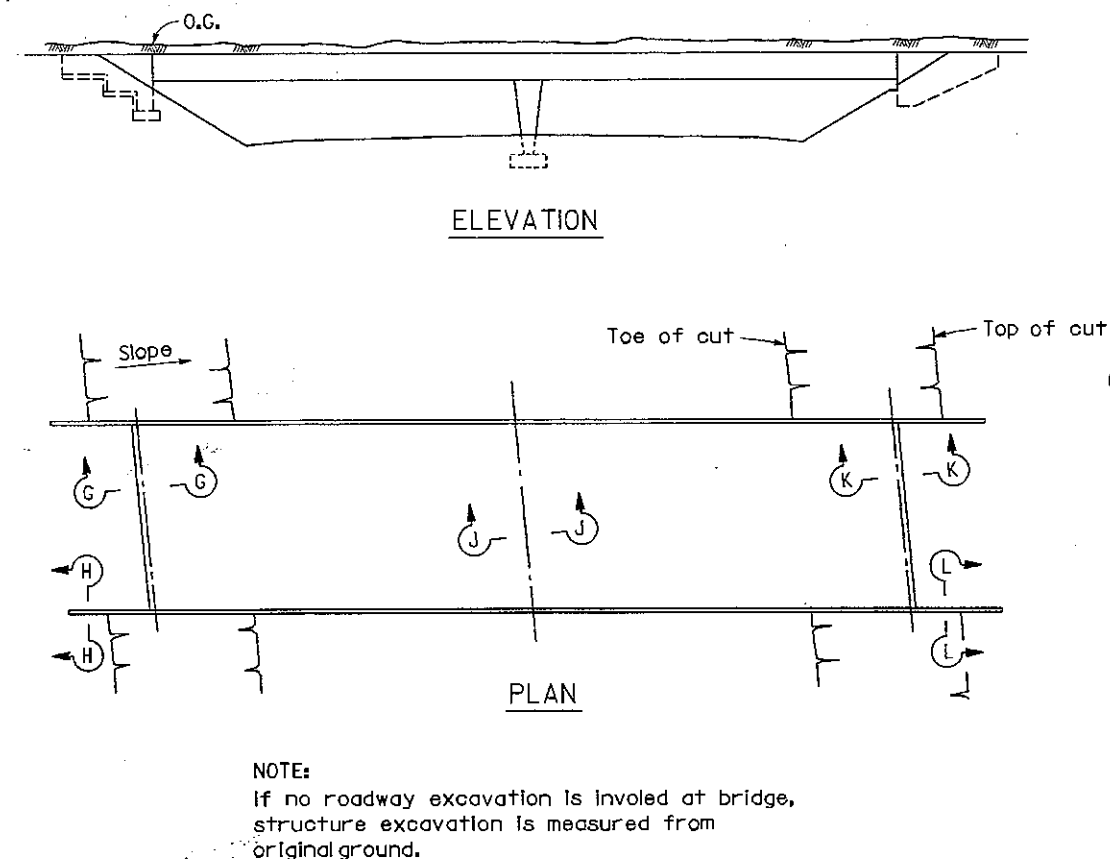
DATE PLOTTED => 15-DEC-2000
 TIME PLOTTED => 13:30
 03-14-00

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Caltrans PROJECT DEVELOPMENT
 PROJECT ENGINEER
 JAIME E. GUTIERREZ
 REVISED BY
 DATE
 CALCULATED/DESIGNED BY
 CHECKED BY

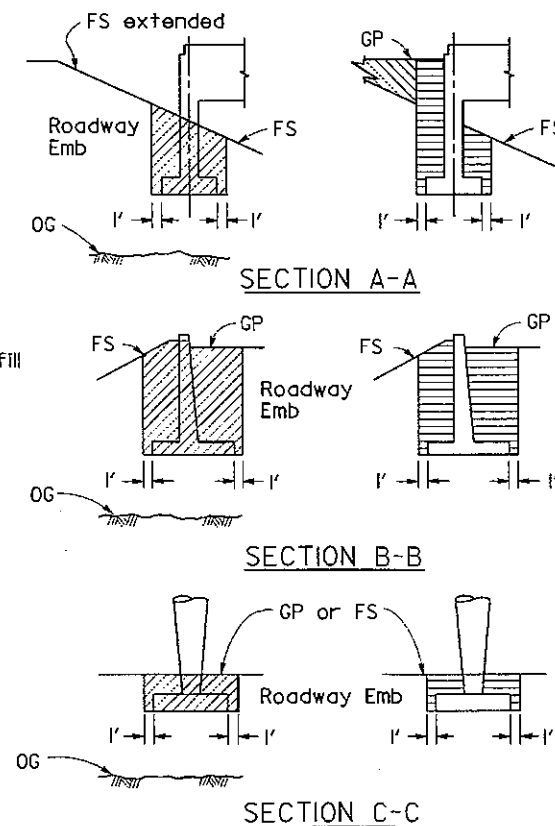
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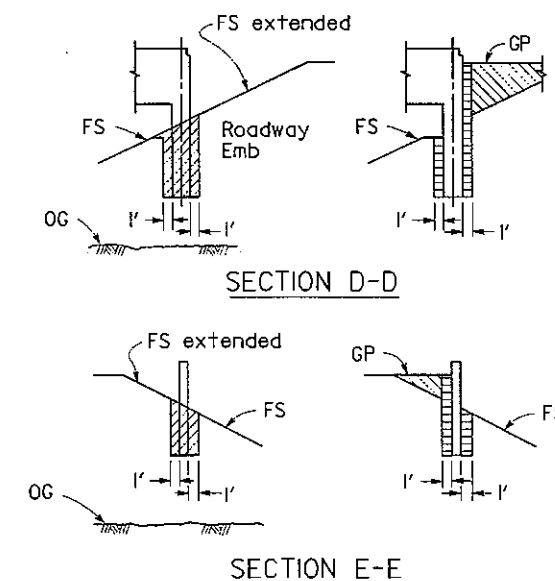
IN CUT



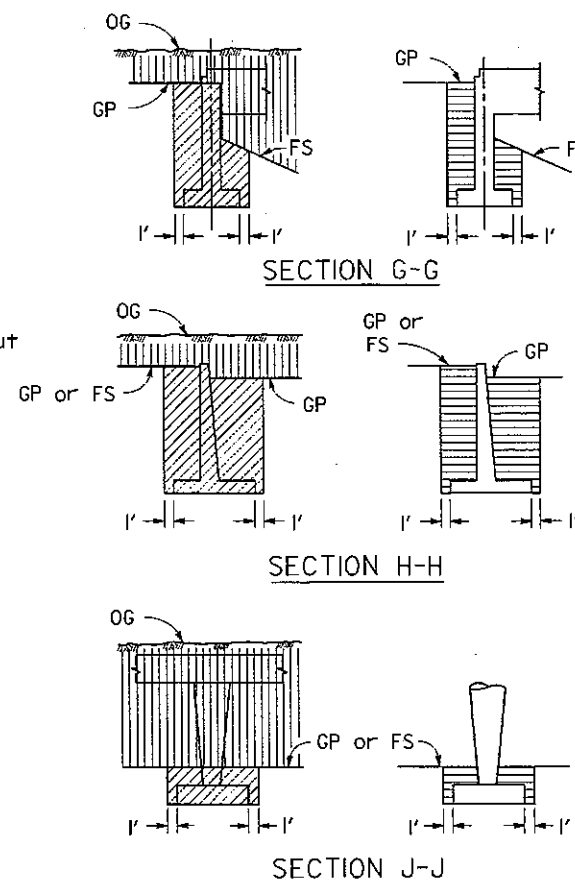
EXCAVATION — BACKFILL



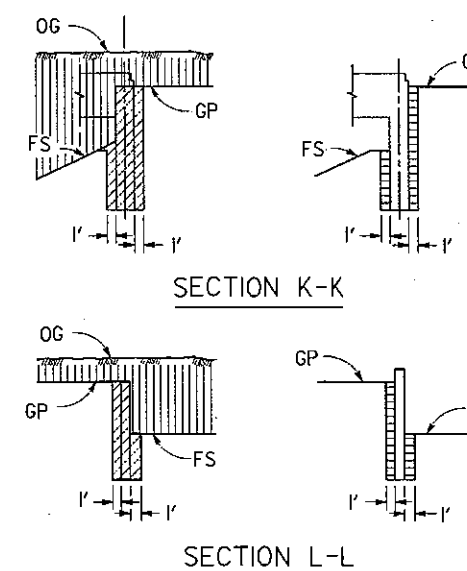
EXCAVATION — BACKFILL



EXCAVATION — BACKFILL



EXCAVATION — BACKFILL



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	13	166

10/11/00 8-28-00
REGISTERED CIVIL ENGINEER
12-26-00
PLANS APPROVAL DATE
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CIVIL
STATE OF CALIFORNIA

ABBREVIATIONS

OG Original Ground
FS Planned Finished Surface
GP Planned Grading Plan

LEGEND

Structure Excavation
Structure Backfill
Roadway Excavation
Roadway Embankment

CONSTRUCTION DETAILS LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL, BRIDGE

NO SCALE

C-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER
JAIME E. GUTIERREZ

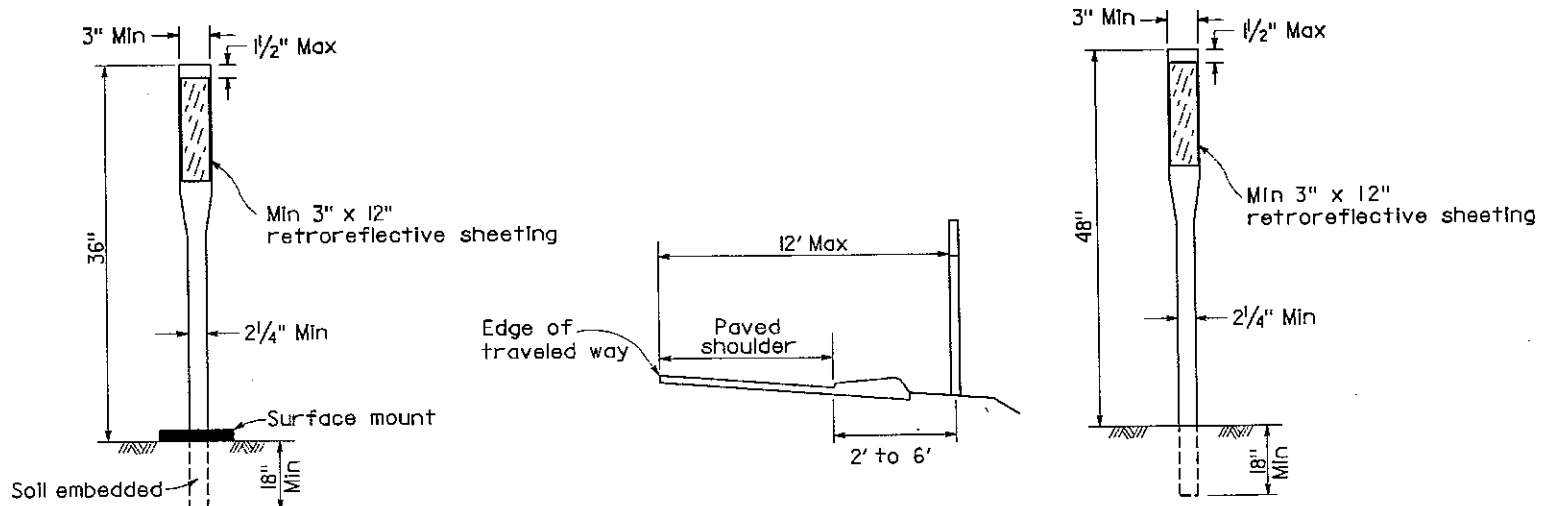
CALCULATED/DESIGNED BY
CHECKED BY

DATE
REVISED BY
DATE
REVISED

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	14	166

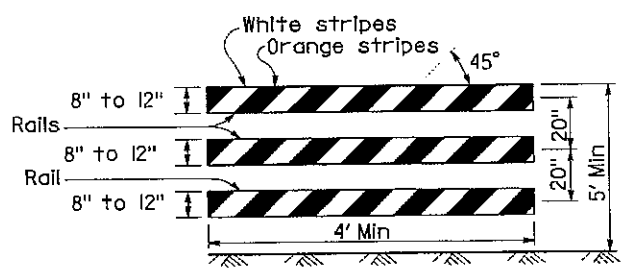
04/12/90 8-28-00
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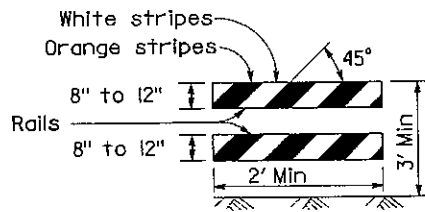


DELINEATOR POSITIONING FLEXIBLE POST
CLASS I DELINEATOR

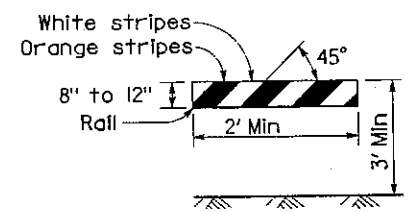
CHANNELIZERS



TYPE III BARRICADE



TYPE II BARRICADE



TYPE I BARRICADE
See Note A

BARRICADES (See Note 3)
Only face of rails shown. Barricade construction materials and supports as specified in the specifications.

BARRICADE	TYPE I	TYPE II	TYPE III
Width of Rail	8" - 12" Max *	8" - 12" Max *	8" - 12" Max *
Length of Rail	2' Min	2' Min	4' Min
Width of Stripes **	6"	6"	6"
Height	3' Min	3' Min	5' Min
Number of Retroreflective Rail Faces	2 (one each direction)	4 (two each direction)	3 if facing traffic in one direction 6 if facing traffic in two direction

* For the wooden option dimensions are nominal lumber dimensions.
** For rails less than 3 feet long, 4 inch wide stripes shall be used.

NOTE A
Barricades to have a minimum of 270 inch² of retroreflective area facing traffic when used on freeways, expressways, and other high speed highways.

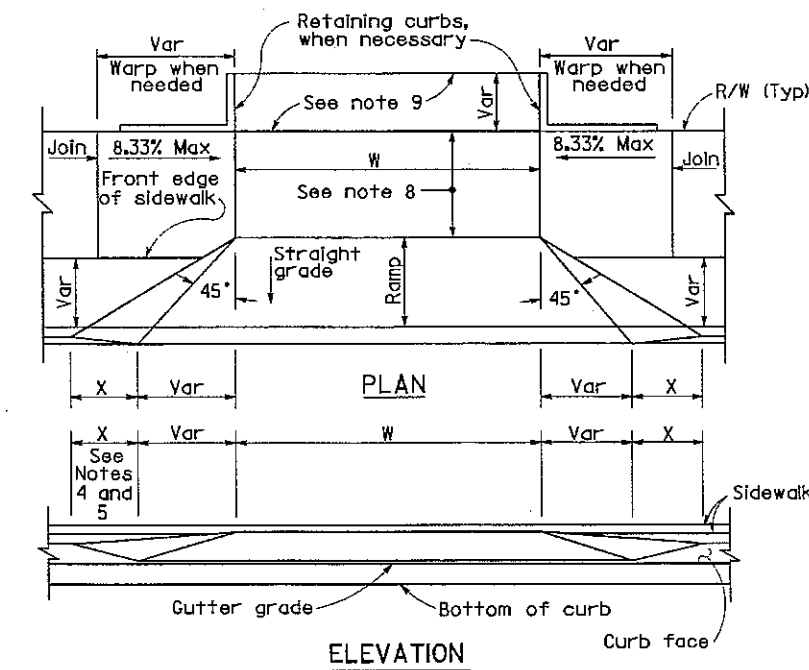
DELINEATORS		
TYPE	RETROREFLECTIVE SHEETING	
	FRONT	BACK
E	White	White (See Note 1)
F	White	None
G	Yellow	None
I	Yellow	Yellow (See Note 1)
J	Red	None

NOTES

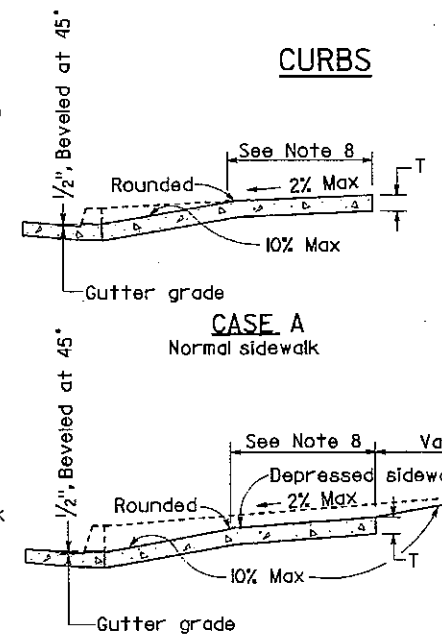
- The retroreflective sheeting used on the back of delineator shall be a minimum size of 3 inch x 3 inch.
- The type of delineator to be installed will be designated on the plans.
- All barricade stripes shall be retroreflective.

CONSTRUCTION DETAILS
DELINEATORS, CHANNELIZERS
AND BARRICADES

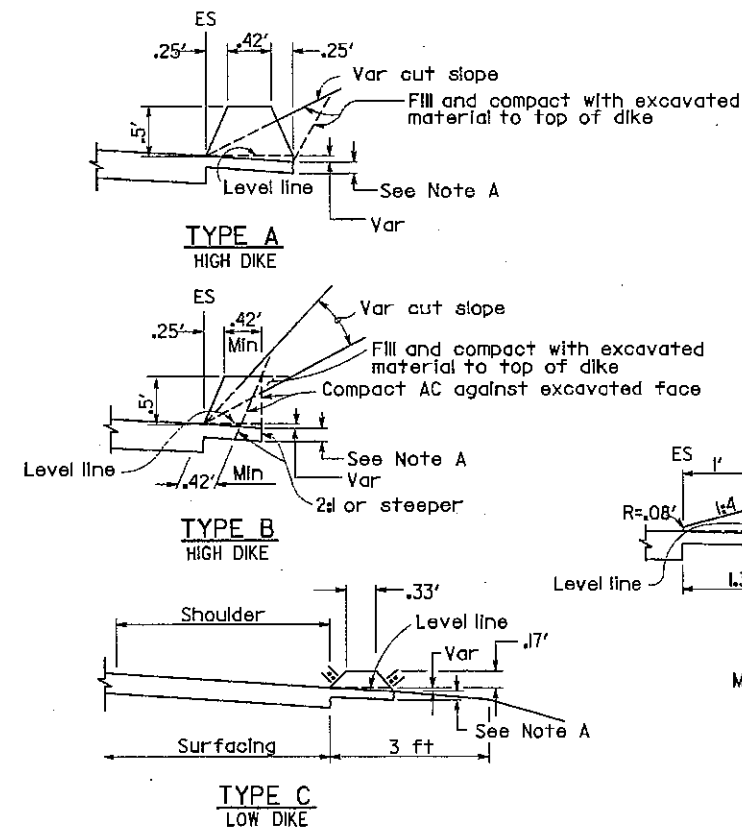
NO SCALE C-6



SECTIONS
DRIVEWAYS

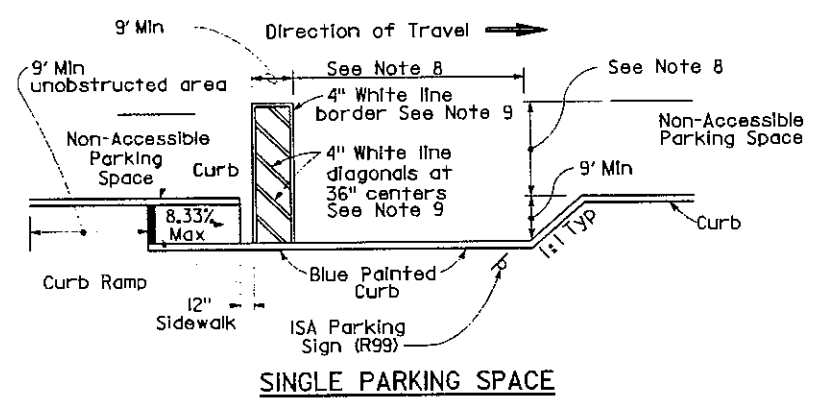
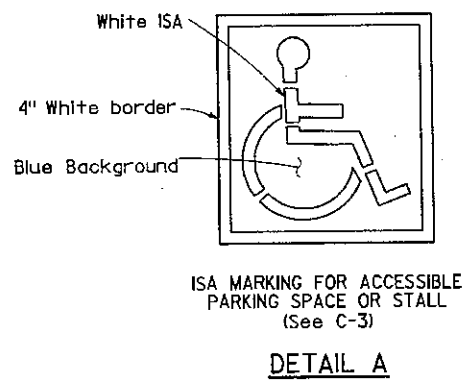
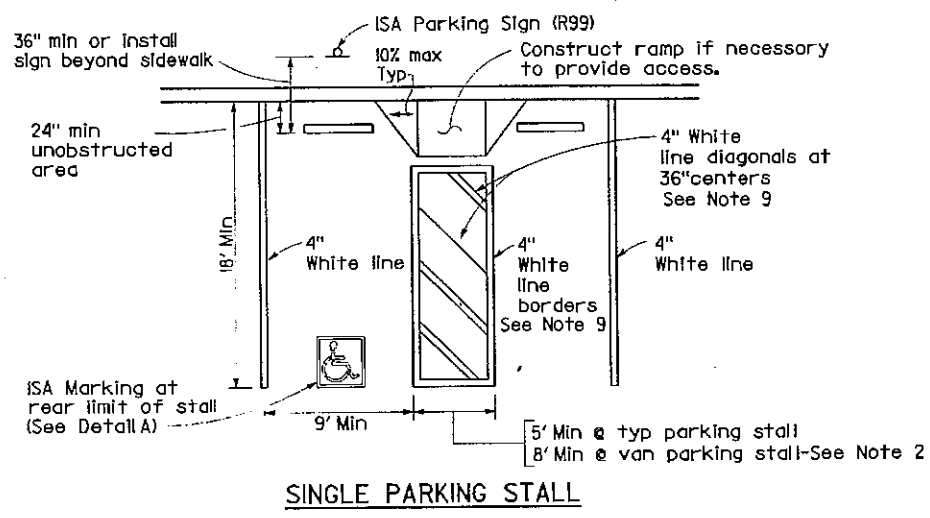


NOTE A - Extend top layer of AC placed on the shoulder under dike with no joint at the ES



1. Case A normally applies.
2. Use Case B when ramp slopes would exceed 10% in Case A.
3. Use Case B when sidewalk cross slope would exceed 2% in Case A.
4. X=3'-0" except for curb heights over 10" where 1:4 slopes shall be used on curb slope.
5. X is variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall be 12.5% maximum.
6. Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.

7. Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5 feet from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
8. Minimum width of clear passage shall be 4' Where right of way restrictions, natural barriers or other existing conditions create an unreasonable hardship, the clear width may be reduced to 36".
9. Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".



NOTES

1. Accessible parking stalls shall be located as close as possible, and on the shortest accessible route of travel, to the pedestrian entrance or exit of the parking lot or garage.
2. One in every eight accessible off-street parking stalls, but not less than one, shall be served by an accessible aisle of 8 feet minimum width and shall be signed van accessible. The R99A "Van Accessible" sign shall be mounted below the R99 "ISA Parking" sign.
3. In each parking stall, a curb or bumper shall be provided and located to prevent encroachment of vehicles over the required width of walkways. Parking stalls shall be so located that persons with disabilities are not compelled to wheel or walk behind parked cars other than their own.
4. When less than five parking stalls are provided, one stall with a minimum width of 17 feet shall be made accessible to persons with disabilities. However, there is no requirement that the stall be reserved exclusively or identified for that purpose.
5. Surface slopes of accessible off-street parking stalls shall be the minimum possible and shall not exceed 2 percent in any direction. Surface slopes of accessible on-street parking stalls shall be the minimum feasible.
6. Where new on-street or time limited parking is provided and designated in districts zoned for business use, accessible parking shall be provided in accordance with Table A.
7. Where R99 "ISA Parking" or R99A "Van Accessible" signs are installed on sidewalks or other paths of travel, the bottom of the sign panel shall be a minimum of 6'-6" above the surface of the sidewalk or path. Where R99 or R99A signs are not installed on sidewalks or other paths of travel, the bottom of the sign panel shall be at least 36" above the parking area surface.
8. Accessible on-street parking spaces shall not be smaller in length or width than that specified by the local jurisdiction for other spaces.
9. Blue paint, instead of white may be used for marking accessibility aisles in areas where snow may cause white markings to not be visible.
10. Design details approved by the Division of the State Architect on March 18, 1996.



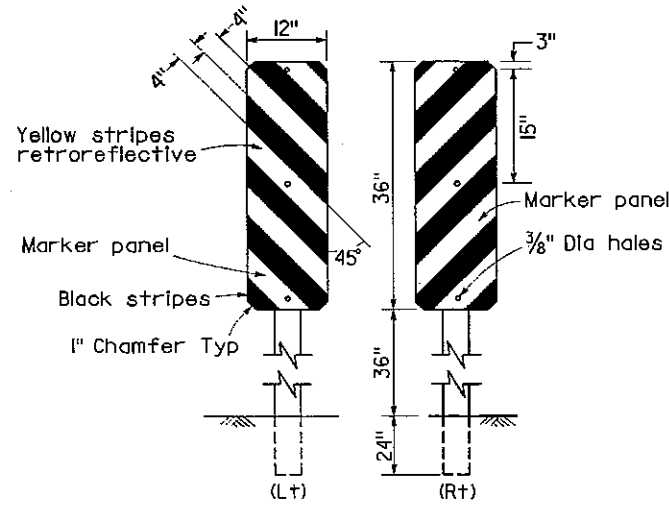
**CONSTRUCTION DETAILS
ACCESSIBLE PARKING**

NO SCALE **C-8**

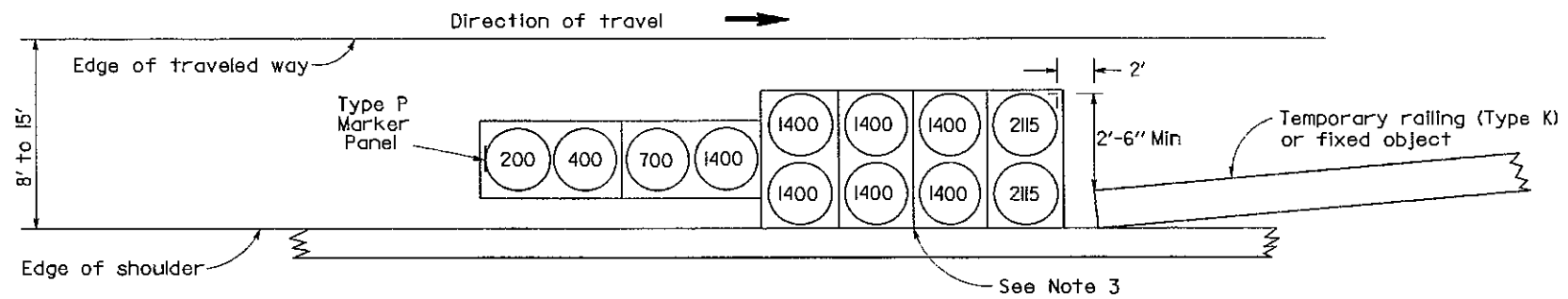
ISA = International Symbol of Accessibility

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	19	166

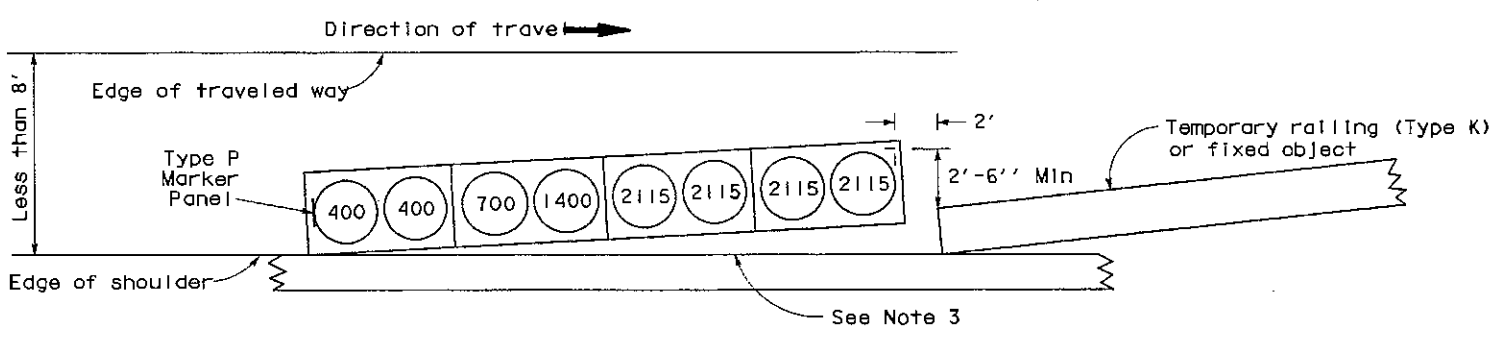
10/11/00 8-28-00
REGISTERED CIVIL ENGINEER
12-26-00
PLANS APPROVAL DATE
J. E. Gutierrez
No. 52324
Exp. 12-31-02
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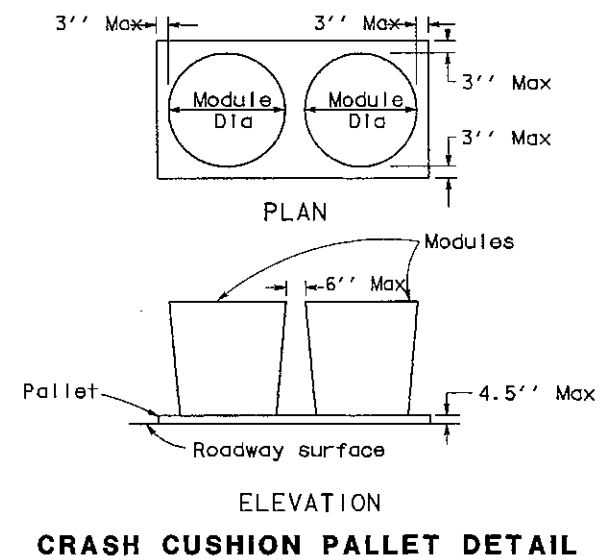
TYPE P
OBJECT MARKER
(Metal post or 4"x4" Wood post)



ARRAY 'TSB'
(APPROACH SPEED 50 MPH OR LESS)
(FOR SPEEDS GREATER THAN 50 MPH USE ARRAY 'TSA')



ARRAY 'TSC'
(APPROACH SPEED 55 MPH OR LESS AND SHOULDER WIDTHS LESS THAN 8 FEET)



CRASH CUSHION PALLET DETAIL

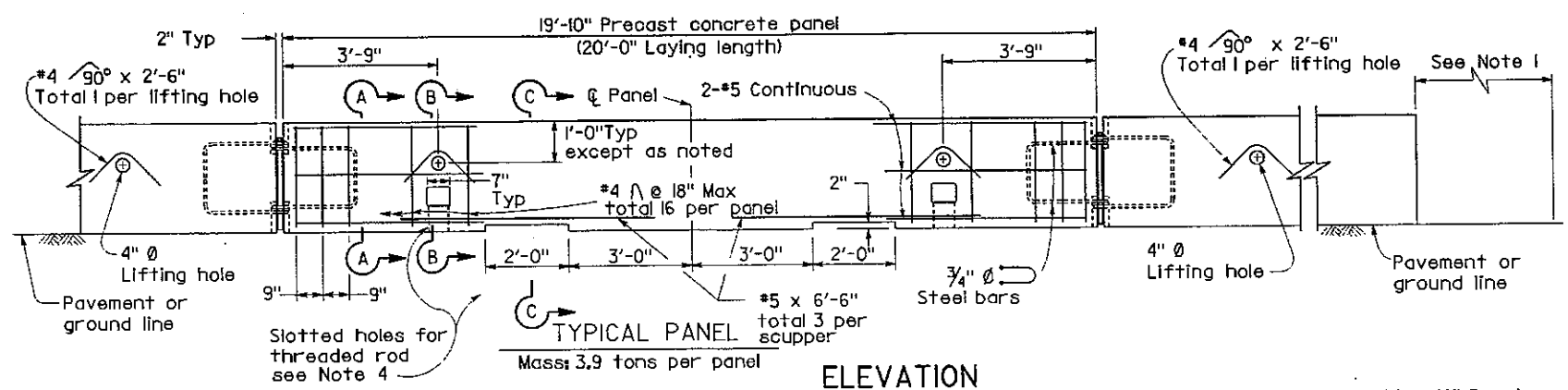
NOTES:

1. (XXX) Indicates sand filled module location and mass of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand masses are nominal.
3. The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array. For Array 'TSC', a solid backup (wall, barrier or a toe of cut or fill slope) is required along the backside of the crash cushion array to reduce penetration of the modules.
4. If the fixed object or approach end of the temporary railing is less than 15 feet from the edge of traveled way, a temporary crash cushion is required.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rest upon the pallet and faces traffic.
8. For approach speed of greater than 55 mph and shoulder widths less than 8 feet, appropriate crash cushion protection shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion protection shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.

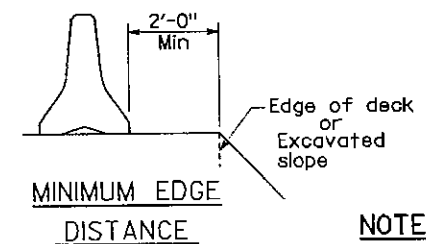
CONSTRUCTION DETAILS
TEMPORARY CRASH CUSHION, SAND FILLED
(SHOULDER INSTALLATIONS)
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT
PROJECT ENGINEER
DESIGNED BY
CHECKED BY
REVISOR
DATE
REVISOR
DATE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	20	166
10/11/00 8-28-00 REGISTERED CIVIL ENGINEER 12-26-00 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. Caltrans now has a web site! To get to the web site, go to: http://www.dot.ca.gov/					
REGISTERED PROFESSIONAL ENGINEER J. E. Gutierrez No. 52324 Exp. 12-31-02 CIVIL STATE OF CALIFORNIA					



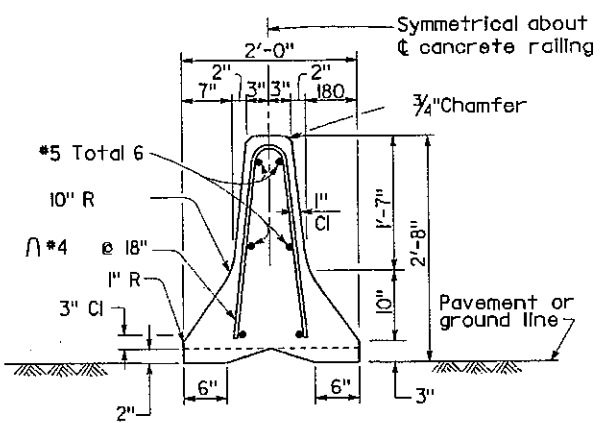
ELEVATION



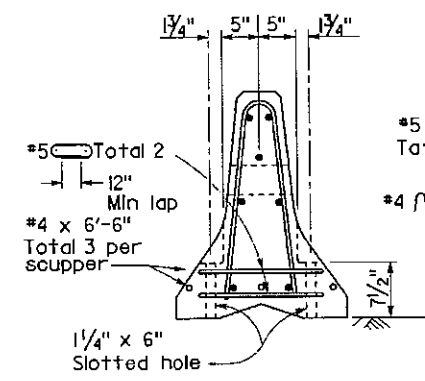
MINIMUM EDGE DISTANCE

NOTES

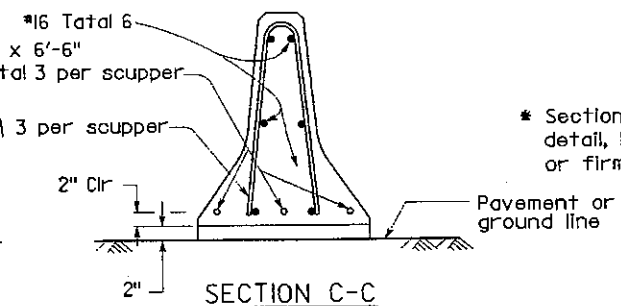
1. For end treatment, layout and crash cushions, where needed, see Project Plans or Special Provisions.
2. All 4 inch gaps at removable panels are to be backed at the base with #8 x 10" dowel or 1" diameter pin each side of joint. See Section G-G.
3. Where Temporary Railing (Type K) is placed on curves and radii that are too severe to connect panels with bolted joints, the railing is to be backed continuously with earth fill. See Section F-F.
4. Attach units to deck slabs when required by Bridge Plans.



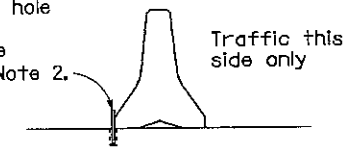
SECTION A-A



SECTION B-B

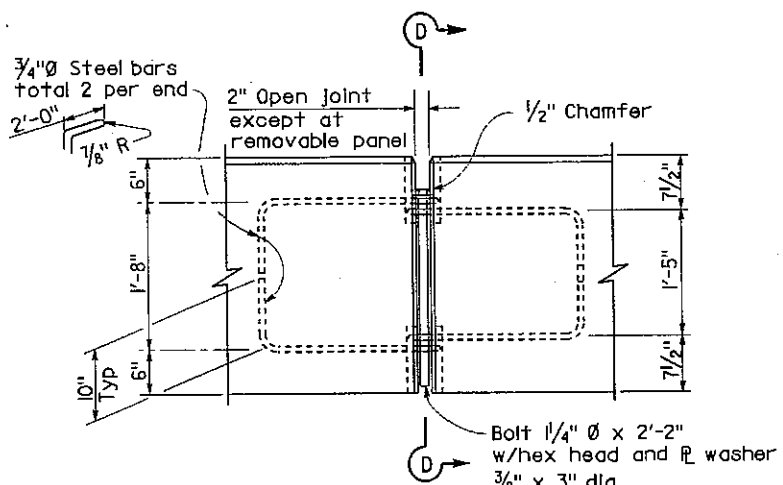


SECTION C-C

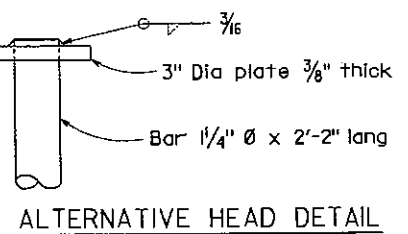


SECTION G-G

* Section G-G is for PCC pavement. Alternative detail, 1" diameter pins 2'-0" long driven in AC or firm soil permitted, minimum 1'-6" deep.

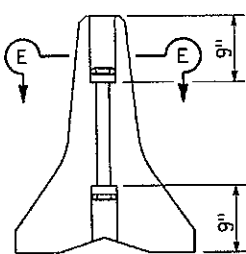


ELEVATION

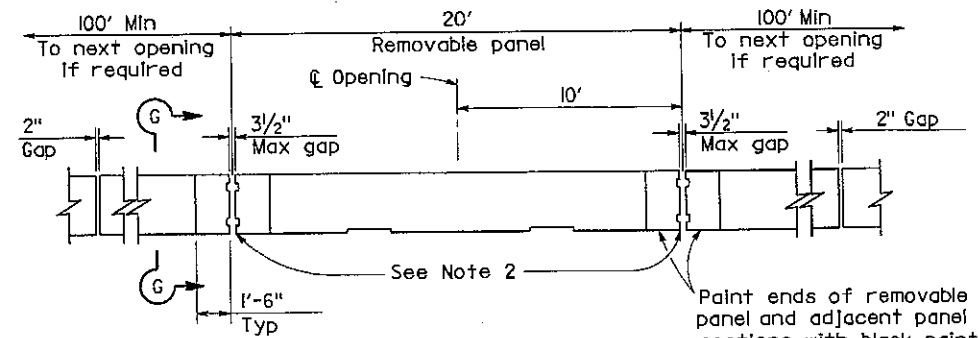


ALTERNATIVE HEAD DETAIL

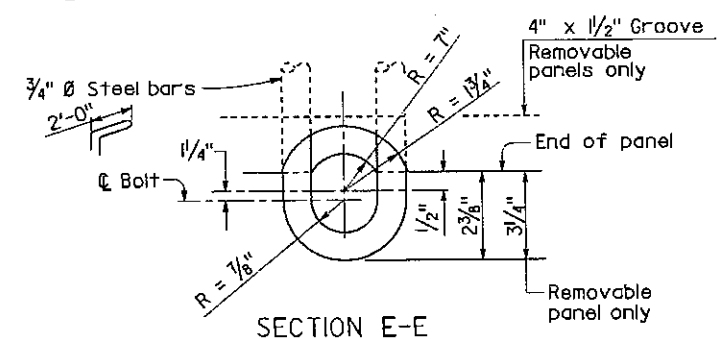
BOLT CONNECTION DETAIL



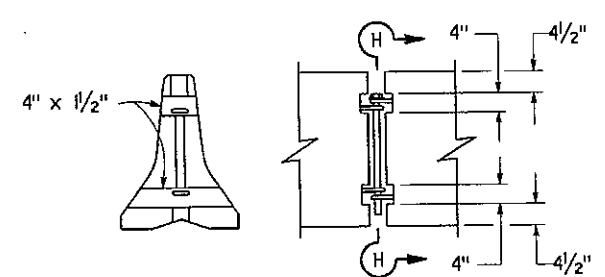
VIEW D-D



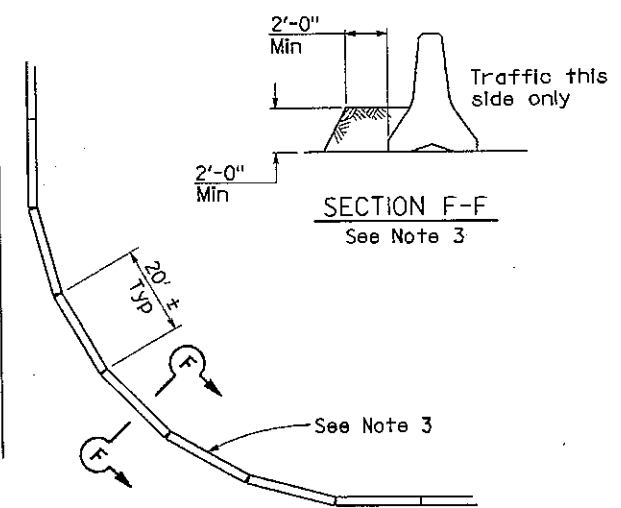
ELEVATION
TYPICAL OPENING DETAIL



SECTION E-E



SECTION H-H
REMOVABLE PANEL GROOVE DETAILS



CURVED LAYOUT

CONSTRUCTION DETAILS
TEMPORARY RAILING (TYPE K)

NO SCALE

TYPICAL LANE CLOSURE

DIST
04

COUNTY
SF

ROUTE
80

POST MILES
TOTAL PROJECT
4.9/5.9

SHEET
NO.
21

TOTAL
SHEETS
166

10/11/00

8-28-00

REGISTERED CIVIL ENGINEER

12-26-00

PLANS APPROVAL DATE

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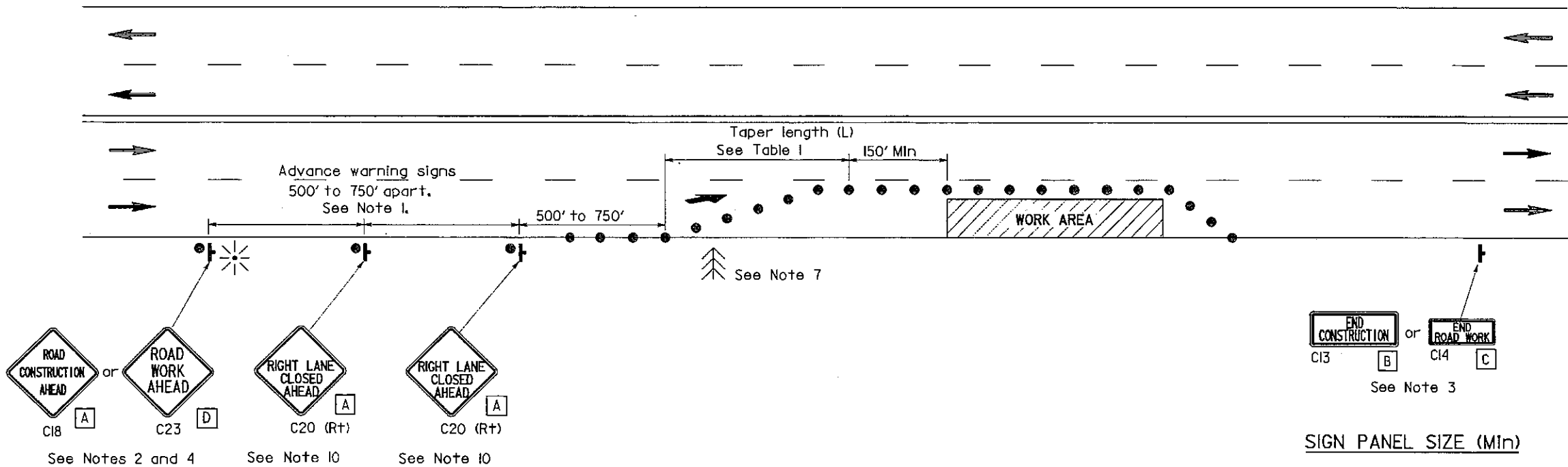
J. E. Gutierrez

No. 52324

Exp. 12-31-02

CIVIL

STATE OF CALIFORNIA



NOTES

1. Where approach speeds are low, signs may be placed at 300' spacing, and in urban areas, closer.
2. All advance warning sign installations shall be equipped with flags for daytime closures. Flashing Beacons shall be placed at the locations indicated for nighttime closures.
3. A C13 "END CONSTRUCTION" or C14 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
4. If the C18 (or C23) sign would follow within 2000 ft of a stationary C18, C23, or C11 "STATE HIGHWAY CONSTRUCTION NEXT _____ MILES", use a C20 sign for the first advance warning sign.
5. All cones used for night lane closures shall be fitted with reflective sleeves as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used in lieu of cones for daytime closures only.
7. Flashing arrow sign shall be either Type I or Type II.
8. The maximum spacing between cones in a taper shall be approximately as shown in Table I and 50 ft maximum spacing on tangent.
9. For approach speeds over 50MPH, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
10. Where specified in the special provisions, a W11 "LANE REDUCTION SYMBOL" sign is to be used in place of the C20 "RIGHT LANE CLOSED AHEAD" sign.

TABLE I

Approach Speed MPH	* Taper Length (L) FEET	* Number of Cones for Taper	Spacing of Cones Along Taper FT ±
0-40	125	6	25
25-40	320	9	40
40-50	600	13	50
Over 50	See Note 9		

* Based on 12 FT wide lane. This column is also appropriate for lane widths less than 12 FT.

CONSTRUCTION DETAILS
TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE
ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

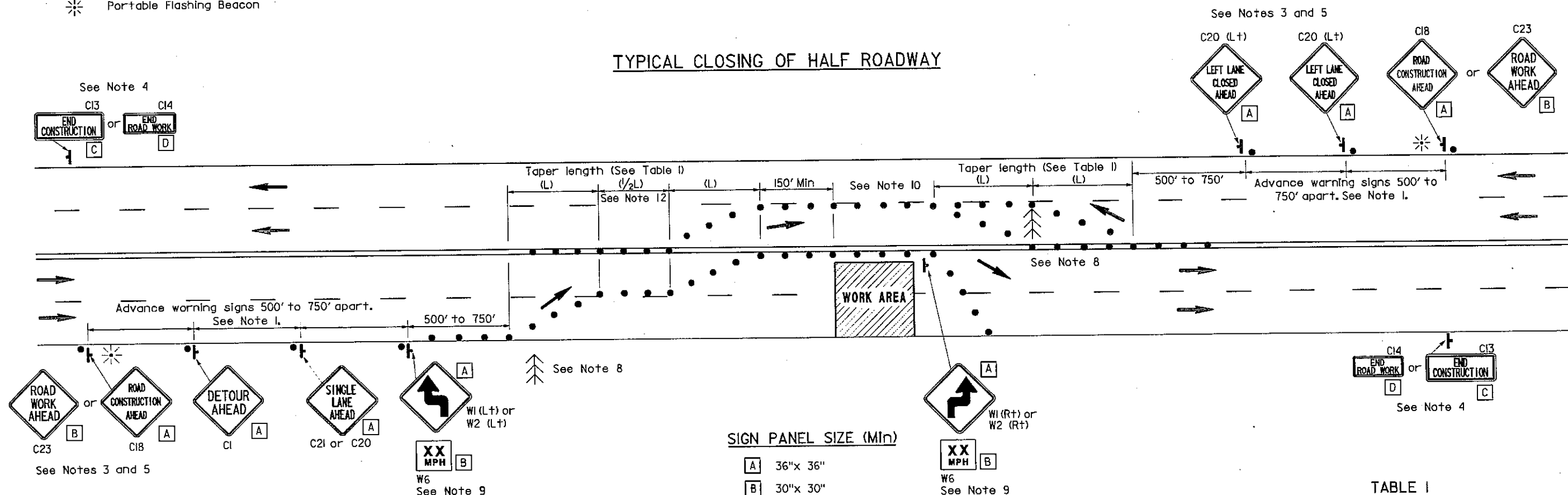
C-13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	22	166
J. E. Gutierrez			8-28-00		
REGISTERED CIVIL ENGINEER			No. 52324		
12-26-00			PLANS APPROVAL DATE		
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LEGEND

- Traffic Cone
- ┆ Portable Sign
- ⚡ Flashing Arrow Sign
- ➔ Direction of Travel
- ✱ Portable Flashing Beacon

TYPICAL CLOSING OF HALF ROADWAY



SIGN PANEL SIZE (Min)

A	36"x 36"
B	30"x 30"
D	36"x 18"
C	48"x 18"

TABLE 1

Approach Speed (MPH)	* Taper Length (L) (Feet)	* Number of Cones for Taper	Spacing of Cones Along Taper (Feet)±
0-25	125	6	25
25-40	320	9	40
40-50	600	13	50
Over 50	See Note 11		

* Based on 12 foot wide lane. This column is also appropriate for lane widths less than 12 feet.

NOTES

- Where Approach speeds are low, signs may be placed at 300 foot spacing and, in urban areas, closer.
- Not less than one person shall be assigned to full time maintenance of traffic control devices on all night lane closures.
- All advance warning sign installations shall be equipped with flags for daytime closures. Flashing beacons shall be placed at the locations indicated during night lane closures.
- A C13 "END CONSTRUCTION" or C14 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the C18 (or C23) sign would follow within 2000 feet of a stationary C18, C23, C11 "STATE HIGHWAY CONSTRUCTION NEXT MILES", use a C20 sign for the first advance warning sign.
- All cones used for night lane closures shall be fitted with reflective sleeves as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used in lieu of cones for daytime closures only.
- Flashing arrow signs shall be either Type I or Type II.
- Advisory speed will be determined by the Engineer. The W6 Sign will not be required when advisory speed is more than the posted or maximum speed limit.
- The maximum spacing between cones within a taper shall be approximately as shown in Table 1 and the maximum spacing on tangent shall be 50 feet.
- For approach speeds over 50 MPH, use the "Traffic Control System For Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- Unless otherwise specified in the special provisions, the (1/2L) shown between the two (L) lane closure tapers shall be used.

CONSTRUCTION DETAILS TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

C-14

FOR REDUCED PLANS ORIGINAL
SCALE IS IN INCHES



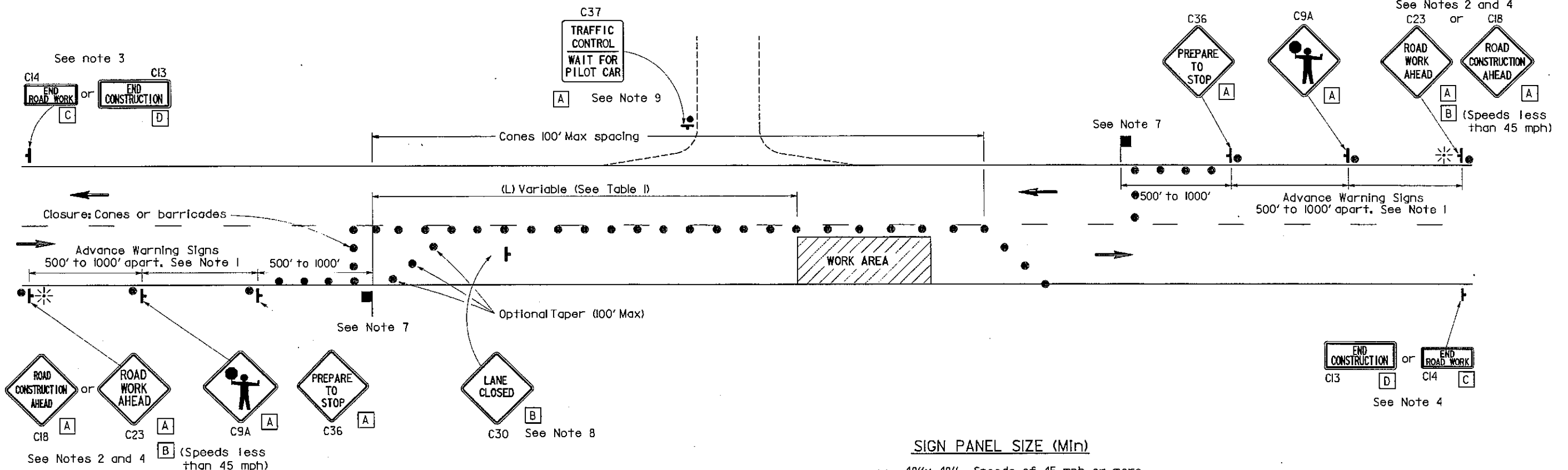
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CU 04265

EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 10:49
LAST REVISION
03-14-00

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



NOTES

- Where approach speeds are low, signs may be placed at 300 foot spacing, and in urban areas, closer.
- All advance warning sign installations shall be equipped with flags for daytime closures. Flashing beacons shall be placed at the locations indicated during night lane closures.
- A C13 "END CONSTRUCTION" or C14 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project limits.
- If the C18 (or C23) sign would follow within 2,000 feet of a stationary C18, C23, or C11 "STATE HIGHWAY CONSTRUCTION NEXT _____ MILES", use a C9A sign for the first advance warning sign.
- All cones used for night lane closures shall be illuminated traffic cones or fitted with 13" reflective sleeves as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used in lieu of cones for daytime closures only.
- Additional advance flaggers may be required. Flag station for work at night shall be illuminated as noted in Section 5-07 of the current edition of the "Manual of Traffic Controls" published by the State of California, Department of Transportation.
- Place C30 "LANE CLOSED" sign at 500'-1000' intervals throughout extended work areas. They are optional if the work area visible from the flagger station.
- When a pilot car is used, place a C37 "TRAFFIC CONTROL-WAIT FOR PILOT CAR" sign.

SIGN PANEL SIZE (Min)

- A 48"x 48" - Speeds of 45 mph or more
36"x 36" - Speeds less than 45 mph (except C23)
B 30"x 30"
C 36"x 18"
D 48"x 18"

TABLE 1

Approach Speed (MPH)	* (L) (Feet) ±
0-30	200
30-45	310
over 45	500

* Increase by 20 percent on sustained downgrades steeper than 3 percent and longer than 1 mile.

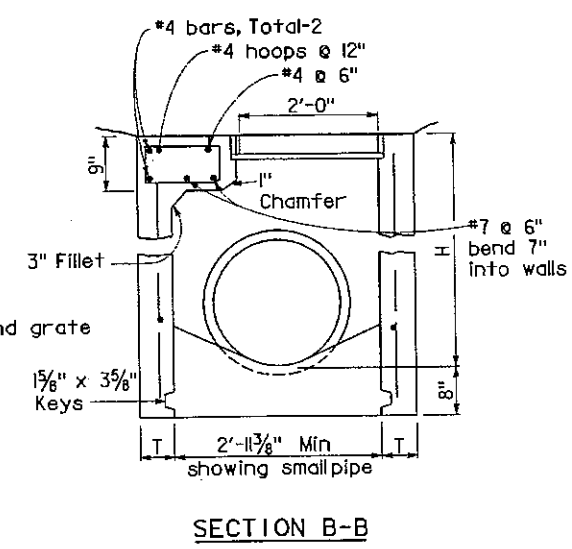
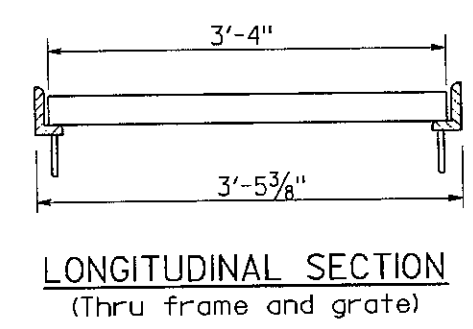
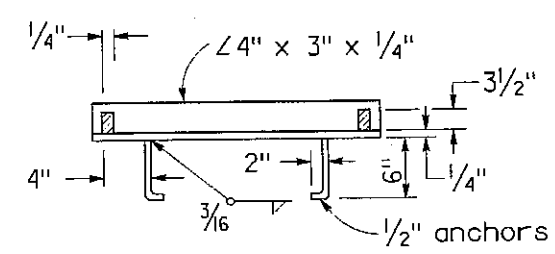
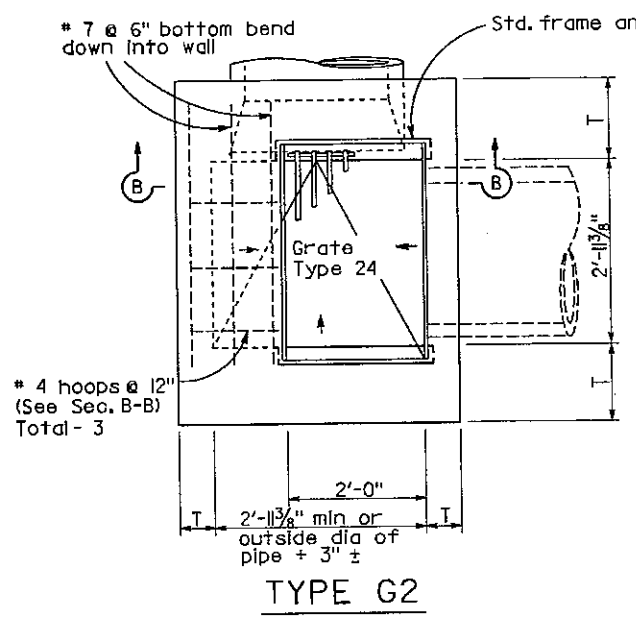
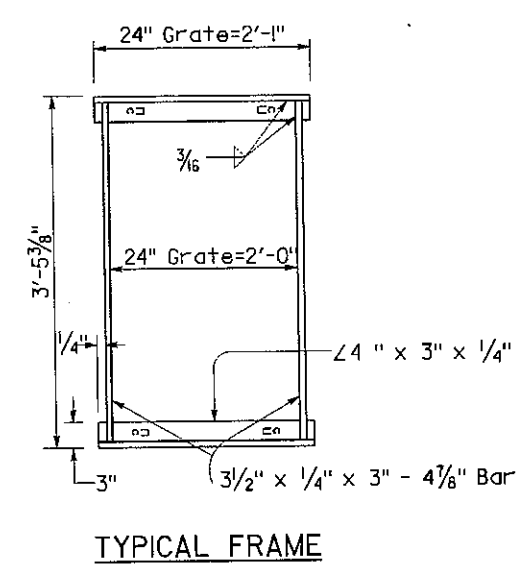
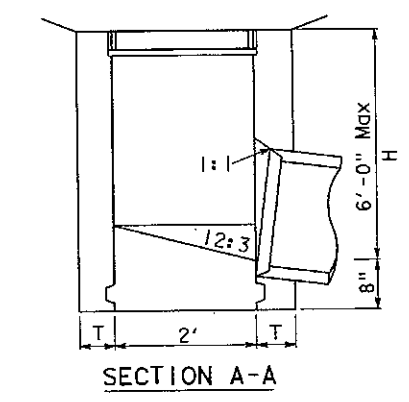
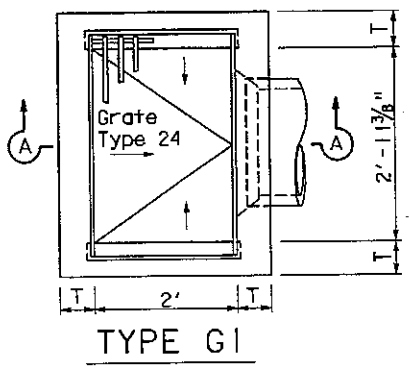
LEGEND

- Traffic Cone
+ Portable Sign
← Direction of Travel
* Portable Flashing Beacon
■ Flagger

CONSTRUCTION DETAILS
TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE
ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

C-15



NOTES:

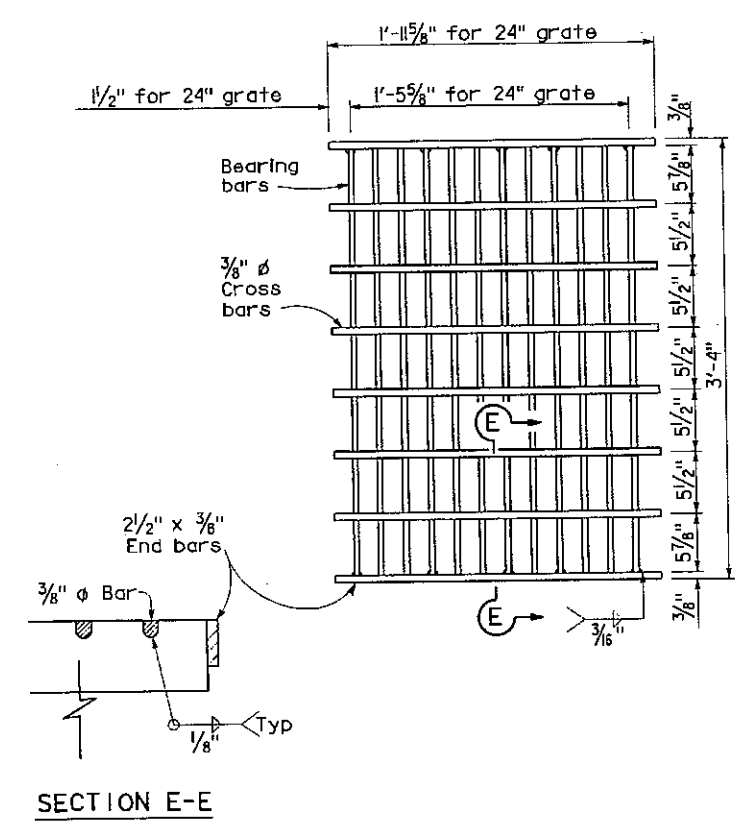
- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
- For "T" wall thickness, see Table A below.
- Wall reinforcing not required when "H" is 8' or less and the unsupported width or length is 7' or less. Walls exceeding these limits shall be reinforced with #4 bars @ 18"± centers placed 1/2" clear to inside of box unless otherwise shown.
- Inlet bottom reinforcing not required.
- Steps-None required where "H" is less than 30". Where "H" is 30" or more, install steps with lowest rung 12" above the floor and highest rung not more than 6" below top of inlet. The distance between steps shall not exceed 12" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step Inserts shall comply with State Industrial Safety requirements. See D-8 for step details.
- Details shown apply to both metal and concrete pipe.
- Pipe(s) can be placed in any wall.
- Curb section shall match adjacent curb.
- Basin floors shall have wood trowel finish and a minimum slope of 1:2:3 from all directions toward outlet pipe.
- Galvanizing - See Standard Specifications or Special Provisions.
- Cast-in-place or Precast alternative is optional with contractor, See Standard Specifications.
- Set Inlet so that grate bars are parallel to direction of principal surface flow.
- This dimension will vary with different grates, curbs types, box width and wall thickness.
- Bar may be rotated as necessary to clear opening.

TABLE A CONCRETE QUANTITIES				
Type	H=3'-0" to 8'-0" (T=6")		H=8'-1" to 20'-0" (T=8")	
	H=3' (CY)	Additional PCC per ft (CY)	H=8'-1" (CY)	Additional PCC per ft (CY)
G-1	.95	.220	(1)	(1)
G-2*	1.25	.257	3.45	.360

(1) Maximum allowable height 6'-0". Table based on 8" floor slab. No deductions are to be made to these quantities because of pipe openings, different floor alternatives or different curb types. *Quantities for Type G-2 and G-4 inlets based on the minimum interior dimensions shown.

NOTES:

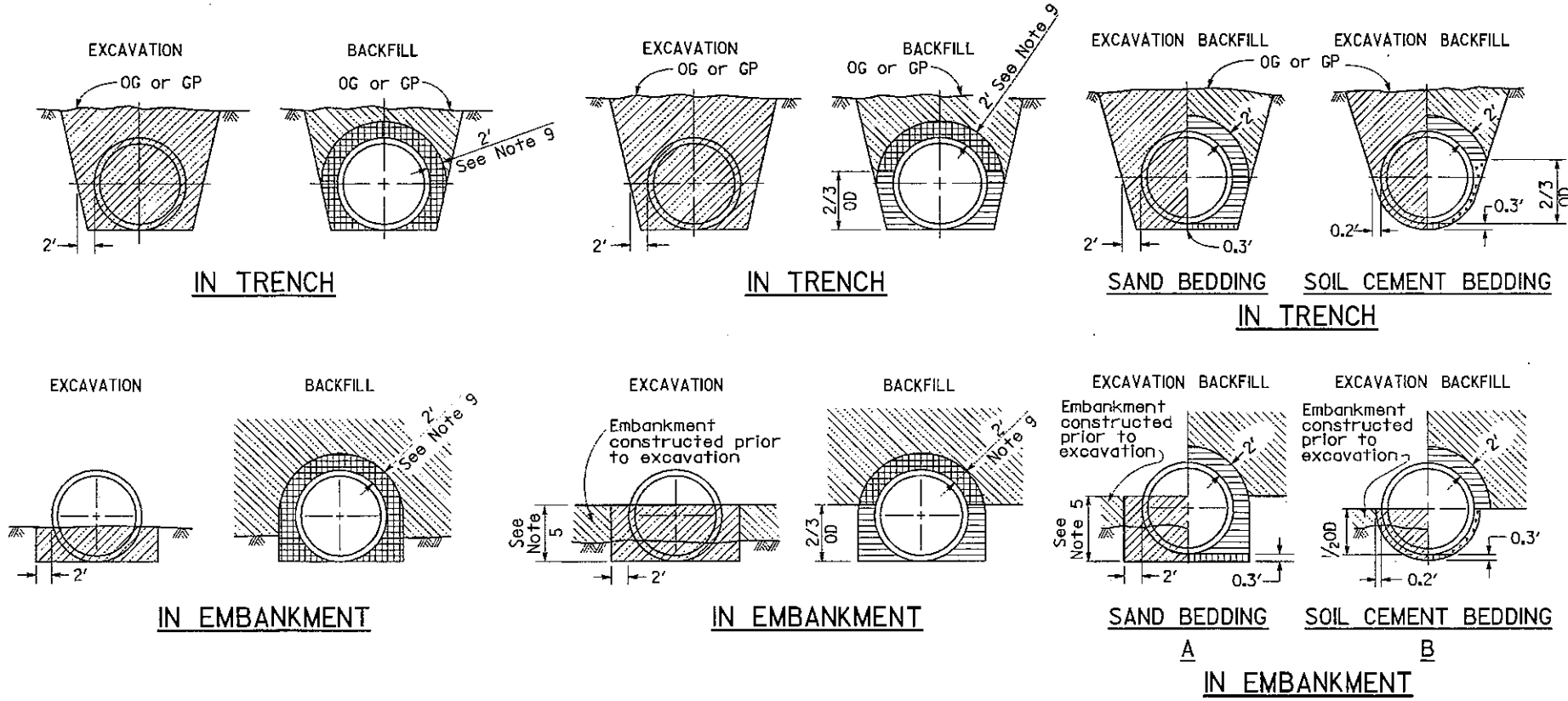
- Bearing bars to be 3 1/2" x 3/8" bars on 1 1/8" centers.
12 Bars for Type 24" grate
Mass of Type 24" grate = 192 lbs
3/8" Ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.
Seal welding at all surfaces not required when grates are galvanized.
Basis for Misc. Iron and steel, final pay masses for drainage inlets, G-1 & G-2 will be 239 lbs.



TYPE 24-12X GRATE
(WELDED STEEL)

RECTANGULAR FRAME DETAILS
(For all rectangular grates)

CONSTRUCTION DETAILS
DRAINAGE INLETS
NO SCALE
C-16



MINIMUM ALLOWABLE CLASSES OF RCP FOR METHOD 1

Cover (In feet)	Minimum Class & D-Load
Less than 6.0	Class II 1000D
6.0 - 7.9	Class III 1350D
8.0 - 9.9	Class III Special 1700D
10.0 - 11.9	Class IV 2000D
12.0 - 13.9	Class IV Special 2500D
14.0 - 16.9	Class V 3000D
17.0 - 20.0	Class V Special 3600D

See Notes 6 and 9

METHOD 1

MINIMUM ALLOWABLE CLASSES OF RCP FOR METHOD 2

Cover (In feet)	Minimum Class & D-Load
Less than 16.0	Class II 1000D
16.0 - 19.9	Class III 1350D
20.0 - 24.9	Class III Special 1700D
25.0 - 27.9	Class IV 2000D
28.0 - 34.9	Class IV Special 2500D
35.0 - 41.9	Class V 3000D
42.0 - 50.0	Class V Special 3600D

See Notes 8 and 9

METHOD 2

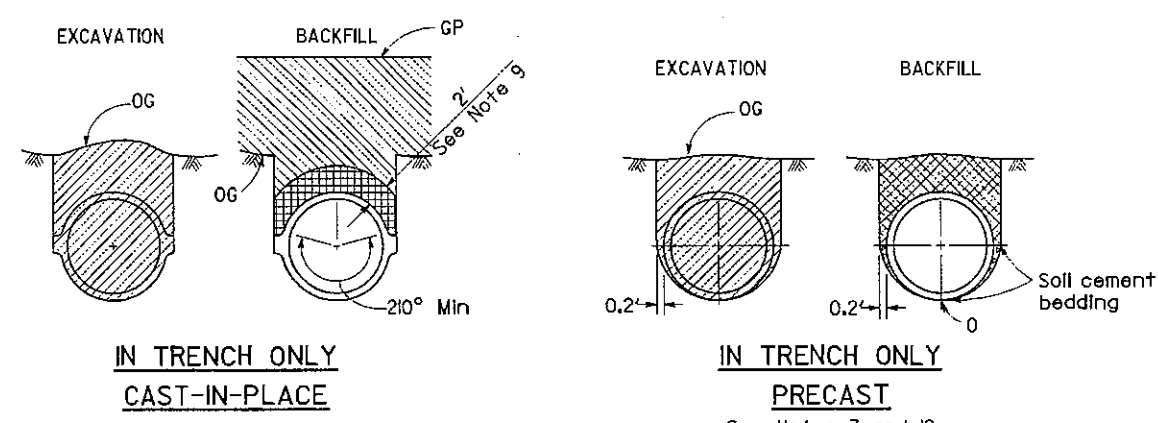
REINFORCED CONCRETE PIPE

See Notes 1, 2, 7 and 10

MINIMUM ALLOWABLE CLASSES OF RCP FOR METHOD 3

Cover (In feet)	Minimum Class & D-Load
Less than 26.0	Class II 1000D
26.0 - 31.9	Class III 1350D
32.0 - 37.9	Class III Special 1700D
38.0 - 44.9	Class IV 2000D
45.0 - 55.9	Class IV Special 2500D
56.0 - 67.9	Class V 3000D
68.0 - 80.0	Class V Special 3600D

METHOD 3



IN TRENCH ONLY

CAST-IN-PLACE

IN TRENCH ONLY

PRECAST

NON-REINFORCED CONCRETE PIPE

See Notes 7 and 12

LEGEND

- Structure Excavation (Culvert)
- Structure Backfill (Culvert) 95% relative compaction
- Structure Backfill (Culvert) 90% relative compaction
- Loose Backfill
- Sand Bedding
- Soil Cement Bedding
- Roadway Embankment
- Original Ground
- OD = Outside diameter for circular pipes and maximum vertical dimension for other shapes
- ID = Inside diameter for circular pipes and minimum vertical dimension for other shapes
- RCP = Reinforced concrete pipe

NOTES

- Unless otherwise shown on the plans or specified in the special provisions, the Contractor shall have the option of selecting the class of RCP and the method of backfill to be used, provided the height of cover does not exceed the value shown for the RCP selected.
Example:
24" RCP culvert with maximum cover of 19' the options are:
a) Class V Special or stronger with Method 1.
b) Class III or stronger with Method 2.
c) Class II or stronger with Method 3.
Cover is defined as the maximum vertical distance from top of pipe to finished grade within the length of any given culvert.
- The class of RCP, method of backfill and bedding selected shall be the same throughout the length of any given culvert.
- The "length of any culvert" is defined as the culvert between:
a) Successive drainage structures (inlets, junction boxes, headwalls, etc.).
b) A drainage structure and the inlet or outlet end of the culvert.
c) The inlet and outlet end of the culvert when there are no intervening drainage structures.
- Slope or shore excavation sides as necessary.
- Embankment height prior to excavation for installation of all classes of RCP under Methods 2 and 3A shall be as follows:
Pipe sizes 12" to 42" ID = 30"
Pipe sizes 48" to 84" ID = 2/3 OD
Pipe sizes larger than 84" ID = 60"
- The maximum size for all classes of RCP placed under Method 1 is 78" ID.
- Non-reinforced precast pipe sizes 36" or smaller may also be placed under Methods 1, 2 or 3.
- Oval or arch shaped RCP shall be placed under Method 2 only.
- Embankment compaction requirements govern over the 90% relative compaction backfill requirement within 2 1/2 feet of finished grade.
- Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimums.
- Minimum cover over top of pipe at edge of traveled way shall be 2' for AC pavement and 1' for PCC pavement.
- Where the precast non-reinforced concrete pipe is used as a substitute for the cast-in-place pipe, both the wall thickness and the concrete strength shall be at least as great as that specified for the cast-in-place pipe. The fill height allowed shall not exceed that shown for the cast-in-place pipe.

EXCAVATION AND BACKFILL
CONCRETE PIPE CULVERTS

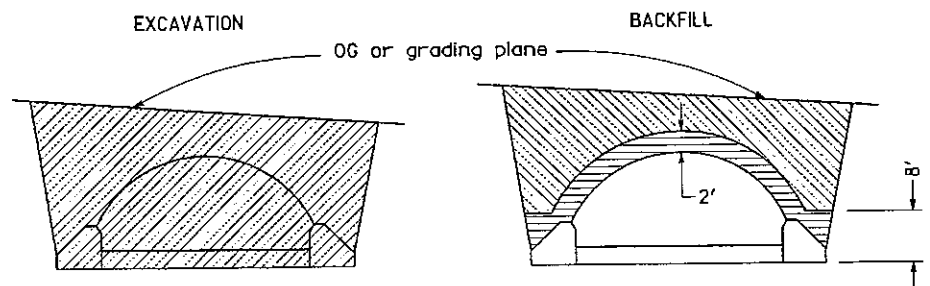
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C-17

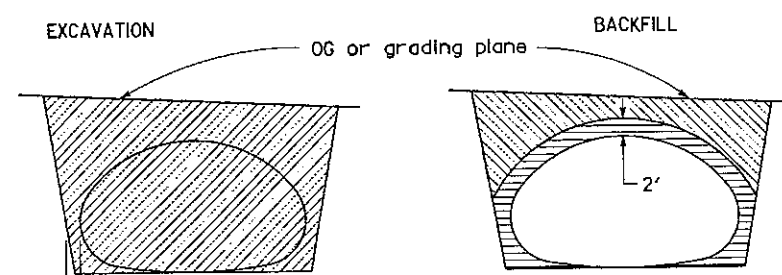
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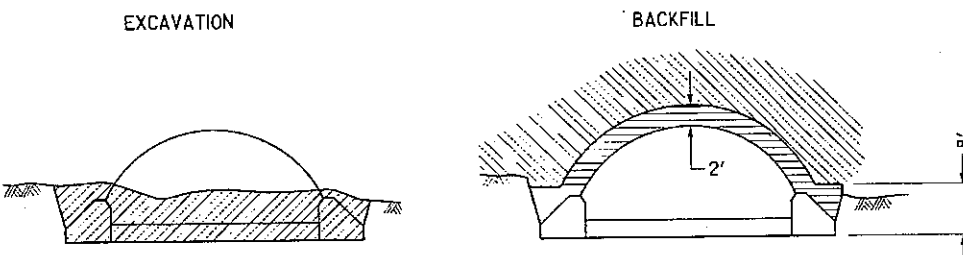
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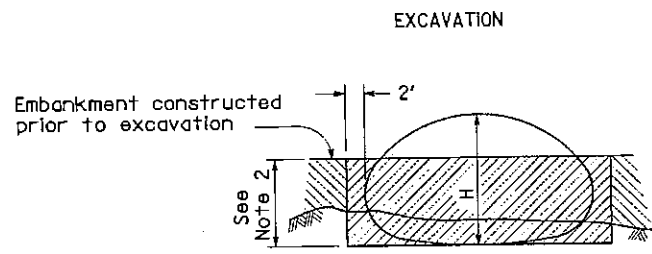
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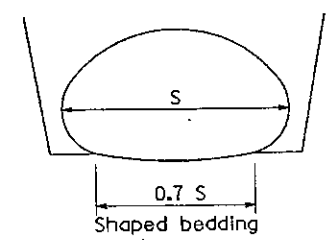
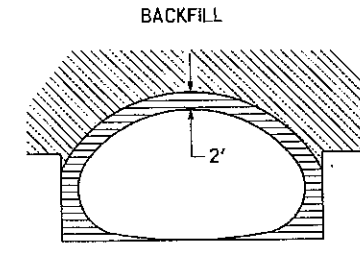
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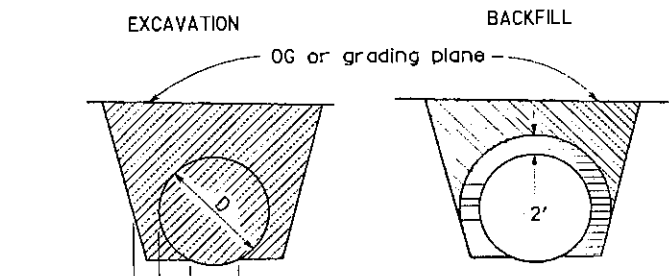
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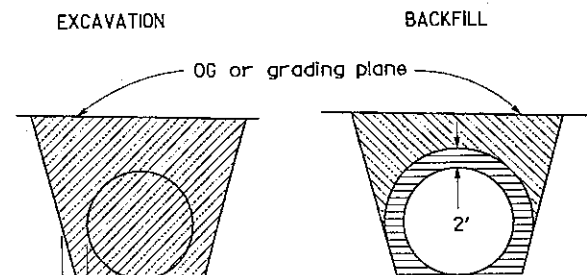
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STRUCTURAL STEEL PLATE PIPE ARCHES
AND VEHICULAR UNDERCROSSING



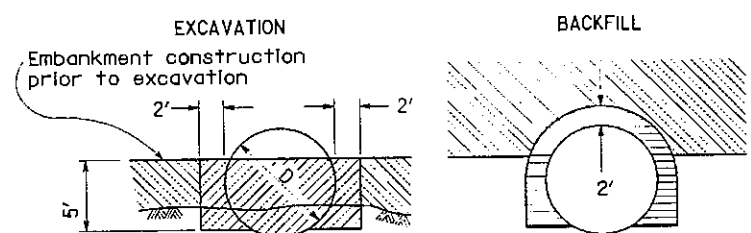
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S = Larger than 84"



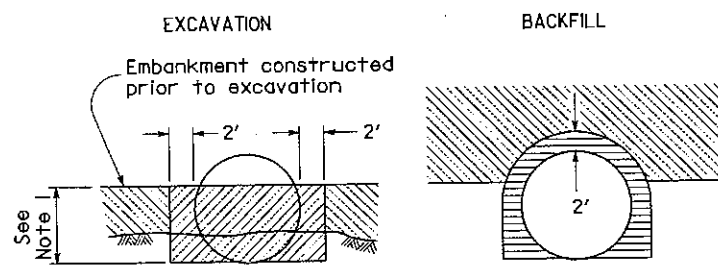
IN TRENCH



IN TRENCH



IN EMBANKMENT
PIPES
Larger than 84"



IN EMBANKMENT
METAL AND PLASTIC PIPES AND
CORRUGATED METAL PIPE ARCHES
84" or Smaller

NOTES

1. PIPES: 30" minimum for diameters up to and including 42" then 2/3 diameter but no more than 60" required. CORRUGATED METAL PIPE ARCHES: 30" maximum.
2. 2/3 H up to 60" maximum.
3. Slope or shore excavation sides as necessary.
4. Backfill shall be placed full width of excavation except as noted.
5. Diagrams do not apply to overside drains.
6. Dimensions shown are minimum.

LEGEND

- Structure Excavation (Culvert)
- Roadway Embankment
- Structure Backfill (Culvert)
- 95% Relative Compaction
- Original ground

EXCAVATION AND BACKFILL
METAL AND PLASTIC CULVERTS

NO SCALE

C-18

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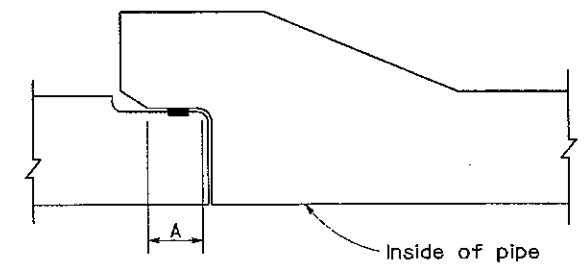
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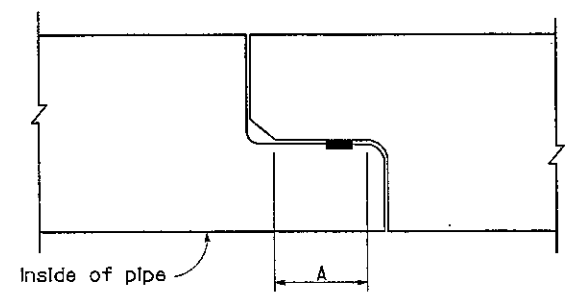
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JAIME E. GUTIERREZ

REVISOR
DATE
REVISOR
DATE

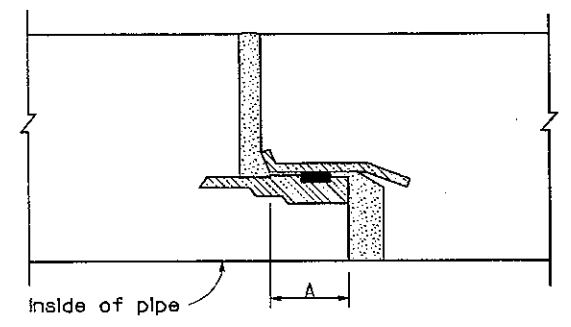
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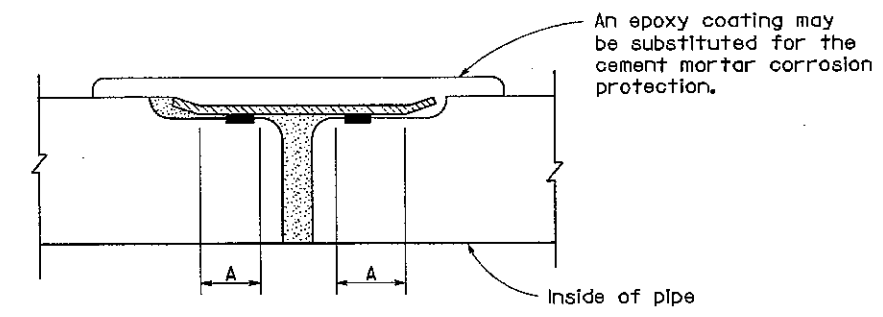
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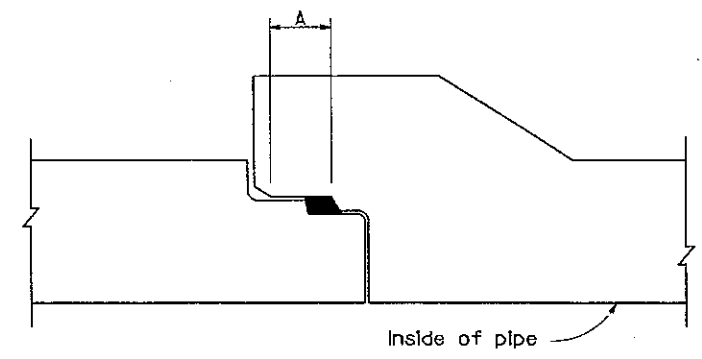
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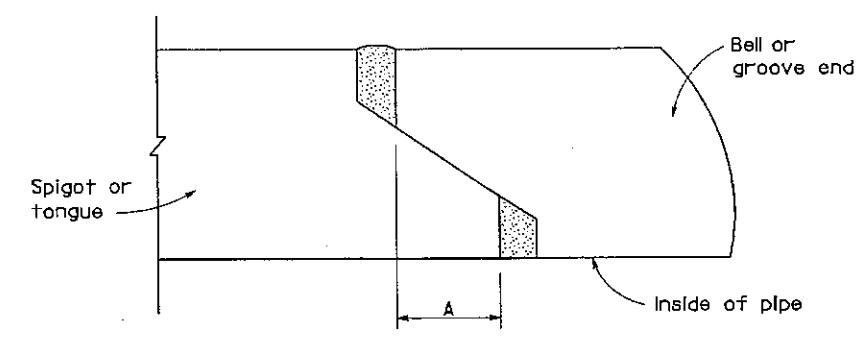
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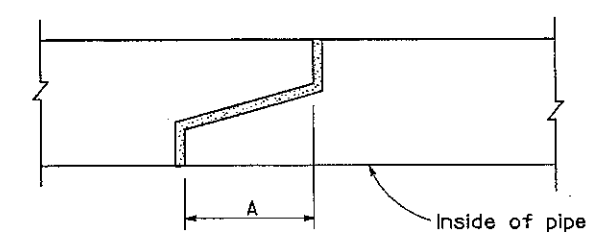
CONCRETE JOINT-DOUBLE GASKET DESIGN



CONCRETE JOINT-FLARED BELL DESIGN
(TYPE R-3)



SELF-CENTERING TONGUE & GROOVE



TONGUE & GROOVE DESIGN

LEGEND

- Cement Mortar
- Rubber Gasket
- Steel

DIMENSION	STANDARD	POSITIVE	PIPE DIAMETER LIMITS
A	1/4" Min	1/2" Min	6" through 12" Dia
A	1/2" Min	3/4" Min	15" through 33" Dia
A	3/4" Min	1" Min	Greater than 33" Dia

REINFORCED CONCRETE PIPE OR
NON-REINFORCED CONCRETE PIPE
STANDARD AND POSITIVE JOINTS

NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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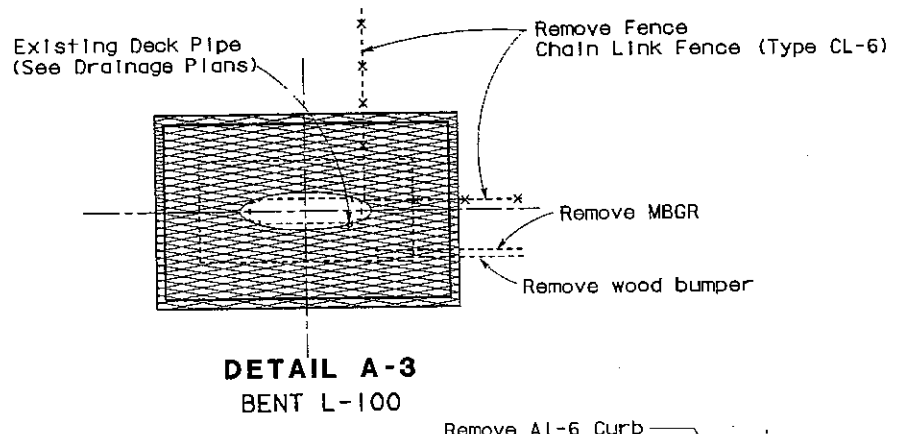
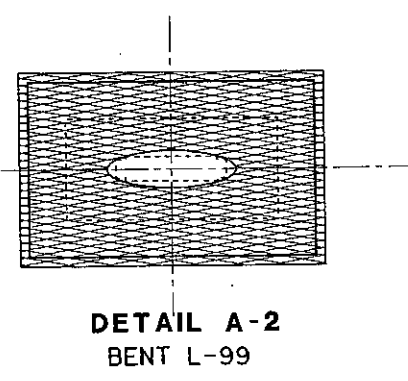
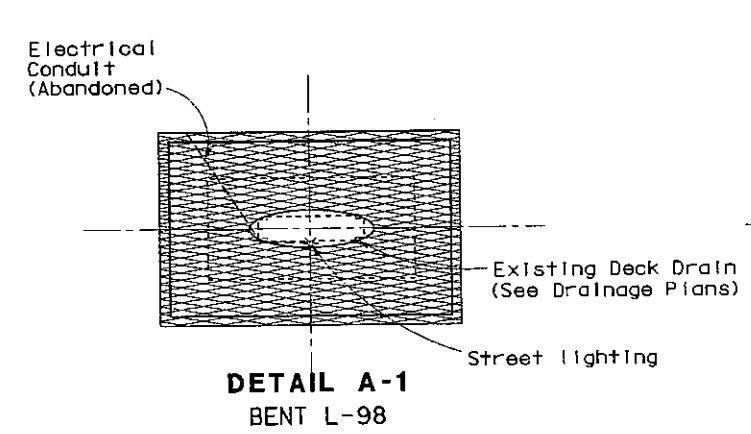
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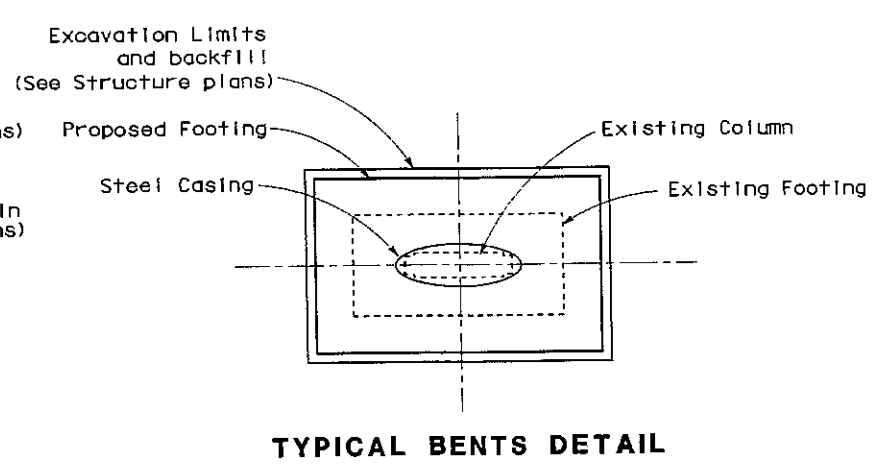
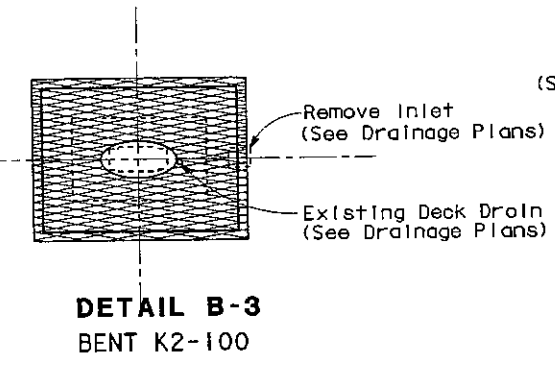
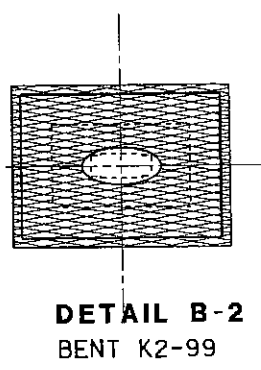
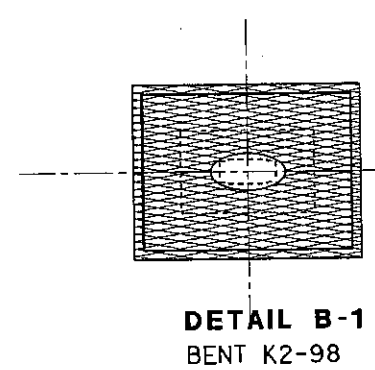
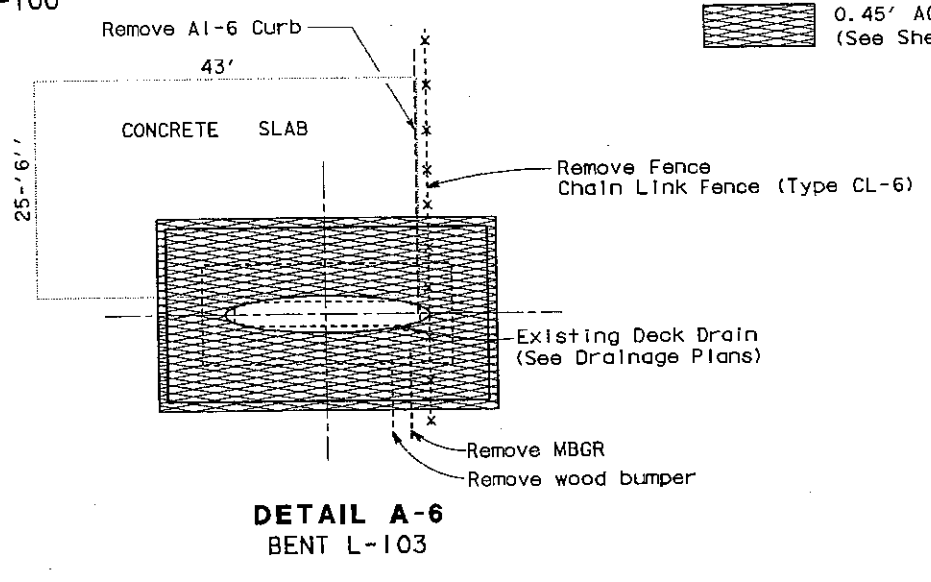
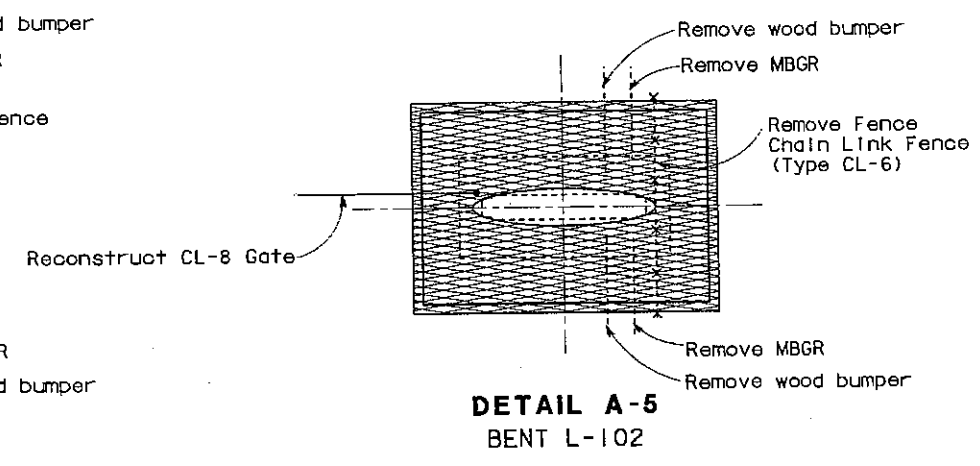
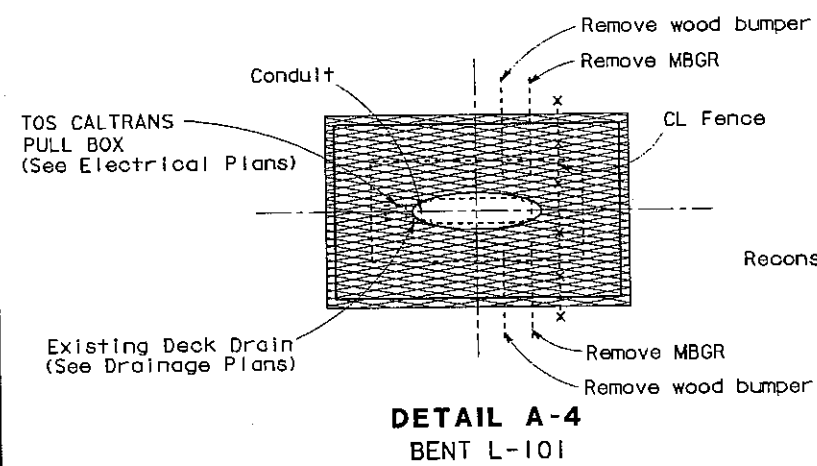
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LEGEND

0.45' AC (Type A)
(See Sheet X-1)



CONSTRUCTION DETAILS
NO SCALE
C-20

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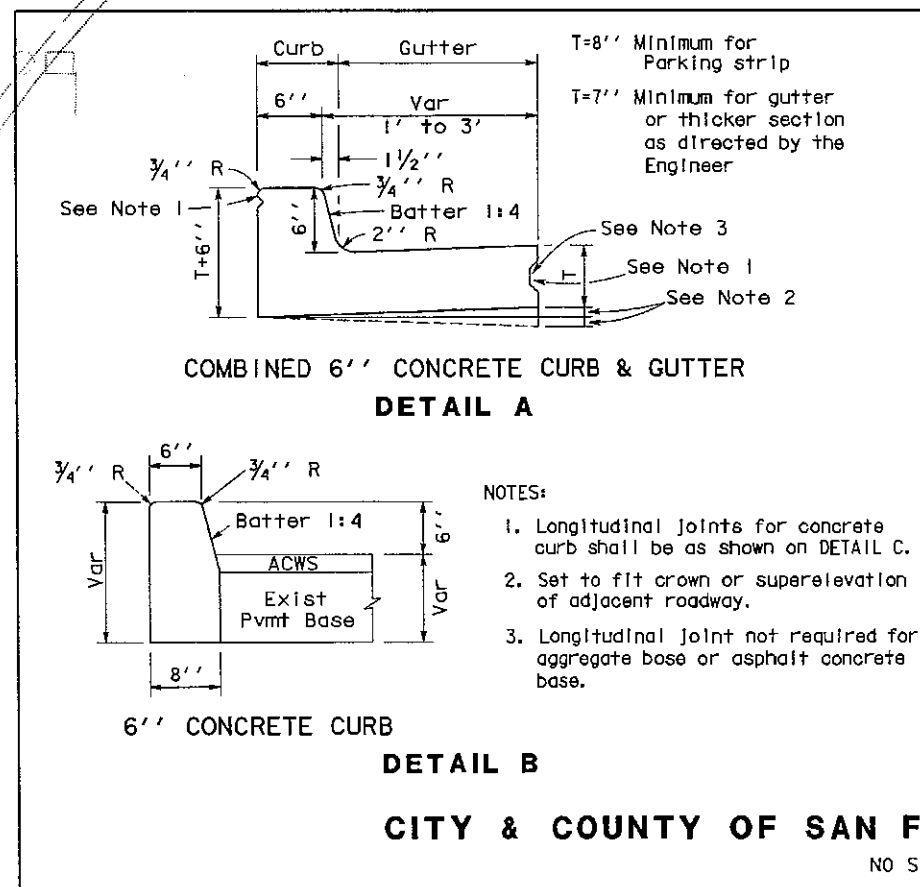
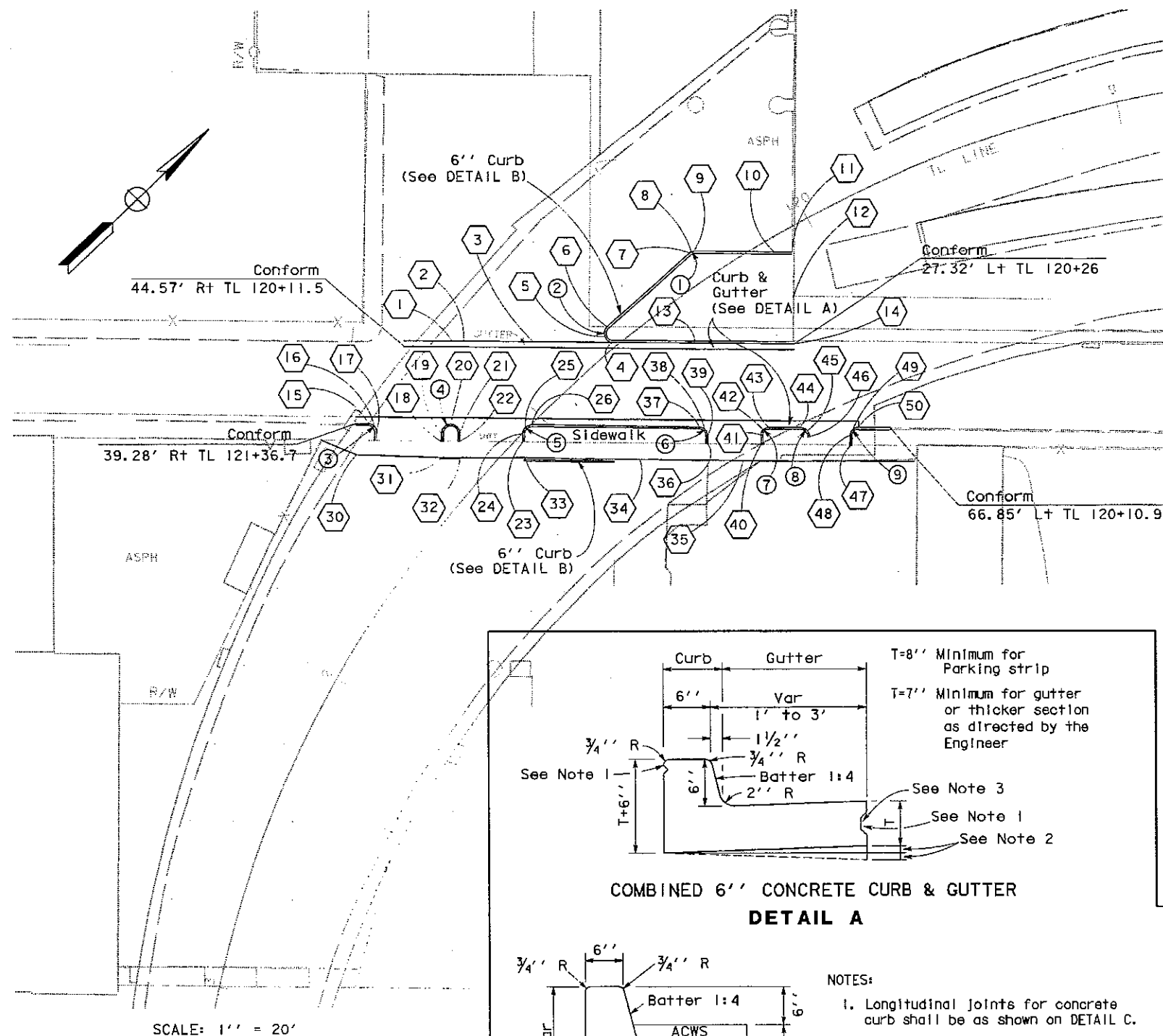
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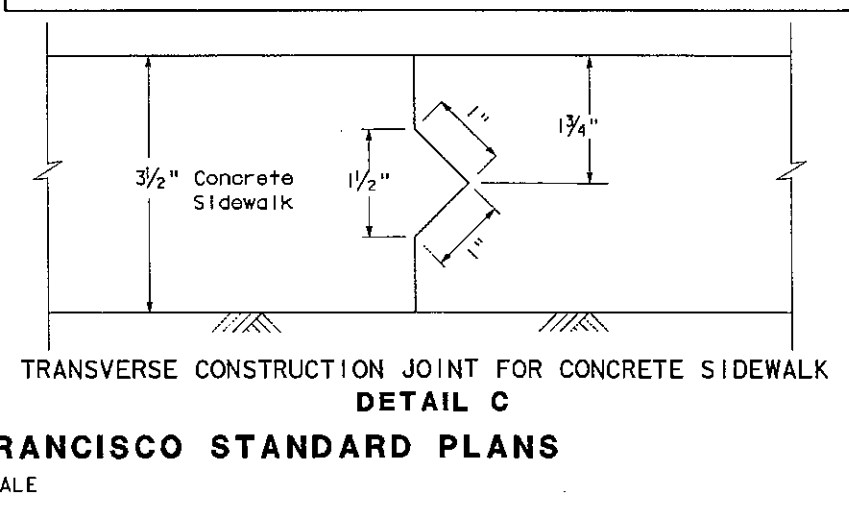
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Caltrans PROJECT DEVELOPMENT		JAMIE E. GUTIERREZ		CALCULATED/ DESIGNED BY				
				CHECKED BY				



No.	R	Δ	T	L
①	2.0'	41° 28' 14"''	1.0'	1.0'
②	3.0'	137° 41' 11"''	7.0'	6.0'
③	2.0'	90° 47' 51"''	2.0'	4.0'
④	3.0'	177° 14' 07"''	112.0'	8.0'
⑤	3.0'	90° 16' 13"''	3.0'	4.0'
⑥	2.0'	91° 32' 18"''	2.0'	4.0'
⑦	3.0'	87° 56' 01"''	2.0'	4.0'
⑧	3.0'	89° 36' 32"''	2.0'	4.0'
⑨	3.0'	93° 56' 15"''	3.0'	5.0'

NO.	STATION	ELEVATION
1	34.80' R+ TL 121+02.46	18.46
2	32.21' R+ TL 121+00.20	18.47
3	17.78' R+ TL 120+86.21	18.28
4	1.40' R+ TL 120+68.52	18.10
5	4.34' R+ TL 120+69.35	18.23
6	6.17' R+ TL 120+66.93	18.34
7	9.26' R+ TL 120+34.65	17.75
8	9.23' R+ TL 120+33.95	17.71
9	8.95' R+ TL 120+33.30	17.62
10	4.10' L+ TL 120+13.38	17.42
11	6.74' L+ TL 120+08.85	17.38
12	18.42' L+ TL 120+15.47	18.22
13	13.69' L+ TL 120+49.17	17.80
14	27.32' L+ TL 120+26	17.45
15	35.70' R+ TL 121+34.18	18.94
16	33.99' R+ TL 121+33.75	19.00
17	32.46' R+ TL 121+34.56	19.12
18	16.12' R+ TL 121+25.15	19.24
19	17.87' R+ TL 121+23.28	18.75
20	17.64' R+ TL 121+19.70	18.85
21	13.88' R+ TL 121+19.82	18.95
22	12.17' R+ TL 121+21.75	19.20
23	1.90' L+ TL 121+09.15	19.02
24	0.17' L+ TL 121+07.38	18.80
25	0.61' R+ TL 121+05.46	18.69
26	0.19' L+ TL 121+03.55	18.48
27	34.66' L+ TL 120+64.54	18.35
28	52.57' L+ TL 120+37.39	18.15
29	61.83' L+ TL 120+20.45	17.71

NO.	STATION	ELEVATION
30	32.64' R+ TL 121+42.85	19.33
31	12.94' R+ TL 121+28.75	19.30
32	8.71' R+ TL 121+25.38	19.30
33	5.62' L+ TL 121+12.11	19.12
34	30.47' L+ TL 120+86.66	18.98
35	50.62' L+ TL 120+60.39	18.84
36	39.83' L+ TL 120+66.20	18.68
37	34.66' L+ TL 120+64.53	18.15
38	36.22' L+ TL 120+63.64	18.29
39	37.88' L+ TL 120+64.26	18.40
40	49.88' L+ TL 120+51.88	18.49
41	47.78' L+ TL 120+49.90	18.28
42	46.86' L+ TL 120+48.02	18.13
43	47.33' L+ TL 120+45.93	17.96
44	52.57' L+ TL 120+37.39	17.95
45	54.17' L+ TL 120+36.18	18.00
46	56.04' L+ TL 120+36.64	18.27
47	65.17' L+ TL 120+26.47	18.32
48	63.34' L+ TL 120+25.23	18.12
49	61.88' L+ TL 120+22.93	17.91
50	62.25' L+ TL 120+20.07	17.76



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	29	166

J. E. Gutierrez
 8-28-00
 REGISTERED CIVIL ENGINEER

12-26-00
 PLANS APPROVAL DATE

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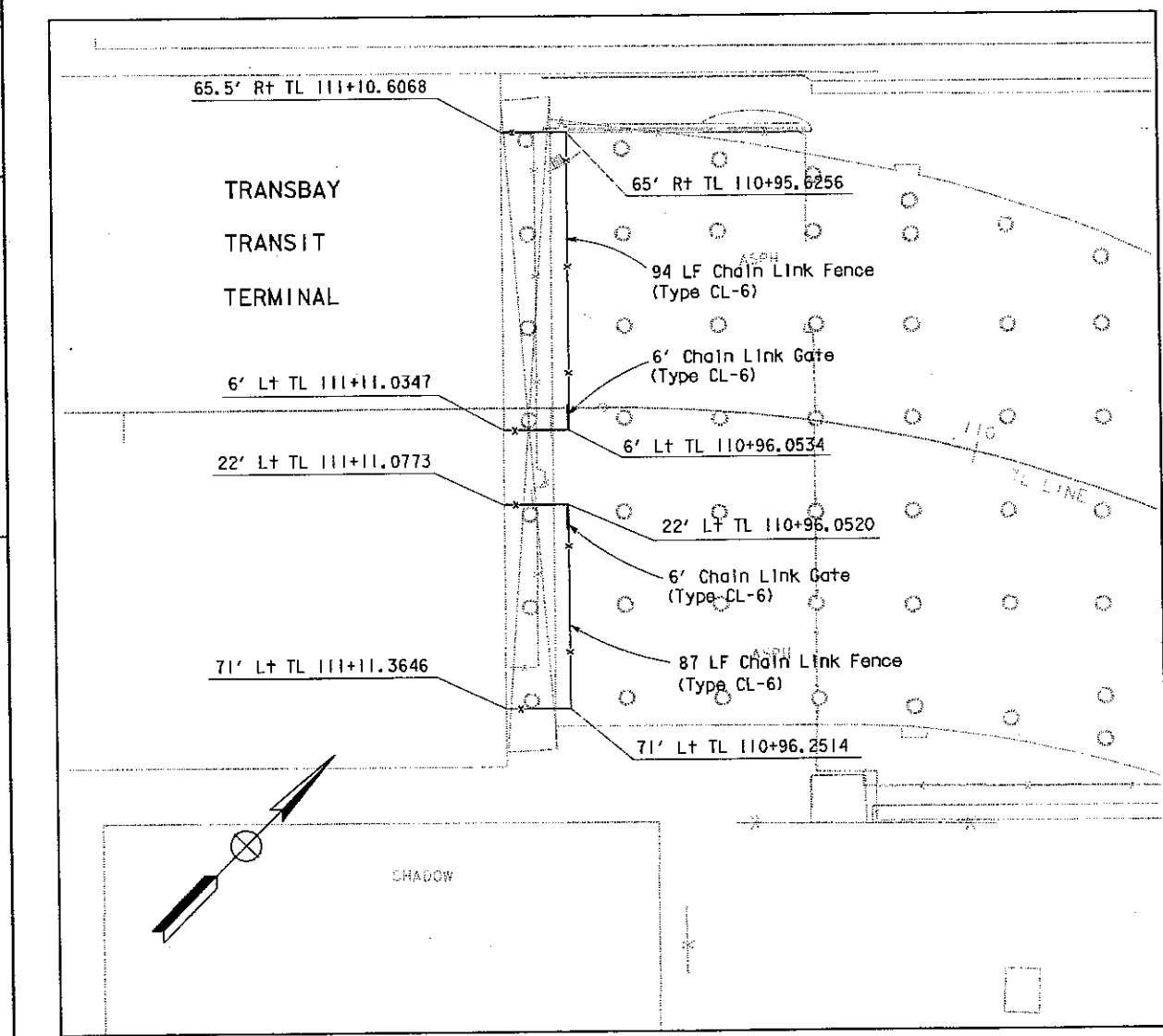
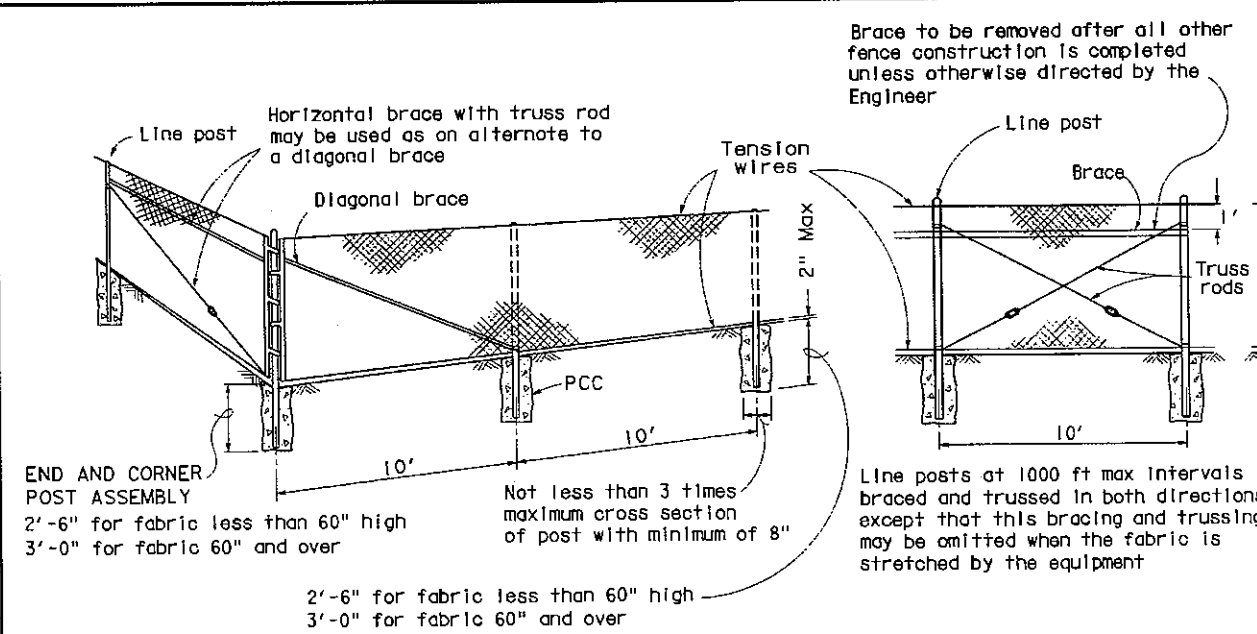
Caltrans now has a web site! To get to the web site, go to: <http://www.dot.ca.gov>

REGISTERED PROFESSIONAL ENGINEER
 J.E. Gutierrez
 52324
 No. 12-31-02
 CIVIL
 STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER
JAIME E. GUTIERREZ

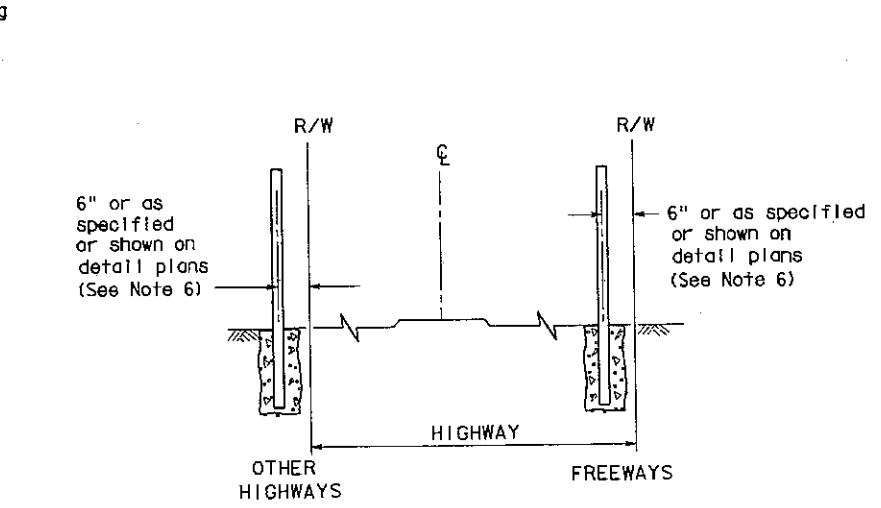
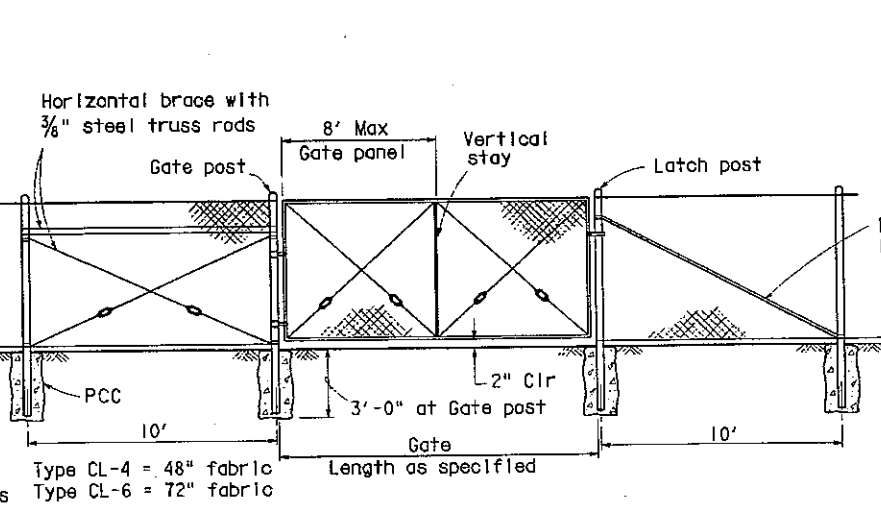
REVISOR
DATE
REVISOR
DATE



DETAIL A
SCALE 1" = 20'

Brace to be removed after all other fence construction is completed unless otherwise directed by the Engineer

Line posts at 1000 ft max intervals braced and trussed in both directions except that this bracing and trussing may be omitted when the fabric is stretched by the equipment








DIST 04 COUNTY SF ROUTE 80 POST MILES TOTAL PROJECT 4.9/5.9 SHEET NO. 30 TOTAL SHEETS 166

10/21/00 8-28-00
REGISTERED CIVIL ENGINEER
12-26-00
PLANS APPROVAL DATE
J. E. Gutierrez
No. 52324
Exp. 12-31-02
CIVIL
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Caltrans now has a web site! To get to the web site, go to: <http://www.dot.ca.gov>

GATE POST			
FENCE HEIGHT	GATE WIDTHS	NOMINAL I D	MASS PER FOOT
6'-0" and Less	Up thru 6'	2 1/2"	4.95
	Over 6' thru 12'	4"	10.79
	Over 12' thru 18'	5"	14.62
	Over 18' to 24' max	6"	18.97
Over 6'-0"	Up thru 6'	3"	7.58
	Over 6' thru 12'	5"	14.62
	Over 12' thru 18'	6"	18.97
	Over 18' to 24' max	8"	28.55

Above post dimensions and masses are minimums. Larger sizes may be used on approval of the Engineer.

TYPICAL MEMBER DIMENSIONS (See Notes)										
FENCE HEIGHT	LINE POSTS			END, LATCH & CORNER POSTS			BRACES			
	ROUND I D	H	ROLL FORMED	ROUND I D	ROLL FORMED		ROUND I D	H	ROLL FORMED	
						 				
6' & less	1½"	1⅞" x 1⅝"	1⅞" x 1⅝"	2"	3½" x 3½"	2" x 1¾"	1¼"	1½" x 1⅝"	1⅝" x 1¼"	1¾" x 1¼"
Over 6'	2"	2¼" x 2"	2" x 1¾"	2½"	3½" x 3½"	2½" x 2½"	1¼"	1½" x 1⅝"	1⅝" x 1¼"	1¾" x 1¼"

- NOTES:
- The above table shows examples of post and brace sections which may comply with the Specifications.
 - Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
 - Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
 - Options exercised shall be uniform on any one project.
 - Dimensions shown are nominal.
 - Offset to be 2 ft at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20 ft long.

CONSTRUCTION DETAILS
CHAIN LINK FENCE
SCALE AS SHOWN
C-22

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DGN FILE => 40435c022.dgn

CU 04265

EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 11:21
LAST REVISION
09-07-00

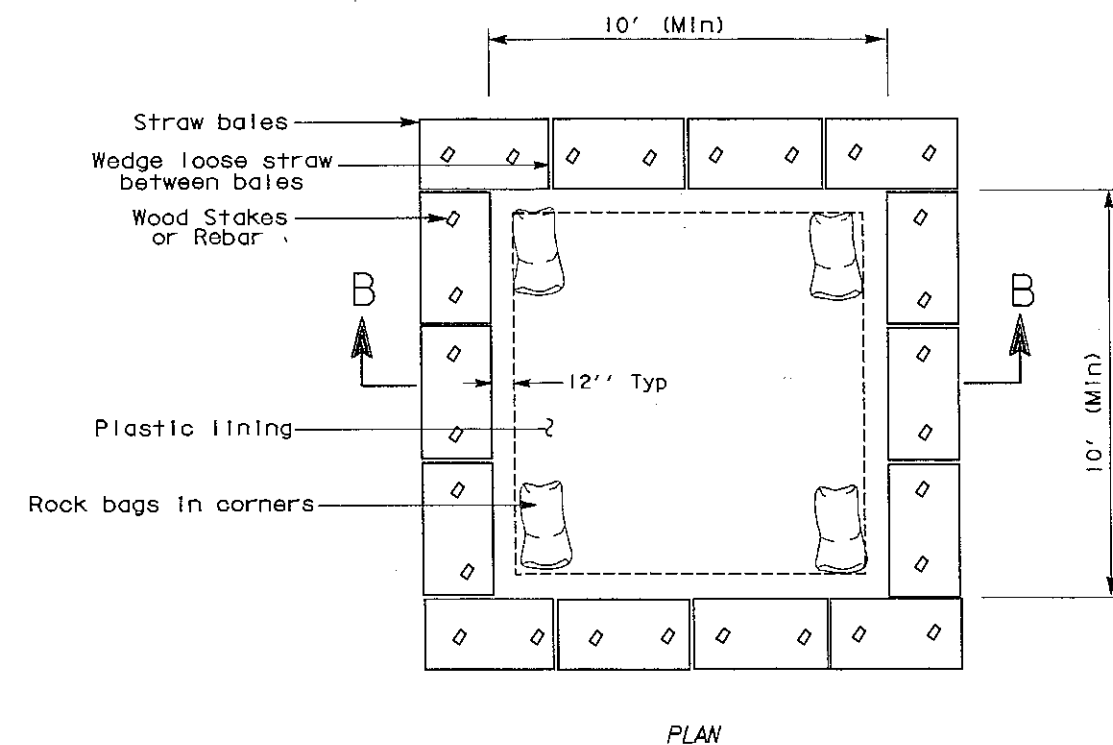
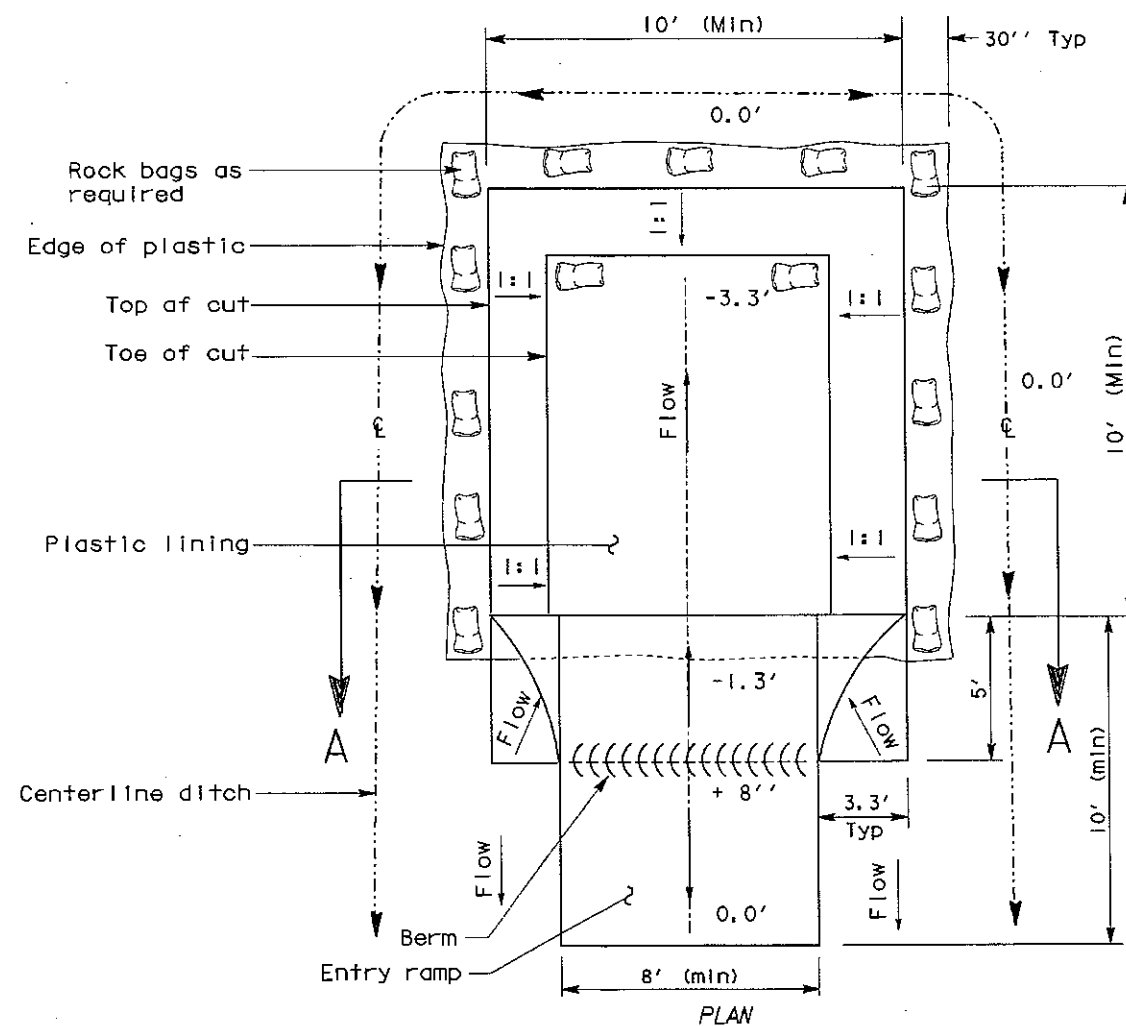
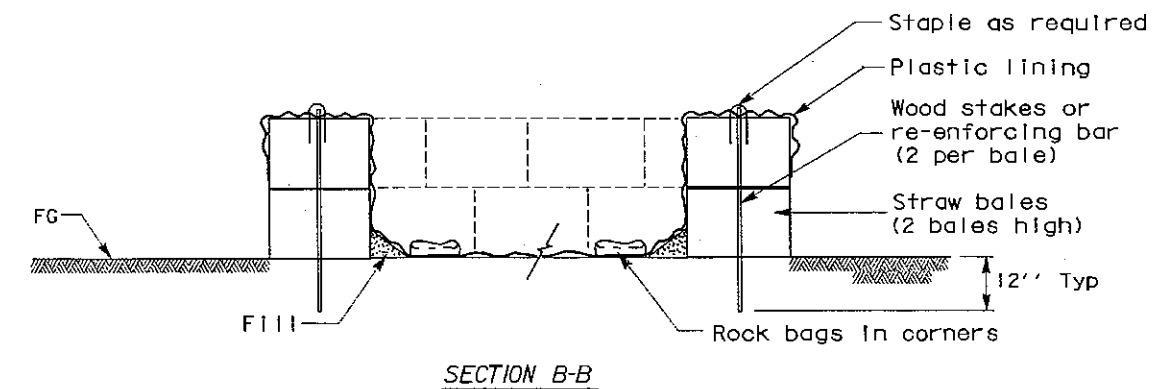
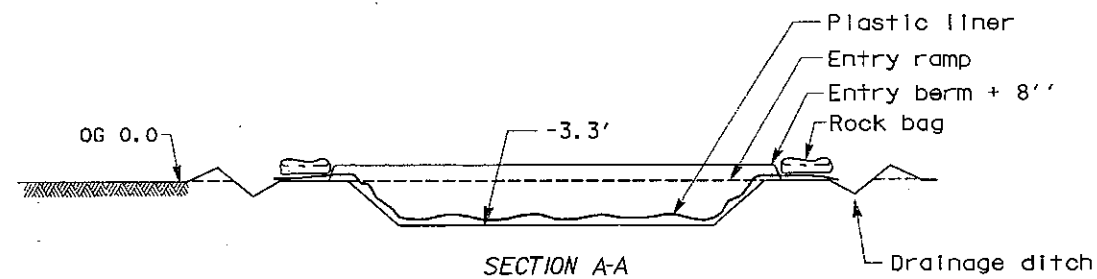
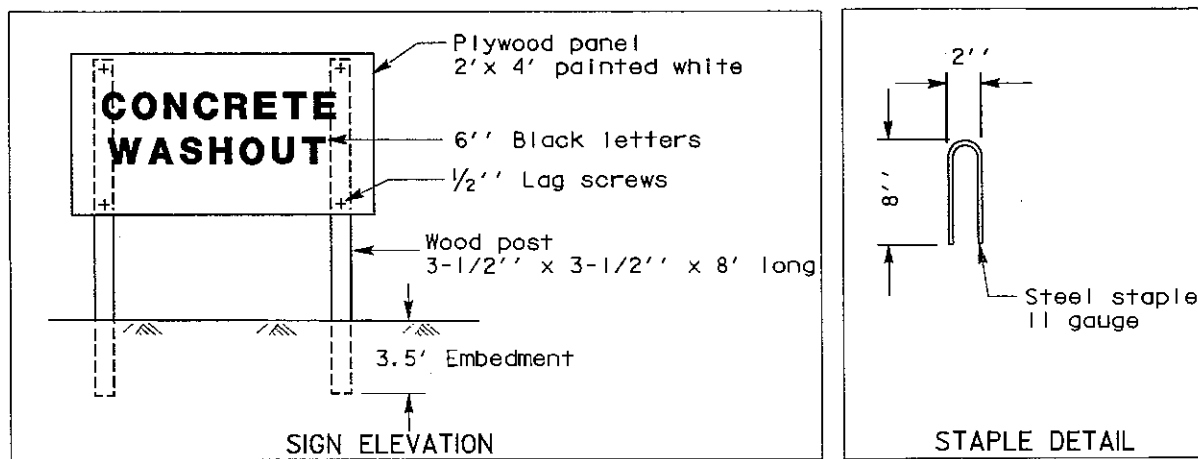

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	31	166

Don Whaley, Jr.
 LICENSED LANDSCAPE ARCHITECT

12-26-00
 PLANS APPROVAL DATE

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TEMPORARY CONCRETE WASHOUT FACILITY
(On Grade)

TEMPORARY CONCRETE WASHOUT FACILITY
(Below Grade)

CONSTRUCTION DETAILS
EROSION/WATER POLLUTION CONTROL
NO SCALE

This plan accurate for Erosion Control and/or Water Pollution Control only.

FOR REDUCED PLANS ORIGINAL 0 1 2
SCALE IS IN INCHES

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CU 04265

EA 0435C1

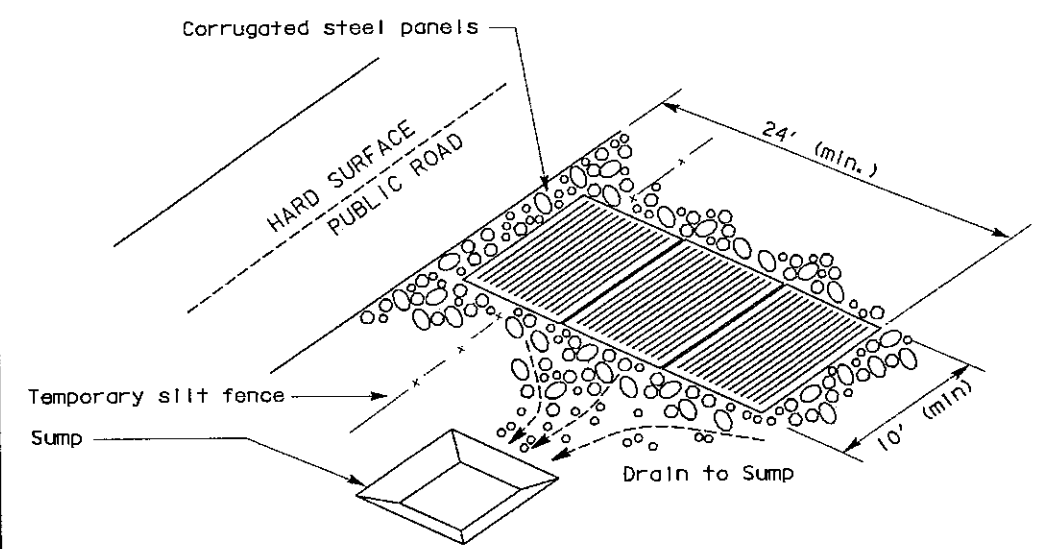
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	32	166

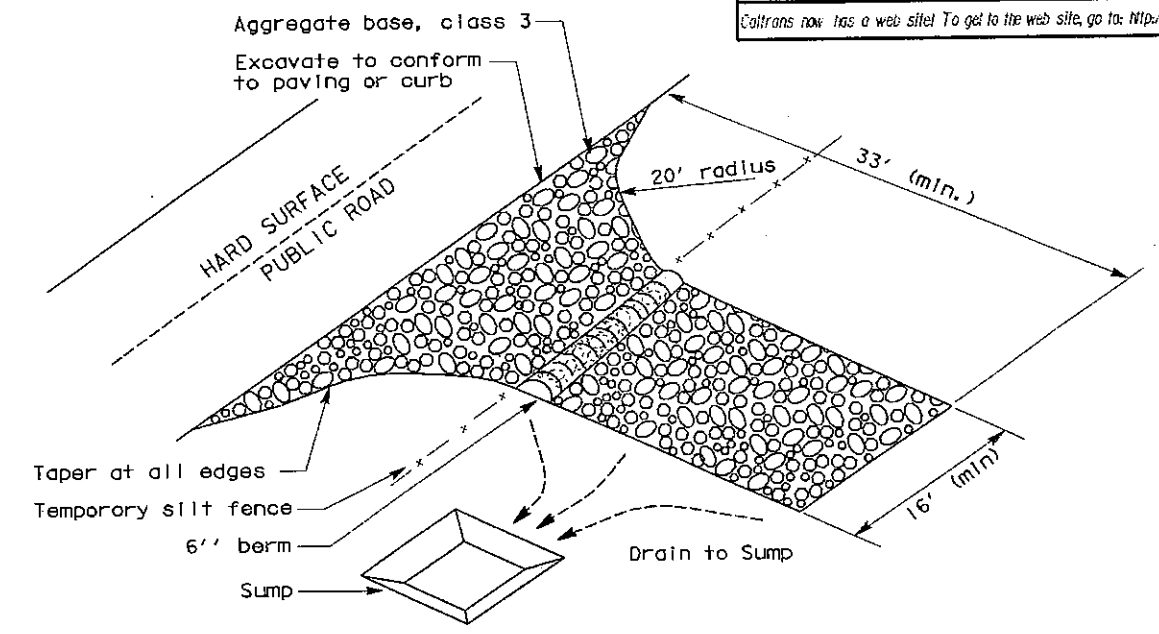
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 PLANS APPROVAL DATE
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LICENSED LANDSCAPE ARCHITECT
 1-30-01
 09-16-00
 STATE OF CALIFORNIA

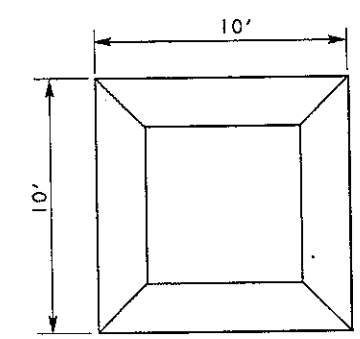
- NOTES:
1. Install temporary silt fence by first digging trench, driving post, place and secure fabric, backfill and comp.
 2. Dimensions may vary to match field conditions



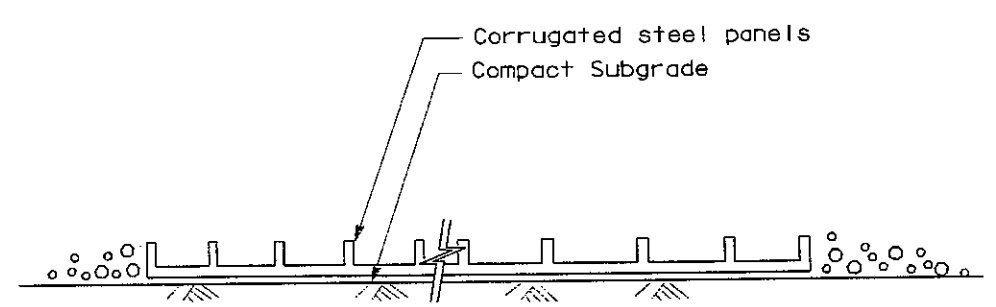
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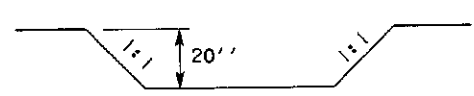
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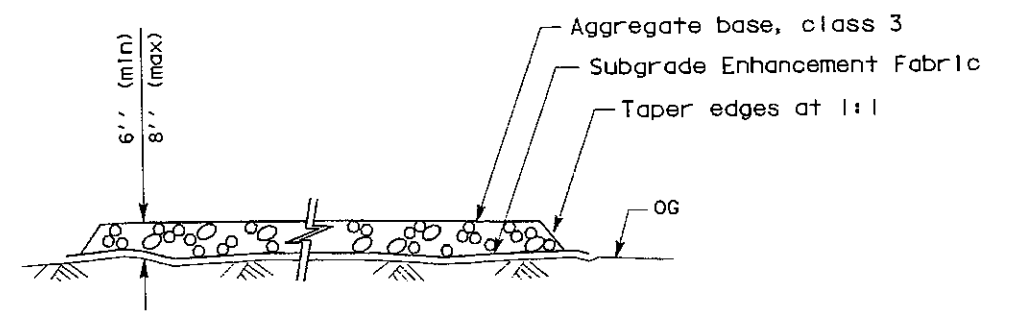
PLAN



SECTION
TEMPORARY ENTRANCE/EXIT (TYPE 2)



SECTION
SUMP



SECTION
TEMPORARY ENTRANCE/EXIT (TYPE 1)

CONSTRUCTION DETAILS
EROSION/WATER POLLUTION CONTROL
 NO SCALE
C-24

This plan accurate for Erosion Control and/or Water Pollution Control only.

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

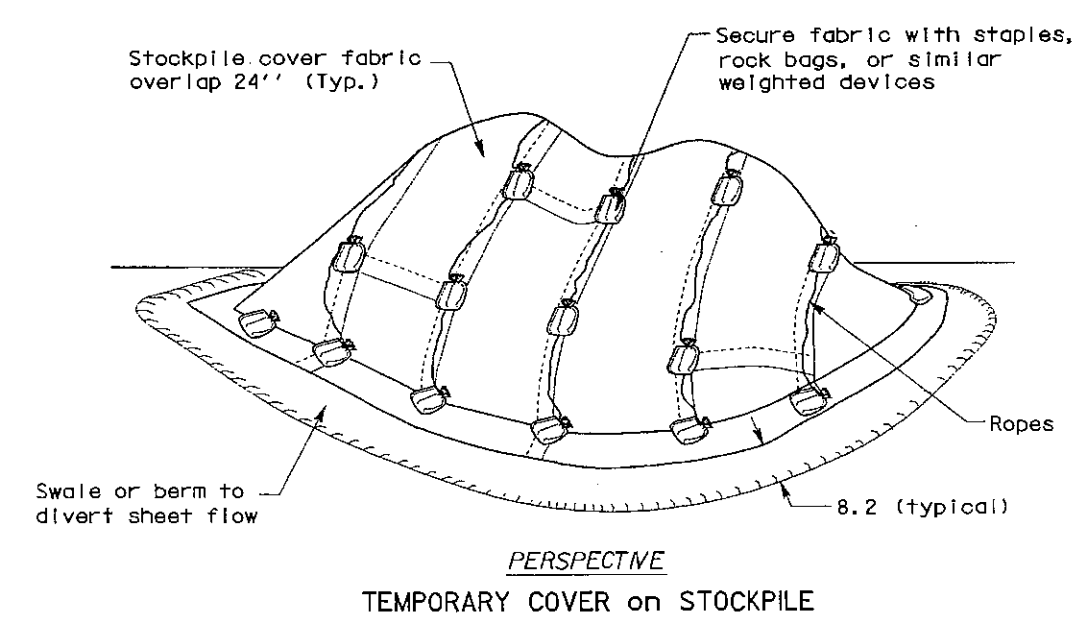
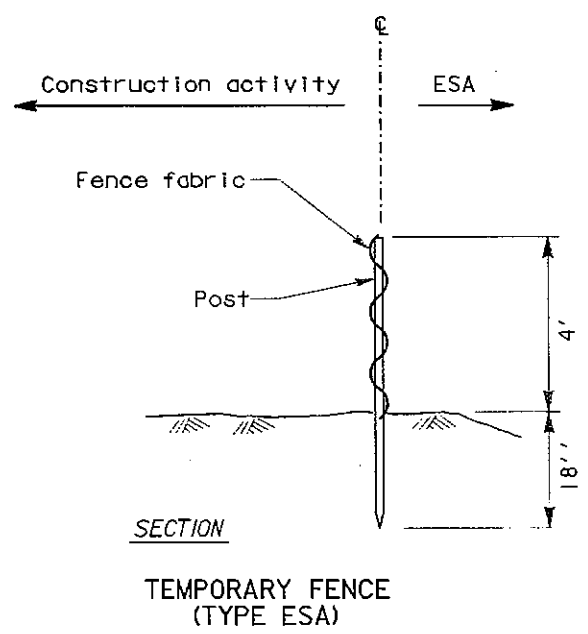
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CU 04265

EA 0435C1

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 LAST REVISION 09-16-00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 PROJECT LANDSCAPE ARCHITECT
 LANDSCAPE ARCHITECTURE
 DAVID W. YAM
 CALCULATED BY
 DESIGNED BY
 CHECKED BY
 DATE
 REVISED BY
 DATE
 REVISED



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	33	166

12-26-00

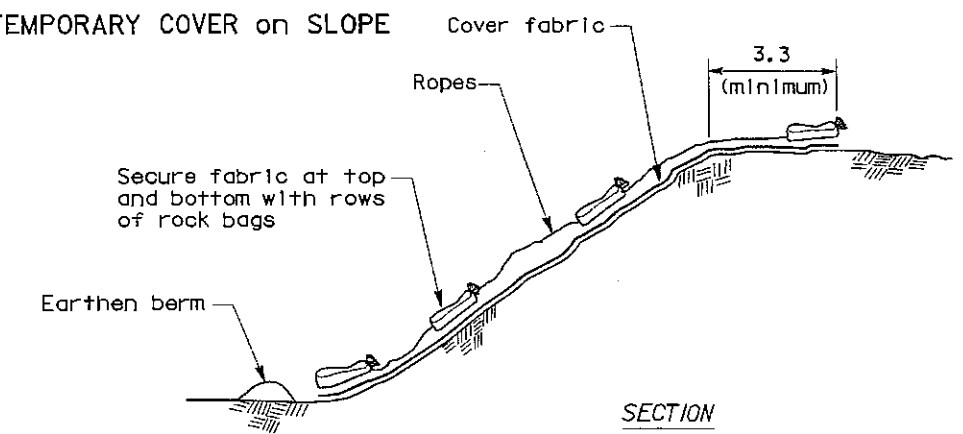
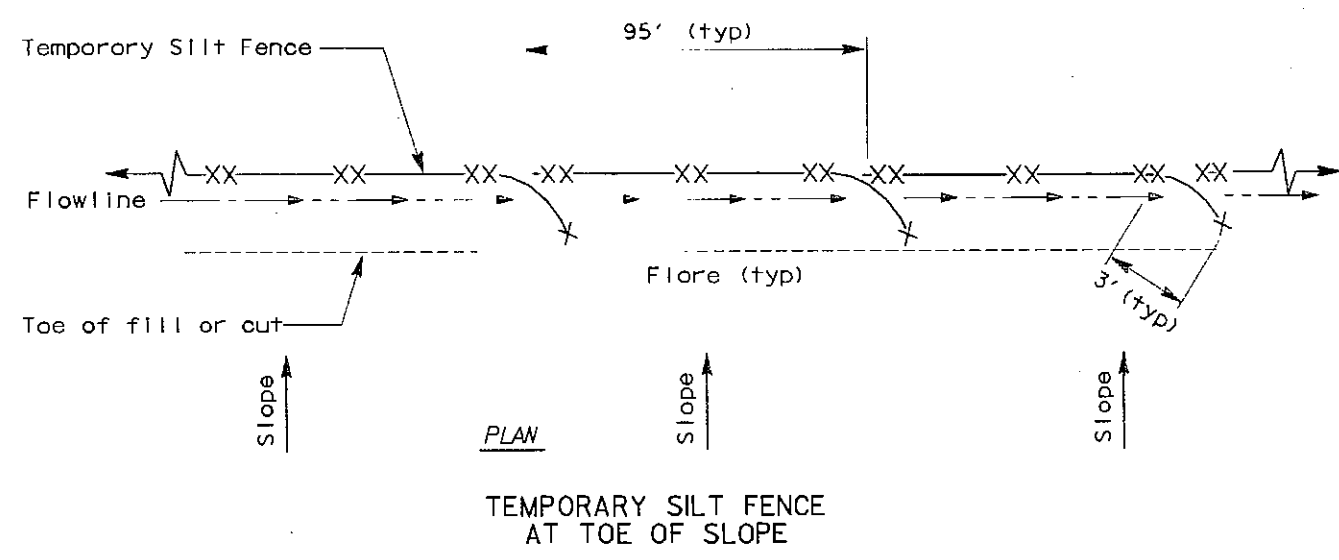
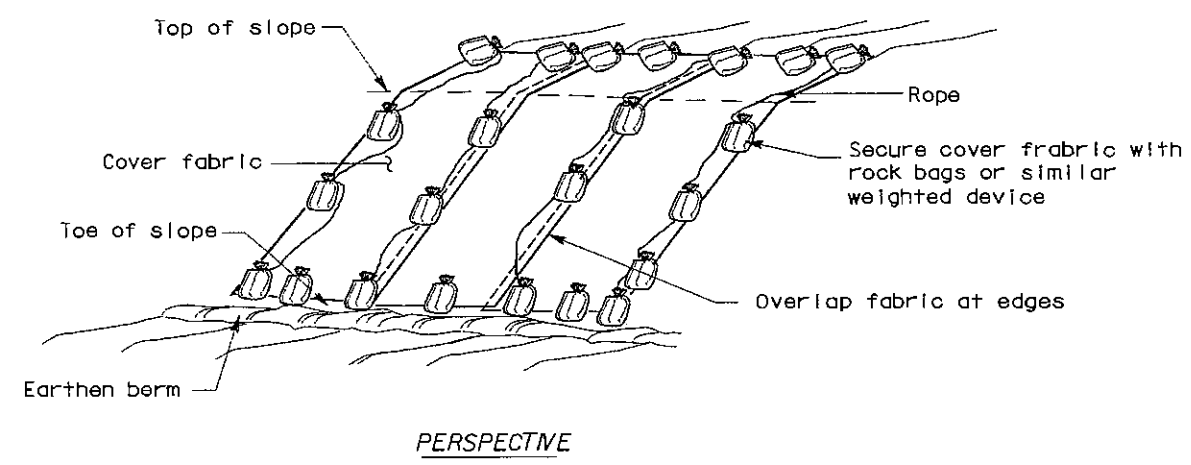
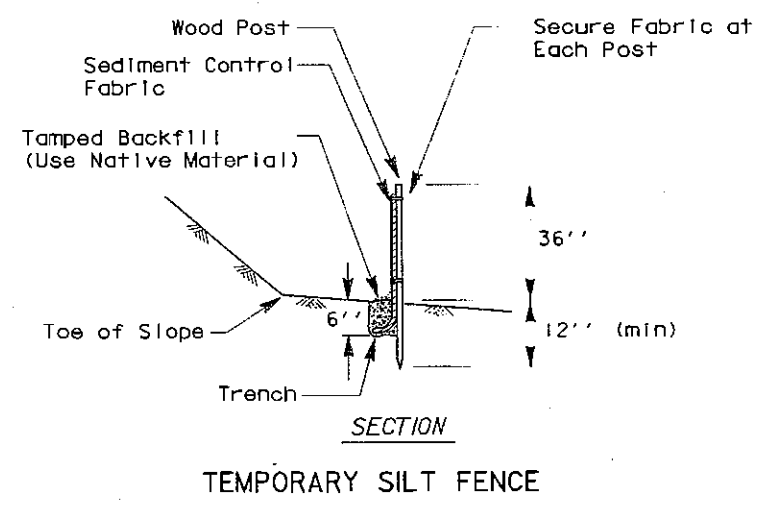
PLANS APPROVAL DATE

09-18-00

DATE

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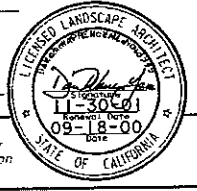
- NOTES:
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 2. Dimensions may vary to match field conditions

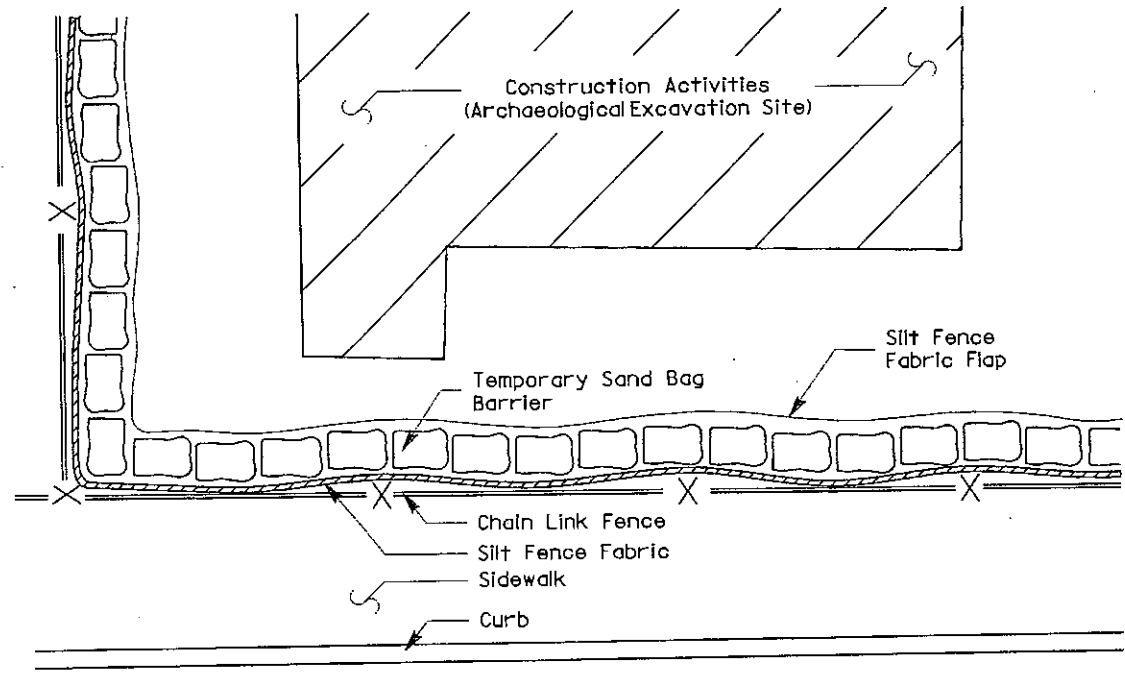


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
PROJECT LANDSCAPE ARCHITECT
DAVID W. YAM
CALCULATED/DESIGNED BY
CHECKED BY
DATE
REVISED BY
DATE
REVISED BY
DATE

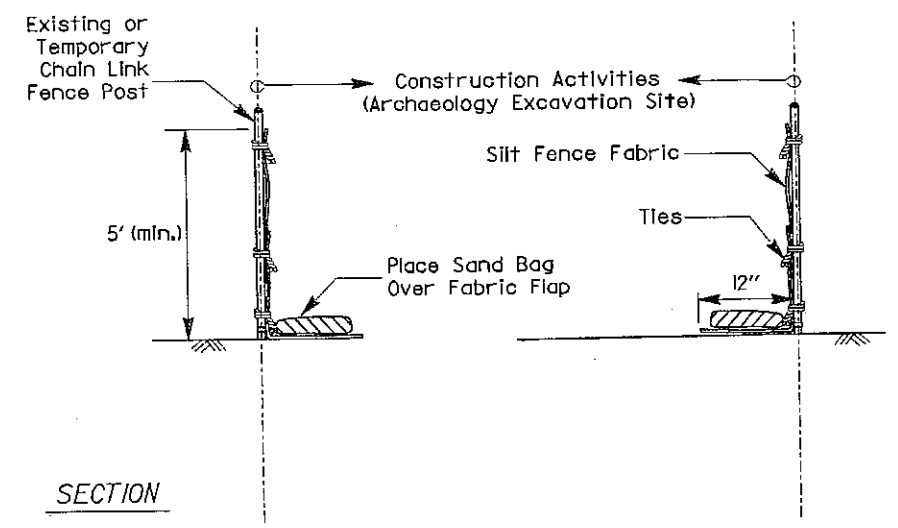
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	34	166

David W. Yam
LICENSED LANDSCAPE ARCHITECT
12-26-00
PLANS APPROVAL DATE
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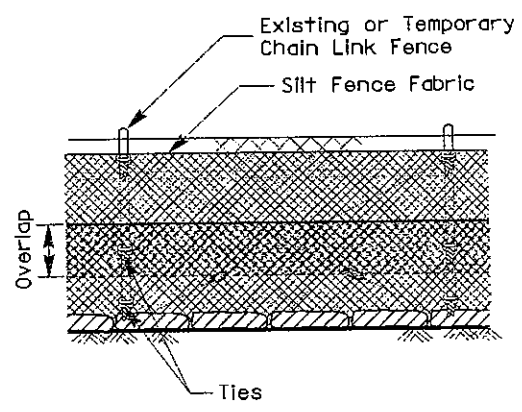




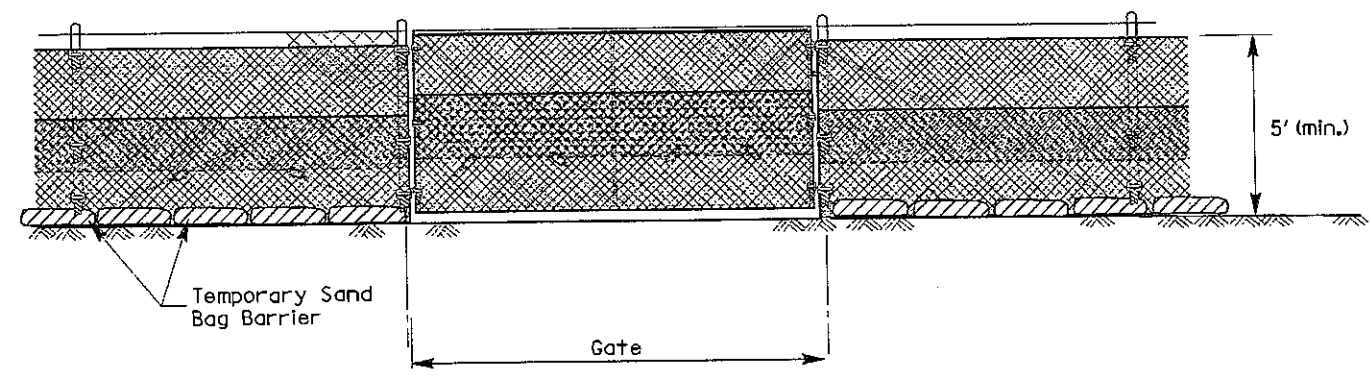
PLAN



SECTION



ELEVATION



TEMPORARY SILT FENCE FABRIC ALONG CHAIN LINK FENCE

CONSTRUCTION DETAILS
EROSION/WATER POLLUTION CONTROL
NO SCALE
C-26

This plan accurate for Erosion Control and/or Water Pollution Control only.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER	YUANZHENG GE
DESIGNED BY	
CHECKED BY	
DATE	
REVISOR	
DATE	

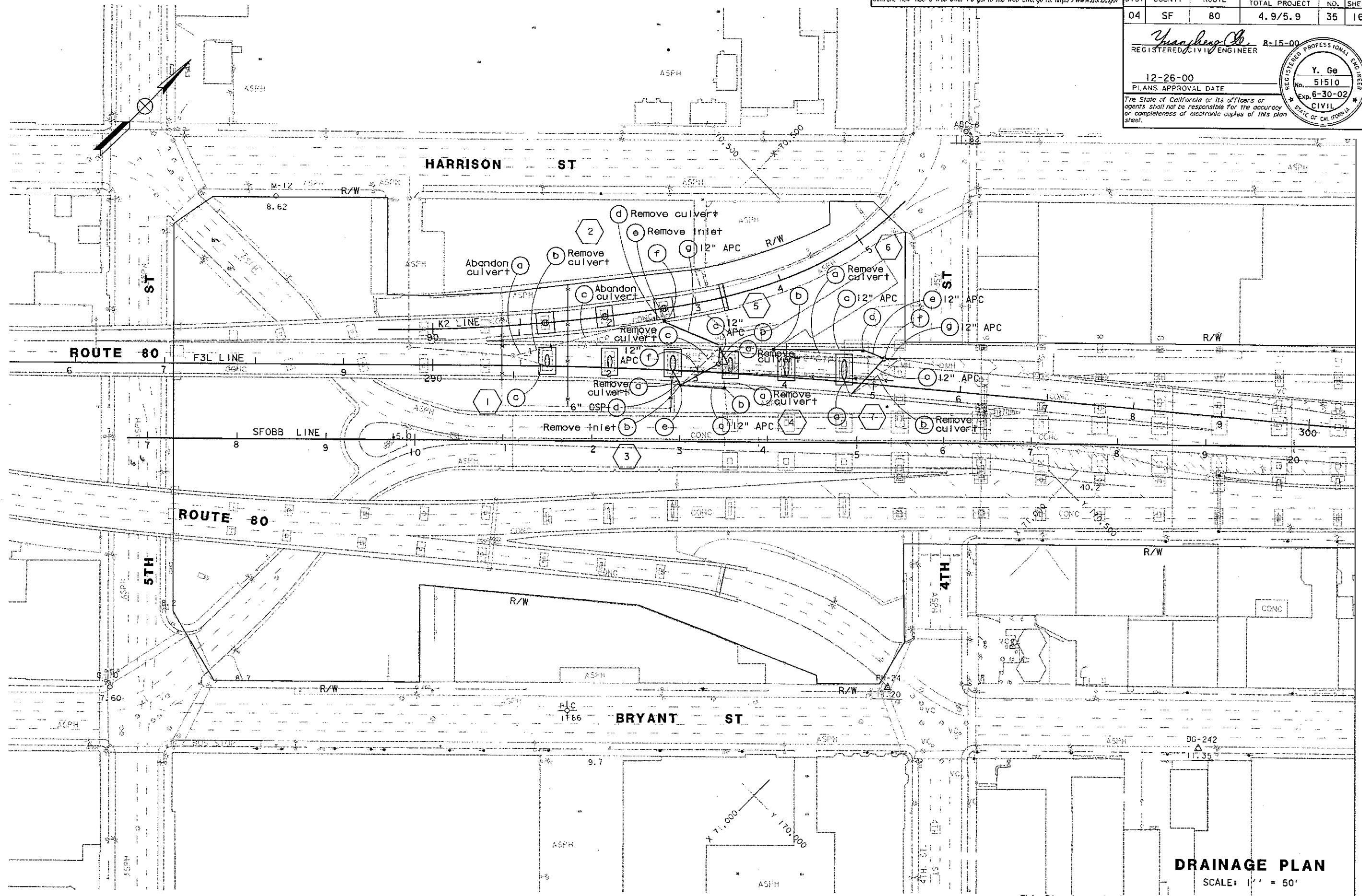
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	35	166

Yuanzheng Ge
REGISTERED CIVIL ENGINEER
R-15-00
12-26-00
PLANS APPROVAL DATE

Y. Ge
No. 51510
Exp. 6-30-02
CIVIL
STATE OF CALIFORNIA

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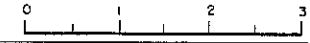


DRAINAGE PLAN

SCALE: 1" = 50'

This Plan Accurate for
Drainage Only

FOR REDUCED PLANS ORIGINAL
SCALE IS IN INCHES



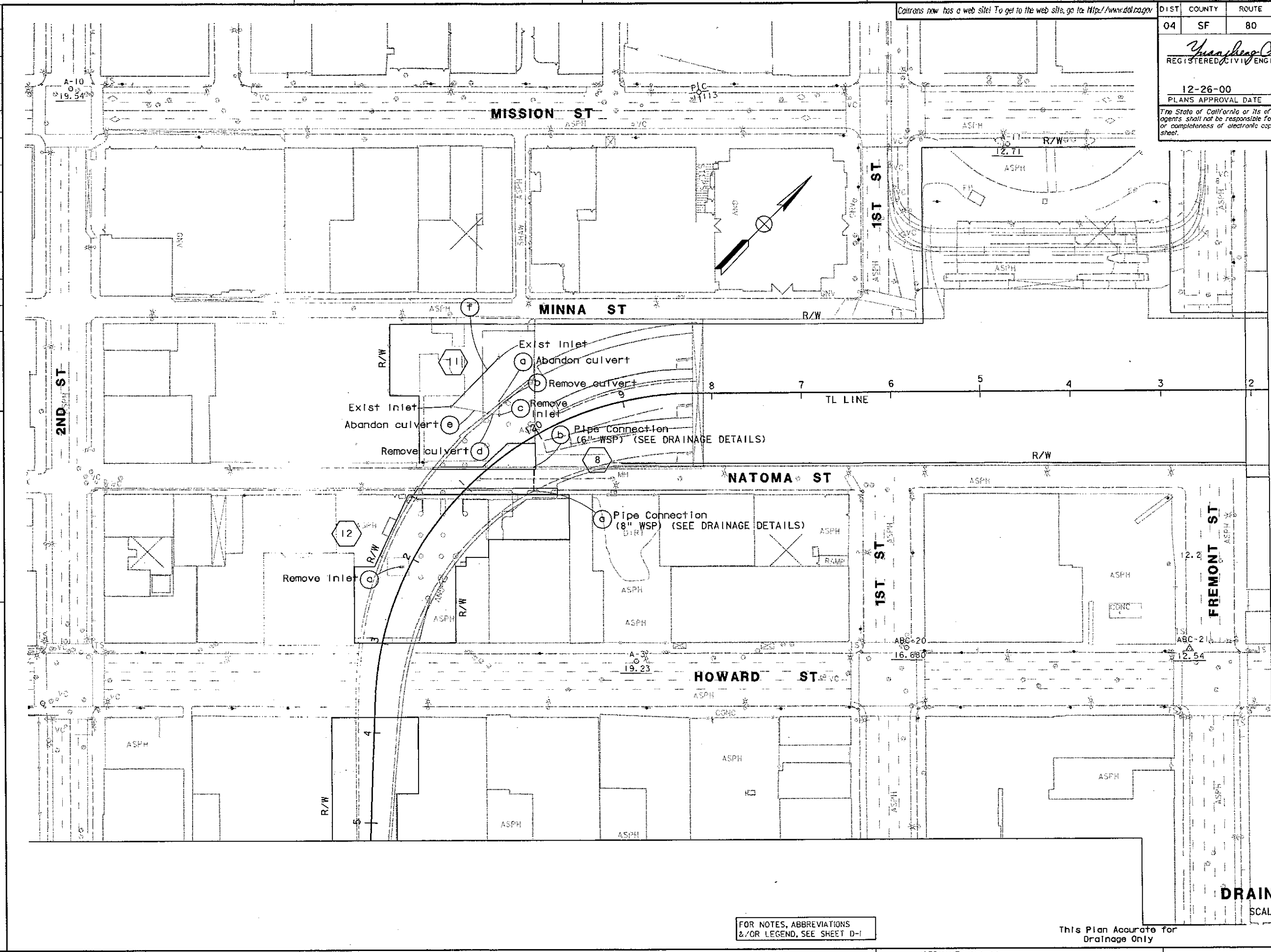
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CU 04265

EA 0435C1

D-1

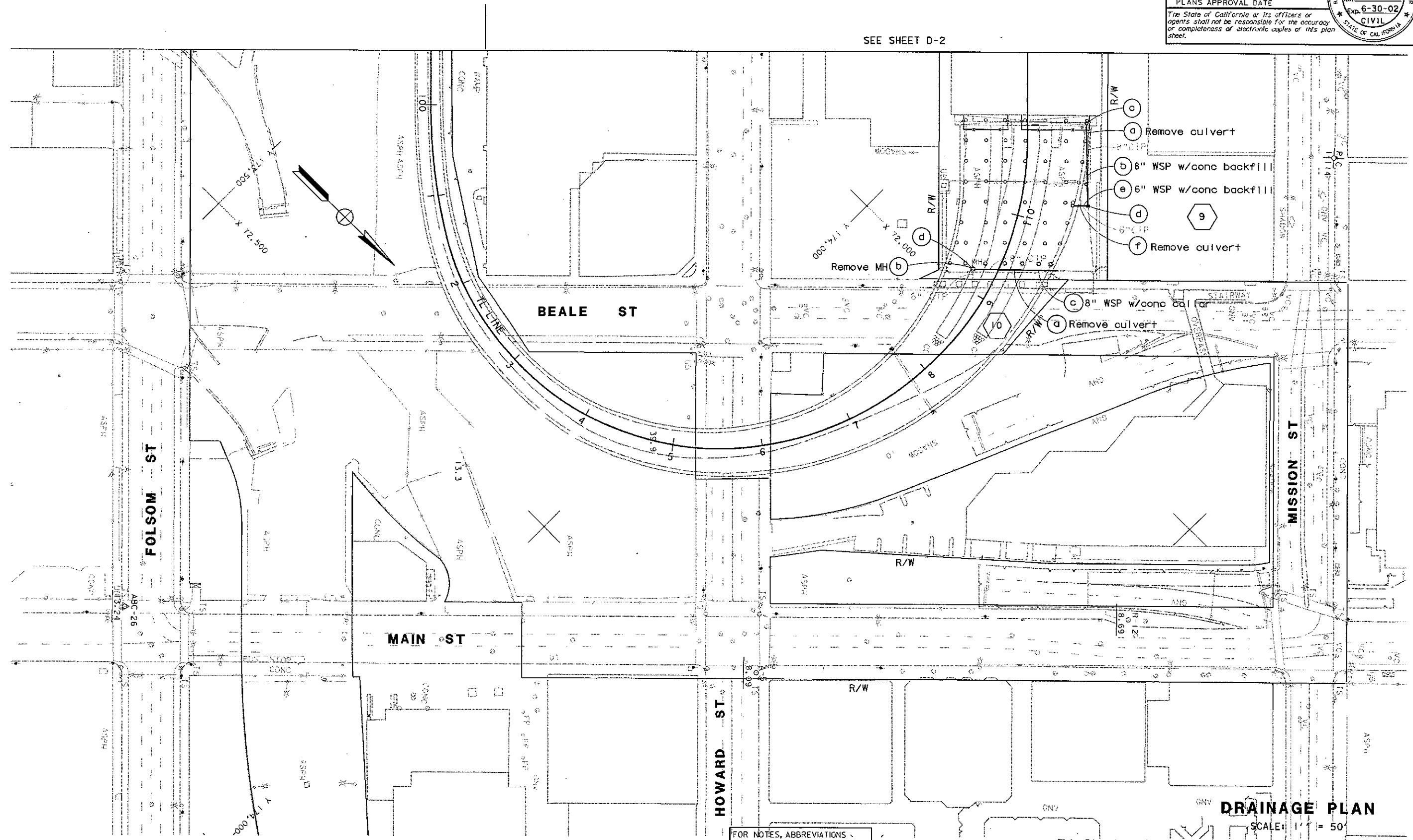
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TIME PLOTTED => 12:25
09-20-00



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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	37	166

REGISTERED CIVIL ENGINEER
8-15-00
12-26-00
PLANS APPROVAL DATE
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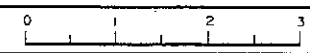
FOR NOTES, ABBREVIATIONS & OR LEGEND, SEE SHEET D-1

This Plan Accurate for Drainage Only

DRAINAGE PLAN

SCALE: 1" = 50'

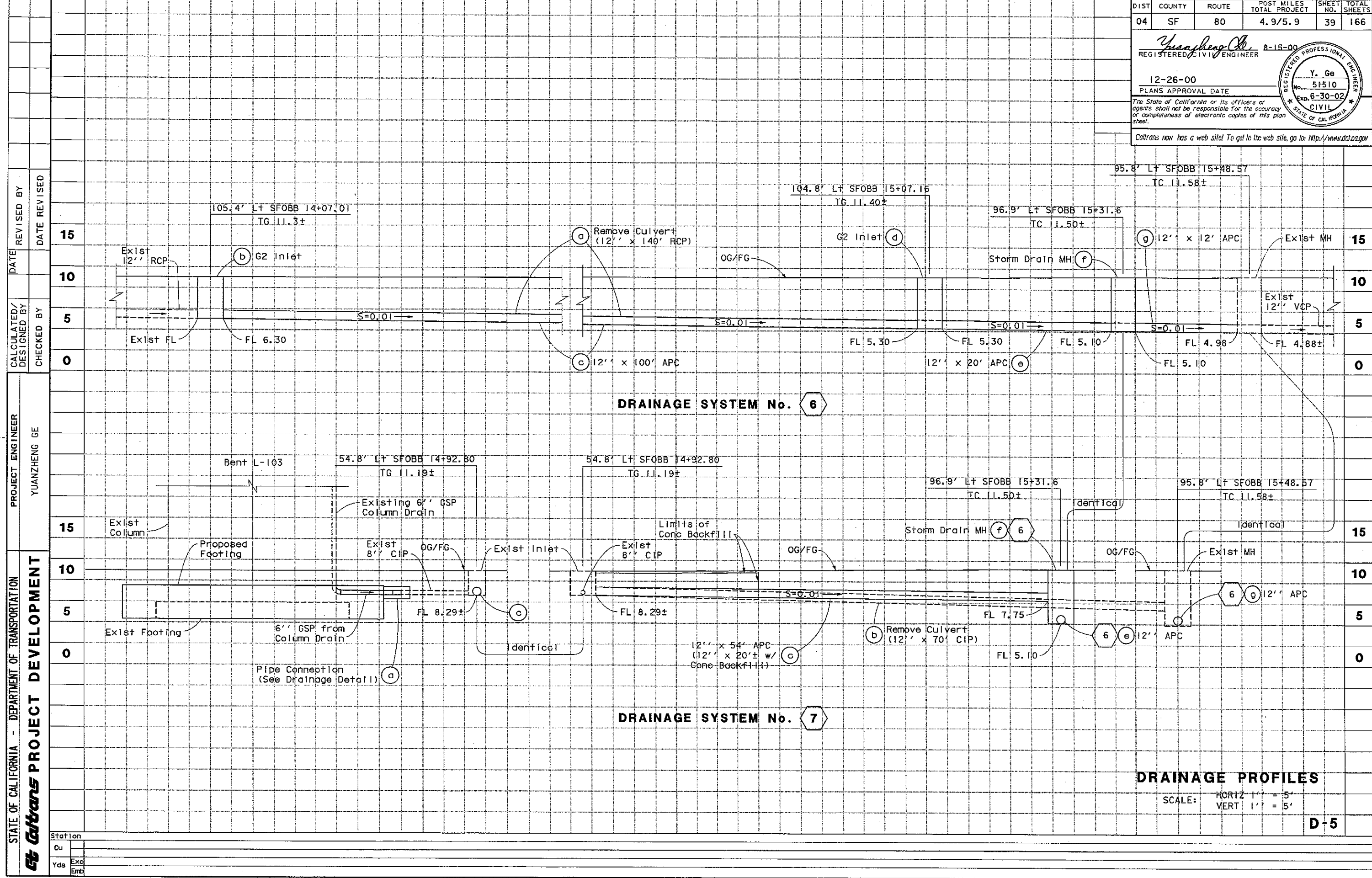
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



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CU 04265

EA 0435C1



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	39	166

Yuanzheng Ge
REGISTERED CIVIL ENGINEER
8-15-00
12-26-00
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Y. Ge
No. 51510
Exp. 6-30-02
CIVIL
STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER
YUANZHENG GE

DATE
REVISED BY
DATE REVISED

CALCULATED/DESIGNED BY
CHECKED BY

DRAINAGE PROFILES
SCALE: HORIZ 1" = 5'
VERT 1" = 5'
D-5

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

0 1 2 3

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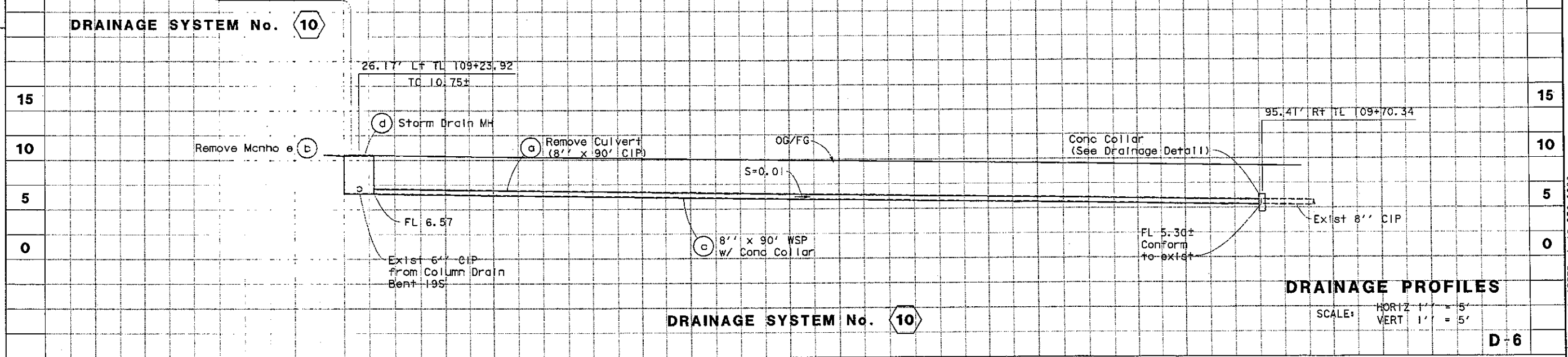
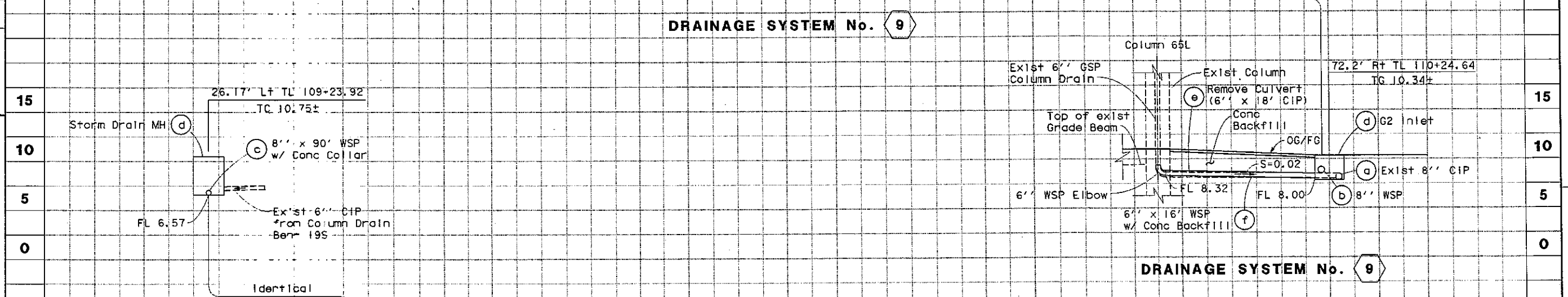
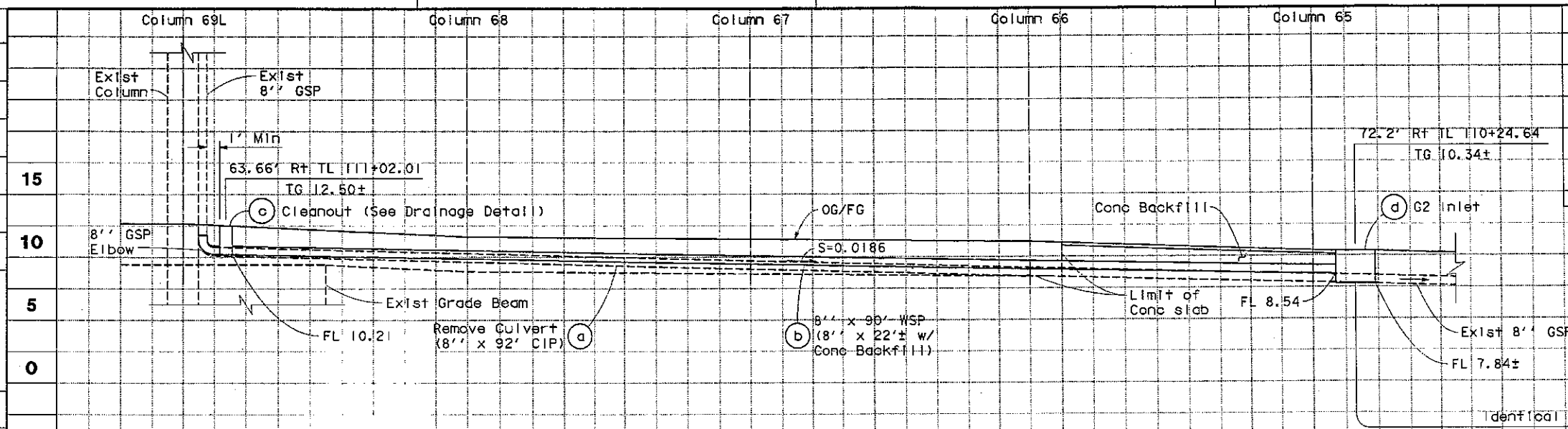
CU 04265 EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 12:58
09-20-00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	40	166

Registered Professional Engineer
 Y. Ge
 No. 51510
 Exp. 6-30-02
 CIVIL
 STATE OF CALIFORNIA

12-26-00
 PLANS APPROVAL DATE
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DRAINAGE PROFILES
 SCALE: HORIZ 1" = 5'
 VERT 1" = 5'
 D-6

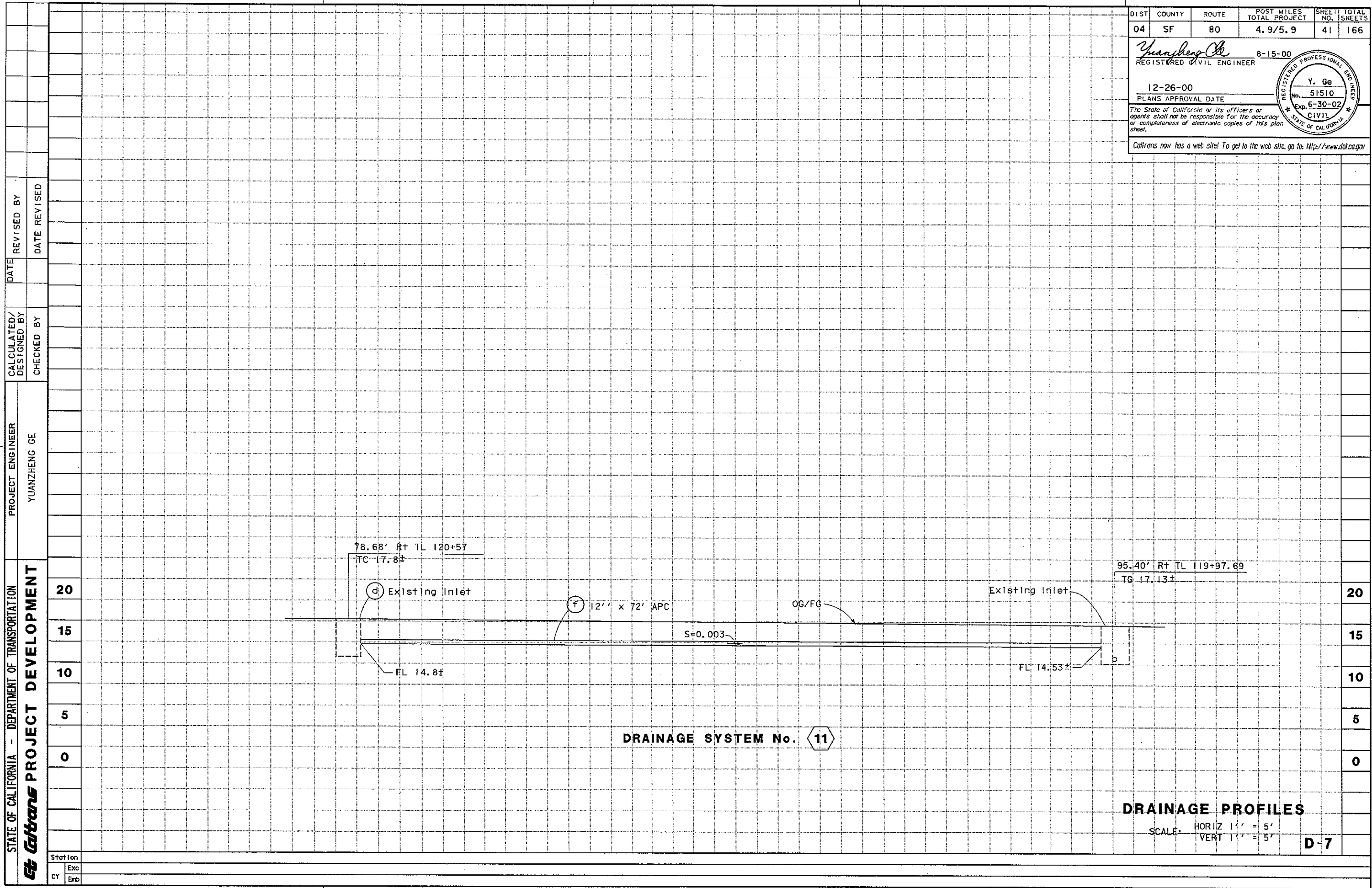
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER
 YUANZHENG GE
 DATE
 REVISED BY
 DATE
 CALCULATED/DESIGNED BY
 CHECKED BY

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 CU 04265
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DATE PLOTTED => 15-DEC-2000
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	41	166

Yuanzheng
REGISTERED CIVIL ENGINEER
8-15-00
12-26-00
PLANS APPROVAL DATE

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20
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DRAINAGE PROFILES
SCALE: HORIZ 1" = 5'
VERT 1" = 5'
D-7

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SCALE IS IN INCHES

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CU 04265

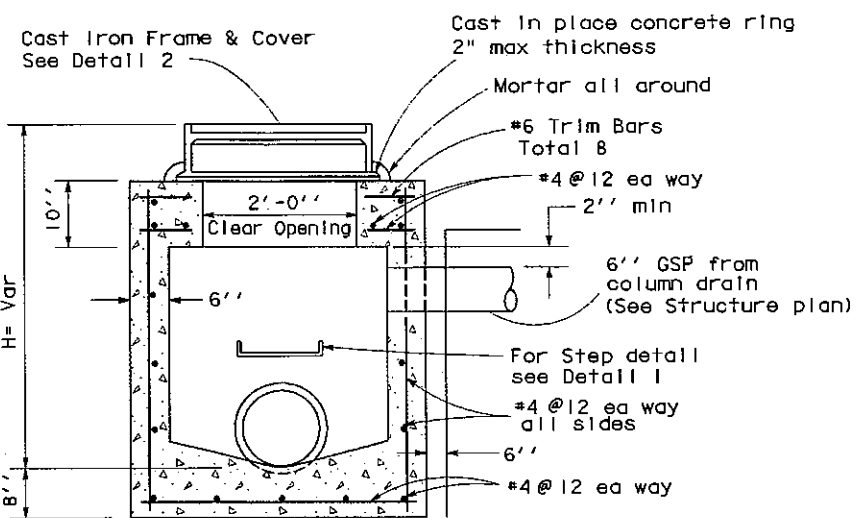
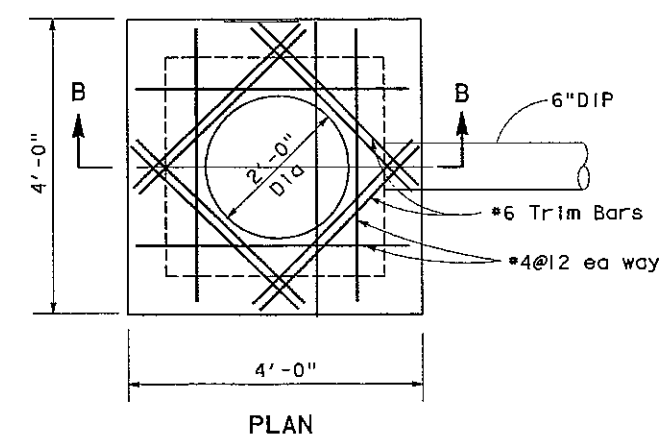
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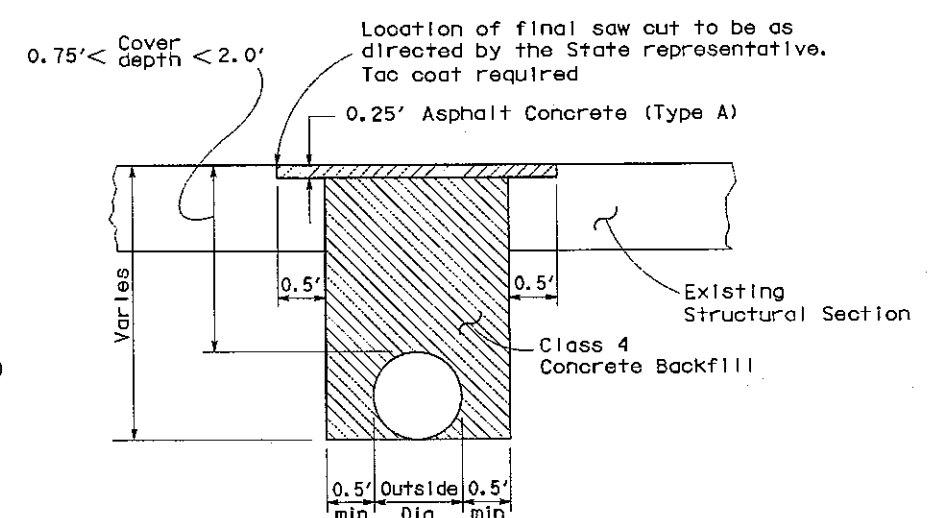
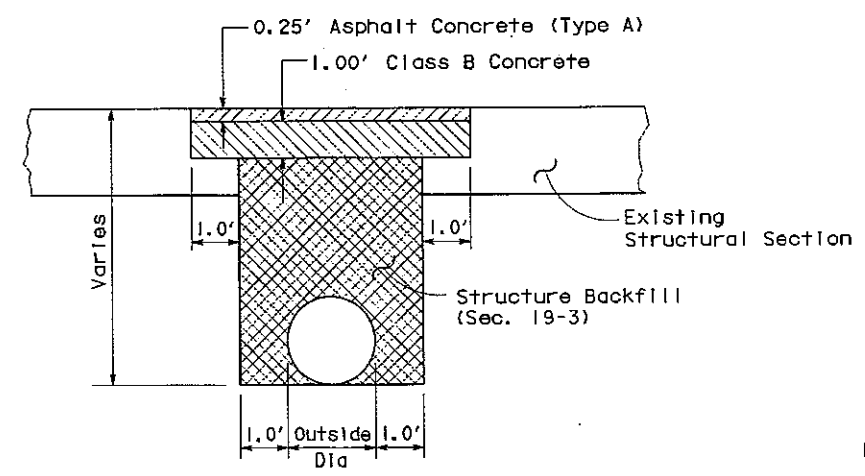
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04	SF	80	4.9/5.9	42	166

10/11/00 8-28-00
REGISTERED CIVIL ENGINEER
12-26-00
PLANS APPROVAL DATE
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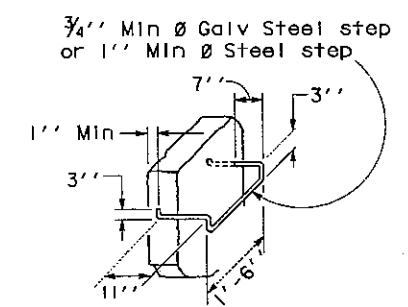
REGISTERED PROFESSIONAL ENGINEER
J. E. Gutierrez
No. 52324
Exp. 12-31-02
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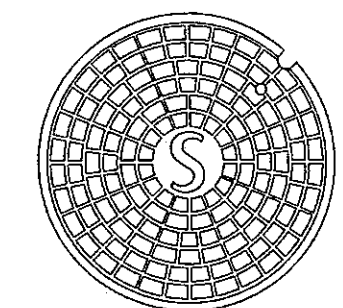
SECTION B-B
STORM DRAIN MANHOLE
5 (b) 6 (f) 10 (d)



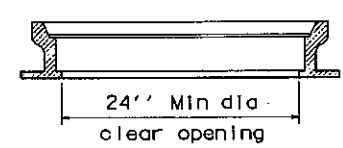
TRENCH DETAIL



BAR STEP
DETAIL 1



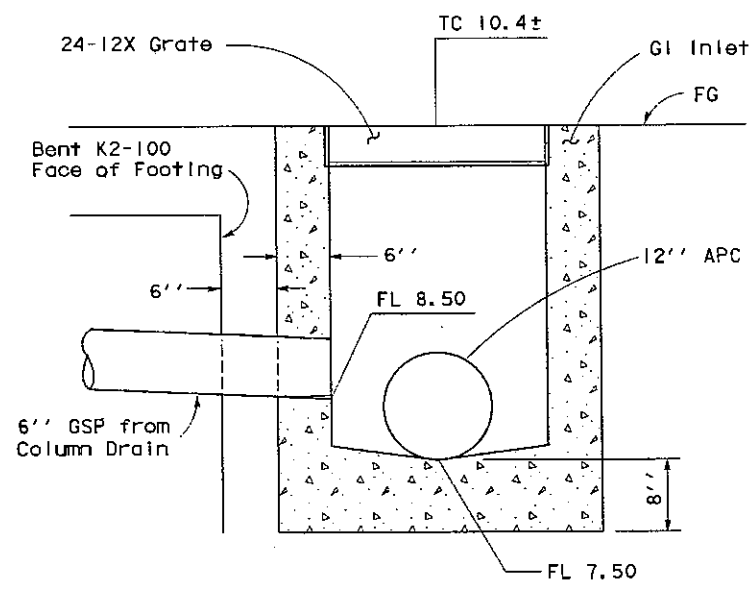
TOP OF MANHOLE COVER



SECTION THROUGH FRAME

NON-ROCKING MANHOLE FRAME & COVER
FOR DECKS
DETAIL 2

- NOTES:
1. The manhole frame and cover shall be made of gray cast iron. Mass for payment is 435 lbs.
 2. All parts of the manhole frame and cover except machined surfaces shall be coated with asphaltum paint.
 3. The manhole frame and cover shall be tested for accuracy of fit and shall be marked in sets before delivery. The cover shall fit the frame snugly but not tightly.
 4. Covers for use on sewer structures shall bear the letters "S"; on storm drain structures the letter "D"; on openings for utilities the letter "U".
 5. The mass shall not vary more than ten percent from the mass for payment.
 6. Step Inserts may be substituted for the standard step detail. Step Inserts shall comply with State industrial safety requirements.
 7. Steps - None required where "H" is less than 30 inches. Where "H" is 30 inches or more, install steps with lowest rung 12 inches above the floor and highest rung not more than 6 inches below top of Inlet. The distance between steps shall not exceed 12 inches and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Step Inserts may be substituted for the bar steps. Step Inserts shall comply with State Industrial Safety requirements. See Detail 1 for step details.



CONNECTION DETAIL AT BENT K2-100

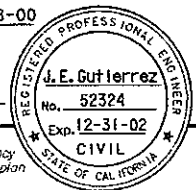
2 (f)

ABBREVIATIONS

DESIGNATION	RCP	PLASTIC	
	SIZE	SIZE	TYPE
12'' APC (A)	12''	12''	Smooth Internal wall

S - Standard Joint
(N) - Non-pay, for information only

8-28-00
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 PLANS APPROVAL DATE



DRAINAGE QUANTITIES

DRAINAGE SYSTEM NO.	DRAINAGE UNIT	ABANDON CULVERT	REMOVE CULVERT	REMOVE INLET	REMOVE MANHOLE	MINOR CONCRETE (MINOR STRUCTURE)	MINOR CONCRETE (BACKFILL)	MISCELLANEOUS IRON & STEEL	FRAME & GRATE, 24-12X (N)	FRAME & GRATE, U-45 (N)	6" WSP (0.134" THICK)	8" WSP (0.134" THICK)	12" ALTERNATIVE PIPE CULVERT	PIPE CONNECTION	MAXIMUM COVER (N)	HEIGHT OF INLET/ MANHOLE "H" (N)	PIPE JOINT CLASSIFICATION (N)	DESCRIPTION	STATION	DRAINAGE PLAN SHEET NO	DRAINAGE SYSTEM NO.	DRAINAGE UNIT										
																							EA	LF	EA	CY	LB	EA	LF	EA	FT	FT
																							1	2	3	4	5	6	7	8	9	10
1	a													I				Pipe Connection	96.51' Lt SFOBB 11+10.83 to 87.62' Lt SFOBB 11+40.40	D-1	1	a										
2	a	I																Abandon Culvert (12" VCP)	96.51' Lt SFOBB 11+10.83 to 101.28' Lt SFOBB 11+30.67		2	a										
	b		24															Remove Culvert (12" VCP)	101.28' Lt SFOBB 11+30.67 to 107.58' Lt SFOBB 11+53.85			b										
	c	I																Abandon Culvert (12" VCP)	107.58' Lt SFOBB 11+53.85 to 139.59' Lt SFOBB 12+71.64			c										
	d		12															Remove Culvert (12" VCP)	139.59' Lt SFOBB 12+71.64 to 141.62' Lt SFOBB 12+82.70			d										
	e			I														Remove Inlet	141.62' Lt SFOBB 12+82.70			e										
	f					0.95		239	I								2.97	G1 Inlet	137.34' Lt SFOBB 12+82.20			f										
	g										64						2.5	S 12" APC	137.34' Lt SFOBB 12+82.20 to 109.17' Lt SFOBB 13+45.49			g										
3	a		10															Remove Culvert (8" CIP)	L-100 Lt SFOBB to 64.45' Lt SFOBB 13+00.80		3	a										
	b			I														Remove Inlet	64.45' Lt SFOBB 13+00.80			b										
	c		46															Remove Culvert (12" VCP)	64.45' Lt SFOBB 13+00.80 to 109.25' Lt SFOBB 13+45.57			c										
	d										10						2	S 6" WSP/Concrete collar	L-100 Lt SFOBB to 64.45' Lt SFOBB 13+00.80			d										
	e					0.95		239	I								2.5	G1 Inlet	64.45' Lt SFOBB 13+00.80			e										
	f						1.8				46						2	S 12" APC	64.45' Lt SFOBB 13+00.80 to 87.48' Lt SFOBB 13+44.01			f										
4	a		46															Remove Culvert (8" CIP)	109.17' Lt SFOBB 13+45.49 to 61.12' Lt SFOBB 13+49.72		4	a										
	b					0.95		239	I								2.4	G1 Inlet	61.12' Lt SFOBB 13+49.72			b										
	c						3.4				46						1.5	S 12" APC	64.47' Lt SFOBB 13+00.90 to 61.12' Lt SFOBB 13+49.72			c										
5	a		20															Remove Culvert (6" CIP)	L-101 Lt SFOBB to 87.48' Lt SFOBB 13+44.01		5	a										
	b					1.92		435	I								4	Storm Drain MH & Misc Iron/Steel	87.48' Lt SFOBB 13+44.01			b										
	c										16						3	S 12" APC	109.25' Lt SFOBB 13+45.57 to 87.48' Lt SFOBB 13+44.01			c										
6	a		140															Remove Culvert (12" VCP)	105.43' Lt SFOBB 14+07.01 to 95.91' Lt SFOBB 15+31.58		6	a										
	b					1.77		239	I								5	G2 Inlet	105.43' Lt SFOBB 14+07.01			b										
	c										100						4	S 12" APC	105.43' Lt SFOBB 14+07.01 to 104.83' Lt SFOBB 15+07.16			c										
	d					2.05		239	I								6.1	G2 Inlet	104.83' Lt SFOBB 15+07.16			d										
	e										20						5	S 12" APC	104.83' Lt SFOBB 15+07.16 to 96.91' Lt SFOBB 15+31.60			e										
	f					1.92		435	I								6.5	Storm Drain Manhole	96.91' Lt SFOBB 15+31.60			f										
	g										12						5	S 12" APC	95.78' Lt SFOBB 15+48.57 to 94.78' Lt SFOBB 15+61.61			g										
7	a													I				Pipe Connection	65.90' Lt SFOBB 14+87.36 to 54.23' Lt SFOBB 14+92.84		7	a										
	b		70															Remove Culvert (8" CIP)	54.23' Lt SFOBB 14+92.84 to 95.78' Lt SFOBB 15+48.87			b										
	c						1.6				54						2	S 12" APC	54.23' Lt SFOBB 14+92.84 to 96.91' Lt SFOBB 15+31.60			c										
8	a													I				Pipe Connection	49.52' Lt TL 120+44.91	D-2	8	a										
	b													I				Pipe Connection	27.21' Lt TL 120+26.62			b										
SHEET TOTAL	2		368	2		10.51	6.8	2065	5	2	10		358	4						SHEET TOTAL												

DRAINAGE QUANTITIES D-10

DRAINAGE QUANTITIES D-10

DRAINAGE QUANTITIES

[illegible]

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Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER
JAIME E. GUTIERREZ

CALCULATED/
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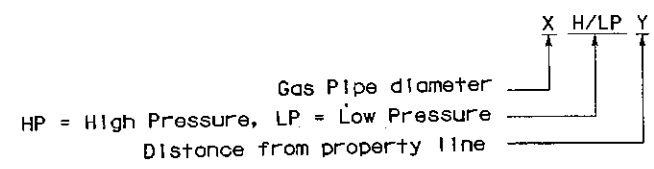
DATE
REVISED BY
DATE REVISED

NOTES:

1. Existing utility locations are approximate only. Proposed or relocated utility positions may be other than shown.
2. Location of utility facilities on the plans was obtained from owners' records and/or from State surveys.

LEGEND

DESCRIPTION	SYMBOL	OWNERSHIP
Water	—W— — — — —W—	PUC S.F. Water Department
Fire Water	—FW— — — — —FW—	San Francisco Fire Department
Irrigation System	—IS— — — — —IS—	Bureau of Engineering and Water Supply
Underground Duct System	—UD— — — — —UD—	Caltrans
Electric	—E— — — — —E—	PUC Hetch Hetchy Water and Power
Street Lighting	—SL— — — — —SL—	Pacific Gas and Electric Co.
Traffic System	—TS— — — — —TS—	PUC Bureau of Light Heat and Power
MUNI Power Line (Overhead)	=====	San Francisco Bureau of Traffic Engineering
Telephone	—T— — — — —T—	Caltrans
Telephone (AT&T)	—T— (AT&T) —T—	Pacific Bell
Fiberoptic Line	—F/O— — — — —F/O—	American Telephone and Telegraph Co.
Telegraph	—TE— — — — —TE—	Western Union
Gas	—G— — — — —G—	Pacific Gas and Electric Co.
Sewer	—S— — — — —S—	San Francisco Department of Public Works
Storm Drain	-----	Bureau of Engineering
Abandoned Storm Drain	+++++	Caltrans
Abandoned Systems	///	
High Risk Utility	*	
Pothole	⊗	
Existing Column	□	
Proposed Column	○	
Soffit Light	⊙	
Mercury/Sodium Light	✕	
Traffic Light	*	
Traffic Signal	✕	
Steel Pole	o	
Wood Pole	→ WP	
Gas Valve	→ GV	
Water Valve	→ WV	
Controller	⊠	
Drainage Inlet	■ DI	



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	46	166

10/11/99 8-28-00
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12-26-00
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ABBREVIATIONS

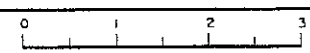
CB	Controller Box
CML	Column Mounted Lighting
FPB	Freeway Sign Pole
FRFC	Fram Face of Curb
PB	Pull Box
SDP	Storm Drain Pipe
TOS	Traffic Operations System
TSP	Traffic System Pull Box

UTILITY PLAN

NOTES, ABBREVIATIONS AND LEGEND

U-1

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EA 0435C1

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08-01-00

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Et *Gibbons* PROJECT DEVELOPMENT

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JAIME E. GUTIERREZ

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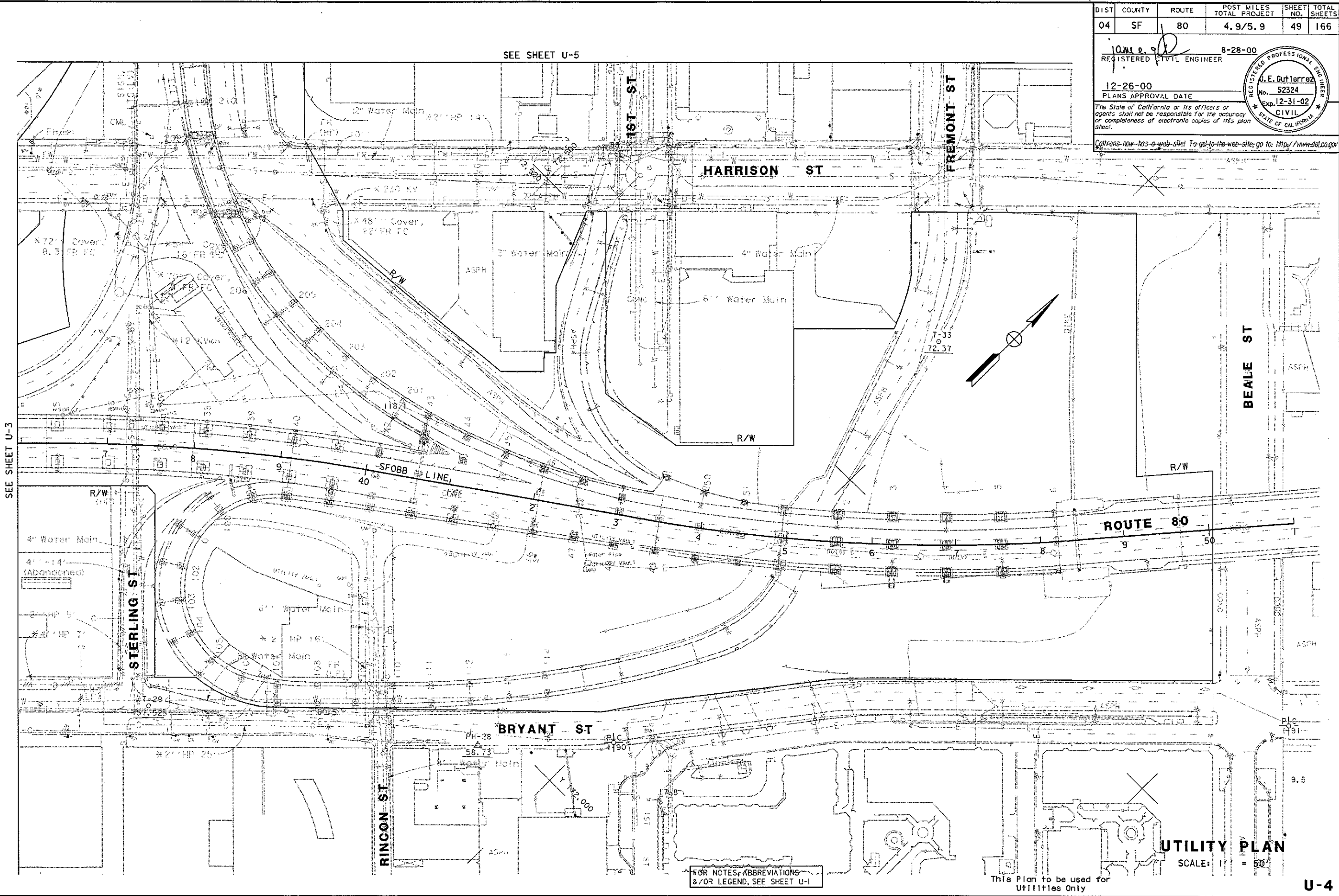
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DATE

REVISOR



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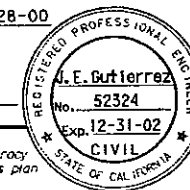
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James E. Galt 8-28-00
REGISTERED CIVIL ENGINEER

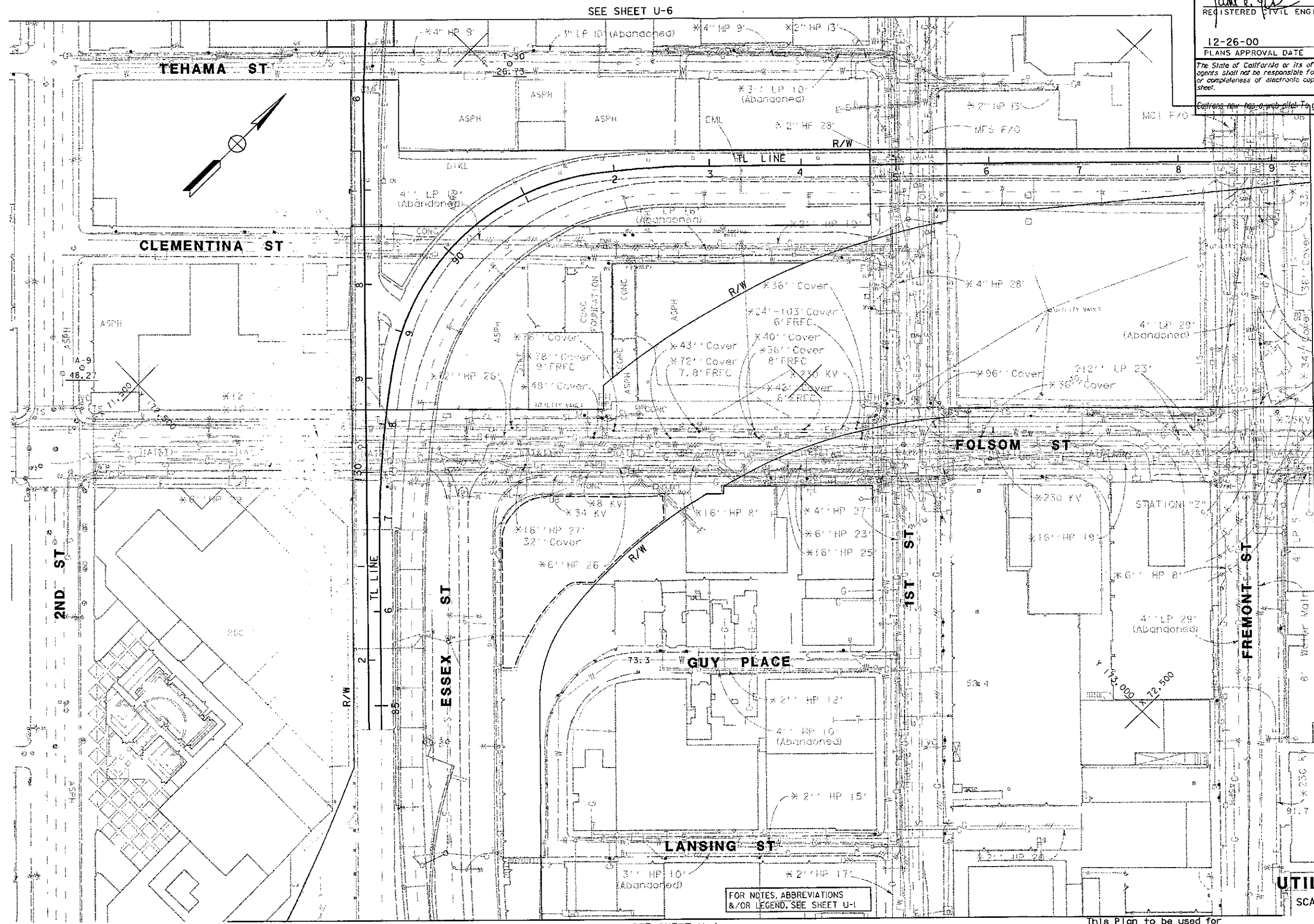
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DEPARTMENT OF WATER RESOURCES
***Eel Coltrans* PROJECT DEVELOPMENT**

PROJECT ENGINEER

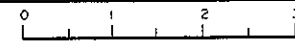
JAIME E. GUTIERREZ

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EA 0435C1

U-5

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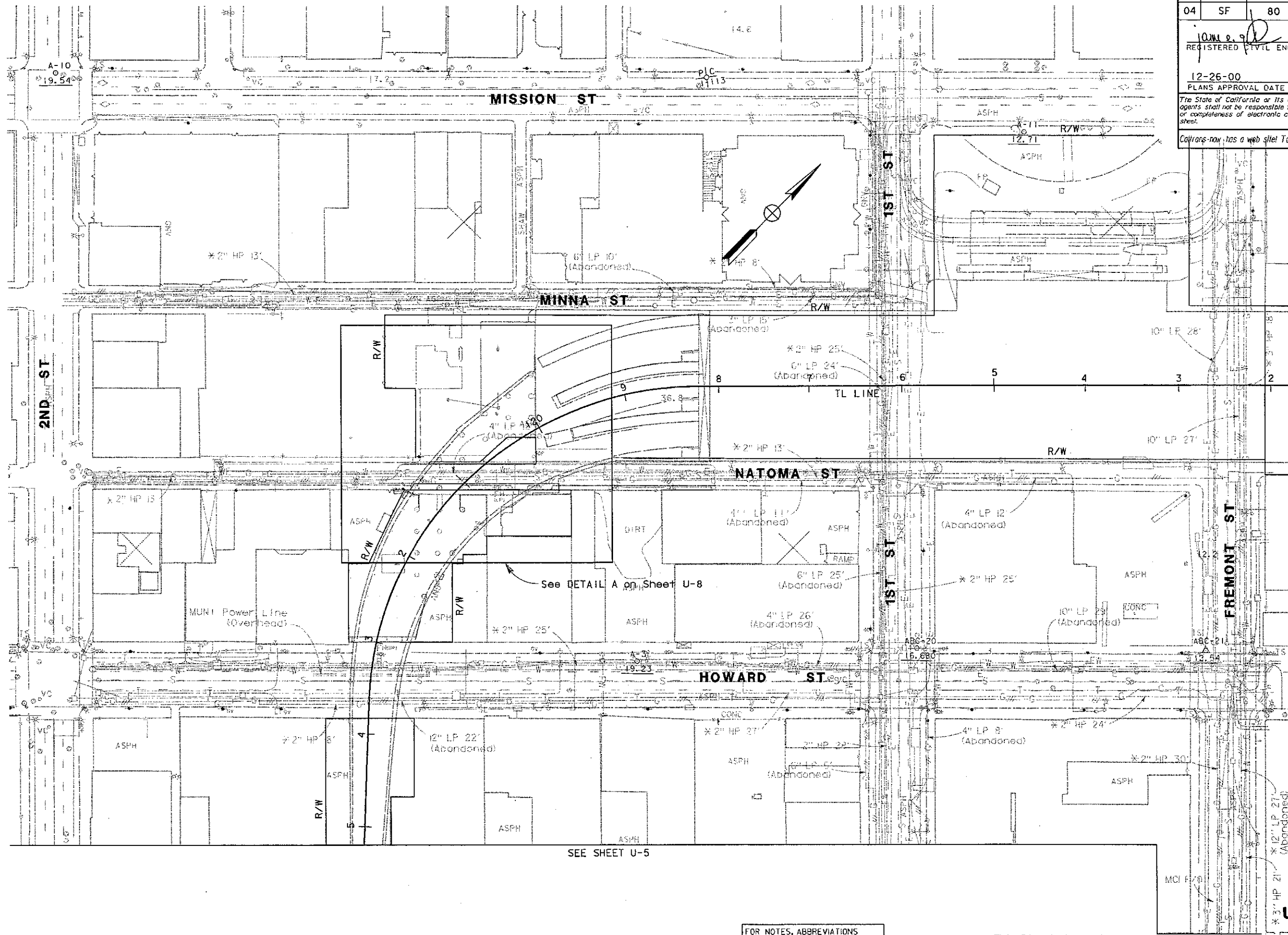
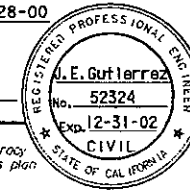
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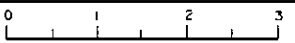
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SEE SHEET U-7

SEE SHEET U-5

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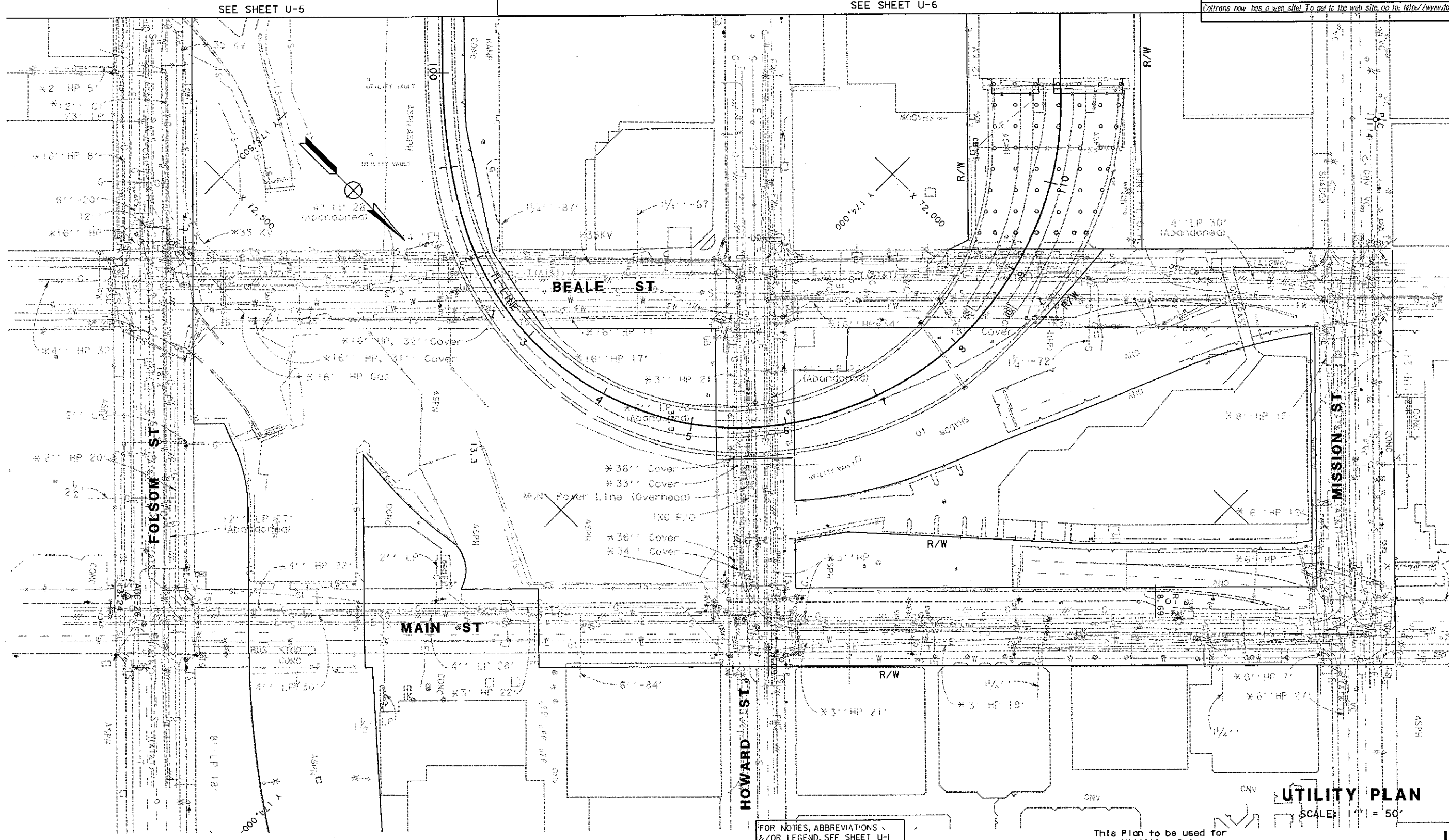
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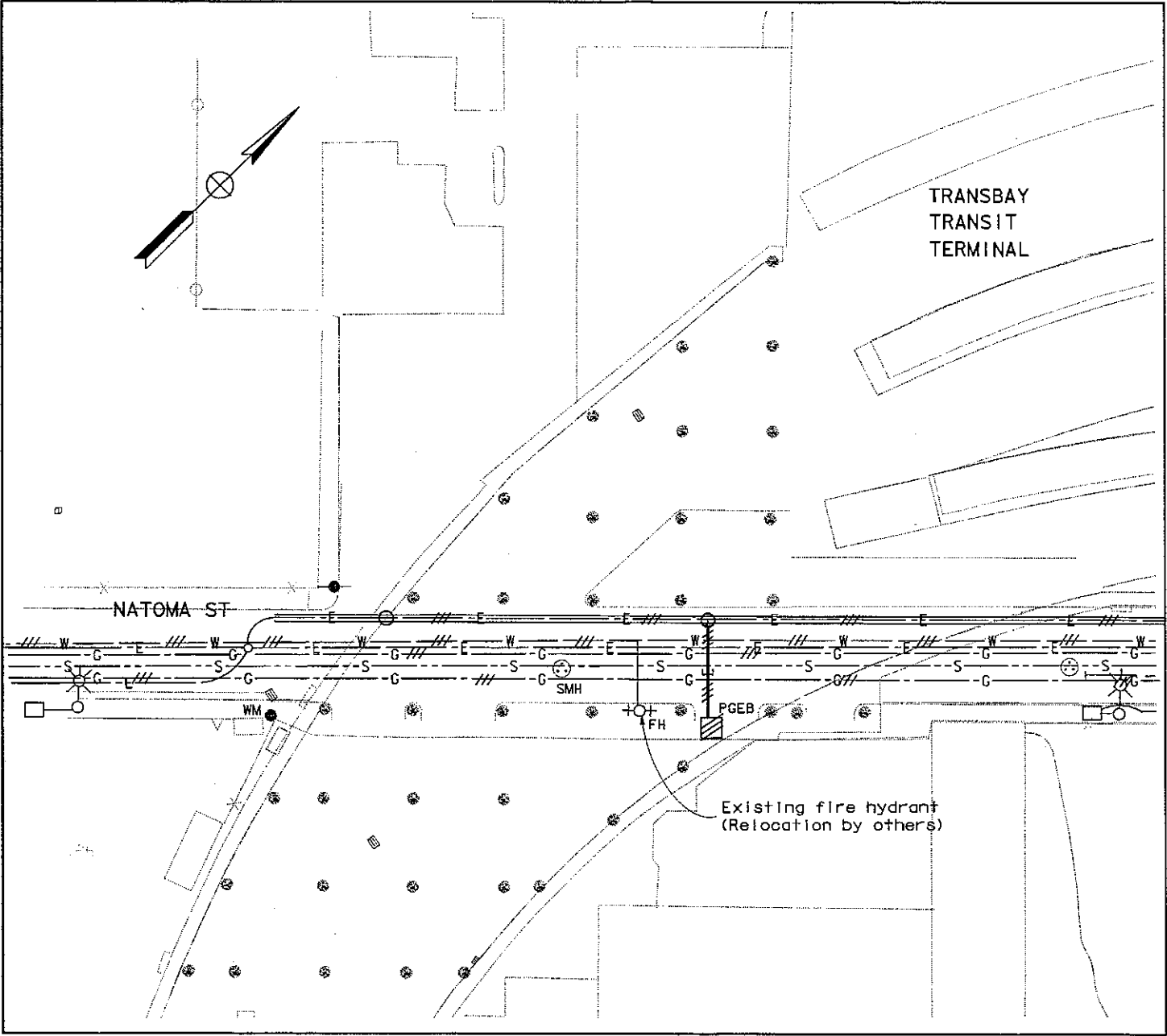
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UTILITY PLAN
SCALE: 1" = 50'

U-6

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TIME PLOTTED => 13:15
LAST REVISION
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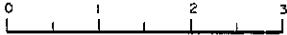




DETAIL A
 (SEE SHEET U-6)

FOR NOTES, ABBREVIATIONS
 &/OR LEGEND, SEE SHEET U-1

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This plan to be used for Utilities only
UTILITY DETAILS
 SCALE: 1" = 20'

U-8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	53	166

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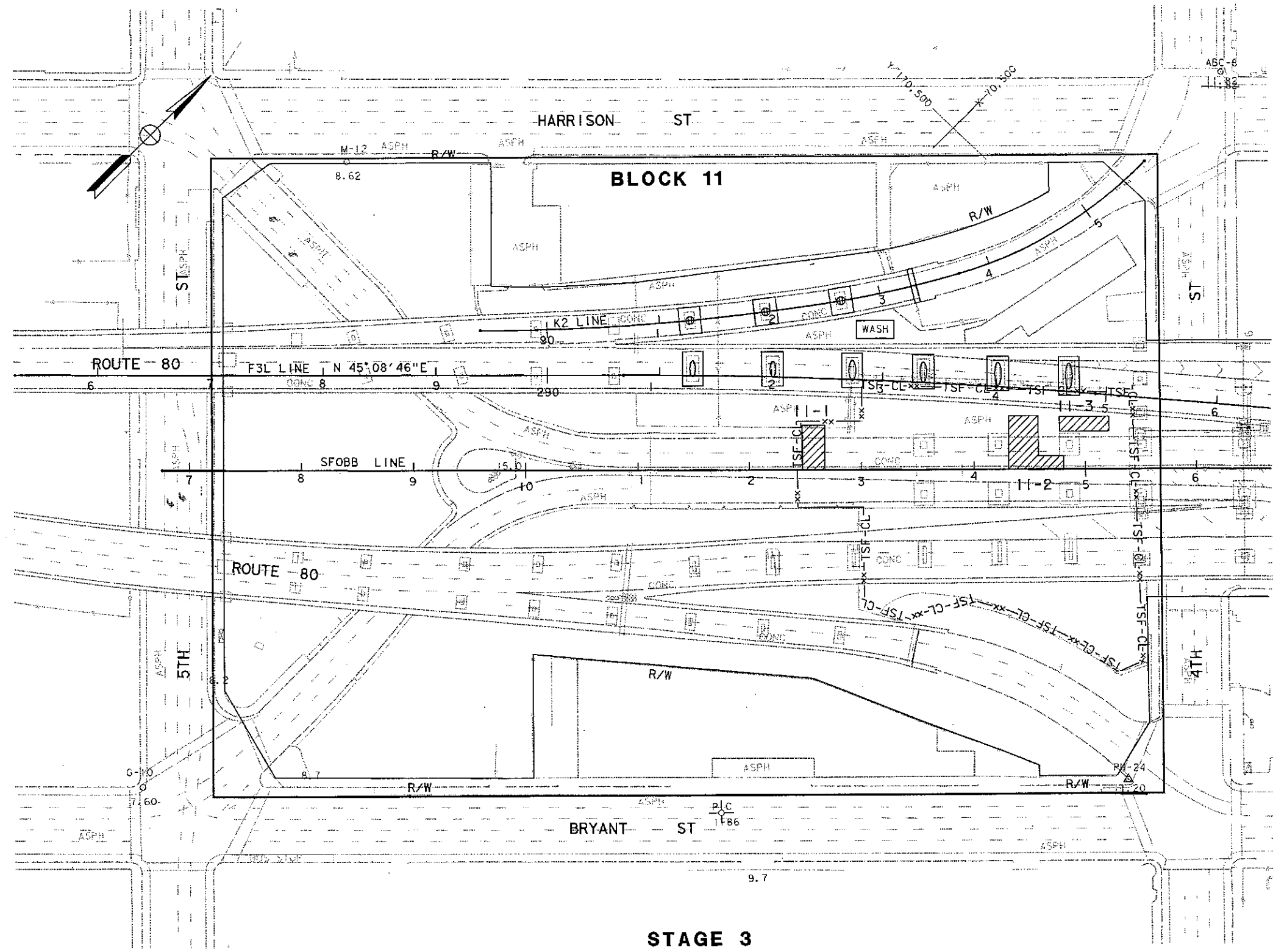
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Gibbons PROJECT DEVELOPMENT
PROJECT ENGINEER
JAIME E. GUTIERREZ
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	54	166

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LEGEND
(FOR SHEETS SC-1 THRU SC-4 ONLY)

Areas of Archaeological Study and Assessment
See Sheet X-1 for details

Project block

NOTE:
Contractor may only access one stage at a time during construction operations in the area encompassing Stages 1 and 2.

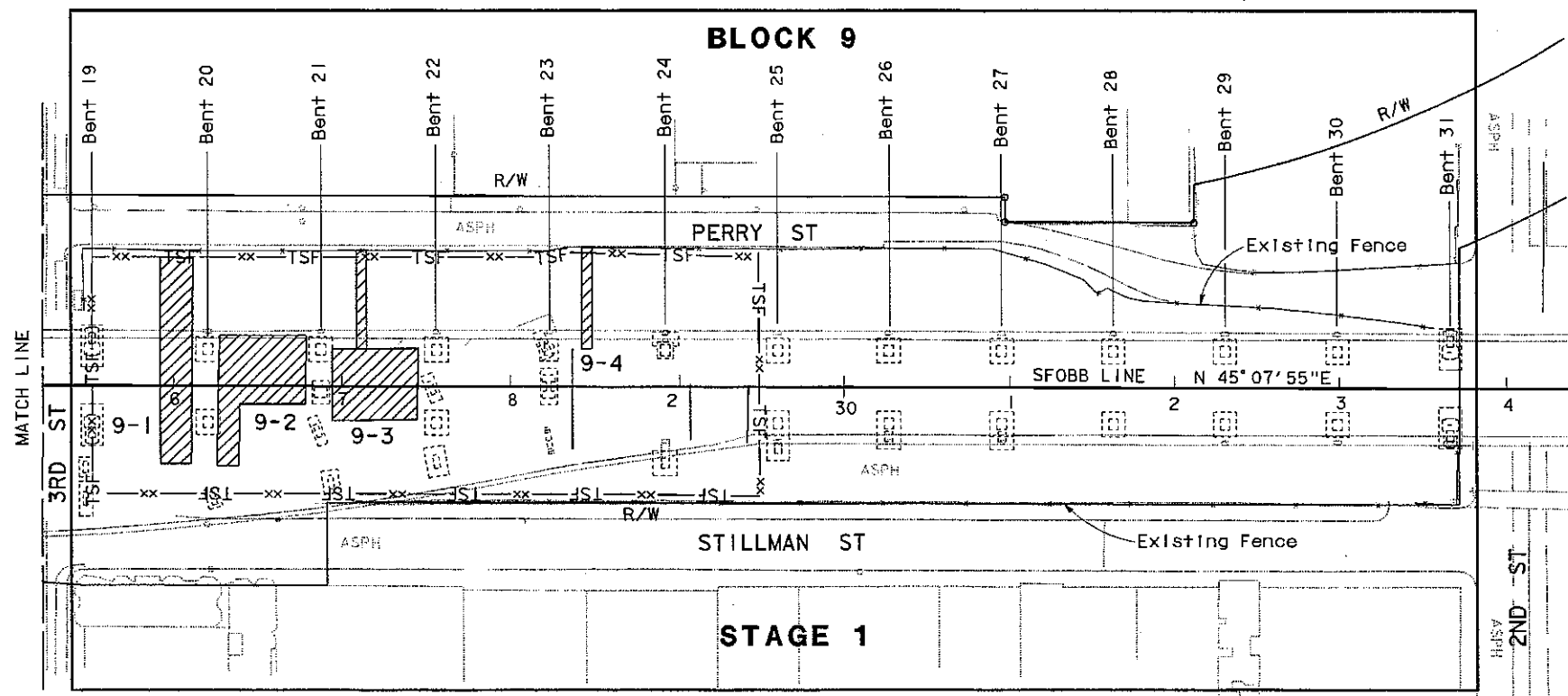
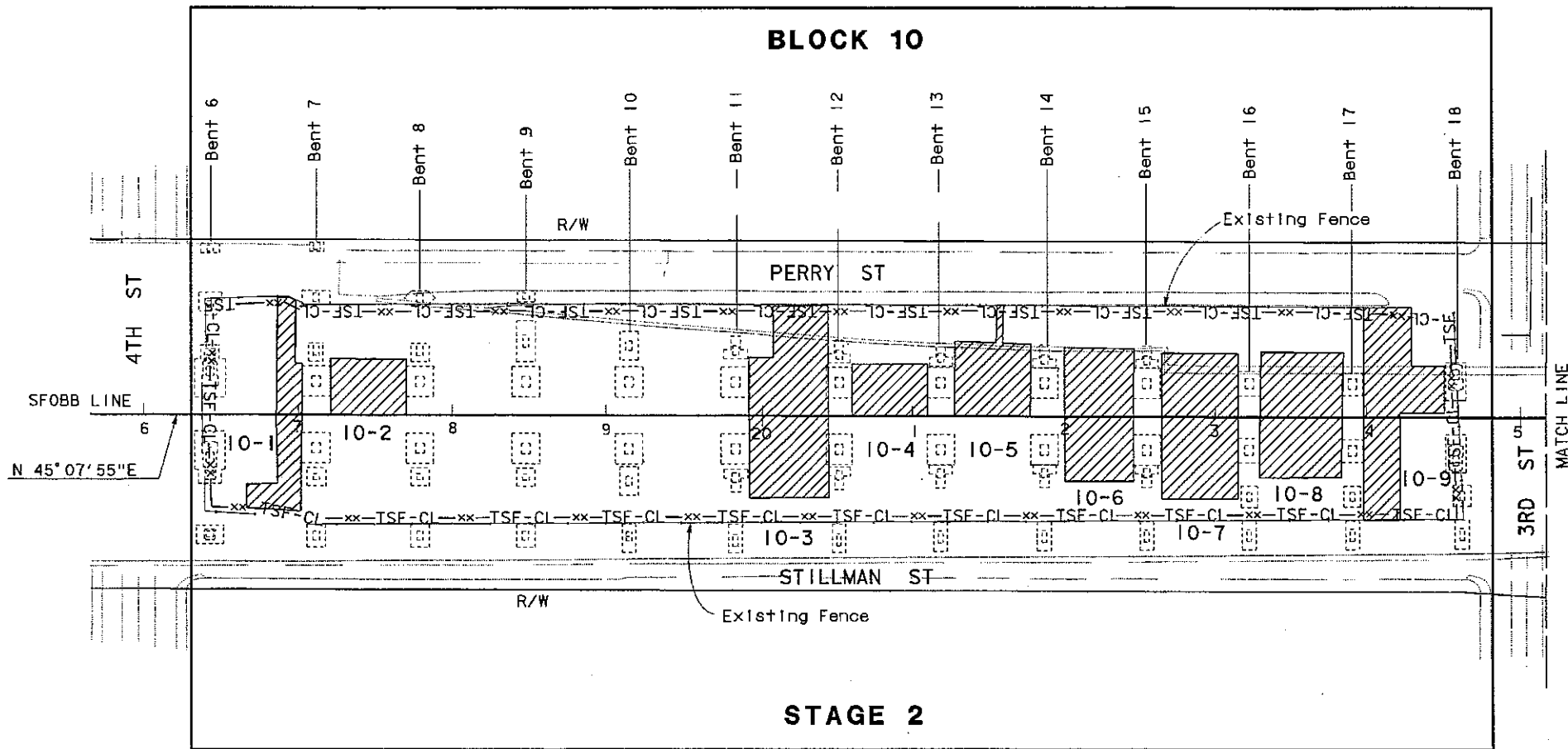
ARCHAEOLOGICAL SHORING DEPTHS		
LOCATION	STAGE	SHORING DEPTH (FT)
Entire Block 4	5	6
Block 5 (5-1)	5	6
Block 5 (5-2)	5	10
Block 7 (7-1)	4	15
Entire Block 9	1	6
Entire Block 10	2	6
Entire Block 11	3	6

EROSION CONTROL LEGEND	
	Temporary Entrance/Exit
	Temporary Erosion Control (Type D)
	Temporary Concrete Washout Facility
	Existing or Temporary Chain Link Fence
	Temporary Silt Fence
	Temporary Silt Fence Fabric Along Chain Link Fence

**STAGE CONSTRUCTION
EROSION CONTROL PLAN
ARCHAEOLOGICAL PLAN
AREAS OF STUDY AND ASSESSMENT**

SCALE: 1" = 50'

SC-1



FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET SC-1

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**STAGE CONSTRUCTION
EROSION CONTROL PLAN
ARCHAEOLOGICAL PLAN
AREAS OF STUDY AND ASSESSMENT**

SCALE: 1" = 50'

SC-2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	55	166

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	56	166

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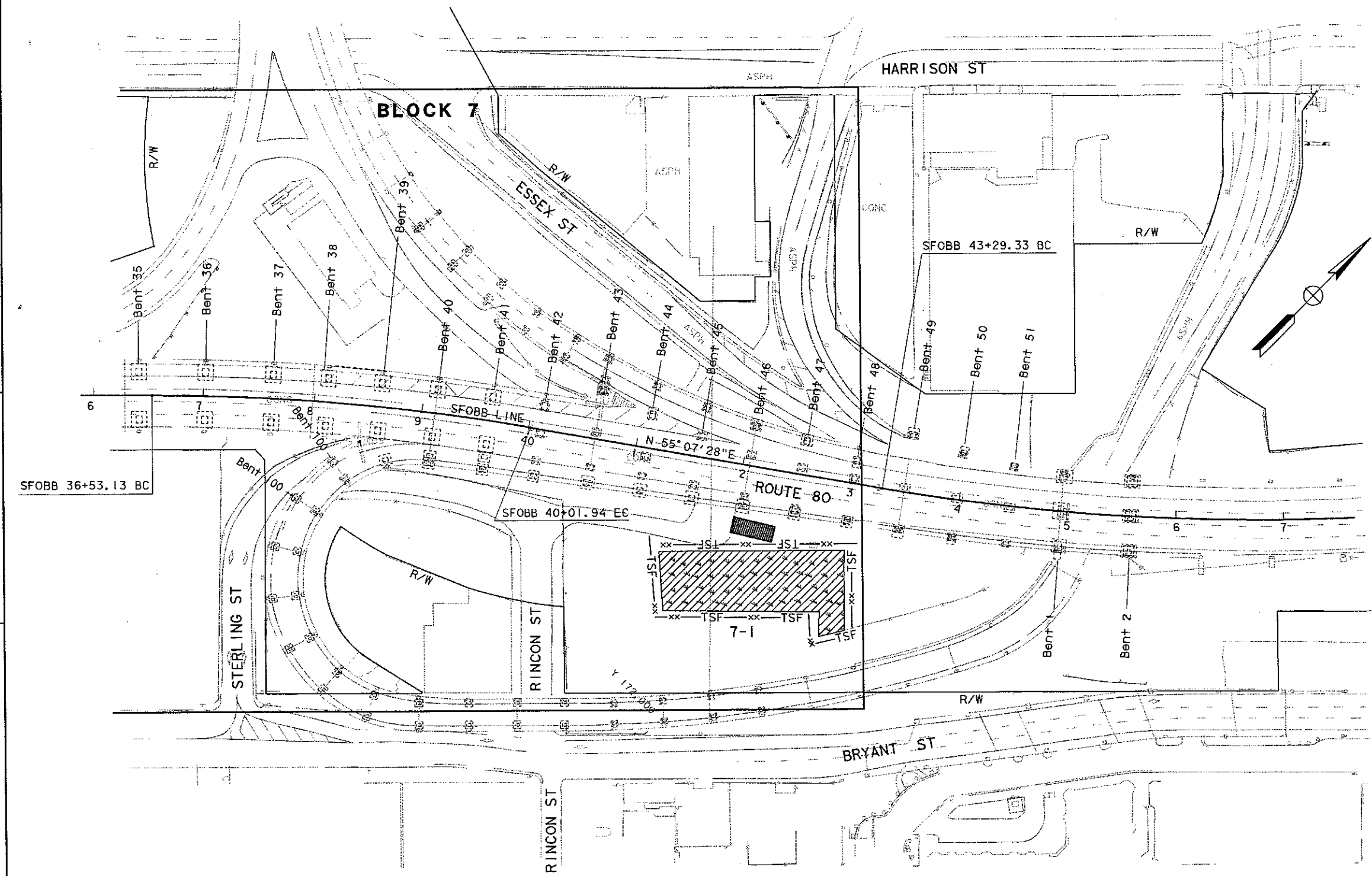
Caltrans now has a web site! To get to the web site, go to: <http://www.dot.ca.gov>

REGISTERED PROFESSIONAL ENGINEER
J. E. Gutierrez
No. 52324
Exp. 12-31-02
CIVIL
STATE OF CALIFORNIA

**STAGE CONSTRUCTION
EROSION CONTROL PLAN
ARCHAEOLOGICAL PLAN
AREAS OF STUDY AND ASSESSMENT**

SCALE: 1"= 50'

SC-3



STAGE 4

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET SC-1

FOR REDUCED PLANS ORIGINAL
SCALE IS IN INCHES

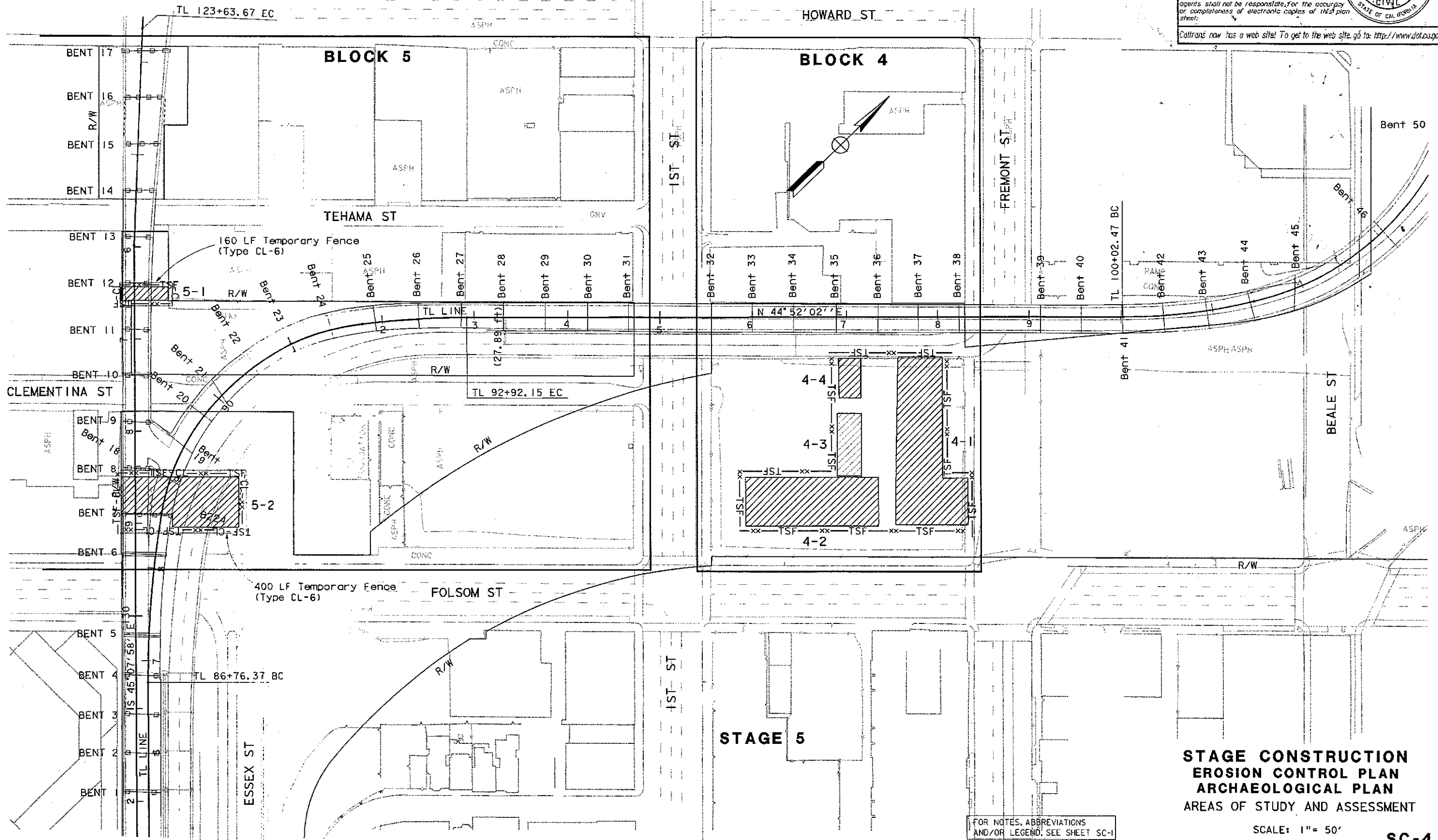


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DGN FILE => 40435c103.dgn

CU 04265

EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 15:14
LAST REVISION
09-15-00



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	57	166

12-26-00
PLANS APPROVAL DATE

REGISTERED CIVIL ENGINEER
No. 52324
Exp. 12-31-02
J. E. Gutierrez
CIVIL
STATE OF CALIFORNIA

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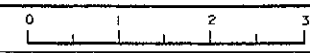
Caltrans now has a web site! To get to the web site, go to: <http://www.dot.ca.gov>

**STAGE CONSTRUCTION
EROSION CONTROL PLAN
ARCHAEOLOGICAL PLAN**
AREAS OF STUDY AND ASSESSMENT

SCALE: 1" = 50'

SC-4

FOR REDUCED PLANS ORIGINAL
SCALE IS IN INCHES



USERNAME => tr1im
DGN FILE => 40435c104.dgn

CU 04265

EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 15:14
LAST REVISION
09-18-00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER
JAIME E. GUTIERREZ

DATE
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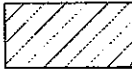
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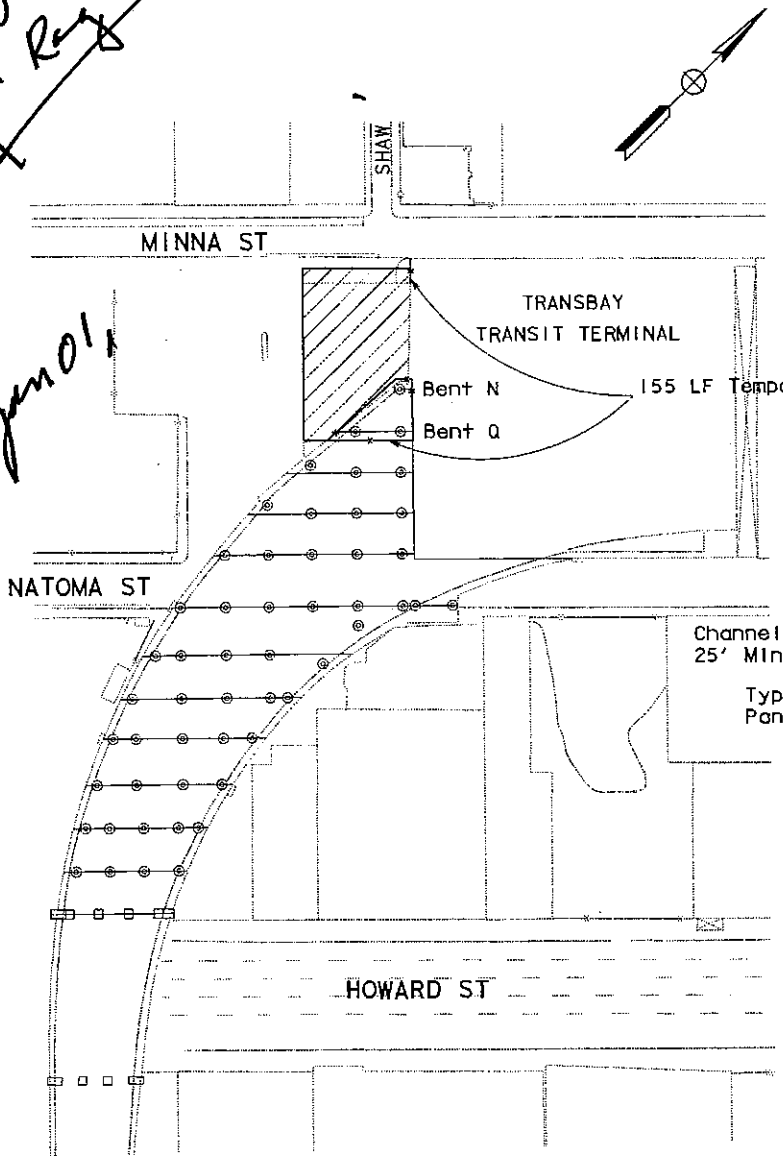
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	58	166

REGISTERED CIVIL ENGINEER
8-28-00
12-26-00
PLANS APPROVAL DATE
J. E. Gutierrez
No. 52324
Exp. 12-31-02
CIVIL
STATE OF CALIFORNIA
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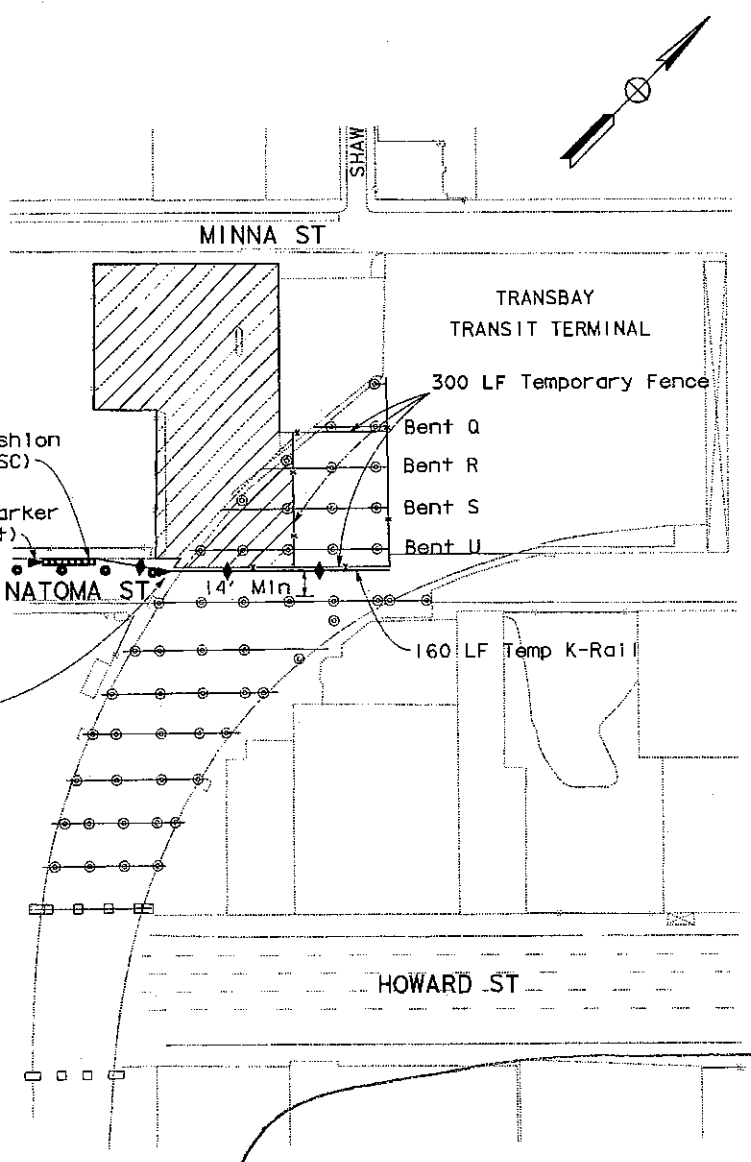
LEGEND
(FOR SHEETS SC-5 THRU SC-9 ONLY)
 Area available for Contractor's use

Shrink
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J. Beck
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Shrink
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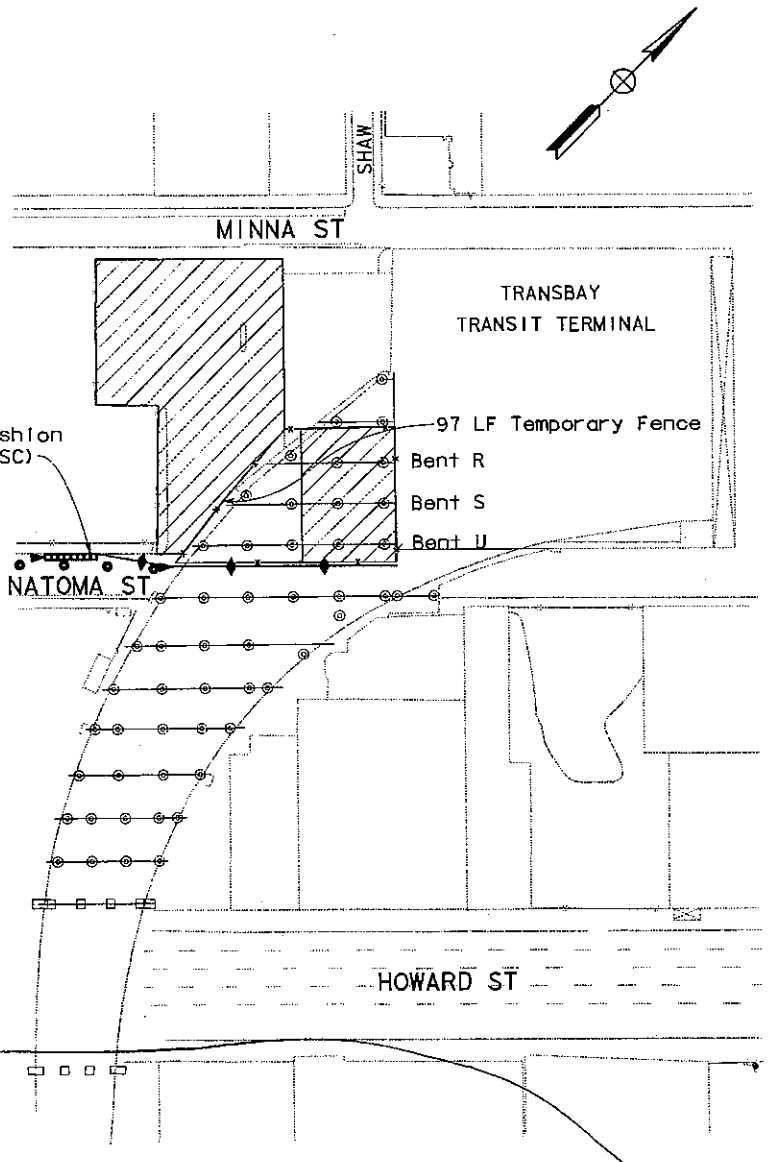
Start gen 01



STAGE 1 - PHASE 1



STAGE 1 - PHASE 2



STAGE 1 - PHASE 3

combine
phase 2

STAGE CONSTRUCTION
TRAFFIC HANDLING
WEST LOOP AT-GRADE SLAB PLACEMENT
AND COLUMN RETROFIT
STAGE 1 - PHASES 1, 2 AND 3

SCALE: 1" = 50'

SC-5

FOR REDUCED PLANS ORIGINAL
SCALE IS IN INCHES

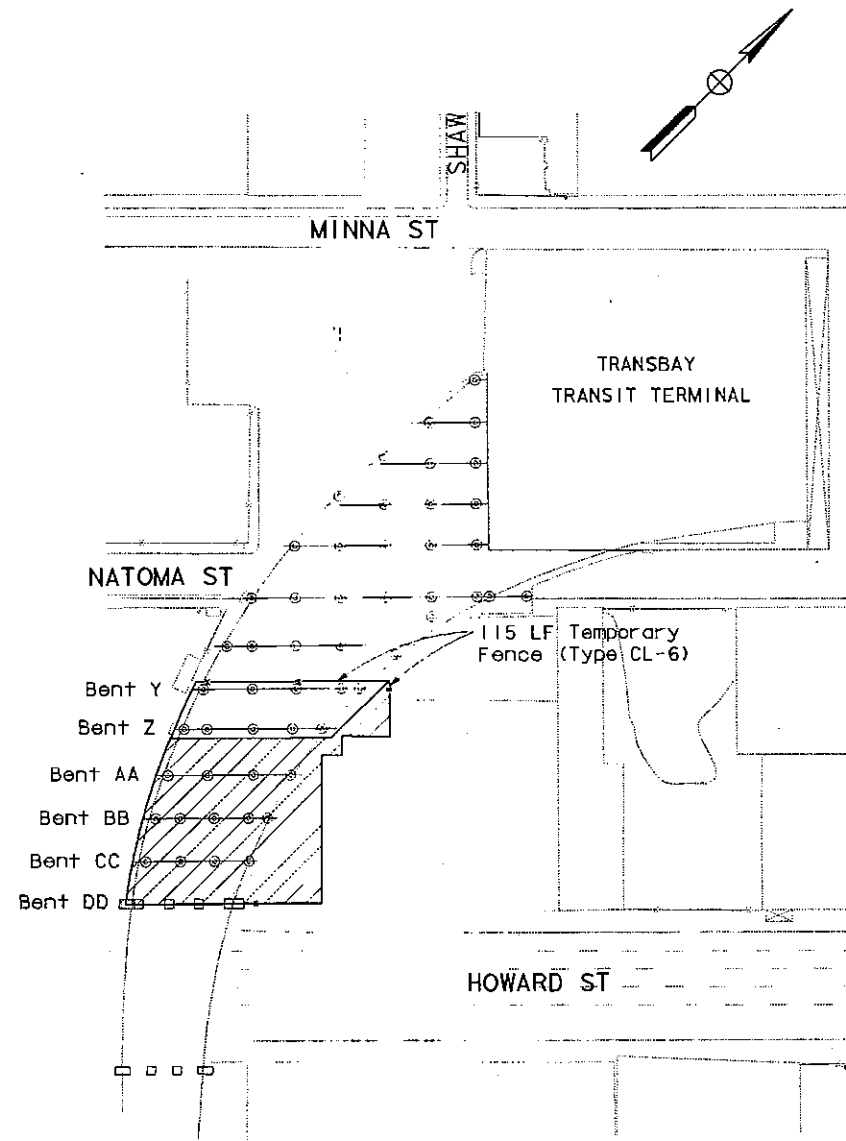
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DGN FILE => 40435c105.dgn

CU 04265

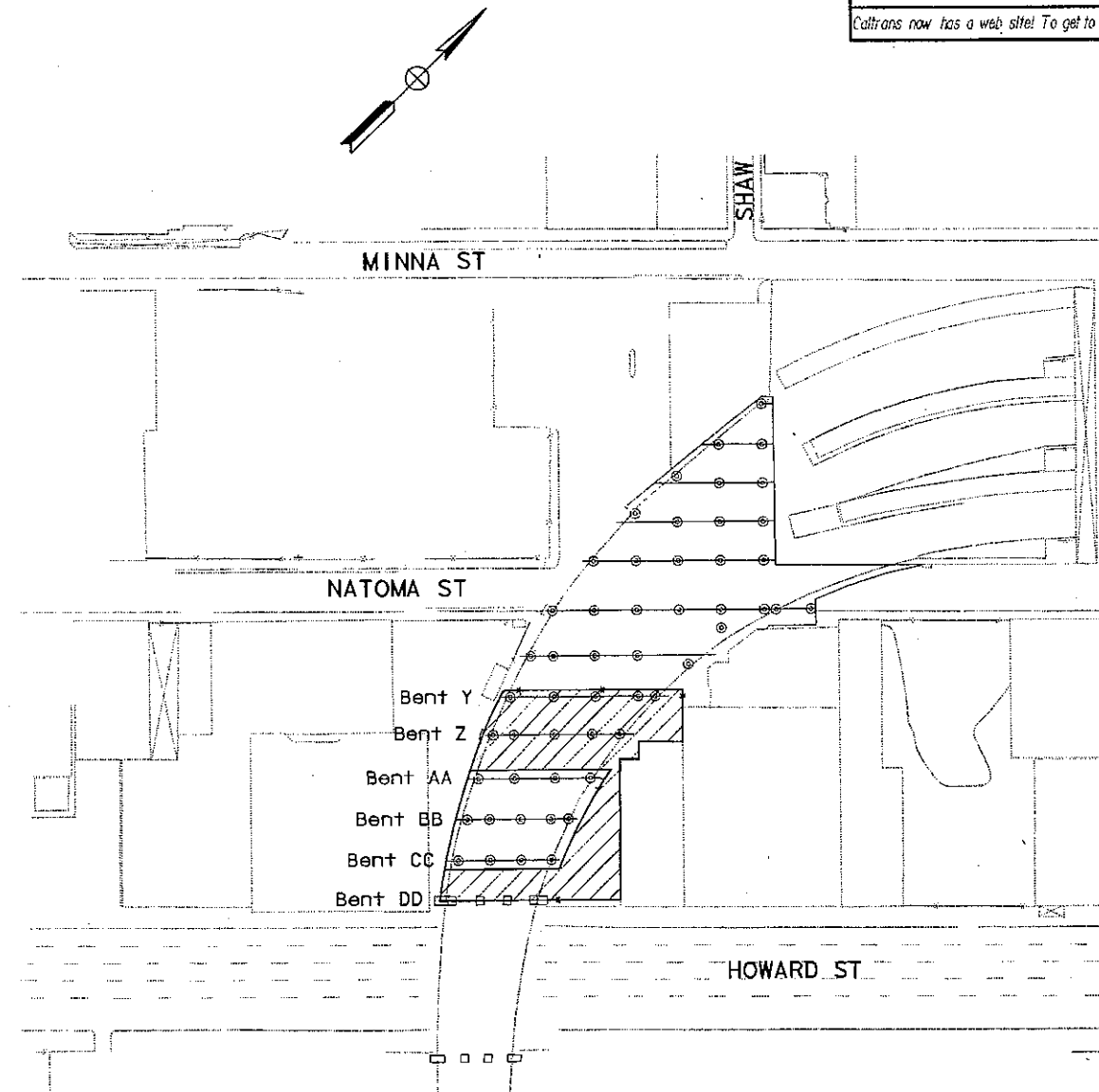
EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 15:14
09-20-00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER		DATE	REVISED BY				
	JAIME E. GUTIERREZ							
Caltrans PROJECT DEVELOPMENT	CALCULATED/ DESIGNED BY		DATE	REVISED BY				
	CHECKED BY							



STAGE 3 - PHASE 1



STAGE 3 - PHASE 2

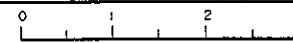
**STAGE CONSTRUCTION
TRAFFIC HANDLING
WEST LOOP AT-GRADE SLAB PLACEMENT
AND COLUMN RETROFIT
STAGE 3 - PHASES 1 AND 2**

SCALE: 1" = 50'

SC-7

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET SC-5

FOR REDUCED PLANS ORIGINAL
SCALE 15" IN INCHES



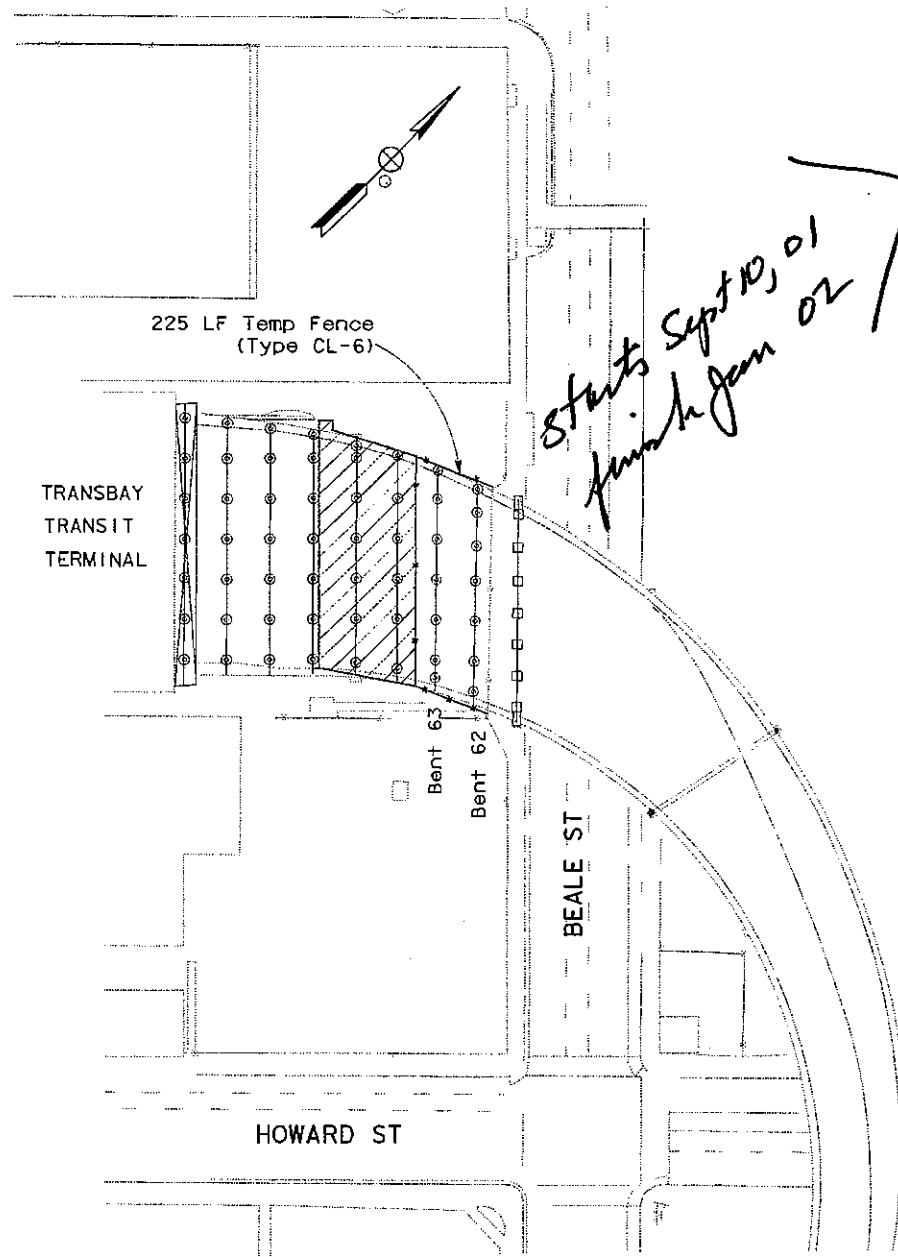
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CU 04265

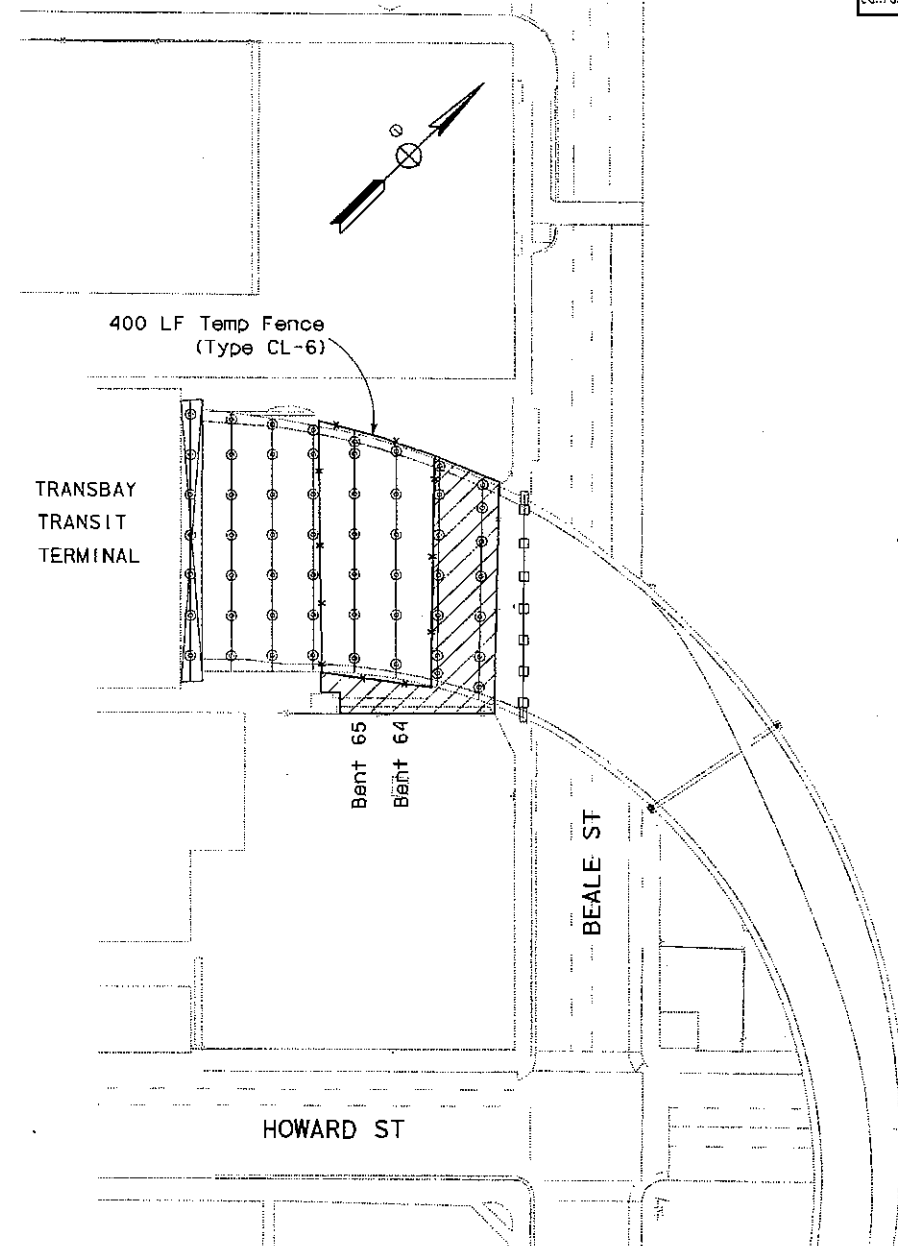
EA 0435C1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	60	166
J. E. Gutierrez			8-28-00		
REGISTERED CIVIL ENGINEER					
12-26-00			PLANS APPROVAL DATE		
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DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 15:14
LAST REVISION
08-29-00



STAGE 1



STAGE 2

STAGE CONSTRUCTION
EAST LOOP AT-GRADE SLAB PLACEMENT
AND COLUMN RETROFIT

STAGE 1 AND 2

SCALE: 1" = 50'

SC-8

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET SC-5

FOR REDUCED PLANS ORIGINAL
SCALE IS IN INCHES

0 1 2 3

USERNAME => trlim
DGN FILE => 40435c108.dgn

CU 04265 EA 0435C1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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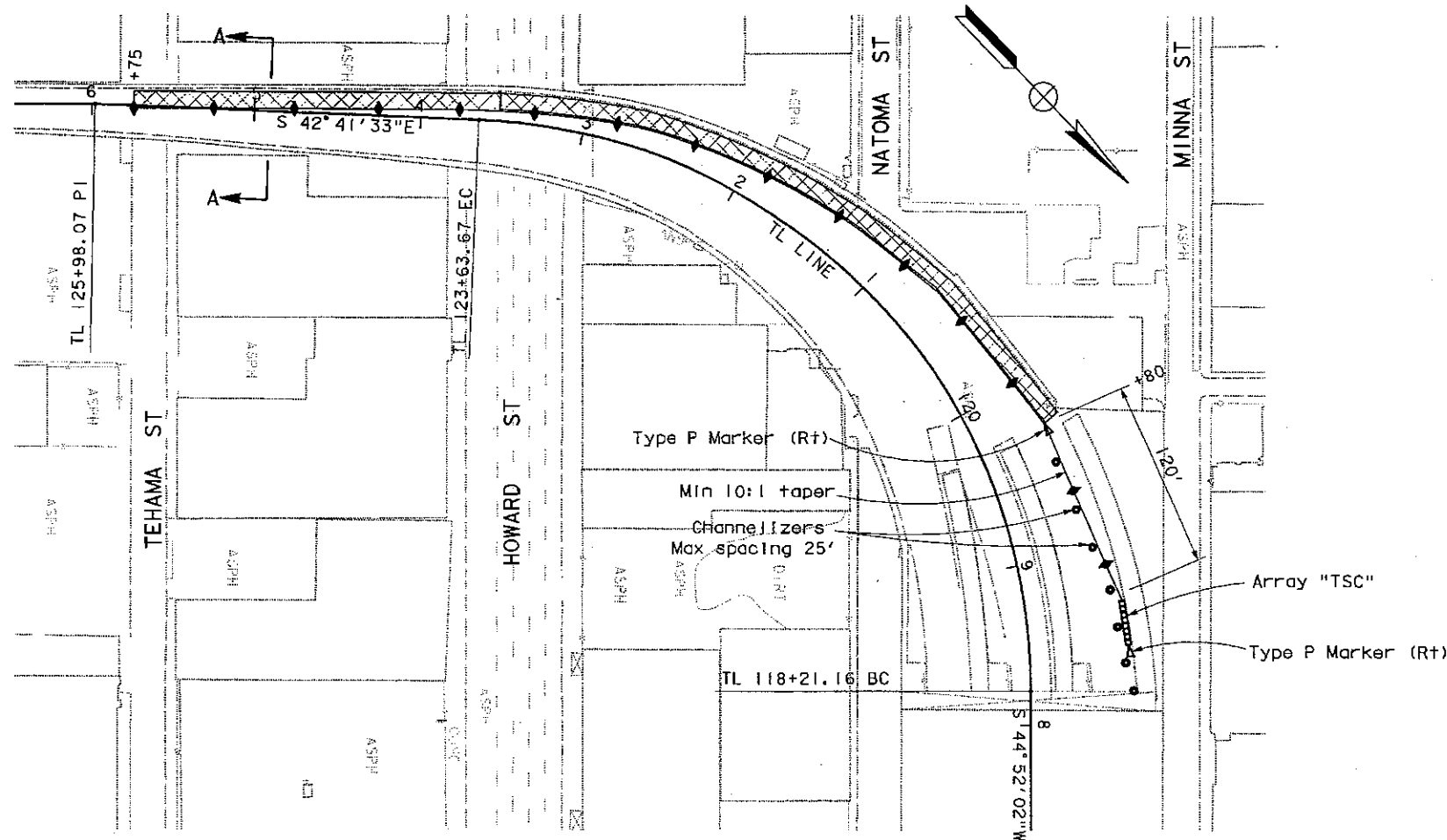
10/11/01
 REGISTERED CIVIL ENGINEER
 8-28-00
 12-26-00
 PLANS APPROVAL DATE

J.E. Gutierrez
 No. 52324
 Exp. 12-31-02
 CIVIL
 STATE OF CALIFORNIA

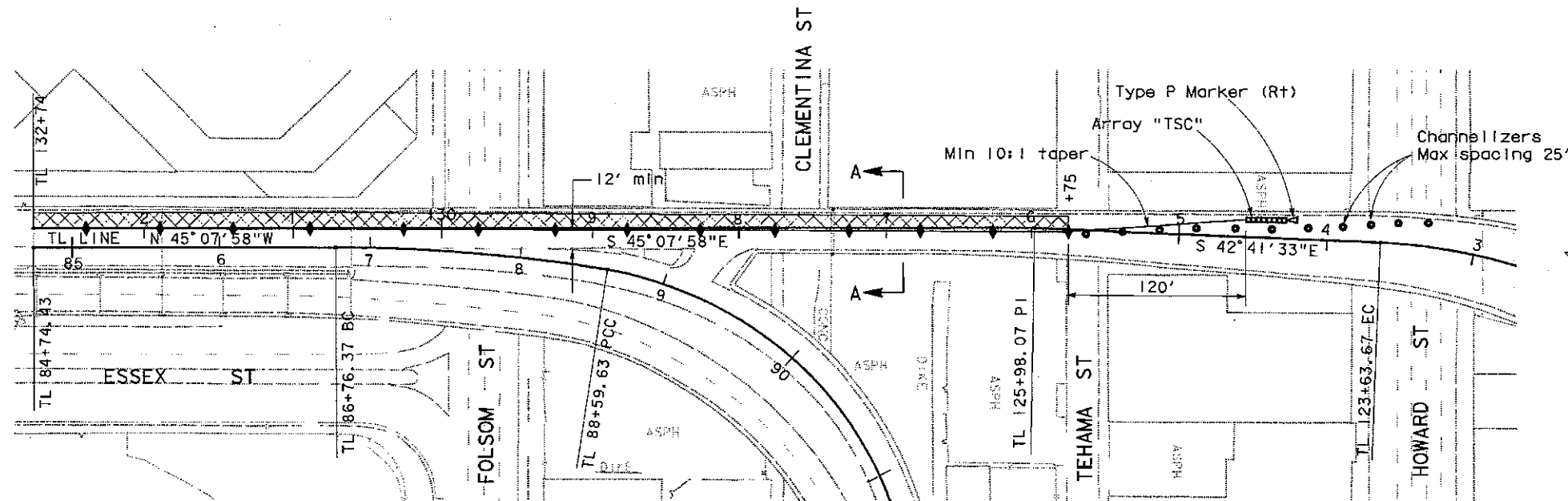
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DATE PLOTTED => 15-DEC-2000
 TIME PLOTTED => 15:14
 LAST REVISION
 09-07-00

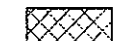


STAGE 1

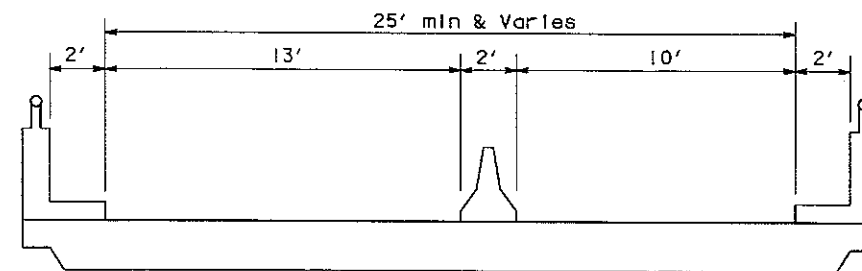


STAGE 2

LEGEND



WORK AREA



SECTION A-A

FOR NOTES, ABBREVIATIONS
 AND/OR LEGEND, SEE SHEET TH-1

TRAFFIC HANDLING PLAN
 WEST LOOP UPPER DECK BRIDGE RAILING WORK

SCALE: 1" = 50'

TH-1

FOR REDUCED PLANS ORIGINAL
 SCALE IS IN INCHES



USERNAME => trclew
 DGN FILE => 40435c110.dgn

CU 04265

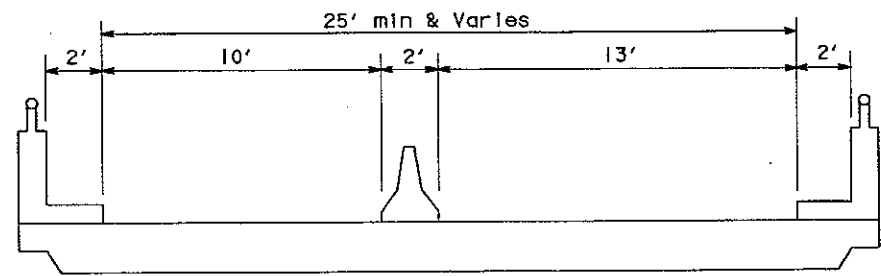
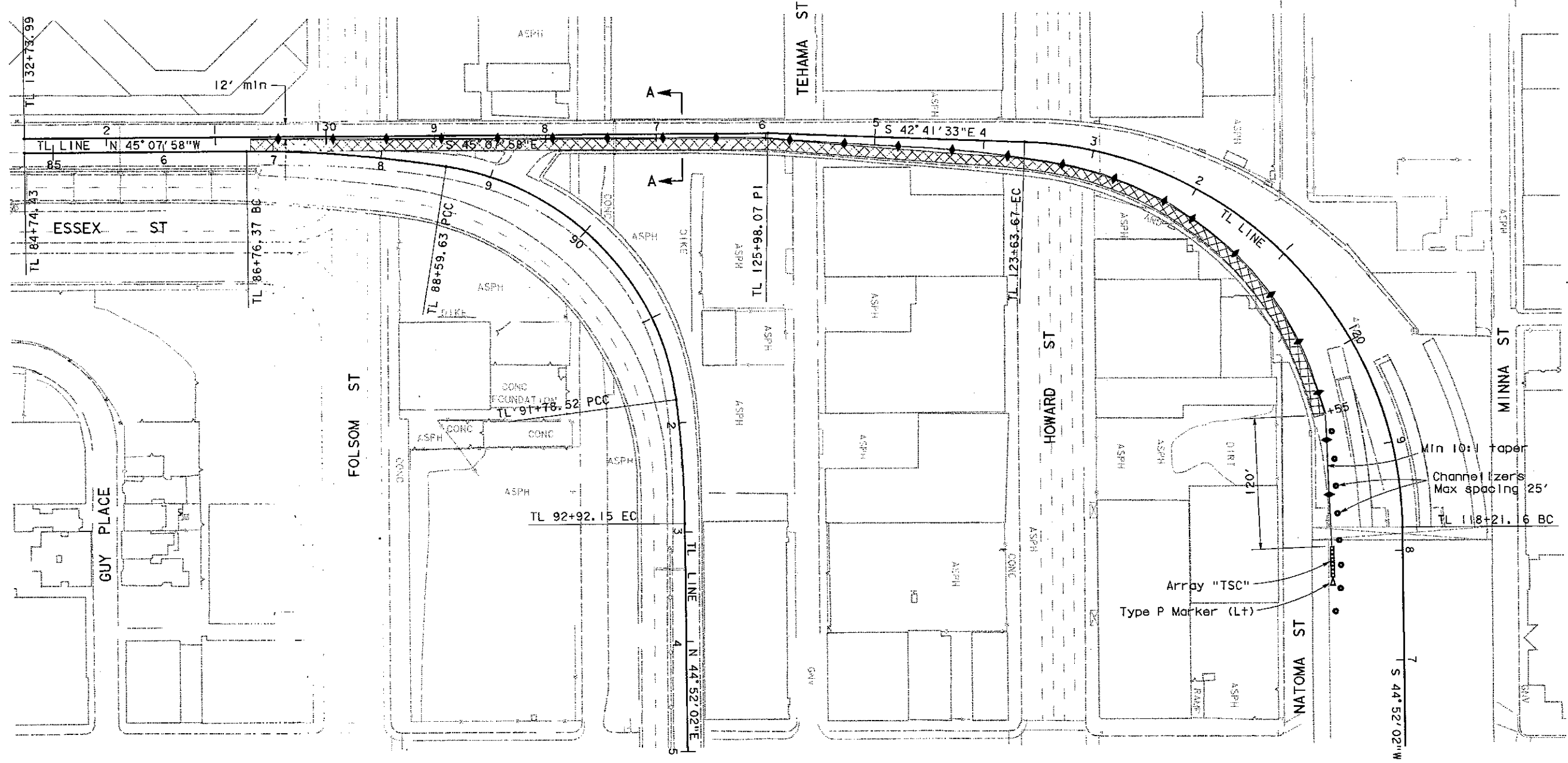
EA 0435C1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	63	166

10/11/00 8-28-00
 REGISTERED CIVIL ENGINEER
 12-26-00
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REGISTERED PROFESSIONAL ENGINEER
 J. E. Gutierrez
 No. 52324
 Exp. 12-31-02
 CIVIL
 STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER		DATE	REVISOR
	JAIME E. GUTIERREZ			
	CHECKED BY		DATE	REVISOR
Caltrans PROJECT DEVELOPMENT	CALCULATED/DESIGNED BY		DATE	REVISOR
	CHECKED BY		DATE	REVISOR

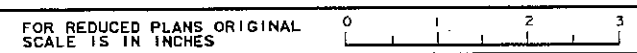


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	64	166

10/10/00 8-28-00
 REGISTERED CIVIL ENGINEER
 12-26-00
 PLANS APPROVAL DATE
 J.E. Gutierrez
 No. 52324
 Exp. 12-31-02
 CIVIL
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TRAFFIC HANDLING PLAN
WEST LOOP UPPER DECK BRIDGE RAILING WORK
 SCALE: 1" = 50'
TH-2

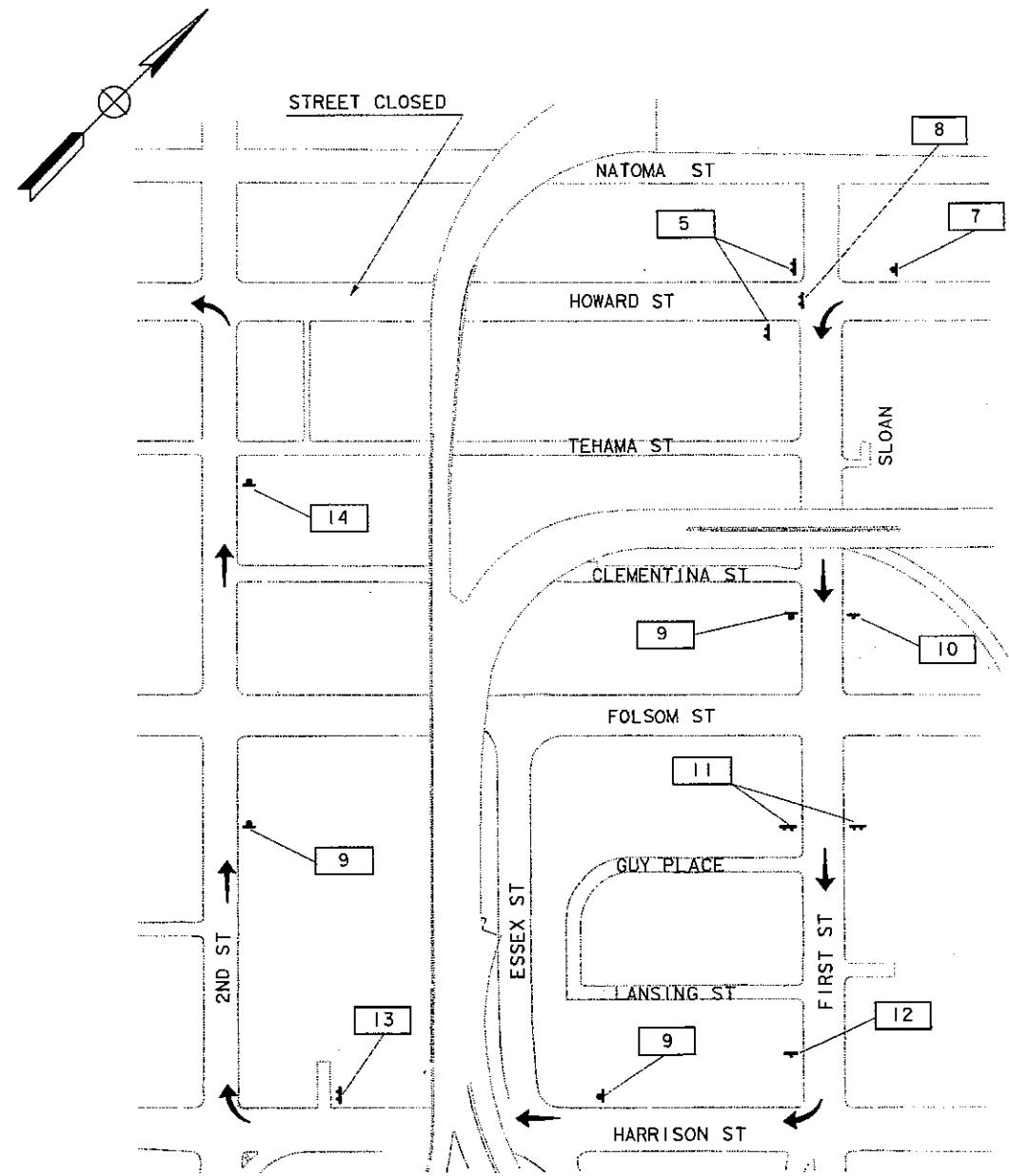
FOR NOTES, ABBREVIATIONS
 AND/OR LEGEND, SEE SHEET TH-1



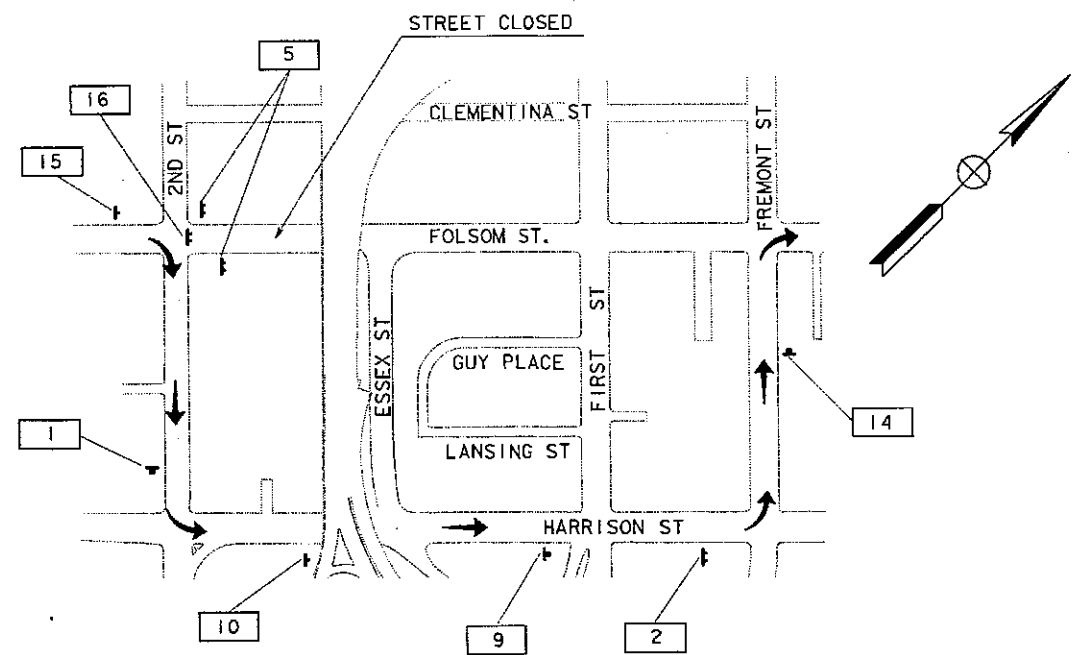
USERNAME => trolew
 DGN FILE => 40435c111.dgn

CU 04265
 EA 0435C1

DATE PLOTTED => 19-DEC-2000
 TIME PLOTTED => 15:23
 08-17-00



HOWARD ST. DETOUR
BETWEEN FIRST AND SECOND STS.



FOLSOM ST. DETOUR
BETWEEN FIRST AND SECOND STS.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	66	166

10/11/00

8-28-00

REGISTERED CIVIL ENGINEER

12-26-00

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER

J. E. Gutierrez

No. 52324

Exp. 12-31-02

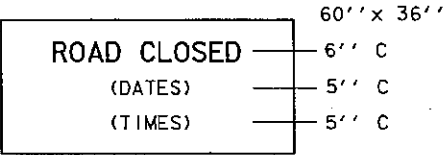
CIVIL

CONSTRUCTION AREA SIGN QUANTITIES

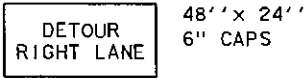
SIGN NO.	CODE	PANEL SIZE (INCHES)	MESSAGE	EACH	WOOD POST (NO. AND SIZE)	REMARKS
1	SPEC	42 x 30		1		See SPECIAL D - SSBM (s)
2	SPEC	42 x 30		1	1- 4'' x 6''	See SPECIAL D (s)
3	C18	36 x 36	ROAD CONSTRUCTION AHEAD	1		SSBM (s)
4	C2	48 x 30	ROAD CLOSED	2		Mount on Type III Barricade
5	SPEC	60 x 36		6	2- 4'' x 4''	See SPECIAL A (s)
6	C3A	60 x 30	ROAD CLOSED TO THRU...	2		Mount on Type III Barricade
7	C19	48 x 48	ROAD CLOSED AHEAD	1		SSBM (s)
	C5(L+)	48 x 18				
8	C5(L+)	48 x 18		1		Mount on Type III Barricade
9	SC3(↑)	48 x 18		4		SSBM (s)
10	SC3(↑)	48 x 18		2	1- 4'' x 4''	(s)
11	SPEC	48 x 24		2	1- 4'' x 6''	See SPECIAL B
12	C5(R+)	48 x 18		1	1- 4'' x 4''	(s)
13	SPEC	42 x 30		1	1- 4'' x 6''	See SPECIAL C (s)
14	C7	30 x 18	END DETOUR	2		SSBM (s)
15	C19	48 x 48	ROAD CLOSED AHEAD	1	1- 4'' x 6''	(s)
	C5(R+)	48 x 18				
16	C5(R+)	48 x 18		1	1- 4'' x 4''	(s)

(s) Stationary Construction Area sign

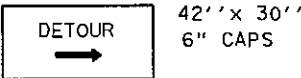
ADVANCE INFORMATION SIGN



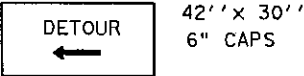
SPECIAL A



SPECIAL B



SPECIAL C



SPECIAL D

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER

JAIME E. GUTIERREZ

DATE

REVISOR

DATE

DESIGNED BY

CHECKED BY

REVISOR

DATE

DATE

REVISOR

DATE

DESIGNED BY

CHECKED BY

REVISOR

DATE

NOTE: All traffic striping to replace existing striping.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	70	166

8-28-00

REGISTERED CIVIL ENGINEER

12-26-00

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

No. 52324

Exp. 12-31-02

CIVIL

STATE OF CALIFORNIA

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A = 14 SOFT
TYPE 1 (10) ARROW

This plan accurate for Pavement Delineation only

PAVEMENT DELINEATION PLAN
NO SCALE

PD-2

FOR NOTES, ABBREVIATIONS AND/OR LEGEND, SEE SHEET PD-1

FOR REDUCED PLANS ORIGINAL SCALE 15' IN INCHES

USERNAME => trbing
DGN FILE => 40435cn02.dgn

CU 04265

EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 15:25
05-04-00

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER	DATE	REVISED BY				
<i>St</i> Gibbons PROJECT DEVELOPMENT	JAIME E. GUTIERREZ	CALCULATED/ DESIGNED BY	DATE REVISED				
		CHECKED BY					

TEMPORARY RAILING (TYPE K)

[illegible]

TEMPORARY CRASH CUSHION MODULE

SHEET NO.	STAGE	LOCATION	ARRAY	EA
TH-1	N/A	UPPER DECK (WEST LOOP)	TSC	16
TH-2	N/A	UPPER DECK (WEST LOOP)	TSC	8
SC-5	N/A	NATOMA ST	TSC	8
SC-6	N/A	NATOMA ST	TSC	8
TOTAL				40

REMOVE FENCE (TYPE CL-6)

SHEET NO.	STAGE	LOCATION	LF
L-1	N/A	4th ST ON RAMP	440
L-5	N/A	NATOMA ST	60
L-6	N/A	TTT EAST LOOP	325
TOTAL			825

TEMPORARY FENCE (TYPE CL-6)

SHEET NO.	STAGE	LOCATION	LF
L-1	N/A	4th ST ON RAMP	80
SC-4	S-5	BLOCK 5-1	160
SC-4	S-5	BLOCK 5-2	400
SC-5	S-1, P-1	TTT WEST LOOP	155
SC-5	S-1, P-2	TTT WEST LOOP	300
SC-5	S-1, P-3	TTT WEST LOOP	97
SC-6	S-2, P-1	TTT WEST LOOP	188
SC-6	S-2, P-2	TTT WEST LOOP	215
SC-7	S-3, P-1	TTT WEST LOOP	115
SC-8	S-1	TTT EAST LOOP	225
SC-8	S-2	TTT EAST LOOP	400
SC-9	S-3	TTT EAST LOOP	185
SC-9	S-4	TTT EAST LOOP	215
SC-9	S-5	TTT EAST LOOP	200
TOTAL			2935

CHAIN LINK FENCE (TYPE CL-6)

SHEET NO.	STAGE	LOCATION	LF
L-1	N/A	4th ST ON RAMP	440
L-6	N/A	TTT EAST LOOP	100
C-22	N/A	PARKING LOT (TTT EAST LOOP)	181
TOTAL			721

ASPHALT CONCRETE AND MINOR CONCRETE

SHEET NO.	LOCATION/BENT NO.	FOOTINGS	ASPHALT CONCRETE (TYPE A)		REMOVE ASPHALT CONC	MINOR CONCRETE (MISC CONSTRUCTION)	
			1/2" MAX GRADING			CURB/GUTTER	SIDEWALK/DRIVEWAY
			RETROFIT FOOTING PAVING	PARKING LOT SURFACING			
		EA	TON		CY		
C-20	L-98	1	18.40				
C-20	L-99	1	18.40				
C-20	L-100	1	18.06				
C-20	L-101	1	18.06				
C-20	L-102	1	19.80				
C-20	L-103	1	20.09				
C-20	K2-98	1	12.25				
C-20	K2-99	1	10.57				
C-20	K2-100	1	10.57				
C-21	HOWARD ST					18.10	
C-21	HOWARD ST						48.39
SC-1	BLOCK 11 (4TH ST On Ramp)	N/A		144.00	52.40		
SC-2	BLOCK 10 (4TH ST/3RD ST)	N/A		1107.00	401		
SC-2	BLOCK 9 (3RD ST/2ND ST)	N/A		289.00	105		
SC-3	BLOCK 7 (RINCON HILL)	N/A		330.00	119.30		
SC-4	BLOCK 5 (HOWARD ST/FOLSOM ST)	N/A		193.00	70.00		
SC-4	BLOCK 4 (1ST ST/FREMONT ST)	N/A		703.00	254.50		
L-4	PARKING LOT AT ESSEX/FOLSOM	N/A		133.00			
L-5	WEST LOOP TTT	N/A	399.00				
L-6	EAST LOOP TTT	N/A	411.30				
	TOTAL		956.50	2899.00	1002.20	18.10	48.39

PAVEMENT DELINEATION

SHEET NO.	STATION LIMITS OR LOCATION	DETAIL NO.	PAINT PAVEMENT MARKER (2-COAT)	PAINT TRAFFIC STRIPE (2-COAT)	
			YELLOW	4" WHITE	4" YELLOW
			SOFT	LF	
PD-1	PARKING LOT (TTT EAST LOOP)	TYPE 1 (10)		186	2094
PD-1	PARKING LOT (TTT EAST LOOP)		42		
PD-2	PARKING LOT (TTT WEST LOOP)	TYPE 1 (10)			86
PD-2	PARKING LOT (TTT WEST LOOP)		84		
TOTAL			126	186	2180

REMOVE OVERHEAD SIGN STRUCTURE

SHEET NO.	CONTRACT ITEM	LOCATION	UNIT	QUANTITY
L-4	REMOVE OVERHEAD SIGN STR	TIT WEST LOOP	EA	1

REMOVE BUS SHELTER

SHEET NO.	CONTRACT ITEM	LOCATION	UNIT	QUANTITY
L-6	REMOVE BUS SHELTER	TTT WEST LOOP	LS	1

MISCELLANEOUS QUANTITIES

SHEET NO.	CONTRACT ITEM	LOCATION	UNIT	QUANTITY
L-1	RECONSTRUCT CHAIN LINK GATE (TYPE CL-8)	4th ST PARKING LOT	EA	1
L-1	REMOVE WOOD BUMPER	4th ST PARKING LOT	LF	150
L-1	REMOVE MBGR	4th ST PARKING LOT	LF	190
L-1	REMOVE CONCRETE (A1-6 CURB)	4th ST PARKING LOT	LF	30
L-6	RECONSTRUCT CHAIN LINK GATE (TYPE CL-6)	TTT EAST LOOP	EA	1
TH-1	CHANNELIZERS	UPPER DECK (WEST LOOP)	EA	18
TH-2	CHANNELIZERS	UPPER DECK (WEST LOOP)	EA	7
SC-5	TEMP OBJECT MARKERS	NATOMA ST	EA	2
SC-5	CHANNELIZERS	NATOMA ST	EA	5
SC-6	CHANNELIZERS	NATOMA ST	EA	3
PD-1	PARKING BUMPERS	PARKING LOT (TTT WEST LOOP)	EA	17
PD-1	ROADSIDE SIGN (ISA PARKING SIGN R-99) (VAN ACCESSIBLE SIGN R99A)	PARKING LOT (TTT WEST LOOP)	EA	2
C-22	6' CHAIN LINK GATE (TYPE CL-6)	PARKING LOT (TTT EAST LOOP)	EA	2

ROADWAY EXCAVATION

SHEET NO.	LOCATION	VOLUME CY
SC-1	BLOCK 11	316.00
SC-2	BLOCK 10	2430.00
SC-2	BLOCK 9	635.00
SC-3	BLOCK 7	723.00
SC-4	BLOCK 5	422.00
SC-4	BLOCK 4	1543.00
TOTAL		6069.00

SUMMARY OF QUANTITIES
Q-1

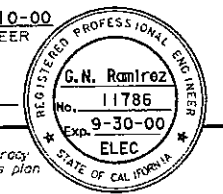
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JUNE 9, 2000
 REGISTERED CIVIL ENGINEER
 12-26-00
 PLANS APPROVAL DATE

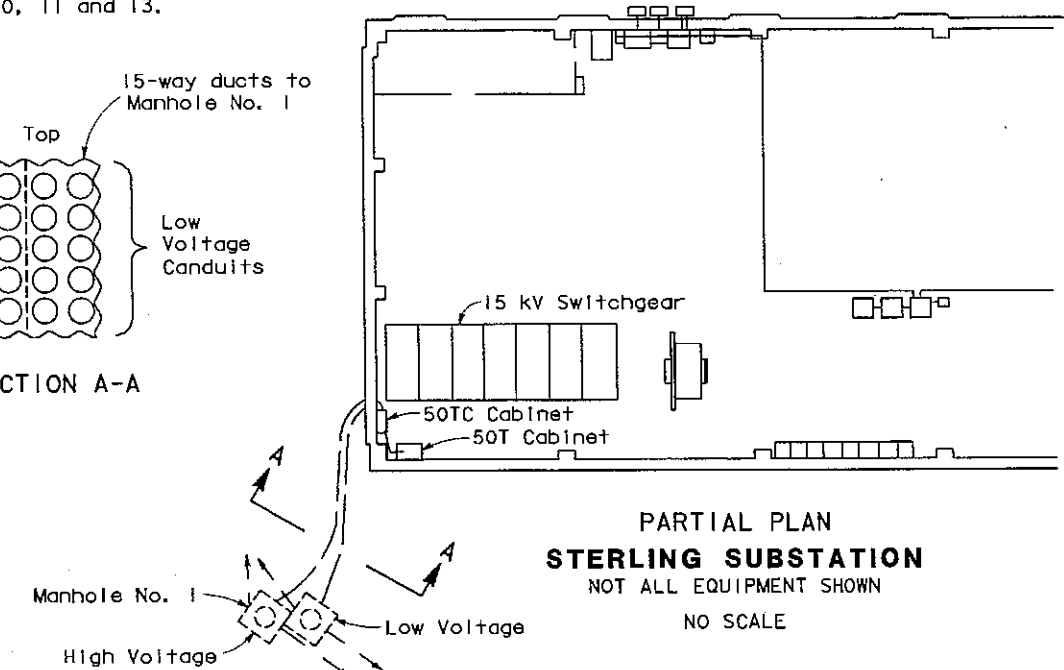
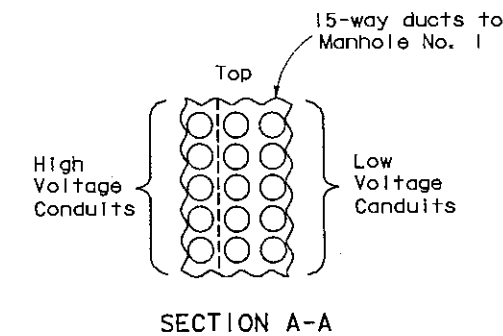
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12-26-00
PLANS APPROVAL DATE







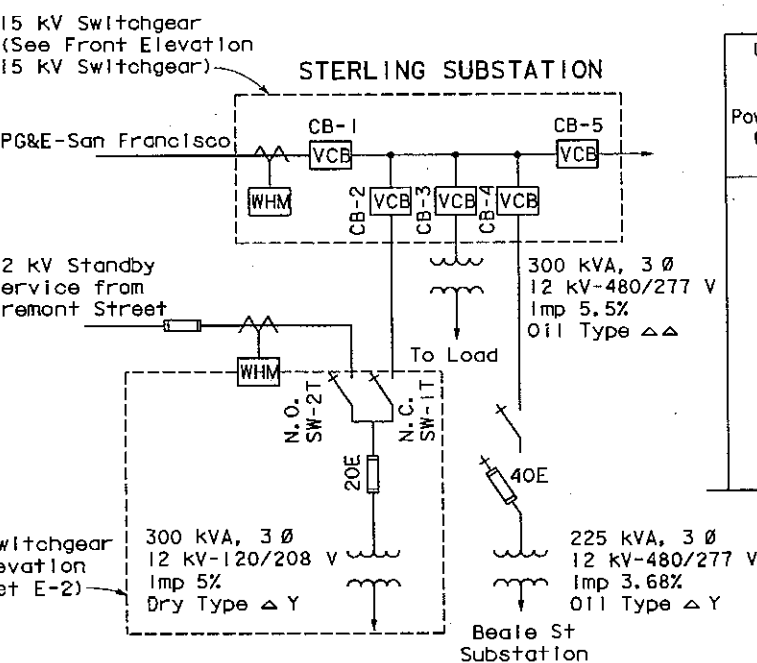
1. Locations shown for existing electrical system may have minor variations. The Contractor shall field verify and adjust to fit existing conditions.
2. Before starting electrical work, the Contractor must contact Caltrans Maintenance to transfer power supply to PG&E 12 KV standby feeder. This feeder will become the permanent power supply during construction.
3. For electrical details, symbols and abbreviations, see E-8, 9, 10, 11 and 13.



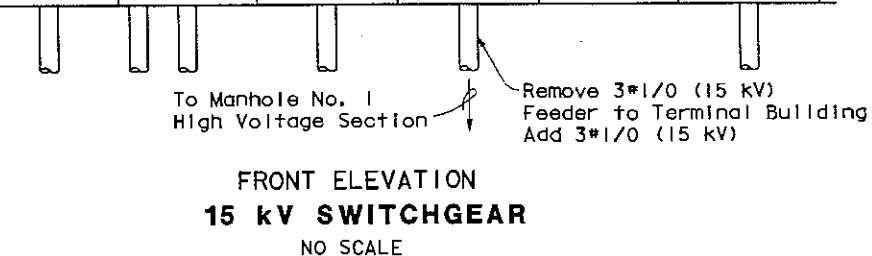
**ABBREVIATIONS
AND SYMBOLS**
(FOR THIS SHEET ONLY)

	UNIT 7 Bridge Power Cable Ckt Bkr	UNIT 6 Bridge Power Cable Switch Cable Fuse Compartment	UNIT 5 SFOBB Substation No. 1	UNIT 4 Sterling Substation	UNIT 3 S.F. Terminal Building	UNIT 2 Main Service Circuit Breaker	UNIT 1 Incoming Service Switch Cable Compartment
V							

CB-I	Circuit breaker, number
	Indicate identification number
Ckt Bkr	Circuit breaker
NO	Normally open when deenergized
NC	Normally closed when deenergized
SW-IT	Transfer switch
VCB	Vacuum circuit breaker
WHM	Watt hour meter
	Switch air break
 <u>40E</u>	Fuse disconnecting switch (40: fuse size, E: rated fuse)
	Fuse
	Transformer



TERMINAL SUBSTATION
PARTIAL 12 kV ONE LINE DIAGRAM



FRONT ELEVATION
15 kV SWITCHGEAR
NO SCALE

ELECTRICAL FACILITIES
(SEISMIC RETROFIT)
12 kV FEEDER (MODIFY)

SCALE: AS SHOWN

E-1

This plan accurate for Electrical work only.

FOR REDUCED PLANS ORIGINAL
SCALE IS IN INCHES



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USERNAME => trblng
DGN FILE => 40435cu01.dgn

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CU 04265

EA 0435C1

LAST REVISION	DATE PLOTTED => 15-DEC-2000
09-18-00	TIME PLOTTED => 15:25

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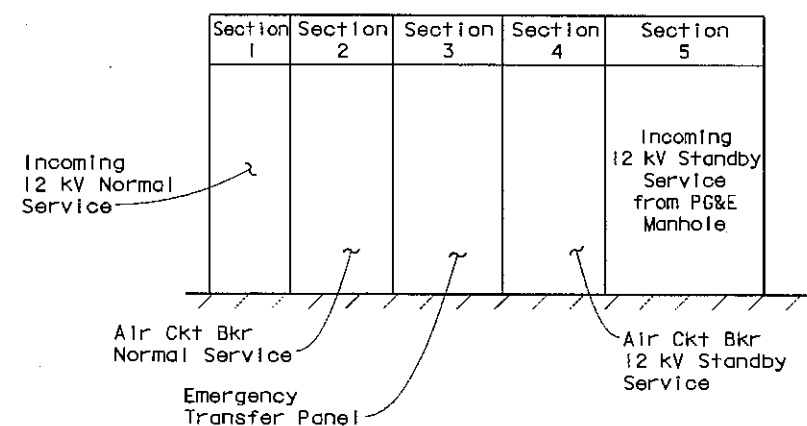
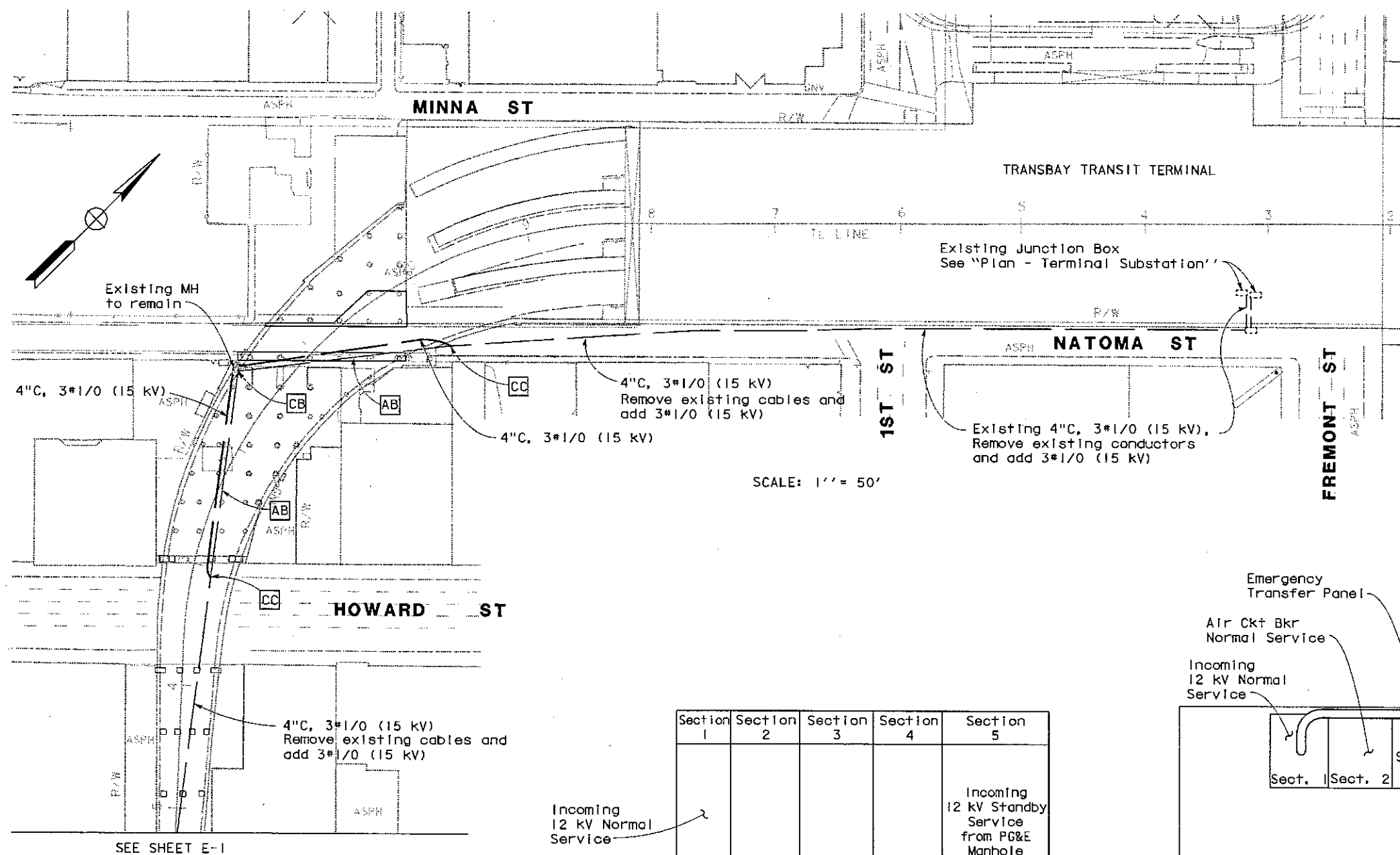
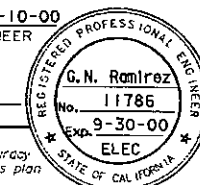
George N. Ramirez 4-10-00
REGISTERED ELECTRICAL ENGINEER //

12-26-00

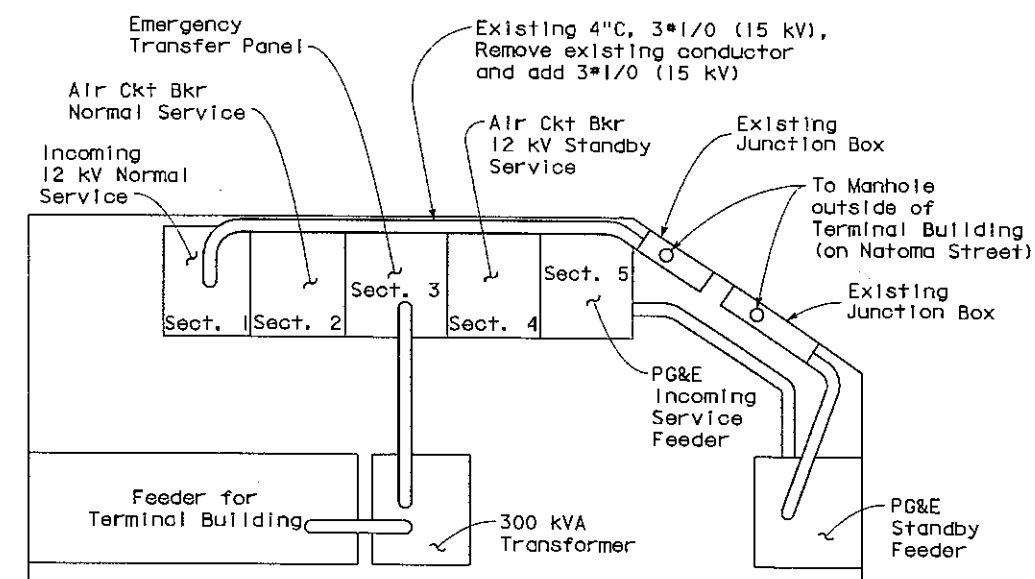
PLANS APPROVAL DATE

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ELEVATION
15 kV SWITCHGEAR
TERMINAL SUBSTATION
NO SCALE



PLAN
TERMINAL SUBSTATION
NO SCALE

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

SCALE: AS SHOWN

E-2

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET E-1

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DGN FILE => 40435cu02.dgn

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CU 04265

EA 0435C1

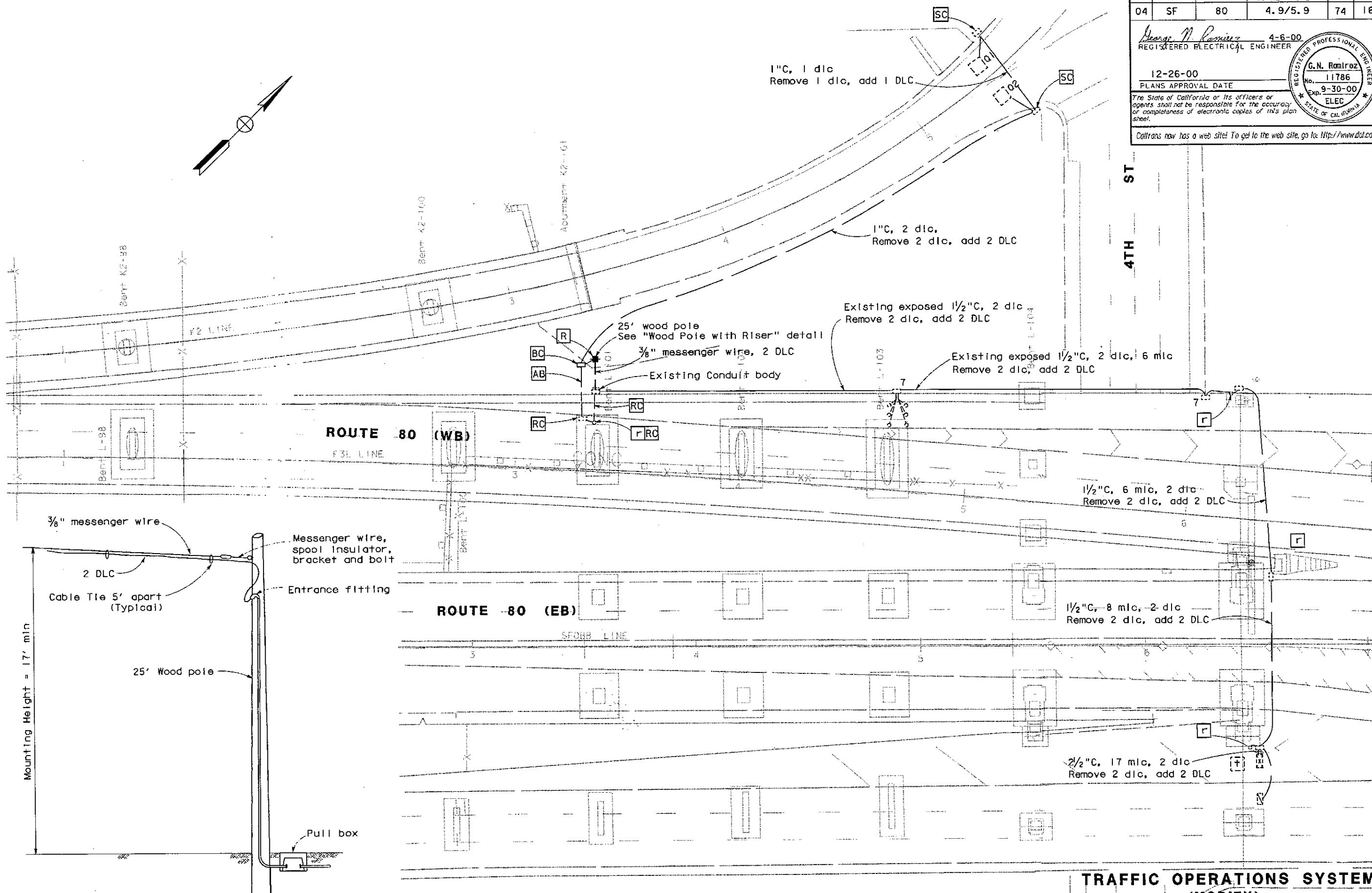
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09-18-00	TIME PLOTTED => 15:23

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER	DESIGNED BY	REVISOR
Caltrans	H. HOANG	CHECKED BY	DATE
ELECTRICAL			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	74	166

George N. Ramirez 4-6-00
 REGISTERED ELECTRICAL ENGINEER
 12-26-00
 PLANS APPROVAL DATE
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G.N. Ramirez
 11786
 Exp. 9-30-00
 ELEC
 STATE OF CALIFORNIA



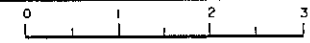
WOOD POLE WITH RISER

FOR NOTES, ABBREVIATIONS AND/OR LEGEND, SEE SHEET E-1

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TRAFFIC OPERATIONS SYSTEM
 (MODIFY)
 SCALE: 1"=20'
E-3

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



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CU 04265

EA 0435C1

DATE PLOTTED => 15-DEC-2000
 TIME PLOTTED => 15:25
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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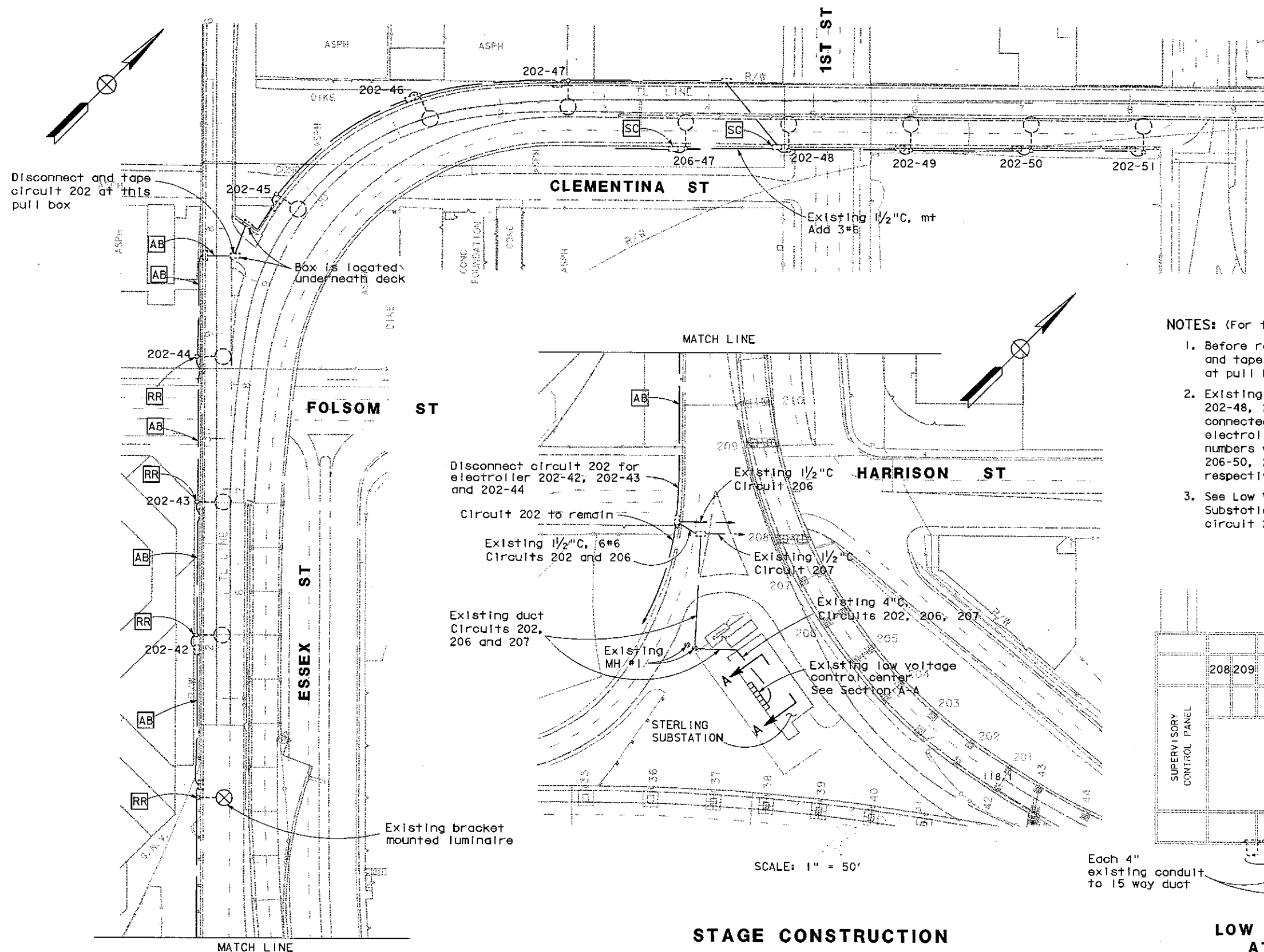
George N. Ramirez 7-12-00
 REGISTERED ELECTRICAL ENGINEER

12-26-00
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 G.N. Ramirez
 No. 11786
 Exp. 9-30-00
 ELEC
 STATE OF CALIFORNIA

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- NOTES:** (For this sheet only)
1. Before removing electroliners, disconnect and tape conductors of existing circuit 202 at pull box as shown on the plan.
 2. Existing electroliners 202-45, 202-46, 202-47, 202-48, 202-49, 202-50 and 202-51 will be connected to circuit 206 at pull box near electroliner 206-47. The 202's electroliner numbers will be changed to 206-48, 206-49, 206-50, 206-52, 206-53, 206-54 and 206-55 respectively.
 3. See Low Voltage Control Center at Sterling Substation, Section A-A, for locations of circuit 202 and 206 circuit breaker.

SUPERVISORY CONTROL PANEL	208	209		200	206	AIR COMPRESSOR	AIR COMPRESSOR				AIR COMPRESSOR PROGRAMME
				201	207	AIR COMPRESSOR		AIR COMPRESSOR			600A-3P LM-FRAME MAIN
				205	204	AIR COMPRESSOR		AIR COMPRESSOR			
				202	203	AIR COMPRESSOR		AIR COMPRESSOR			
				PEU CELL AUXILIARY							

Each 4"
existing conduit
to 15 way duct

SECTION A-A
LOW VOLTAGE CONTROL CENTER
AT STERLING SUBSTATION

NO SCALE

LIGHTING (MODIFY)

SCALE: AS SHOWN

E-4

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET E-

This plan accurate for electrical work only

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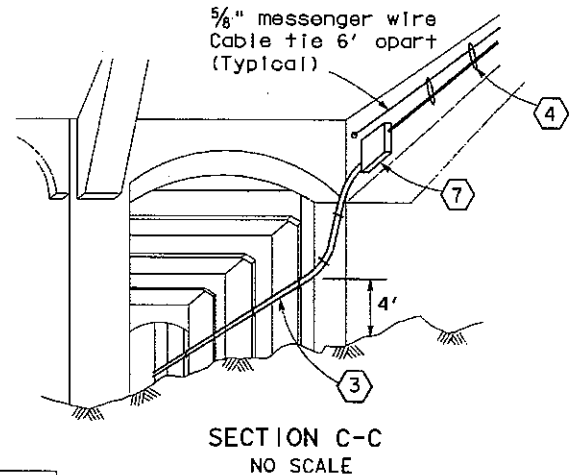
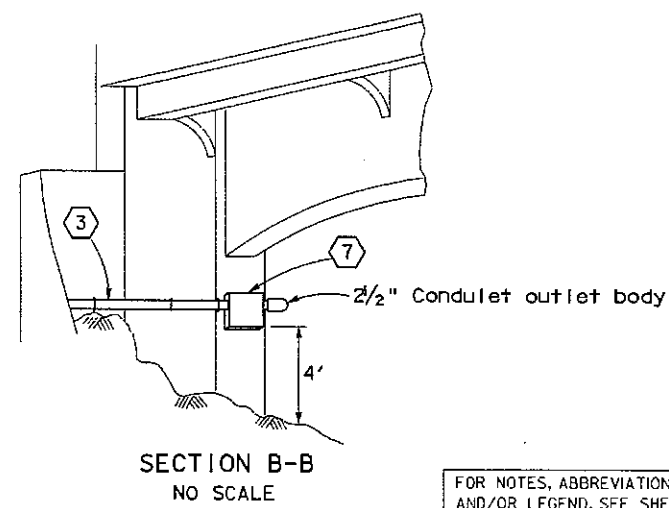
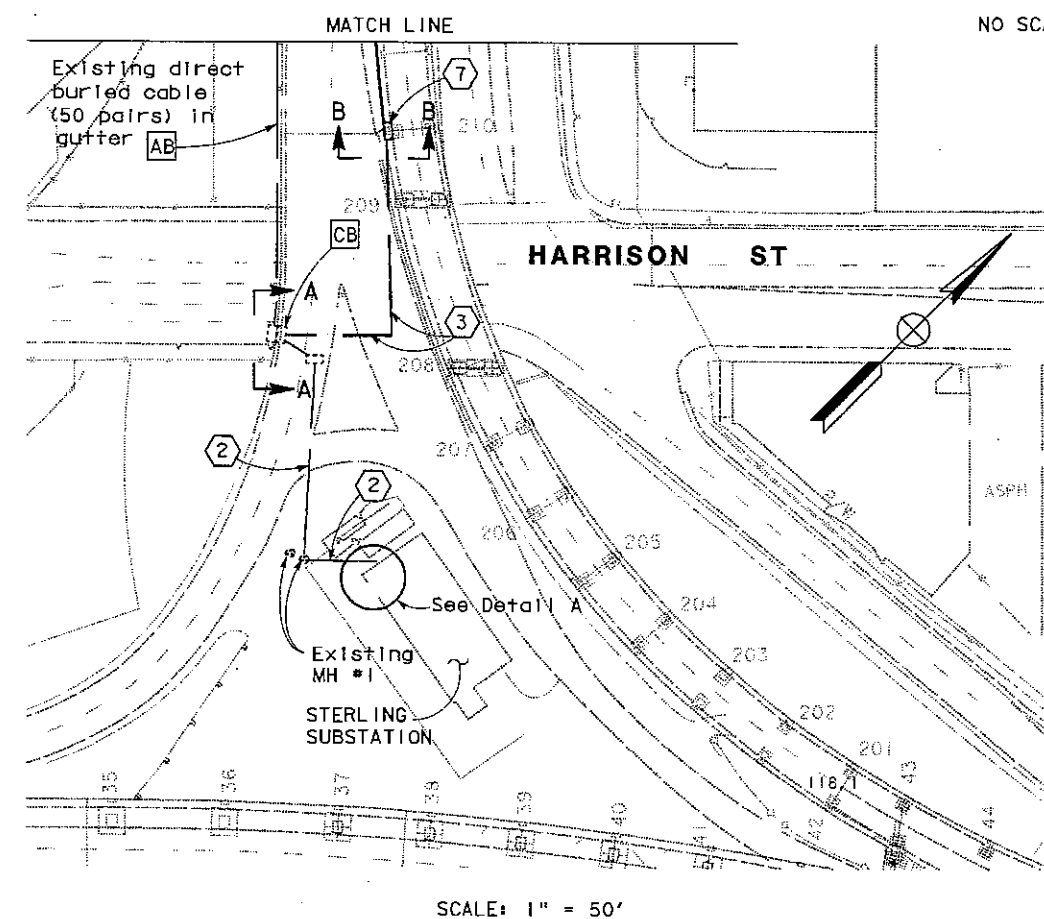
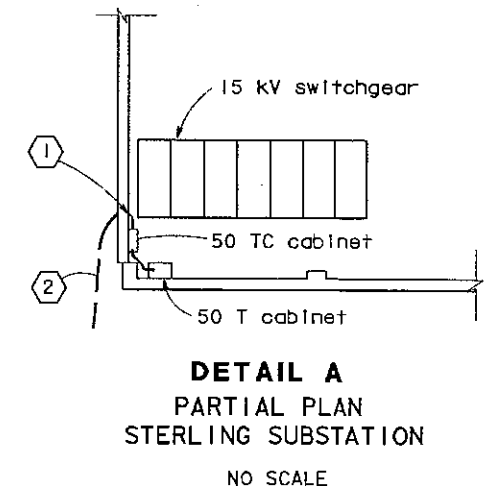
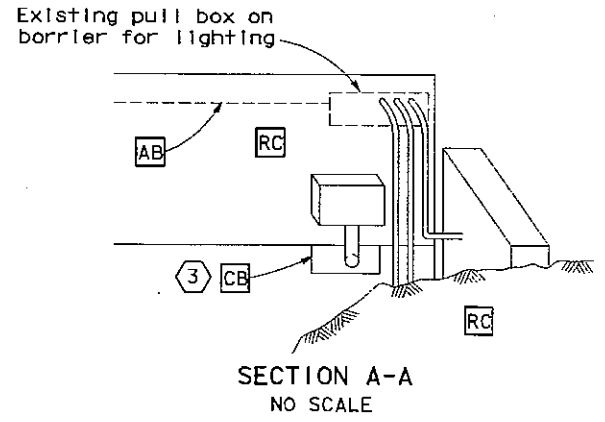
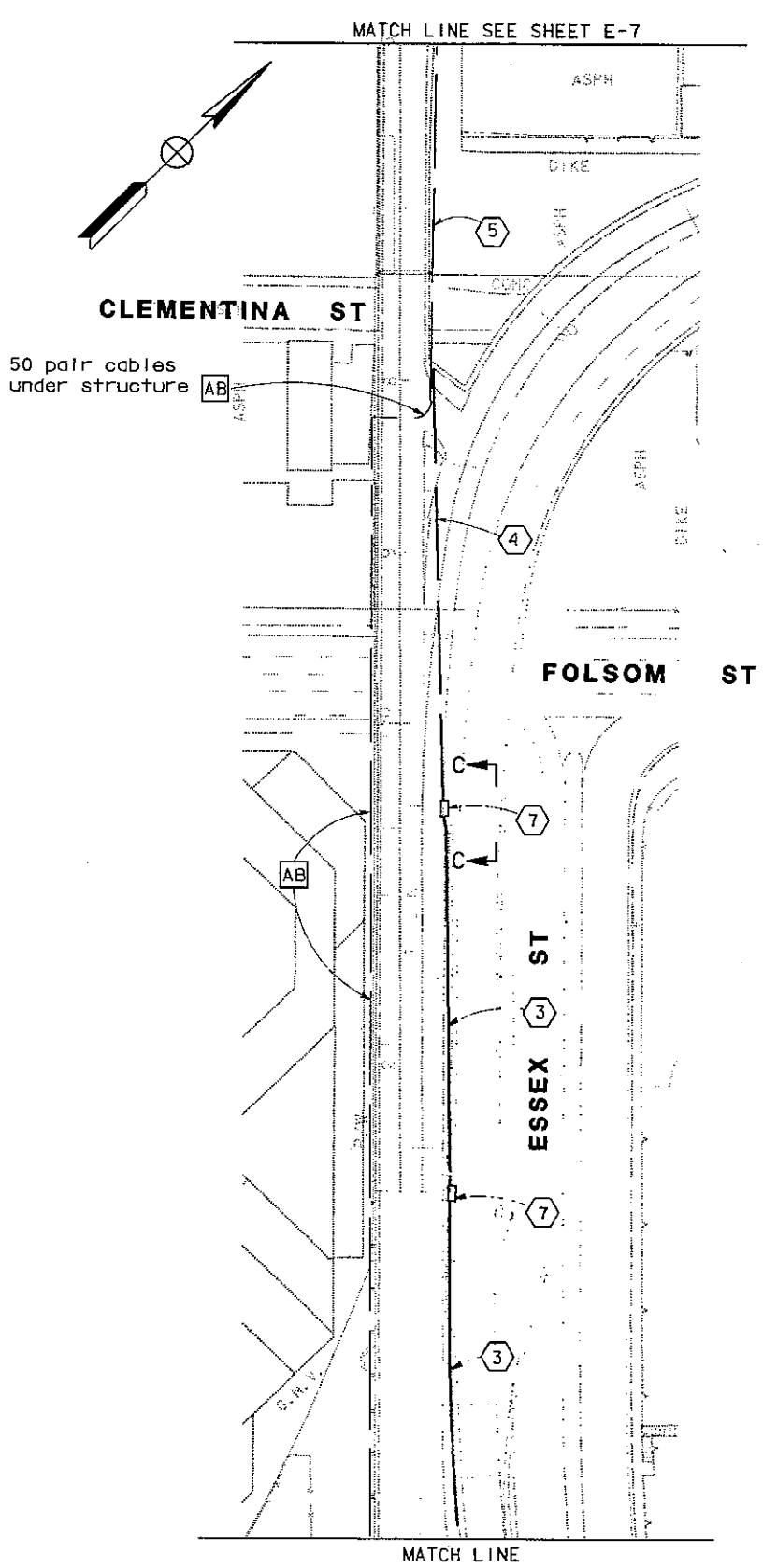
CU 04265

EA 0435C1

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SCALE IS IN INCHES



LAST REVISION	DATE PLOTTED => 15-DEC-2000
09-18-00	TIME PLOTTED => 15:26



FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET E-1

This plan accurate for electrical work only

- NOTES: (For sheets E-6 and E-7 only)
1. Dimensions shown for existing structures are taken from construction drawings and minor variations are to be anticipated. The Contractor shall field verify and adjust all dimensions to fit existing conditions.
 2. Core drill concrete of structure member for installation of messenger wire and cable where required in the field.
 3. Before any work, coordinate down-time with the Engineer.

PROJECT NOTES: (For sheets E-6 and E-7 only)

- 1 Remove existing 50 twisted pair #20 conductor shielded cable, add 50 twisted pair #20 conductor shielded cable. Conductors of new cable will be installed at same location as removed conductors at terminal strip in 50TC cabinet.
- 2 Remove existing 50 twisted pair #20 conductor shielded cable in 4"C, add 50 twisted pair conductor shielded cable.
- 3 Install 2 1/2"C, exposed, appropriate clamp 5' apart as required, 50 twisted pair #20 conductor shielded cable.
- 4 Install 5/8", 7-strand galvanized steel messenger wire with 50 twisted pair #20 conductor shielded cable, cable tie 5' apart.
- 5 Existing 3"C, 50 twisted pair #20 conductor shielded cable. Remove existing cable, add 50 twisted pair #20 conductor shielded cable.
- 6 Existing messenger conduit, 50 twisted pair #20 conductor shielded cable. Remove cable, install new 50 twisted pair #20 conductor shielded cable, cable tie 5' apart.
- 7 Install galvanized steel junction box 12"(L) x 12"(W) x 8"(D).

ELECTRICAL FACILITIES
COMMUNICATION FEEDER (MODIFY)

SCALE: AS SHOWN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	77	166

George N. Ramirez 7-12-00
REGISTERED ELECTRICAL ENGINEER

12-26-00
PLANS APPROVAL DATE

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G.N. Ramirez
No. 11786
Exp. 9-30-00
ELEC
STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
PROJECT ENGINEER
H. HOANG
ELECTRICAL

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	78	166

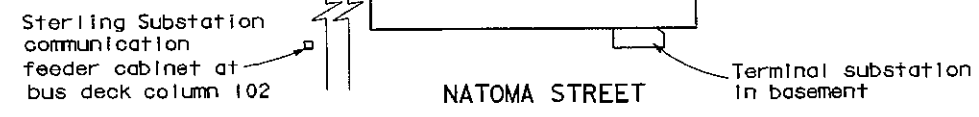
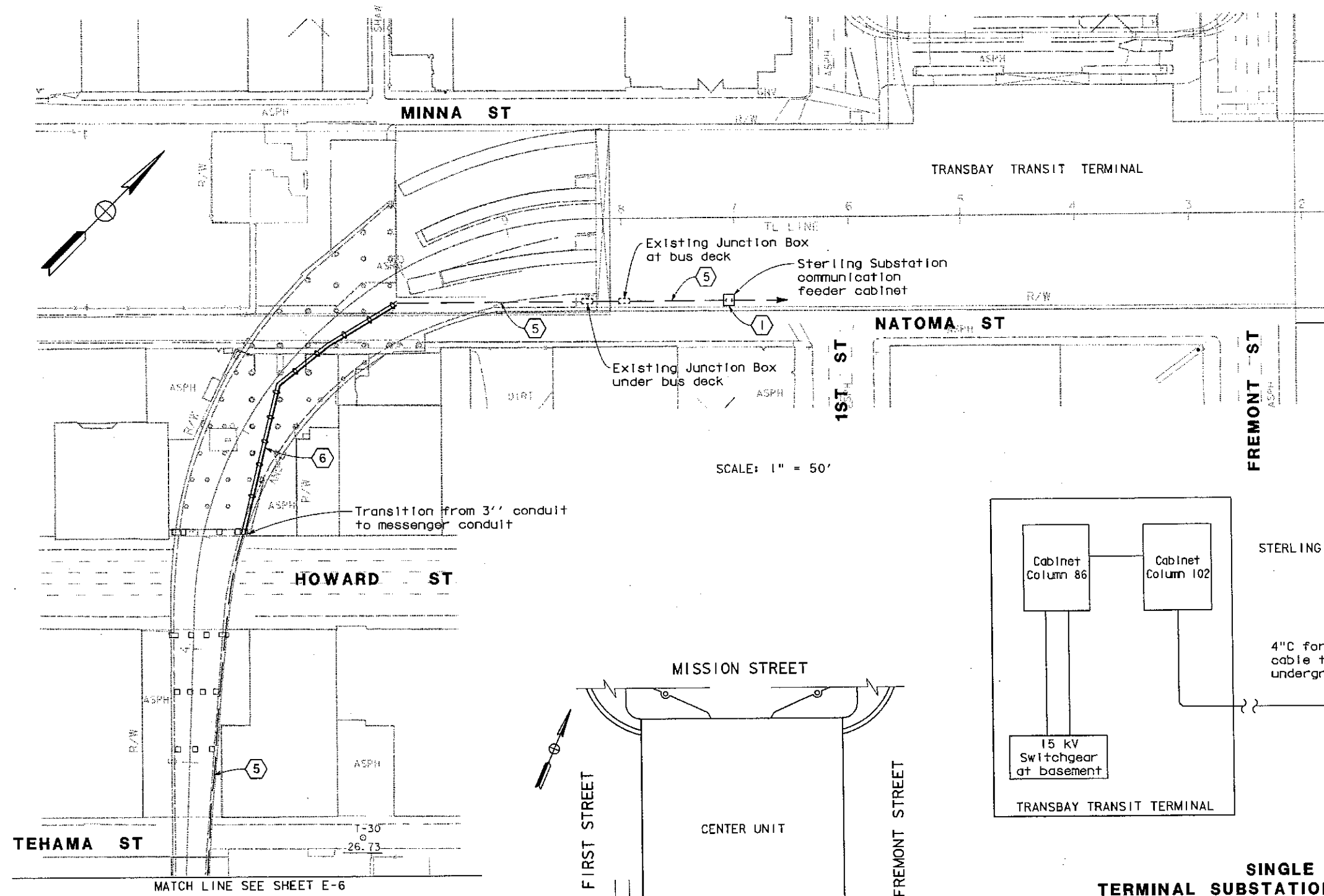
George N. Ramirez 7-12-00
REGISTERED ELECTRICAL ENGINEER

12-26-00
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
G.N. Ramirez
No. 11786
Exp. 9-30-00
ELEC
STATE OF CALIFORNIA



SINGLE LINE DIAGRAM
TERMINAL SUBSTATION TO STERLING SUBSTATION

NO SCALE

LOCATION MAP
TERMINAL BUILDING

NO SCALE

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET E-1

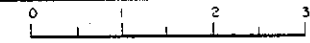
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ELECTRICAL FACILITIES
COMMUNICATION FEEDER (MODIFY)

SCALE: AS SHOWN

E-7

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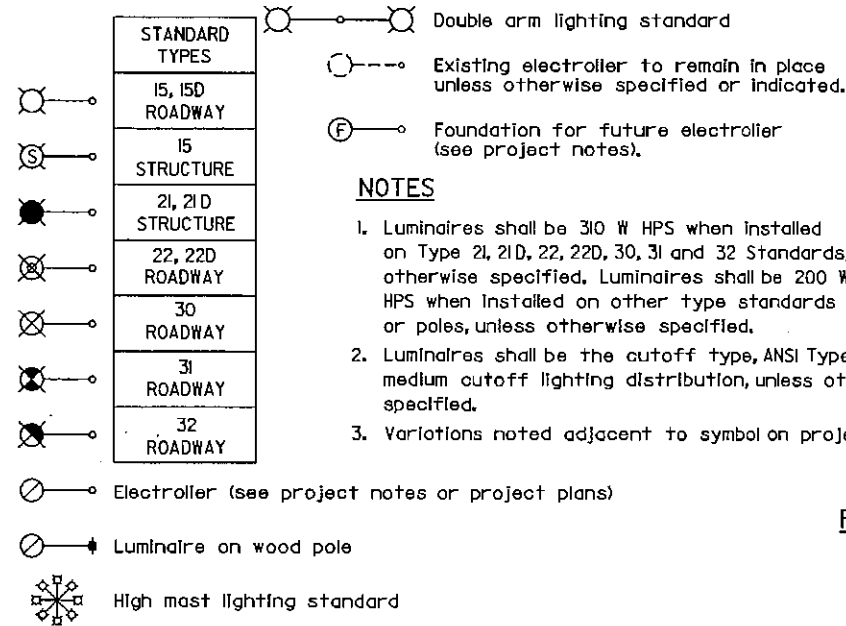
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CU 04265

EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 14:07
LAST REVISION
06-29-00

ELECTROLIERS



STANDARD NOTES

- AB Abandon. If applied to conduit, remove conductors.
- BC Install pull box in existing conduit run.
- BP Pedestrian barricade, type as indicated on plan.
- CB Install conduit into existing pull box.
- CC Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH Detector handhole. Type A unless otherwise indicated.
- FA Foundation to be abandoned.
- IS Install State-furnished sign on signal mast arm.
- NS No slip base on standard.
- PEC Photoelectric control.
- PEU Photoelectric unit.
- RC Equipment or material to be removed and become the property of the contractor.
- RE Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL Relocate equipment.
- RR Remove and reuse equipment.
- RS Remove and salvage equipment.
- SBI Install slip base insert.
- SC Splice new to existing conductors.
- SD Service disconnect.
- SF Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast. Tape disconnects.
- TSP Telephone service point.

SOFFIT AND WALL MOUNTED LUMINAIRES

- Pendant, 70 W HPS unless otherwise specified.
- Flush, 70 W HPS unless otherwise specified.
- Wall surface, 70 W HPS unless otherwise specified.
- Existing soffit or wall luminaire to remain unmodified.
- Existing soffit or wall luminaire to be modified as specified.

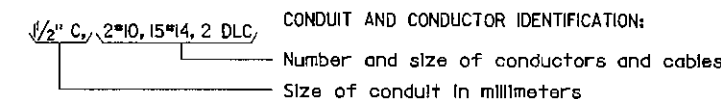
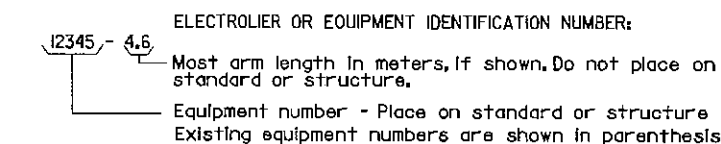
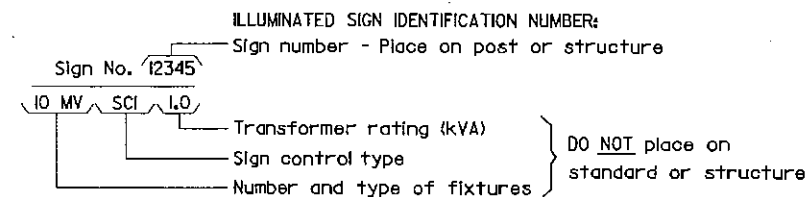
NOTE

Arrow indicates "street side" of luminaire or glassware.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED	EXISTING	
AC+		An ungrounded conductor
AC-		A grounded conductor
AWG		American wire gage
BC		Bolt circle
C		Conduit
CCTV	cctv	Closed circuit television
CEC	cec	Irrigation controller enclosure cabinet
CKT		Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVD	evd	Emergency vehicle cable
FB	fb	Flashing beacon
FBCA	fboa	Flashing beacon control assembly
HAR	har	Highway advisory radio
HPS	hps	Hexagonal
HSNS	hsns	High pressure sodium
LMA	lma	Internally illuminated street name sign
LPS	lps	Luminaire mast arm
LTC	ltg	Low pressure sodium
LUM	lum	Lighting
MC	mc	Luminaire
MLC	mlc	Mercury contactor
M/M	m/m	Magnetometer detector lead-in cable
MT	mt	Multiple to multiple transformer
MTG	mtg	Conduit with pull wire or rope only
MY	mv	Mounting
N		Mercury vapor lighting fixture
NC		Neutral
NO		Normally closed
PB	pb	Normally open
PEC	pec	Pull box
PED	ped	Photoelectric control (Type I, II, III, IV or V as shown)
PEU	peu	Pedestrian
PPB	ppb	Photoelectric unit
RIS		Pedestrian push button
RL		Radio interference suppressor
RM	rm	Relocated equipment
SB	sbi	Ramp metering
SIC	sic	Slip base insert
SIG	sig	Slip base
SMA	sma	Signal interconnect cable
S/M	s/m	Signal
SN		Signal mast arm
SNS		Series to multiple transformer
SP	sp	Solid neutral
TDC	tdc	Street name sign
TMS	veh	Service point
VEH	xfmr	Telephone demarcation cabinet
XFMR		Traffic monitoring station
		Vehicle
		Transformer

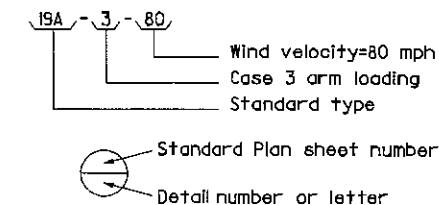
EQUIPMENT IDENTIFICATION



ø1, ø2, ø2P, etc. Traffic phase identification for signal faces, detectors and phase diagrams

- 1 2 3 Project note numbers
- A B C Equipment description, installation or item numbers
- 1 2 3 Conduit run numbers

SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



ELECTRICAL DETAILS SYMBOLS AND ABBREVIATIONS

NO SCALE

E-8

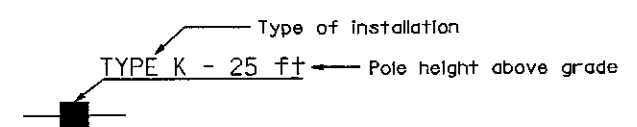
CONDUIT

PROPOSED	EXISTING	
		Conduit-Lighting, unless otherwise indicated or noted
		Traffic signal conduit
		Communication conduit
		Sprinkler control conduit
		Telephone conduit
		Fire alarm conduit
		Conduit termination (Detail C, ES-7B in structures)
		Conduit riser in structure

SERVICE EQUIPMENT

PROPOSED	EXISTING	
		Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy-with anchor
		Pad mount for ground - Mounted utility transformer
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN STRUCTURES

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with roadway electroliner attached

SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face, 3-Section: 8" red, yellow and green sections. 12" sections for SMA mounted.
		Vehicle signal face with angle visor
		Modifications of basic symbols: "L" indicates all non-arrow sections lowered "LG" indicates lowered green section only "PV" indicates 12" programmed visibility sections "12" indicates all 12" sections
		Vehicle signal face with backplate
		Vehicle signal face with 12" red, yellow and green left arrow sections
		Vehicle signal face with 12" red and yellow sections and 12" up green arrow
		Vehicle signal face (5-Section) with 12" yellow and green right arrows and 8" red, yellow and green sections
		Type I Standard and attached signals
		Standard with signal mast arm only and attached signals
		Type 33 Standard, Left-turn signal and sign
		Standard with luminaire and signal mast arms and attached signals
		Cantilever flashing beacons Type 9 Frame, unless otherwise specified or indicated
		Flashing beacon. One signal section with 12" lens, backplate and visor. "R" indicates red lens, "Y" indicates yellow lens.
		Controller assembly. Door indicates front of cabinet
		Guard post
		Type I Standard-Meter On sign

MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	
		Changeable message sign
		Closed circuit television
		Highway advisory radio

PULL BOXES

PROPOSED	EXISTING	
		Pull box-No.5 unless otherwise indicated or noted as below.
		Pull box-Additional designations or descriptions
3 = No. 3 1/2 pull box		(C) = Communications pull box
5 = No. 5 pull box		(E) = Pull box with extension
6 = No. 6 pull box		(S) = Sprinkler control pull box
7 = No. 7 (Ceiling pull box)		(2I) = Anchor bolts and conduit for future installation of Type 2I Standard
8 = No. 8 (Pendant soffit pull box)		(T) = Traffic pull box
9 = No. 9 pull box		
9A = No. 9A pull box		

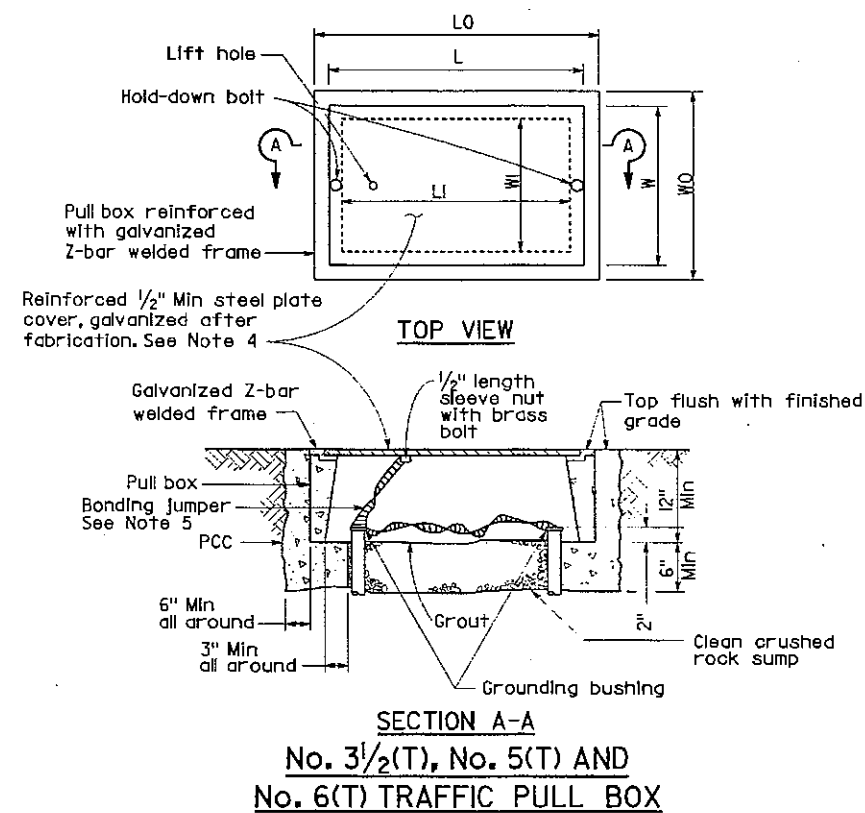
VEHICLE DETECTORS

PROPOSED	EXISTING	
		Vehicle detector designation
		Detector loop. Outline and location of sawcut shown. (Type A loop illustrated)
		Magnetometer detectors
		Magnetic detector
		Detector handhole Type A unless otherwise specified

ELECTRICAL DETAILS
SYMBOLS AND ABBREVIATIONS

NO SCALE

E-9



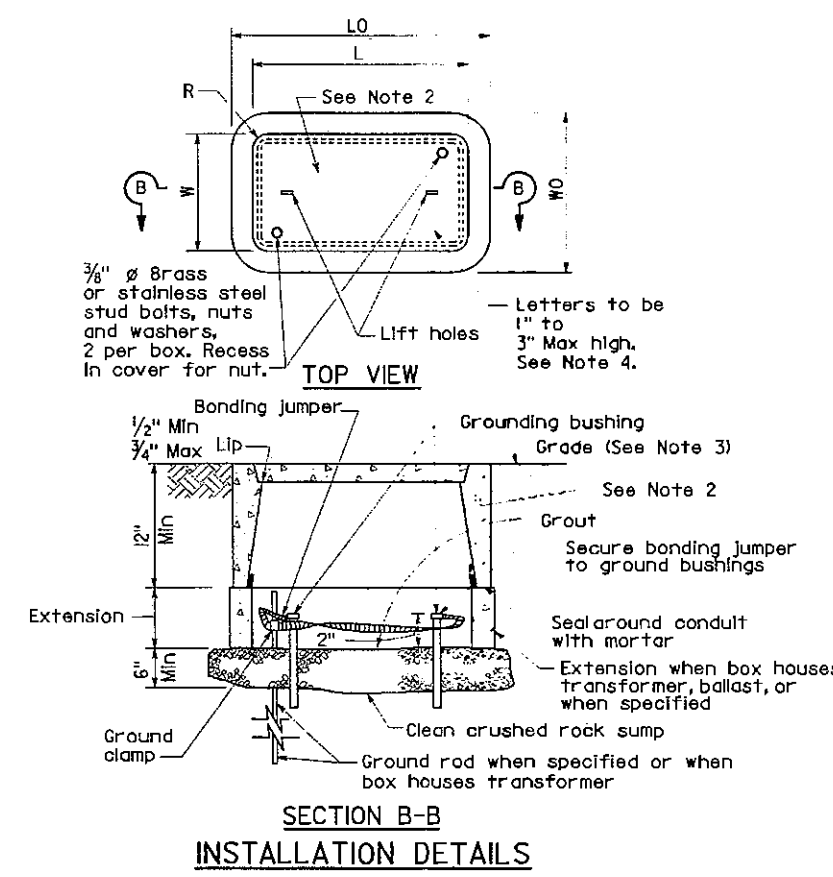
Pull Box	CONCRETE BOX				NON-PCC BOX		CONCRETE OR NON-PCC COVERS					
	Minimum * Thickness	Minimum Depth Box and Extension	L0	W0	Minimum ** Thickness	Minimum Depth Box and Extension	L **	W **	R	Edge Thickness	Edge Taper	
No. 3 1/2	1"	No Extension	20"	14"	5/8"	No Extension	15 3/8"	10 1/8"	1 1/8"	1 3/4"	1/8"	
No. 5	1"	22"	28"	18"	5/8"	20"	23 3/4"	13 3/4"	1 1/4"	2"	1/8"	
No. 6	1 1/2"	24"	36"	23"	3/4"	20"	30 5/8"	17 5/8"	1 1/4"	2"	1/8"	

* Excluding conduit web ** Top dimension

DIMENSION TABLE													
Pull Box	CONCRETE BOX						NON-PCC BOX		STEEL COVER				
	Minimum * Thickness	Minimum Depth Box or Extension	L0	W0	L I	W I	Minimum Thickness	Minimum Depth Box and Extension	L **	W **	R	Edge Thickness	Edge Taper
No. 3/2(T)	2"	11"	20" ±	14" ±	11" ± 1"	18" ± 1"	Does Not Apply		20"±	13¾"±	0	½" Min	None
No. 5(T)	2"	11"	30" ±	18" ±	14" ± 1"	24" ± 1"	Does Not Apply		27"±	16¼"±	0	½" Min	None
No. 6(T)	2"	11"	36" ±	24" ±	18" ± 1"	30" ± 1"	Does Not Apply		33"±	20" ±	0	½" Min	None
* Excluding conduit web													

NOTES ON PULL BOXES

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Top of pull boxes shall be flush with surrounding grade or top of adjacent curb, except that in unpaved areas where pull box is not immediately adjacent to and protected by a concrete foundation, pole or other protective construction, the box shall be placed with its top 0.10 ft above surrounding grade. Where practicable, pull boxes shown in the vicinity of curbs shall be placed adjacent to the back of curb, and pull boxes shown adjacent to standards shall be placed on side of foundation facing away from traffic, unless otherwise noted. When pull box is installed in sidewalk area, the depth of the pull box shall be adjusted so that the top of the pull box is flushed with the top of the sidewalk.
- Pull box covers shall be marked as follows.
 - No. 3 1/2 pull box.
 - "SIGNAL" Traffic signal circuits with or without street and/or sign lighting circuits.
 - "ST LIGHTING" Street and/or sign lighting circuits where no voltage is above 600 V.
 - "SERVICE" Service circuits between service point and service disconnect.
 - "SPRINKLER-CONTR" Sprinkler control circuits, 50 V or less.
 - "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL".
 - "TELEPHONE" Telephone service.
 - No. 5, 6, 9 or 9A pull boxes.
 - "TRAFFIC SIGNAL" Traffic signal circuits with or without street and/or sign lighting circuits.
 - "STREET LIGHTING" Street and/or sign lighting circuits where no voltage is above 600 V.
 - "STREET LIGHTING-HIGH VOLTAGE" Street and/or sign lighting circuits where voltage is above 600 V.
 - "SERVICE" Service circuits between service point and service disconnect.
 - "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less.
 - "IRRIGATION" Circuits to irrigation controller 120 V or more.
 - "RAMP METER" Ramp meter circuits.
 - "COUNT STATION" Count and/or speed monitor circuits.
 - "COMMUNICATION" Communication circuits.
 - "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL".
 - "TELEPHONE" Telephone service.
 - "TOS COMMUNICATIONS" TOS communications trunk line.
 - "TDS POWER" TOS power.
 - "TDC POWER" Telephone demarcation cabinet power.
 - "CCTV" Closed circuit television circuits.
 - "TMS" Traffic monitoring station circuits.
 - "CMS" Changeable message sign circuits.
 - "HAR" Highway advisory radio circuits.
- Bonding jumper for metal covers shall be 36 inch long, minimum.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside edge of all concrete covers and pull boxes shall have a 1/4" minimum radius.
- Pull box shall not be installed within the boundaries of new or existing curb ramps.
- Pull boxes for electroliers and signal standards shall be located at the same station (±5 ft) as the adjacent electrolier or signal standard. Pull boxes shall be placed adjacent to back of curb or edge of shoulder except where this is impractical, a box may be placed in another suitable protected and accessible location.



9-00
ER

REGISTERED PROFESSIONAL ENGINEER

G.N. Ramirez

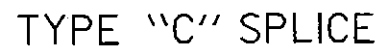
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Exp. 9-30-00

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ay
plan



TYPE "S" SPLICE

TYPE "T" SPLICE

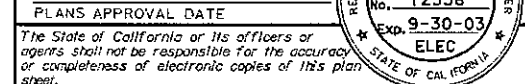
TYPE "ST" SPLICE

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| 09-18-00 | TIME PLOTTED => 15:30 |

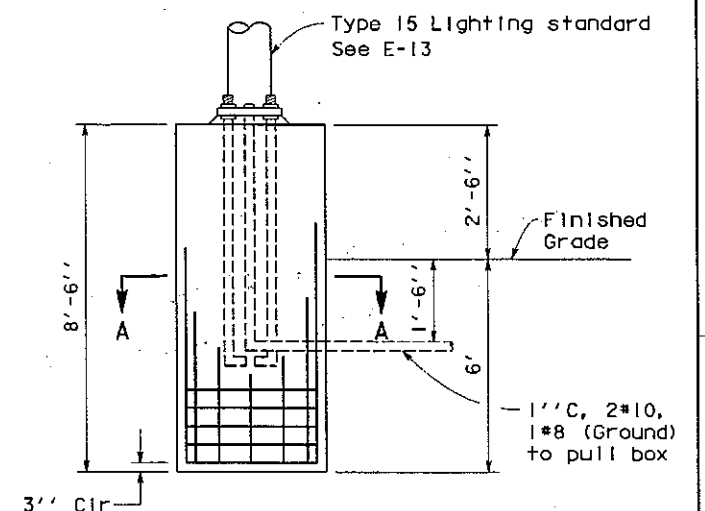
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J. Lee 9-14-00
REGISTERED ELECTRICAL ENGINEER PROFESSIONAL

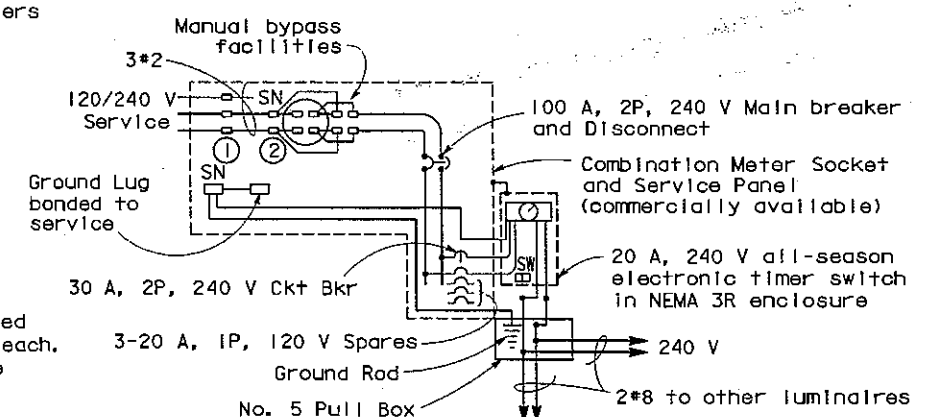
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SECTION A-A



ELEVATION
RAISED FOUNDATION DETAIL (TYP)
DETAIL 2
NO SCALE



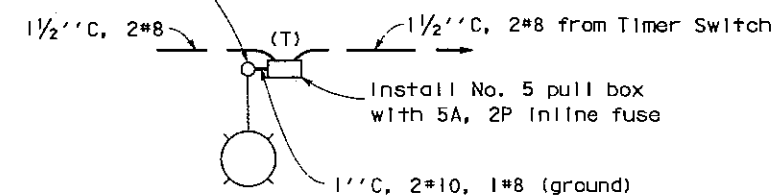
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LIGHTING
SCALE: AS SHOWN

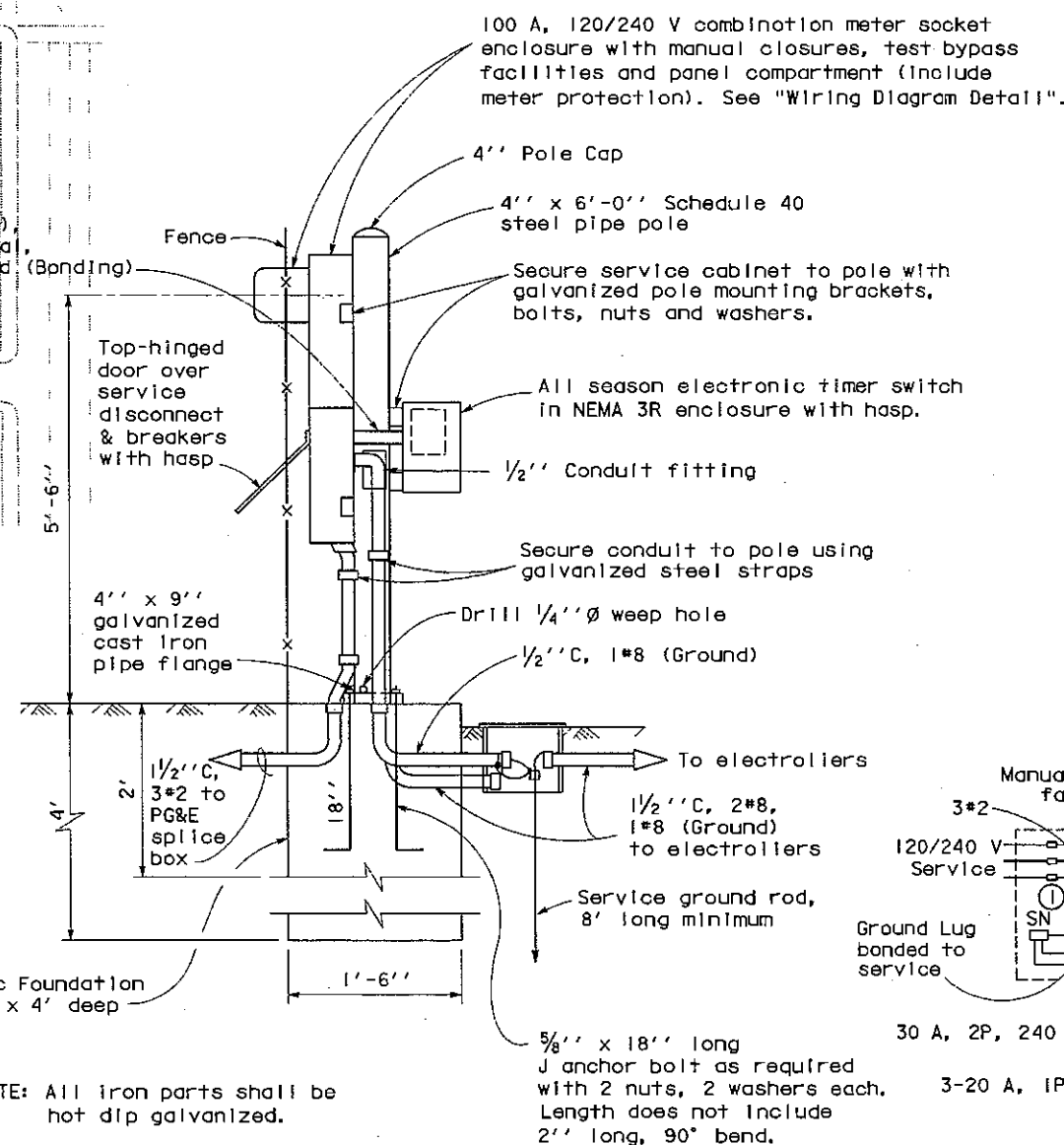
E-12

NOTE:

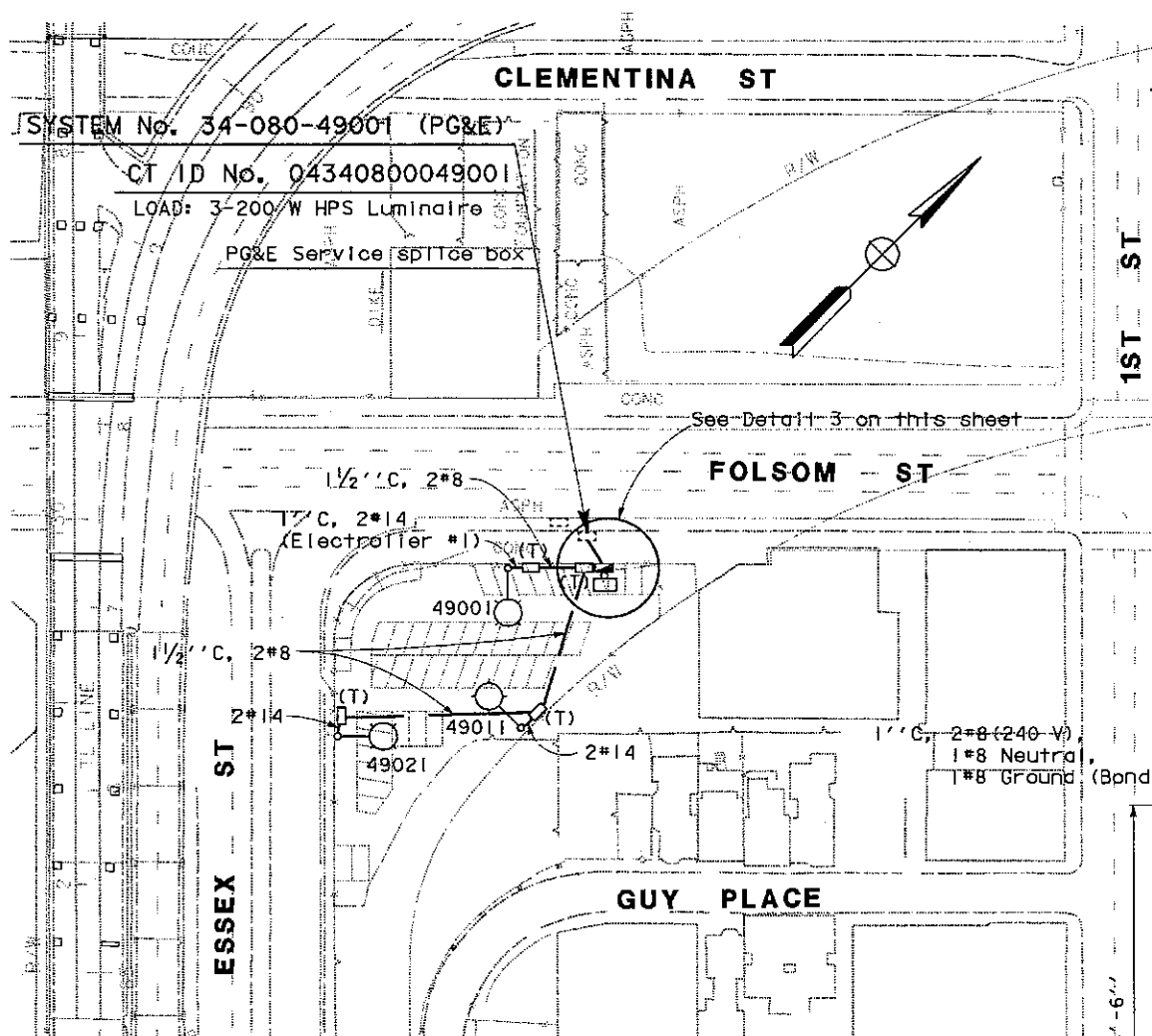
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in the field.



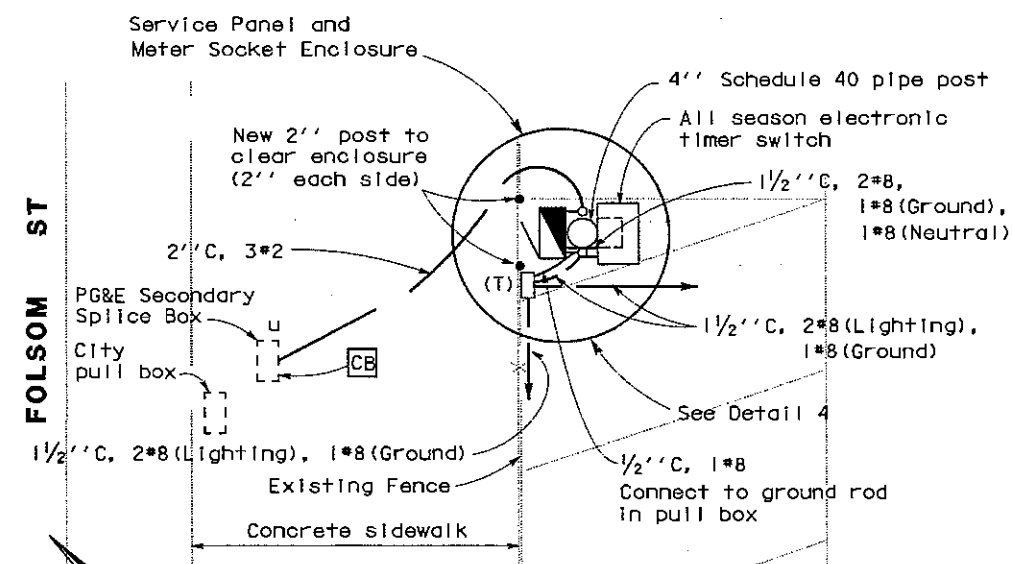
DETAIL 1
NO SCALE



DETAIL 4
NO SCALE



SCALE: 1" = 50'

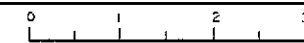


SERVICE DETAIL
DETAIL 3
NO SCALE

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET E-1

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TIME PLOTTED => 15:44

DIST

COUNTY

ROUTE

POST MILES
TOTAL PROJECT

SHEET NO.

TOTAL SHEETS

04

SF

80

4.9/5.9

85

166

George N. Ramirez

12-07-00

REGISTERED ELECTRICAL ENGINEER

12-26-00

PLANS APPROVAL DATE

G.N. Ramirez

11786

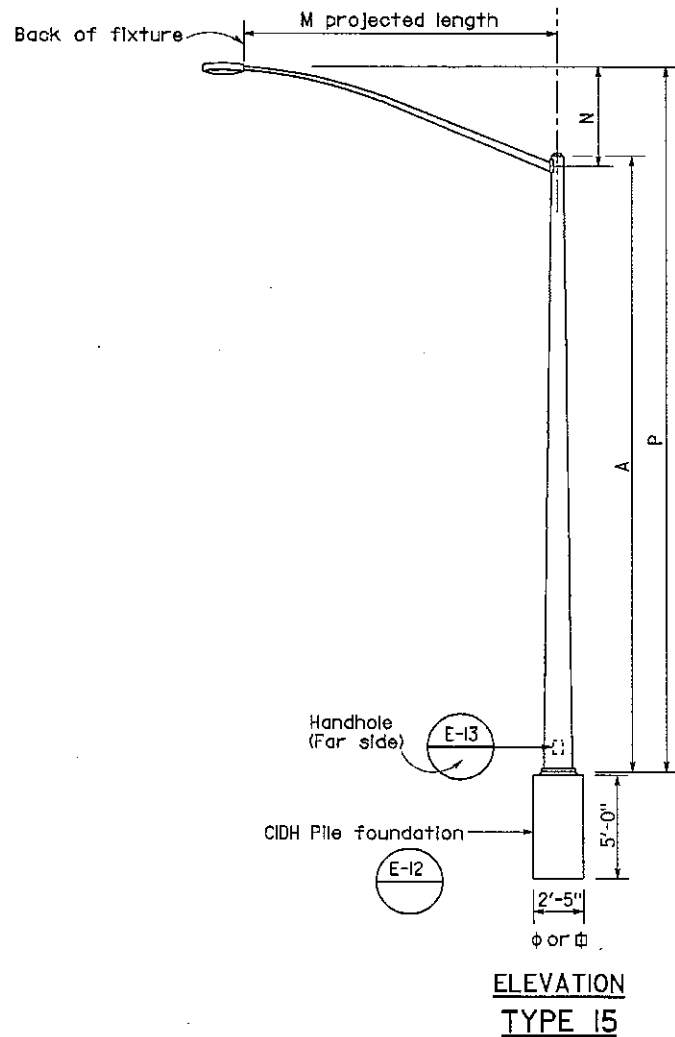
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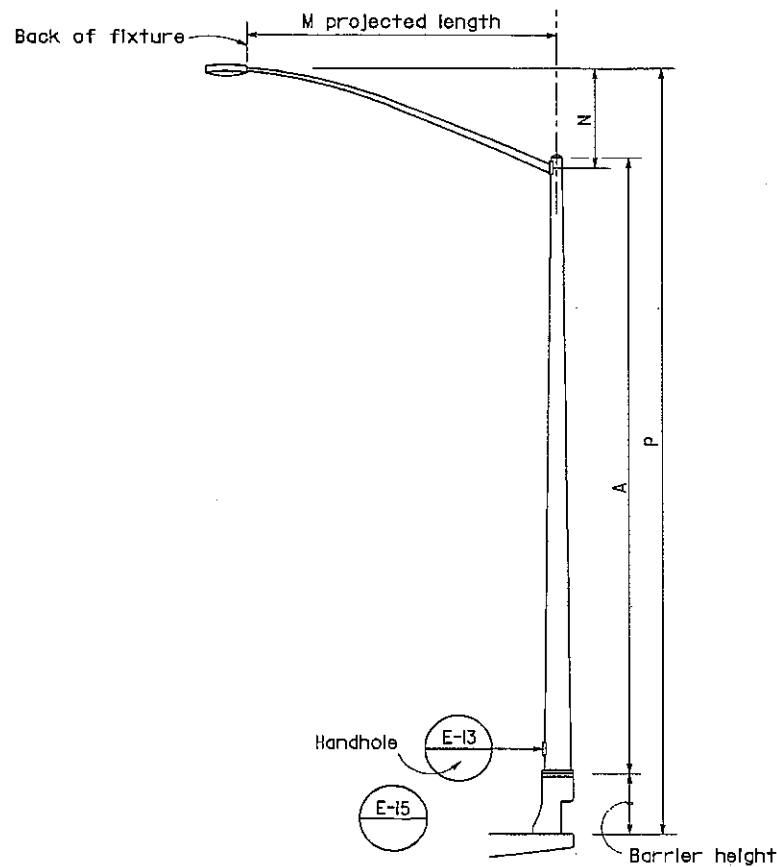
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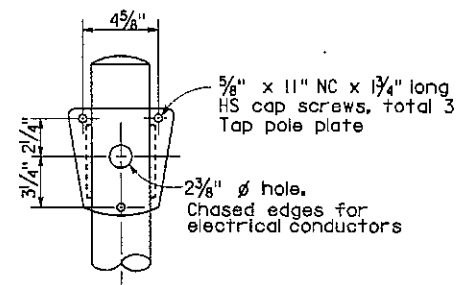
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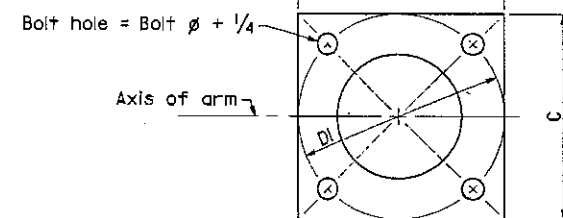
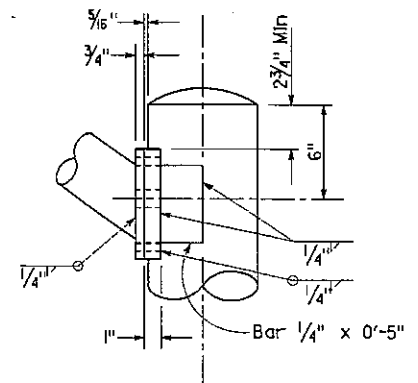
ELEVATION
TYPE 15



ELEVATION
TYPE 15 BARRIER RAIL MOUNTED
TYPE 21 BARRIER RAIL MOUNTED



DETAIL R
LUMINAIRE ARM CONNECTION



BASE PLATE

POLE TYPE	POLE DATA				BASE PLATE DATA				LUMINAIRE ARM	
	A Height	MIN OD		Wall Thickness	C	DI Bolt Circle	Thick-ness	Anchor Bolts		
		Base	Top					Size		
15	30'-0"	8"	3 7/8"	0.1196"	11"	11"	1"	1" ø x 36" x 4" *	6'-15'	12'
21	35'-0"	8 5/8"	3 7/8"	0.1196"	12"	12"	1"	1 1/4" ø see Note 2	6'-15'	12'
22	35'-0"	8 5/8"	3 7/8"	0.1196"	12"	12"	1"	1 1/4" ø x 36" x 4"	6'-15'	12'

NOTES

- ☐ Indicates arm length to be used unless otherwise noted on the plans.
- For anchorage details see E-15.
- See E-15 when Type 15 is to be mounted on bridge railing.
- For additional notes see E-13.

* For barrier rail mount, see Note 2.

LUMINAIRE ARM DATA							
M Projected Length	N Rise	Min OD At Pole	Nominal Thickness	P Mounting Height			
				Type 15	Type 22	Type 15 (2'-8" Barrier)	Type 21 (2'-8" Barrier)
6'-0"	2'-0"	3/4"	0.1196"	31'-6"±	36'-4"±	34'-1"±	39'-0"±
8'-0"	2'-6"	3/2"	0.1196"	32'-0"±	37'-0"±	34'-5"±	39'-7"±
10'-0"	3'-3"	3/8"	0.1196"	32'-9"±	37'-7"±	35'-1"±	40'-4"±
12'-0"	4'-3"±	3/8"	0.1196"	33'-9"±	38'-7"±	36'-0"±	41'-3"±
15'-0"	4'-9"±	4/4"	0.1196"	34'-1"±	39'-4"±	36'-7"±	42'-0"±

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET E-1

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ELECTRICAL DETAILS
LIGHTING STANDARDS
TYPES 15, 21 AND 22

NO SCALE

E-14

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CU 04265

EA 0435C1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 15:46
LAST REVISION
12-06-00

DIST04COUNTYSFROUTE80POST MILESTOTAL PROJECT4.9/5.9SHEET NO.86TOTAL SHEETS166

George N. Ramirez12-07-00REGISTERED ELECTRICAL ENGINEER

12-26-00PLANS APPROVAL DATE

THE STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER

G.N. Ramirez

No. 11786

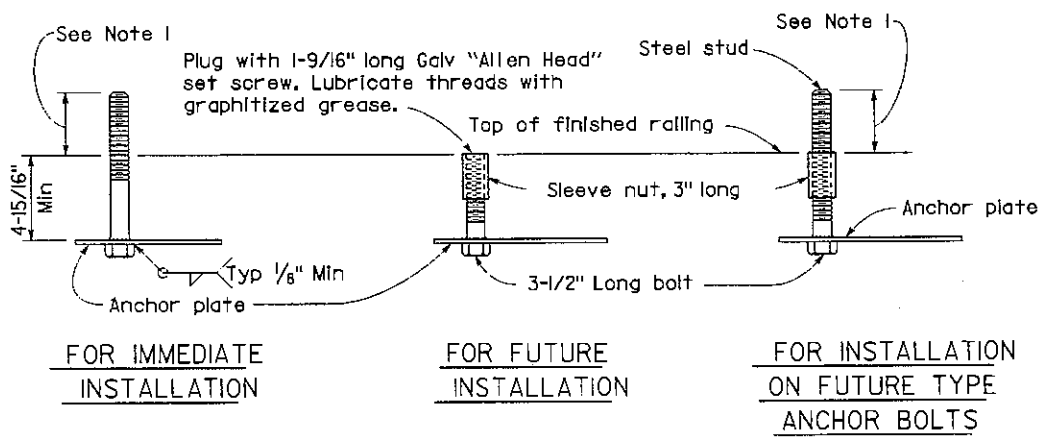
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DETAIL B
ELECTROLIER ANCHOR BOLTS

NOTES

1. Anchor bolt or stud length shall be such that thread extends 1/2" maximum above nut on level base plate after grouting. See Detail "N".
2. Electrolier anchor bolts shall be held in position for pouring by means of anchor plates and suitable templates. Deviation from the true position, vertical and height, shall not exceed 1/16".
3. See railing sheets for reinforcement and structural details at electroliers and pull boxes.

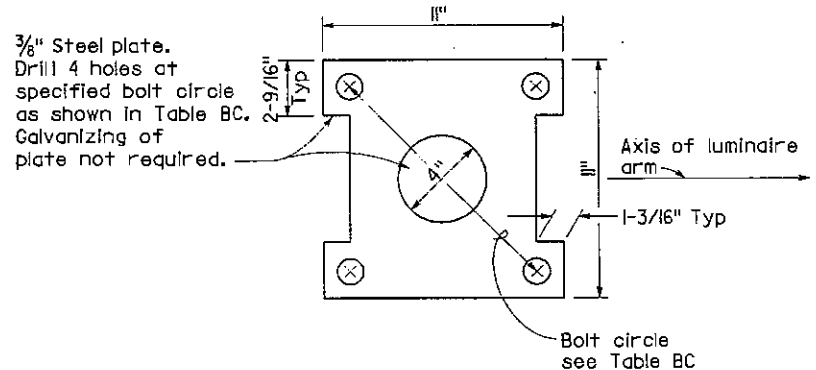
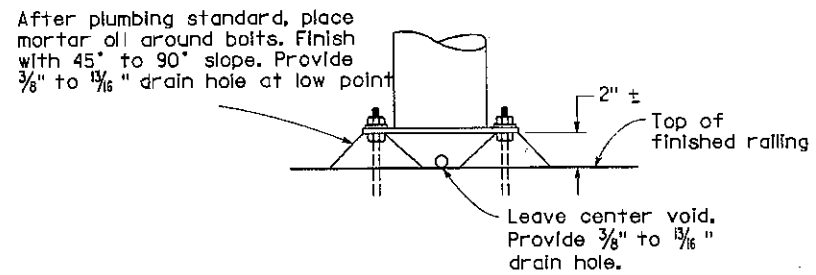


TABLE BC

Type	Bolt Circle	Anchor Bolt Diameter
15	11"	1"
21	12"	1-1/4"

ANCHOR PLATE



DETAIL N
GROUTING AT ELECTROLIER

ELECTRICAL DETAILS
LIGHTING STANDARDS
TYPES 15 AND 21
BARRIER RAIL MOUNTED DETAILS

NO SCALE
E-15

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET E-1

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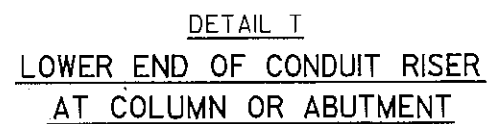
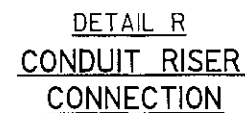
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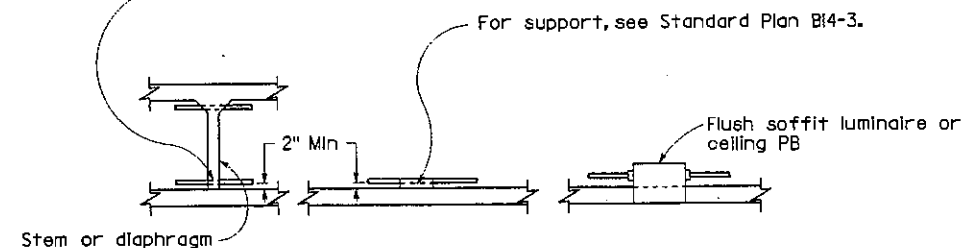
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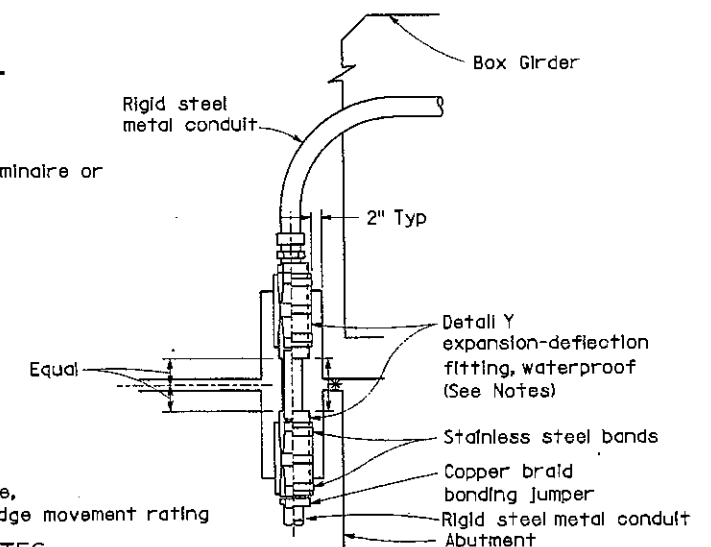
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Conduit passing through girder or diaphragm of box girder section shall be either cast into concrete or passed through opening. Opening shall not be drainage opening and shall be only as large as required to install conduit. Conduit shall be run either parallel to or at right angles to girders.



DETAIL S
CONDUIT INSTALLATION WITHIN
BOX GIRDER SECTIONS



- * Conduit nipple,
Length = Bridge movement rating

NOTES

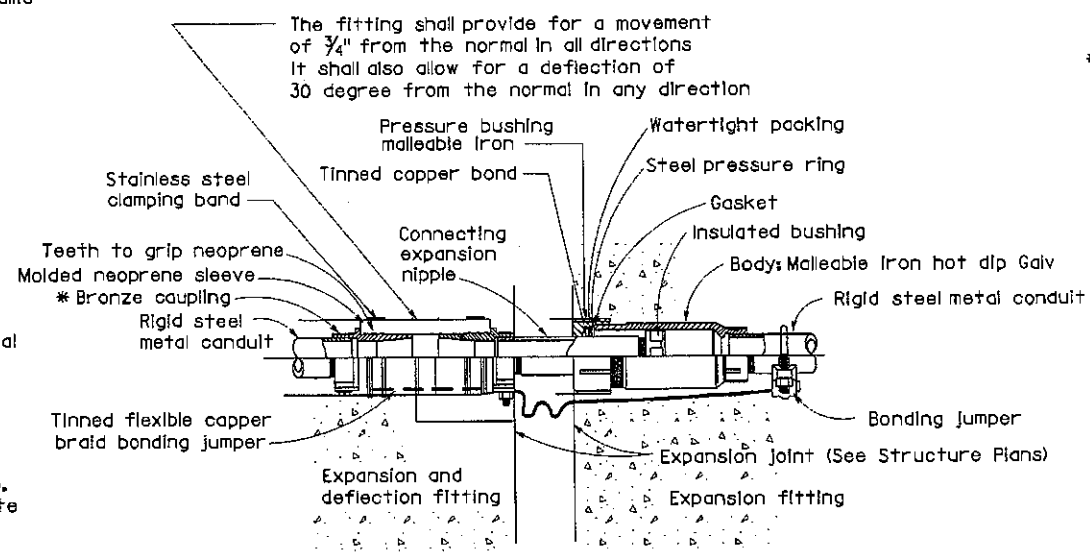
1. Fitting and pocket required only where movement can occur between girder and abutment.
2. Fill pocket around fitting with resilient waterproof compound.



(To be used only when shown or specified on Project Plans)



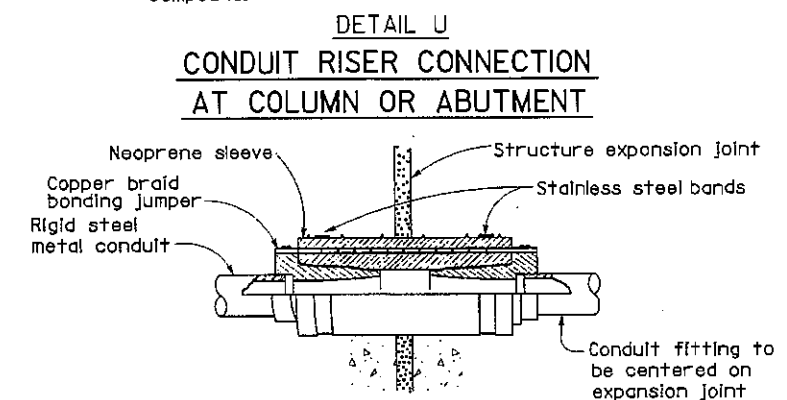
DETAIL X
CONDUIT EXPANSION FITTINGS



DETAIL XY

COMBINATION EXPANSION-DEFLECTION FITTINGS

* Fittings shall be cast iron or hot dip Galv



DETAIL Y

CONDUIT EXPANSION-DEFLECTION FITTING

- ## NOTES

1. Except for sidewalk joints, a conduit expansion fitting or expansion-deflection fitting shall be installed at each 1/2' or greater structure joint, hinge or abutment.
2. Fittings or combination of fittings shall be installed to accommodate the movement rating as shown on the structure plans.
3. Fittings shall be installed parallel to superstructure girders.
4. Where lateral movement greater than 1/4" may occur, a neoprene sleeve expansion-deflection fitting shall be installed straddling the joint.
5. The external bond strap may be omitted when the fitting is provided with an internal bond equivalent to a No.6 copper bond in rigid steel metal conduit or the No.8 equipment grounding conductor in rigid non-metallic conduit.

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND. SEE SHEET E-1

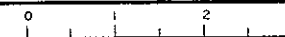
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E-17

ELECTRICAL DETAILS
SIGNAL, LIGHTING AND
ELECTRICAL SYSTEMS
ELECTRICAL DETAILS
STRUCTURE INSTALLATIONS

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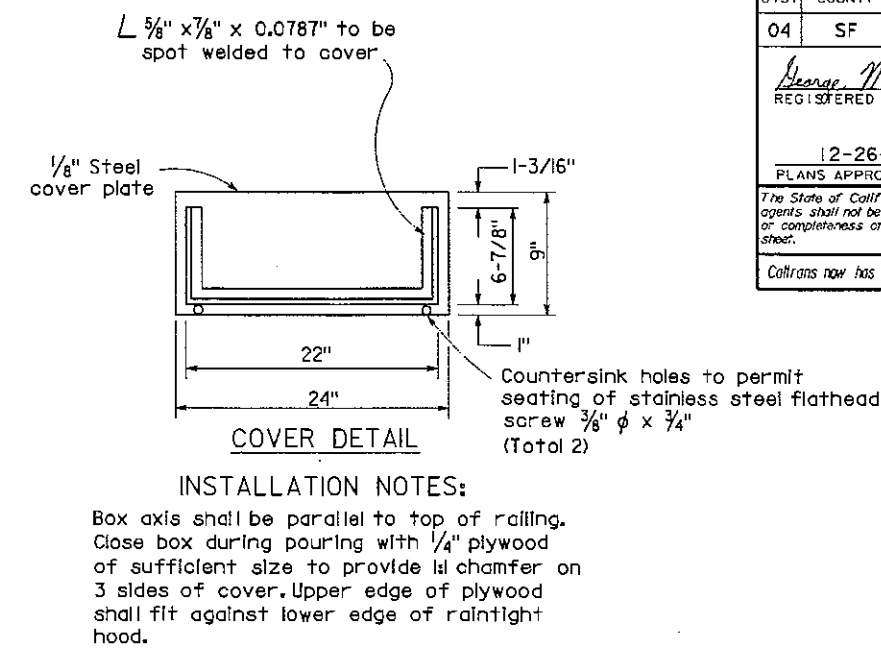
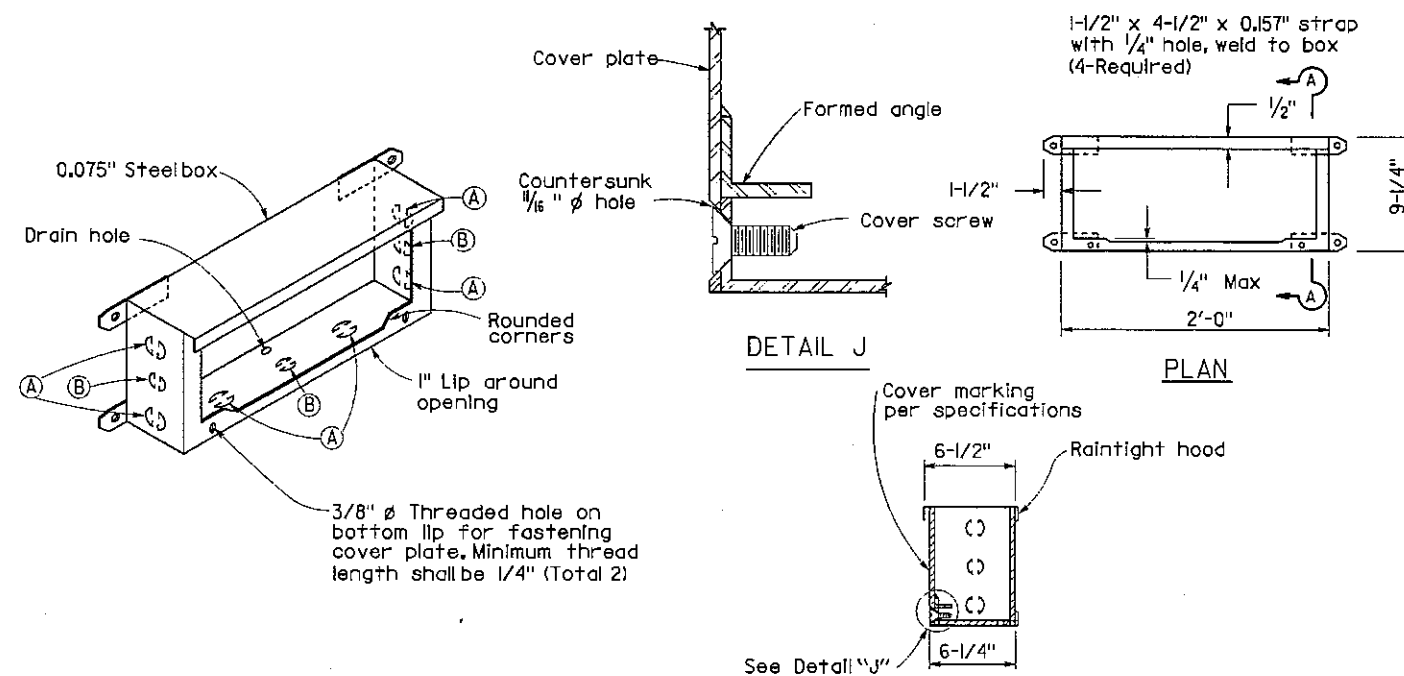
George M. Ramirez 12-07-00
REGISTERED ELECTRICAL ENGINEER

12-26-00
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G.N. Ramirez
No. 11786
Exp. 9-30-04
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STATE OF CALIFORNIA

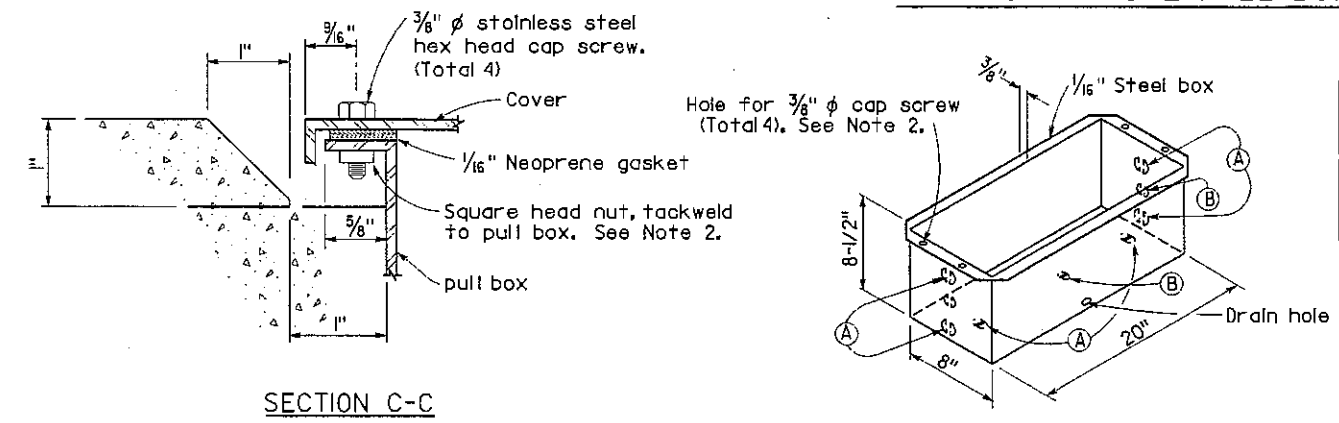
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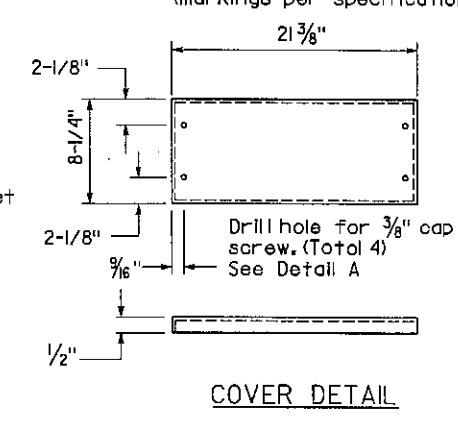


SECTION A-A

No. 9 STRUCTURE PULL BOX



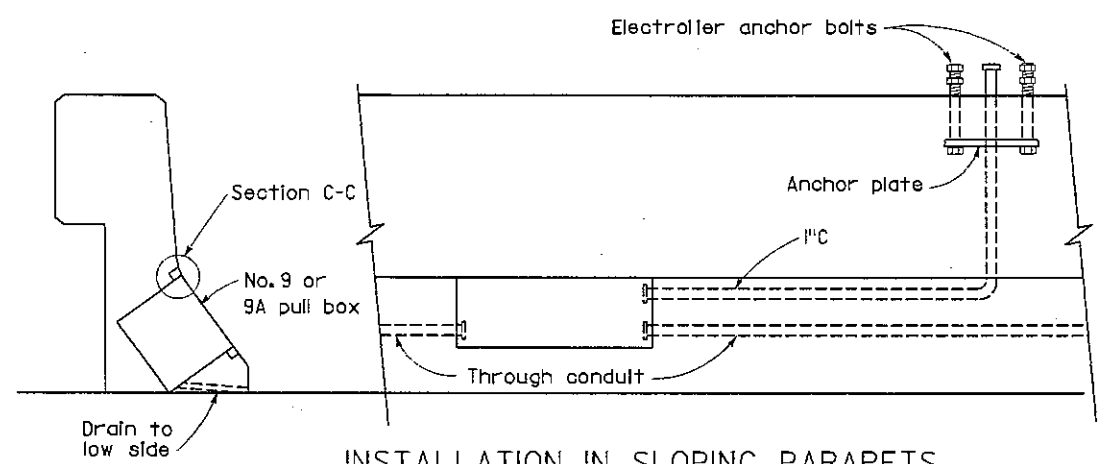
No. 9A STRUCTURE PULL BOX



- NOTES: NO. 9 AND 9A PULL BOX
1. Corner joints are to be lapped and secured by spot welding or riveting.
 2. Where cap screws are used to attach cover to box, either of the following methods of providing adequate threading may be used:
 - a. Tack weld square nut to bottom of flange (total 4), or
 - b. Tack weld a 1/4" x 5/8" x 8" bar beneath flange (total 2).
 3. Pound knockouts flat after punching.
 4. Multiple size knockouts shall not be permitted.
 5. Pull box covers shall be marked as shown on E-10.

KNOCKOUT SCHEDULE
No. 9 AND 9A PULL BOX

- (A) 1-1/2"C, 2 each end, 2 on bottom.
- (B) 3/4"C, 1 each end, 1 on bottom.



INSTALLATION IN SLOPING PARAPETS

For reinforcement in area of electroliter, see railing sheets. For electroliter anchor bolts, see E-15.

FOR NOTES, ABBREVIATIONS AND/OR LEGEND, SEE SHEET E-1

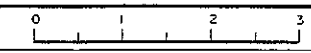
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ELECTRICAL DETAILS
SIGNAL, LIGHTING AND
ELECTRICAL SYSTEMS
ELECTRICAL DETAILS
STRUCTURE INSTALLATIONS

NO SCALE

E-18

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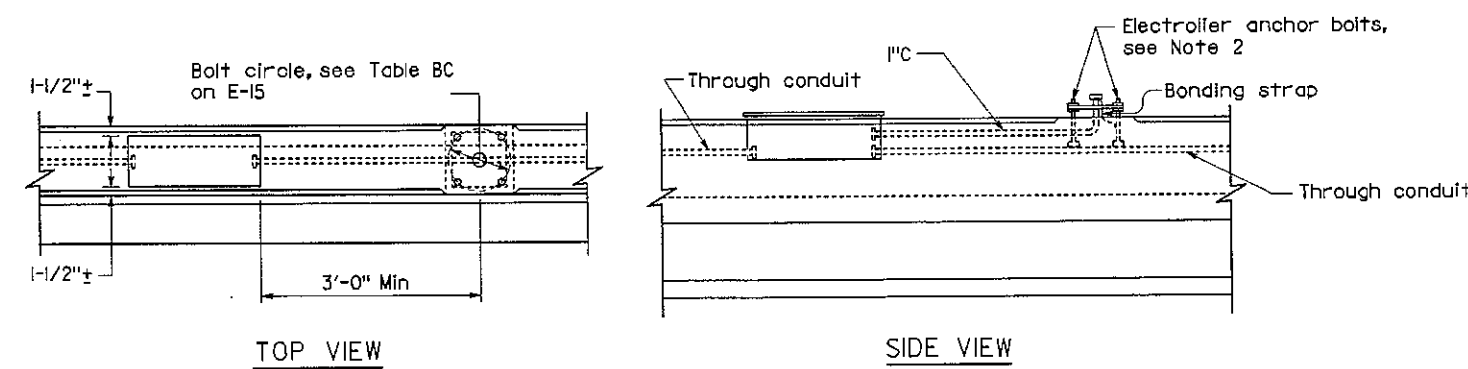
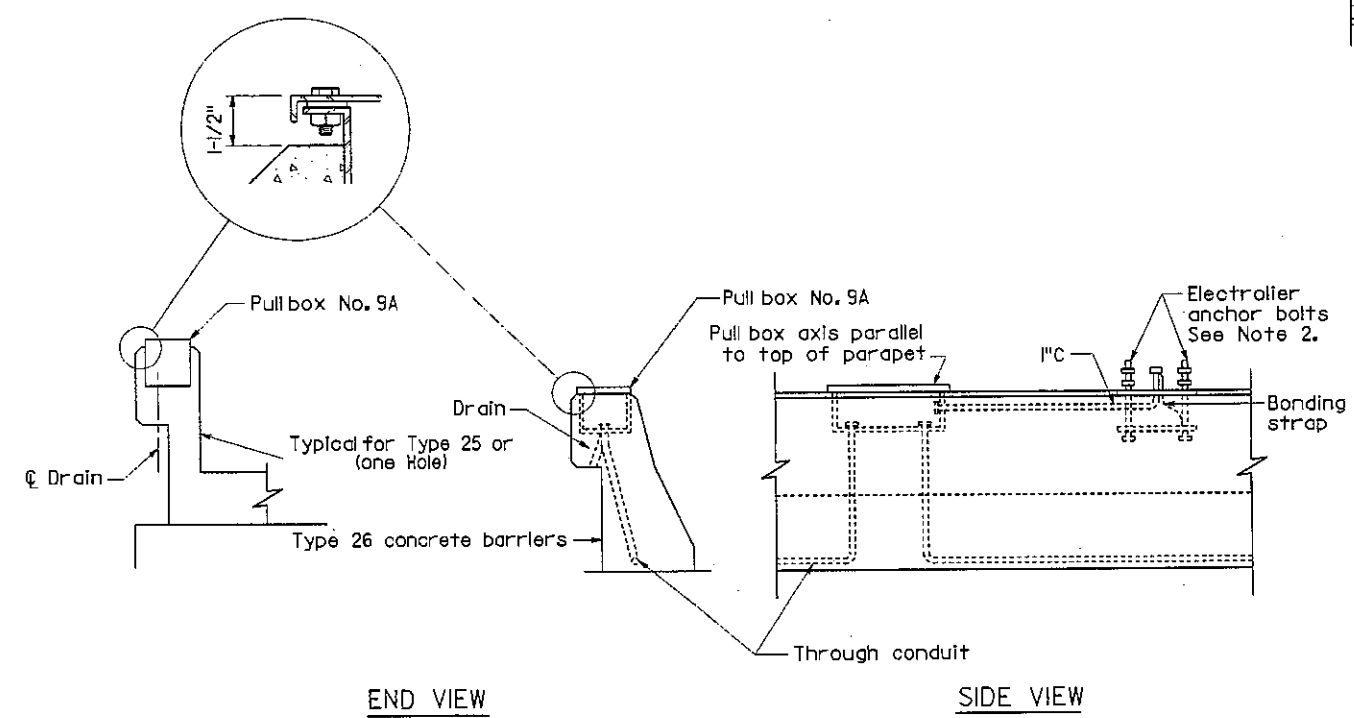
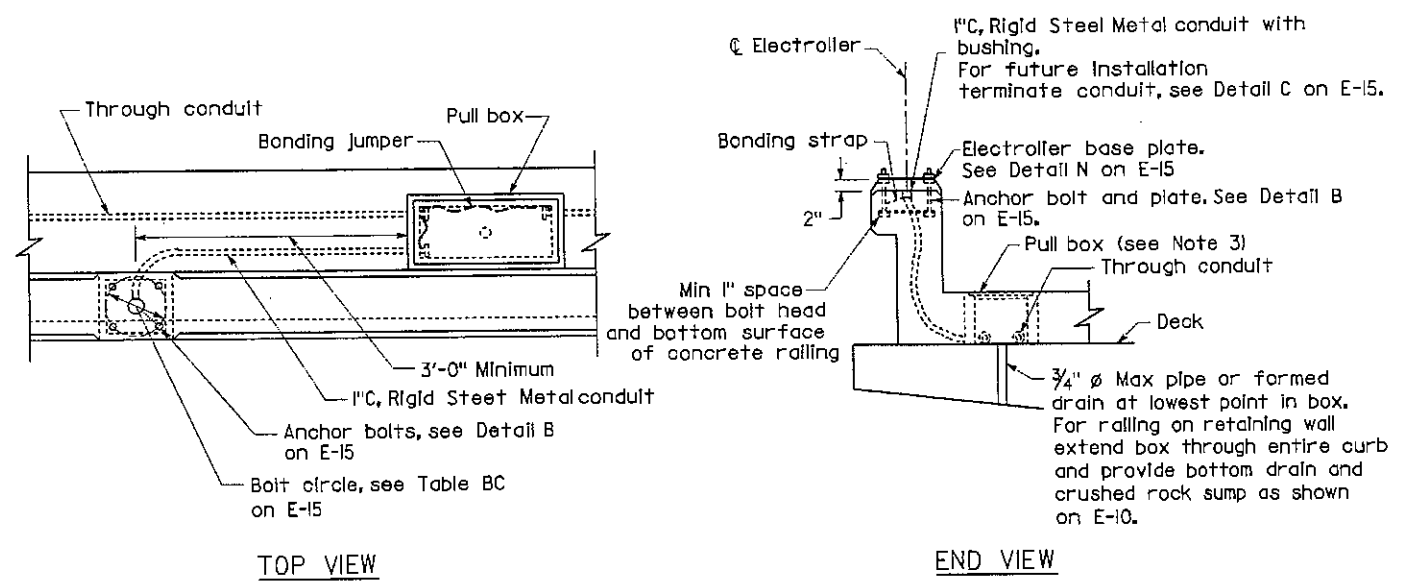
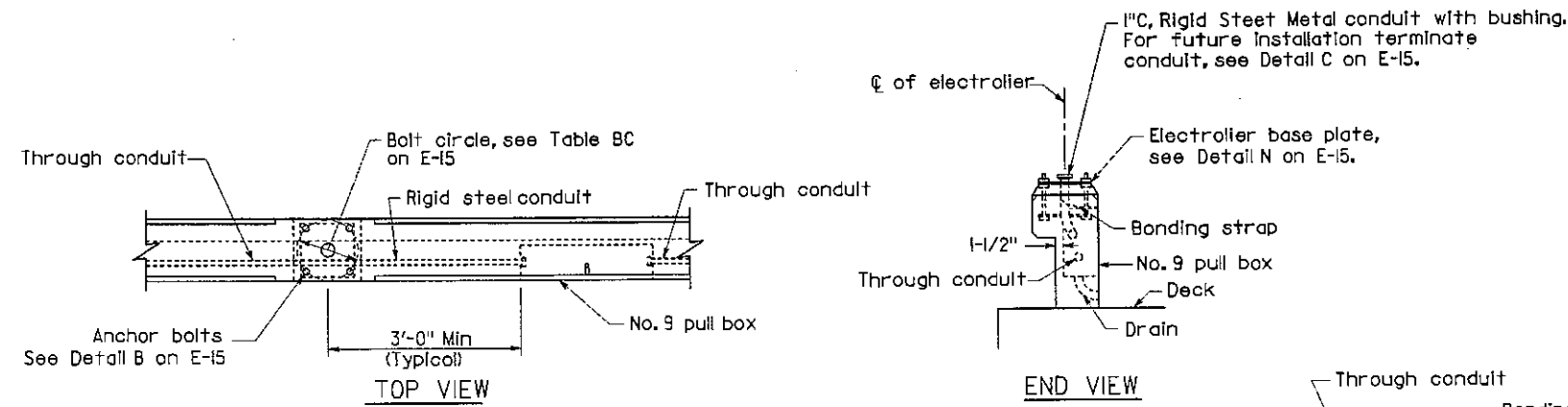
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	H. HOANG			
ELECTRICAL	CHECKED BY	DESIGNED BY	DATE	REVISION



- NOTES**
1. Axis of pull box shall be parallel to top of barrier, sidewalk, or railing.
 2. See railing sheet for reinforcement and structural details at electroliers and pull boxes.
 3. Top of pull boxes in sidewalk areas shall be flush with top of sidewalk. Modify base of pull box as required.
 4. Boxes inside of vertical barrier or railing shall be closed during pouring of PCC with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.
 5. Use drain in center if box is horizontal, or at low end if box is inclined. When box is mounted in sloping parapet 1/2" elongated drain hole inside at center or near end as required for drainage.
 6. For electrolier anchor bolts, see E-15.

ELECTRICAL DETAILS
SIGNAL, LIGHTING AND
ELECTRICAL SYSTEMS
ELECTRICAL DETAILS
STRUCTURE INSTALLATIONS

NO SCALE **E-19**

FOR NOTES, ABBREVIATIONS AND/OR LEGEND, SEE SHEET E-1

This plan accurate for Electrical work only

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

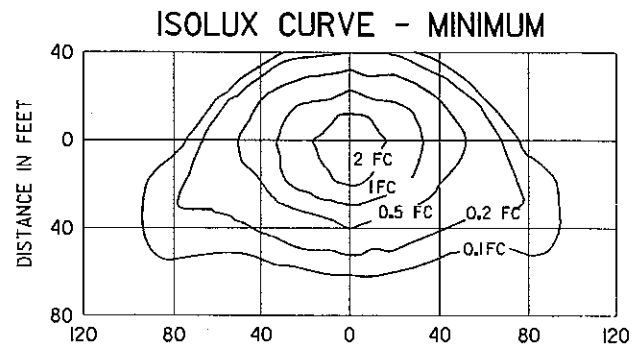


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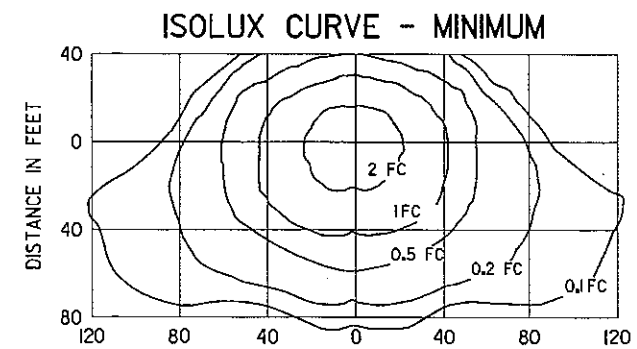
CU 04265

EA 0435C1

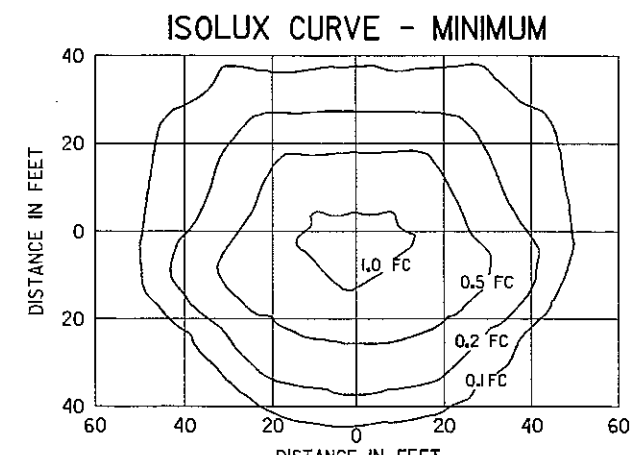
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 12-06-00



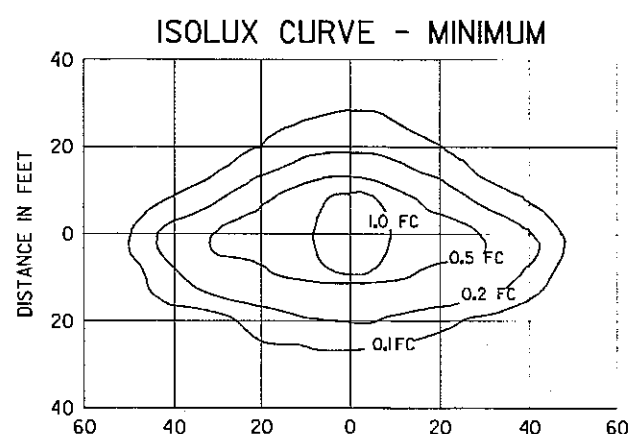
TYPE III MEDIUM CUTOFF
Cutoff Luminaire
30' Mounting Height
LAMP OPERATED AT 22 000 lm
200 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S66



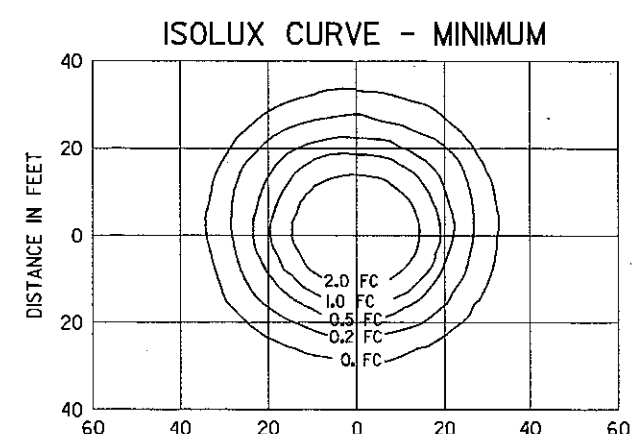
TYPE III MEDIUM CUTOFF
Cutoff Luminaire
40' Mounting Height
LAMP OPERATED AT 37 000 lm
310 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S67



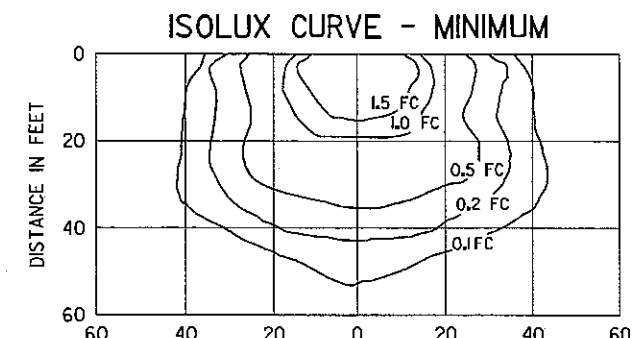
DETAIL "F" SOFFIT LUMINAIRE
17' Mounting Height
LAMP OPERATED AT 5800 lm
70 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S62



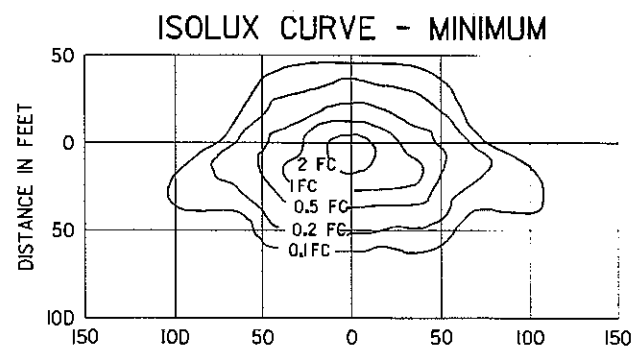
PENDANT SOFFIT LUMINAIRE - 70 W
TYPE III SHORT
17' Mounting Height
LAMP OPERATED AT 5800 lm
HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S62



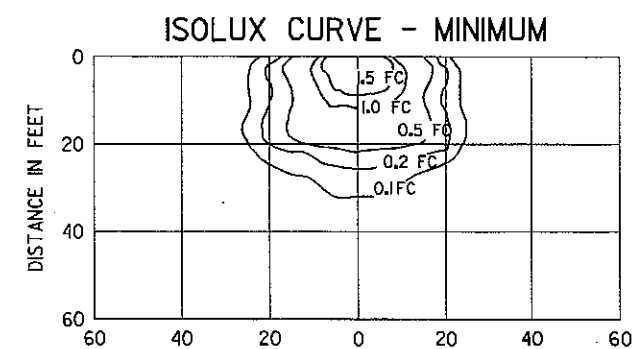
PENDANT SOFFIT LUMINAIRE - 70 W
17' Mounting Height
LAMP OPERATED AT 5800 lm
HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S62



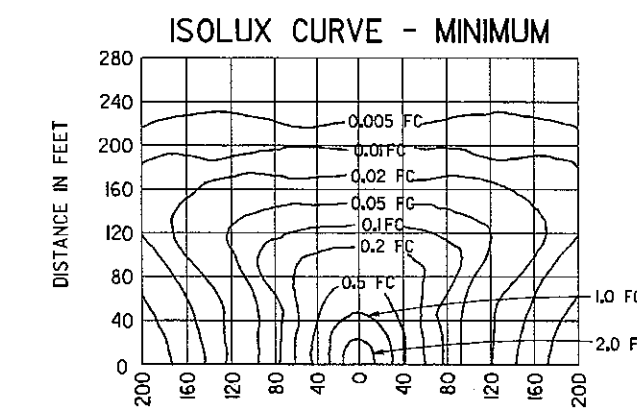
DETAIL "W" WALL LUMINAIRE
15' Mounting Height
LAMP OPERATED AT 9500 lm
100 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S54



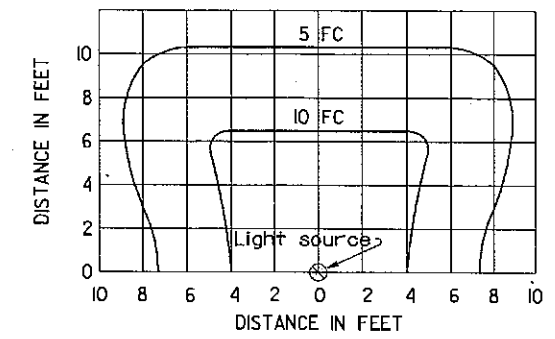
TYPE III MEDIUM CUTOFF
Cutoff Luminaire
30' Mounting Height
LAMP OPERATED AT 16 000 lm
150 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S55



DETAIL "W" WALL LUMINAIRE
15' Mounting Height
LAMP OPERATED AT 5800 lm
70 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S62



LOW PRESSURE SODIUM LUMINAIRE
40' Mounting Height
LAMP OPERATED AT 33 000 lm
180 W LOW PRESSURE SODIUM LAMP



SIGN LIGHTING FIXTURE ISOLUX DIAGRAM

- Curves represent the minimum lux of initial illumination on a 10' X 20' panel.
- The lux shown are with the fixture attached to the light fixture mounting channel which places the center of the source 56" in front of panel and 11.8" below the bottom edge.
- Applicable lamps: 175-W deluxe white mercury, H 39KC - R175/DX rated at approximately 8500 lm.

NOTES

Isolux diagrams show the minimum horizontal foot-candles required.

FOR NOTES, ABBREVIATIONS AND/OR LEGEND, SEE SHEET E-1

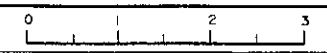
This plan accurate for Electrical work only

ELECTRICAL DETAILS
SIGNAL, LIGHTING AND
ELECTRICAL SYSTEMS
ISOLUX DIAGRAMS

NO SCALE

E-20

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



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DGN FILE => 40435cu20.dgn

CU 04265

EA 0435C1

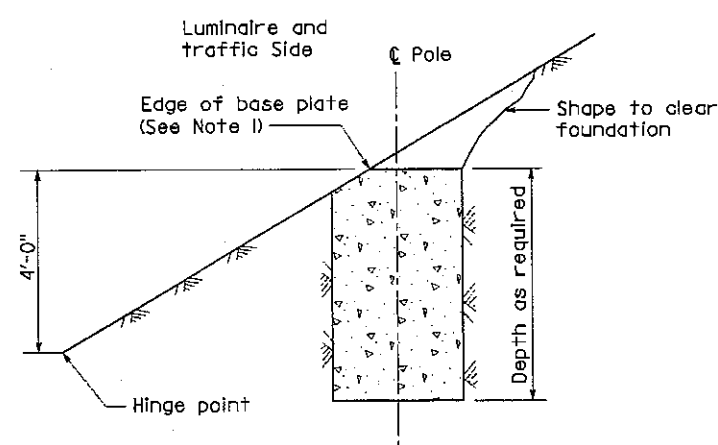
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TIME PLOTTED => 13:14
LAST REVISION
12-06-00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	92	166

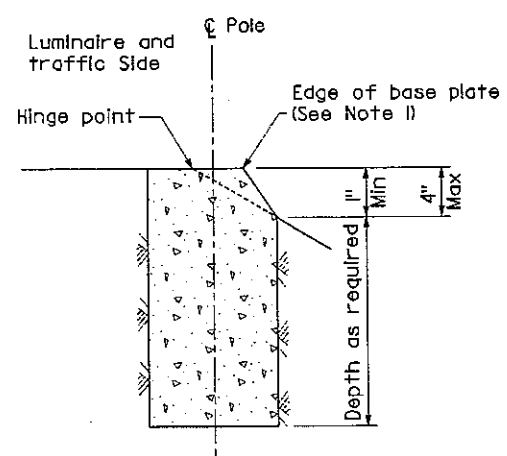
George N. Ramirez 12-07-00
 REGISTERED ELECTRICAL ENGINEER
 12-26-00
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 G.N. Ramirez
 No. 11786
 Exp. 9-30-04
 ELEC
 STATE OF CALIFORNIA

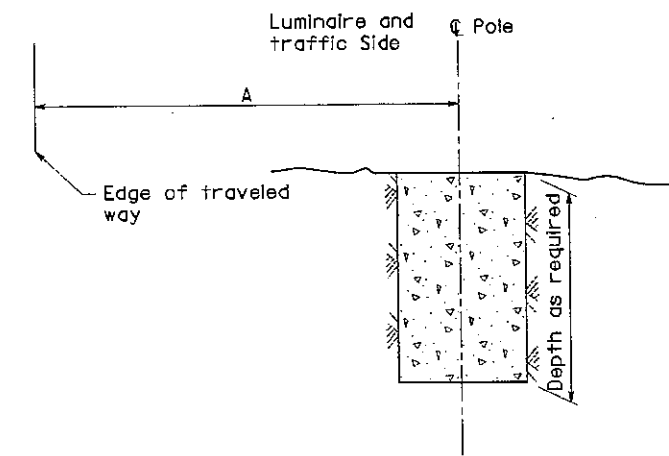
STANDARD TYPE	SETBACK (DIMENSION A)
32	30' Min
31, 36-20A	20' Min
30	Mast Arm Length (Min)
22, 35	
15	



CUT SLOPES
STEEPER THAN 4:1



FILL SLOPES
STEEPER THAN 4:1



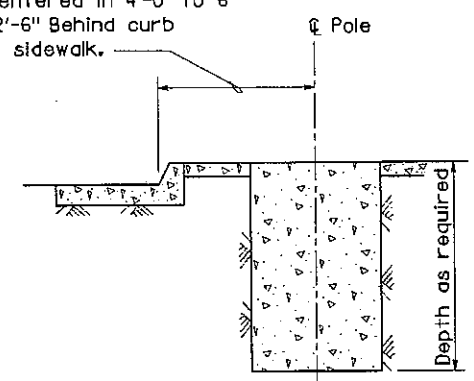
FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER

FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT
IN SIDEWALK, MEDIAN AND ISLAND AREAS

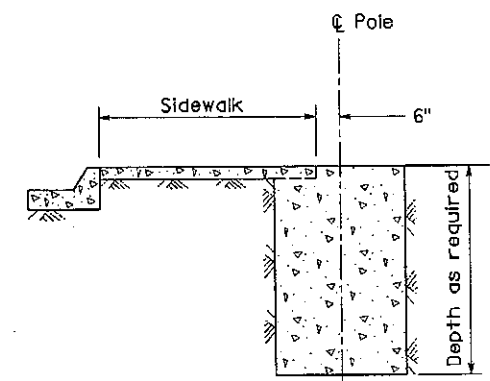
NOTES

- Where a portion of the foundation is above grade the top edges shall have a 1" chamfer.
- Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distances shown for flat sections.

36" Behind median or island curb except centered in 4'-0" to 6' medians, 2'-6" Behind curb with wide sidewalk.



MEDIAN, ISLAND
OR WIDE SIDEWALK
(7' Wide and wider)



NARROW SIDEWALK
(Less than 7' wide)

FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS

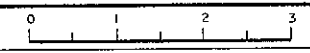
ELECTRICAL DETAILS
SIGNAL, LIGHTING AND
ELECTRICAL SYSTEMS
FOUNDATION INSTALLATIONS

NO SCALE E-21

FOR NOTES, ABBREVIATIONS
AND/OR LEGEND, SEE SHEET E-1

This plan accurate for Electrical work only

FOR REDUCED PLANS ORIGINAL
SCALE IS 1/8" = 1'-0"



USERNAME => trphills
DGN FILE => 40435cu21.dgn

CU 04265

EA 0435CI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

ELECTRICAL

PROJECT ENGINEER

H. HOANG

CALCULATED/DESIGNED BY

CHECKED BY

DATE

REVISED BY

DATE

REVISED

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 15:45
12-06-00

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	93	166

M. Akkari

10-06-00

REGISTERED ENGINEER - CIVIL

12-26-00

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER

M. AKKARI

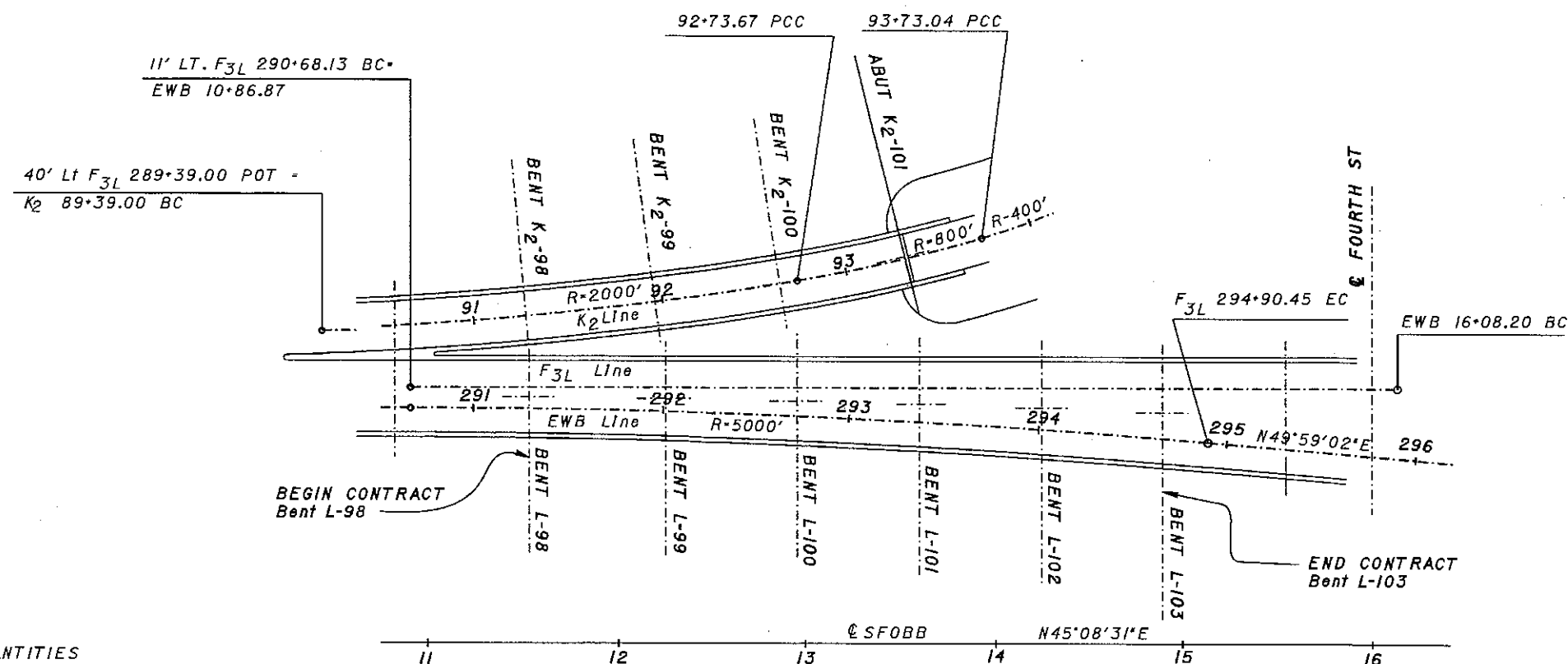
No. 44488

Exp. 3-31-02

CIVIL

STATE OF CALIFORNIA

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.



QUANTITIES

BRIDGE REMOVAL (PORTION), LOCATION B
STRUCTURE EXCAVATION (TYPE H)
STRUCTURE BACKFILL (BRIDGE)
FURNISH 24" CAST-IN-STEEL SHELL CONCRETE PILING
DRIVE 24" CAST-IN-STEEL SHELL CONCRETE PILE
STRUCTURAL CONCRETE, BRIDGE FOOTING
STRUCTURAL CONCRETE, BRIDGE
DRILL AND BOND DOWEL
CORE CONCRETE (1 1/8") AND BOND ROD
(EPOXY CARTRIDGE)
CORE CONCRETE (1 1/8")
CORE CONCRETE (1 1/4")
BAR REINFORCING STEEL (BRIDGE)
ASPHALT MEMBRANE WATERPROOFING
COLUMN CASING
FURNISH STRUCTURAL STEEL (BRIDGE)
ERECT STRUCTURAL STEEL (BRIDGE)
CLEAN AND PAINT STRUCTURAL STEEL
WORK AREA MONITORING
MISCELLANEOUS METAL (BRIDGE)
BRIDGE DECK DRAINAGE SYSTEM

LUMP SUM
950 CY
355 CY
7,188 LF
124 EA
615 CY
2 CY
2,900 LF
72 EA
190 LF
46 LF
82,000 LB
41 SQFT
16,975 LB
63,900 LB
63,900 LB
LUMP SUM
LUMP SUM
860 LB
LUMP SUM

PLAN

1" = 40'

Notes:

- For Index to Plans and General Notes,
see "Index to Plans" sheet.

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A

S.F. BAYSHORE VIADUCT (Bent L98 to L103)

PROJECT PLAN

DESIGN ENGINEER John Fujimoto 10-10-00	DESIGN	Mohamed Akkari	CHECKED	Kien Tlie	LOAD FACTOR DESIGN	LIVE LOADING	HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	STATE OF CALIFORNIA DIVISION OF STRUCTURES STRUCTURE DESIGN 2 DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	34-0088	SHEET 27	
	DETAILS	Franci Dukeshire 2/00	CHECKED	Kien Tlie	LAYOUT	Franci Dukeshire	CHECKED		Mohamed Akkari	KILOMETER POST		4.1
	QUANTITIES	various	CHECKED	various	SPECIFICATIONS	Blair Anderson	PLANS AND SPECS COMPARED		Blair Anderson	DISSEMINATION PRINTS BEARING EARLIER REVISION DATES		2/28/00 3/5/00 4/28/00 1/28/00 3/28/00
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS								CU 04 EA 0435C1	USERNAME -> trphlis DGN FILE -> gapp1.dgn		

INDEX TO PLANS

SHEET NO. TITLE

1. PROJECT PLAN
2. INDEX TO PLANS
3. STRUCTURE PLAN
4. ABUTMENT K₂-101
5. FOOTING DETAILS - BENTS L98-L103
6. FOOTING DETAILS - BENT K₂-98
7. FOOTING DETAILS - BENT K₂-99, K₂-100
8. BENT DETAILS L98-L103
9. BENT DETAILS NO.1 K₂-98 - K₂-100
10. BENT DETAILS NO.2 K₂-99, K₂-100
11. BRACKET DETAILS
12. BEARING RETROFIT NO.1
13. BEARING RETROFIT NO.2
14. BEARING RETROFIT DETAILS NO.1
15. BEARING RETROFIT DETAILS NO.2
16. BEARING RETROFIT DETAILS NO.3
17. BEARING RETROFIT DETAILS NO.4
18. DECK DRAIN DETAILS No.1
19. DECK DRAIN DETAILS No.2
20. PIPE PILE DETAILS
21. STEEL COLUMN CASINGS
22. LIMIT OF PAYMENT FOR EXCAVATION & BACKFILL LIMITS
23. LOG OF TEST BORINGS 1 OF 5
24. LOG OF TEST BORINGS 2 OF 5
25. LOG OF TEST BORINGS 3 OF 5
26. LOG OF TEST BORINGS 4 OF 5
27. LOG OF TEST BORINGS 5 OF 5

NOTES:

Elevations shown throughout these plans are based on the As built MLLW datum. Subtract 3.1 ft. from the elevations to obtain MSL datum elevations.

Paint Bridge Name, Bridge No. and Bent No. at 10' above footing at all overcrossing bent locations. Paint Bent No. 10' above FG elevation at all other bent locations.

For all #5 and #6 drill and band dowels in 3:1 sloped hole, epoxy cartridges may be used at the option of the Contractor.

Existing girder cable restrainers may be temporarily disassembled and reassembled as needed. Do not remove more than 50% of cable restrainers per bent at one time.

GENERAL NOTES
LOAD FACTOR DESIGN

DESIGN: BRIDGE DESIGN SPECIFICATIONS
(1983 AASHTO with Interims and Revisions by CALTRANS)
AASHTO LRFD Bridge Design Specifications, 1st Edition,
Section 6

EXIST REINFORCED CONCRETE (ASSUMED FOR RETROFIT EVALUATION):

$f_y = 40,000$ psi
 $f'_c = 5,000$ psi

REINFORCED CONCRETE (NEW CONSTRUCTION):

$f_y = 60,000$ psi
 $f'_c = 3,250$ psi
 $n = 9$

EXIST STRUCTURAL STEEL (ASSUMED FOR RETROFIT EVALUATION):

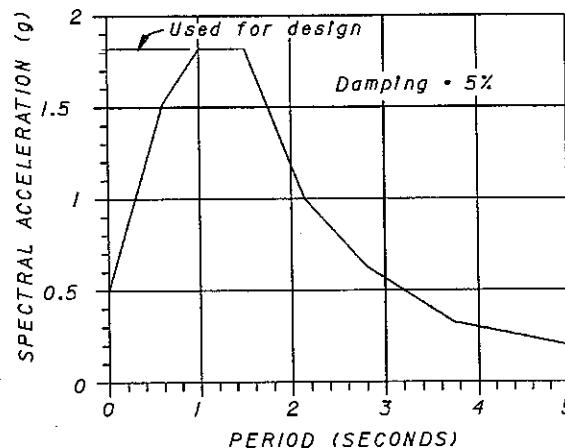
ASTM A7
 $f_y = 36,000$ psi

STRUCTURAL STEEL (NEW CONSTRUCTION):

ASTM A36
 $f_y = 36,000$ psi

- Exclude threads from shear plane for all bolts
- All HS threaded rods shall be A449
- Holes for bolts are standard size unless otherwise specified.
- Standard oversized and slotted holes are to have hardened washers.
- All bolted connections are "Bearing Type" unless noted otherwise
- Grillage Assemblies to be considered as fracture critical, primary members (FCM) for inspection purposes

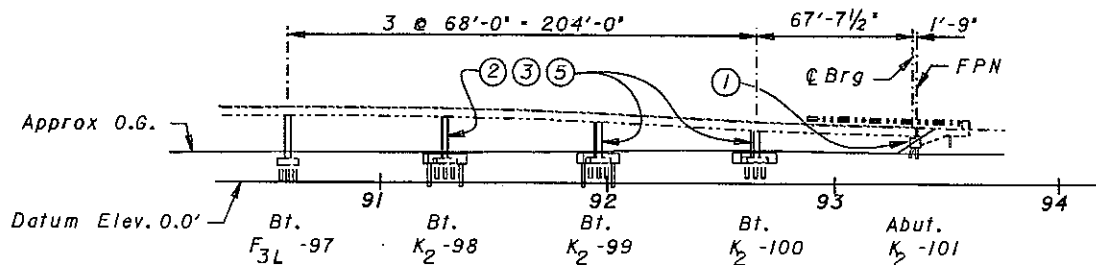
SEISMIC LOADING: SEE DESIGN RESPONSE SPECTRA GRAPH BELOW



SEISMIC LATERAL SPREAD LOADS: 41k/ft OF FOOTING WIDTH

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	94	166
M. Akkari			10-06-00		
REGISTERED ENGINEER - CIVIL			12-26-00		
PLANS APPROVAL DATE			No. 44488		
			Exp. 3-31-02		
			CIVIL		
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DESIGN BY Mohamed Akkarl				CHECKED Kien Tle	STATE OF CALIFORNIA		DIVISION OF STRUCTURES		BRIDGE NO. 34-0088		SFOBB - SEISMIC RETROFIT PROJECT NO. 14A	
DETAILS BY R. Edwards/F. Dukeshire				CHECKED Kien Tle	DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN 2		POST MILE 4.1		S.F. BAYSHORE VIADUCT (Bent L98 to L103)	
QUANTITIES BY various				CHECKED various							INDEX TO PLANS	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 0435C1		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 2 OF 27		
DATE PLOTTED => 15-DEC-2000				USERNAME => trph115		DGN FILE => gaitp.dgn						



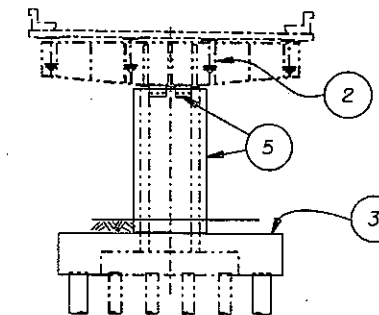
ELEVATION-K₂ RAMP

1" = 40'

NOTES:

Elevations shown throughout these plans are based on the As built MLLW datum. Subtract 3.1 ft. from the elevations to obtain MSL datum elevations.

Repaint Bridge Name, Bridge No. and Bent No. 10' above FG, at all locations.

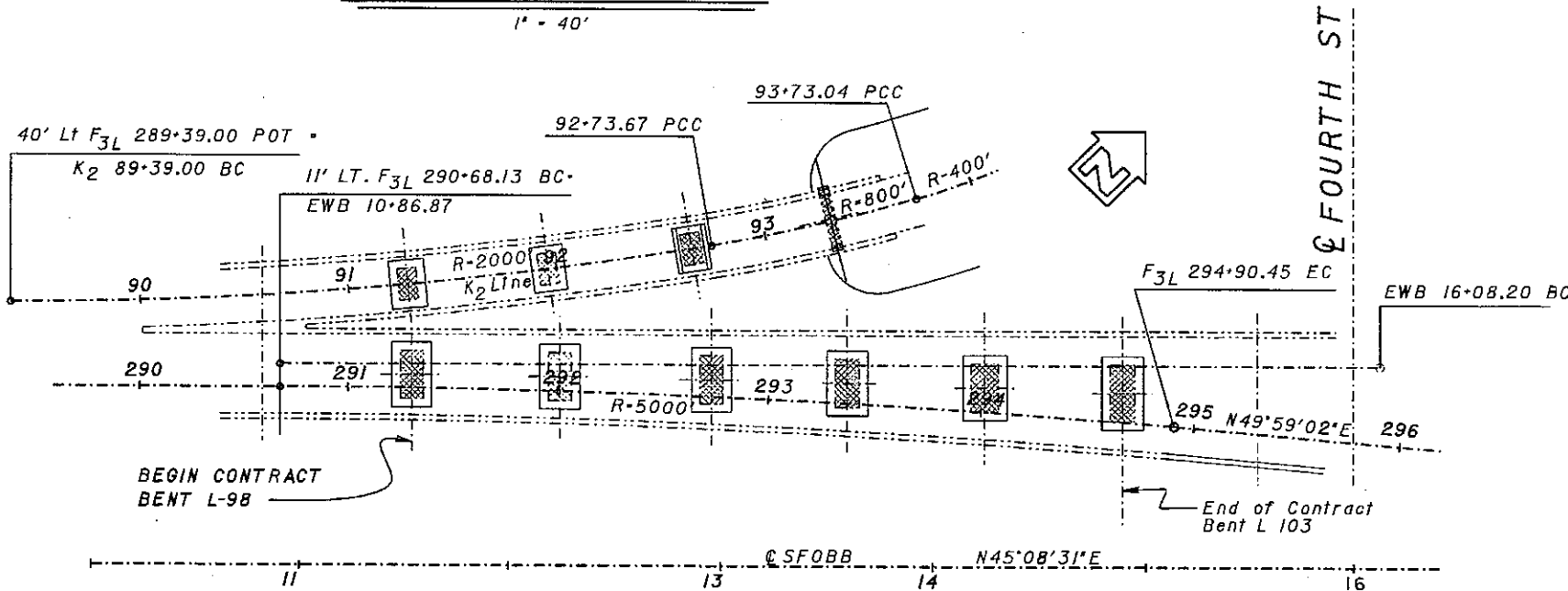


TYPICAL SECTION (A)

No Scale

NOTES:

- ① Abutment Retrofit
- ② Seat Extender / Bearing Retrofit
- ③ Footing Retrofit
- ④ Pier Wall Steel Collar
- ⑤ Column Retrofit and Anchor Bracket



PLAN

1" = 40'

LEGEND

----- Indicates Existing Structures

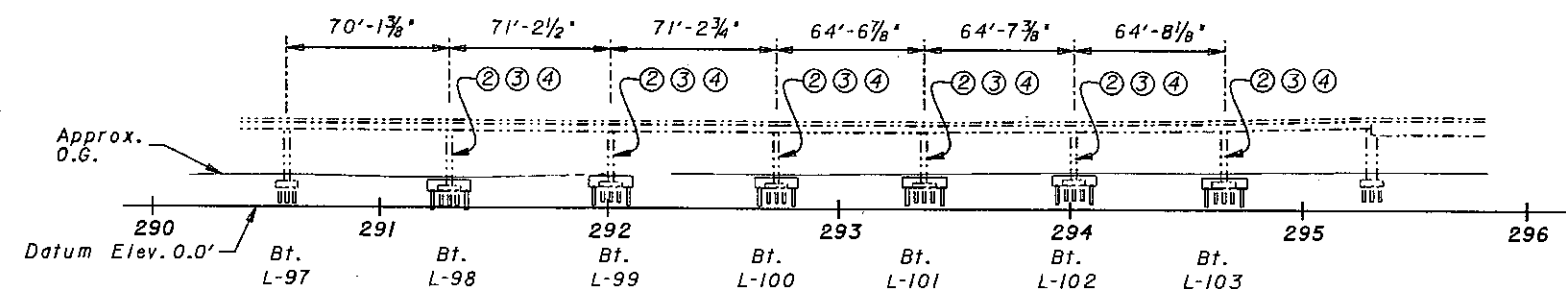


Indicates Existing Footing

Indicates Footing Retrofit

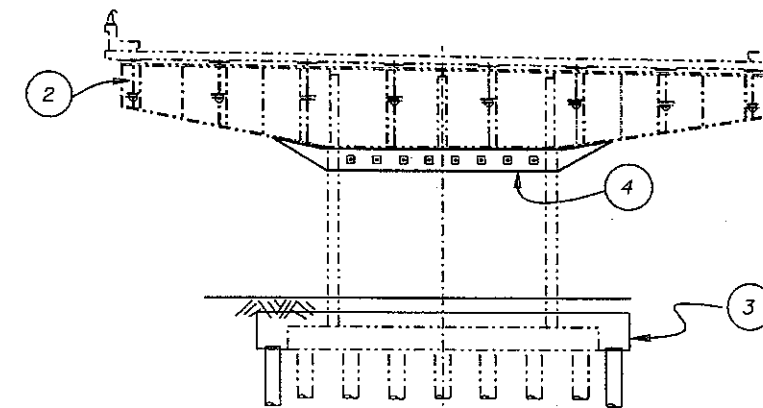
Notes:

All Information shown are ±
Existing rails not shown in ELEVATION
Ground lines shown in ELEVATIONS are approximate.
Underground utilities, powerlines and sidewalks not shown. See "Road Plans".



ELEVATION - F_{3L}

1" = 40'



TYPICAL SECTION (B)

No Scale

Note: For "General Notes", see "INDEX TO PLANS" sheet.

BENT	TYPICAL SECTION
L-98	(B)-(2) (3) (4)
L-99	(B)-(2) (3) (4)
L-100	(B)-(2) (3) (4)
L-101	(B)-(2) (3) (4)
L-102	(B)-(2) (3) (4)
L-103	(B)-(2) (3) (4)
K ₂ -98	(A)-(2) (3) (5)
K ₂ -99	(A)-(2) (3) (5)
K ₂ -100	(A)-(2) (3) (5)
K ₂ -101	(1)

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A

S.F. BAYSHORE VIADUCT (Bent L98 to L103)

STRUCTURE PLAN

DESIGN	By Mohamed Akkari	CHECKED	Kien Tlie
DETAILS	By L. Charlot	CHECKED	Kien Tlie
QUANTITIES	By various	CHECKED	various

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 2

BRIDGE NO.	34-0088
POST MILE	4.1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

CU 04
EA 0435C1
FILE -> aaspl.dgn

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

2/2/00 2/2/00 4/2/00 7/2/00 9/2/00

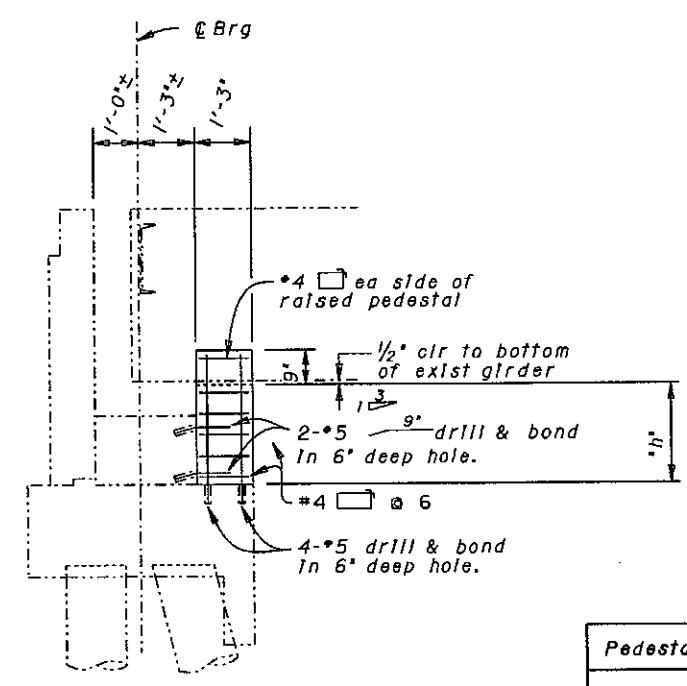
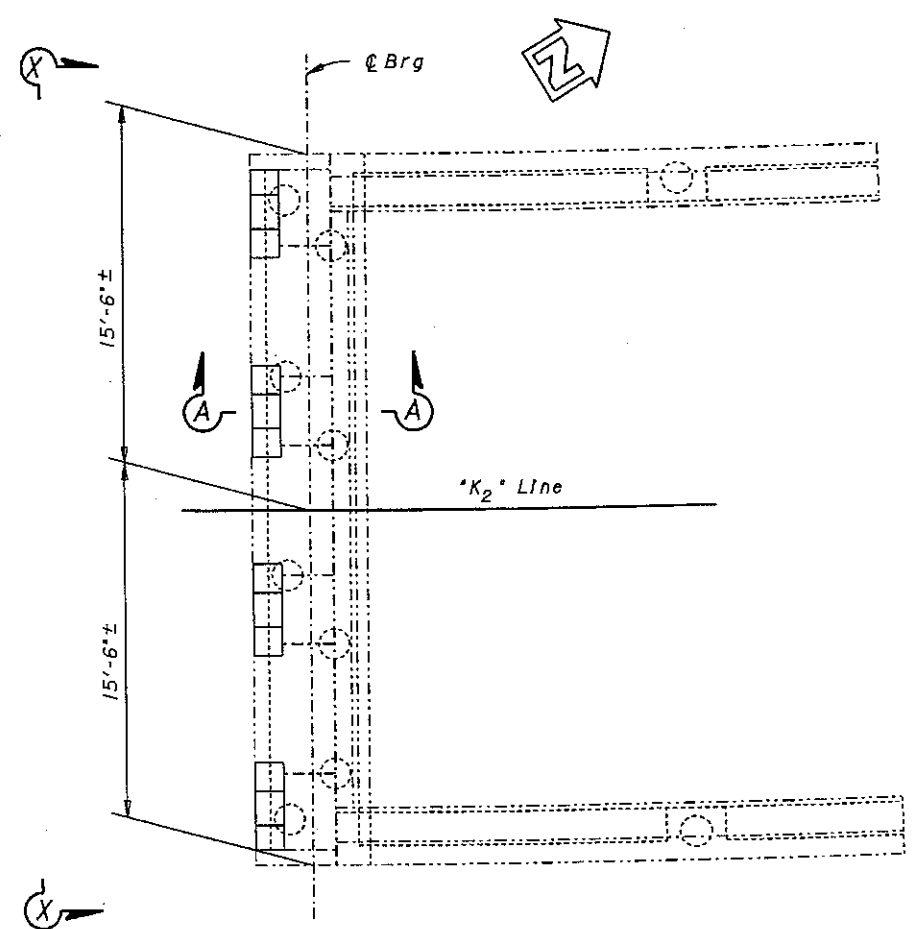
SHEET 3 OF 27

DATE PLOTTED: 15-DEC-2000 USERNAME: tclw TIME PLOTTED: 16:21

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	96	166

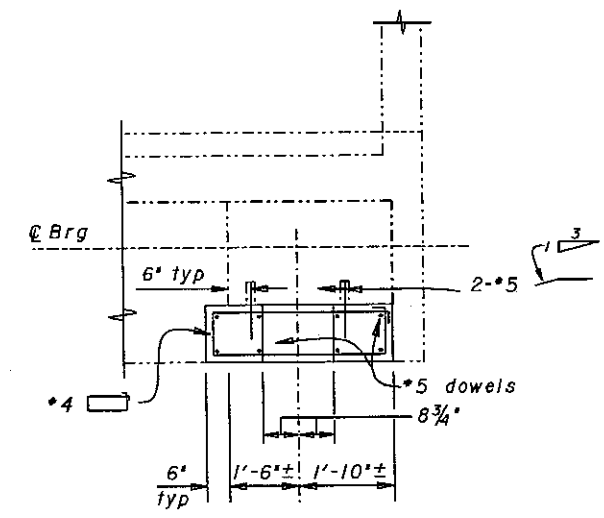
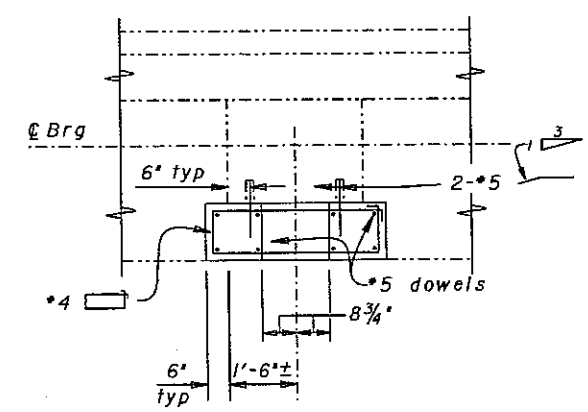
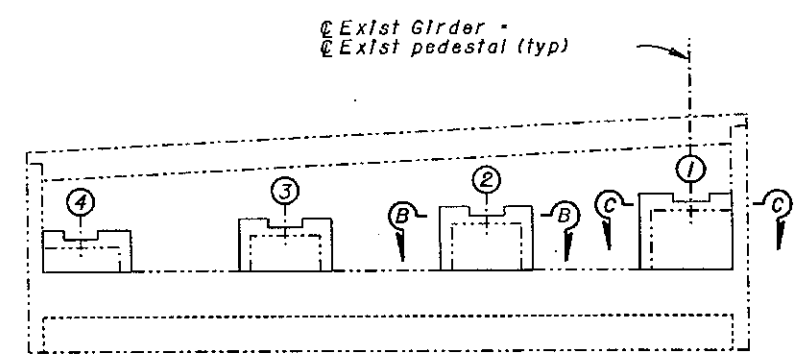
M. Akkari 10-06-00
 REGISTERED ENGINEER - CIVIL
 12-26-00
 PLANS APPROVAL DATE
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PROFESSIONAL ENGINEER
 M. AKKARI
 No. 44488
 Exp. 3-31-02
 CIVIL
 STATE OF CALIFORNIA



Pedestal No.	"h"
1	3'-0" ±
2	2'-5 1/2" ±
3	1'-11 1/4" ±
4	1'-5 1/2" ±

Notes: Exist holddowns may be removed at Contractors option.
 Concrete for pedestal extension to be Structural Concrete, Bridge.

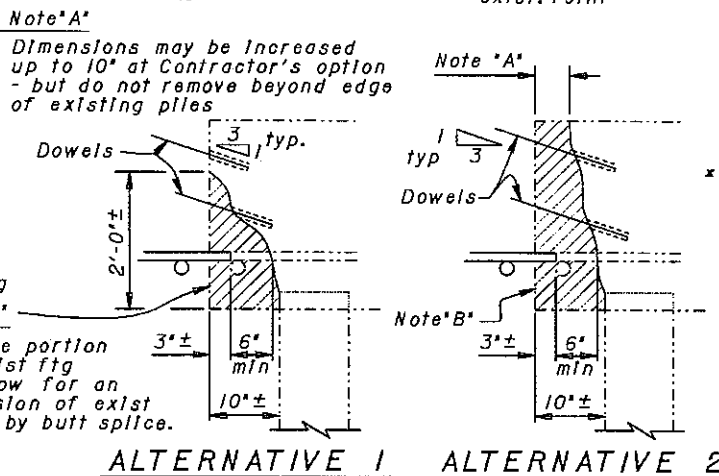
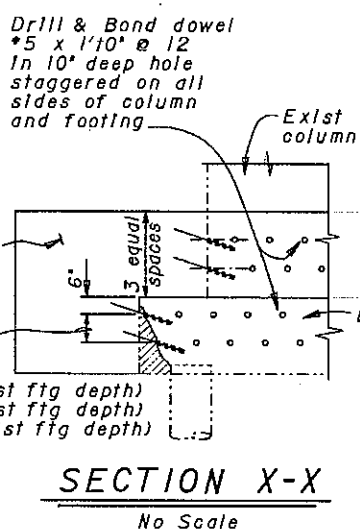
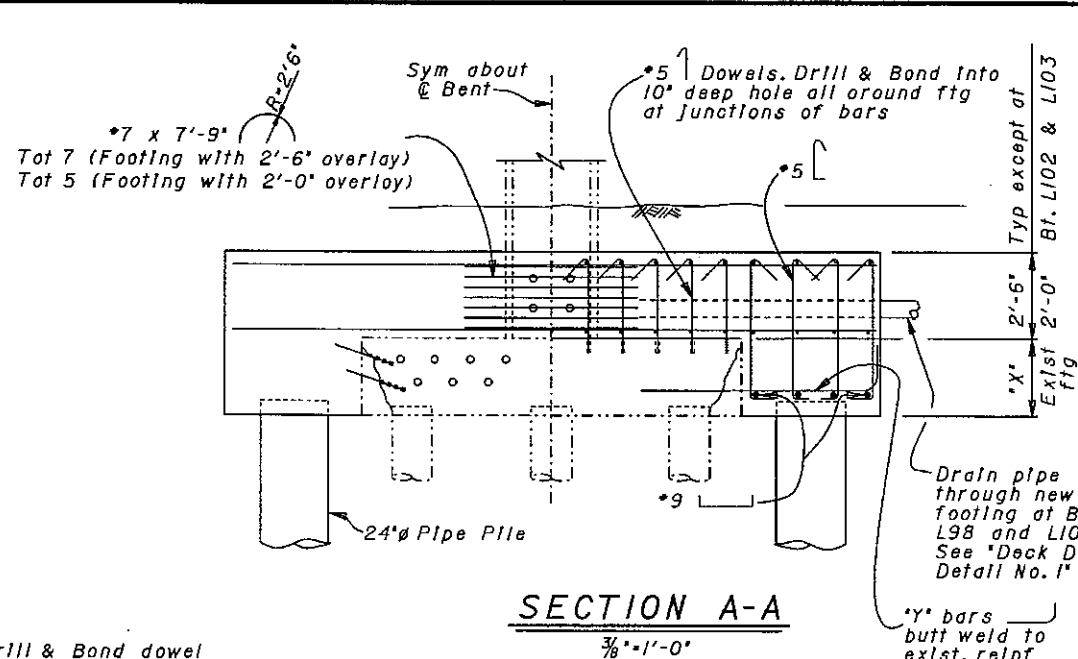
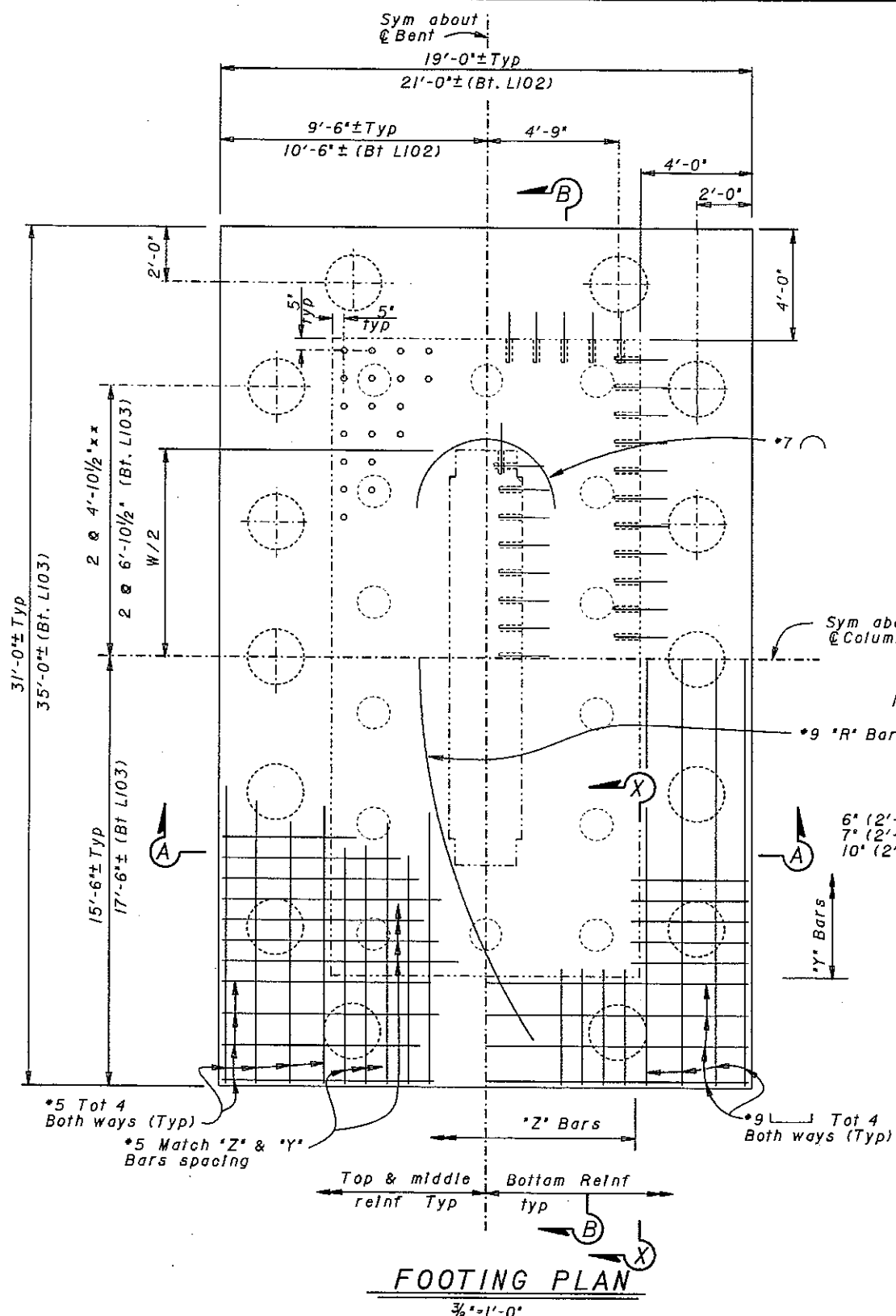


NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY M. M. Akkari DETAILS BY L. Charlot 12-91 QUANTITIES BY N. Melehan				CHECKED Fritz Hoffman CHECKED Fritz Hoffman CHECKED N. Abdin				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION				DIVISION OF STRUCTURES STRUCTURE DESIGN 11				BRIDGE NO. 34-0088 POST MILE 4.1				SFOBB - SEISMIC RETROFIT PROJECT NO. 14A S.F. BAYSHORE VIADUCT (Bent L98 to L103) ABUTMENT K ₂ -101																																									
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)												ORIGINAL SCALE IN INCHES FOR REDUCED PLANS												CU 04 EA 0435C1												DISREGARD PRINTS BEARING EARLIER REVISION DATES												REVISION DATES (PRELIMINARY STAGE ONLY)												SHEET 4 OF 27	

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	97	166

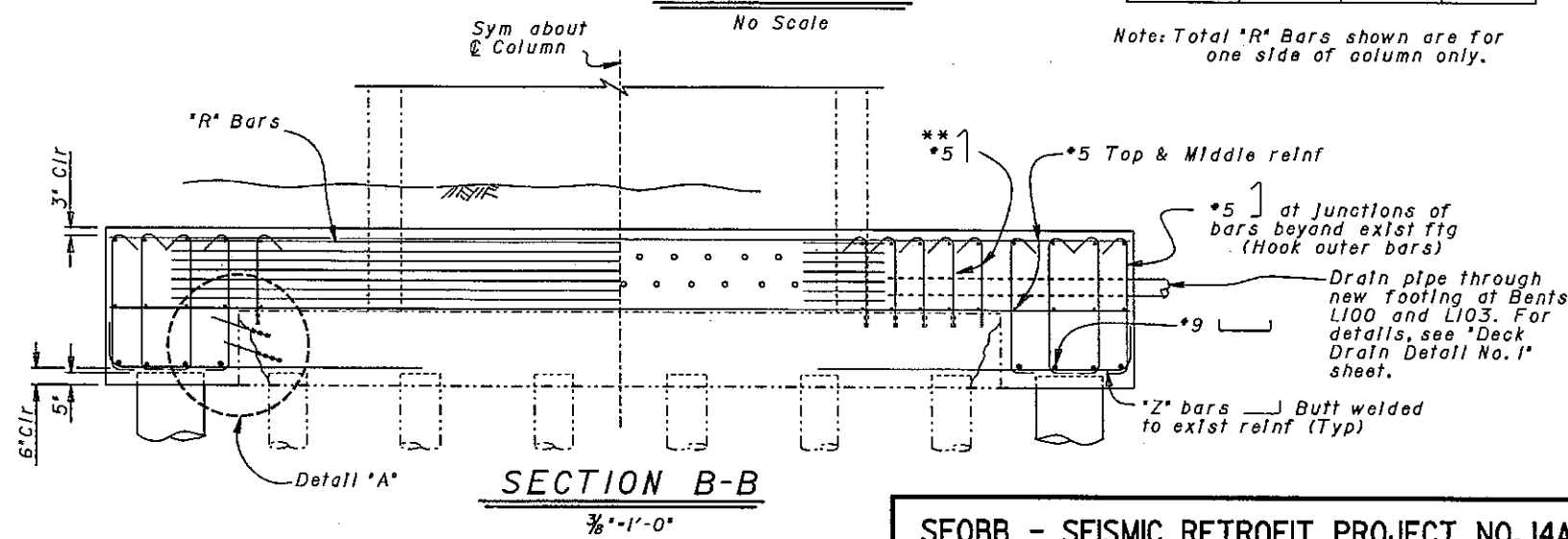
M. Akkari 10-06-00
 REGISTERED ENGINEER - CIVIL
 No. 44488
 Exp. 3-31-02
 PLANS APPROVAL DATE
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- Notes:**
- Indicates concrete removal. Roughen interface between existing and new concrete to an amplitude of 1/4".
 - All new concrete around ftgs is to be classified as Structural Concrete, Bridge Footing.
 - Mechanical butt splices may be used in lieu of butt welds. For square bar-to-round bar butt splices, see "Detail B" on "FOOTING DETAILS-K2 98" sheet.
 - For Pipe pile details not shown, see "PIPE PILE DETAILS" sheet.
 - For "X" & "W" distances, "Y" & "Z" bars, see "BENT DETAILS L98-L103" sheet.
 - Due to symmetry, not all reinforcement is shown.
 - ** If Alternative 2 of Detail "A" is used, first row of drill & bond ties are to be replaced with full height ties similar to those in ftg extension.

BENT NUMBER	'R' BAR		
	RADIUS	LENGTH	TOTAL
L98	22'	26'	7
L99	22'	26'	7
L100	25'	28'	7
L101	25'	28'	7
L102	30'	30'	5
L103	30'	33'	5

Note: Total 'R' Bars shown are for one side of column only.



NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY J. Holombo/C. Lomicka	CHECKED M. Akkari
DETAILS	BY F. Calhoun	CHECKED M. Akkari
QUANTITIES	BY D. Forester	CHECKED M. Vinayagamorthy

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
 STRUCTURE DESIGN 2

BRIDGE NO.	34-0088
POST MILE	4.1

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A
 S.F. BAYSHORE VIADUCT (Bent L98 to L103)
 FOOTING DETAILS - BENTS L98-L103

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 04
 EA 0435C1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/24/00 3/24/00 3/24/00 4/22/00 1/26/00	5	27

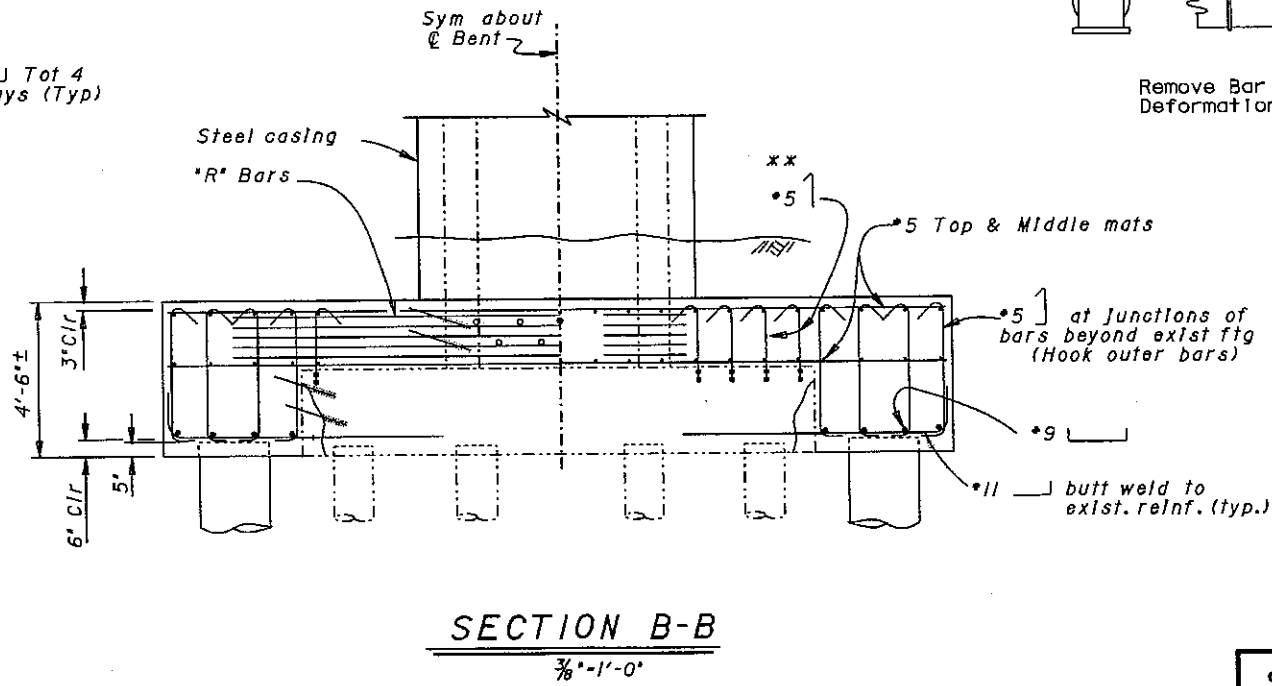
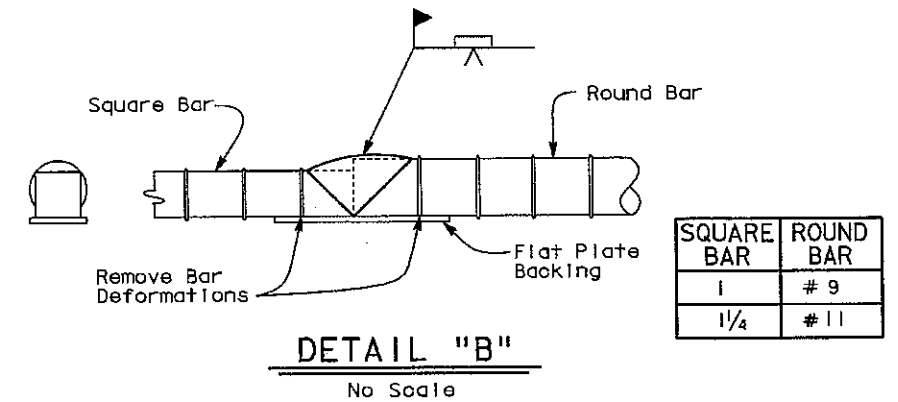
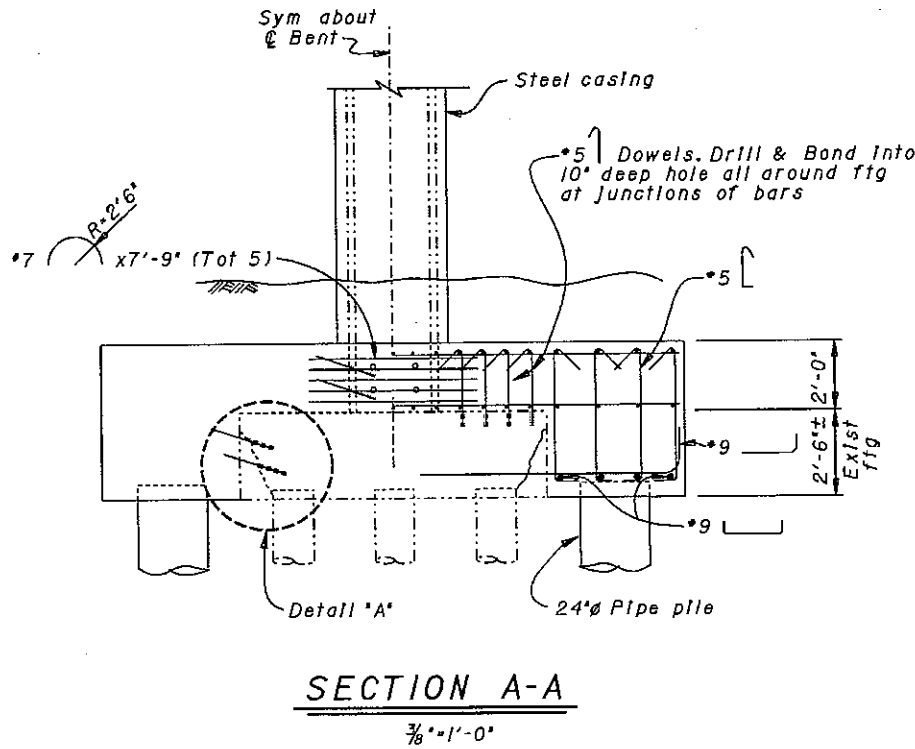
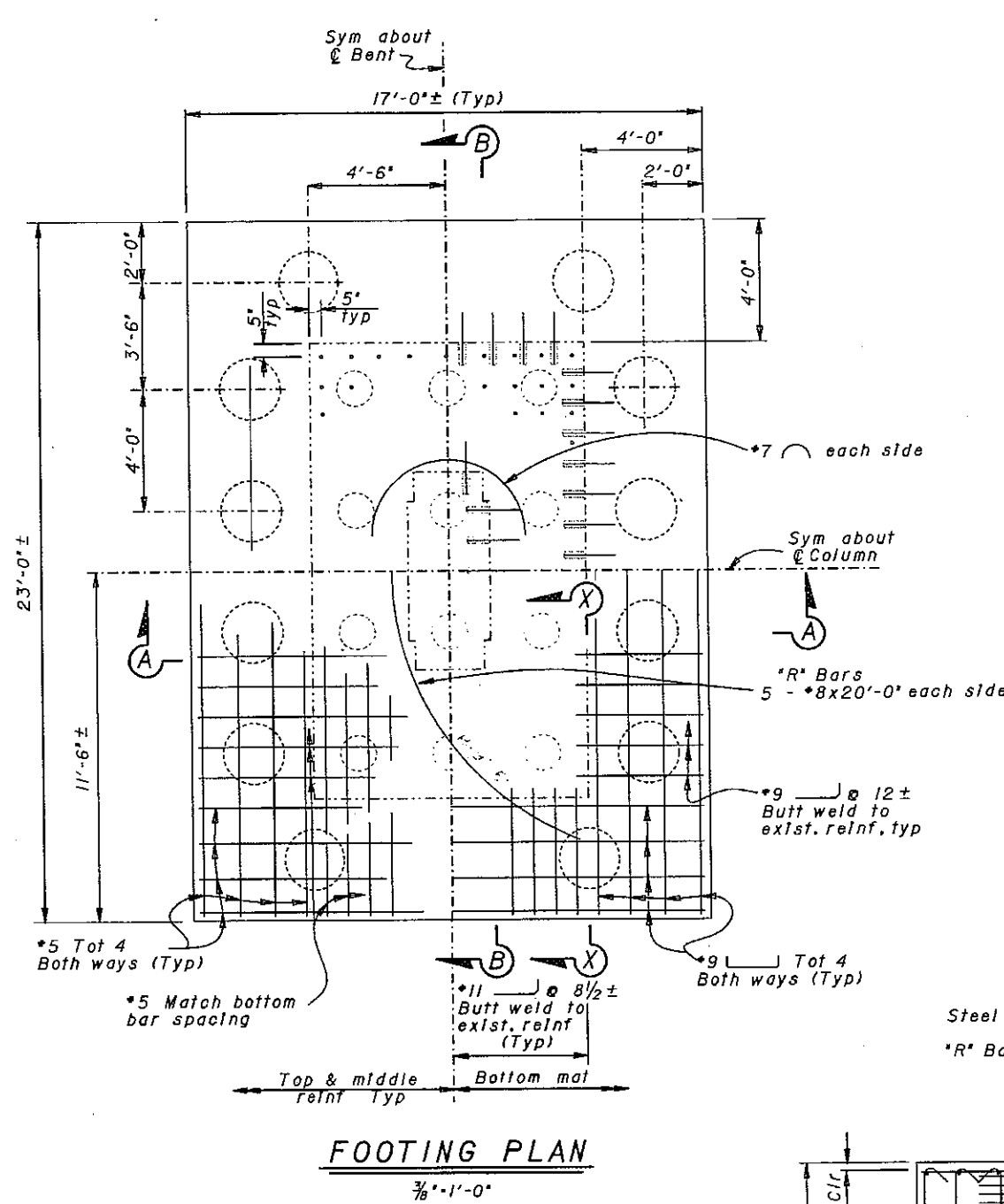
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 DATE PLOTTED => 15-DEC-2000
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	98	166

M. AKKARI 10-06-00
 REGISTERED ENGINEER - CIVIL
 12-26-00
 PLANS APPROVAL DATE
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PROFESSIONAL ENGINEER
 M. AKKARI
 No. 44488
 Exp. 3-31-02
 CIVIL
 STATE OF CALIFORNIA

- Notes:**
- All new concrete around ftgs is to be classified as Structural Concrete, Bridge Footing.
 - Mechanical butt splices may be used in lieu of butt welds. For square bar-to-round bar butt splices, see "Detail B".
 - For Pipe Pile details not shown, see "PIPE PILE DETAILS" sheet.
 - For "Section X-X" & Detail "A", see "FOOTING DETAILS - BENTS L98-L103" sheet.
 - For Steel casing details, see "BENT DETAILS NO. 1 K₂ 98-K₂ 100" sheet.
 - Due to symmetry, not all reinforcement is shown.
 - ** If Alternative 2 of Detail "A" is used first row of drill & bond ties are to be replaced with full height ties similar to those in fig extension



NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES STRUCTURE DESIGN 2		BRIDGE NO. 34-0088		S.F. BAYSHORE VIADUCT (Bent L98 to L103)	
DESIGN BY J. Holombo/C. Lomicka DETAILS BY F. Calhoun QUANTITIES BY D. Forester		CHECKED M. Akkari M. Akkari M. Vinayagamoorthy		POST MILE 4.1		FOOTING DETAILS - BENT K₂ 98		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 6 OF 27	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 0435C1		DISCARD PRINTS BEARING EARLIER REVISION DATES		FILE => acfotab.dgn			

DATE PLOTTED => 15-DEC-2000
 USERNAME => tctaw

DIST.04COUNTY.SFROUTE.80POST MILES TOTAL PROJECT.4.9/5.9SHEET NO.100TOTAL SHEETS.166

M. Akkari

REGISTERED ENGINEER - CIVIL

10-06-00

12-26-00

PLANS APPROVAL DATE

PROFESSIONAL ENGINEER

M. AKKARI

No. 44488

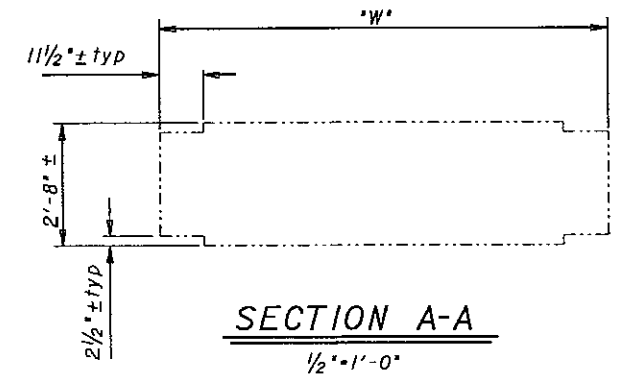
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CIVIL

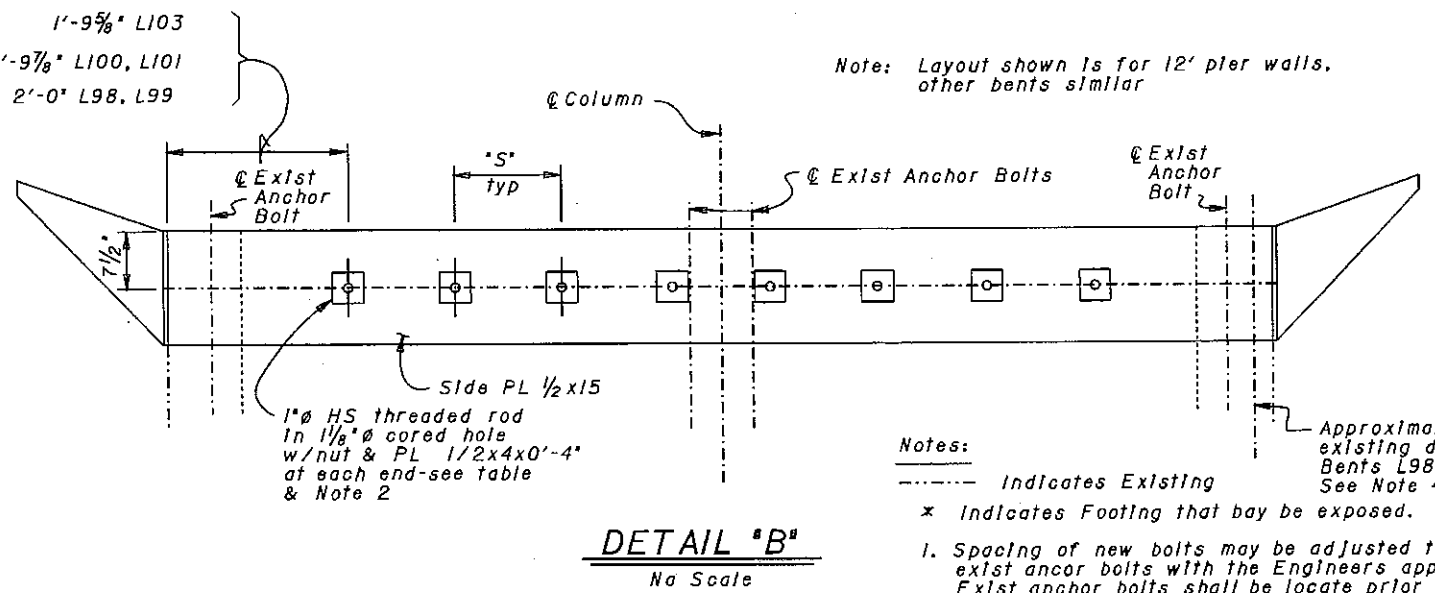
STATE OF CALIFORNIA

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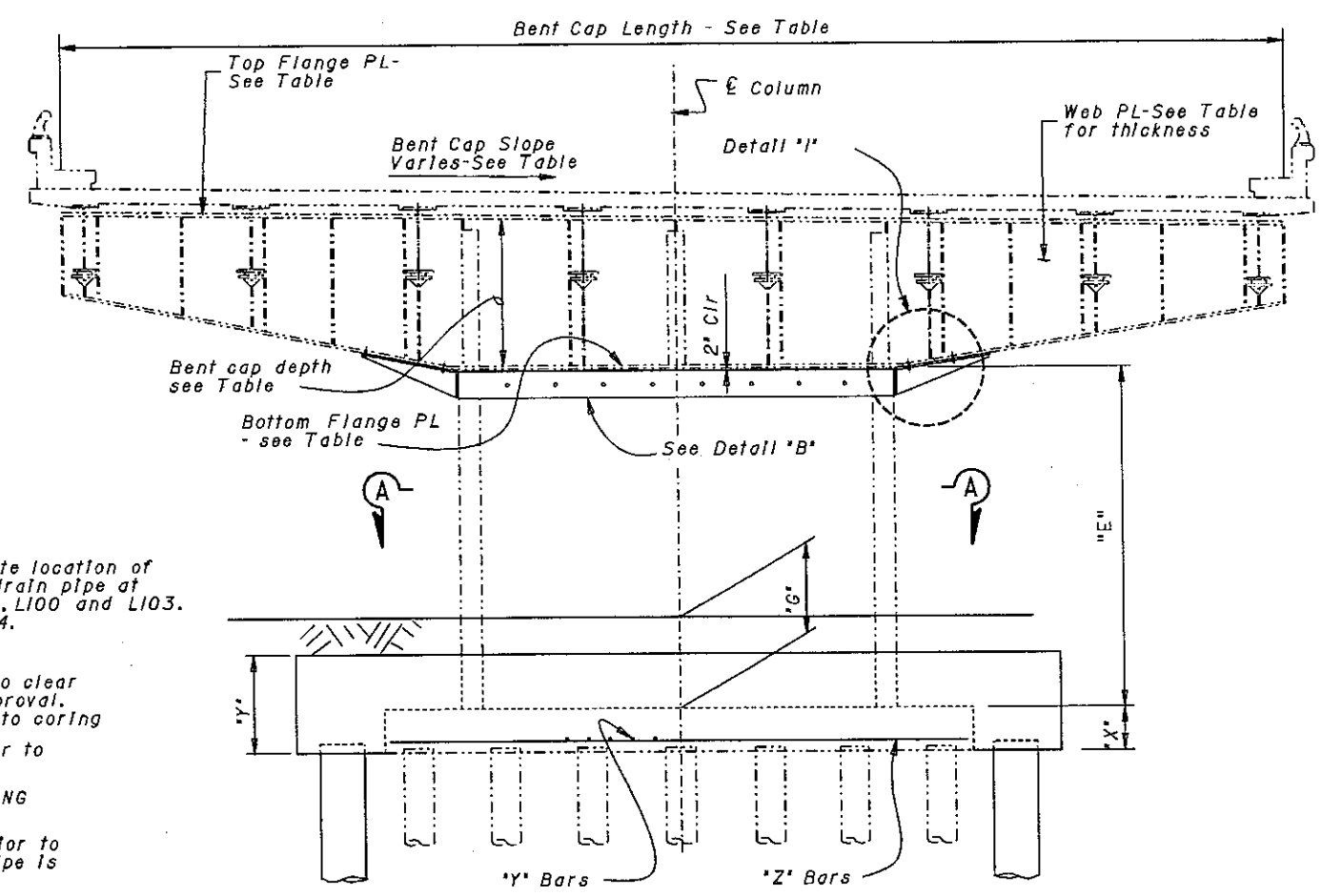
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Note:
For Detail 'I', see 'Bracket details' Sheet.



- Notes:
- Indicates Existing
 - * Indicates Footing that may be exposed.
 - 1. Spacing of new bolts may be adjusted to clear exist anchor bolts with the Engineers approval. Exist anchor bolts shall be located prior to coring
 - 2. Place thread locking system (fluid) prior to placing nuts
 - 3. For 'Y' & 'Z' bars, see Table and 'FOOTING DETAILS-BENT L98-L103' sheet
 - 4. Existing drain pipe is to be removed prior to the installation of the steel collar. The pipe is to be reinstalled outside the collar. See 'Deck Drain Details No. 2' sheet.
- Approximate location of existing drain pipe at Bents L98, L100 and L103. See Note 4.



BENT DIMENSIONAL DATA TABLE													
BENT NO.	COLUMN LENGTH 'E'	BENT CAP DATA			BENT CAP DEPTH	BENT CAP SLOPE %	BENT CAP LENGTH	SOIL COVER 'G'	COLUMN WIDTH 'W'	FOOTING DEPTH 'X'	FOOTING DEPTH 'Y'	FOOTING REINF 'Z' BARS	FOOTING REINF 'Y' BARS
		TOP PL	WEB PL	BOTTOM PL									
L-98	17.71'	12 X 2	1/2	18 X 1 1/2	5.90'	-1.83	40'-5"	5.1'	12'-0"	2'-3"	4'-9"	*11 @ 10 1/2	*10 @ 12
L-99	15.45'	12 X 2	1/2	18 X 1 1/2	5.93'	-2.00	41'-9"	3.5'	12'-0"	2'-3"	4'-9"	*11 @ 10 1/2	*10 @ 12
L-100	15.27'	12 X 2	7/16	18 X 1 3/8	6.43'	-2.01	44'-2"	3.9'	15'-0"	2'-0"	4'-6"	*10 @ 10	*10 @ 9 1/2
L-101	14.56'	12 X 2	7/16	18 X 1 3/8	6.42'	-1.98	47'-3"	3.2'	15'-0"	2'-0"	4'-6"	*10 @ 10	*10 @ 9 1/2
L-102	13.05'	12 X 1 7/8	7/16	18 X 1 1/4	6.93'	-1.92	50'-0"	1.5'	18'-0"	2'-6"	4'-6"	*6 @ 12	*11 @ 10 1/2
L-103	15.44'	12 X 2	1/2	18 X 1 1/2	6.92'	-1.34	55'-11"	3.8'	20'-0"	2'-0"	4'-0"	*9 @ 9	*9 @ 7

NOTE: All As-Built Information shown is ±

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)

DESIGN BY J. Holombo/C. Lomicka
DETAILS BY Franci Dukeshire 2/00
QUANTITIES BY D. Forester

CHECKED M. Akkari
CHECKED M. Akkari
CHECKED M. Vinayaganoorthy

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 2

BRIDGE NO. 34-0088
POST MILE 4.1

CU 04
EA 0435C1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)
2/2/00 2/24/00 3/2/00 4/28/00 7/28/00 9/29/00

SHEET 8 OF 27

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A
S.F. BAYSHORE VIADUCT (Bent L98 to L103)
BENT DETAILS L98-L103

USERNAME => trphils
DGN FILE => adbnfda.dgn

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	101	166

M. Akkari

REGISTERED ENGINEER - CIVIL

12-26-00

10-06-00

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

M. AKKARI

No. 44488

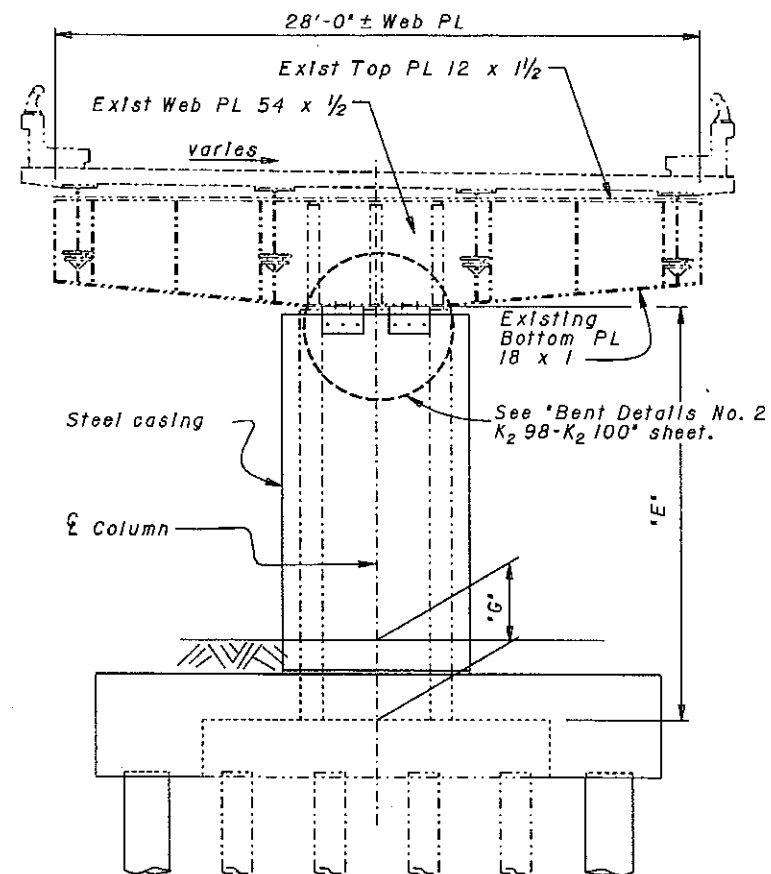
Exp. 3-31-02

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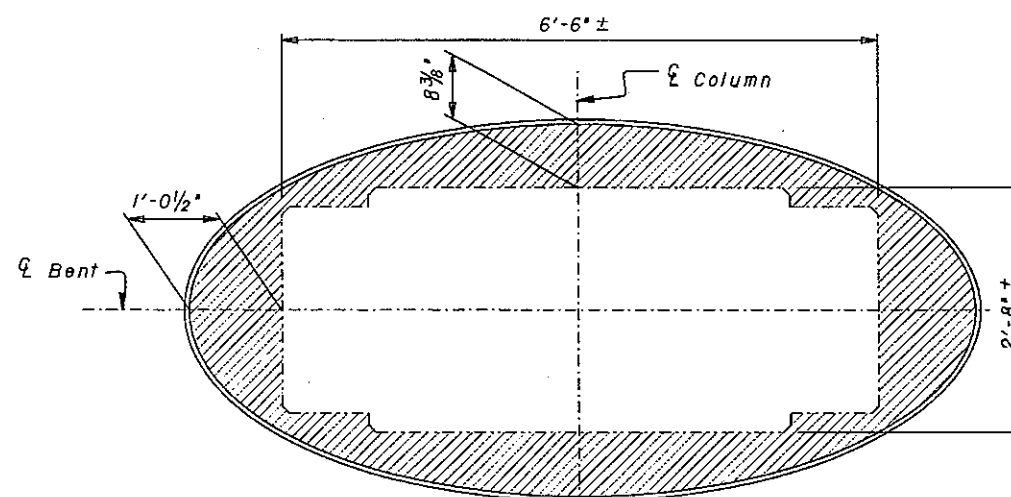
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ELEVATION
1/4"=1'-0"

BENT DIMENSIONAL DATA TABLE		
BENT NO.	COLUMN LENGTH 'E'	COVER 'G' (ft)
K ₂ -98	15.60'	2.5
K ₂ -99	13.02'	2.6
K ₂ -100	9.60'	2.4

NOTE: All As-Built Information shown are ±



Note: 7/8" Steel casing
See 'STEEL COLUMN CASINGS' sheet (Class F)

STEEL CASING DETAIL
1"=1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

DESIGN	BY C. Lomicka	CHECKED M. Akkarl
DETAILS	BY F. Calhoun	CHECKED M. Akkarl
QUANTITIES	BY D. Forester	CHECKED M. Vinayagamorthy

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 2

BRIDGE NO.	34-0088
POST MILE	4.1

SFOBB - SEISMIC RETROFIT PROJECT NO.14A
S.F. BAYSHORE VIADUCT (Bent L98 to L103)
BENT DETAILS NO. 1 K₂98-K₂100

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

CU 04
EA 0435C1

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 9 OF 27

USERNAME => trphils
DGN FILE => adontsb.dgn

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TIME PLOTTED => 16:22

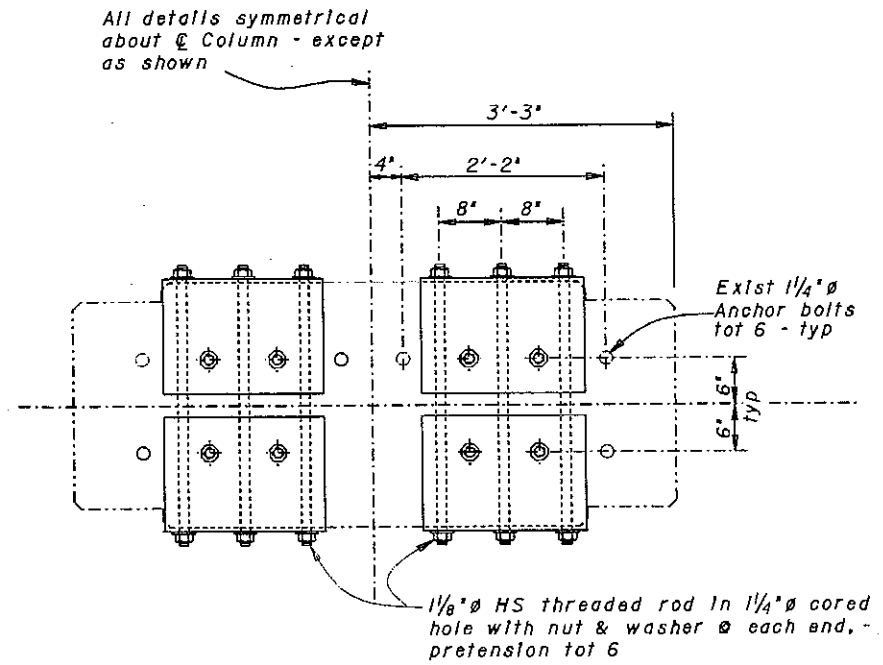
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	102	166

M. Akkari
 REGISTERED ENGINEER - CIVIL
 10-06-00
 PLANS APPROVAL DATE

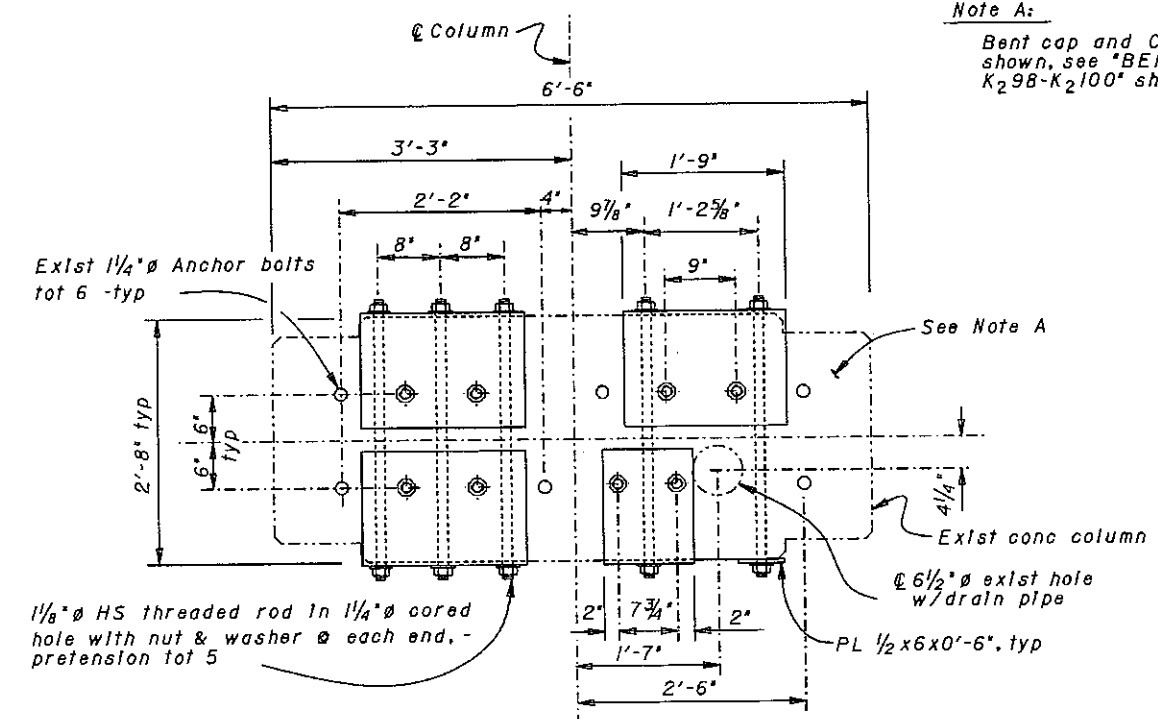
REGISTERED PROFESSIONAL ENGINEER
 M. AKKARI
 No. 44488
 Exp. 3-31-02
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 STATE OF CALIFORNIA

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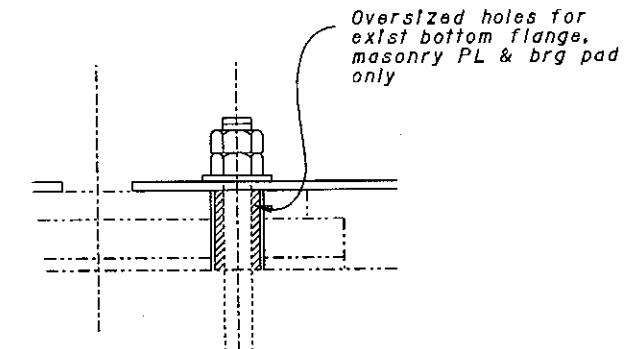
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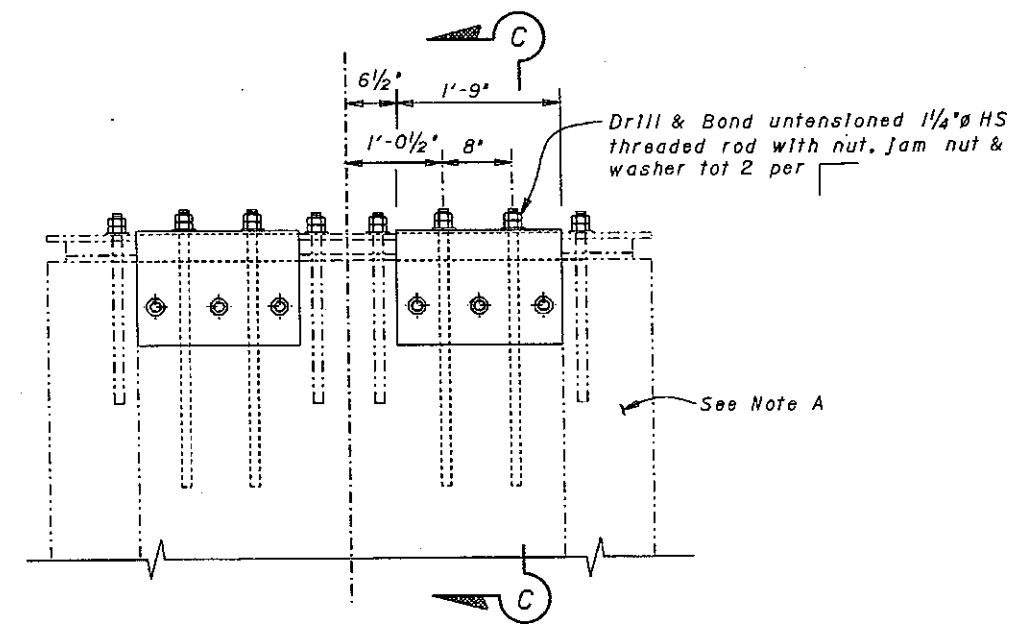
TYPICAL PLAN
 1" = 1'-0"



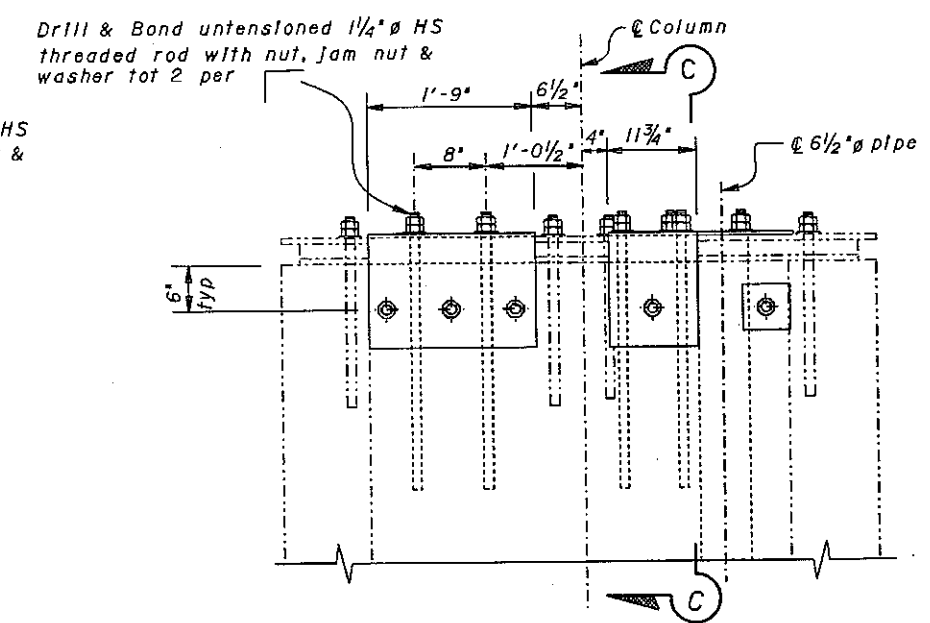
PLAN K2-100
 1" = 1'-0"



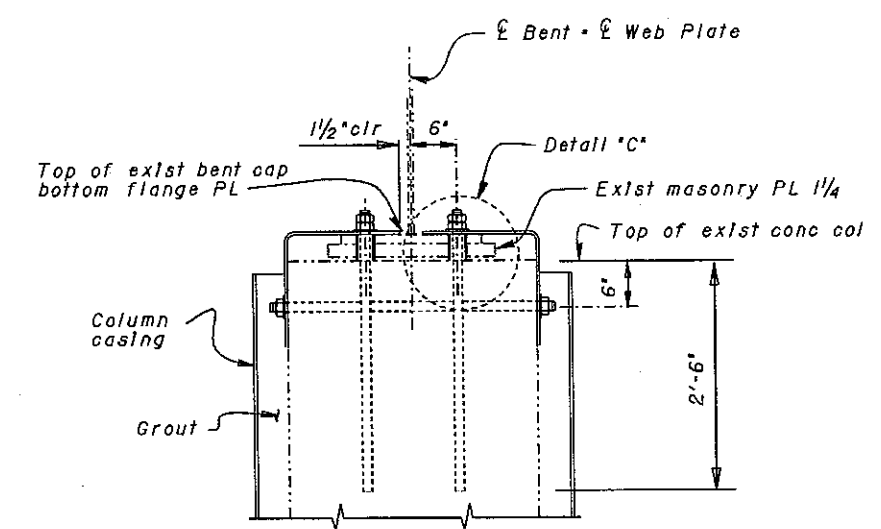
DETAIL "C"
 1/4" = 1'-0"



TYPICAL ELEVATION
 1" = 1'-0"



ELEVATION K2-100
 1" = 1'-0"



SECTION C-C
 1" = 1'-0"

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	DESIGN	BY C. Lomoka	CHECKED M. Akkar1	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES STRUCTURE DESIGN 2	BRIDGE NO.	S.F. BAYSHORE VIADUCT (Bent L98 to L103)														
	DETAILS	BY F. Calhoun	CHECKED M. Akkar1			34-0088															
	QUANTITIES	BY D. Forester	CHECKED M. Vinayagamorthy			POST MILE	BENT DETAILS NO. 2 K ₂ 98-K ₂ 100														
						4.1															
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 0435C1				DISREGARD PRINTS BEARING EARLIER REVISION DATES →				REVISION DATES (PRELIMINARY STAGE ONLY)				SHEET OF	
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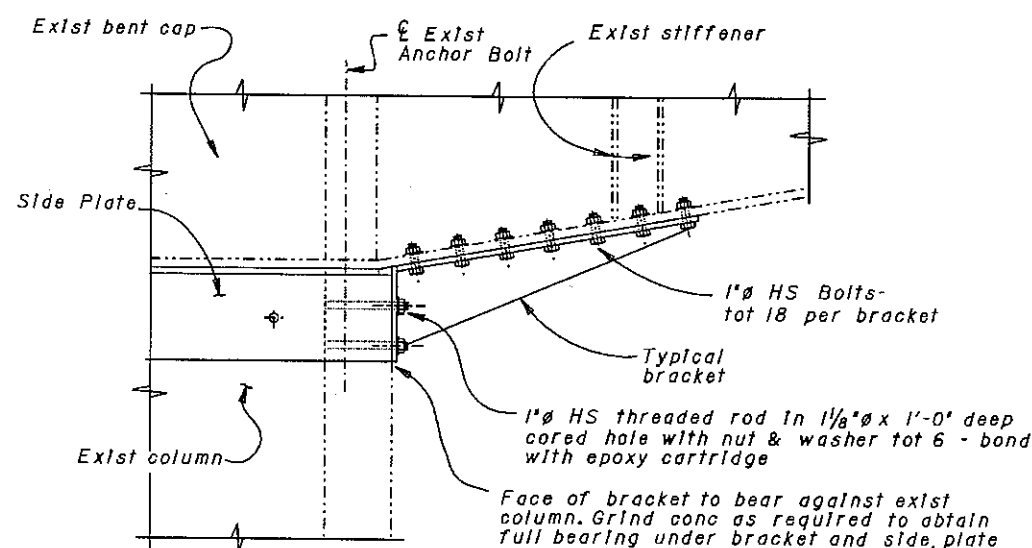
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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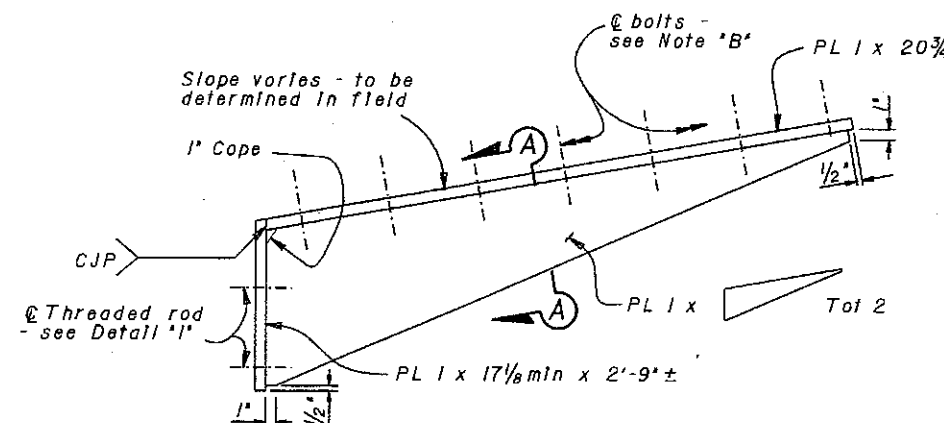
M. Akkari
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10-06-00
12-26-00
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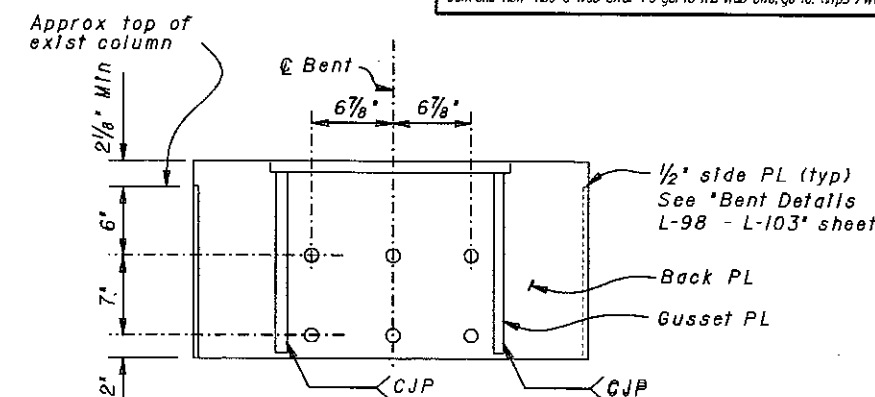
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DETAIL 'I'
3/4" = 1'-0"



SIDE BRACKET VIEW

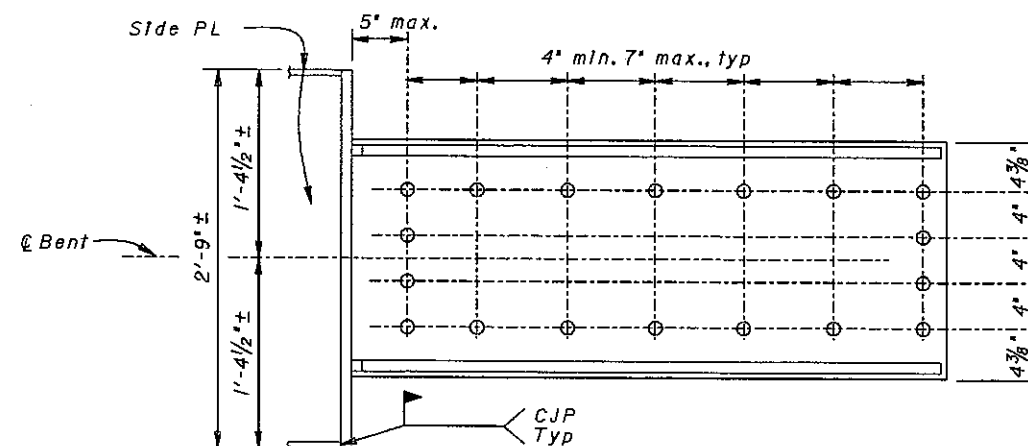


END VIEW

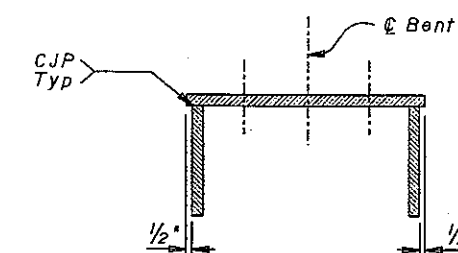
Note 'B':

Bolts to be spaced evenly along length of plate and to avoid existing stiffeners. Stiffener spacing varies. Length of plate to be determined in the field.

Spacing of new bolts may be adjusted to clear existing anchor bolts with Engineer approval. Existing anchor bolts shall be located prior to coring.



REFLECTED PLAN



SECTION A-A

TYPICAL BRACKET DETAILS
1/2" = 1'-0"

NOTE:
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SFOBB - SEISMIC RETROFIT PROJECT NO. 14A

DESIGN	BY J. Holombo/C. Lomicka	CHECKED M. Akkari/K. T. Le
DETAILS	BY Flo Calhoun	CHECKED K. T. Le
QUANTITIES	BY D. Forester	CHECKED M. Vinayagamoorthy

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 2

BRIDGE NO.	34-0088
POST MILE	4.1

S.F. BAYSHORE VIADUCT (Bent L98 to L103)
BRACKET DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 04
EA 0435C1

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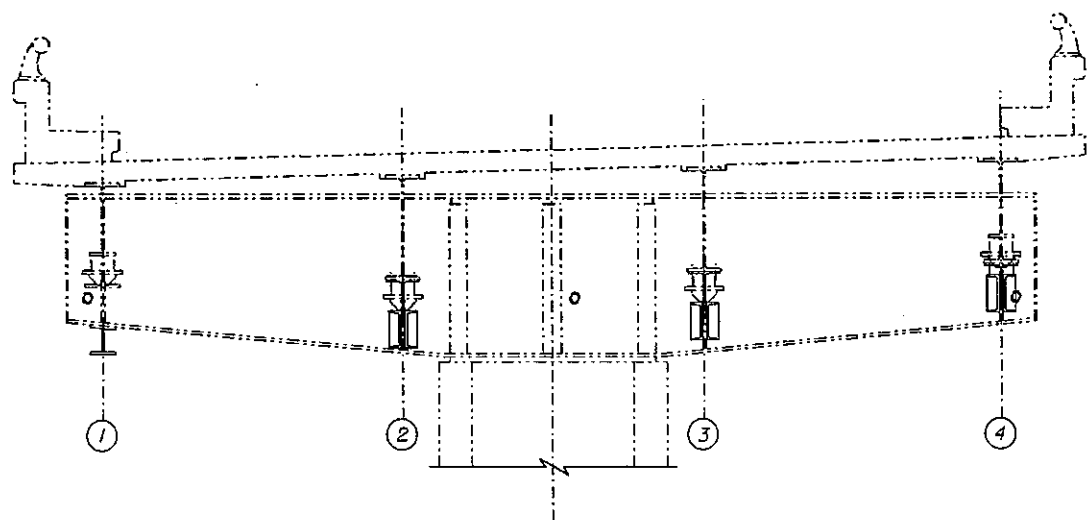
REVISION DATES (PRELIMINARY STAGE ONLY)

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SHEET 11 OF 27

USERNAME => trph11s
DGN FILE => sebrk.dgn

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 16:22



CAP ELEVATION - EXPANSION FACE (MIRROR ELEVATION)

3/8" = 1'-0"

Notes:

Cross slope varies.

Diaphragms not shown.

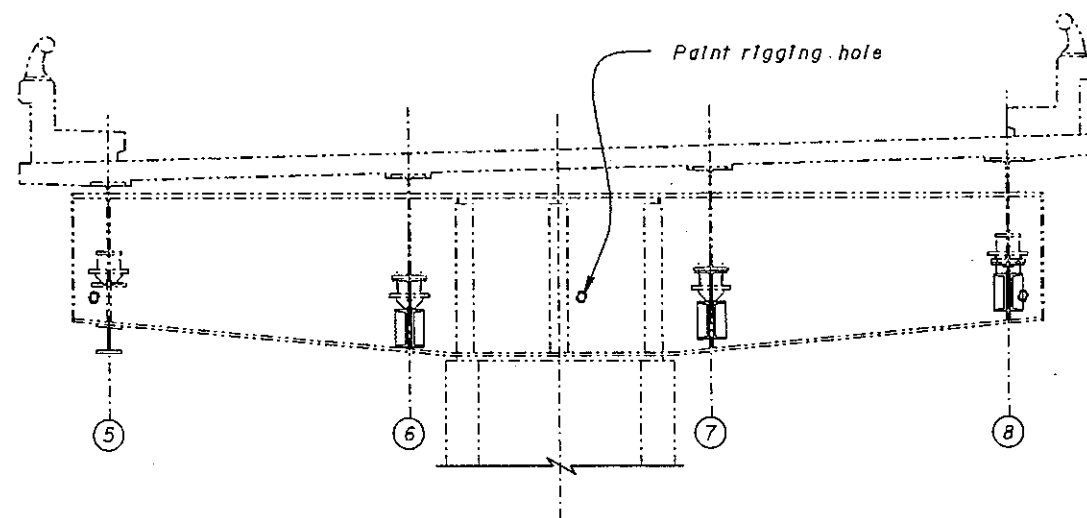
For electrical conduit removal and replacement, see "Road Plans".

For "Elevation Bracket B", see "BEARING RETROFIT DETAILS NO. 1" sheet.

For "Elevation Bracket D", see "BEARING RETROFIT DETAILS NO. 2" sheet.

For "Elevation Bracket EA & EB", see "BEARING RETROFIT DETAILS NO. 3" sheet.

○ Denotes Girder Designation, Typ



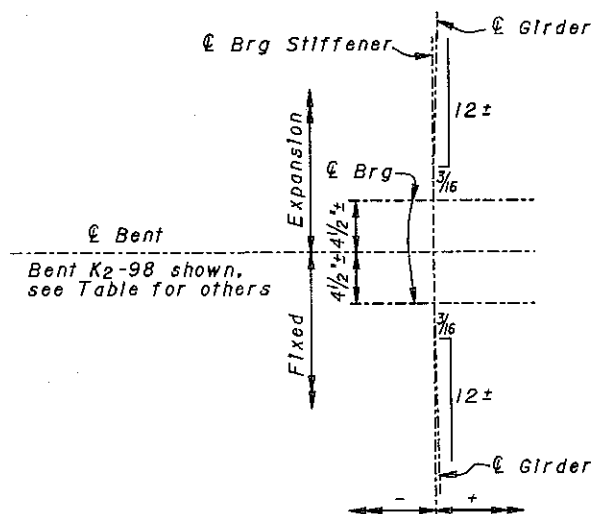
CAP ELEVATION - FIXED FACE

3/8" = 1'-0"

Bent No.	Expansion Face				Fixed Face			
	①	②	③	④	⑤	⑥	⑦	⑧
K2-98	D	EB	EB	EA	D	B	B	EB
K2-99	D	EB	EB	EA	D	B	EB	EB
K2-100*	D	B	EB	B	D	B	EB	EB

* Remove, realign and reinstall/ or replace deck drain pipe and hangers at Bents Indicated, see "Bearing Retrofit No. 3" sheet.

* Denotes Bracket with clip angle omitted on one side because of paint rigging hole in Bent Cap.



PLAN EXISTING GIRDER SKEW

1 1/2" = 1'-0"

EXISTING GIRDER SKEW TABLE - For Information Only								
Bent No.	Expansion Face				Fixed Face			
K2-98	①	②	③	④	3/16" : 12±	⑤	⑥	⑦
K2-99	①	②	③	④	3/16" : 12±	⑤	⑥	⑦
K2-100	①	②	③	④	7/16" : 12±	⑤	⑥	⑦

Note "A"

Existing cable restrainers may be disassembled and reassembled as needed. Do not remove more than 50% of cable restrainers per bent at one time.

NOTE:
EXISTING RESTRAINER DETAILS INCLUDED FOR INFORMATION ONLY

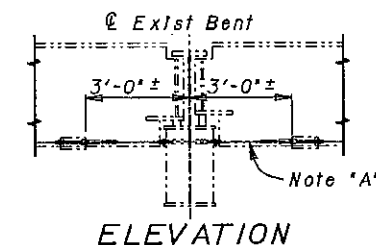
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	104	166

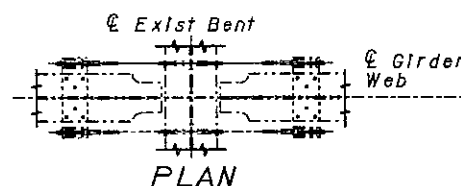
M. Akkari
REGISTERED ENGINEER - CIVIL
10-06-00
12-26-00
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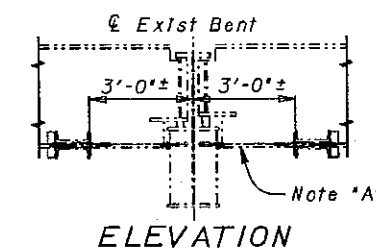
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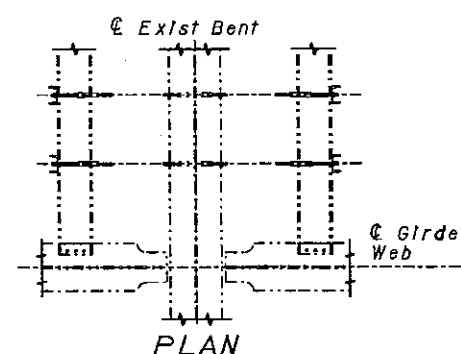
PLAN

EXISTING RESTRAINER AT GIRDER

3/8" = 1'-0"



ELEVATION



PLAN

EXISTING RESTRAINERS BETWEEN GIRDERS

3/8" = 1'-0"

DESIGN			CHECKED			BRIDGE NO.		
M. Akkari			F. Hoffman/Kien T. Le			34-0088		
DETAILS			Kien T. Le			POST MILE		
K. Endow			M. Simonsen			4.1		
QUANTITIES						REVISION DATES (PRELIMINARY STAGE ONLY)		
N. Mahani						2/21/00 2/21/00 4/22/00 7/28/00		

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 04
EA 0435C1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

USERNAME => trphilis
DGN FILE => a04r.gso.dgn

SHEET 12 OF 27

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A

S.F. BAYSHORE VIADUCT (Bent L98 to L103)

BEARING RETROFIT NO. 1

DATE PLOTTED => 15-DEC-2000
TIME PLOTTED => 16:23

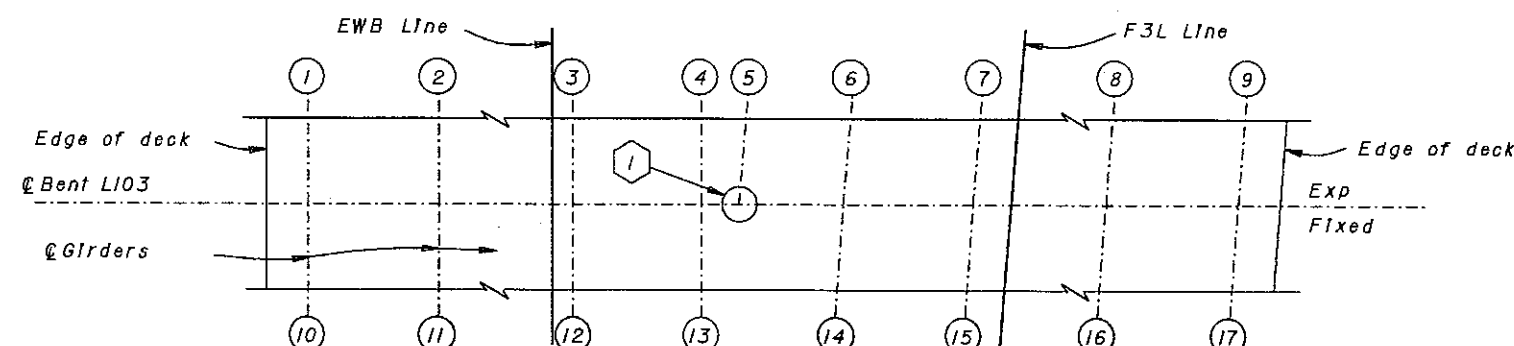
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	105	166

M. Akkari
REGISTERED ENGINEER - CIVIL
10-06-00
12-26-00
PLANS APPROVAL DATE
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PROFESSIONAL ENGINEER
M. AKKARI
No. 44488
Exp. 3-31-02
CIVIL
STATE OF CALIFORNIA

EXISTING GIRDER SKEW TABLE - For Information Only		
Bent No.	Expansion Face	Fixed Face
L98	①②③ 0	⑦⑧⑨⑩⑪⑫ 0
	④⑤⑥ $\frac{1}{4}:12 \pm$	
L99	①②③ 0	⑧⑨⑩ 0
	④⑤⑥⑦ $\frac{3}{8}:12 \pm$	⑪⑫⑬ $\frac{1}{4}:12 \pm$
L100	①②③④ 0	⑧⑨⑩ 0
	⑤⑥⑦ $\frac{5}{16}:12 \pm$	⑪⑫⑬⑭ $\frac{3}{8}:12 \pm$
L101	①②③④⑤ 0	⑨⑩⑪⑫ 0
	⑥⑦⑧ $\frac{3}{4}:12 \pm$	⑬⑭⑮ $\frac{5}{16}:12 \pm$
L102	①②③④ 0	⑨⑩⑪⑫⑬ 0
	⑤⑥⑦⑧ $\frac{7}{8}:12 \pm$	⑭⑮⑯ $\frac{3}{4}:12 \pm$
L103	①②③④ 0	⑩⑪⑫⑬ 0
	⑤⑥⑦⑧⑨ $1:12 \pm$	⑭⑮⑯⑰ $\frac{7}{8}:12 \pm$

BEARING RETROFIT BRACKET TYPE		
Bent No.	Expansion Face	Fixed Face
L98 *	①②③④⑤⑥ *FB B B B B D	⑦⑧⑨⑩⑪⑫ *FB B B B B D
L99	①②③④⑤⑥⑦ *FB B B B B B D	⑧⑨⑩⑪⑫⑬ *FB B B B B D
L100 *	①②③④⑤⑥⑦ *FB B B B B B D	⑧⑨⑩⑪⑫⑬⑭ *FB B B B B B D
L101 *	①②③④⑤⑥⑦⑧ D B * B B B B D	⑨⑩⑪⑫⑬⑭⑮ D B * B B B B D
L102	①②③④⑤⑥⑦⑧ *FB B * B B B B D	⑨⑩⑪⑫⑬⑭⑮⑯ *FB B * B B B B D
L103 *	①②③④⑤⑥⑦⑧⑨ *FB B B B B B B D	⑩⑪⑫⑬⑭⑮⑯⑰ *FB B B B B B B D



Note:

For 'Detail 1', see 'BEARING RETROFIT DETAILS NO. 4' sheet

⊗ Remove, realign and reinstall/ or replace deck drain pipe and hangers at Bents Indicated, see 'BEARING RETROFIT NO. 3' sheet.

* Denotes Bracket with clip angle omitted on one side because of hole in bent cap for paint rigging.

For 'Plan Existing Girder Skew', see 'BEARING RETROFIT NO. 1' sheet

For 'Elevation Bracket B', see 'BEARING RETROFIT DETAILS NO. 1' sheet

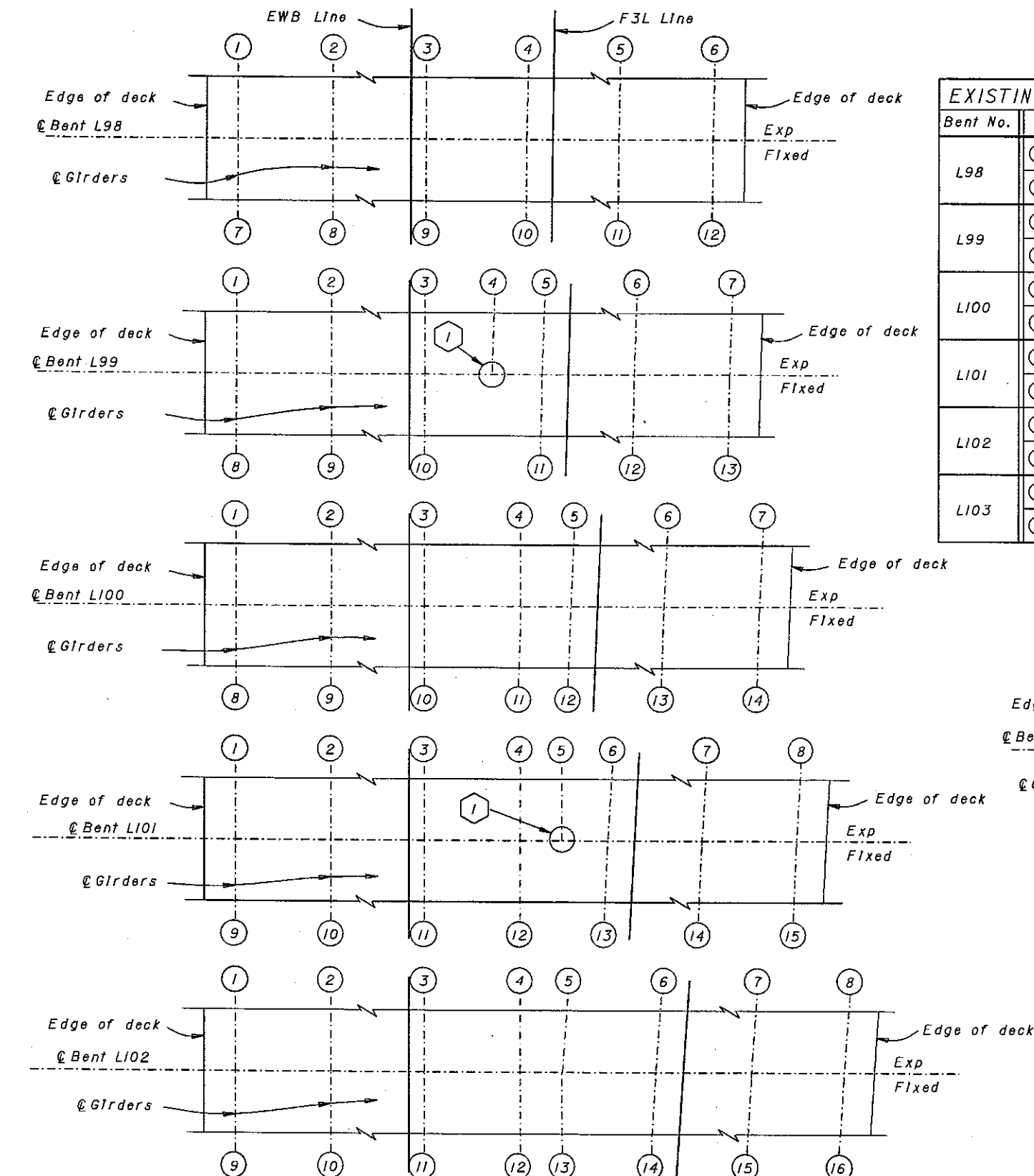
For 'Elevation Bracket D', see 'BEARING RETROFIT DETAILS NO. 2' sheet

For 'Elevation Bracket EB', see 'BEARING RETROFIT DETAILS NO. 3' sheet

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PLAN - NONTYPICAL BENTS

$\frac{3}{16}''=1'-0''$



○ Denotes Girder Designation - Typ

⬡ Denotes 'Detail No.'

DESIGN	BY M. Akkari	CHECKED F. Hoffman/ Kien T. Le
DETAILS	BY K. Endow	CHECKED F. Hoffman/ Kien T. Le
QUANTITIES	BY N. Melahani	CHECKED M. Simonsen

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 2

BRIDGE NO.	34-0088
POST MILE	4.1

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A

S.F. BAYSHORE VIADUCT (Bent L98 to L103)

BEARING RETROFIT NO. 2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

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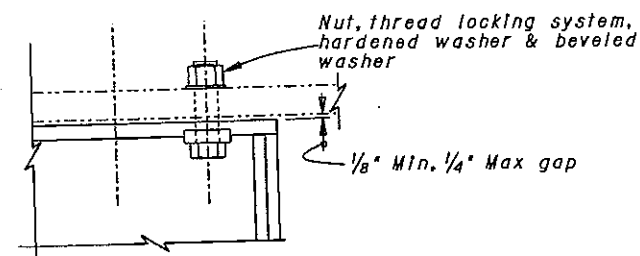
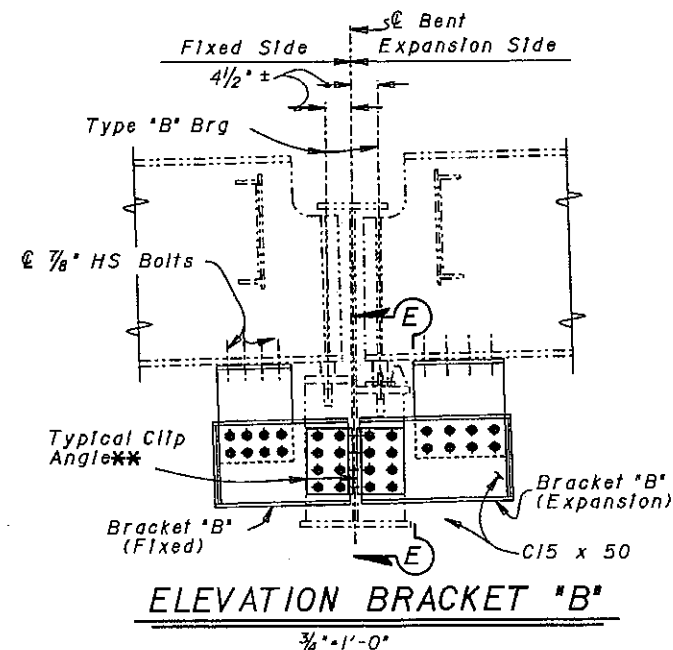
DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

2/2/00 2/22/00 4/2/00 7/28/00 8/22/00

SHEET 13 OF 27

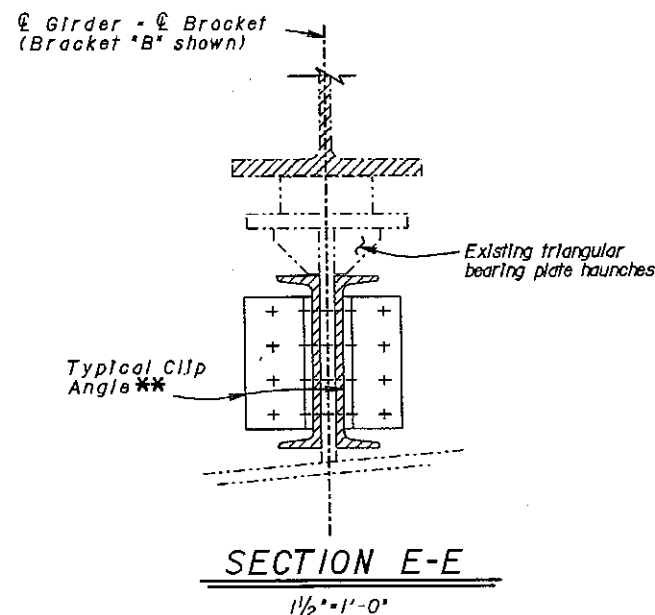
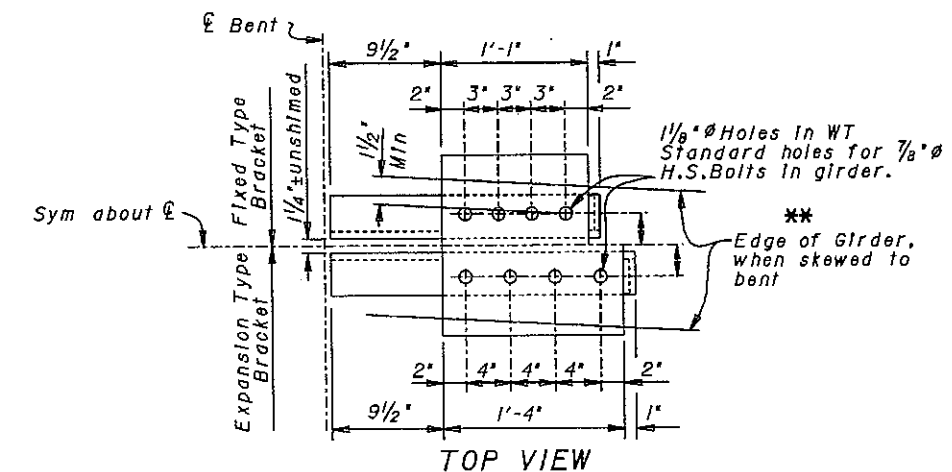
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USERNAME => TRANSPSYS DATE PLOTTED => 18-DEC-2000



TYPICAL GIRDER CONNECTION

BOLT INSTALLATION TABLE	
Steel Girder Temperature	Bolt Location (From center of hole)
40	1/4" closer to ctr of span
60	center of hole
80	1/4" further away from ctr of span

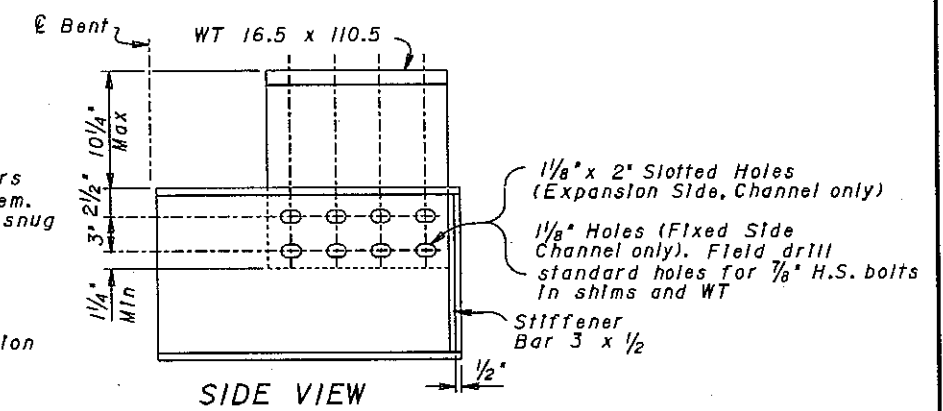
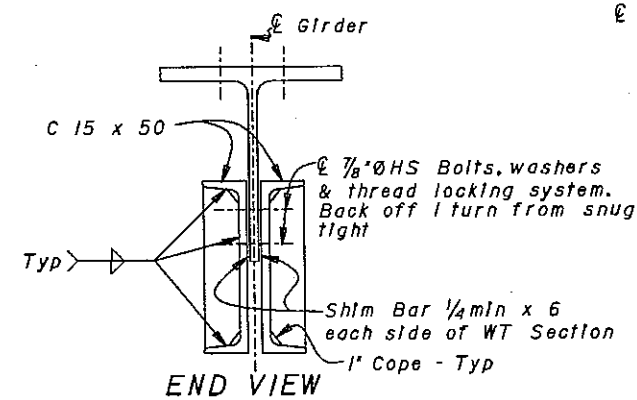
Note: -Interpolate for temperature other than those shown



Notes:

- All bolts, threads to be excluded from shear plane, except as noted.
- Bolts must be centered in the oversized holes. For slotted holes, adjust for temperature, see Bolt Installation Table.
- For Clip Angle connection to brackets, see "Typical Clip Angle" on "BEARING RETROFIT DETAILS NO. 4" sheet
- Brackets to be installed parallel to bottom flange of girders.
- Bracket 'B' is designated with Type 'A' Brg when bottom flange of girder is higher than triangular brg plate haunches (Detail not shown)

**Tapered Shlm Bar (1/8" min) and Bent Clip Angle required each side of Brg Support for girders skewed greater than 1/16" : 1/2" see detail "Bearing Retrofit Details No. 4" sheet.



BRACKET 'B'
1 1/2" - 1'-0"

NOTE:
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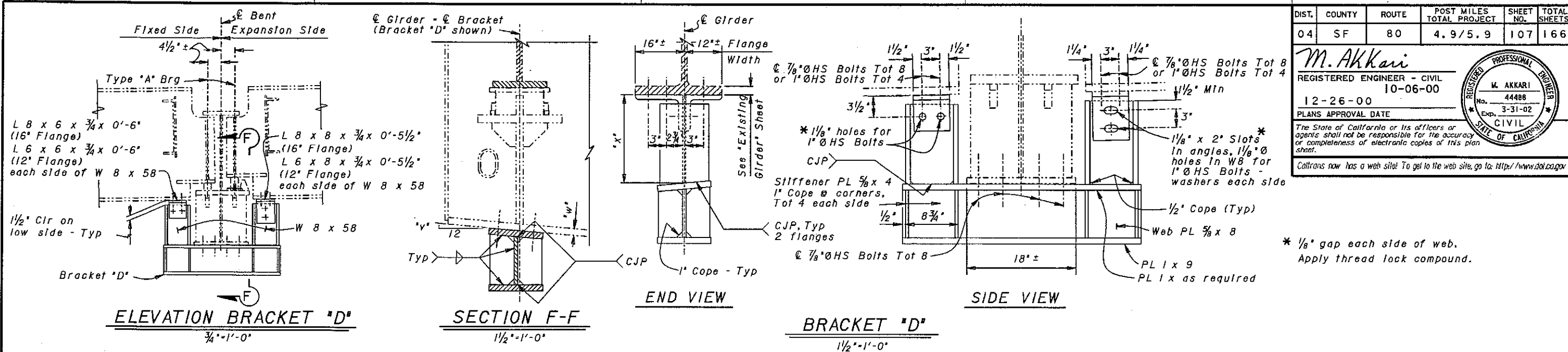
DESIGN	BY Fritz Hoffman/S. Hida	CHECKED M. Akkari/Kien T. Le
DETAILS	BY K. Endow	CHECKED M. Akkari/Kien T. Le
QUANTITIES	BY D. Forester	CHECKED M. Vinayagamoorthy

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 2

BRIDGE NO.	34-0088
POST MILE	4.1

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A
S.F. BAYSHORE VIADUCT (Bent L98 to L103)
BEARING RETROFIT DETAILS NO. 1



DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	107	166

M. AKKARI
 REGISTERED ENGINEER - CIVIL
 10-06-00
 12-26-00
 PLANS APPROVAL DATE

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 M. AKKARI
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 Exp. 3-31-02
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 STATE OF CALIFORNIA

EXISTING GIRDER TABLE				
Bent No.	Girder Designation		Girder Description	
	Expansion	Fixed	Expansion	Fixed
K2 98	1.4	5.8	36WF230	36WF230
	2.3	6.7	36WF260	36WF260
K2 99	1.4	5.8	36WF230	36WF230
	2.3	6.7	36WF260	36WF260
K2 100	1.4	5.8	36WF230	36WF230
	2.3	6.7	36WF260	36WF260
L98	1.6	7.12	36WF230	36WF230
	2-5	8-11	36WF245	36WF245
L99	1.7	8.13	36WF230	36WF230
	2-6	9-12	36WF245	36WF245
L100	1.7	8.14	36WF182	36WF230
	2-6	9-13	36WF230	36WF245
L101	1.8	9.15	36WF182	36WF182
	2-7	10-14	36WF230	36WF230
L102	1.8	9.16	36WF182	36WF182
	2-7	10-15	36WF230	36WF230
L103	1.9	10.17	36WF170	36WF182
	2-8	11-16	36WF230	36WF230

This Table Included for Information only.

BRACKET "D" TABLE				
Bent No.	Dimensions (In.±)			
	"v"		"w"	"x"
	Left	Right		
K2 98	1 1/16	1 1/16	1	10 7/8
K2 99	1 1/16	1 1/16	1	10 7/8
K2 100	1 1/16	1 1/16	1	10 7/8
L98	2 1/16	1 7/16	1 1/2	10 11/16
L99	2 1/16	1 7/8	1 1/2	10 9/16
L100	2 1/2	1 3/16	1 3/8	11 1/8
L101	2 5/16	1 5/8	1 3/8	13 1/2
L102	2 5/8	1 13/16	1 1/4	
L103	2 5/16	1 7/16	1 1/2	13 1/2

** Values taken from AISC Steel Construction Manual, 5th edition

WIDE FLANGE DIMENSIONAL DATA TABLE		
SIZE	FLANGE THICKNESS (In)	FLANGE WIDTH (In)
36WF170	1 1/8	12
36WF182	1 3/16	12 7/8
36WF230	1 1/4	16 1/2
36WF245	1 3/8	16 1/2
36WF260	1 7/16	16 1/2

This Table Included for Information only.

BOLT INSTALLATION TABLE	
Steel Girder Temperature T_F	Bolt Location (From center of hole)
40	1/4" further away from ctr of span
60	center of hole
80	1/4" closer to ctr of span

Note:
 -Interpolate for temperature other than those shown

STEEL BENT CAP WEB DIMENSIONAL DATA TABLE	
BENT NO.	WEB THICKNESS
L98, L99 & L103	1/2"
K298-K2100	
L100-L102	7/16"

This Table Included for Information only.

Note:
 -"Section F-F" shown, represents right side of Bent Cap on Expansion side.

Notes:

- Bolts shall be centered in oversized holes. See Bolt Installation Table for bolt locations in slotted holes.
- Field drill W8 x 58.
- Bracket "D" is one unit. "Bearing Retrofit Tables" indicate "D" bracket on both the fixed and expansion sides; this is referring to the same unit.
- For girder skew angle, see "Bearing Retrofit No. 1&2" sheets.
- For "Typical Girder Connection" see "BEARING RETROFIT DETAILS NO. 1" sheet

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY M. Akkari				CHECKED Kien T. Le	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES STRUCTURE DESIGN 2	BRIDGE NO. 34-0088	SFOBB - SEISMIC RETROFIT PROJECT NO. 14A	
DETAILS BY Dale Kubochi				CHECKED Kien T. Le			POST MILE 4.1	S.F. BAYSHORE VIADUCT (Bent L98 to L103)	
QUANTITIES BY N. Melahani				CHECKED M. Simonser			BEARING RETROFIT DETAILS NO. 2		

DS 050 239 (CADD 9/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 04
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DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
1-2-00 2-24-00 4-24-00 1-24-00 9-29-00	15	27

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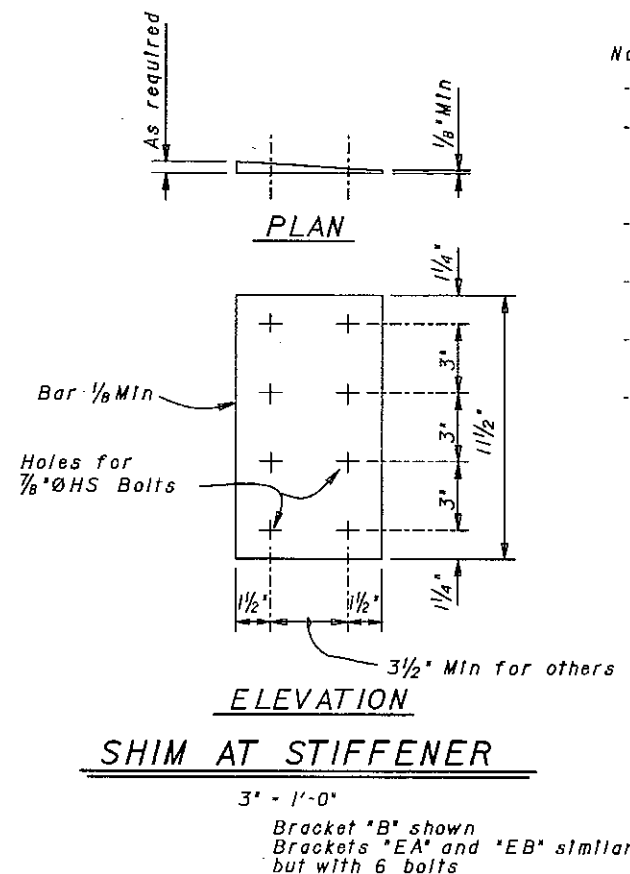
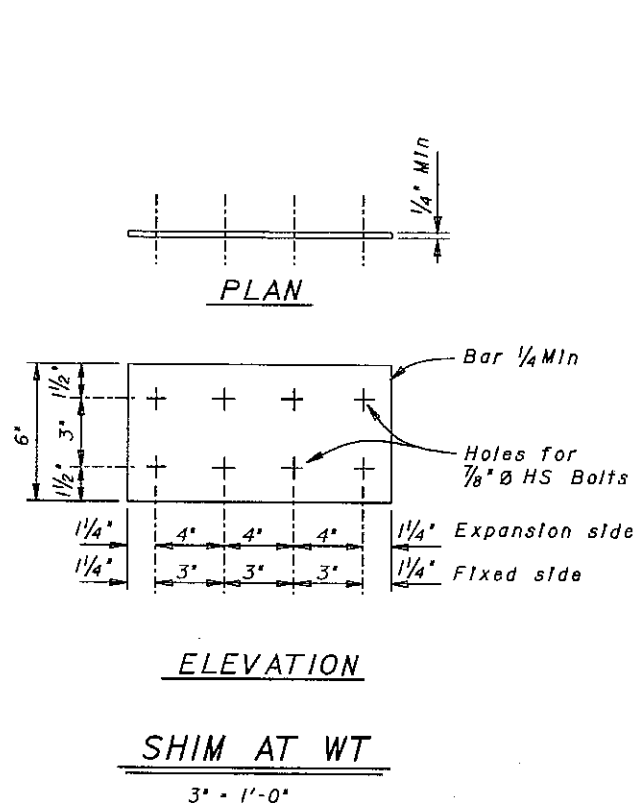
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	109	166

M. Akkari
REGISTERED ENGINEER - CIVIL
10-06-00
12-26-00
PLANS APPROVAL DATE

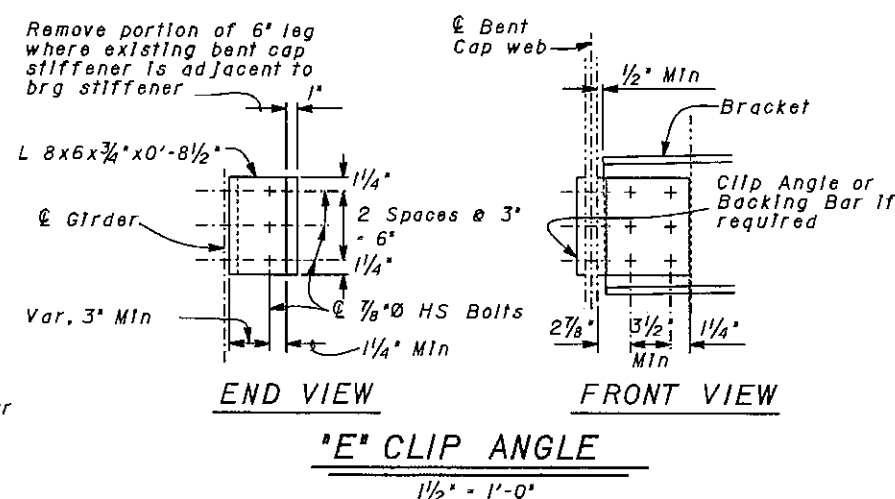
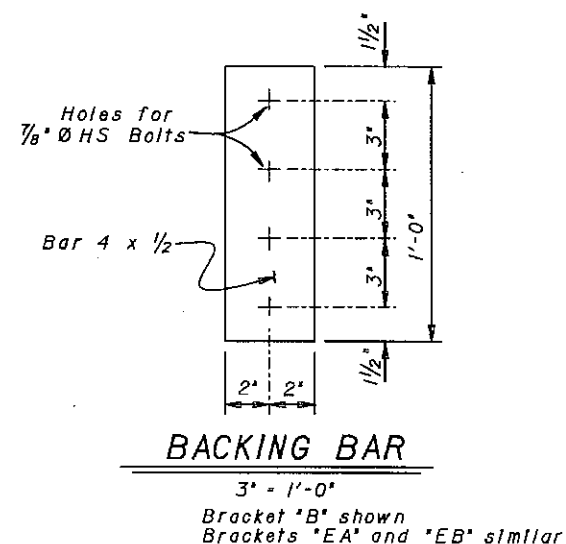
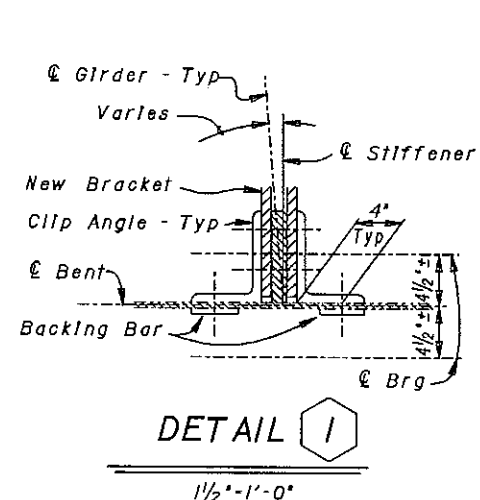
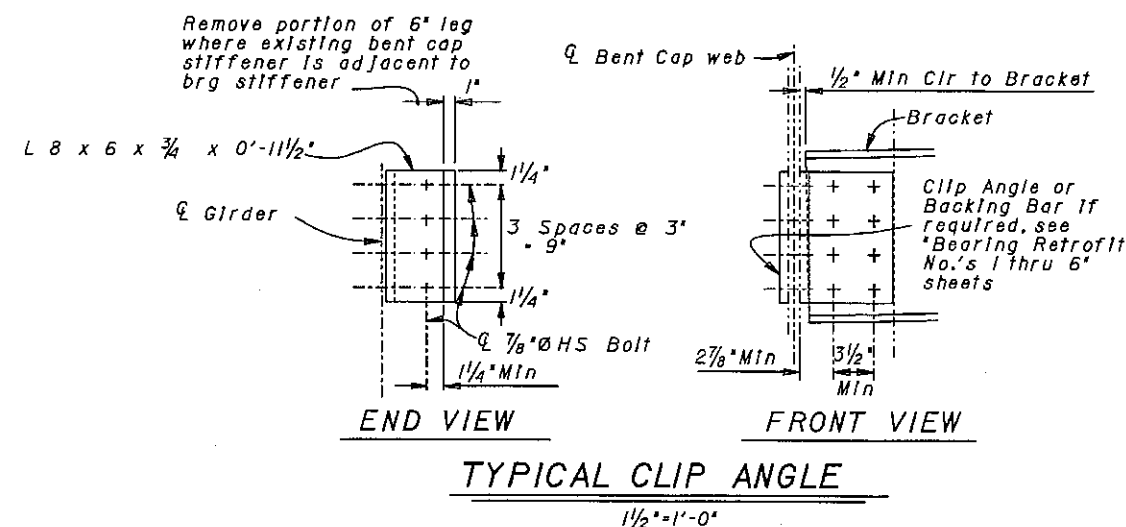
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Notes:

- Exclude threads from shear plane on all bolts for bracket connection
- If girder skew exceeds $\frac{3}{16}$:12, use tapered Shim Bar and bent Clip Angles each side of Brg Support, see "Existing Skew Table" on "BEARING RETROFIT NO. 1 & 2" sheets. Mill tapered shims to no less than $\frac{1}{8}$ " thick
- At Contractor's option, bent Clip Angles may be formed from Rolled Plate bent hot. Leg of bent angle must be flat for full contact in bolted connection
- Bearing width required for either bent Clip Angles or Rolled Plate is $1\frac{1}{2}$ " in both directions from of bolts
- Shape Clip Angles to obtain full bearings, field drill Clip Angle bolt holes for Bent Legs.
- Field drill Shim Bar bolt hole.



NOTE:
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DESIGN BY M. Akkari				CHECKED Fritz Hoffman/Klen T. Le				STATE OF CALIFORNIA				BRIDGE NO. 34-0088				SFOBB - SEISMIC RETROFIT PROJECT NO. 14A			
DETAILS BY K. Endow				CHECKED Fritz Hoffman/Klen T. Le				DIVISION OF STRUCTURES				34-0088				S.F. BAYSHORE VIADUCT (Bent L98 to LI03)			
QUANTITIES BY N. Melehan				CHECKED M. Simonsen				DEPARTMENT OF TRANSPORTATION				STRUCTURE DESIGN 2				BEARING RETROFIT DETAILS NO. 4			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3				CU 04 EA 0435C1				DISREGARD PRINTS BEARING EARLIER REVISION DATES				REVISION DATES (PRELIMINARY STAGE ONLY)			
												2/2/00 1/2/00 1/2/00 1/2/00 1/2/00				SHEET 17 OF 27			

DATE PLOTTED -> 18 DEC 2000 TIME PLOTTED -> 08:46

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	110	166

M. AKKARI
REGISTERED ENGINEER - CIVIL
12-26-00
PLANS APPROVAL DATE
10-06-00

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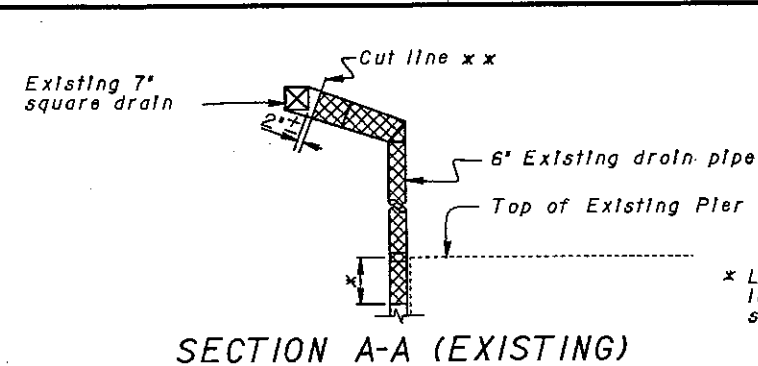
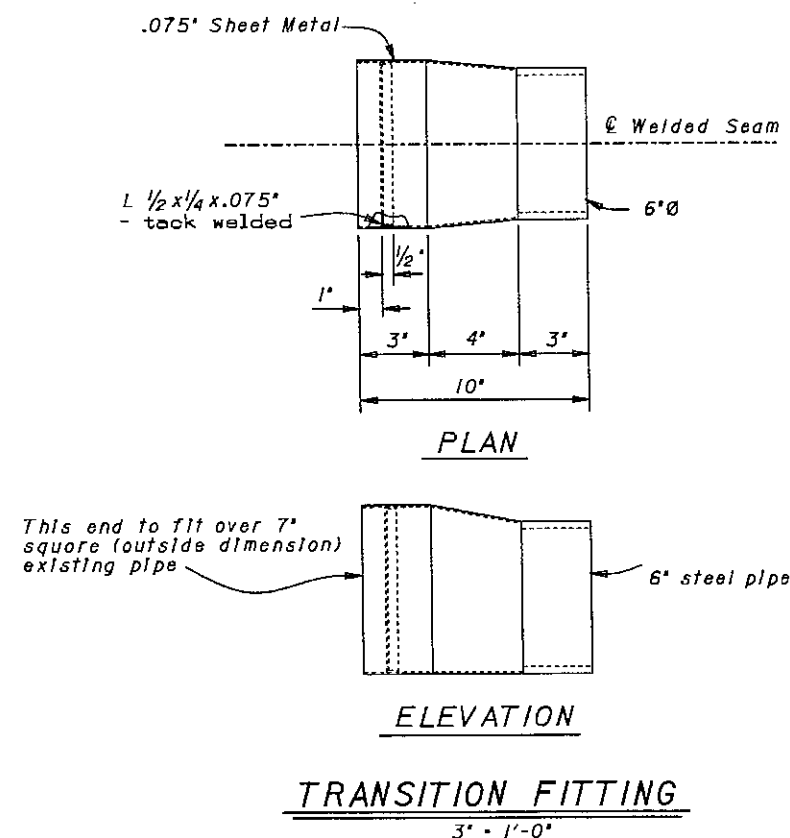
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PROFESSIONAL ENGINEER
M. AKKARI
No. 44488
Exp. 3-31-02
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STATE OF CALIFORNIA

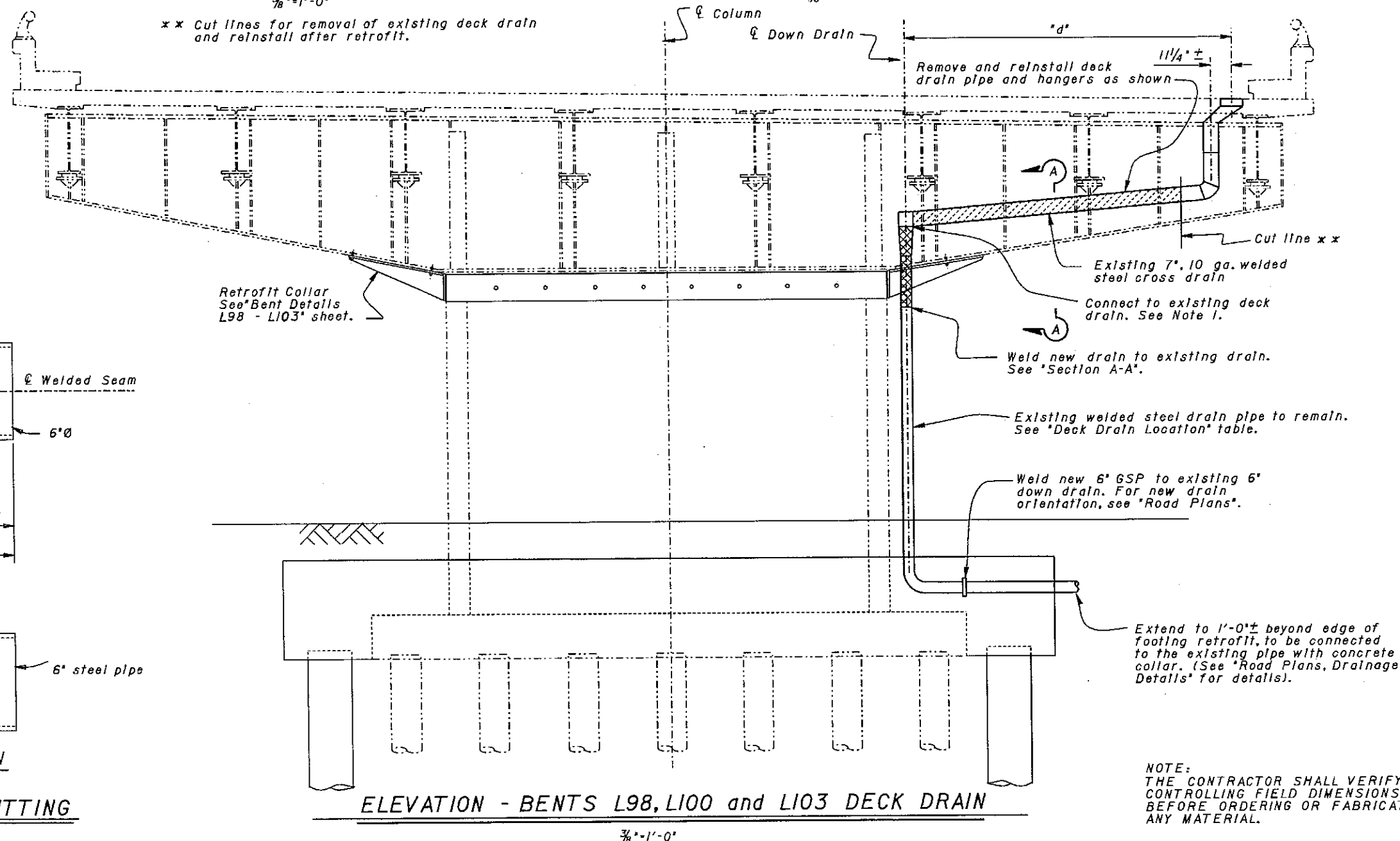
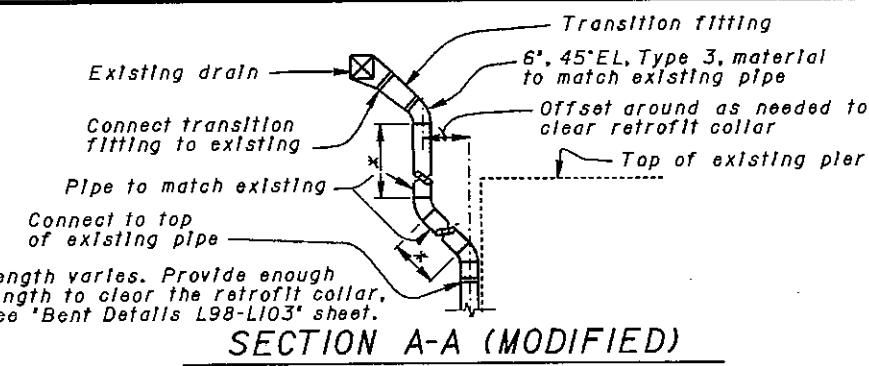
- Notes:
1. New drain to connect to existing drain as shown.
 2. Piping shall be 6" GSP (Galvanized Steel Pipe).
 3. To weld GSP the galvanizing shall be removed where welded and respray with galvanizing paint.
 4. Support pipe at each elbow and at 10' max. details and bent type.
 5. See other sheets for Bearing, Column and Footing retrofit.

- Indicates limits of existing drain removal.
- Indicates limits of existing drain removal and instal after retrofit.

DECK DRAIN LOCATION		
BENT NO.	"d" (ft.)	Location of Existing 6" down drain
L-98	12.5 ±	Outside of Column
L-100	19.0 ±	Outside of Column
L-103	2.3 ±	Outside of Column



x x Cut lines for removal of existing deck drain and reinstall after retrofit.



NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN				BY M. Slavinsky		CHECKED M. Akkari		STATE OF CALIFORNIA		DIVISION OF STRUCTURES		BRIDGE NO.		SFOBB - SEISMIC RETROFIT PROJECT NO. 14A	
DETAILS				BY Francis Dukeshire 2/00		CHECKED M. Akkari		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN 2		34-0088		S.F. BAYSHORE VIADUCT (Bent L98 to L103)	
QUANTITIES				BY N. Melehan		CHECKED M. Simonsen						POST MILE		DECK DRAIN DETAILS No. 1	
												4.1			
05 DSD 239 (CADD 9/95)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 04 EA 0435C1		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 18 OF 27	
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DIST.04COUNTY.SFROUTE.80POST MILES TOTAL PROJECT.4.9/5.9SHEET NO.111TOTAL SHEETS.166

M. Akkari

REGISTERED ENGINEER - CIVIL

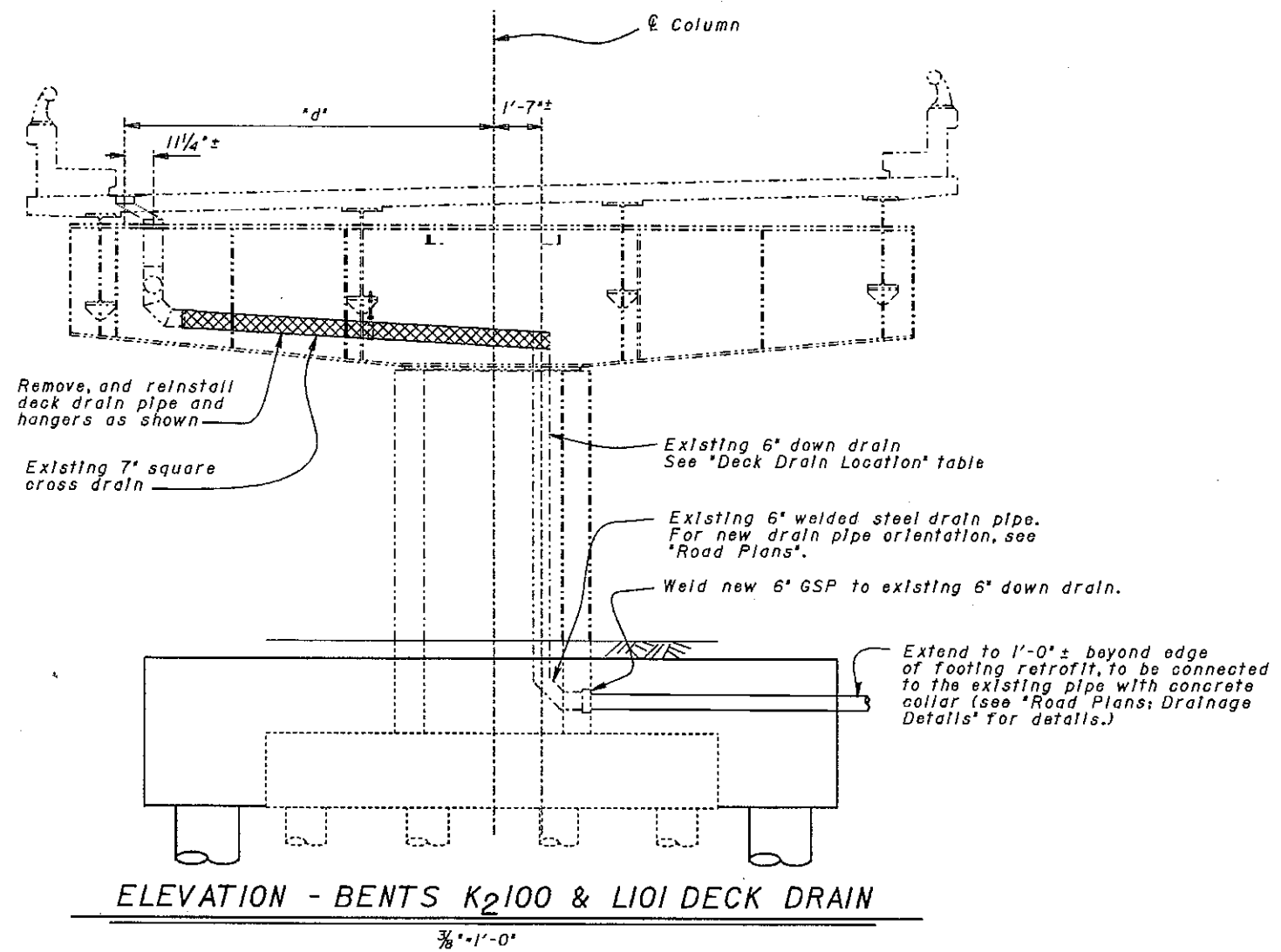
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ELEVATION - BENTS K2100 & L101 DECK DRAIN

Note: Bent K2100 shown.
Deck drain for Bent L101
is on the opposite (right
hand) side.

Indicates limits of existing drain pipe removal and reinstallation.

- Notes:
1. New drain to connect to existing drain as shown.
 2. Piping shall be 6" GSP (Galvanized Steel Pipe).
 3. To weld GSP the galvanizing shall be removed where welded and respray with galvanizing paint.
 4. Support pipe at each elbow and at 10' max. details and bent type.
 5. See other sheets for Bearing, Column and Footing retrofit.

DECK DRAIN LOCATION		
BENT NO.	'd' (ft.)	Location of Existing 6" down drain
K2100	12.6 ±	Inside of Column
L-101	24.0 ±	Inside of Column

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

DESIGN BY M. Slavitsky
DETAILS BY Francis Dukeshire 2/00
QUANTITIES BY N. Malehary

CHECKED M. Akkari
CHECKED M. Akkari
CHECKED M. Simonser

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 2

BRIDGE NO. 34-0088
POST MILE 4.1

SFOBB - SEISMIC RETROFIT PROJECT NO.14A
S.F. BAYSHORE VIADUCT (Bent L98 to L103)
DECK DRAIN DETAILS No. 2

CU 04
EA 0435C1

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)
2/23/00 3/5/00 4/23/00 7/23/00 8/23/00

SHEET 19 OF 27

DATE PLOTTED => 18-DEC-2000 TIME PLOTTED => 13:56

DIST. COUNTY ROUTE POST MILES TOTAL PROJECT SHEET NO. TOTAL SHEETS

04 SF 80 4.9/5.9 112 166

M. Akkari

REGISTERED ENGINEER - CIVIL

10-06-00

12-26-00

PLANS APPROVAL DATE

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Caltrans now has a web site. To get to the web site, go to: <http://www.dot.ca.gov>

PROFESSIONAL ENGINEER

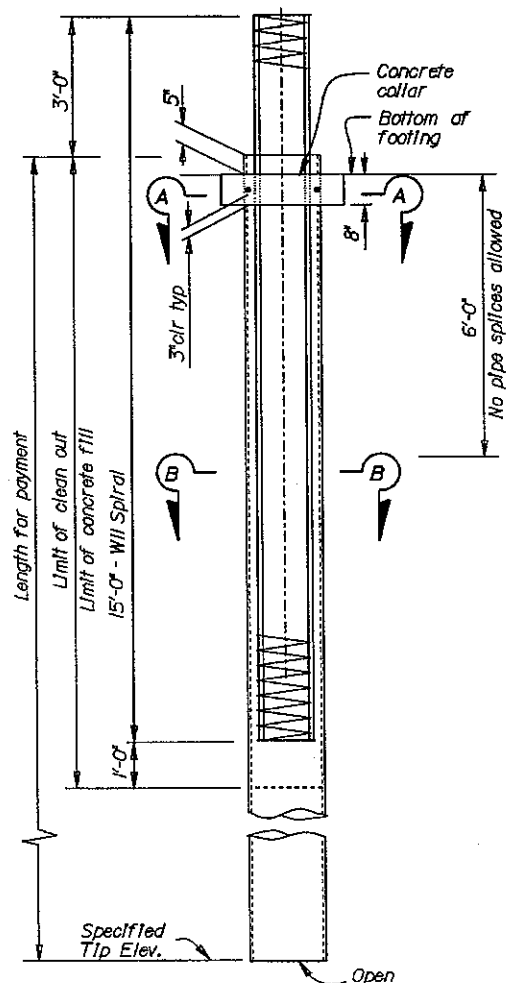
M. AKKARI

No. 44488

Exp. 3-31-02

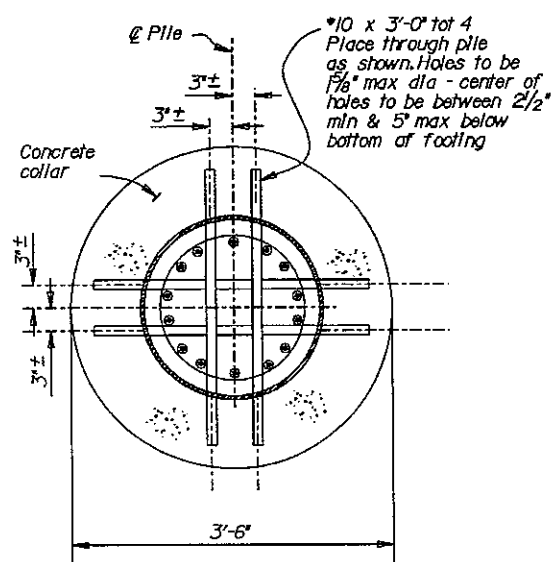
CIVIL

STATE OF CALIFORNIA



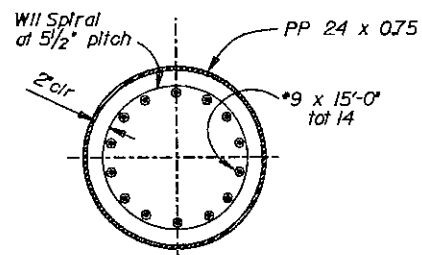
CAST-IN-STEEL
SHELL CONCRETE PILE

No Scale



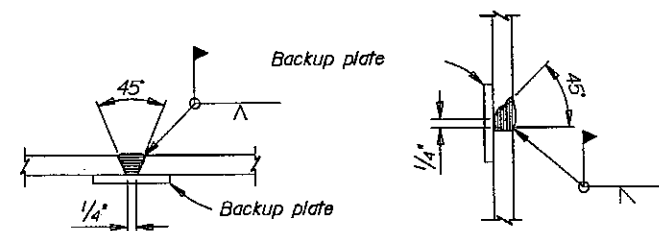
SECTION A-A

1'-1'-0"



SECTION B-B

1'-1'-0"



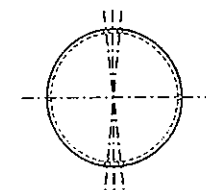
SINGLE VEE-GROOVE

SINGLE BEVEL-GROOVE

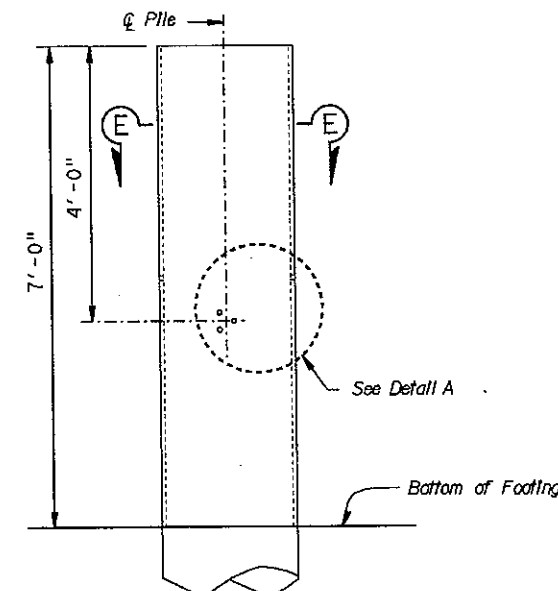
PILE WELDING DETAIL-BUTT JOINTS

Notes:

1. Single Vee-Groove permitted for all positions.
2. Single Bevel-Groove permitted for horizontal joints only.



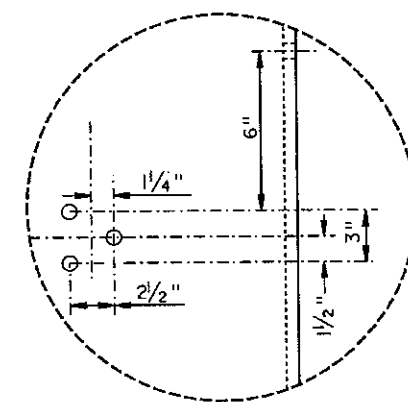
SECTION E-E



DYNAMIC MONITORING DETAIL

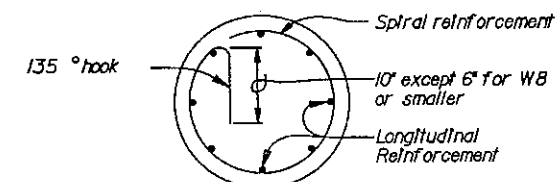
No Scale

All holes at 1/32" and tapped for 1/4"x20 threads. Total 16.



DETAIL A

No Scale



Note:

1. For lapped splices, spiral reinforcement shall be lapped at least 80 diameters.
2. Spiral reinforcement at lapped splices and at ends shall be terminated by a 135 degree hook around a longitudinal bar.

PILE AND COLUMN SPIRAL DETAIL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PILE TIP ELEVATIONS FOR IMPACT HAMMER AND VIBRATORY HAMMER (FT)													
BENT LOCATION	NOMINAL RESISTANCE		BOTTOM OF EXIST FTG ELEV ± (FT)	PILE DIA (IN)	PILE THK (IN)	DESIGN TIP ELEVATION FOR IMPACT HAMMER				DESIGN TIP ELEVATION FOR VIBRATORY HAMMER			
	COMPRESSION (KIPS)	TENSION (KIPS)				COMPRESSION (KIPS)	TENSION (KIPS)	LATERAL (KIPS)	SPECIFIED TIP ELEV.	COMPRESSION (KIPS)	TENSION (KIPS)	LATERAL (KIPS)	SPECIFIED TIP ELEV.
L98	392	197	7.0	24	0.75	-45	-48	-45	-48	-80	-75	-80	-80
L99	392	197	9.0	24	0.75	-45	-48	-45	-48	-80	-75	-80	-80
L100	392	197	9.0	24	0.75	-45	-48	-45	-48	-80	-75	-80	-80
L101	392	197	9.5	24	0.75	-45	-48	-45	-48	-80	-75	-80	-80
L102	392	197	10.5	24	0.75	-45	-48	-45	-48	-80	-75	-80	-80
L103	392	197	9.5	24	0.75	-45	-48	-45	-48	-80	-75	-80	-80
K2 98	466	242	8.0	24	0.75	-47	-50	-48	-50	-78	-74	-78	-78
K2 99	303	176	8.5	24	0.75	-46	-50	-46	-50	-72	-68	-72	-80
K2 100	303	176	9.0	24	0.75	-46	-50	-46	-50	-72	-68	-72	-80

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A

S.F. BAYSHORE VIADUCT (Bent L98 to L103)

PIPE PILE DETAILS

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/21/98)

DESIGN BY: G. Lai/M. Akkari CHECKED: C. Lomicka

DETAILS BY: K. Endow CHECKED: C. Lomicka

QUANTITIES BY: Y. Hao/E. Kuvani CHECKED: L. Yang/M. Akkari

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES

STRUCTURE DESIGN 2

BRIDGE NO. 34-0088

POST MILE 4.1

CU 04

EA 0435C1

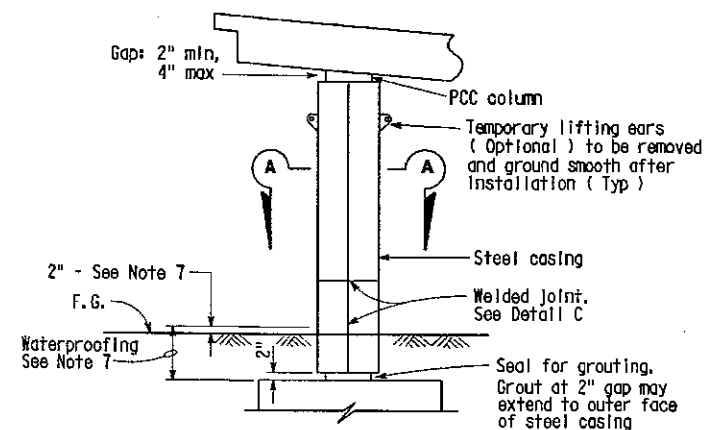
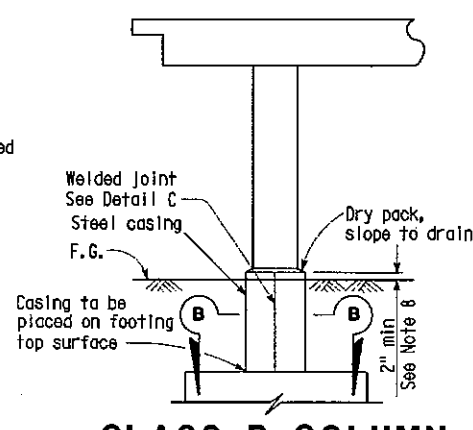
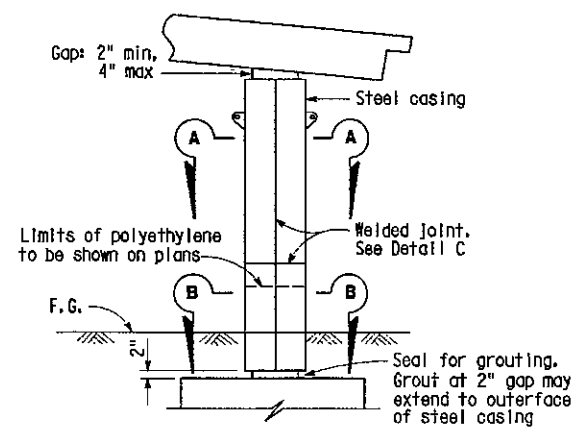
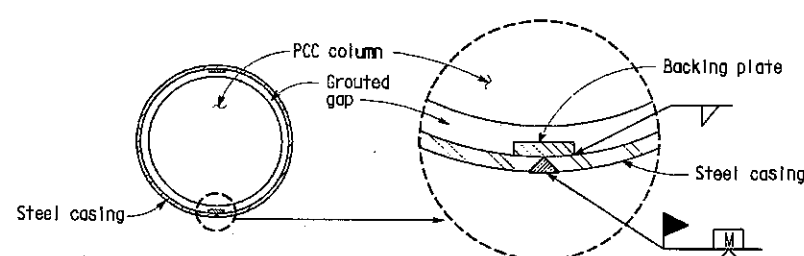
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DISSEMINATION BEARING EARLIER REVISION DATES

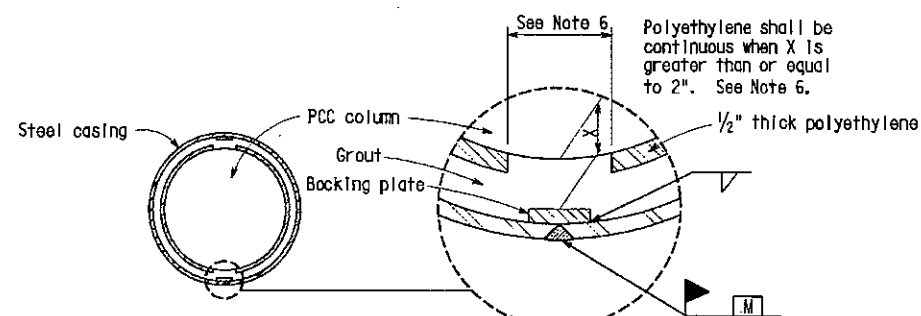
REVISION DATES (PRELIMINARY STAGE ONLY)

2/24/00 1/24/00 1/23/00 7/28/00

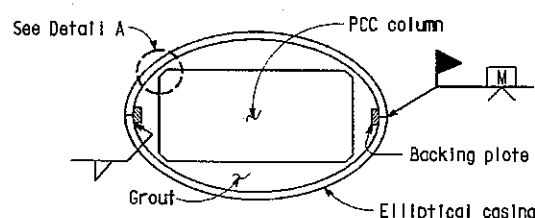
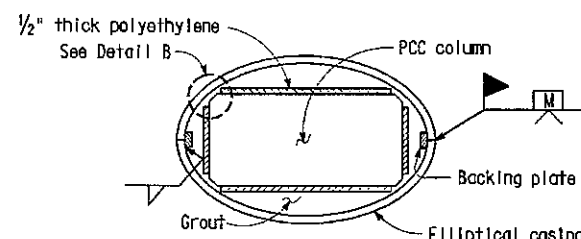
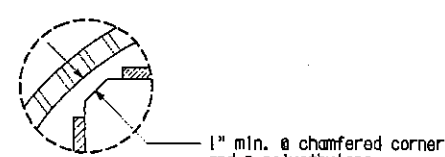
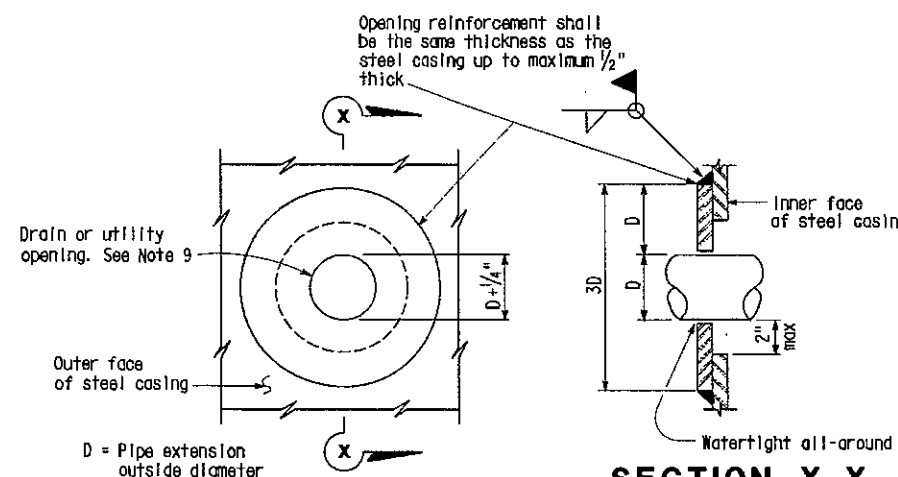
SHEET 20 OF 27

**CLASS F COLUMN****CLASS P COLUMN****CLASS P/F COLUMN****SECTION A-A
ROUND COLUMN**

Minimum inside diameter of steel casing = $1\frac{1}{2}$ " greater than nominal column diameter for Class F and $2\frac{1}{2}$ " for Class P/F

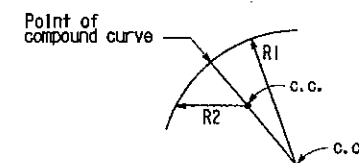
**SECTION B-B
ROUND COLUMN**

Minimum inside diameter of steel casing = $2\frac{1}{2}$ " greater than nominal column diameter for Class P and Class P/F.

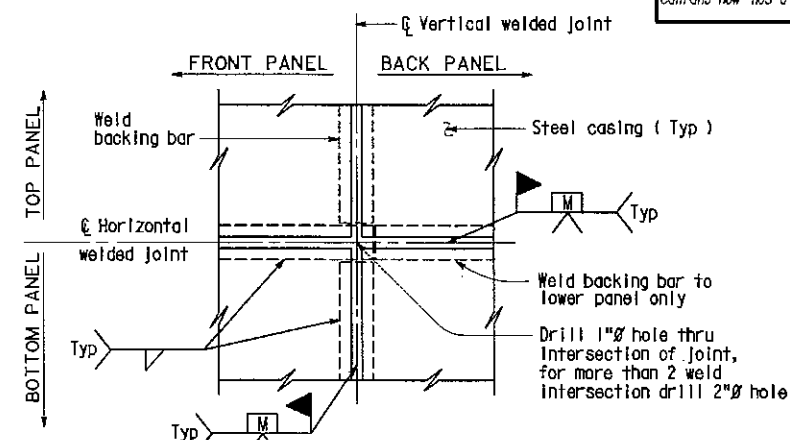
**SECTION A-A
RECTANGULAR COLUMN****SECTION B-B
RECTANGULAR COLUMN****DETAIL A****DETAIL B****SECTION X-X****CASING OPENING**

No Scale

Note: Opening reinforcement required for drain or utility openings larger than 4".

**ELLIPTICAL CASING DETAIL
CLASS P, F AND P/F COLUMN**

Radius R1 and R2 to be determined by the Contractor subject to the approval of the Engineer

**(TWO WELDED INTERSECTION JOINT)****DETAIL C**

No Scale

NOTES:

- For varying thickness steel casing inside surface to remain flush. Minimum clearance from PCC column to casing shall be maintained.
- Appropriate injection nozzles to be provided on casing, but removed and ground flush following completion of grouting operation.
- All voids between steel casing and polyethylene (Class P and Class P/F), and steel casing and PCC column (Class F) to be filled with grout.
- Location and number of vertical and horizontal welds to be determined by the Contractor, and subject to the approval of the Engineer. The location of casing welds are for illustration. No skip welds allowed.
- Circular steel casing to be $\frac{1}{4}$ " thick minimum for casings with a 4'-4" diameter or less; all other steel casings to be $\frac{3}{8}$ " thick unless noted differently on contract plans. Backing plates to be the same thickness as casing up to maximum $\frac{1}{2}$ " thick.
- Contractor shall remove 12" polyethylene strip behind backing plate if backing plate is closer than $\frac{1}{2}$ " from polyethylene.
- Waterproof limits for steel casings. Typical for Classes "P", "F" and "P/F".
- Minimum length of Classes "P" and "F" casing shall be 1.50 times the largest dimension of prismatic section of column, or 2" above finished grade whichever is greater. Lengths other than the specified minimum shall be shown on detail sheets.
- For pipe extensions, opening shall be no more than $\frac{1}{4}$ " greater than the pipe extension diameter. For other openings, the opening diameter to be determined by the Engineer.

SFOBB - SEISMIC RETROFIT PROJECT NO. 14A**S.F. BAYSHORE VIADUCT (Bent L98 to L103)****STEEL COLUMN CASINGS**

STANDARD DRAWING				
FILE NO. X6 12-77	DESIGN	BY BRIAN MARONEY	CHECKED R.J. ZELINSKI	APPROVAL, RECOMMENDED BY
DATE 8/93	DETAILS	BY R.YEE	CHECKED PAT HIPLEY	DESIGN SUPERVISOR
SUBMITTED BY		R.J. ZELINSKI		

DS OSD 2147A (CADD 7/97)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN **2**

CU 04
EA 0435C1

USERNAME: rjplence ajscc.dgn

BRIDGE NO.
34-0088
POST MILE
4.1

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 21 OF 27

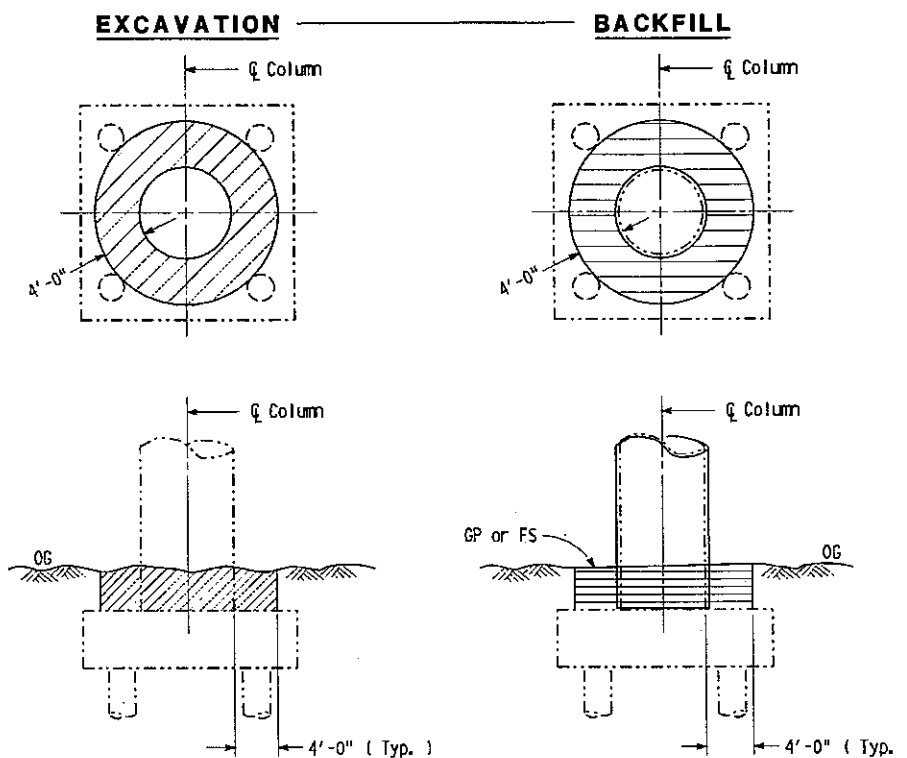
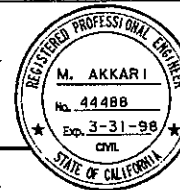
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	114	166

M. AKKARI
REGISTERED ENGINEER - CIVIL
10-06-00

12-26-00
PLANS APPROVAL DATE

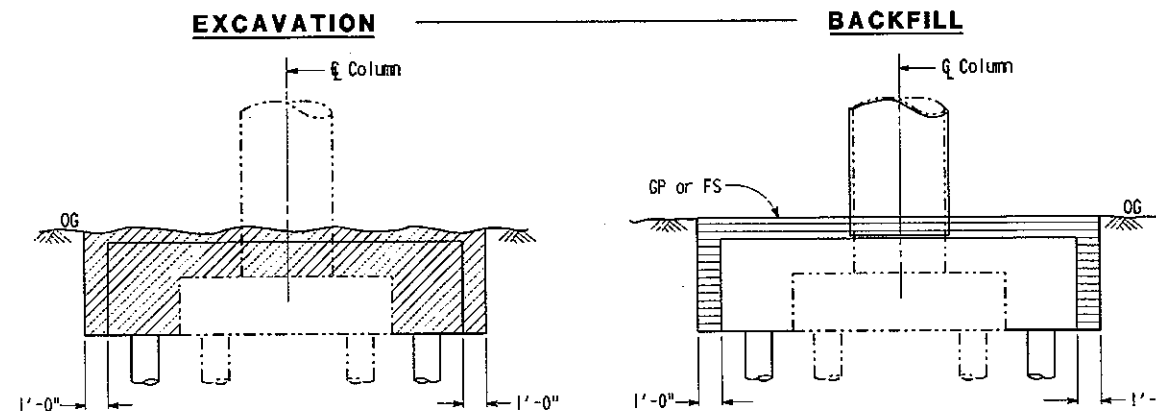
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COLUMN CASING ONLY

No Scale
Note: Circular column shown. Rectangular, square or oval columns similar.



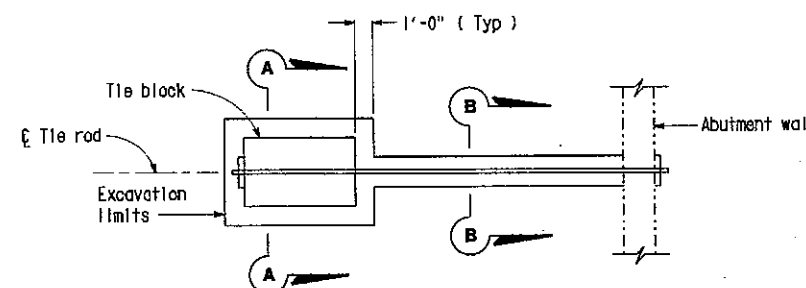
COLUMN CASING & FOOTING RETROFIT

No Scale

- LEGEND**
- Indicates existing structure
 - Indicates new construction
 - ▨ Indicates structure excavation
 - ▩ Indicates structure backfill

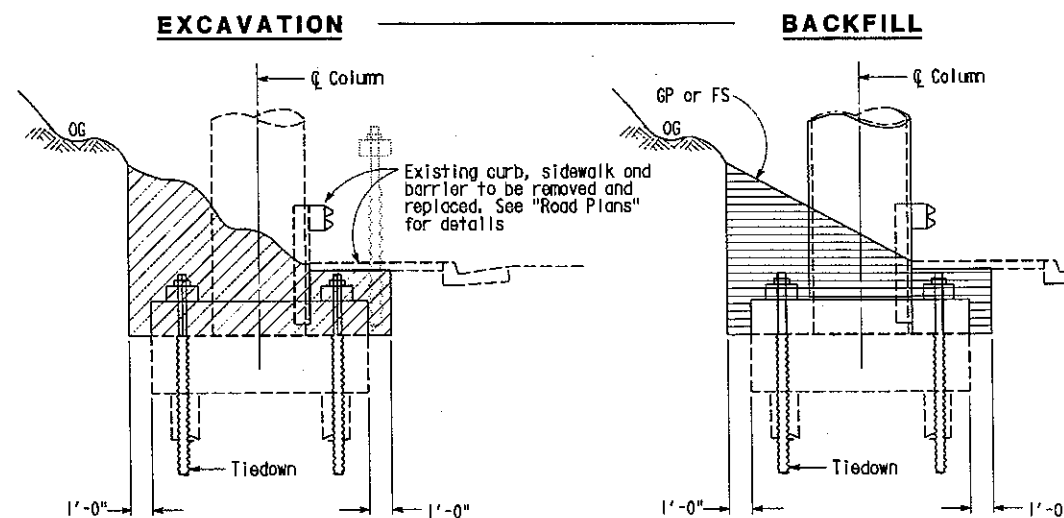
ABBREVIATIONS

- OG Original ground
- FS Planned finished surface
- GP Planned graded plane



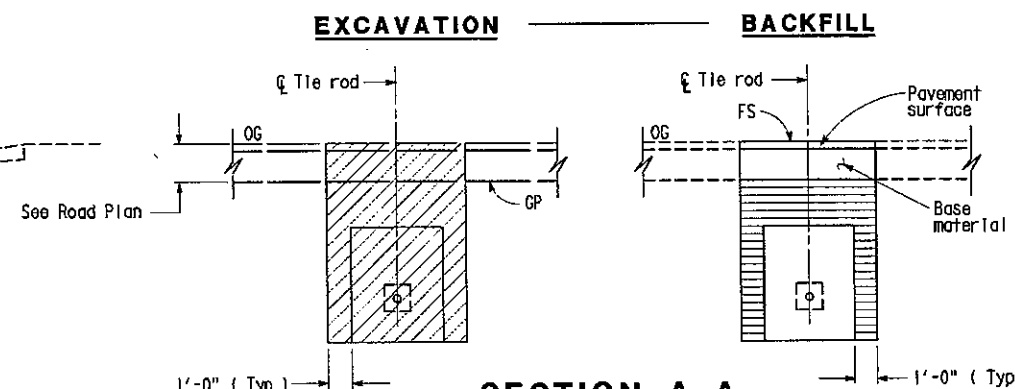
PLAN VIEW - TIE ROD ANCHOR

No Scale



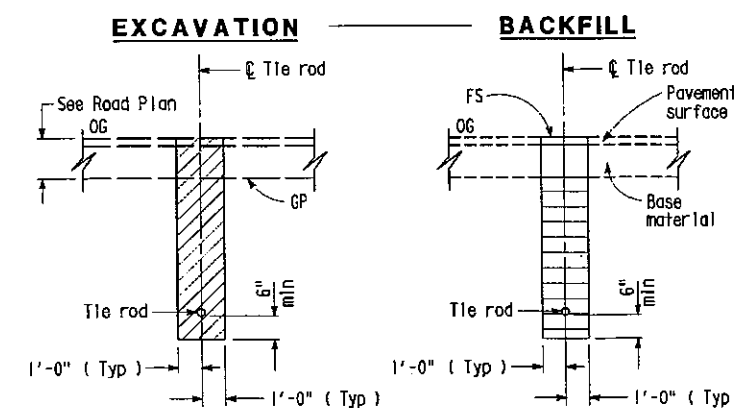
BENT FOOTING TIE-DOWNS

No Scale



SECTION A-A

No Scale



SECTION B-B

No Scale

STANDARD DRAWING			
FILE NO. XS 12-77.1	DESIGN BY	CHECKED	APPROVAL RECOMMENDED BY
DATE 4/92	DETAILS BY R. YEE	CHECKED	<i>Richard J. Zelinski</i>
SUBMITTED BY R. J. ZELINSKI		DESIGN SUPERVISOR	

DS OSD 2147A (CADD 7/97)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 2

CU 04
EA 0435C1

USERNAME -> tp1rcase ak1pab.dgn

BRIDGE NO.
34-0088
POST MILE
4.1

SFOBB - SEISMIC RETROFIT PROJECT NO.14A

S.F. BAYSHORE VIADUCT (Bent L98 to L103)

LIMITS OF PAYMENT FOR
EXCAVATION AND BACKFILL LIMITS

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
5/24/95 6/10/95 7/27/95 8/1/95 8/23/95	22	27

Consistency Classification for Soils

According to the Standard Penetration Test

Penetration (Blows/ft)	Consistency
0-4	Very loose
5-9	Loose
10-19	Slightly compact
20-29	Compact
30-39	Very compact
40-49	Hard
50-59	Very hard

Legend of Earth Materials

Gravel	Clayey silt
Sand	Peat and organic matter
Silt	Fill material
Clay	Granular rock
Sandy clay	Bedimentary rock
Clayey sand	Metamorphic rock
Silty sand	Siltstone
Silty clay	Slate

Legend of Boring Operations

Top of casing	Rotary drilling through existing casing
Top of borehole	Rotary drilling through existing casing
Top of casing	Rotary drilling through existing casing
Top of borehole	Rotary drilling through existing casing
Top of casing	Rotary drilling through existing casing
Top of borehole	Rotary drilling through existing casing
Top of casing	Rotary drilling through existing casing
Top of borehole	Rotary drilling through existing casing
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Top of borehole	Rotary drilling through existing casing

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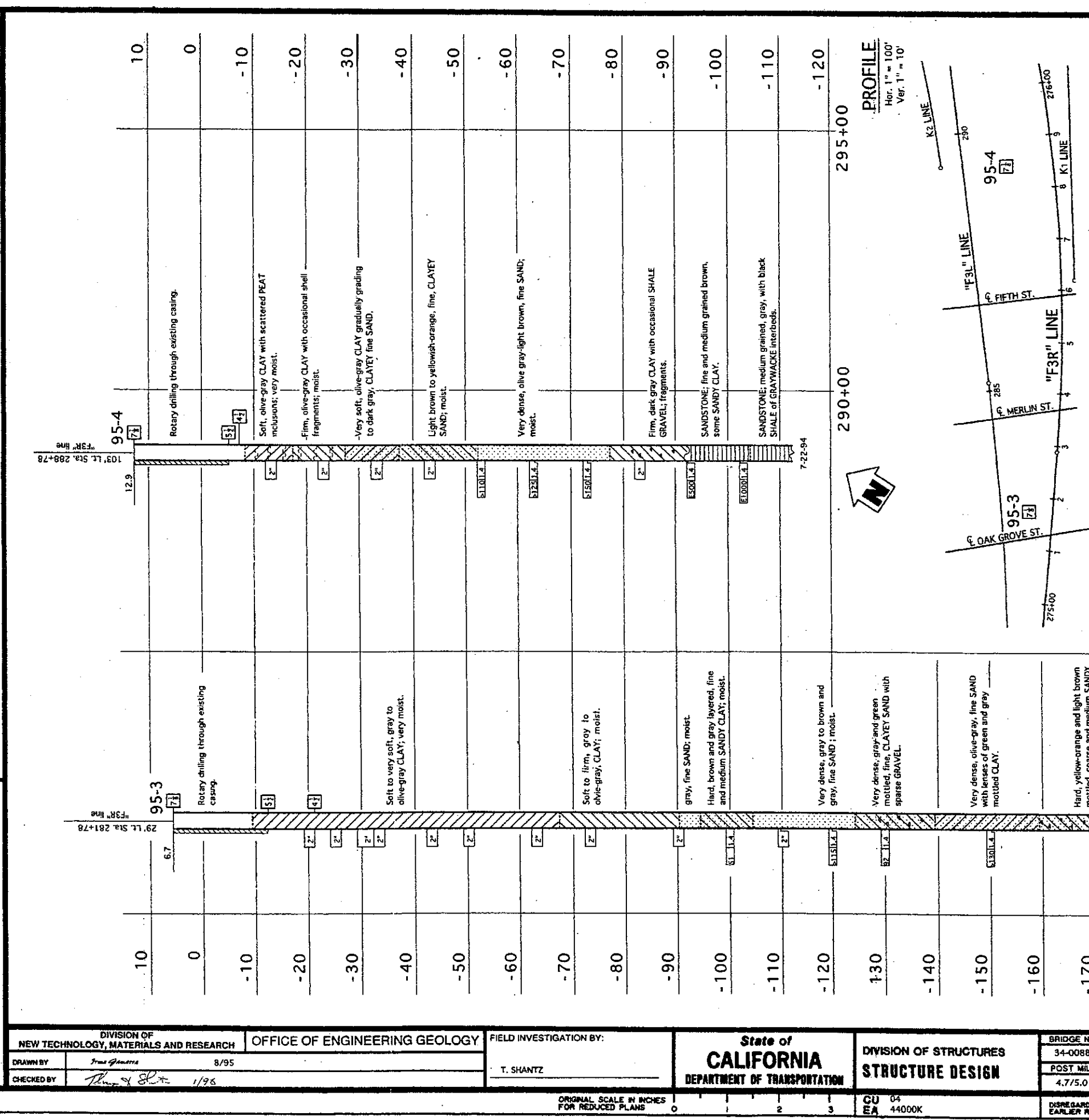
Consistency Classification for Soils

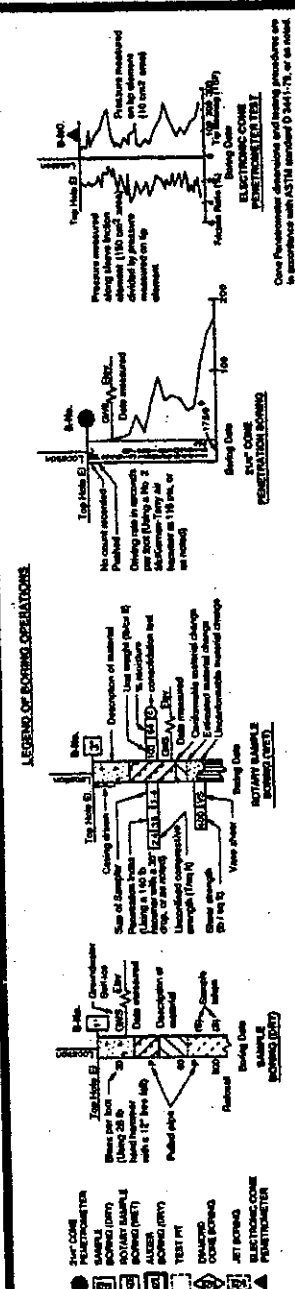
According to the Standard Penetration Test

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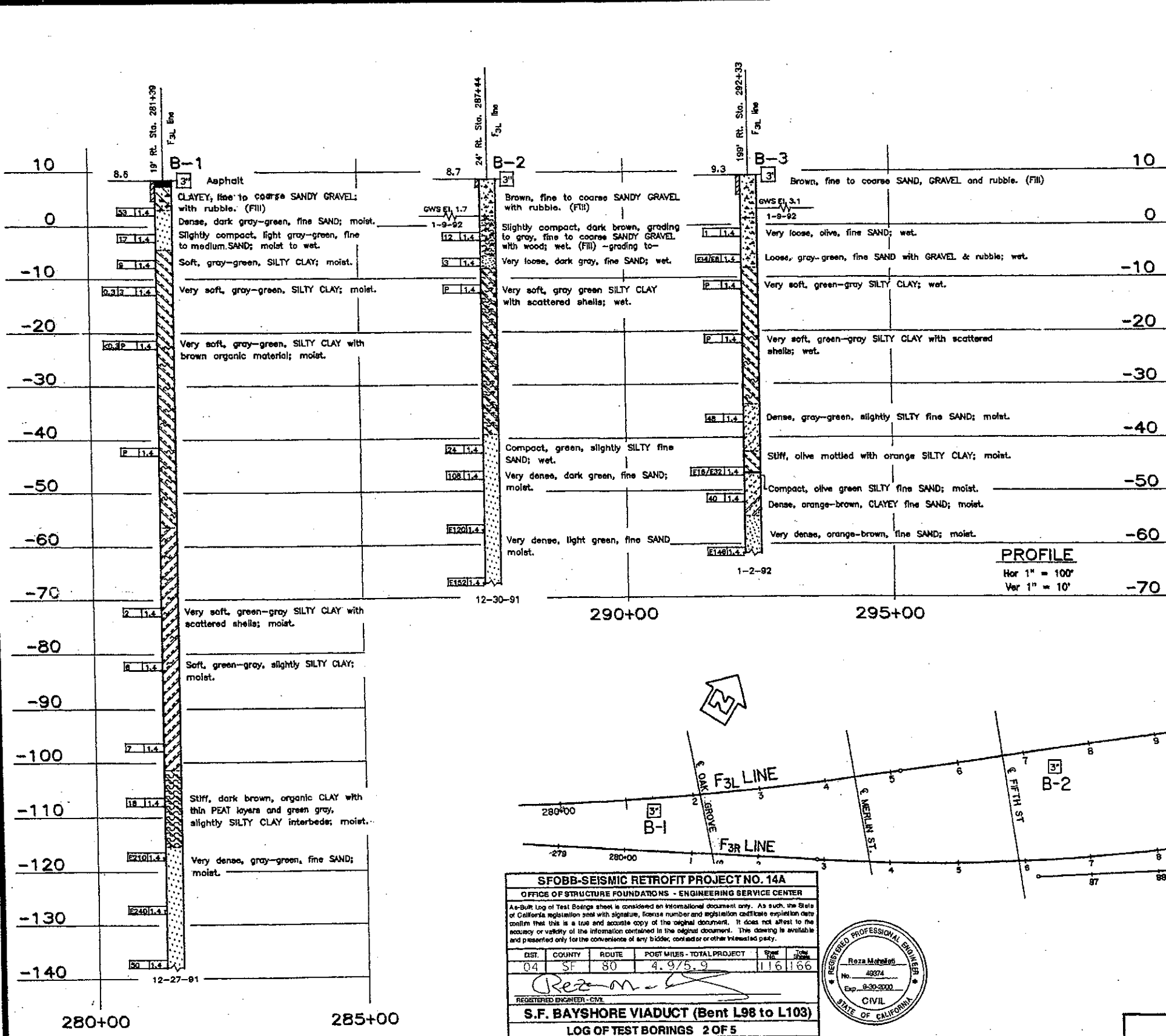




LEGEND OF EARTH MATERIALS	
	GRAVEL
	SAND
	SILT
	CLAY
	ORGANIC CLAY
	PEAT
	SILTY SAND
	SILTY CLAY
	CLAYEY SAND
	CLAYEY SILTY SAND
	CLAYEY SILTY CLAY
	ORGANIC SILTY CLAY
	ORGANIC CLAY
	PEAT
	GRAVEL
	SAND
	SILT
	CLAY
	ORGANIC CLAY
	PEAT
	SILTY SAND
	SILTY CLAY
	CLAYEY SAND
	CLAYEY SILTY SAND
	CLAYEY SILTY CLAY
	ORGANIC SILTY CLAY
	ORGANIC CLAY
	PEAT

CONSISTENCY CLASSIFICATION FOR SOIL	
Penetration (lb/in)	Consistency
0-5	Very Soft
5-10	Soft
10-20	Medium
20-30	Stiff
30-40	Very Stiff
40-60	Hard
60-100	Very Hard
>100	Extremely Hard

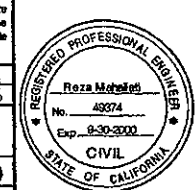
NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



OFFICE OF TRANSPORTATION MATERIALS & RESEARCH		ENGINEERING GEOLOGY BRANCH
DRAWN BY	IRMA GARRA	1/92
CHECKED BY		

SFOBB-SEISMIC RETROFIT PROJECT NO. 14A	
OFFICE OF STRUCTURE FOUNDATIONS - ENGINEERING SERVICE CENTER	
As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and expiration date is not a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. The drawing is available and presented only for the convenience of any bidder, contractor or other interested party.	
DIST.	04
COUNTY	SF
ROUTE	80
POST MILES - TOTAL PROJECT	4.975.9
Sheet No.	116.166
REGISTERED ENGINEER - CIVIL	Reza Mahdavi
S.F. BAYSHORE VIADUCT (Bent L98 to L103)	
LOG OF TEST BORINGS 2 OF 5	
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA	
CU: 04	BRIDGE No. 34-88
EA: 0435C1	EA: 0435C1

CALIFORNIA DEPARTMENT OF TRANSPORTATION	
CU 04	EA 13301K



DIVISION OF STRUCTURES	
BRIDGE NO.	34-88
POST MILE	

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	101			

R.C. Williams
CERTIFIED ENGINEERING GEOLOGIST
No. 550
Exp. 6-30-92
STATE OF CALIFORNIA

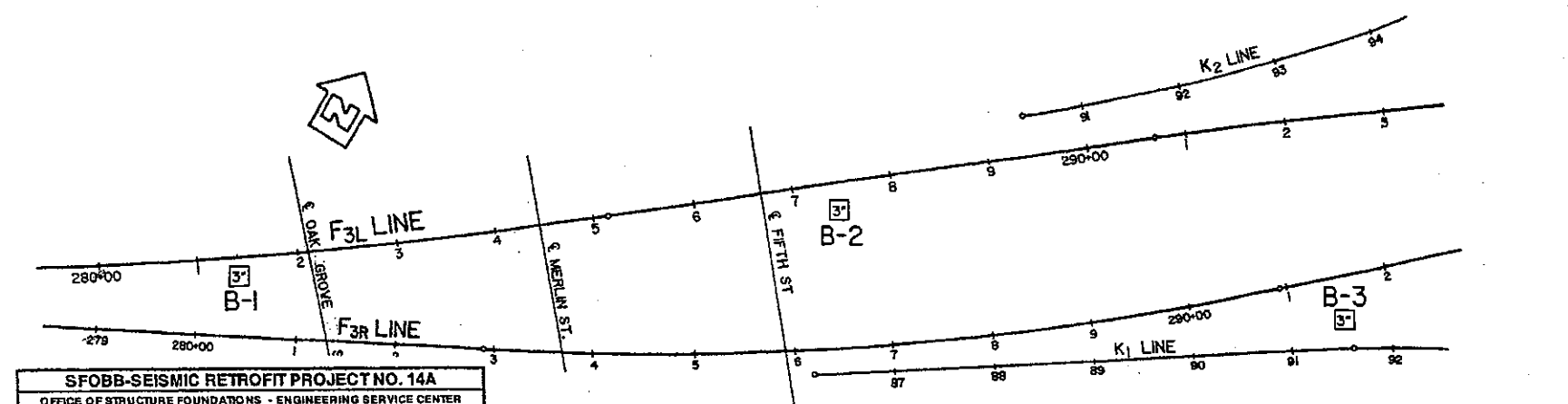
APPROVAL DATE: _____

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- NOTES:
- E = BLOW COUNT FOR ONE FOOT PENETRATION EXTRAPOLATED FROM BLOW COUNT FOR LESS THAN ONE FOOT (DUE TO CHANGE IN MATERIAL OR HARD DRIVING)
 - UNCONFINED COMPRESSIVE STRENGTH APPROXIMATED BY HAND PENETROMETER TEST

BENCH MARK
BM Elev. 15.20'
FD, A995 C&GS BM DISK IN NE FACE OF BENT SUPPORT OF 5th ST. OFF-RAMP AT 4th ST.



EARTHQUAKE RETROFIT - PROJECT NO. 303-2	
BAYSHORE VIADUCT (6TH-4TH)	
LOG OF TEST BORINGS 1 OF 4	
BRIDGE NO.	34-88
POST MILE	
DISREGARD PRINT'S BEARING	REVISION DATES PRELIMINARY STAGE ON 7/
EARLIER REVISION DATES	
SHEET	52
OF	55

AS BUILT PLANS
Contract No. 54-147C30
Date Completed _____
Document No. 40002321

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Relative rates of penetration were obtained as
 D-97, 102, 111, 21 129 (shots per foot) driving 1"
 Special Sampler on 1/4" Sampler with a 100 lb
 hammer and a 3/4" free fall
 D-102, 104 105, 106, 107, 110 (shots per foot) driving
 2 1/2" Penetrator on 1 1/2" Rod with 150 lb
 Hammer on 1/4" Sampler Hammer of 115 lb
 CMC Datum is 3089 ft below USCGFS mean sea

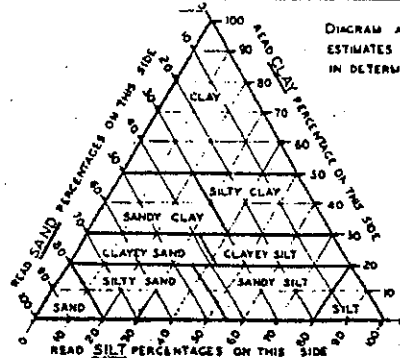
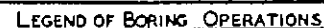
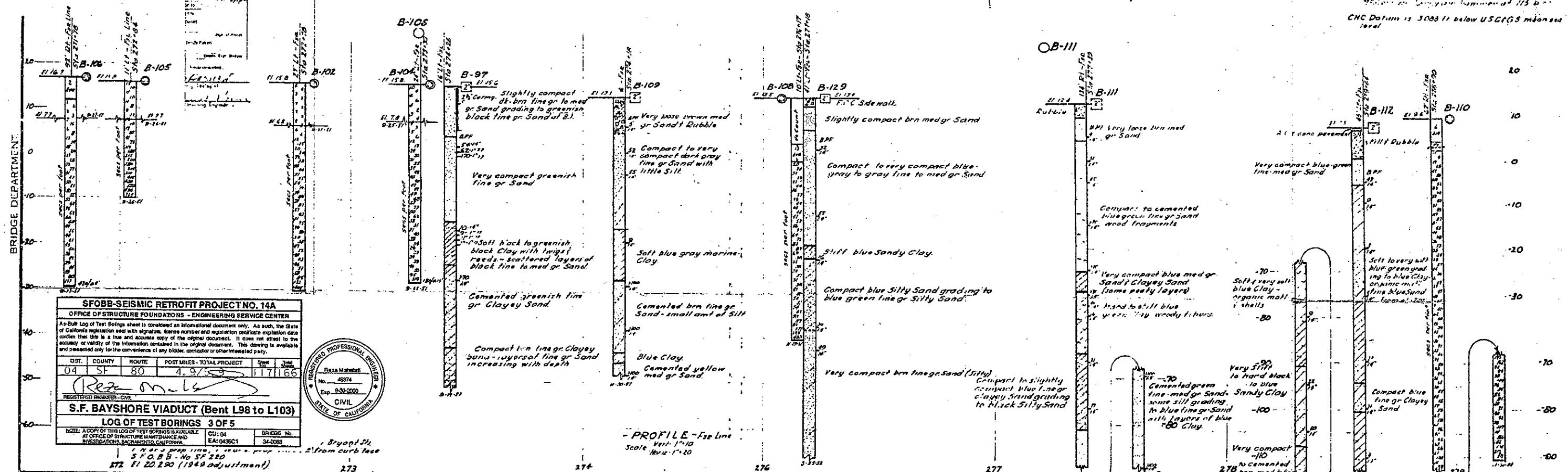














DIAGRAM AND TABLE SHOWING THE BASIS FOR
ESTIMATES OF GRADE SIZE DISTRIBUTION USED
IN DETERMINATION OF CLASS NAMES.








CLASS NAME	PERCENTAGE OF SIZES PRESENT		
	SAND	SILT	CLAY
SAND	80-100	0-20	0-20
SILT SAND	45-80	0-55	0-20
SANDY SILT	0-45	35-60	0-20
SILT	0-20	60-100	0-20
CLAYEY SAND	36-60	0-42	20-30
CLAYEY SILT	0-28	32-60	20-30
SANDY CLAY	30-70	0-40	30-50
SILT CLAY	0-30	20-70	30-50
CLAY	0-30	0-30	50-100

IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIS. "GRAVELLY SAND". THE TERMS "COARSE," "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE GRAVEL, SAND AND SILT REFER TO STANDARD GRADE SIZE LIMITS.

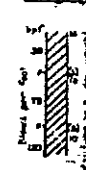
- | | | | |
|---|----------------------------|---|-----------------------|
|  | PLAIN OF ANY BORING |  | CASING DRIVEN |
|  | 1" SAMPLER BORING |  | JET BORING |
|  | ROTARY WASH BORING | (S) | SAMPLE TAKEN |
|  | 1" CLOSED SAMPLER DRIVEN |  | 1 1/2" A - ROD DRIVEN |
|  | CORE BORING | | |
|  | 2 1/2" PENETROMETER-DRIVEN | | |
|  | 1 3/8" SAMPLER BORING | | |
|  | 2" TO 5" AUGER BORING | | |
|  | 6" TO 20" AUGER BORING | | |
- THE APPROPRIATE BORING SYMBOLS DESIGNATING THE METHOD OF OPERATION ARE SHOWN AT THE UPPER RIGHT HAND CORNER OF THE RESPECTIVE BORING. WHERE TOOL CHANGES WERE MADE DURING THE BORING OPERATION SYMBOLS ARE SHOWN AT

THE APPROPRIATE BORING SYMBOLS DESIGNATING THE METHOD OF OPERATION ARE SHOWN AT THE UPPER RIGHT-HAND CORNER OF THE RESPECTIVE BORING. WHERE TOOL CHANGES WERE MADE DURING THE BORING OPERATION SYMBOLS ARE SHOWN AT THE POINT OF CHANGE.

- | | |
|--|--------------------|
| | GRAVEL - G |
| | SAND - S |
| | SILT - SI |
| | CLAY - C |
| | SILTY SAND - S: S |
| | CLAYEY SAND - C: S |
| | SANDY SILT - S: SI |
| | CLAYEY SILT - C: S |
| | SANDY CLAY - SC |

- | | |
|---|-------------------------------------|
|  | SILTY CLAY - Si C |
|  | PEAT $\frac{1}{2}$ ORGANIC CLAY - O |
|  | SANDSTONE - SS |
|  | SHALE - SH |
|  | BROKEN ROCK (FRAGMENTS) - BR |
|  | ROCK - R |
|  | FILL MATERIAL |

- EL. 59.4 ELEVATION OF GROUND AT TEST HOLE
- bpf BLOWS PER FOOT--(SEE NOTE ABOVE)
- P PULLED PIPE
- M MOISTURE AS % DRY WEIGHT
- EL. 64.3 8-12-99 ELEVATION OF GROUND WATER AND DATA



THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 2, ARTICLE (C) OF THE STANDARD SPECIFICATIONS AND TO THE SPECIAL PROVISIONS ACCOMPANYING THIS SET OF PLANS.

CLASSIFICATION OF EARTH MATERIAL AS SHOWN ON THIS SHEET IS BASED UPON FIELD INSPECTION AND IS NOT TO BE CONSTRUED TO IMPLY MECHANICAL ANALYSIS.

ANALYSIS. AS BUILT
MICROFILMED CORRECTIONS BY G. W. THOMPSON

DATE S.F. Bayshore Viaduct #34-88
BAYSHORE FREEWAY
8th to 4th STREETS

LOG OF TEST BORINGS 4 of 6

SCALE <i>As Shown</i>	FILL NO
BRIDGE NO: 34-43	DRAWING NO 6-1836-98

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

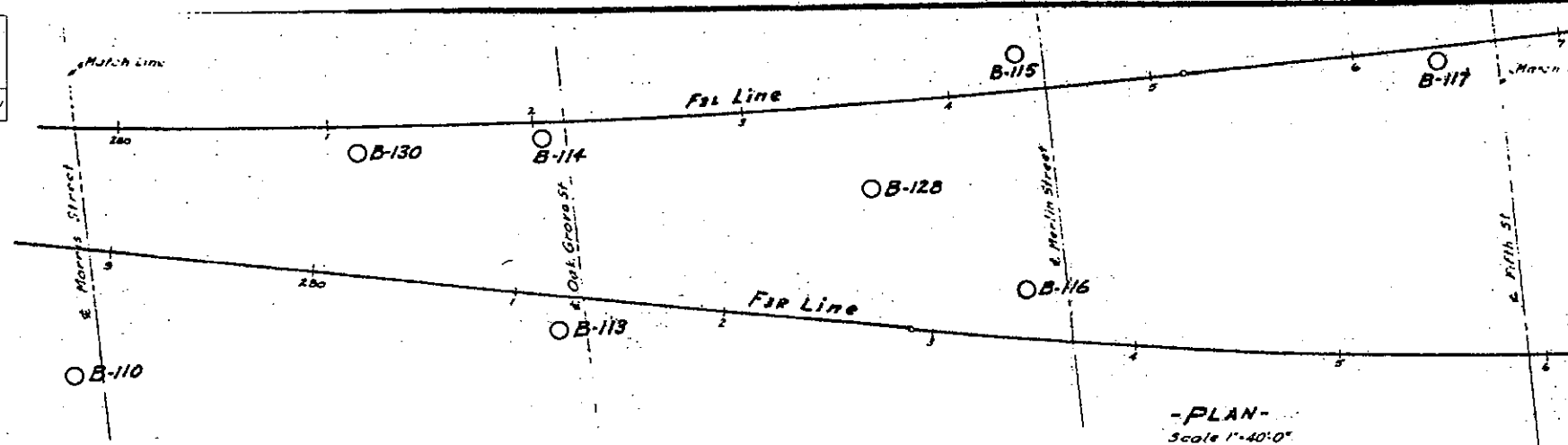
DATE Mar. 23 1977 SIGNATURE [Signature] TITLE Deputy Assistant Chief

br340088-1tb#03of05.tif

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Checked: *W. H. Miller*
Date: *1/1/88*



SFOBB-SEISMIC RETROFIT PROJECT NO. 14A
OFFICE OF STRUCTURE FOUNDATIONS - ENGINEERING SERVICE CENTER

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and expiration date is not required. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any future contractor or other interested party.

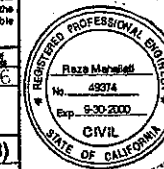
DIST.	COUNTY	ROUTE	POST MILES - TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.975	18	166

REGISTERED ENGINEER - CIVIL
Reza M. ...
S.F. BAYSHORE VIADUCT (Bent L98 to L103)
LOG OF TEST BORINGS 4 OF 5

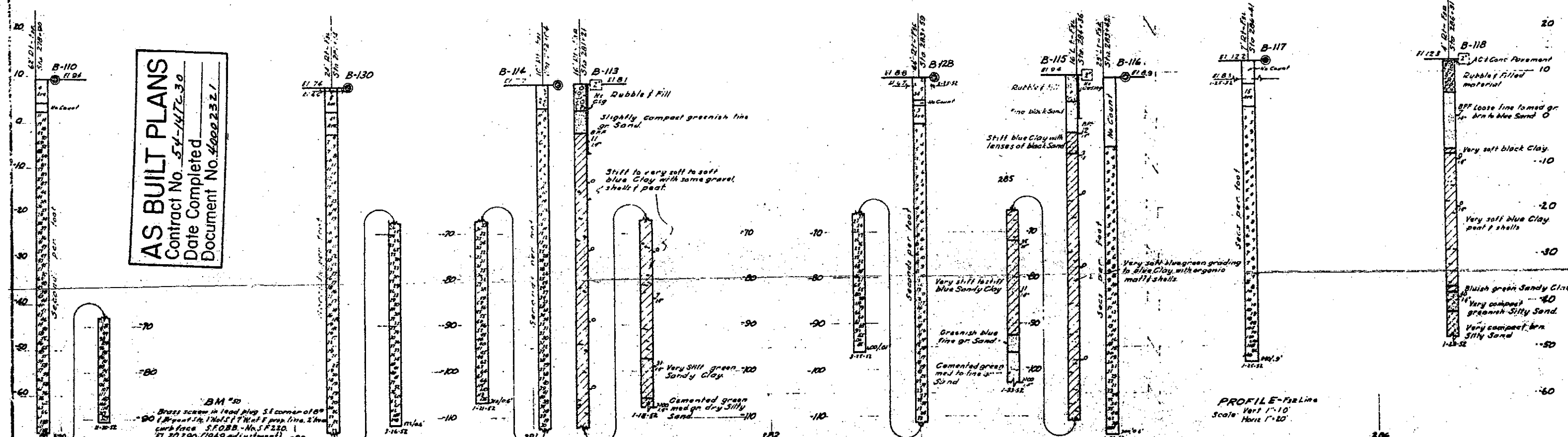
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT THE OFFICE OF STRUCTURE FOUNDATIONS AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA.

CUI: DA
EAT: DE05C1

BRIDGE NO.
340088

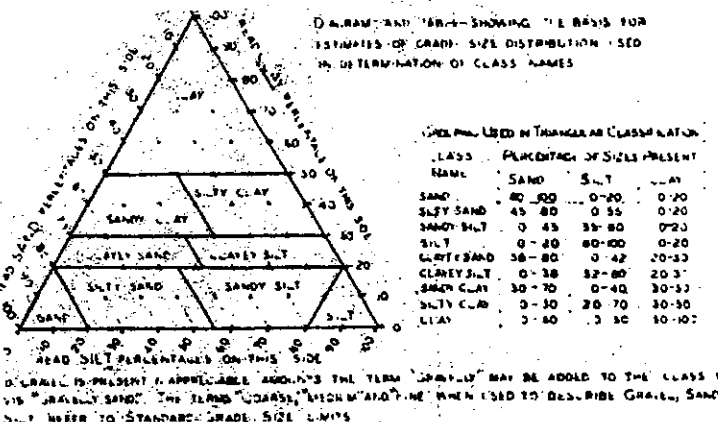


were obtained as follows:
B-110, 114, 116, 117, 118, 120 (seconds per foot) driving 1 1/2" A-Rod with No. 2 H-Kiernan-Terry air hammer @ 115 psi.
B-113, 115, 118 (blows per foot) driving 1 1/2" Sampler with 140 lb hammer and a 30" free fall.
CHC datum is 3088 ft below U.S.C.T.G.S. mean sea level.

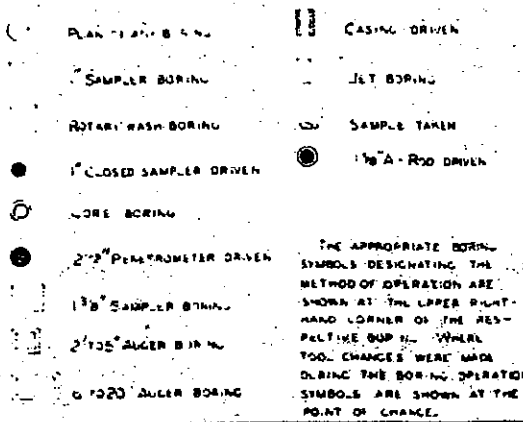


AS BUILT PLANS
Contract No. *54-472.30*
Date Completed
Document No. *40002321*

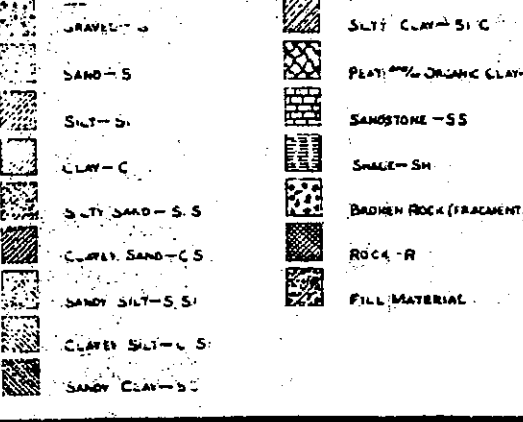
CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS



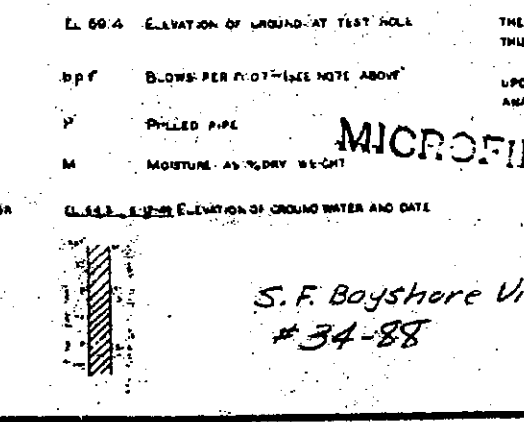
LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS



ABBREVIATIONS



NOTES

THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 2, ARTICLE (C) OF THE STANDARD SPECIFICATIONS AND TO THE SPECIAL PROVISIONS ACCOMPANYING THIS SET OF PLANS.


CLASSIFICATION OF EARTH MATERIAL AS SHOWN ON THIS SHEET IS BASED UPON FIELD INSPECTION AND IS NOT TO BE CONSTRUED TO IMPLY MECHANICAL ANALYSIS.

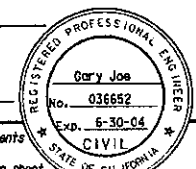
MICROFILMED

AS BUILT
CORRECTIONS BY *W. THOMPSON*
DATE *...*

BAYSHORE FREEWAY
8" to 4" STREETS
LOG OF TEST BORINGS
W. H. Miller

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SF	80	4.9/5.9	120	166


REGISTERED CIVIL ENGINEER



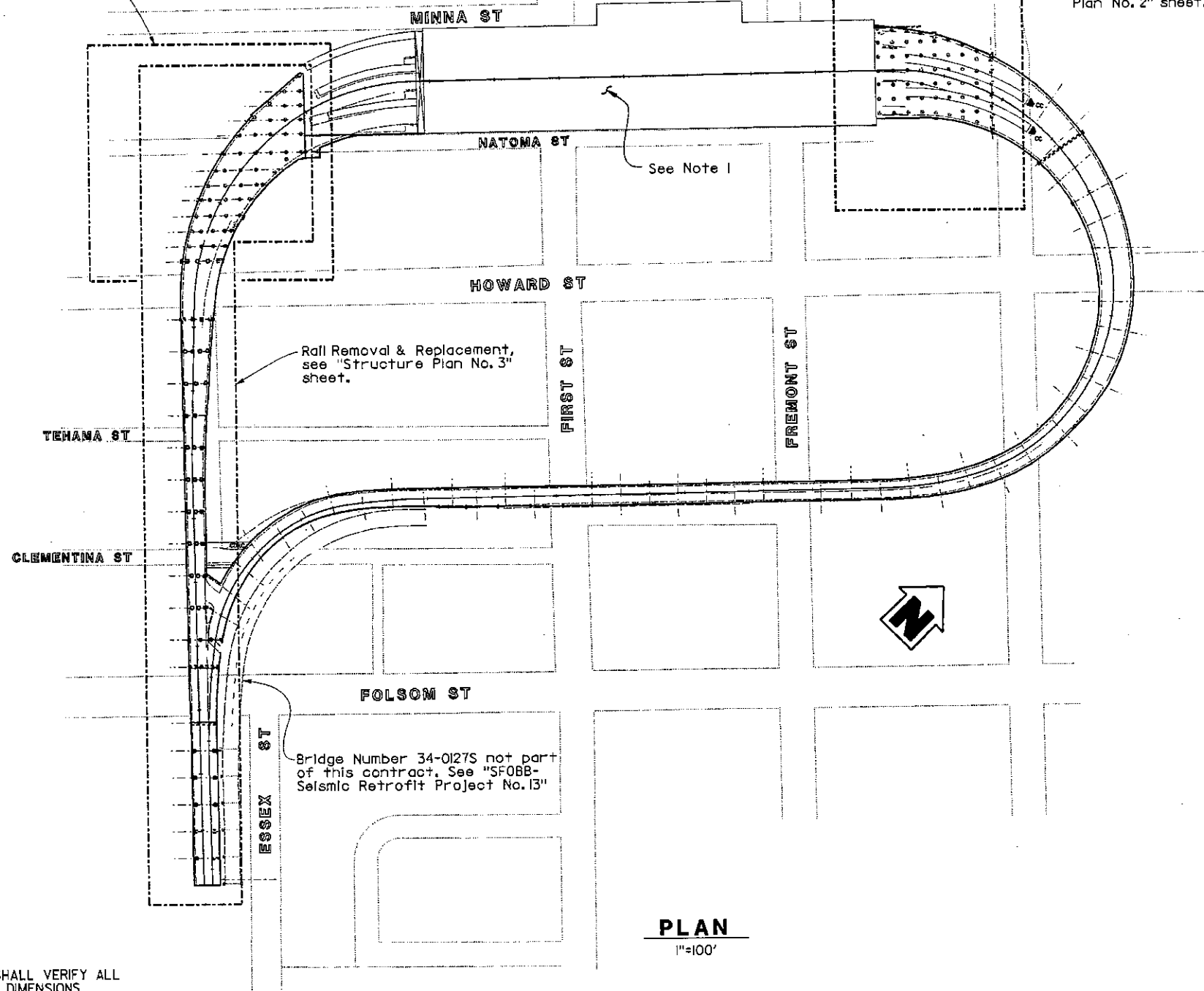
12-26-00
PLANS APPROVAL DATE

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West Turnaround Seismic Retrofit, see "Structure Plan No. 1" sheet.

East Turnaround Seismic Retrofit, see "Structure Plan No. 2" sheet.



INDEX TO PLAN

SHEET NO.	TITLE
1	GENERAL PLAN
2	STRUCTURE PLAN NO. 1
3	STRUCTURE PLAN NO. 2
4	STRUCTURE PLAN NO. 3
5	GENERAL NOTES
6	FOUNDATION PLAN NO. 1
7	FOUNDATION PLAN NO. 2
8	COLUMN LAYOUT NO. 1
9	COLUMN LAYOUT NO. 2
10	COLUMN LAYOUT NO. 3
11	COLUMN DETAILS NO. 1
12	COLUMN DETAILS NO. 2
13	COLUMN DETAILS NO. 3
14	COLUMN DETAILS NO. 4
15	MAT SLAB DETAILS NO. 1
16	MAT SLAB DETAILS NO. 2
17	MAT SLAB DETAILS NO. 3
18	MAT SLAB DETAILS NO. 4
19	MAT SLAB DETAILS NO. 5
20	CONCRETE BARRIER TYPE 4(MOD)
21	LOG OF TEST BORINGS 1 OF 11
22	LOG OF TEST BORINGS 2 OF 11
23	LOG OF TEST BORINGS 3 OF 11
24	LOG OF TEST BORINGS 4 OF 11
25	LOG OF TEST BORINGS 5 OF 11
26	LOG OF TEST BORINGS 6 OF 11
27	LOG OF TEST BORINGS 7 OF 11
28	LOG OF TEST BORINGS 8 OF 11
29	LOG OF TEST BORINGS 9 OF 11
30	LOG OF TEST BORINGS 10 OF 11
31	LOG OF TEST BORINGS 11 OF 11

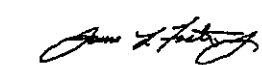
NOTES

- Seismic Retrofit of the Transbay Terminal Building (Bents 70 thru 113) by other contract.
- For Bridge and Bent number identification locations, see Point Table on "General Notes" sheet.

QUANTITIES

	LUMP	SUM
BRIDGE REMOVAL (PORTION), LOCATION A		
STRUCTURE EXCAVATION (TYPE H)	4,250	CY
STRUCTURE BACKFILL (BRIDGE)	200	CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	4,105	CY
DRILL AND BOND DOWEL	492	LF
CORE CONCRETE (3/2") AND BOND ROD	783	LF
BAR REINFORCING STEEL (BRIDGE)	858,000	LB
COLUMN CASING	269,025	LB
MISCELLANEOUS METAL (BRIDGE)	4,130	LB
CONCRETE BARRIER (TYPE 4(MOD.))	2,055	LF

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

 DESIGN ENGINEER	DESIGN	BY Gary Joe	CHECKED Matt Socha	LOAD FACTOR DESIGN	BY Gary Joe	CHECKED Matt Socha	STATE OF CALIFORNIA DIVISION OF STRUCTURES STRUCTURE DESIGN 13 DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 34-0119Y	SFOBB - SEISMIC RETROFIT PROJECT No. 14A TRANSBAY TRANSIT TERMINAL RAMPS GENERAL PLAN	
	DETAILS	BY Xijiang Wu	CHECKED Matt Socha	LAYOUT	BY Gary Joe	CHECKED Matt Socha		POST MILE		
	QUANTITIES	BY Nasser Tachta	CHECKED G. Zhao	SPECIFICATIONS	BY			CU 04 EA 0435C1		
STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 1/1/99)								DISCREPANCY PRINTS BEARING EARLIER REVISION DATES		
ORIGINAL SCALE IN INCHES FOR REPRODUCED PLANS								REVISION DATES (PRELIMINARY STAGE ONLY)		
								5-16-00 5-16-00 5-16-00 5-16-00 5-16-00 5-16-00 5-16-00 5-16-00 5-16-00 5-16-00		
								SHEET 1 OF 31		

FILE -> bapp.dgn

sfoobb\04-13334\049y_new\contract\4a\capp\04.dgn

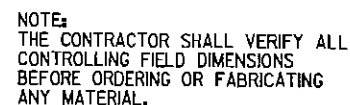
My Joe
REGISTERED CIVIL ENGINEER

12-26-00
PLANS APPROVAL DATE

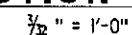
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Seal: REGISTERED PROFESSIONAL ENGINEER
Gary Joe
No. 036652
Exp. 6-30-04
CIVIL
STATE OF CALIFORNIA


$$I'' = 20'$$
$$t^* = 20'$$

* Minimum vertical clearance



- ① Install shear pins at top of columns.
- ② Steel Column Casing - Class P/F.
- ③ Install mat slab foundation.
- ④ 3" AC overlay
- ⑤ Remove and replace existing curb & rail with Concrete Barrier Type 4I (Mod). For limits of work see "Structure Plan No.3" sheet.
- ⑥ OG & finished grade to vary with existing topography.

----- Indicates existing structure
 Indicates limits of removal.
 Indicates existing deck drains.

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
34-0119Y
POST MILE

STRUCTURE PLAN NO. 1

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

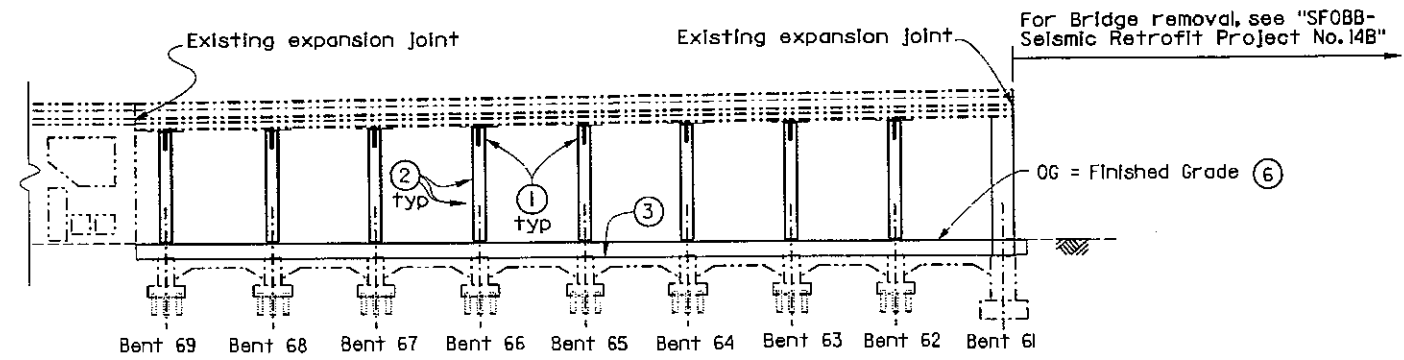
DISREGARD PRINTS BEARING
EARLIER REVISION DATES -

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DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)					
	4-28-00	5-1-00	5-2-00	6-27-00	7-24-00	10-13-00

sfobb/04-	3334	/34-0	19v new/construct	4g/gasp	0	dan
-----------	------	-------	-------------------	---------	---	-----

A
 DISSENAME = 18-DEC-2000
 DATE PLOTTED = 18-DEC-2000
 TIME PLOTTED = 07:58

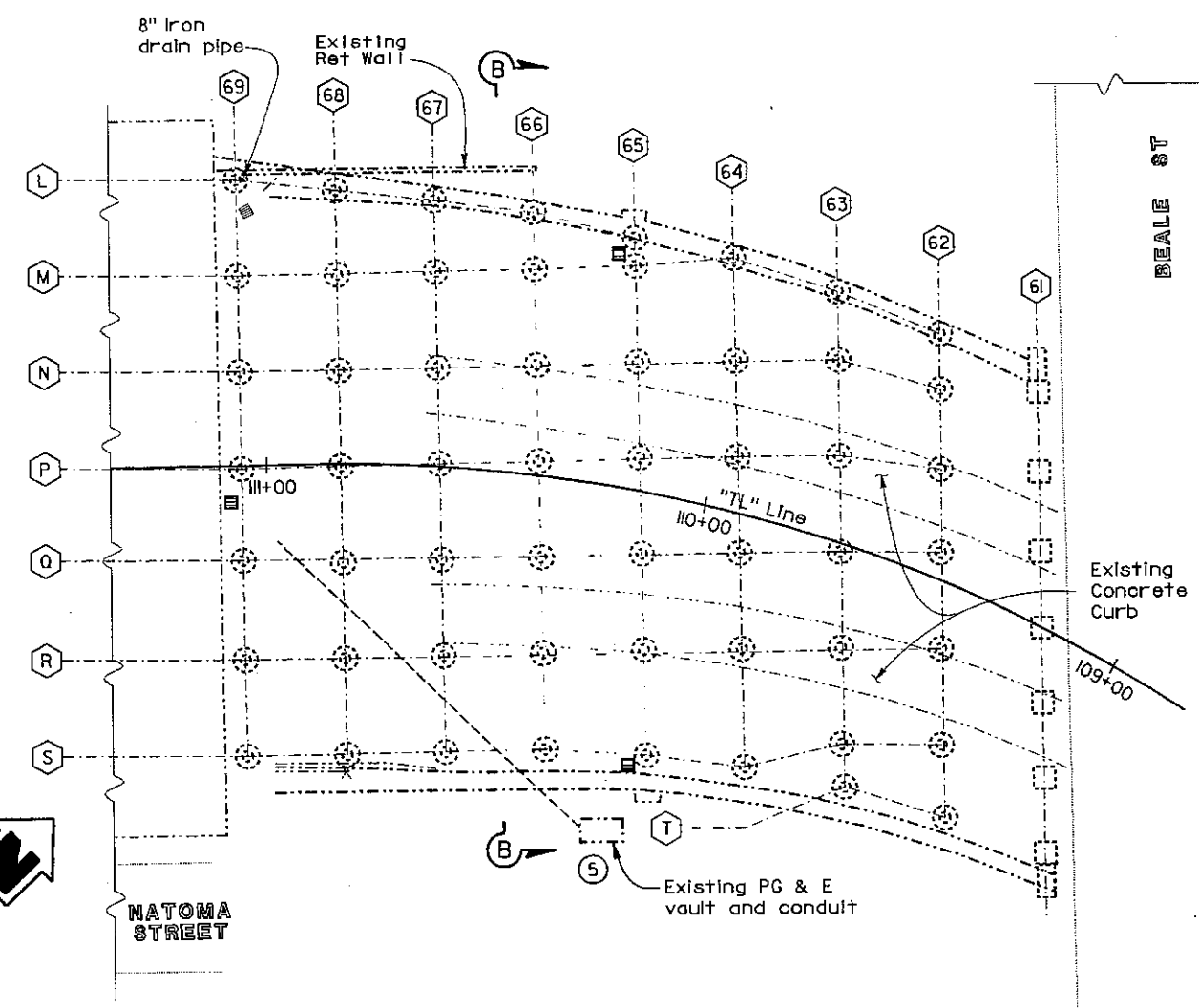


DEVELOPED ELEVATION
1"=20'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	4.9/5.9	122	166

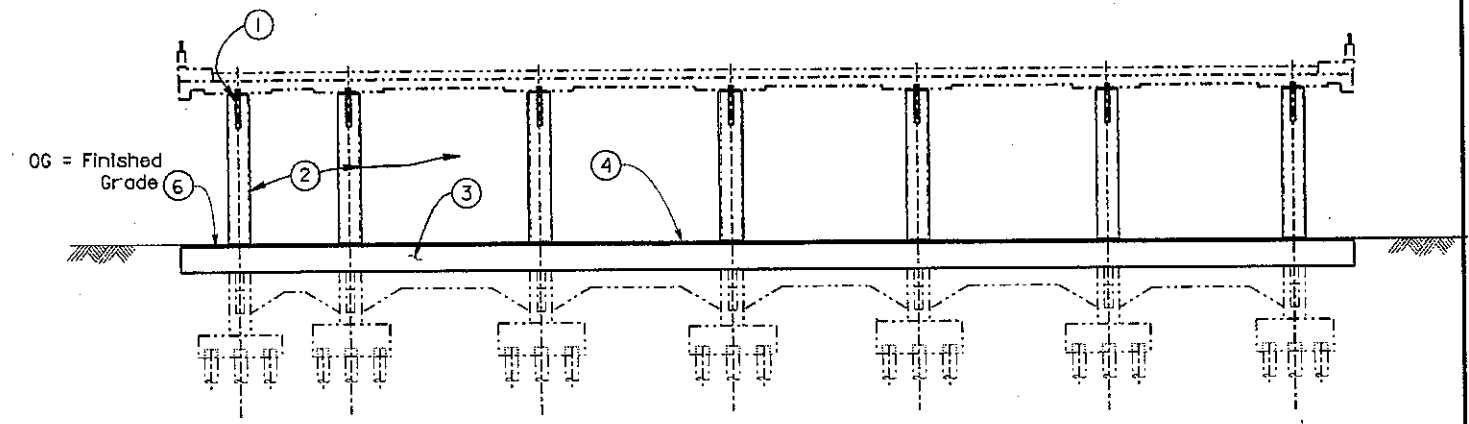
REGISTERED CIVIL ENGINEER
 12-26-00
 PLANS APPROVAL DATE
 Gary Joe
 No. 036652
 Exp. 5-30-04
 CIVIL
 STATE OF CALIFORNIA

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PLAN - EAST TURNAROUND
1"=20'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



SECTION B-B
3/32"=1'-0"

- NOTES**
- 1 Install shear pins at top of columns.
 - 2 Steel Column Casing - Class P/F.
 - 3 Install mat slab foundation.
 - 4 3" AC overlay
 - 5 Pacific Gas & Electric transformer and conduit, see "Mechanical Site Plans" sheets.
 - 6 OG & finished grade to vary with existing topography.
- Indicates existing structure
 ■ Indicates existing deck drains.

DESIGN BY Gary Joe DETAILS BY JF Casarino QUANTITIES BY Nasser Tachta			CHECKED Matthew Socha CHECKED Matthew Socha CHECKED Qi Zhao		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES STRUCTURE DESIGN 13	BRIDGE NO. 34-0119Y POST MILE	SFOBB - SEISMIC RETROFIT PROJECT No. 14A TRANSBAY TRANSIT TERMINAL RAMPS STRUCTURE PLAN NO. 2	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)						CU 04 EA 0435C1	DISCARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 1-28-00 5-2-00 6-11-00 7-24-00	SHEET 3 OF 31

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
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 sfoobb/04-133341/34-0119y new/contract14a/qaspl02.dgn

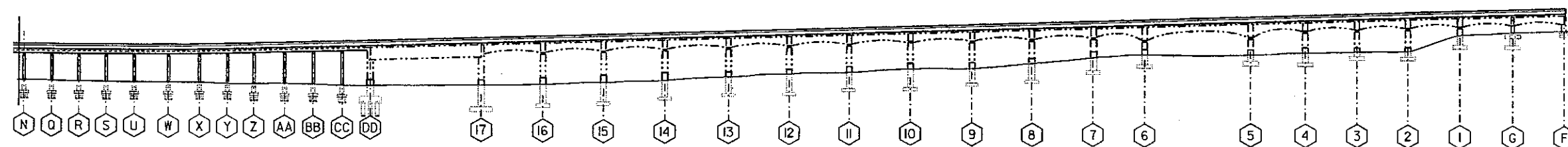
DATE PLOTTED => 07/26/00
 USER NAME => jf1stkr

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	4.9/5.9	123	166

12-26-00
 PLANS APPROVAL DATE
 REGISTERED CIVIL ENGINEER
 Gary Joe
 No. 036652
 Exp. 6-30-04
 CIVIL
 STATE OF CALIFORNIA

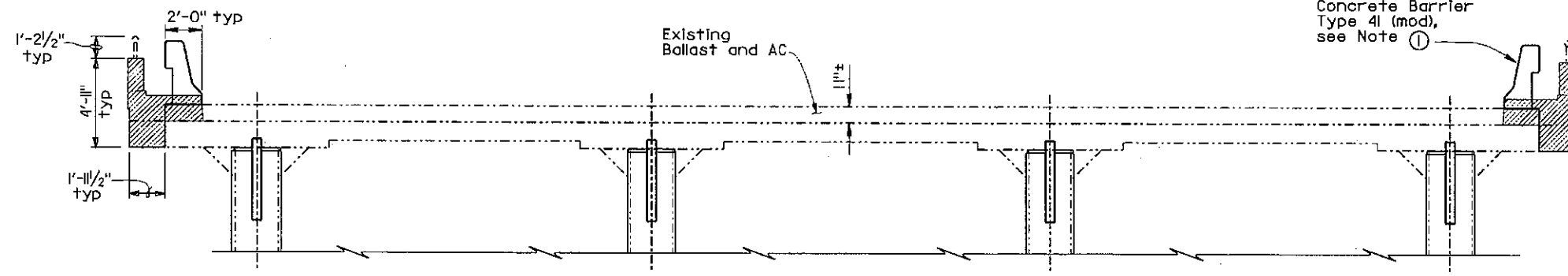
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DEVELOPED ELEVATION

1"=50'

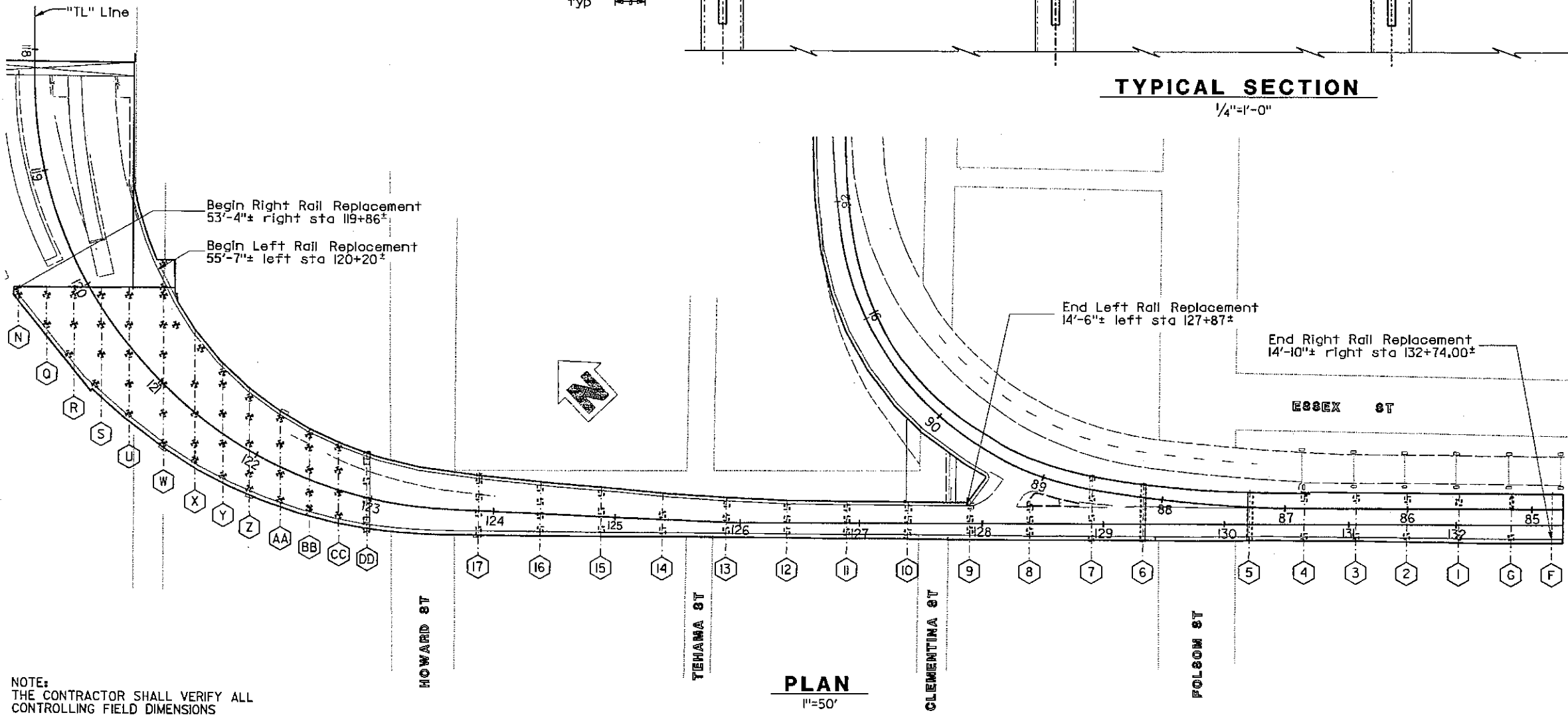


TYPICAL SECTION

1/4"=1'-0"

NOTES

- ① Remove & replace existing curb & rail. For Rail details, see "Concrete Barrier Type 41(mod)" sheet.
- Indicates existing structure
- ▨ Indicates limits of removal.



PLAN

1"=50'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Qi Zhao	CHECKED Gary Joe
DETAILS	BY X. Wu / JFCasario	CHECKED Gary Joe
QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 13

BRIDGE NO.
34-019Y
POST MILE

SFOB - SEISMIC RETROFIT PROJECT No. 14A
TRANSBAY TRANSIT TERMINAL RAMPS
STRUCTURE PLAN NO. 3

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/98)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 04
EA 0435C1
FILE => basp103.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
3-2-00 5-2-00 6-2-00 7-2-00 8-2-00 9-2-00 10-2-00	4	31

USERNAME => HYSTRK DATE PLOTTED => 18-DEC-2000 TIME PLOTTED => 07:55

DIST

COUNTY

ROUTE

POST MILES
TOTAL PROJECT

SHEET
No

TOTAL
SHEETS

04

SF

80

4.9/5.9

124

166

REGISTERED CIVIL ENGINEER

12-26-00

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER

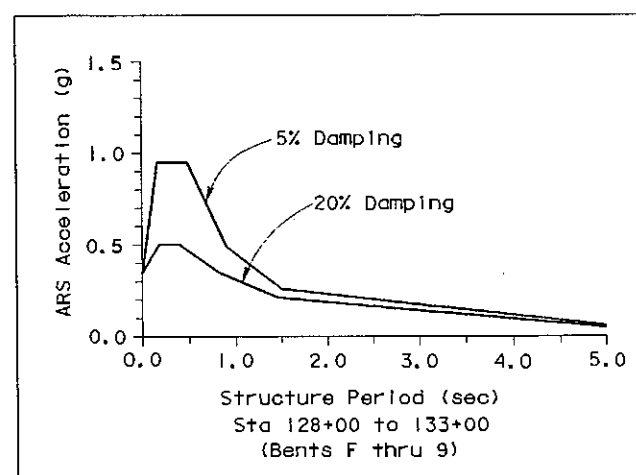
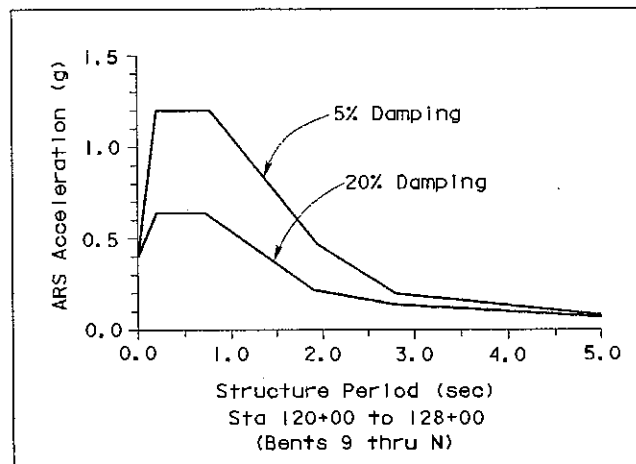
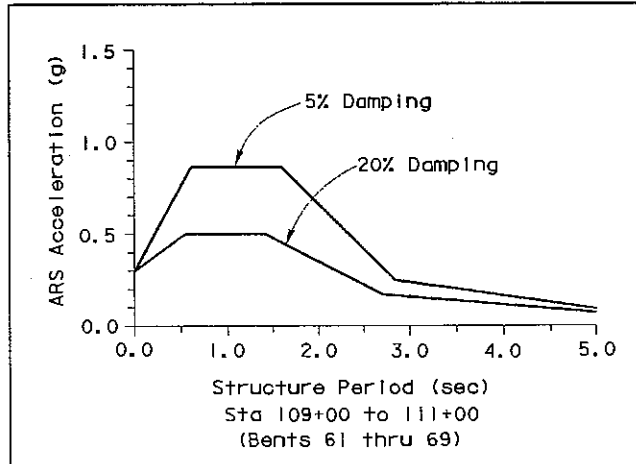
Gary Joe

No. 036852

EXP. 6-30-04

CIVIL

STATE OF CALIFORNIA



ARS CURVES

PAINT TABLE				
At the following locations, paint "SFOBB Transbay Transit Terminal Ramps" and "Bridge Number 34-0119Y", Facing traffic:				
Column 121W				
Column 124W				
Bent DD, east side				
Bent 14, east side				
Bent 9, west side				
Bent 5, west side				
Bent 61, north side				
Abut F, east barrier rail				
At the following locations, paint Bent numbers:				
Bent G, east column and east barrier rail				
Bents 1-17, east column and east barrier rail				
Bent DD, east column and east barrier rail				
Bents 61-69, south column and south barrier rail				
At the following locations, paint Column numbers:				
112W	113W	115X	116X	
117Y	119Z	120AA	120BB	
121CC	123CC	124CC	125CC	
125BB	124AA	124Z	123Y	
122X	121W	120U	118S	
116R	1150	114N		

GENERAL NOTES
LOAD FACTOR DESIGN

DESIGN: BRIDGE DESIGN SPECIFICATIONS
(1983 AASHTO with Interims and Revisions by CALTRANS)
"Non-Essential" Facility Retrofit

REINFORCED CONCRETE:

EXISTING (ASSUMED FOR RETROFIT EVALUATION)

$f_y = 33,000$ psi (GRADE 33)
 $f_y = 44,000$ psi (GRADE 40)
 $f'_c = 5,000$ psi

NEW CONSTRUCTION

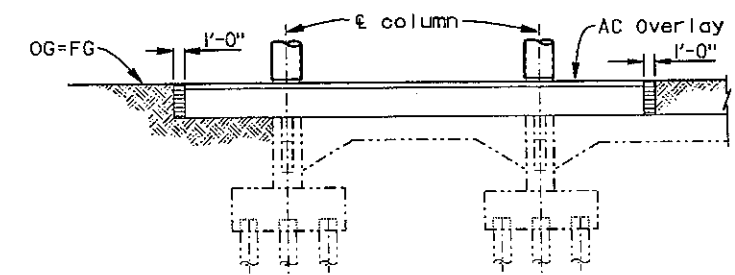
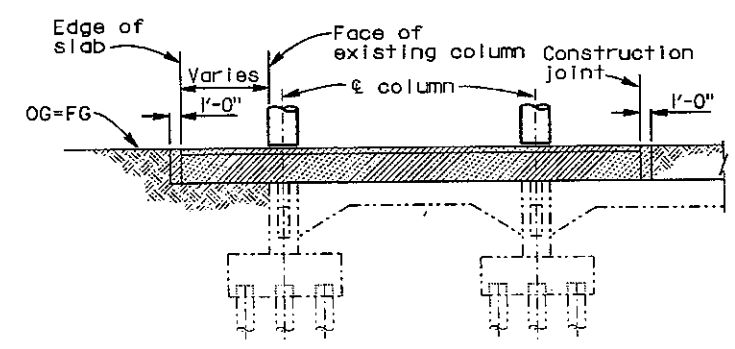
$f_y = 60,000$ psi
 $f'_c = 4,000$ psi

STRUCTURAL STEEL: ASTM A 36
 $f_y = 36,000$ psi

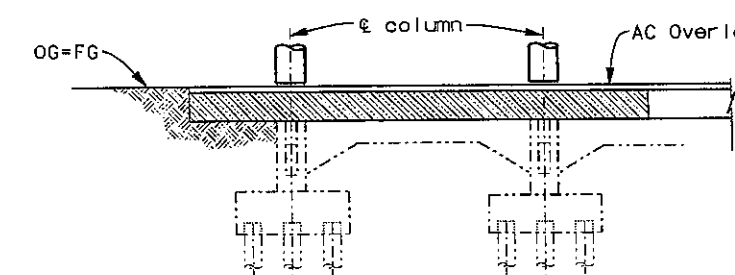
HIGH STRENGTH RODS: ASTM A 722
 $f_{pu} = 150,000$ psi

SEISMIC LOADING: Site Specific ARS Curves as shown.

SPREAD FOOTINGS PRESSURE: = 2 TSF
= 2 TSF



LIMITS OF EXCAVATION AND BACKFILL
No scale



CONCRETE STRENGTH AND TYPE LIMITS
No scale

- NOTES
- Indicates existing structure.
 - Indicates new construction.
 - ▨ Indicates Structure Excavation (Type H)
 - ▨ Indicates Structure Backfill
 - ▨ Structure Concrete, Bridge Footing (4000 psi at 28 days)

SFOBB - SEISMIC RETROFIT PROJECT No. 14A

TRANSBAY TRANSIT TERMINAL RAMPS

GENERAL NOTES

DESIGN	BY Gary Joe	CHECKED Matthew Socha
DETAILS	BY Xijiang Wu	CHECKED Matthew Socha
QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 13

BRIDGE NO. 34-0119Y
POST MILE

CU 04
EA 0435C1

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 5 OF 31

DATE PLOTTED => 18-DEC-2000
USERNAME => 4737K
TIME PLOTTED => 07:56

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

NOTES


1. All dimensions & elevations are \pm .
2. For existing grade beam dimensions, see "Column Layout No. 2" sheet.

 Top of exist grade beam elevation.

----- Indicates existing column and grade beams.

Indicates existing floating.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	4.9/5.9	127	166

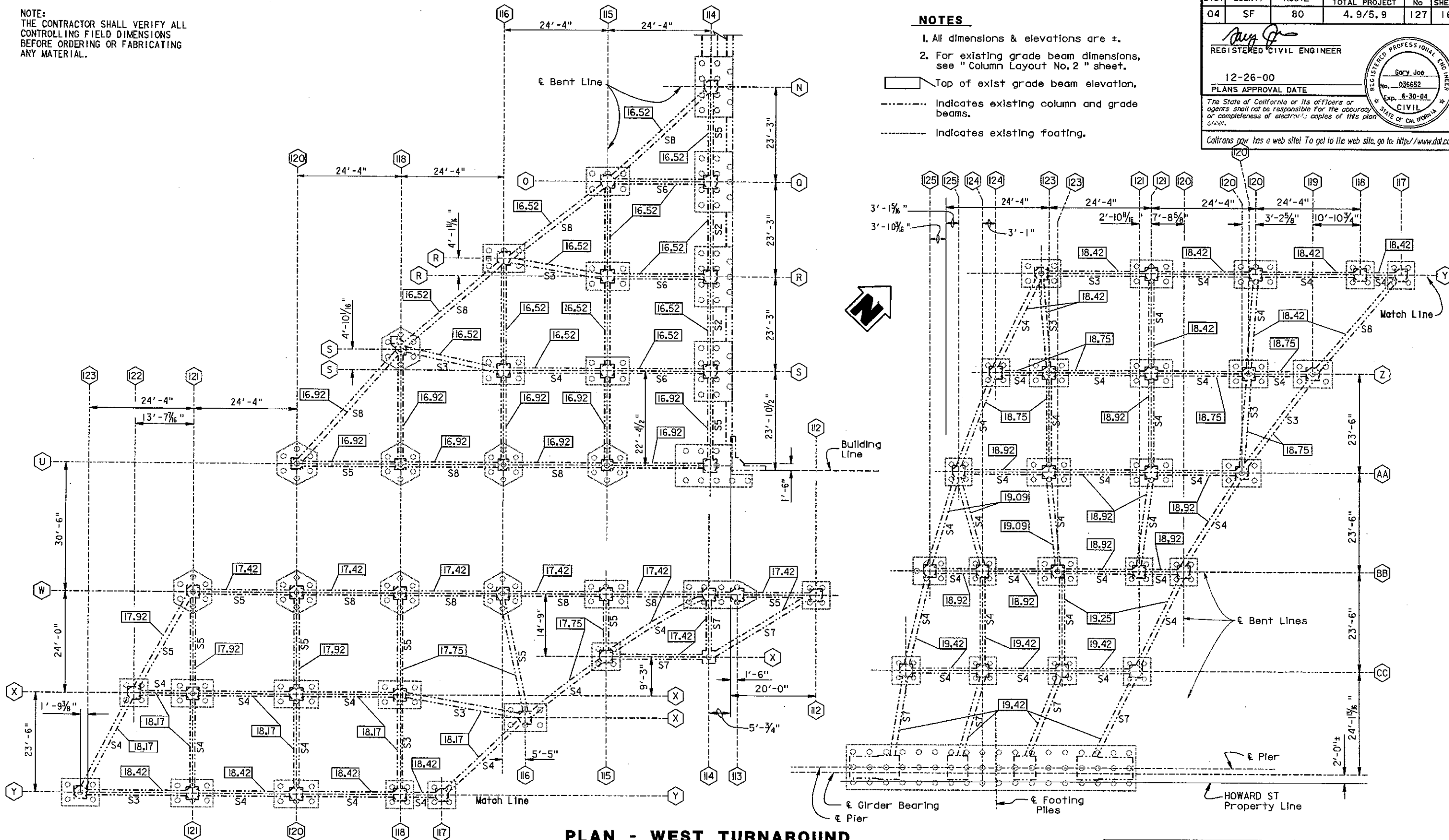
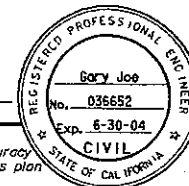

REGISTERED CIVIL ENGINEER

12-26-00

PLANS APPROVAL DATE

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PLAN - WEST TURNAROUND

$$\frac{3}{32}'' \approx 1'-0''$$

DESIGN	BY Gary Joe	CHECKED Matthew Sacha
DETAILS	BY Xijiang Wu	CHECKED Matthew Sacha
QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 13

BRIDGE NO.	34-0119Y
POST MILE	

SFOBB - SEISMIC RETROFIT PROJECT No. 14A

TRANSBAY TRANSIT TERMINAL RAMPS

COLUMN LAYOUT NO. 1

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)

CU 04
EA 0435C1

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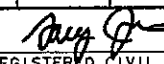
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EARLIER REVISION DATES -

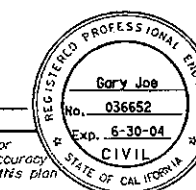
REVISION DATES (PRELIMINARY STAGE ONLY)

3-17-00	4-26-00	5-2-00	6-7-00	6-16-00	6-
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USERNAME =>	trph15	DATE PLOTTED =>	18-DEC-2000	TIME PLOTTED =>	07:25

DIST04COUNTYSFROUTE80POST MILESTOTAL PROJECT4.9/5.9SHEET No128TOTAL SHEETS166

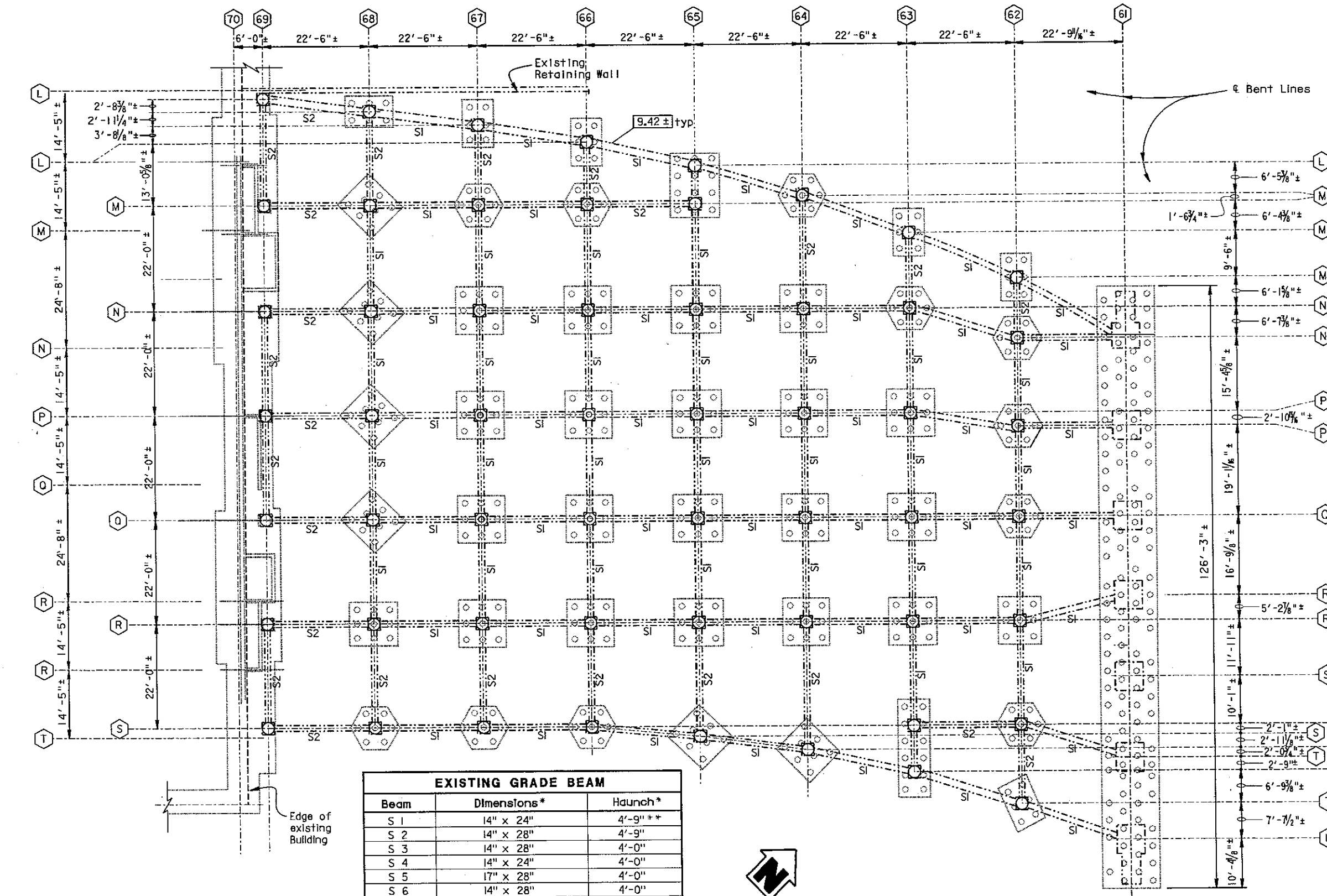

REGISTERED CIVIL ENGINEER
12-26-00
PLANS APPROVAL DATE



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- NOTES**
- All dimensions and elevations are ±.
 - 9.42± Top of exist grade beam elevation, typ.
 - Indicates existing column and grade beams.
 - Indicates existing footing.



NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

* All dimensions are ±.
** 4'-6" @ pier end only.
*** straight @ XII4

PLAN - EAST TURNAROUND
1/32" = 1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)

DESIGNBYGary JoeCHECKEDMatthew Sacha

DETAILSBYJFCasarin/X. WuCHECKEDMatthew Sacha

QUANTITIESBYNasser TachtaCHECKEDQi Zhao

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES

STRUCTURE DESIGN 13

BRIDGE NO. 34-019Y

POST MILE

SFOBB - SEISMIC RETROFIT PROJECT No. 14A

TRANSBAY TRANSIT TERMINAL RAMPS

COLUMN LAYOUT NO. 2

CU 04

EA 0435C1

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

5-1-99	5-2-99	5-8-99	5-17-99	5-26-99	6-2-99	6-16-99	6-24-99	8-24-99	9-29-99
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ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 9 OF 31

USERNAME: trkatty DATE PLOTTED: 27-DEC-2000 TIME PLOTTED: 11:51

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sfoobb-13334r-019y.naw\contract\4e\adco\02lay.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	4.9/5.9	129	166

REGISTERED CIVIL ENGINEER

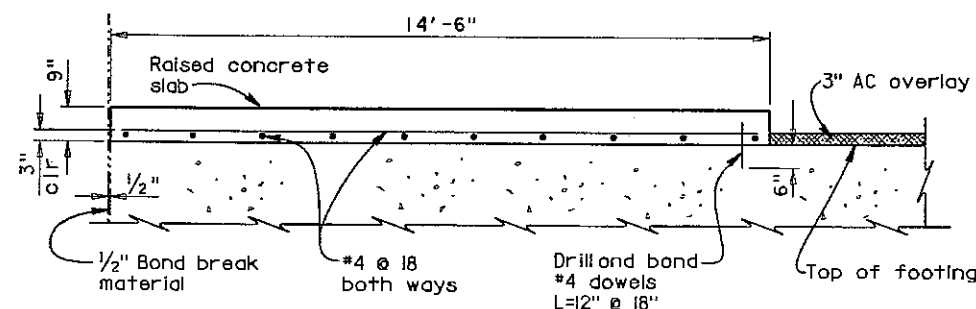
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PLANS APPROVAL DATE

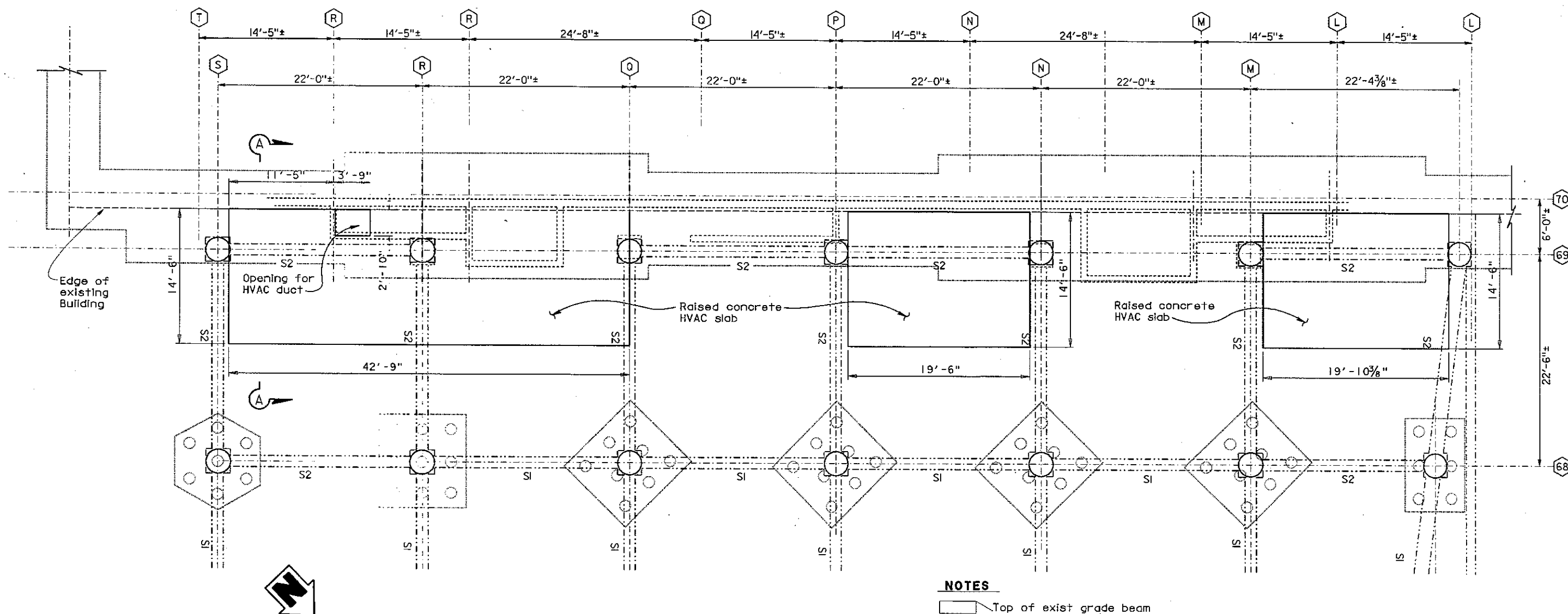
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GARY JOE
No. 036652
Exp. 6-30-04
CIVIL
STATE OF CALIFORNIA



**SECTION A-A
RAISED CONCRETE SLAB**
1/2" = 1'-0"



PLAN - BENT 69
3/16" = 1'-0"

NOTES

- Top of exist grade beam elevation
- Indicates existing column and grade beams.
- Indicates existing footing.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Gary Joe	CHECKED Matthew Socha
DETAILS	BY JFCasolino / X. Wu	CHECKED Matthew Socha
QUANTITIES	BY Nasser Tachta	CHECKED Al Zhao

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 13

BRIDGE NO.	34-0119Y
POST MILE	

SFOBB - SEISMIC RETROFIT PROJECT No. 14A
TRANSBAY TRANSIT TERMINAL RAMPS
COLUMN LAYOUT NO. 3

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

CU 04
EA 0435C1

FILE => bdc01031ay.dgn

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

5/2/00 5/2/00 5/2/00 5/2/00 5/2/00 5/2/00 5/2/00

SHEET 10 OF 31

sfoobb-13334r-0119y_new\contract\4a\edcol03lay.dgn

USERNAME = jrcp1115 DATE PLOTTED = 18-DEC-2000 TIME PLOTTED = 07:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
04	SF	80	4.9/5.9	130	166

[Signature]
 REGISTERED CIVIL ENGINEER

12-26-00
 PLANS APPROVAL DATE

[Circular Seal: REGISTERED PROFESSIONAL ENGINEER, No. 036652, Exp. 5-30-04, CIVIL, STATE OF CALIFORNIA]

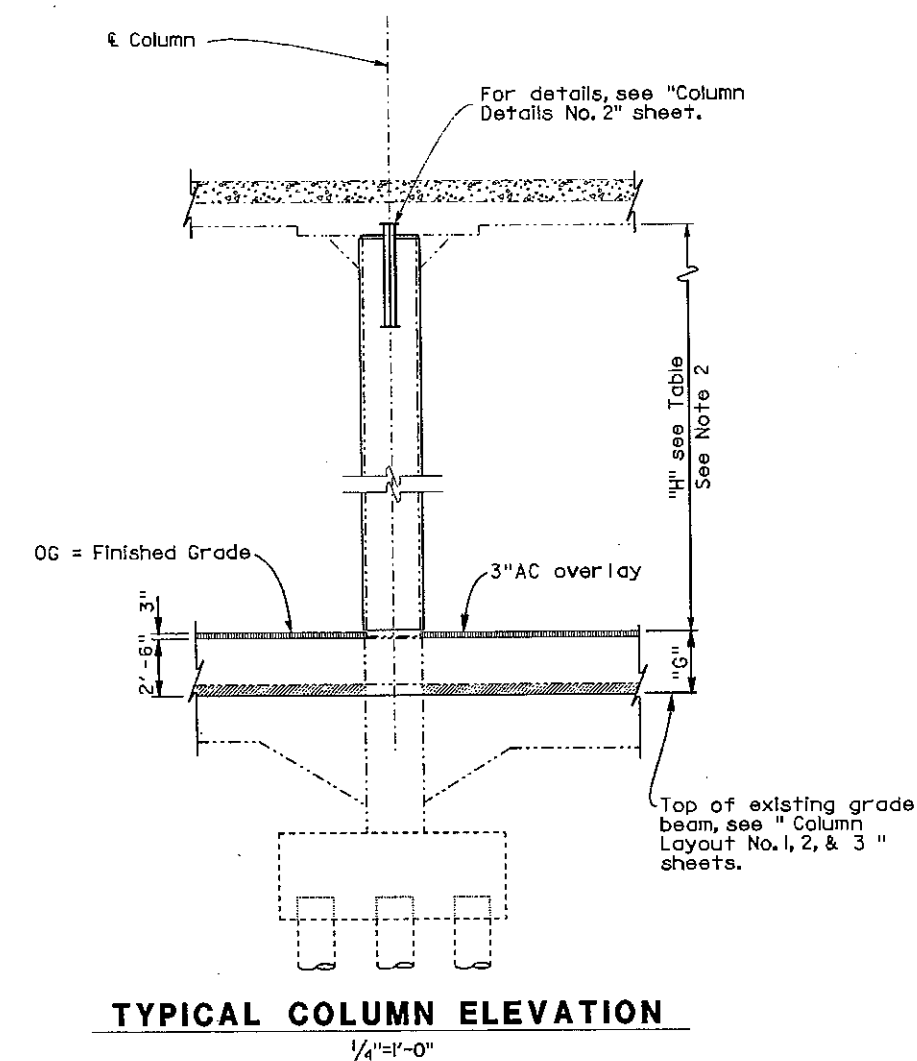
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WEST TURNAROUND COLUMN TABLE

Column No.	Height (ft) " H "	Existing Cover (ft) " G "	Column No.	Height (ft) " H "	Existing Cover (ft) " G "
I12W	16.70	0.96	I21Z	20.87	1.70
I13W	17.44	1.09	I21AA	20.88	1.75
I14N	19.32	0.86	I21BB	22.46	1.99
I14O	19.15	0.99	I21CC	21.04	1.48
I14R	19.15	0.94	I22X	21.31	1.44
I14S	18.35	1.70	I23Y	21.10	1.50
I14U	18.45	1.11	I23Z	21.76	1.47
I14W	17.38	1.15	I23AA	21.85	1.45
I15Q	19.89	0.95	I23BB	22.26	1.69
I15R	19.88	0.87	I23CC	21.76	1.39
I15S	18.84	1.82	I24Z	22.19	1.70
I15U	18.74	1.42	I24AA	22.64	1.51
I15W	18.16	0.91	I24BB	22.59	1.87
I15X	17.35	1.71	I24CC	22.23	1.54
I16R	20.30	1.23	I25BB	23.33	1.46
I16S	18.93	2.31	I25CC	22.97	1.43
I16U	18.92	1.63			
I16W	18.68	1.26			
I16X	17.16	1.28			
I17Y	17.19	1.63			
I18S	19.72	2.18			
I18U	19.25	2.33			
I18W	19.25	1.55			
I18X	18.57	0.93			
I18Y	17.39	1.38			
I19Z	18.88	2.36			
I20U	19.89	2.52			
I20W	20.19	1.31			
I20X	18.54	2.06			
I20Y	18.43	2.28			
I20Z	19.75	2.15			
I20AA	19.81	1.46			
I20BB	21.41	1.53			
I21W	20.90	1.47			
I21X	20.35	1.32			
I21Y	19.78	1.88			

EAST TURNAROUND COLUMN TABLE			WEST TURNAROUND COLUMN TABLE		
Column No.	Height (ft) " H "	Existing Cover (ft) " G "	Column No.	Height (ft) " H "	Existing Cover (ft) " G "
62M	20.80	1.22	67N	18.48	2.20
62N	20.65	1.25	67P	18.39	2.29
62P	20.46	1.33	67O	18.46	2.22
62O	20.33	1.34	67R	18.58	2.11
62R	20.27	1.28	67S	18.61	2.08
62S	20.15	1.29	68L	18.46	2.19
62T	20.11	1.21	68M	18.37	2.28
63M	20.33	1.34	68N	18.27	2.37
63N	20.12	1.45	68P	18.17	2.47
63P	19.86	1.61	68Q	18.27	2.37
63Q	19.91	1.45	68R	18.37	2.26
63R	19.88	1.38	68S	18.29	2.34
63S	19.79	1.37	69L	17.35	3.25
63T	19.80	1.26	69M	18.02	2.47
64M	19.89	1.46	69N	18.02	2.47
64N	19.64	1.61	69P	18.02	2.47
64P	19.41	1.75	69Q	18.02	2.59
64O	19.38	1.68	69R	18.02	2.49
64R	18.41	2.56	69S	17.96	2.64
64S	19.37	1.50			
65L	19.46	1.57			
65M	19.37	1.62			
65N	19.17	1.77			
65P	18.96	1.94			
65Q	18.99	1.87			
65R	19.04	1.77			
65S	19.15	1.62			
66L	19.17	1.77			
66M	19.11	1.79			
66N	18.85	2.01			
66P	18.73	2.10			
66Q	18.80	1.99			
66R	18.75	2.00			
66S	18.86	1.85			
67L	18.66	2.01			
67M	18.64	2.03			



- ## NOTES

1. All dimensions & elevations are ±.
2. For details not shown, see
"Column Details No. 2 & 3" sheets.
3. Grade beam may need to be
partially or totally removed.

NOTE:
Contractor shall verify all
controlling field dimensions
before ordering or fabricating
any materials.

DESIGN	BY Gary Joe	CHECKED Matthew Socha
DETAILS	BY JFCasarno / X.WU	CHECKED Matthew Socha
QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 13

CU 04
EA 0435C1

FILE => beco|0|det.doc

SFOBB - SEISMIC RETROFIT PROJECT No. 14A

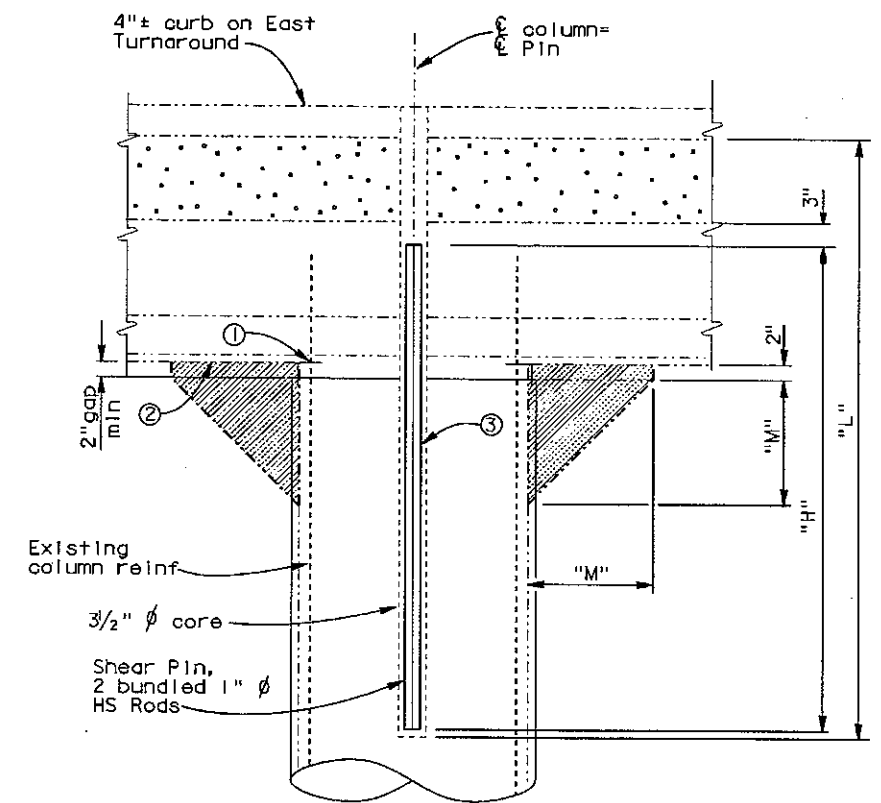
TRANSBAY TRANSIT TERMINAL RAMPS

COLUMN DETAILS NO. 1

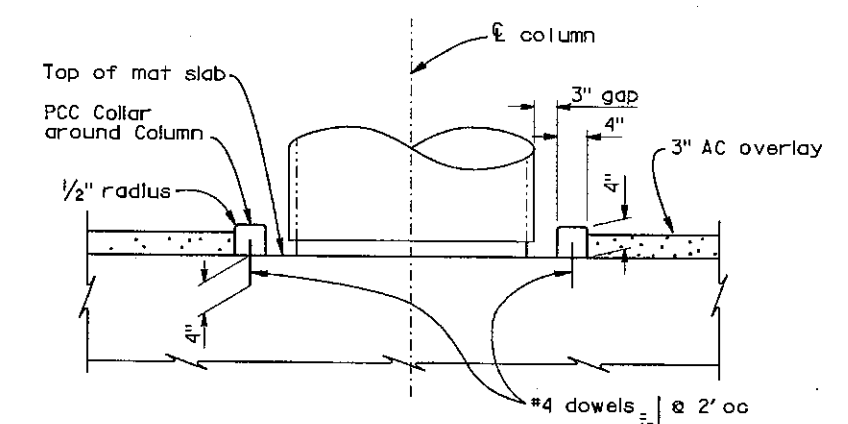
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	→	01-20-00	01-25-00	5-13-00	6-22-00	6-27-00	7-25-00	11	31

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	4.9/5.9	131	166

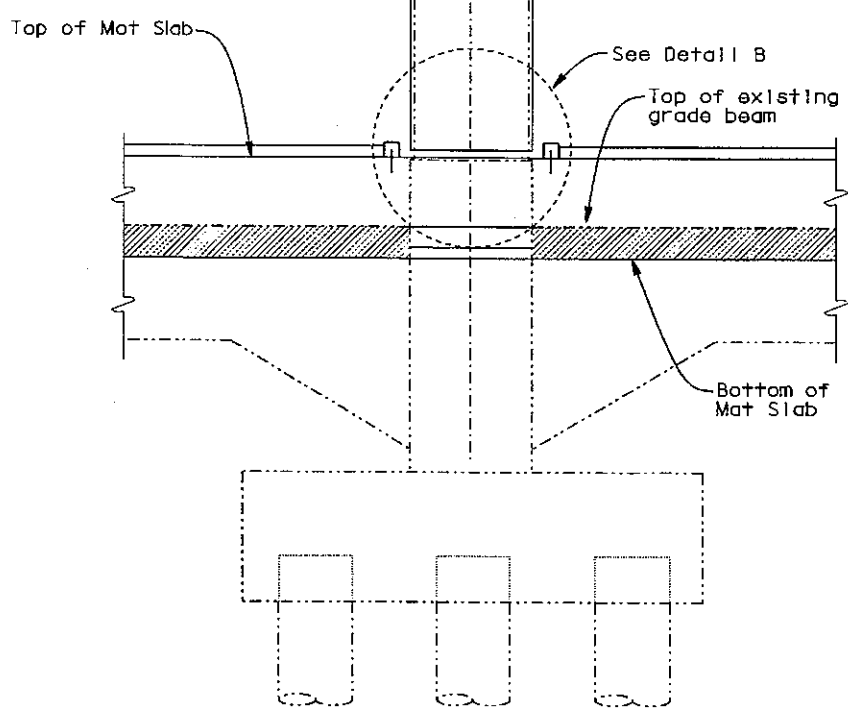
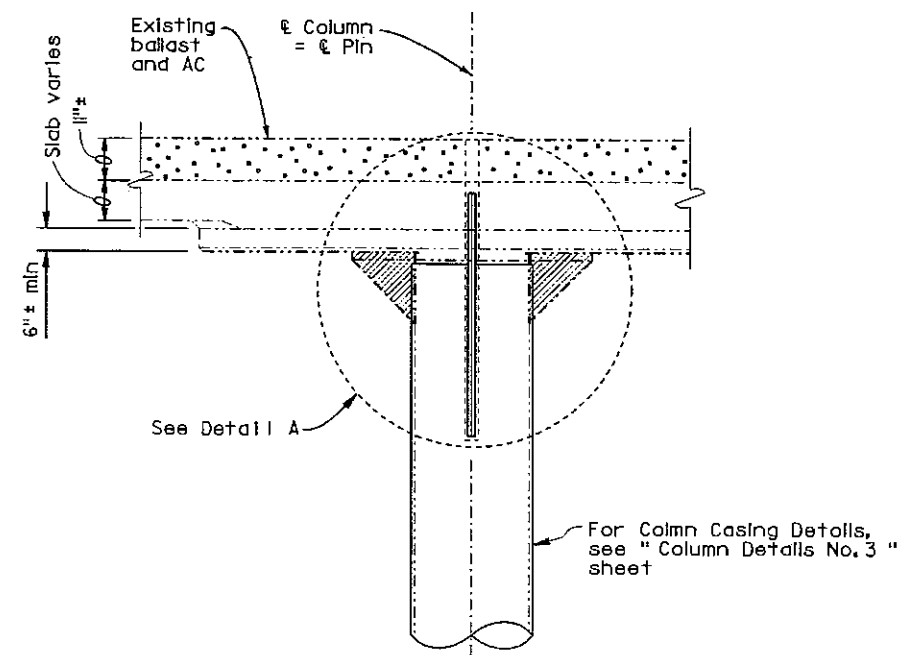
REGISTERED CIVIL ENGINEER
12-26-00
PLANS APPROVAL DATE
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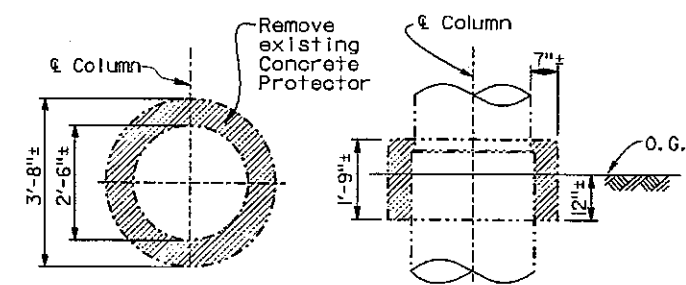
DETAIL A
1"=1'-0"



DETAIL B
1"=1'-0"



LIMITS OF REMOVAL
1/2" = 1'-0"



TYPICAL COLUMN PROTECTOR
1/2"=1'-0"

This detail applies to columns:
115W, 116X, 118X, 118Y, 120X, 120Y, 120Z,
120AA, 121X, 121Y, 121Z, 121AA, 120BB, 123Z,
62M, 62N, 62P, 62Q, 62R, 62S.

NOTES

- ① Saw cut existing main column reinforcement.
- ② Ordinary surface finish for area of removed concrete outside of the steel casing.
- ③ Cored hole to be grouted after shear pin placed.

----- Indicates existing structure
▨ Indicates limits of removal

SHEAR PIN TABLE

Location	"M"	"H"	"L"
East Turnaround	1'-9"±	4'-11"	6'-8"
West Turnaround	1'-8"±	5'-11"	8'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)				DESIGN BY Nasser Tachta	CHECKED Gary Joe	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES STRUCTURE DESIGN 13	BRIDGE NO. 34-019Y	SFOBB - SEISMIC RETROFIT PROJECT No. 14A		
				DETAILS BY A. Onodera / X.WU	CHECKED Gary Joe			POST MILE	TRANSBAY TRANSIT TERMINAL RAMPS		
				QUANTITIES BY Nasser Tachta	CHECKED Qi Zhao				COLUMN DETAILS NO. 2		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 0435C1				DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 12 OF 31

FILE => becol02det.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	4.9/5.9	132	166

REGISTERED CIVIL ENGINEER

12-26-00

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER

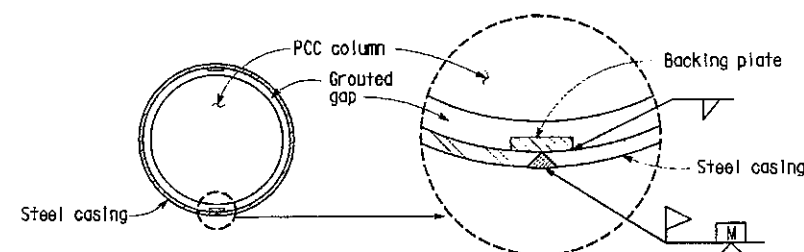
Gary Joe

No. 036552

Exp. 6-30-04

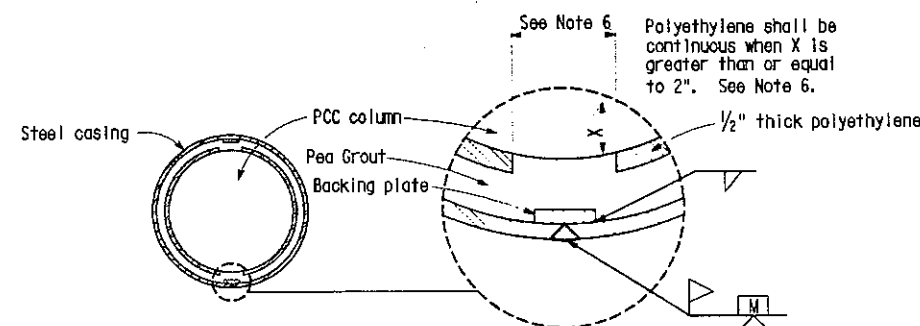
CIVIL

STATE OF CALIFORNIA



SECTION Y-Y ROUND COLUMN

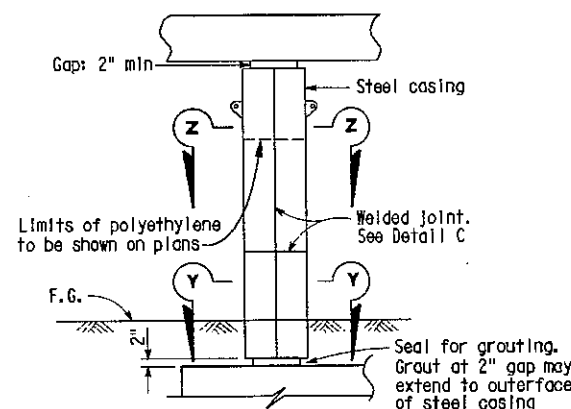
Minimum inside diameter of steel casing = $1\frac{1}{2}$ " greater than nominal column diameter for Class F and $2\frac{1}{2}$ " for Class P/F



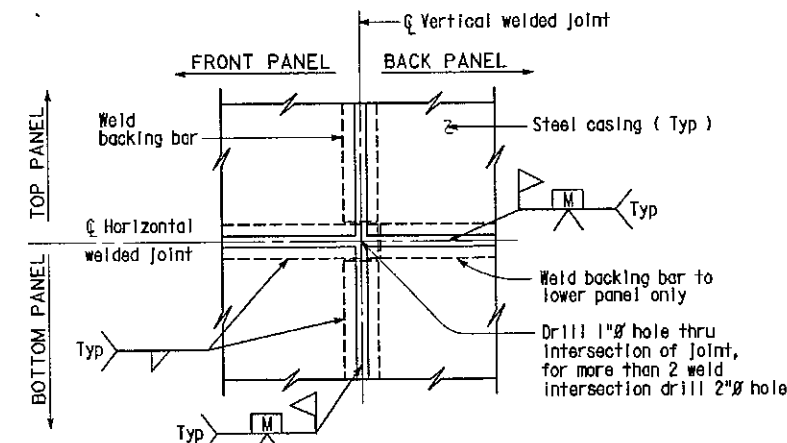
SECTION Z-Z ROUND COLUMN

Minimum inside diameter of steel casing = $2\frac{1}{2}$ " greater than nominal column diameter for Class P and Class P/F.

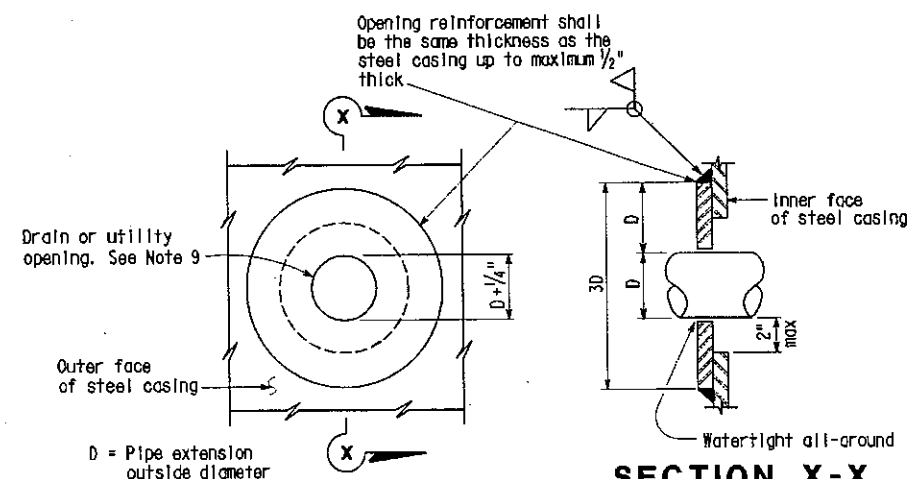
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



CLASS P/F COLUMN



(TWO WELDED INTERSECTION JOINT) DETAIL C No Scale



CASING OPENING

Note: Opening reinforcement required for drain or utility openings larger than 4".

NOTES

- 1) For varying thickness steel casing inside surface to remain flush. Minimum clearance from PCC column to casing shall be maintained.
- 2) Appropriate injection nozzles to be provided on casing, but remove and ground flush following completion of grouting operation.
- 3) All voids between steel casing and polyethylene (Class P and Class P/F), and steel casing and PCC column (Class F) to be filled with grout.
- 4) Location and number of vertical and horizontal welds to be determined by the Contractor, and subject to the approval of the Engineer. The location of casing welds are for illustration. No skip welds allowed.
- 5) Circular steel casing to be $\frac{1}{4}$ " thick minimum for casings with a 4'-4" diameter or less; all other steel casings to be $\frac{3}{8}$ " thick unless noted differently on contract plans. Backing plates to be the same thickness as casing up to maximum $\frac{1}{2}$ " thick.
- 6) Contractor shall remove 12" polyethylene strip behind backing plate if backing plate is closer than $1\frac{1}{2}$ " from polyethylene.
- 7) Waterproof limits for steel casings. Typical for Classes "P", "F" and "P/F".
- 8) Minimum length of Classes "P" and "F" casing shall be 1.50 times the largest dimension of prismatic section of column, or 2" above finished grade whichever is greater. Lengths other than the specified minimum shall be shown on detail sheets.
- 9) For pipe extensions, opening shall be no more than $\frac{1}{4}$ " greater than the pipe extension diameter. For other openings, the opening diameter to be determined by the Engineer.
- 10) Steel casings for Columns 114N and 1150 shall be $\frac{3}{8}$ " thick.

SFOBB - SEISMIC RETROFIT PROJECT No. 14A

TRANSBAY TRANSIT TERMINAL RAMPS

COLUMN DETAILS NO. 3

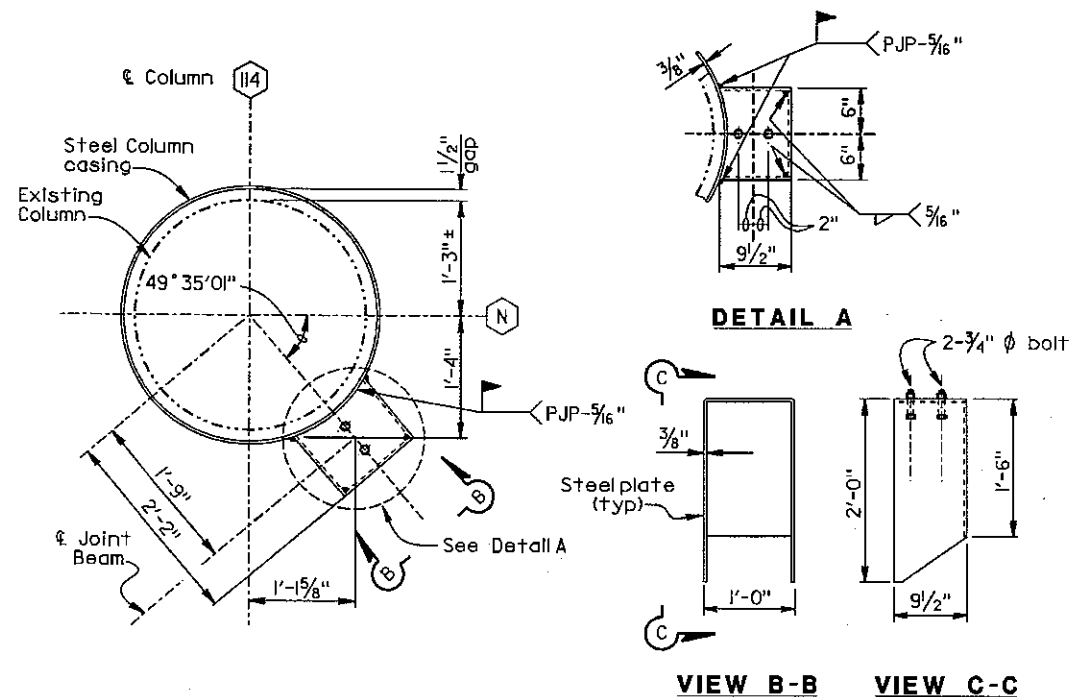
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	DETAILS	BY A. Onodera	CHECKED Gary Joe			POST MILE				
	QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao							
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 04 EA 0435C1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
							4-24-00 4-28-00 5-28-00 7-28-00 10-2-00		13	31

USERNAME => trinitest DATE PLOTTED => 18-DEC-2000 TIME PLOTTED => 08:24

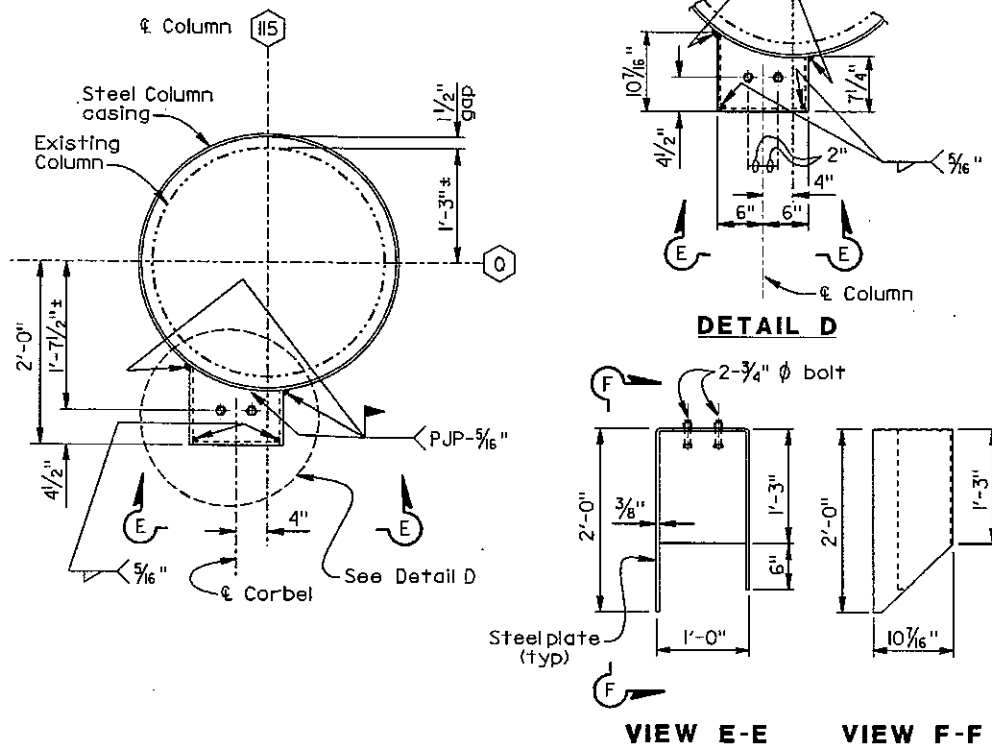
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
04	SF	80	4.9/5.9	133	166

REGISTERED CIVIL ENGINEER
 12-26-00
 PLANS APPROVAL DATE
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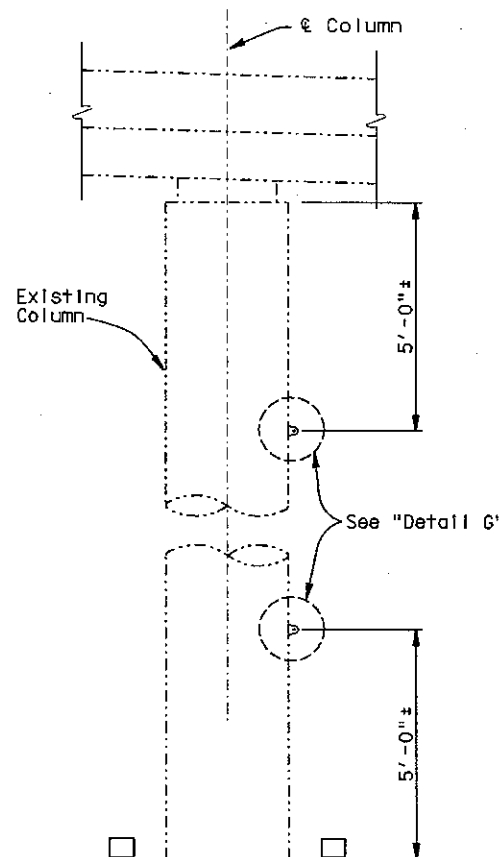
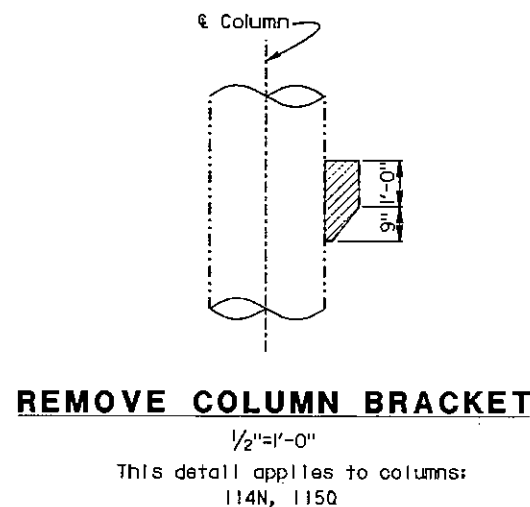
REGISTERED PROFESSIONAL ENGINEER
 Gary Joe
 No. 036652
 Exp. 6-30-04
 CIVIL
 STATE OF CALIFORNIA



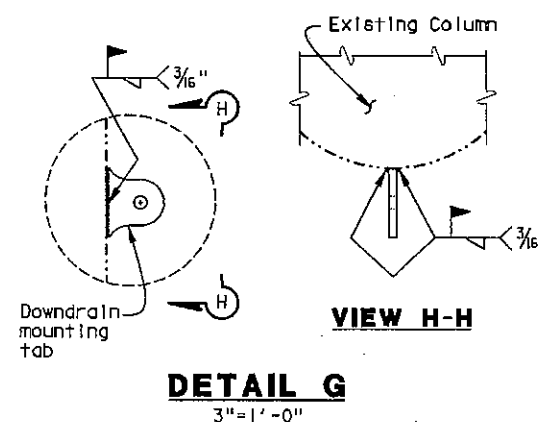
COLUMN 114-N
1"=1'-0"



COLUMN 115-Q
1"=1'-0"



DOWNDRAIN MOUNTING TAB



DOWNDRAIN TAPE BRACKET TABS
1/2"=1'-0"

Columns: 65L, 69L and 114W

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Matthew Socha	CHECKED Gary Joe
DETAILS	BY Xijiang.WU	CHECKED Gary Joe
QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 13

BRIDGE NO.
34-0189Y
POST MILE

SFOBB - SEISMIC RETROFIT PROJECT No. 14A

TRANSBAY TRANSIT TERMINAL RAMPS

COLUMN DETAILS NO. 4

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

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CU 04
EA 0435C1

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REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 14 OF 31

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NOTE:
Contractor shall verify all
controlling field dimensions
before ordering or fabricating
any materials.

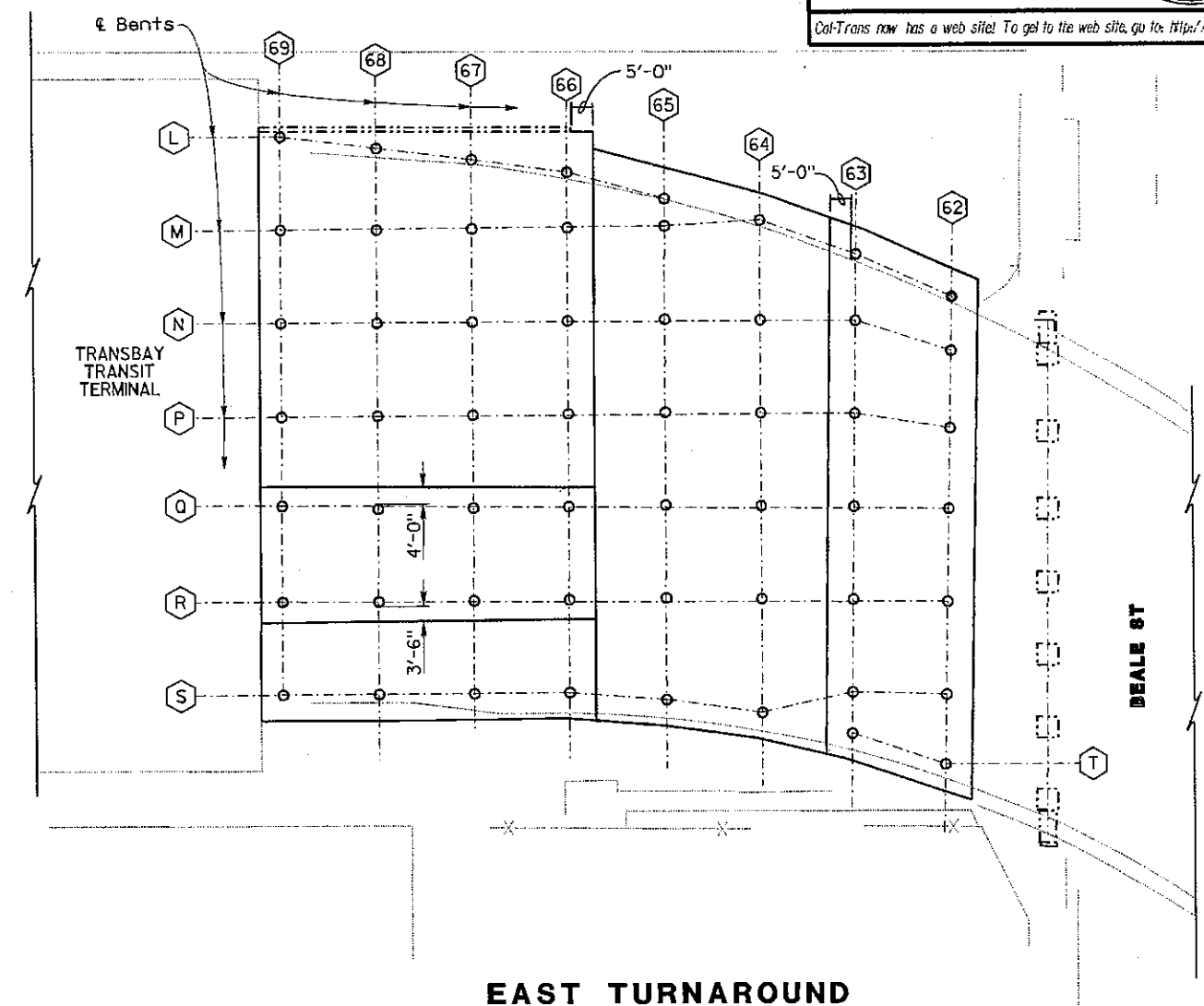
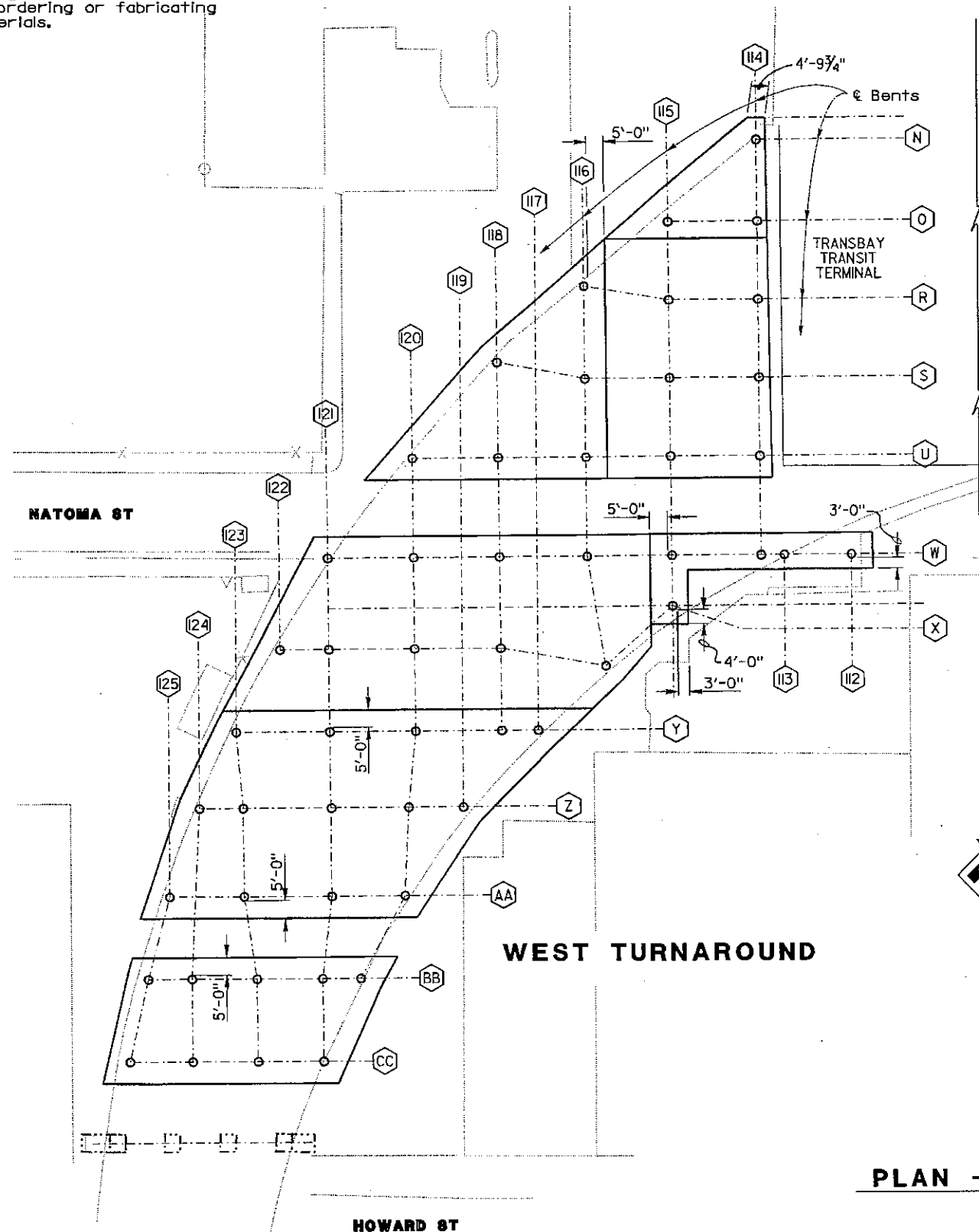
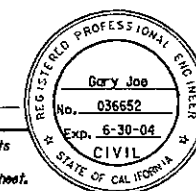
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04	SF	80	4.9/5.9	134	166

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PLAN - CONSTRUCTION JOINT LAYOUT

1" = 20'

NOTES

1. For construction staging, see "Road Plans"
2. For existing bent layout, see "Column Layout No. 1 & 2" sheets.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES STRUCTURE DESIGN 13		BRIDGE NO. 34-0119Y POST MILE		SFOBB - SEISMIC RETROFIT PROJECT No. 14A TRANSBAY TRANSIT TERMINAL RAMP MAT SLAB DETAILS NO. 1	
DESIGN	BY Gary Joe	CHECKED Matthew Socha	DETAILS	BY JFCasolino / X.WU	CHECKED Matthew Socha	QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao	CU 04 EA 0435C1	DISCARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 15	OF 31
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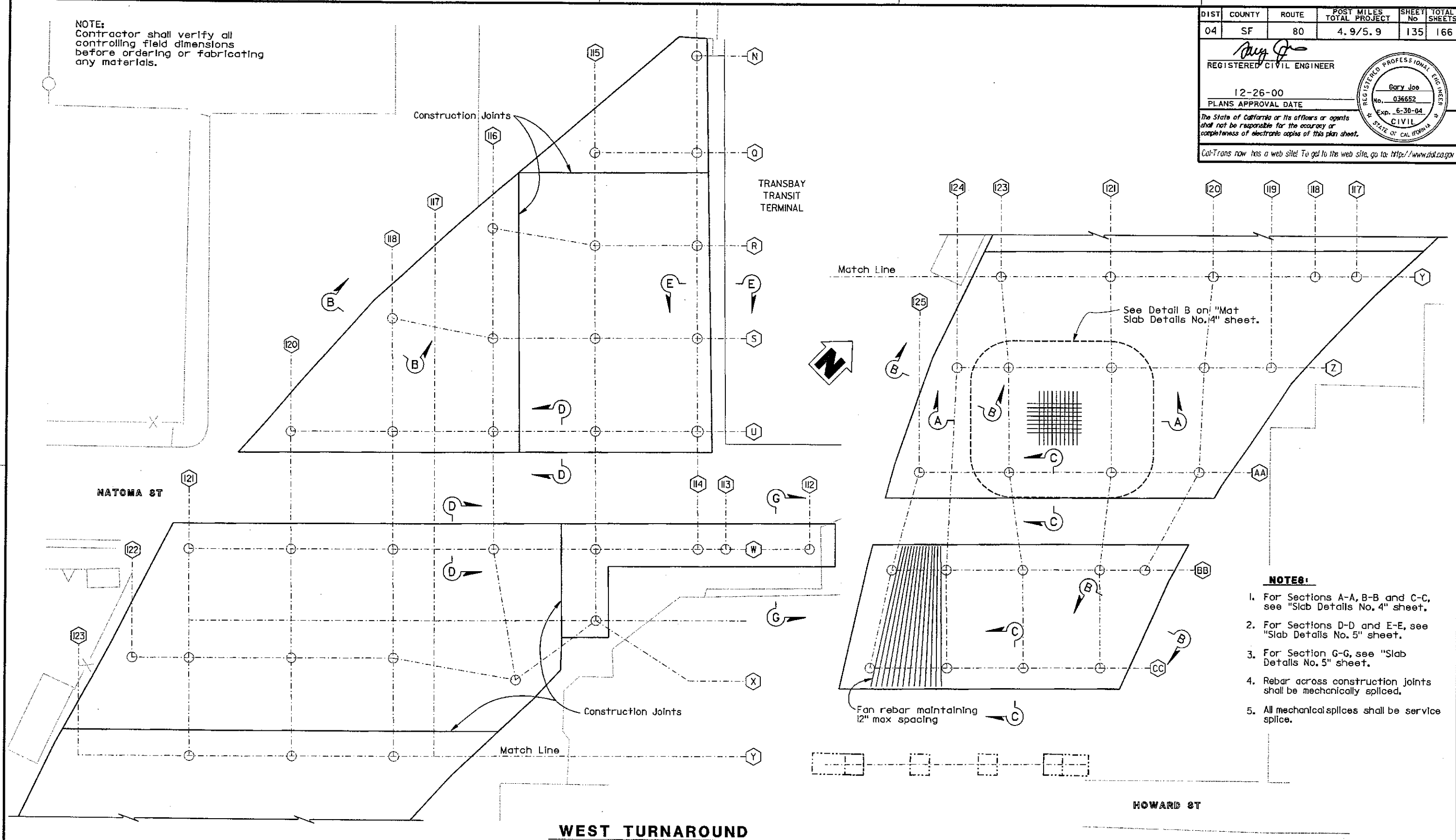
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	4.9/5.9	135	166

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NOTE:
 Contractor shall verify all
 controlling field dimensions
 before ordering or fabricating
 any materials.



- NOTES:**
- For Sections A-A, B-B and C-C, see "Slab Details No. 4" sheet.
 - For Sections D-D and E-E, see "Slab Details No. 5" sheet.
 - For Section G-G, see "Slab Details No. 5" sheet.
 - Rebar across construction joints shall be mechanically spliced.
 - All mechanical splices shall be service splice.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)				DESIGN BY Gary Joe CHECKED Matthew Socha DETAILS BY JFCasarin / X.WU CHECKED Matthew Socha QUANTITIES BY Nasser Tachta CHECKED Qi Zhao		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES STRUCTURE DESIGN 13		BRIDGE NO. 34-019Y POST MILE		SFOBB - SEISMIC RETROFIT PROJECT No. 14A TRANSBAY TRANSIT TERMINAL RAMPS MAT SLAB DETAILS NO. 2	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 0435C1		DISCARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 16 OF 31			

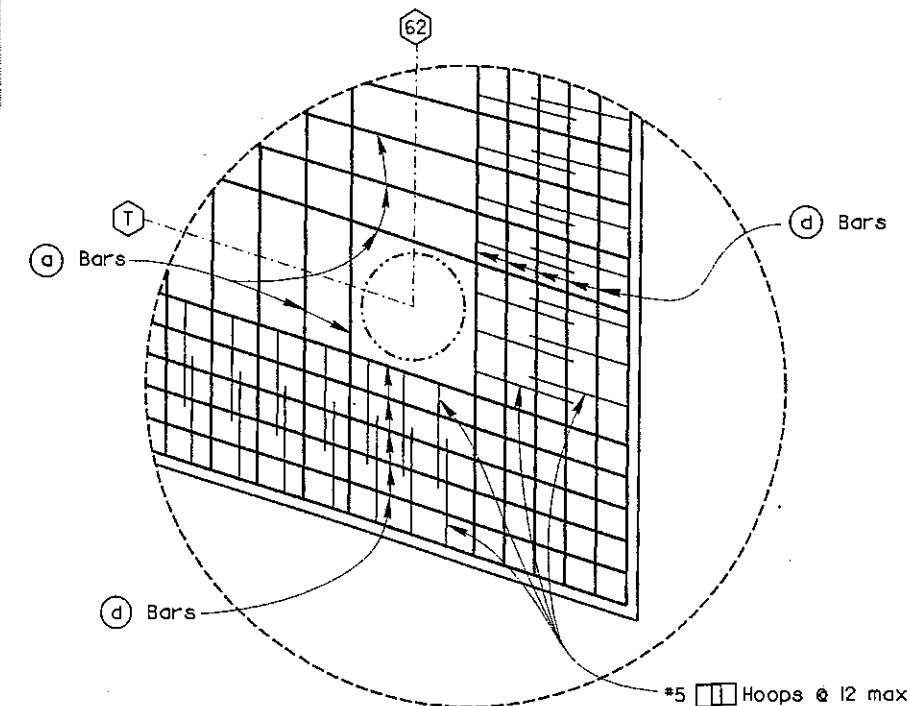
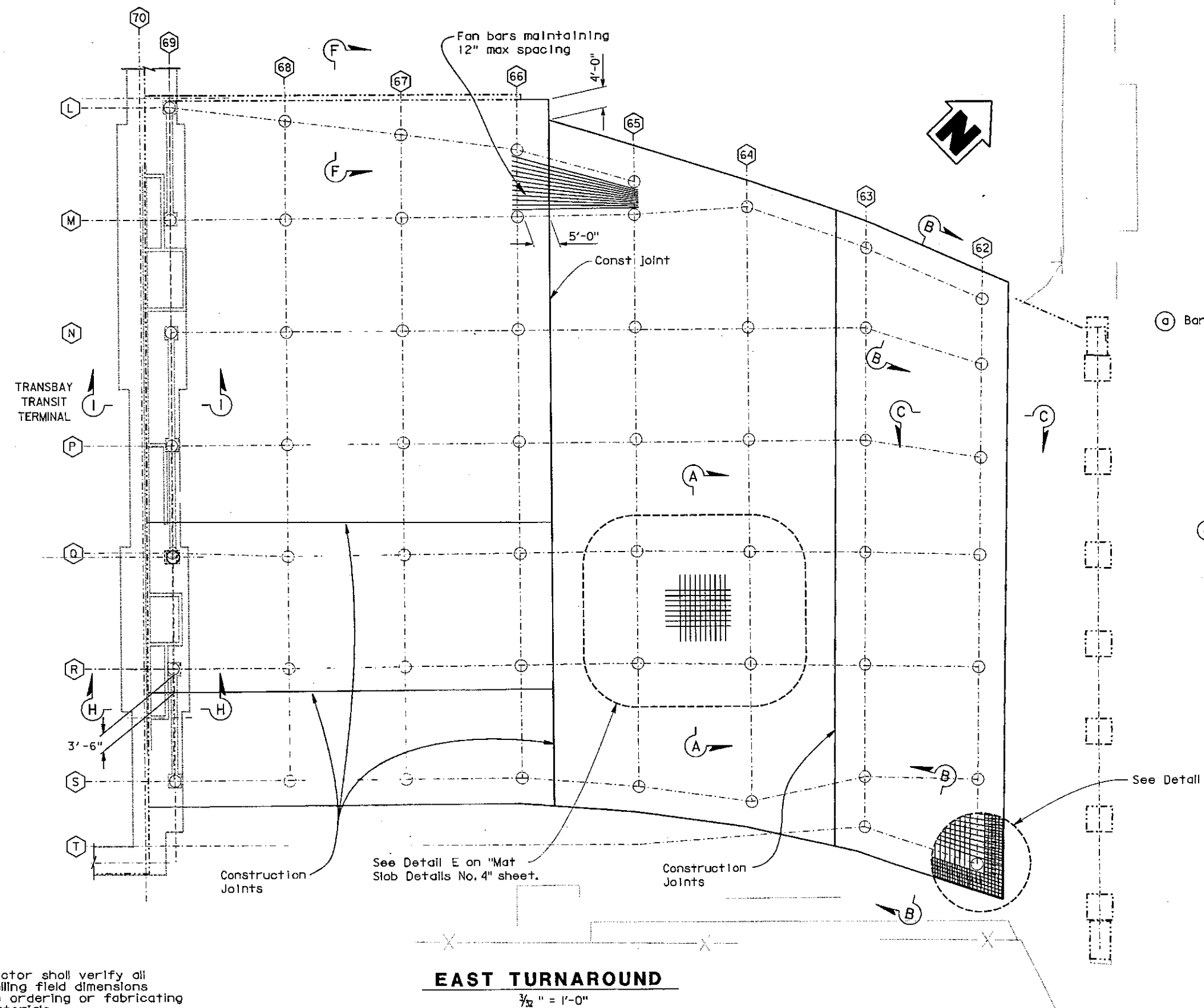
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DETAIL D

$\frac{1}{2}'' = 1'-0''$

NOTES

- For Sections A-A, B-B and C-C, see "Mat Slab Details No. 4" sheet.
 - For sections F-F and H-H, See "Mat Slab Details No. 5" sheet.
 - Rebar crossing construction joints must be mechanically spliced.
- (a) Bar - Typical slab reinforcement #10 @ 12 max between columns top and bottom each way.
 (d) Bar - #10 edge slab reinforcement.

NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

EAST TURNAROUND

$\frac{3}{32}'' = 1'-0''$

DESIGN	BY Gary Joe	CHECKED Matthew Socha
DETAILS	BY JFCasolino / X.WU	CHECKED Matthew Socha
QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao

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STRUCTURE DESIGN 13

BRIDGE NO.
34-018Y
POST MILE

SFOBB - SEISMIC RETROFIT PROJECT No. 14A

TRANSBAY TRANSIT TERMINAL RAMPS

MAT SLAB DETAILS NO. 3

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)

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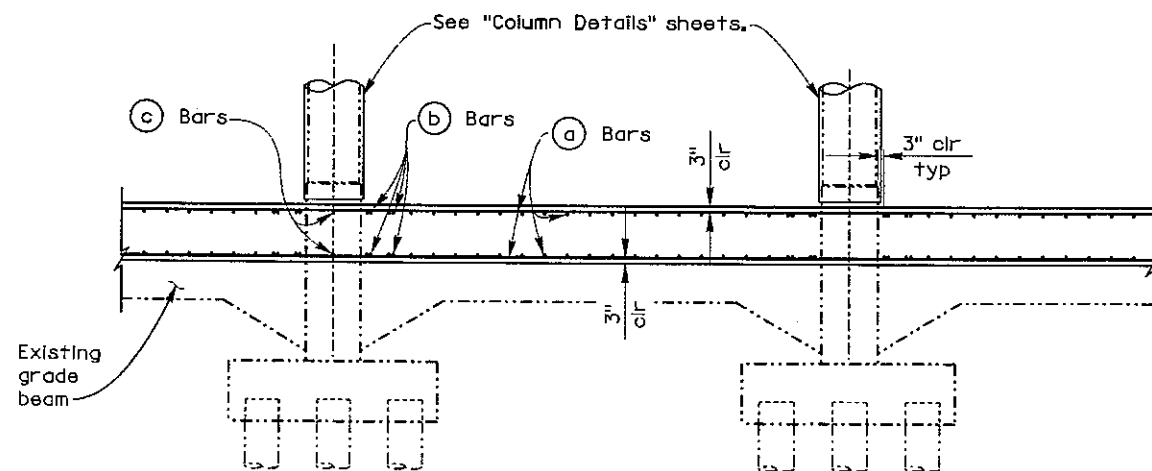
SHEET 17 OF 31

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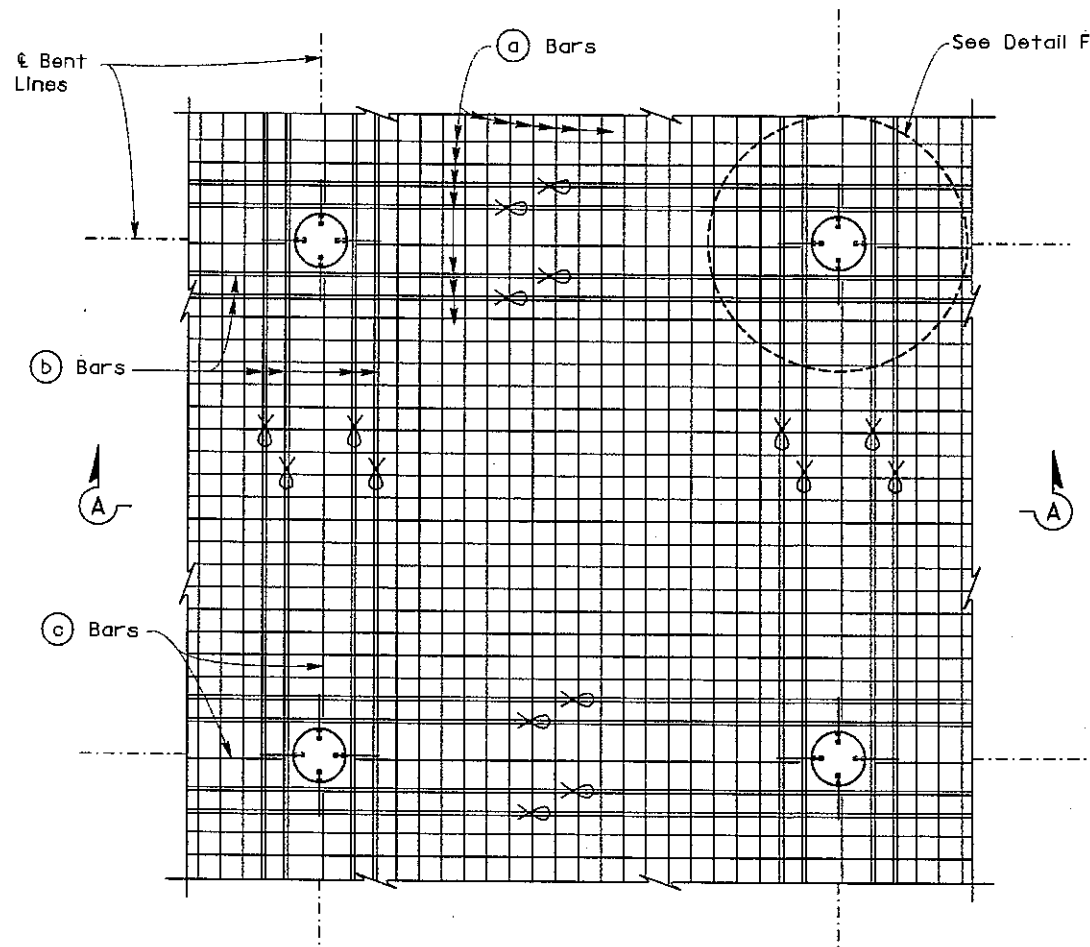
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DATE PLOTTED => 18-DEC-2000
USERNAME => YIPITLS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	4.9/5.9	137	166

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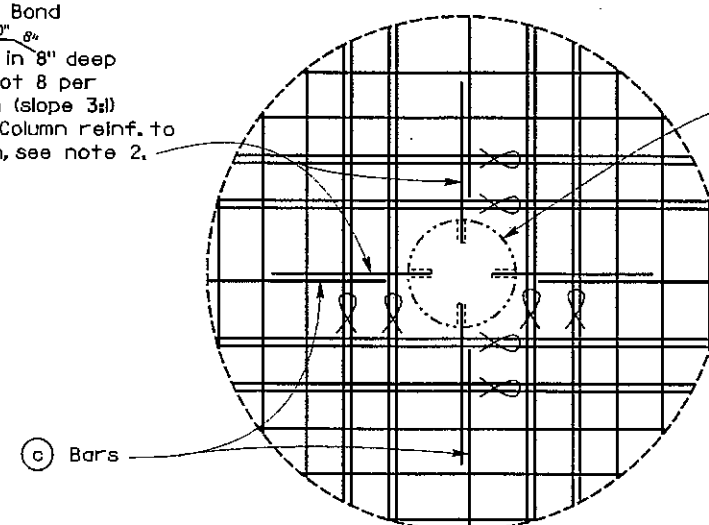
SECTION A-A
1/4" = 1'-0"



DETAIL E
1/4" = 1'-0"

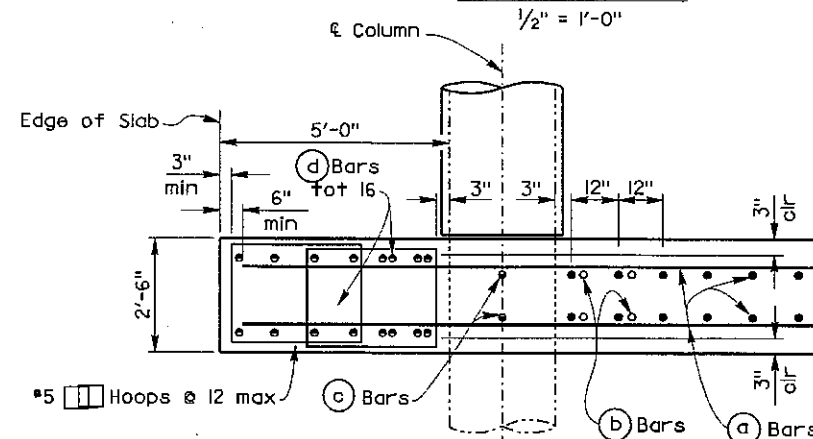
NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

Drill & Bond
#8 3'-0" 8"
dowel in 8" deep
hole, tot 8 per
column (slope 3:1)
Exist Column reinf. to
remain, see note 2.

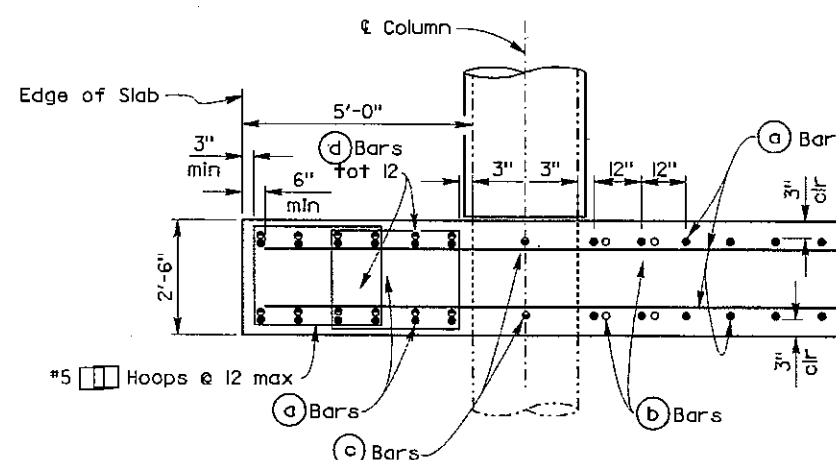


DETAIL F
1/2" = 1'-0"

Roughen existing column
within mat slab to 1/4"
amplitude.



SECTION B-B
1/2" = 1'-0"



SECTION C-C
1/2" = 1'-0"

NOTES

- For locations of Detail E, Sections B-B and C-C, see "Mat Slab Details No. 2 & 3" sheets.
 - Existing column reinforcing steel shall be located prior to drilling for drill and bond dowels.
- (a) Bar - Typical slab reinforcement #10 @ 12 max between columns top and bottom each way.
 (b) Bar - #10 total 8 per Bent line, bundled with (a) bar each way.
 (c) Bar - #10 lap with #8 dowel, top and bottom each way.
 (d) Bar - #10 edge slab reinforcement.
 X Bundled bars

DESIGN	BY Gary Joe	CHECKED Matthew Socha
DETAILS	BY JFCasario / XMU	CHECKED Matthew Socha
QUANTITIES	BY Nasser Tachta	CHECKED Qi Zhao

STATE OF
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DIVISION OF STRUCTURES
STRUCTURE DESIGN 13

BRIDGE NO.
34-0119Y
POST MILE

SFOBB - SEISMIC RETROFIT PROJECT No. 14A
TRANSBAY TRANSIT TERMINAL RAMPS
MAT SLAB DETAILS NO. 4

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)

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01-27-00 4-27-00 5-2-00 5-14-00 5-20-00 7-28-00 8-16-00

SHEET
18

OF
31

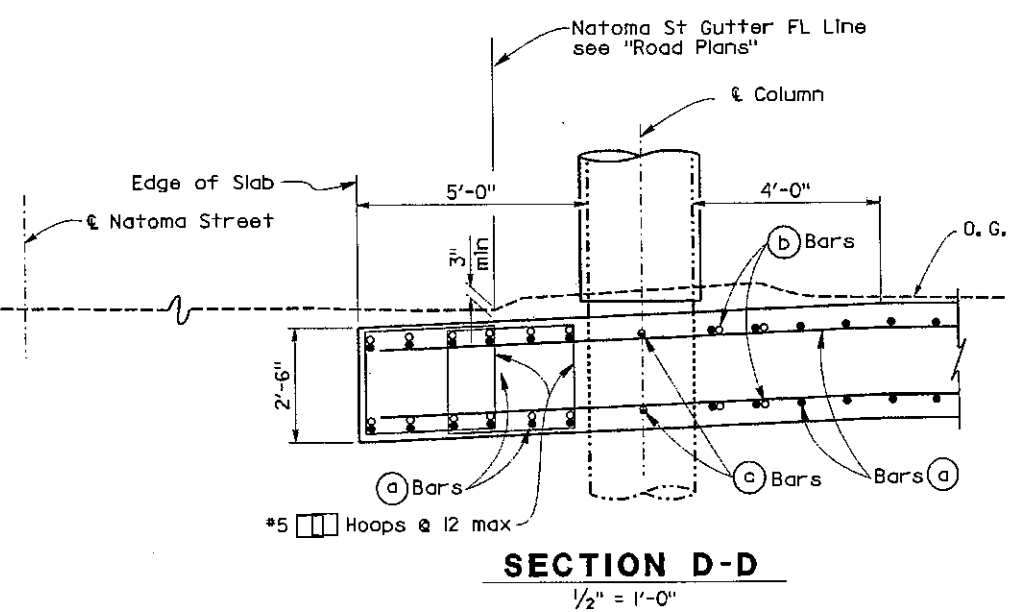
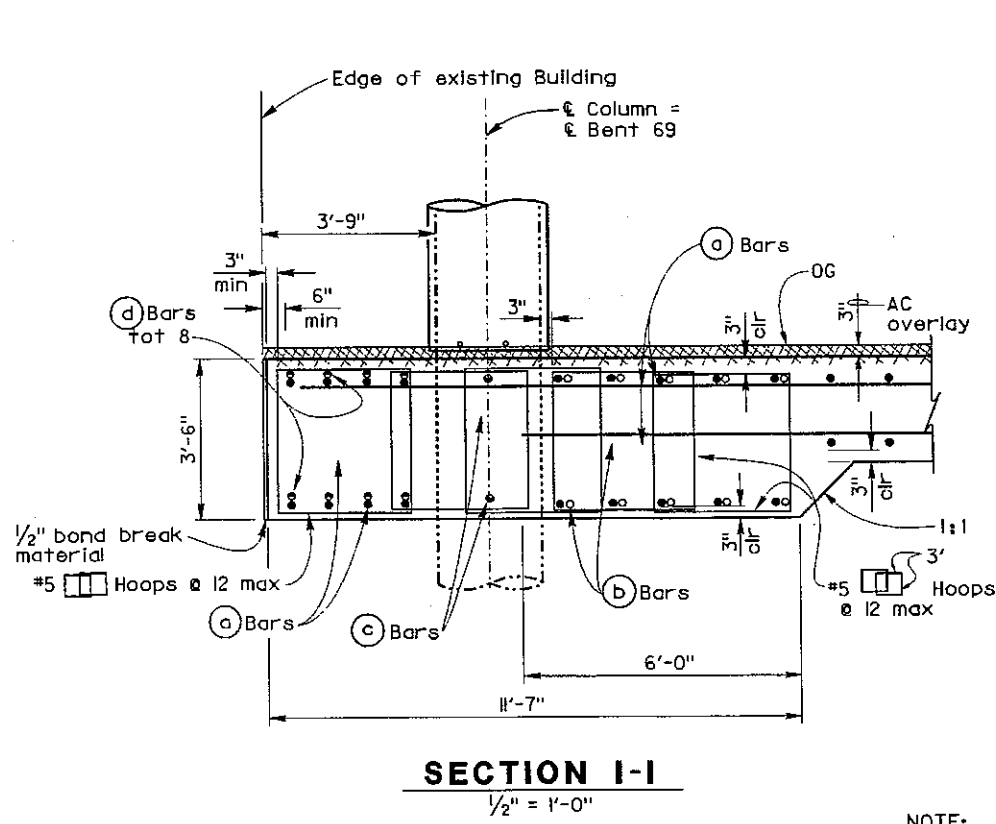
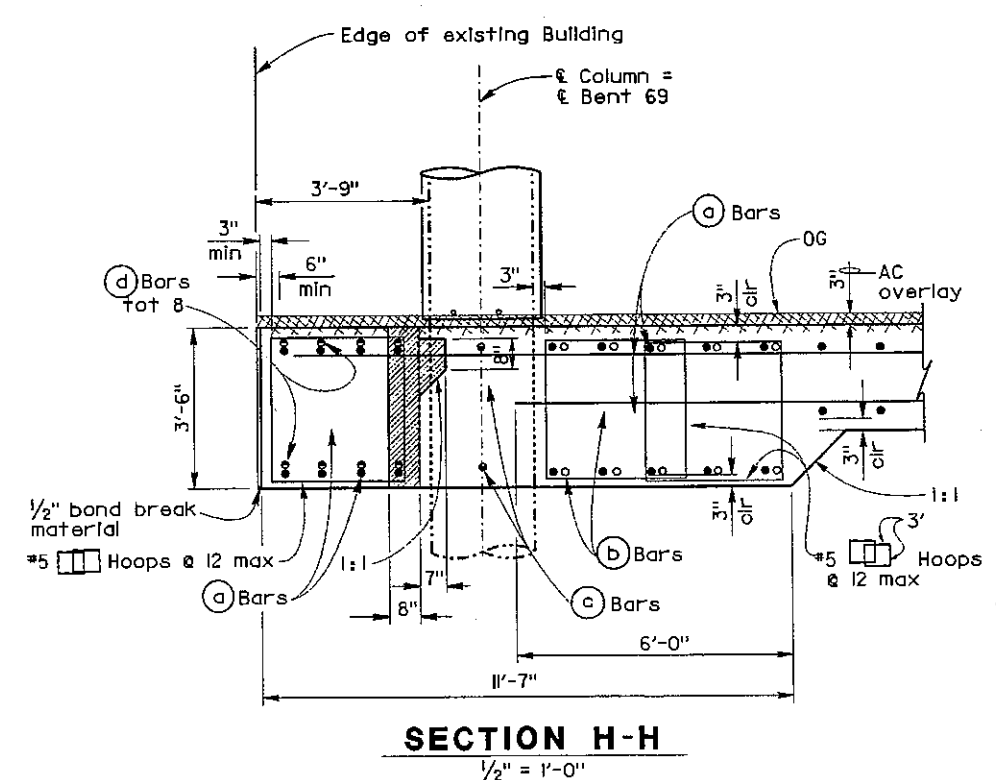
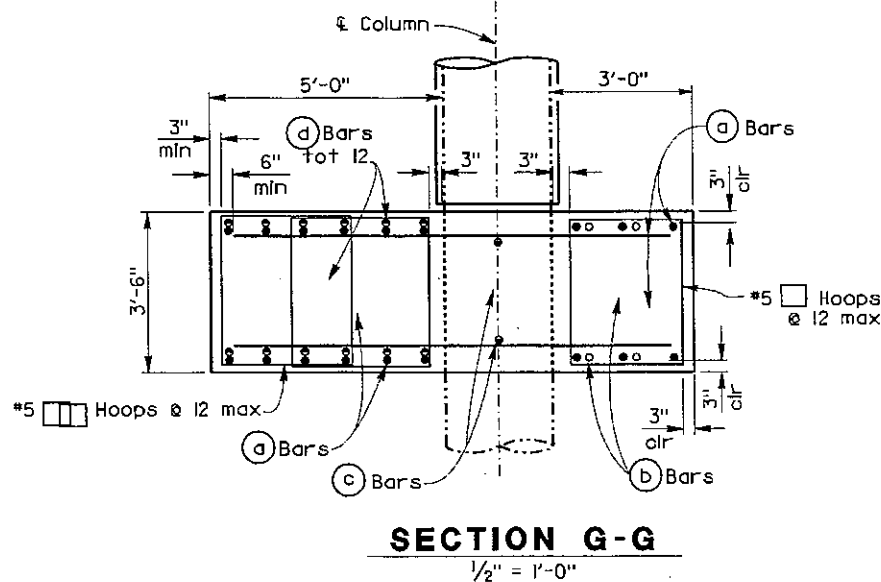
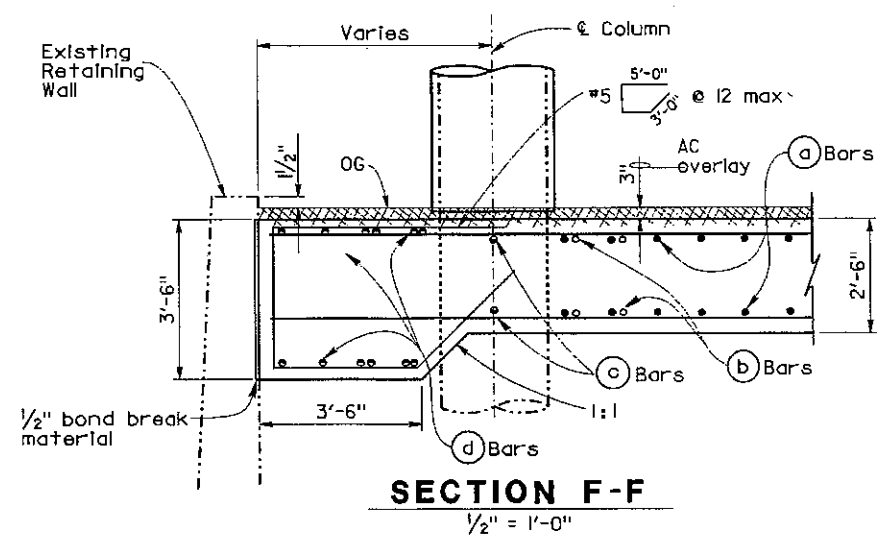
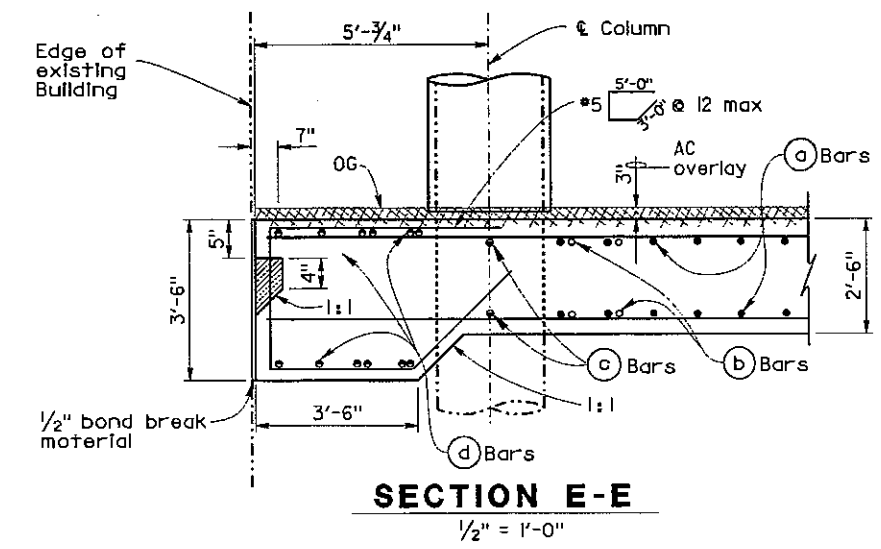
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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 Gary Joe
 No. 036652
 Exp. 6-30-04
 CIVIL
 STATE OF CALIFORNIA



- NOTES:**
- For details not shown, see Sections A-A, B-B and C-C on "Mat Slab Details No. 4" sheet.
 - For location of Sections D-D, E-E and G-G, see "Mat Slab Details No. 2" sheet.
 - For location of Sections F-F and H-H, see "Mat Slab Details No. 3" sheet.
- Indicates limits of concrete removal.
 (a) Bar • - Typical slab reinforcement #10 @ 12 max between columns top and bottom each way.
 (b) Bar • - #10 total 8 per Bent line, bundled with (c) bar each way.
 (c) Bar • - #10 lap with # 8 dowel, top and bottom each way.
 (d) Bar • - #10 edge slab reinforcement.

NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 1/1/99)				STATE OF CALIFORNIA				SFOBB - SEISMIC RETROFIT PROJECT No. 14A			
DESIGN BY Gary Joe				CHECKED Matthew Socha				BRIDGE NO. 34-019Y			
DETAILS BY JFCasolino / X.WU				CHECKED Matthew Socha				TRANSBAY TRANSIT TERMINAL RAMPS			
QUANTITIES BY Nasser Tachita				CHECKED Ol Zhao				MAT SLAB DETAILS NO. 5			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				DIVISION OF STRUCTURES				DISREGARD PRINTS BEARING EARLIER REVISION DATES			
				CU 04				REVISION DATES (PRELIMINARY STAGE ONLY)			
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
04	SF	80	4.9/5.9	143	166

Ind. Seal
 REGISTERED ENGINEER

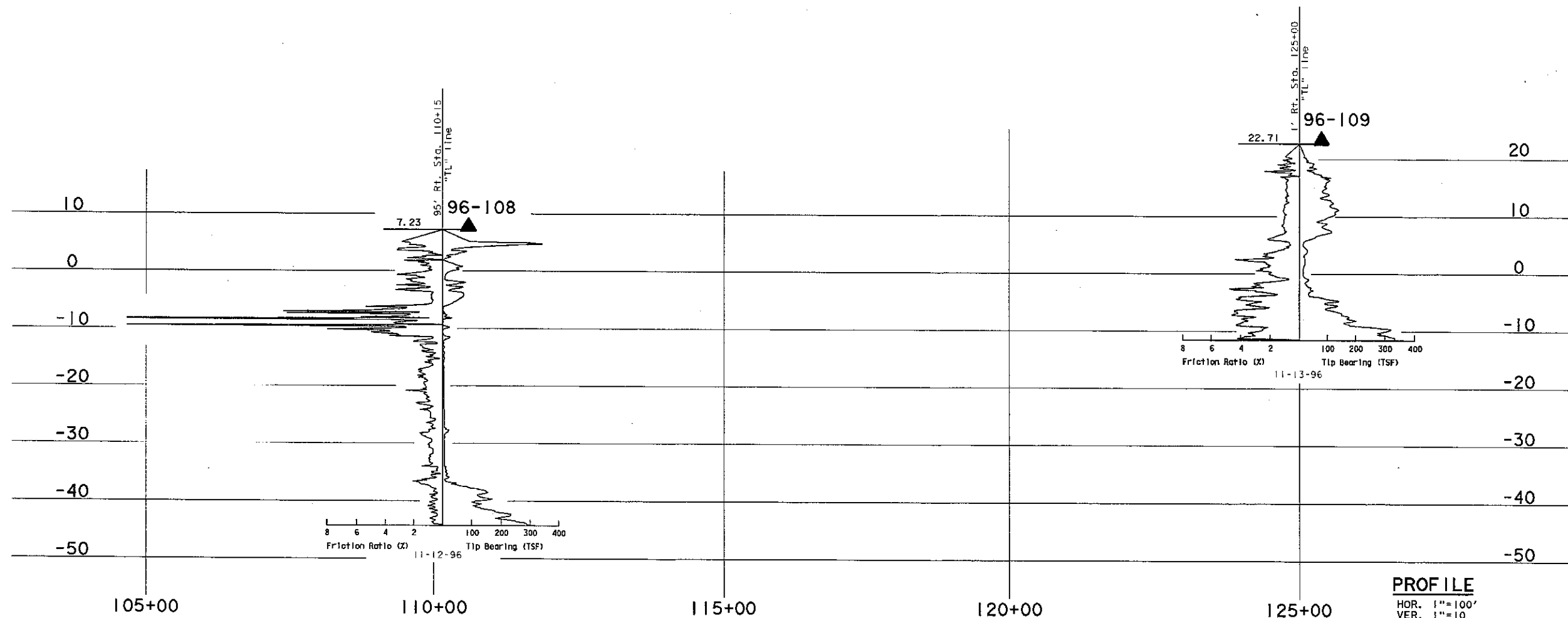
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Seal: REGISTERED PROFESSIONAL ENGINEER, Mohamed S. Islem, No. 2485, Exp. 6-30-02, GEOTECHNICAL, STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS" SHEET 1 OF 11



LEGEND OF EARTH MATERIALS	
	GRAVEL
	CLAYEY SILT
	PEAT and/or ORGANIC MATTER
	FILL MATERIAL
	LOOSE ROCK
	SEDIMENTARY ROCK
	METAMORPHIC
	SAND
	SILT
	CLAY
	SAND/SILT/CLAY
	CLAYEY SAND
	SANDY SILT
	SILTY SAND
	SILTY CLAY

NOTES: Classification of earth material as shown on this sheet is based upon field

ENGINEERING SERVICE CENTER		
DRAWN BY	Irma G-Remmen	5/00
CHECKED BY	M. Islam	5/00

STRUCTURE FOUNDATIONS

FIELD INVESTIGATION BY
R. Fitzpatrick

STATE OF
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DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 13

BRIDGE NO.
34-0119Y
POST MILE

SFOBB-SEISMIC RETROFIT PROJECT No. 14A
TRANSBAY TRANSIT TERMINAL RAMPS
LOG OF TEST BORINGS 4 OF 11

OSF GEOLOGIST LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 1/1/99)

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REVISION DATES (PRELIMINARY STAGE ONLY)				
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24	3

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California Department of Transportation
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96-107

OTHER SERVICES: 9065	
COMPANY : Caltrans	TOWNSHIP :
WELL : 96-107	PERMANENT DATUM : UNK
LOCATION/FIELD : Transbay Transit Terminal	ELEV. PERM. DATUM : UNK
COUNTY : San Francisco	KB : MA
STATE : CA	DF : MA
SECTION :	DRL MEASURED FROM: GL
DATE : 11/25/96	LOGGING UNIT : 2068
DEPTH DRILLER : 266.6	FIELD OFFICE : 2068
LOG BOTTOM : 252.10	RECORDED BY : W. Owen
LOG TOP : -2.29	BOREHOLE FLUID : Ben. Mud
CASING DRILLER : 12	RM : 9511A
CASING TYPE : PVC	RM TEMPERATURE : 2
CASING THICKNESS: 2	MATRIX DELTA T :
BIT SIZE : 4.26	FLUID DELTA T :
MAGNETIC DECL. :	FILE :
MATRIX DENSITY :	TYPE :
FLUID DENSITY :	LOG :
NEUTRON MATRIX :	PLOT :
REMARKS:	THRESH: -

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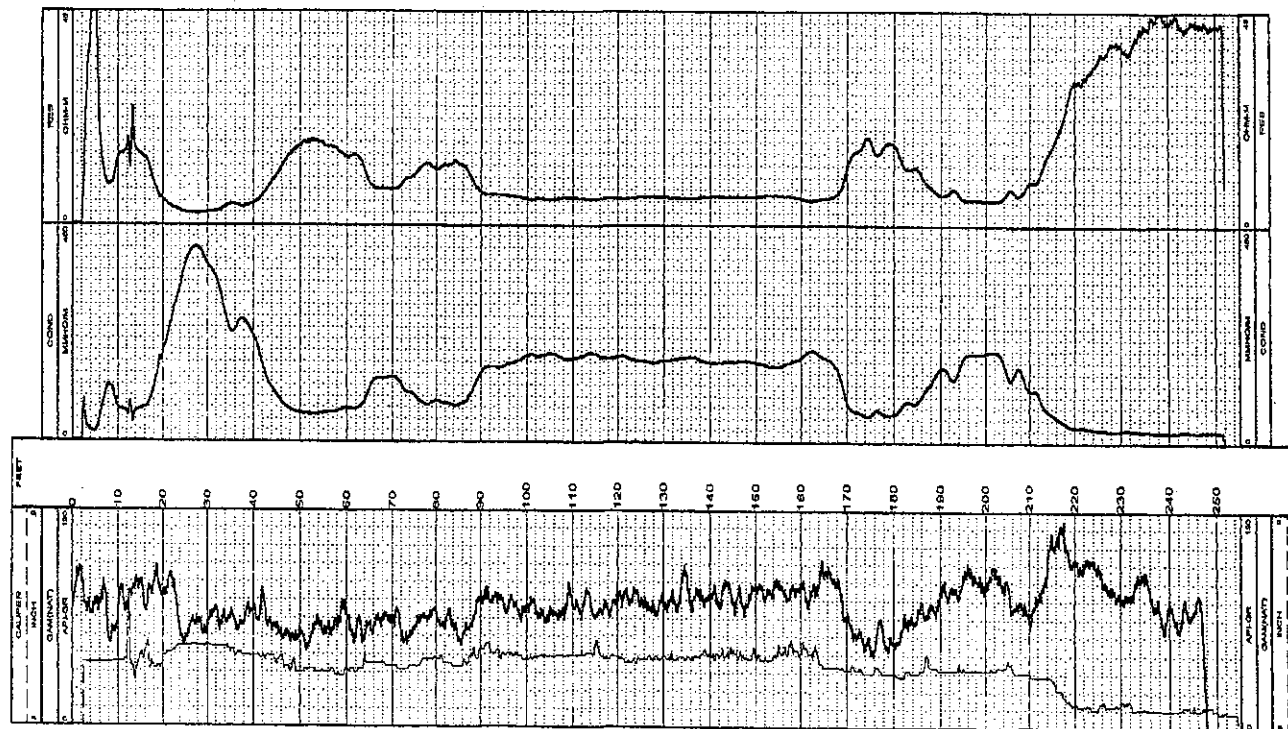
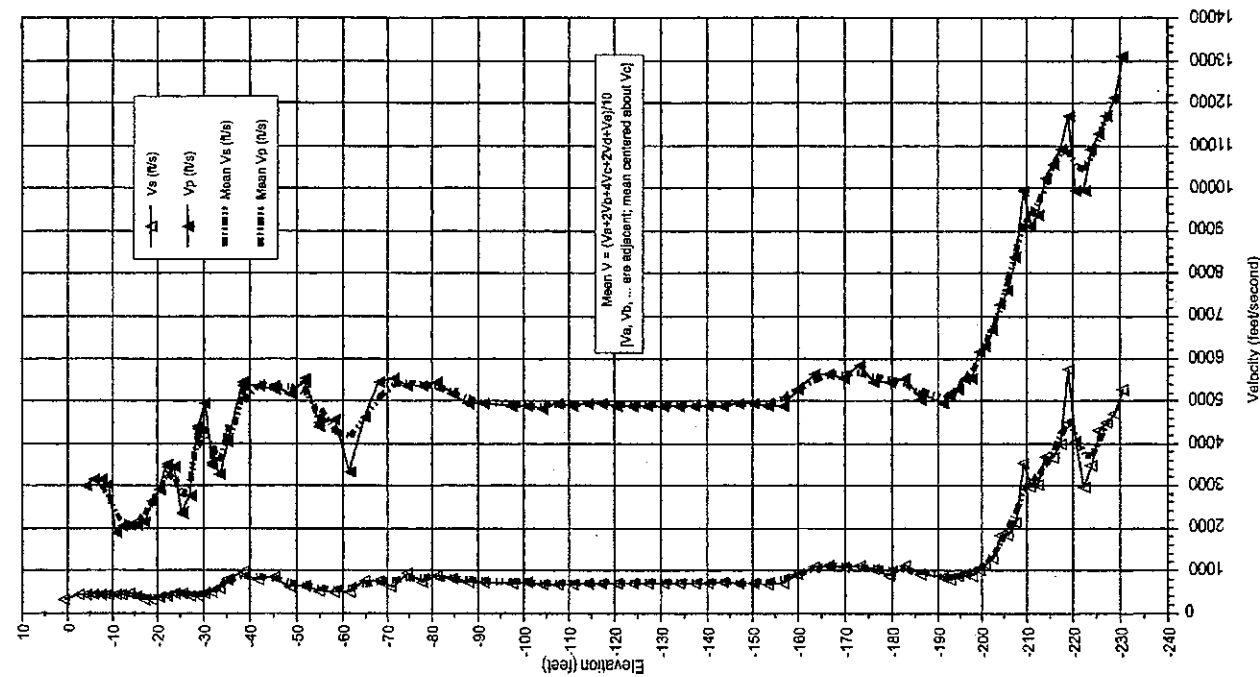


Figure 1. San Francisco-Oakland Bay Bridge
West Approach Seismic Retrofit, Boring 96-107
Downhole Interval Velocities



DIST.	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	145	166

William P. Owen
CERTIFIED ENGINEERING GEOLOGIST
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Exp. 3-31-02
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REGISTERED GEOLOGIST
William P. Owen
No. 1735
Exp. 3-31-02
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

ENGINEERING SERVICE CENTER

STRUCTURE FOUNDATIONS

FIELD INVESTIGATION BY:

D. Vickery

State of
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DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN

BRIDGE NO.
34-0119Y
POST MILE

SFOBB - SEISMIC RETROFIT PROJECT No. 14A
TRANSBAY TRANSIT TERMINAL RAMPS
LOG OF TEST BORINGS 6 OF 11

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS →

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EA: 0435C1

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SHEET 26 OF 31

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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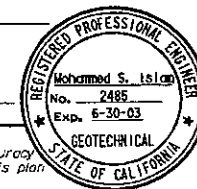
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WEATHERING DESCRIPTORS							Modified from United States Bureau of Reclamation, Engineering Geology Field Manual
Descriptors		Diagnostic features					General characteristics (strength, excavation, etc.) ⁵
		Chemical weathering-Discoloration and/or oxidation		Mechanical weathering-Grain boundary conditions (disaggregation) primarily for granitics and some coarse-grained sediments	Texture and solutioning		
Alphanumeric descriptor	Descriptive term	Body of rock	Fracture surfaces ¹		Texture	Solutioning	
W1	Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change.	No solutioning.	Hammer rings when crystalline rocks are struck. Almost always rock excavation except for naturally weak or weakly cemented rocks such as siltstones or shales.
W2	Slightly weathered to fresh*						
W3	Slightly weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved.	Minor leaching of some soluble minerals may be noted.	Hammer rings when crystalline rocks are struck. Body of rock not weakened. With few exceptions, such as siltstones or shales, classified as rock excavation.
W4	Moderately to slightly weathered*						
W5	Moderately weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved.	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened. Depending on fracturing, usually is rock excavation except in naturally weak rocks such as siltstones or shales.
W6	Intensely to moderately weathered*						
W7	Intensely weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillization).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as inclined or horizontal fractures, or veinlets. Rock is significantly weakened. Usually common excavation.
W8	Very intensely weathered						
W9	Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Always common excavation. Resistant minerals such as quartz may be present as "stringers" or "dikes."

Note: This chart and its horizontal categories are more readily applied to igneous rocks with feldspars and mafic minerals. Weathering in various sedimentary rocks, particularly limestones and poorly indurated sediments, will not always fit the categories established. This chart and weathering categories may have to be modified for particular sites or conditions or alteration such as hydrothermal effects; however, the basic framework and similar descriptors are to be used.

* Combination descriptors are permissible where equal distribution of both weathering characteristics are present over significant intervals or where characteristics present are "in between" the diagnostic features. However, dual descriptors should not be used where significant, identifiable zones can be delineated. When given as a range, only two adjacent terms may be combined. "Decomposed to slightly weathered" or "moderately weathered to fresh" are not acceptable.

† Does not include directional weathering along shears or faults and their associated features. For example, a shear zone that carried weathering to great depths into a fresh rock mass would not require the rock mass to be classified as weathered.

§ These are generalizations and should not be used as diagnostic features for weathering or excavation classification. These characteristics vary to a large extent based on naturally weak materials or cementation and type of excavation.

FRACTURE DENSITY

Adapted from United States Bureau of
Mineral Resources Engineering Geology Field Manual.

FRACTURE DENSITY- Based on the spacing of all natural fractures in a exposure or core recovery lengths in boreholes; excludes mechanical breaks, shear, and stress fractures. However, shear-disturbed zones (fracturing outside the shear) are included. Fracture density criteria for fracture density apply to all rock exposures such as tunnel walls, dozer trench walls, or foundation cut slopes and inverts, as well as boreholes. Descriptive criteria for fracture density are based on borehole cores where lengths are measured along the core axis. For other exposures the criteria is distance measured between fractures (size of exposure).

UNFRACTURED (FD0): No fractures.

VERY SLIGHTLY FRACTURED (FDI): Core recovered mostly in length greater than 3 ft.

SLIGHTLY TO VERY SLIGHTLY FRACTURED (FD2)*

SLIGHTLY FRACTURED (FD3): Core recovered mostly in lengths from 1 to 4 ft. with few scattered lengths less than 1 ft or greater than 3 ft.

MODERATELY TO SLIGHTLY FRACTURED (FD4) *

MODERATELY TO SEVERELY FRACTURED (FD5): Core recovered mostly in 0.5 to 1.0 ft. intervals with most lengths about 0.6 ft.

INTENSELY TO MODERATELY FRACTURED (FD6) *

INTENSELY FRACTURED (FD7): Lengths average from 0.1 to 0.3 ft with scattered fragmented intervals. Core recovered mostly in lengths less than 0.3 ft.

VERY INTENSELY TO INTENSELY FRACTURED (FD8) •

VERY INTENSELY FRACTURED (FD9): Core recovered mostly as chips and fragments with a few scattered short core lengths.

* Combinations of fracture densities (e.g. Very Intensely to Intensely fractured, or Moderately to slightly fractured) are used where equal distribution of both fracture density characteristics are present over a significant interval or exposure, or where characteristics are "in between" the descriptor definitions.

ROCK HARDNESS DESCRIPTORS

Alphanumeric Descriptor	Descriptor	Criteria
H1	Extremely hard	Core, fragment, or exposure cannot be scratched with knife or sharp pick; can only be chipped with repeated heavy hammer blows.
H2	Very hard	Cannot be scratched with knife or sharp pick. Core or fragment breaks with repeated heavy hammer blows.
H3	Hard	Can be scratched with knife or sharp pick with difficulty (heavy pressure). Heavy hammer blow required to break specimen.
H4	Moderately hard	Can be scratched with knife or sharp pick with light or moderate pressure. Core or fragment breaks with moderate hammer blow.
H5	Moderately soft	Can be grooved $\frac{1}{8}$ inch deep by knife or sharp pick with moderate or heavy pressure. Core or fragment breaks with light hammer blow or heavy manual pressure.
H6	Soft	Can be grooved or gauged easily by knife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
H7	Very soft	Can be readily indented, grooved or gauged with fingernail, or carved with a knife. Breaks with light manual pressure.

Any bedrock unit softer than H7, very soft, is to be described using ASTM D-2488 consistency descriptors.

Any bedrock unit softer than H7, very soft, is to be described using ASTM D-2488 consistency descriptors.

Note: Although "sharp pick" is included in these definitions, descriptions of ability to be scratched, grooved or gouged by a knife is the preferred criteria.

Modified from United States Bureau of Reclamation, Engineering Geology Field Manual.

BEDDING, FOLIATION, OR FLOW
TEXTURE DESCRIPTORS

Descriptors	Thickness / Spacing
Massive	Greater than 10 ft
Very thickly (bedded, foliated, or banded)	3 to 10 ft
Thickly	1 to 3 ft
Moderately	0.3 to 1 ft
Thinly	0.1 to 0.3 ft
Very thinly	0.03 (3/8 in) to 0.1 ft
Laminated (intensely foliated or banded)	Less than 0.03 ft (3/8 in)

Modified from United States Bureau of Reclamation, Engineering Geology Field Manual.

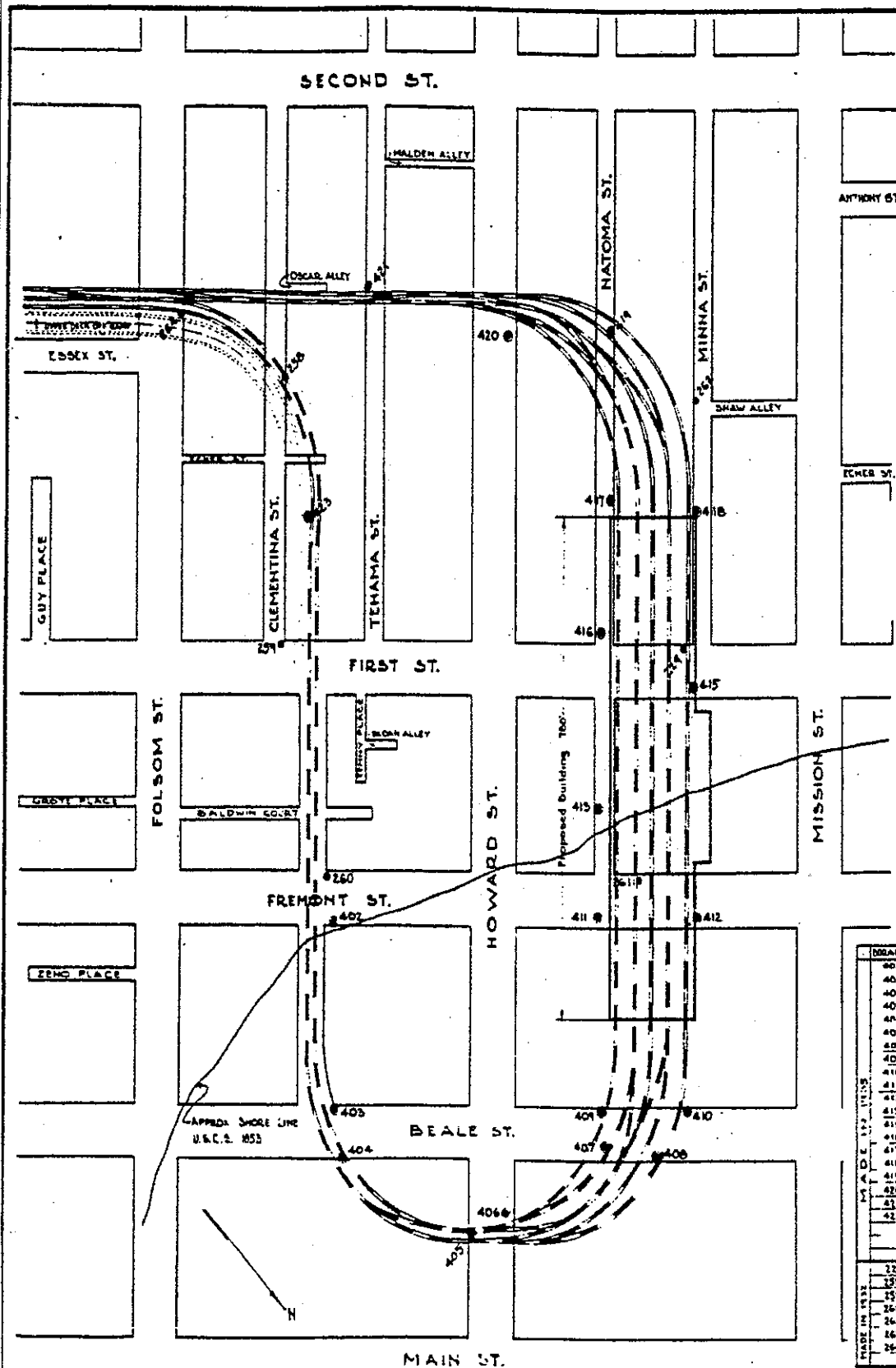
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DRAWN BY		K. Wahl		5-00														POST MILE		LOG OF TEST BORINGS 7 OF 11																																			
CHECKED BY		M. Isom		5-00																																																			
DSF GEOLOGIST LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 1/1/89)																								ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 0435C1				DISCARD PRINTS BEARING EARLIER REVISION DATES				REVISION DATES (PRELIMINARY STAGE ONLY)								SHEET		OF									
																																				7-28-00				7-28-00				8-7-00				8-15-00				27		31	

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BORING NO. 401

410

411

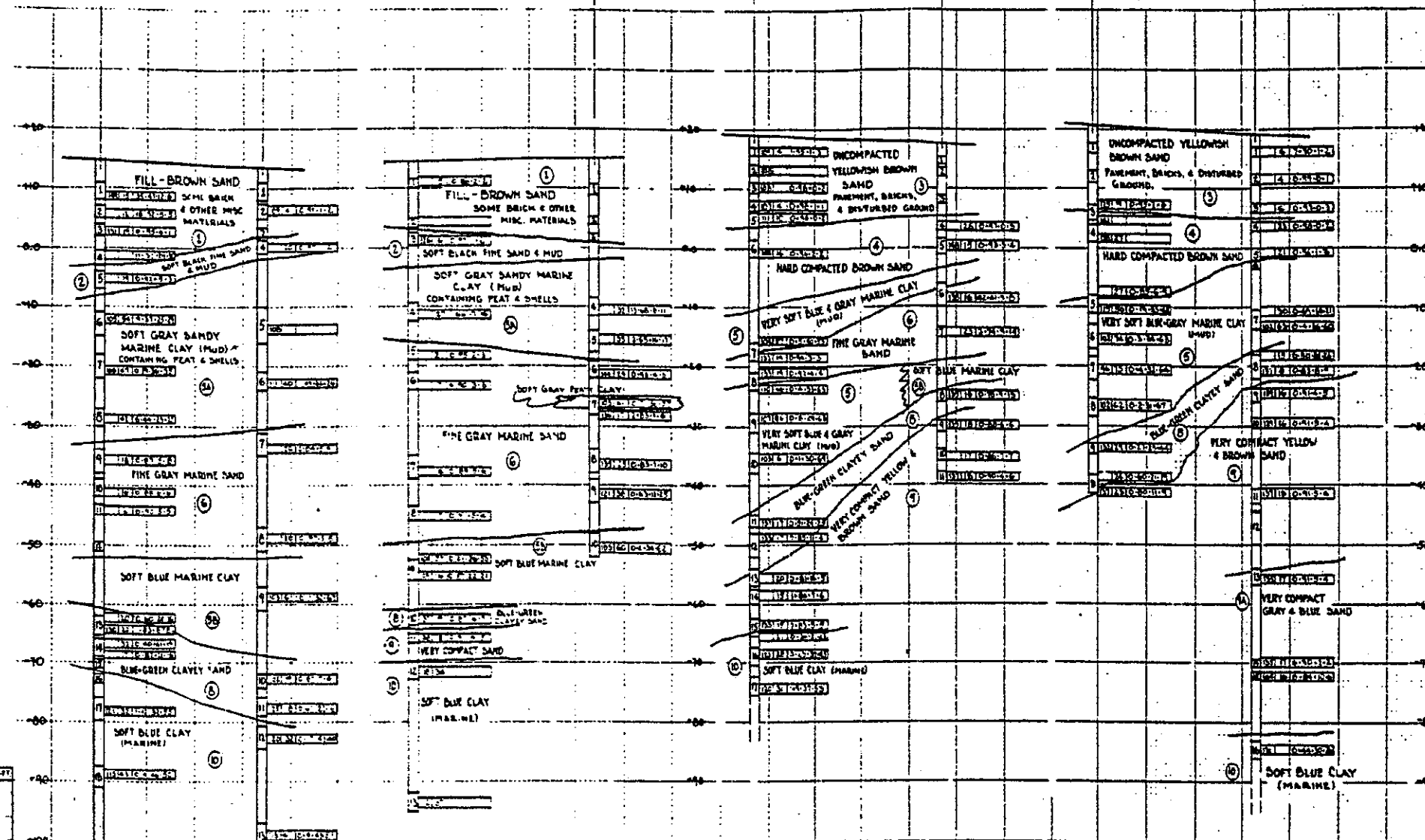
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416

415

417

418



CROSS SECTIONS

SFOBB - SEISMIC RETROFIT PROJECT No. 14A
 DIVISION OF STRUCTURAL FOUNDATIONS - ENGINEERING SERVICE CENTER

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is for informational purposes only and is not to be used for any other purpose.

DIST.	COUNTY	ROUTE	POST MILES - TOTAL PROJECT	Sheet No.	Total Sheets
04	SF	80	4.975.9	147	166

REGISTERED ENGINEER - CIVIL
 Mohammed S. Islam
 No. 2485
 Exp. 6-30-03
 STATE OF CALIFORNIA

TRANSBAY TRANSIT TERMINAL RAMP
LOG OF TEST BORINGS 8 OF 11

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT DIVISION OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 04	BRIDGE No.
EA: 0430C1	34-0119Y

SCALE IN FEET

1" = 20'

Bridge Interchange Tracks

• Borings made 1932

• Borings made 1935

PLAN OF TEST BORINGS

SEE SHEET NO. 2 FOR SOIL STRATA THRU BORINGS 406-408-410-412-415-219-418-252-419-420

SEE SHEET NO. 3 FOR SOIL STRATA THRU BORINGS 403-406-407-409-411-261-413-416-417-419-420-421

SEE SHEET NO. 4 FOR SOIL STRATA THRU BORINGS 264-258-423-271-260-402-403-404-405

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SCALE IN FEET

1" = 20'

LEGEND

SOFT (FILL) GA = 80-101-EL

MECHANICAL ANALYSIS
 % GRAVEL, SAND, Silt, CLAY

MOISTURE AS % BY WT OF DRY MATERIAL

STATE OF CALIFORNIA - DEPT. OF PUBLIC WORKS - DIVISION OF HIGHWAYS
 MATERIALS & RESEARCH DEPT.

FOUNDATION DATA - SAN FRANCISCO TERMINAL
 SAN FRANCISCO-OAKLAND BAY BRIDGE

PLAN OF TEST BORINGS UNDER OVERHEAD VIADUCTS & TERMINAL BUILDING

CROSS-SECTIONS OF SOIL STRATA

DIST.	COUNTY	ROUTE	POST MILES - TOTAL PROJECT	Sheet No.	Total Sheets
04	SF	80	4.975.9	147	166

REGISTERED ENGINEER - CIVIL
 Mohammed S. Islam
 No. 2485
 Exp. 6-30-03
 STATE OF CALIFORNIA

DATE: 10/11/99
 SHEET NO. 1

Fig. A-3 Sheet No. 28 of 31
 br340119y-1tb#8of11.tif

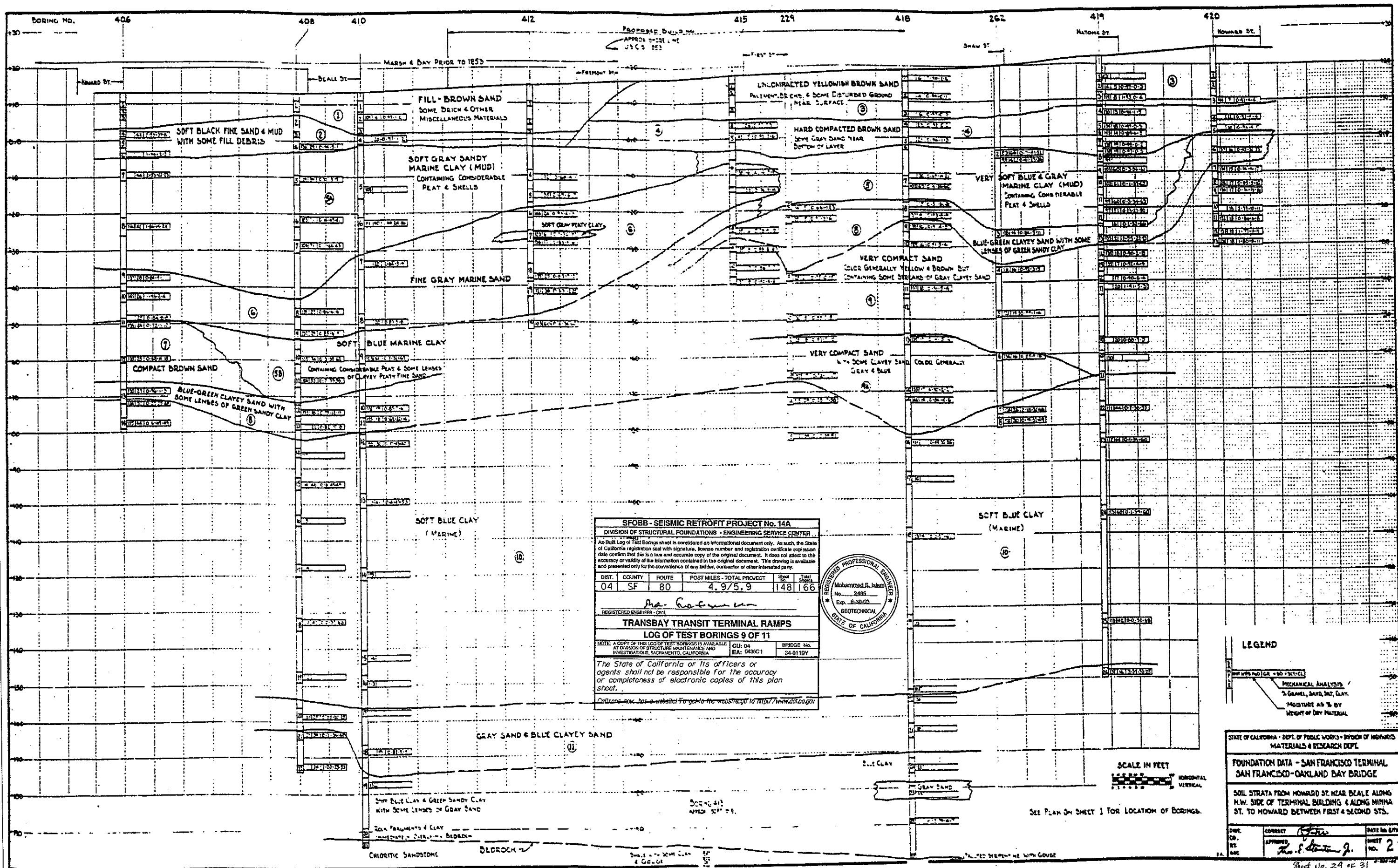


Fig. A-4

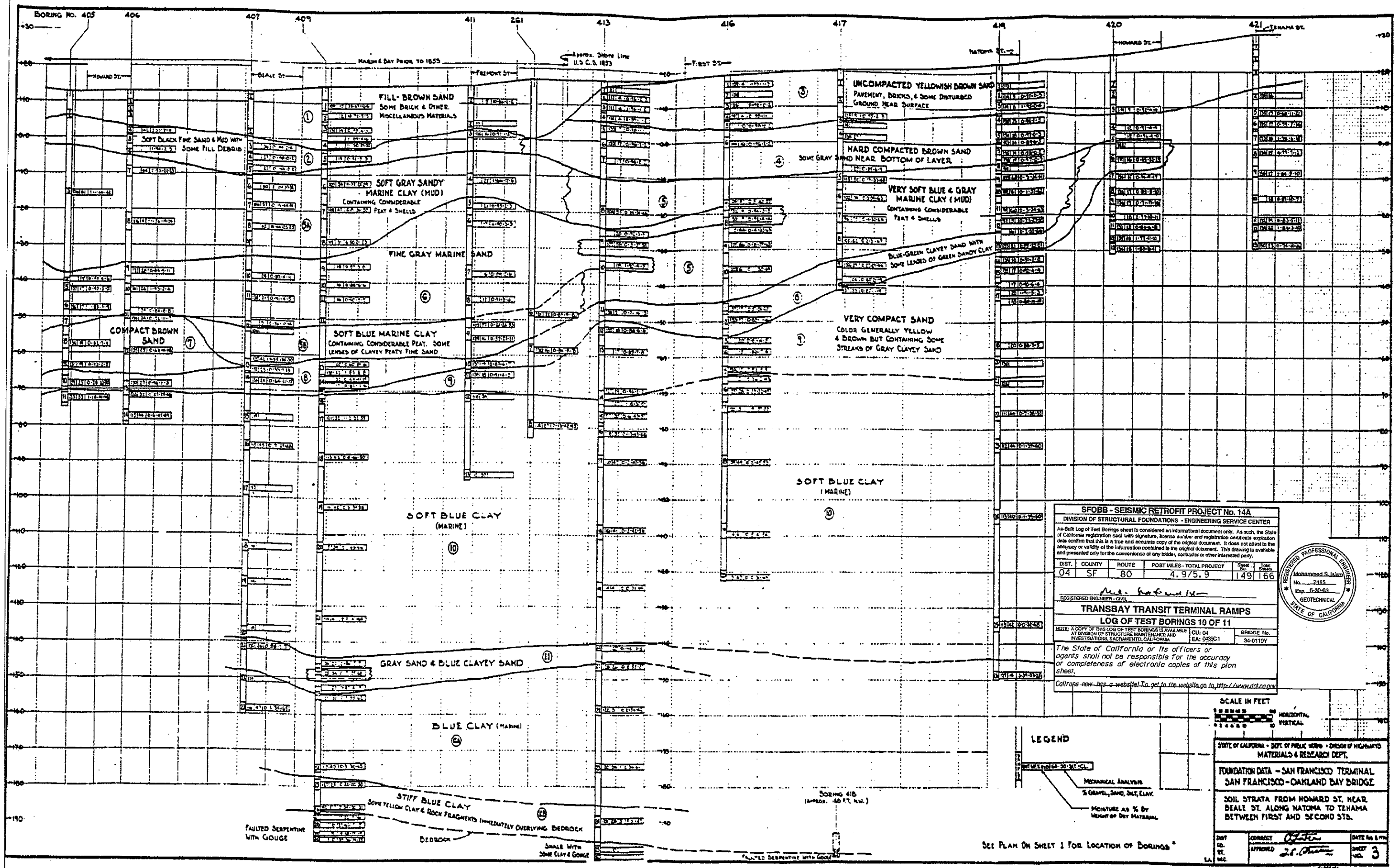


Fig. A-5

Sheet No. 30 of 31
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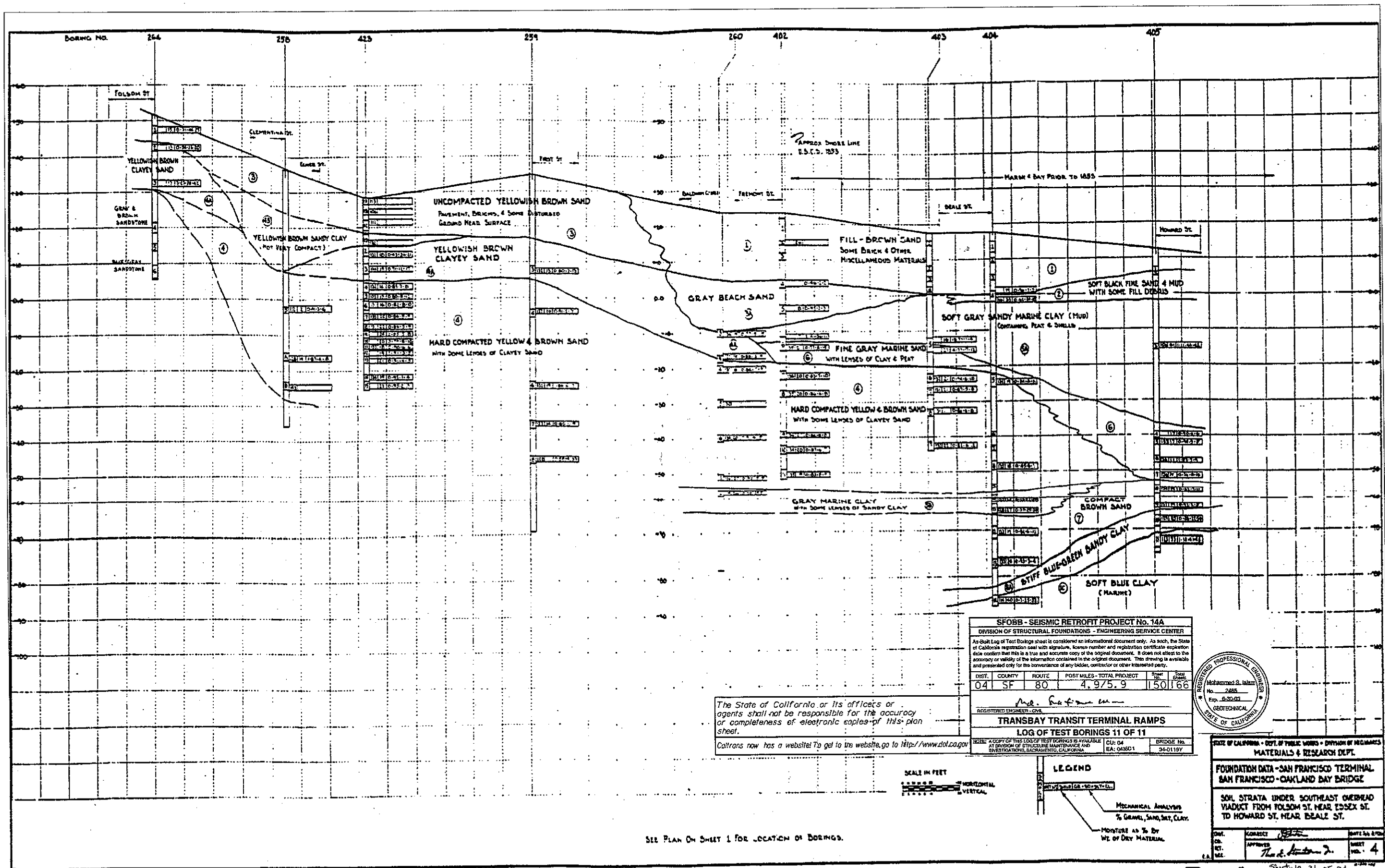




Fig. A-6
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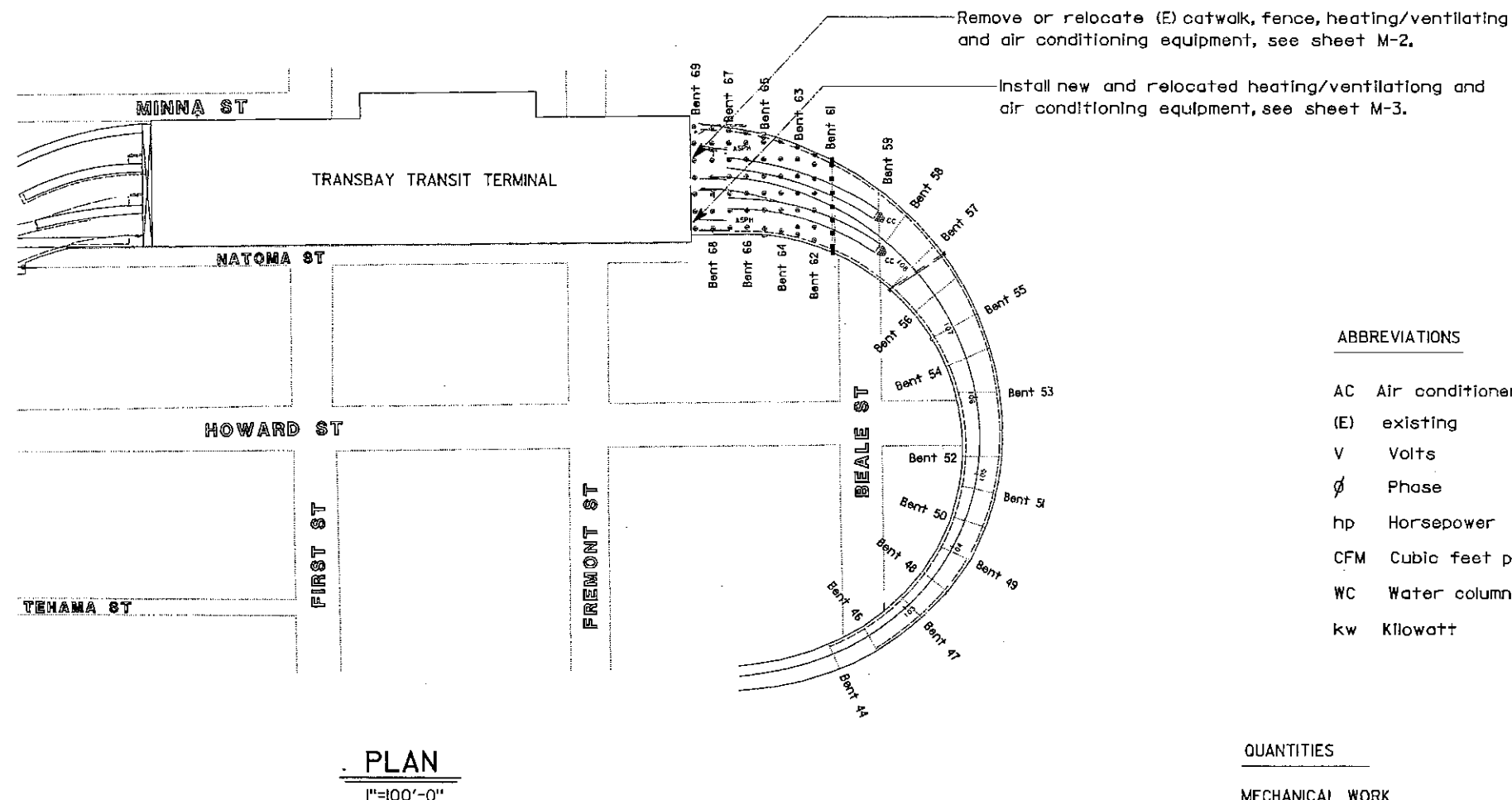
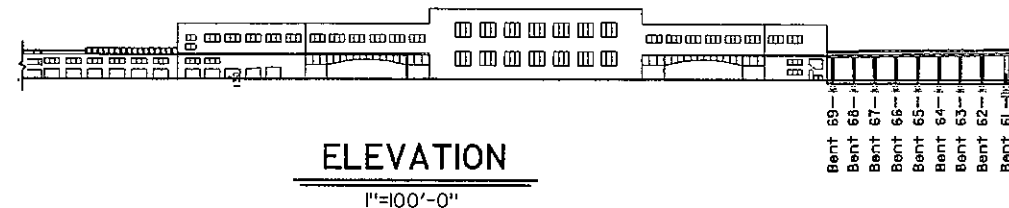
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	151	166


REGISTERED ENGINEER-ELECTRICAL
12-26-00
PLANS APPROVAL DATE



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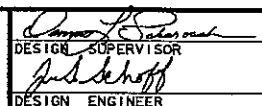
ABBREVIATIONS

AC	Air conditioner (heat pump)
(E)	existing
V	Volts
∅	Phase
hp	Horsepower
CFM	Cubic feet per minute
WC	Water column
kw	Kilowatt

QUANTITIES

MECHANICAL WORK	LUMP SUM
MECHANICAL ELECTRICAL SYSTEM (MODIFY)	LUMP SUM

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

BKW DOS ELEC(1/93)		 DESIGN ENGINEER		DESIGN BY Jack Wheeler DETAILS BY P. Sims-Whitted QUANTITIES BY Jack Wheeler	CHECKED Mike Slavensky CHECKED Jack Wheeler CHECKED Mike Slavensky	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 34-0119Y POST MILE	SFOBB-SEISMIC RETROFIT PROJECT NO 14A		SHEET M-1	
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 04 EA 0435C1	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET OF	

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DGN FILE => m-1.dgn

VI-1

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TIME PLOTTED => 08:33

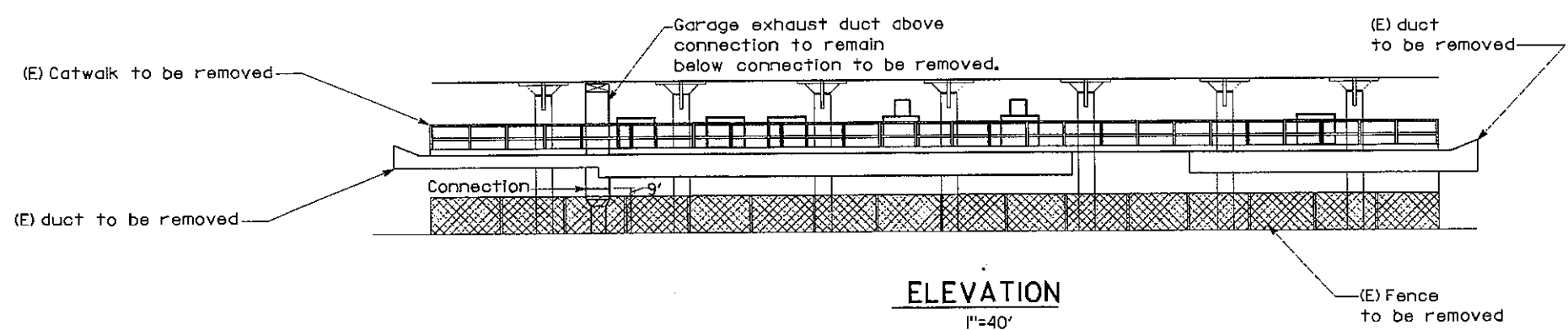
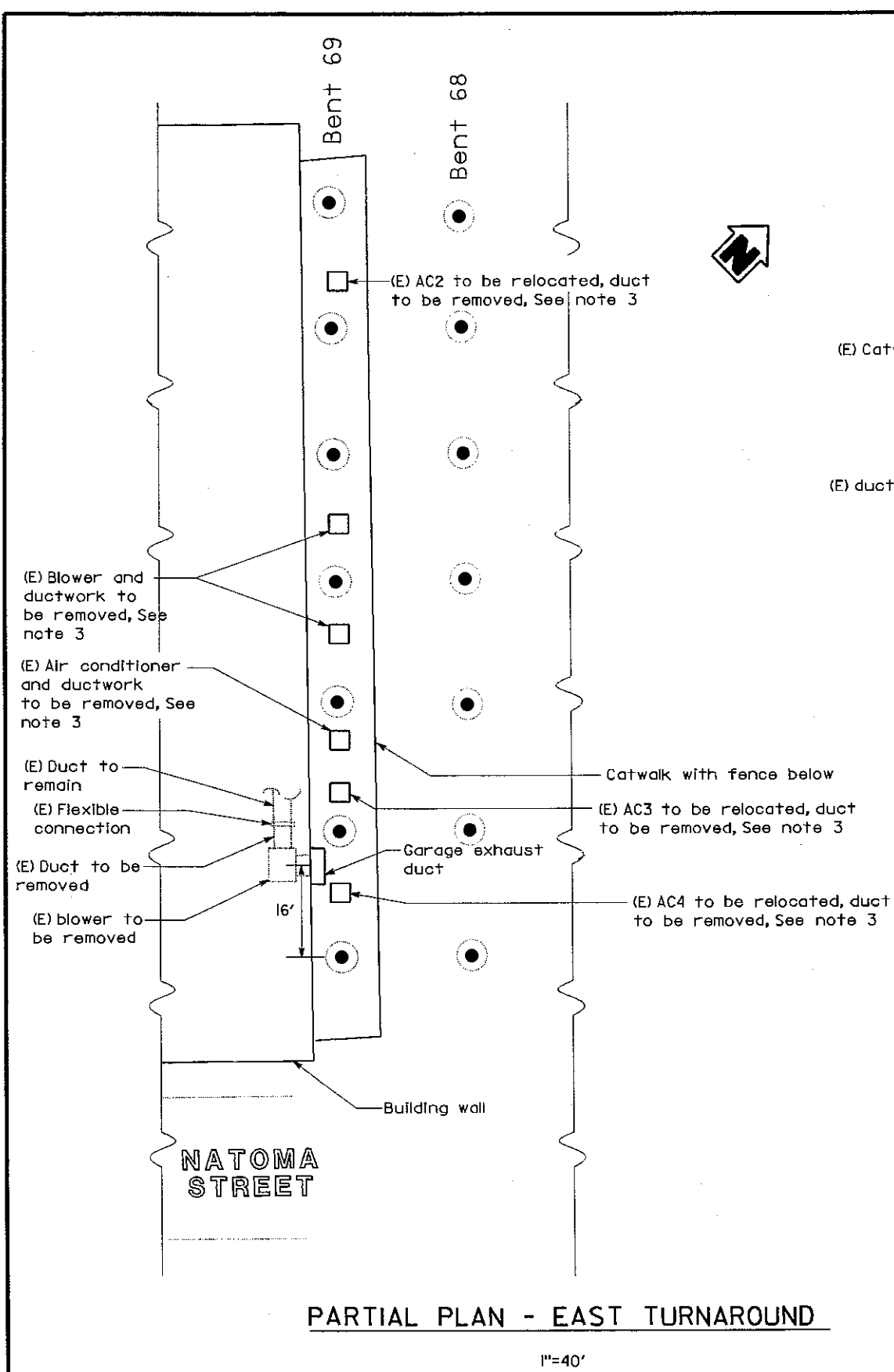
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	152	166

Jack Wheeler
REGISTERED ENGINEER-ELECTRICAL
12-26-00
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Jack Wheeler
No. 21648
Exp. 6-30-03
MECH
STATE OF CALIFORNIA

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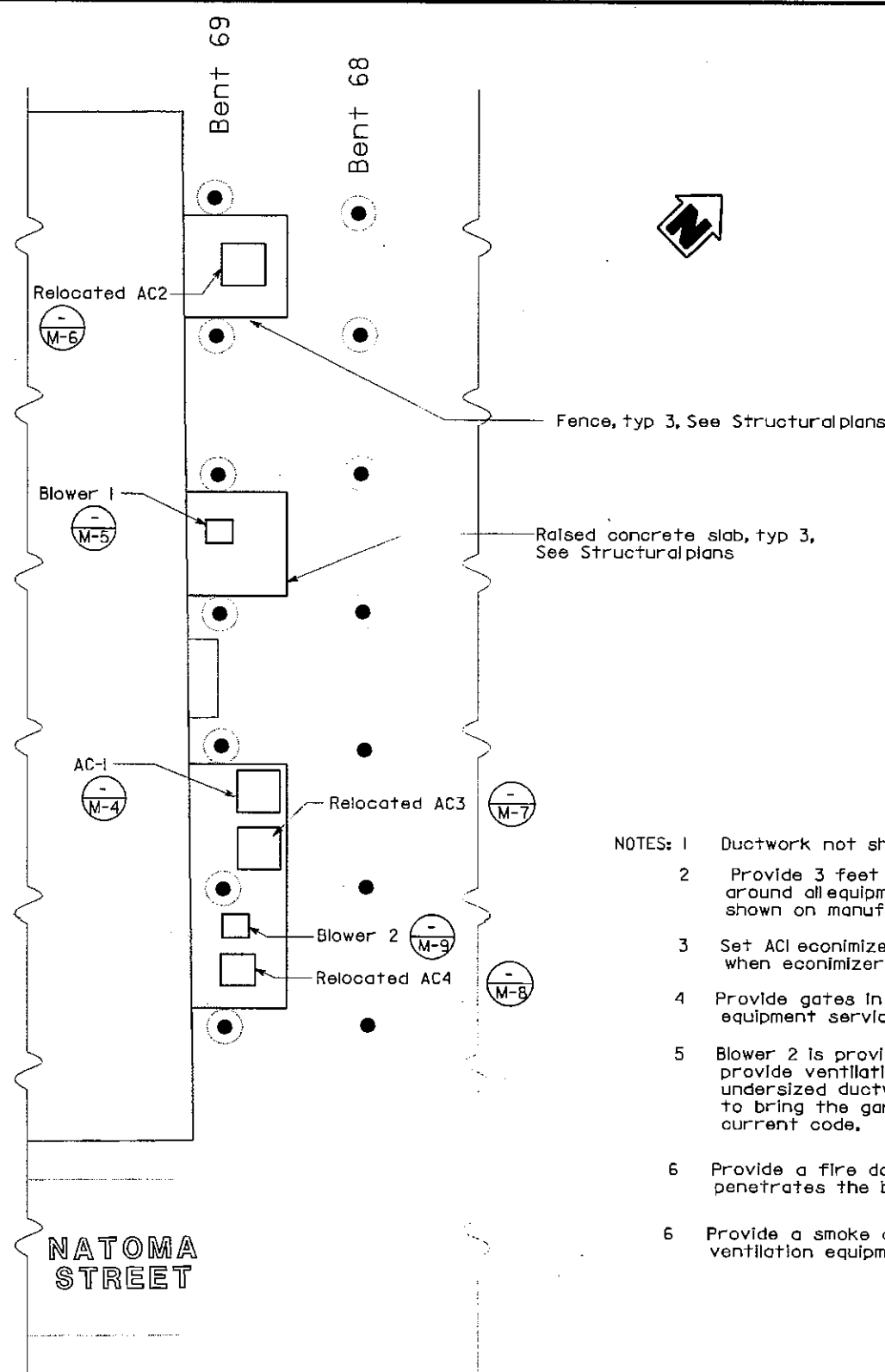


- Note:
1. The air conditioning equipment shall be kept operational until after the footing work has been completed.
 2. Catwalk, duct and fence removal shall include all appurtenances and items attached to bridge columns and ground.
 3. Duct shall be removed so that a one foot length remains extending from the building wall.
 4. Remove garage exhaust duct from connector (9'-0" above ground) to flexible connector near blower.
 5. Wall shall be sealed at location where blower is removed and not replaced.

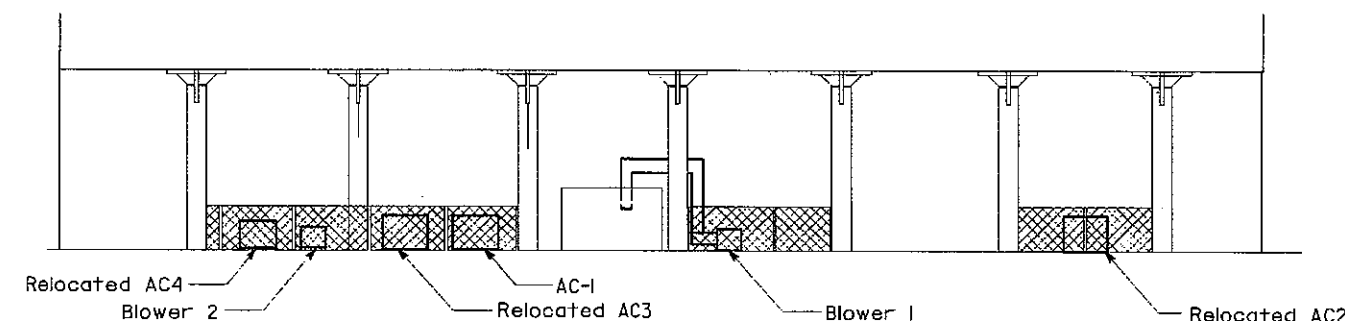
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

<div style="display: flex; justify-content: space-between;"> <div> <p>DESIGN BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i></p> <p>DETAILS BY <i>P. Sims-Whitted</i> CHECKED <i>Jack Wheeler</i></p> <p>QUANTITIES BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i></p> </div> <div style="text-align: center;"> <p>STATE OF CALIFORNIA</p> <p>DEPARTMENT OF TRANSPORTATION</p> </div> <div> <p>DIVISION OF STRUCTURES</p> <p>ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN</p> </div> <div> <p>BRIDGE NO. 34-0119Y</p> <p>POST MILE</p> </div> </div>				<p>SFOBB-SEISMIC RETROFIT PROJECT NO 14A</p>															
				<p>TRANSBAY TRANSIT TERMINAL RAMPS</p> <p>EXISTING PLAN AND ELEVATION</p>				<p>SHEET M-2 OF</p>											
<p>BKW DOS ELEC(1/93)</p>				<p>ORIGINAL SCALE IN INCHES FOR REDUCED PLANS</p>		<p>0 1 2 3</p>		<p>CU 04 EA 0435CI</p>		<p>DISREGARD PRINTS BEARING EARLIER REVISION DATES</p>				<p>REVISION DATES (PRELIMINARY STAGE ONLY)</p>				<p>SHEET 1 OF</p>	

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	153	166
REGISTERED ENGINEER-ELECTRICAL			12-26-00		
PLANS APPROVAL DATE			21648		
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PLAN - EAST TURNAROUND
1"=20'



ELEVATION
1"=20'

- NOTES:
- Ductwork not shown for clarity except for blower 1.
 - Provide 3 feet minimum clearance around all equipment or clearance as shown on manufacturers installation instructions.
 - Set AC1 economizer to provide 260 cfm outside air when economizer is closed.
 - Provide gates in fences to provide access to all equipment service points.
 - Blower 2 is provided as a temporary blower to provide ventilation to the garage until the current undersized ductwork can be replaced in a future contract to bring the garage ventilation up to current code.
 - Provide a fire damper at each location a duct penetrates the building wall.
 - Provide a smoke detector and cut off for each piece of ventilation equipment except for blower 2.

SCHEDULE OF EQUIPMENT

ITEM	INPUT	OUTPUT
Blower 1	208v, 3 ϕ , 1.5 hp	3000 cfm @ 1.2" WC
Blower 2	208v, 3 ϕ , 5hp	6000 cfm @ 3.5" WC
AC-1 (heat pump)	208v, 3 ϕ , 1.5 hp blower	2600 cfm @ 1.0" WC 30 kw backup resistance heat 7.5 ton nominal Heating/Cooling

DESIGN	BY Jack Wheeler	CHECKED Mike Slavensky
DETAILS	BY P. Sims-Whitted	CHECKED Jack Wheeler
QUANTITIES	BY Jack Wheeler	CHECKED Mike Slavensky

STATE OF
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
ELECTRICAL-MECHANICAL-WATER
AND WASTEWATER DESIGN

BRIDGE NO.
34-0119Y
POST MILE

SFOBB-SEISMIC RETROFIT PROJECT NO 14A

TRANSBAY TRANSIT TERMINAL RAMPS
MODIFIED PLAN & ELEVATION

SHEET
M-3

BKN DOS ELEC(8/93)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

CU 04
EA 0435C1

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

4/13/00 5/28/00 6/18/00


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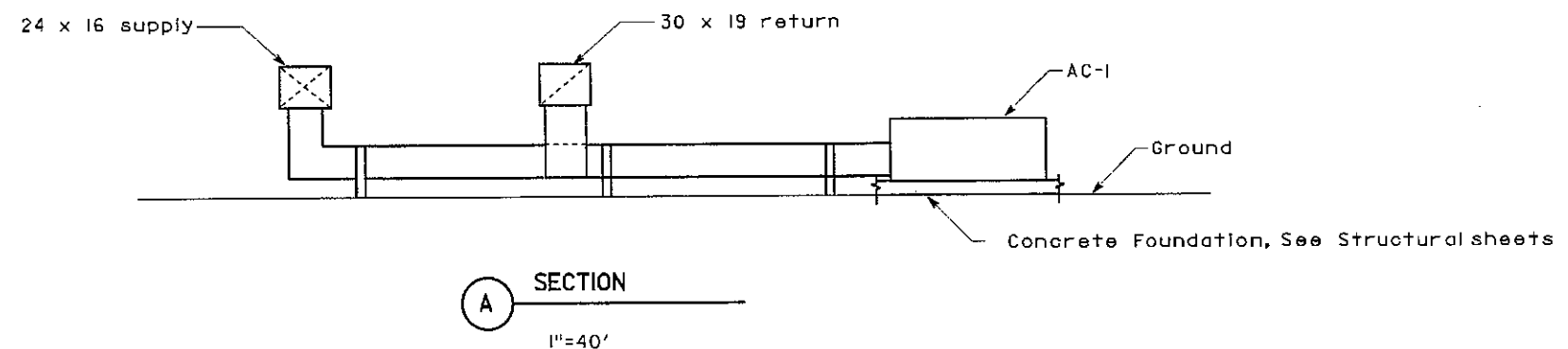
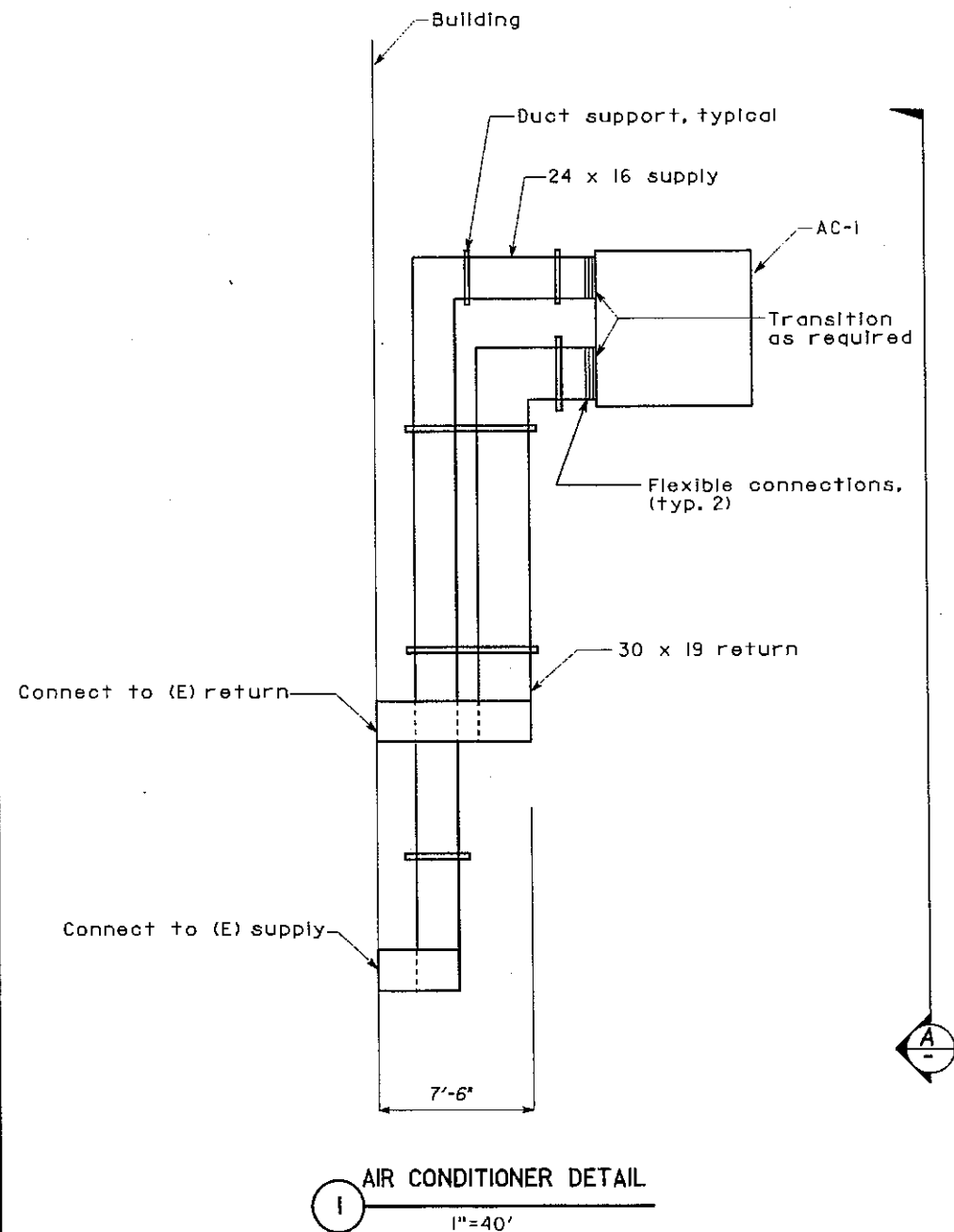
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04	SF	80	4.9/5.9	154	166


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No. 21648
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Notes:

1. Provide fittings and transition as required to connect to (E) wall openings.
2. Install AC-1 on foundation with vibration isolators and concrete expansion anchor bolts.
3. Exact duct routing to be determined in the field based on existing building and air conditioning equipment conditions.

SFOBB-SEISMIC RETROFIT PROJECT NO 14A				BRIDGE NO. 34-0119Y		SHEET M-4	
TRANSBAY TRANSIT TERMINAL RAMPS				POST MILE		SHEET OF	
AIR CONDITIONER NO. 1				DISCARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)	
DESIGN BY Jack Wheeler CHECKED Mike Slavensky				CU 04		5/1/00/10/00/18/00	
DETAILS BY P. Sims-Whitted CHECKED Jack Wheeler				EA 0435C1			
QUANTITIES BY Jack Wheeler CHECKED Mike Slavensky							
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3			
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION				DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN			
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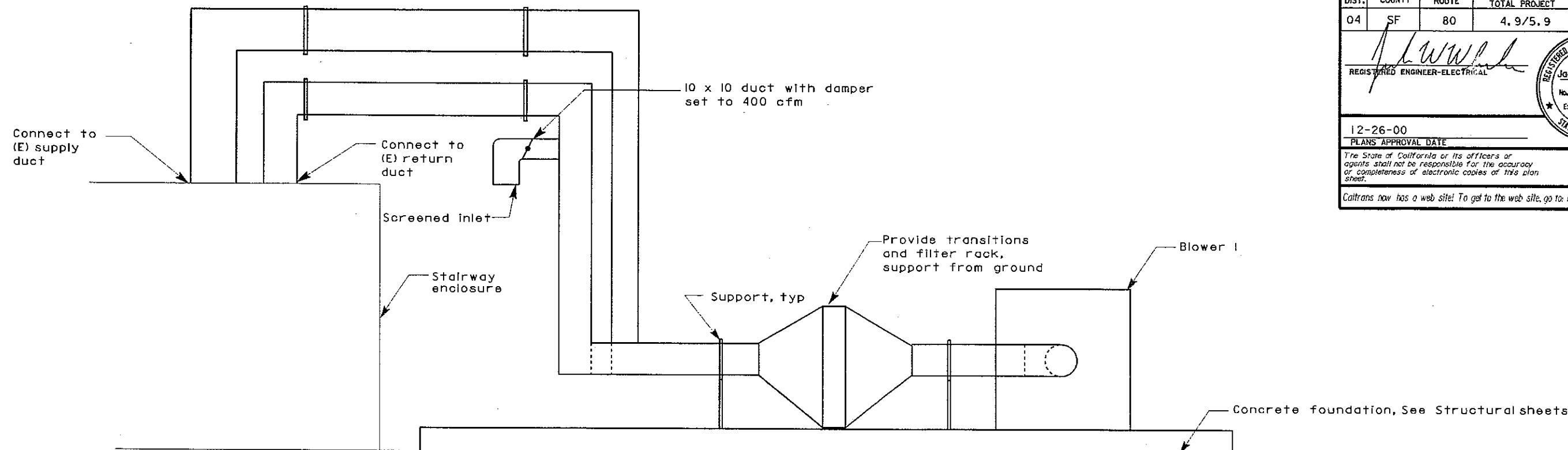
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04	SF	80	4.9/5.9	155	166

REGISTERED ENGINEER-ELECTRICAL
 Jack Wheeler
 No. 21648
 Exp. 6-30-03
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 STATE OF CALIFORNIA

12-26-00
 PLANS APPROVAL DATE

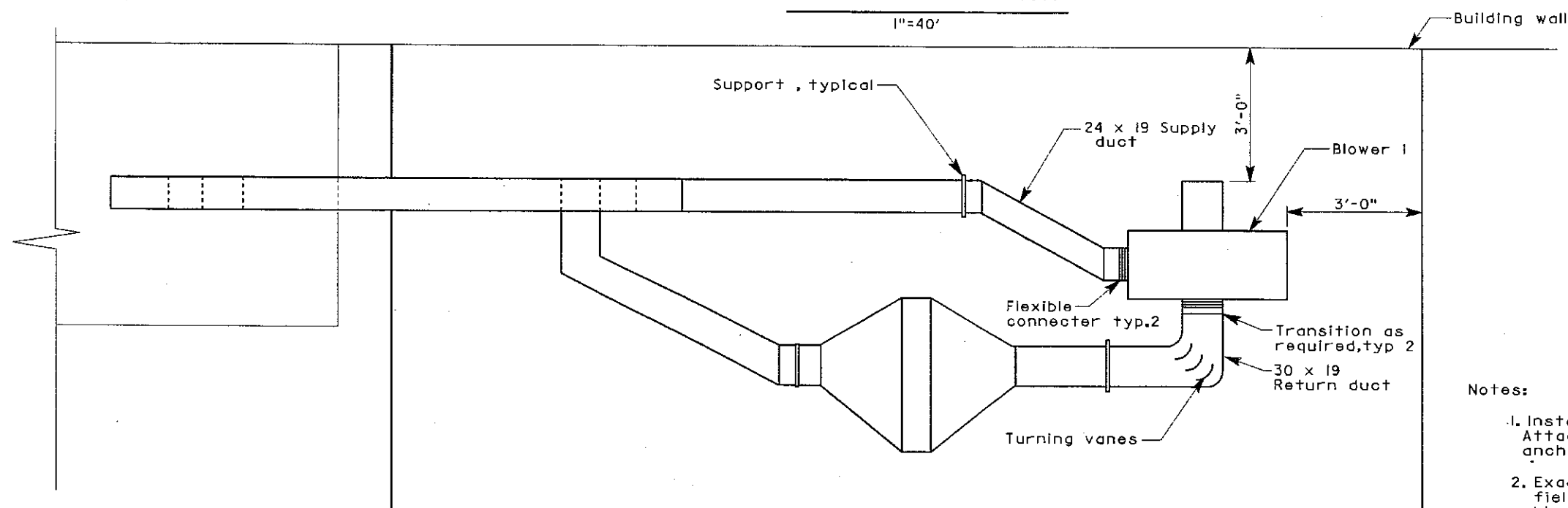
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BLOWER ELEVATION

1"=40'



BLOWER PLAN

1"=40'


Notes:


1. Install blower unit on vibration isolators. Attach with 4, concrete expansion anchor bolts sized to match equipment.
2. Exact duct routing to be determined in field based on existing building and blower conditions.

DESIGN BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i> DETAILS BY <i>P. Sims-Whitted</i> CHECKED <i>Jack Wheeler</i> QUANTITIES BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i>				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 34-0119Y POST MILE	SFOBB-SEISMIC RETROFIT PROJECT NO 14A TRANSBAY TRANSIT TERMINAL RAMPS BLOWER 1 DETAILS	SHEET M-5
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 0435CI	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 5/1/00 5/23/00 5/18/00 10/20/00	SHEET OF

BKW DOS ELEC(1/93)

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	156	166

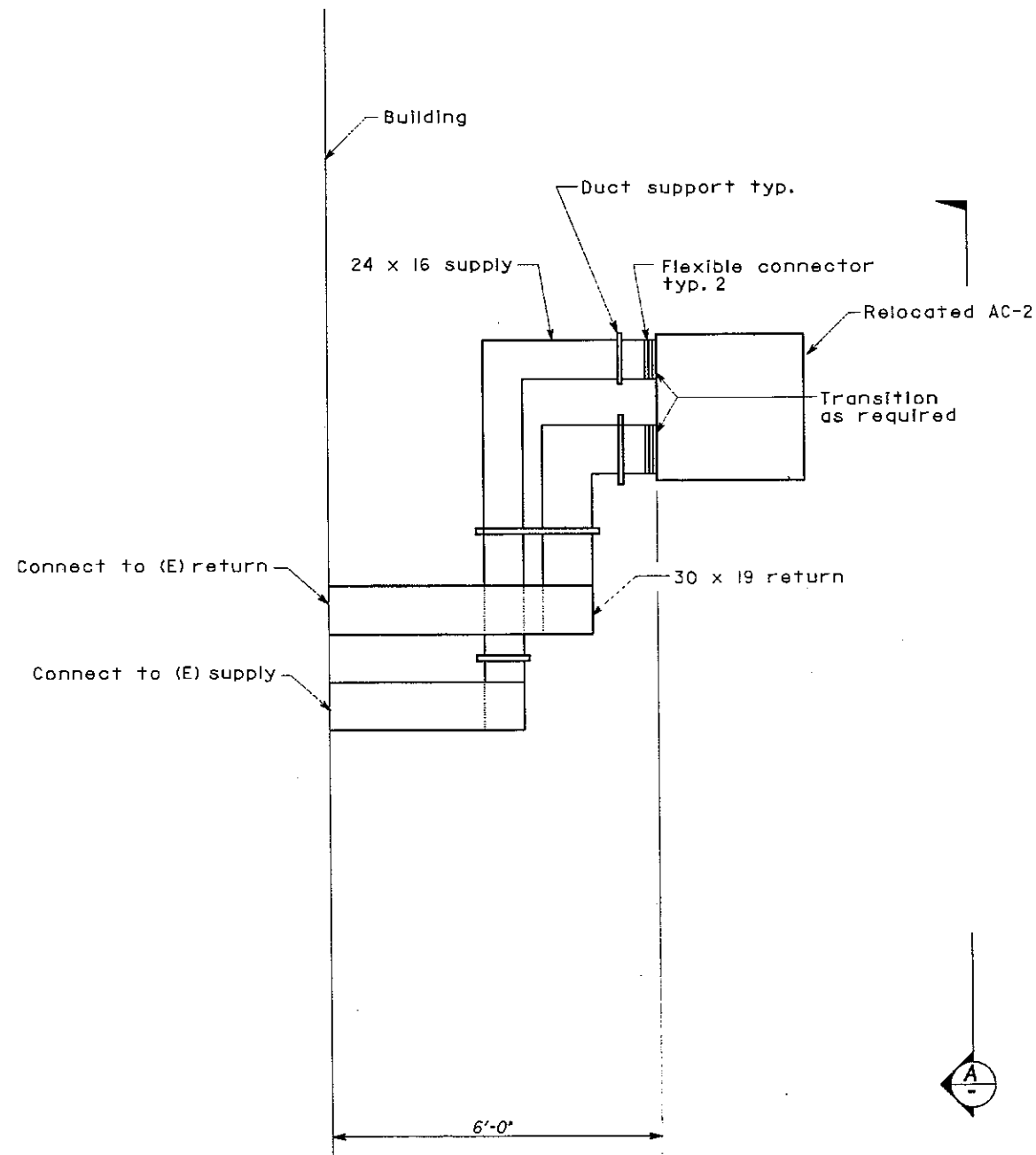

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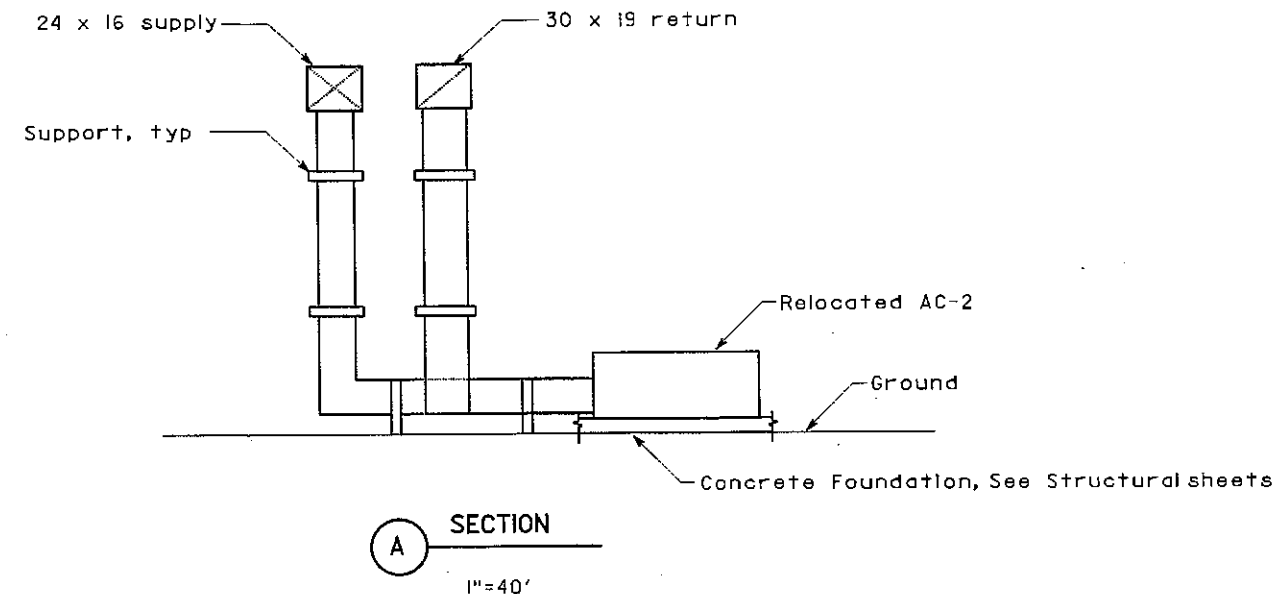
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1 AIR CONDITIONER DETAIL
1"=40'



Notes:

1. Provide fittings and transition as required to connect to (E) wall openings.
2. Install AC-2 with vibration isolators and concrete expansion anchor bolts.
3. Exact duct routing to be determined in the field based on existing building and air conditioning equipment conditions.

DESIGN BY Jack Wheeler CHECKED Mike Slavensky				STATE OF CALIFORNIA		DIVISION OF STRUCTURES		BRIDGE NO. 34-0119Y		SFOBB-SEISMIC RETROFIT PROJECT NO 14A		SHEET	
DETAILS BY J.R. Stangl CHECKED Jack Wheeler				DEPARTMENT OF TRANSPORTATION		ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN		POST MILE		TRANSBAY TRANSIT TERMINAL RAMPS		M-6	
QUANTITIES BY Jack Wheeler CHECKED Mike Slavensky										RELOCATED AIR CONDITIONER NO. 2		OF	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3		CU 04 EA 0435CI		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		10/20/00	

BKW DOS ELEC(1/93)

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	157	166

Jack Wheeler
REGISTERED ENGINEER-ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER

Jack Wheeler

No. 21648

Exp. 6-30-03

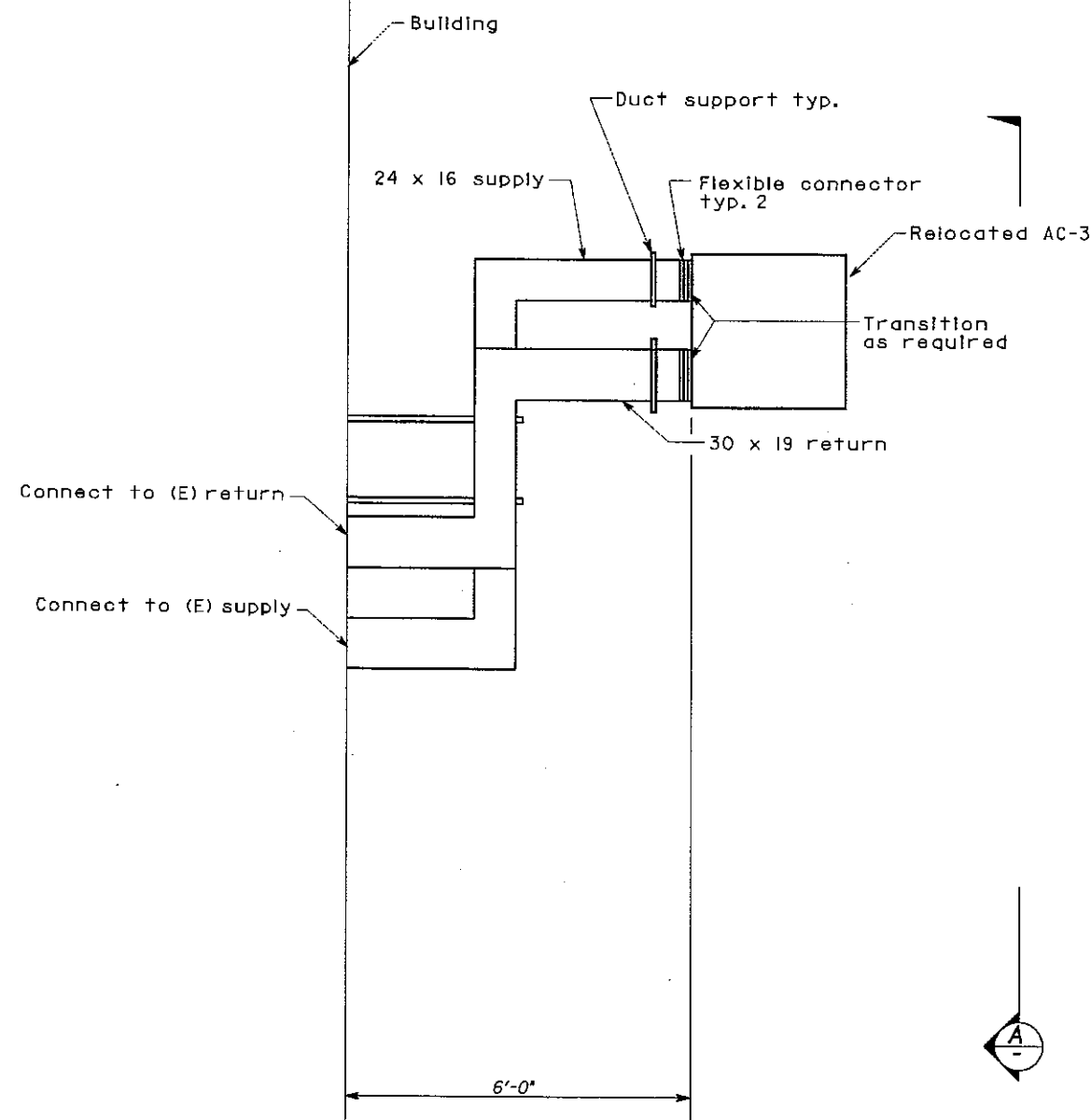
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STATE OF CALIFORNIA

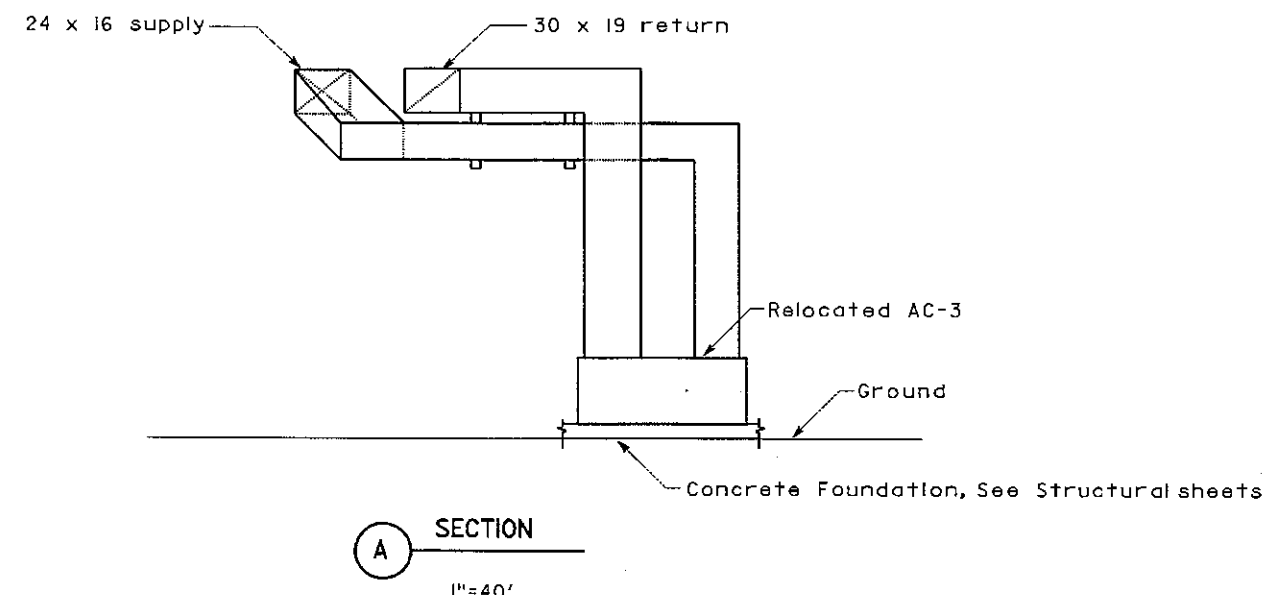
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1 AIR CONDITIONER DETAIL
1"=40'



- Notes:
1. Provide fittings and transition as required to connect to (E) wall openings.
 2. Install AC-3 with vibration isolators and concrete expansion anchor bolts.
 3. Exact duct routing to be determined in the field based on existing building and air conditioning equipment conditions.

<div style="display: flex; justify-content: space-between;"> <div> <p>DESIGN BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i></p> <p>DETAILS BY <i>J.R. Stangl</i> CHECKED <i>Jack Wheeler</i></p> <p>QUANTITIES BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i></p> </div> <div style="text-align: center;"> <p>STATE OF CALIFORNIA</p> <p>DEPARTMENT OF TRANSPORTATION</p> </div> <div> <p>DIVISION OF STRUCTURES</p> <p>ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN</p> </div> </div>						<p>BRIDGE NO. 34-0119Y</p> <p>POST MILE</p>		<p>SFOBB-SEISMIC RETROFIT PROJECT NO 14A</p> <p>TRANSBAY TRANSIT TERMINAL RAMPS</p> <p>RELOCATED AIR CONDITIONER NO. 3</p>		<p>SHEET</p> <p>M-7</p>
						<p>CU 04</p> <p>EA 0435CI</p>		<p>DISREGARD PRINTS BEARING EARLIER REVISION DATES</p> <p>10/22/00</p>		<p>SHEET</p> <p>OF</p>

BKW DOS ELEC(11/93)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

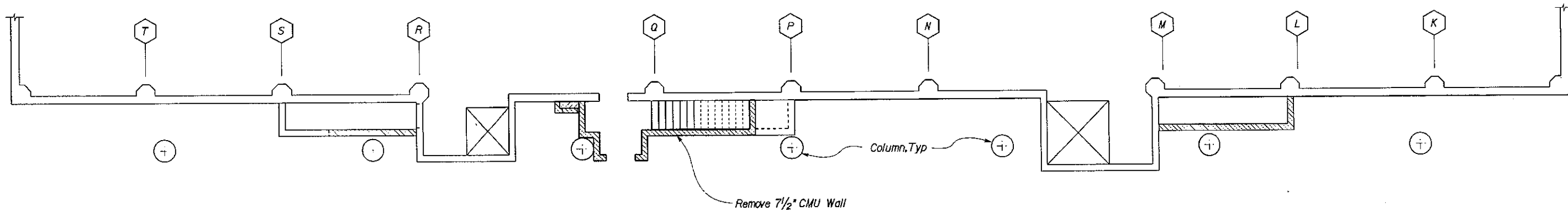
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	160	166

Brian T. Suttiff
 REGISTERED CIVIL ENGINEER
 No. 3862
 Exp. 3-31-98
 STRUCTURAL
 STATE OF CALIFORNIA

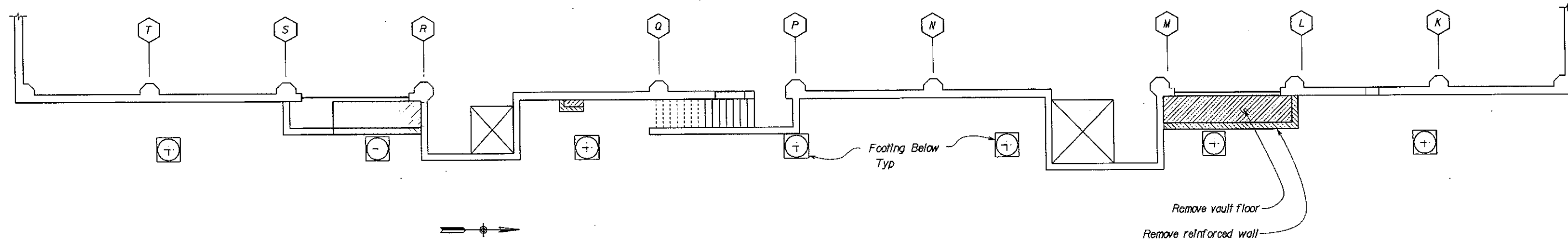
12-26-00
 PLANS APPROVAL DATE

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1 EXISTING EAST WALL GROUND FLOOR SITE PLAN
 Scale 3/16" = 1'-0"



2 EXISTING EAST WALL BASEMENT SITE PLAN
 Scale 3/16" = 1'-0"

NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.
 Existing dimensions shown are approximate for estimation only.

<div style="display: flex; justify-content: space-between;"> <div> <p>st_01.dgn DS OSD Imperial Rev.11/98 18-DEC-2000 08:49</p> </div> <div> <p>ORIGINAL SCALE IN INCHES FOR REDUCED PLANS</p> </div> <div> <p>0 1 2 3</p> </div> </div>				<p>STATE OF CALIFORNIA</p> <p>DEPARTMENT OF TRANSPORTATION</p>		<p>DIVISION OF STRUCTURES</p> <p>STRUCTURAL DESIGN</p>		<p>BRIDGE NO. 34-0119Y</p> <p>POST MILE</p>		<p>SFOBB-SEISMIC RETROFIT PROJECT NO 14A</p>										<p>SHEET ST-1</p>														
										<p>TRANSBAY TRANSIT TERMINAL RAMPS</p> <p>SITE PLAN</p>																								
<p>DESIGN BY Robert du Plaine CHECKED John McDonald</p> <p>DETAILS BY Robert du Plaine CHECKED John McDonald</p> <p>QUANTITIES BY Robert du Plaine CHECKED John McDonald</p>				<p>CU 04</p> <p>EA 0435C1</p>		<p>DISREGARD PRINTS BEARING EARLIER REVISION DATES</p>		<p>REVISION DATES (PRELIMINARY STAGE ONLY)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>1/3/00</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										1/3/00															<p>SHEET OF</p>	
1/3/00																																		

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	160	166

Brian T. Sutcliffe
REGISTERED CIVIL ENGINEER

REGISTERED PROFESSIONAL ENGINEER

Brian T. Sutcliffe

No. 3862

Exp. 3-31-98

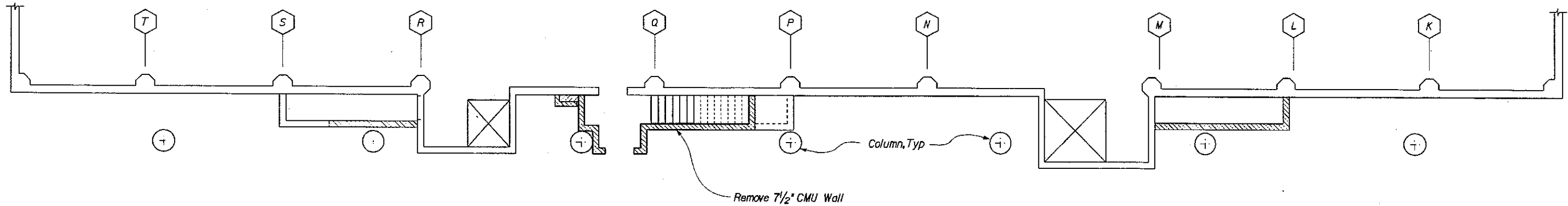
STRUCTURES

STATE OF CALIFORNIA

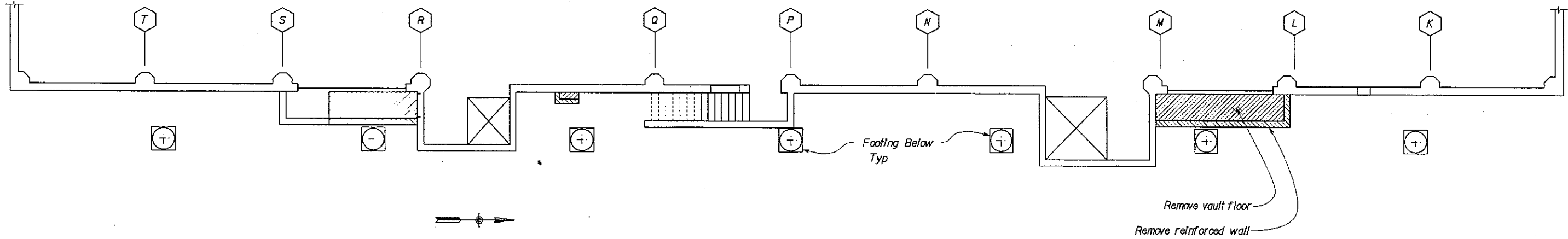
12-26-00
PLANS APPROVAL DATE

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1 EXISTING EAST WALL GROUND FLOOR SITE PLAN
Scale 3/16" = 1' - 0"



2 EXISTING EAST WALL BASEMENT SITE PLAN
Scale 3/16" = 1' - 0"

NOTE
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DESIGN				BY Robert du Plaine		CHECKED John McDonald		STATE OF CALIFORNIA		DIVISION OF STRUCTURES		BRIDGE NO. 34-0119Y		SFOBB-SEISMIC RETROFIT PROJECT NO 14A		TRANSBAY TRANSIT TERMINAL RAMPS		SHEET ST-1	
DETAILS				BY Robert du Plaine		CHECKED John McDonald		DEPARTMENT OF TRANSPORTATION		STRUCTURAL DESIGN		POST MILE		SITE PLAN					
QUANTITIES				BY Robert du Plaine		CHECKED John McDonald													
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0		1		2		3		CU 04		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET OF	
st_01.dgn				DS OSD Imperial Rev.11/98		18-DEC-2000		08:49				EA 0435C1				10/3/00			



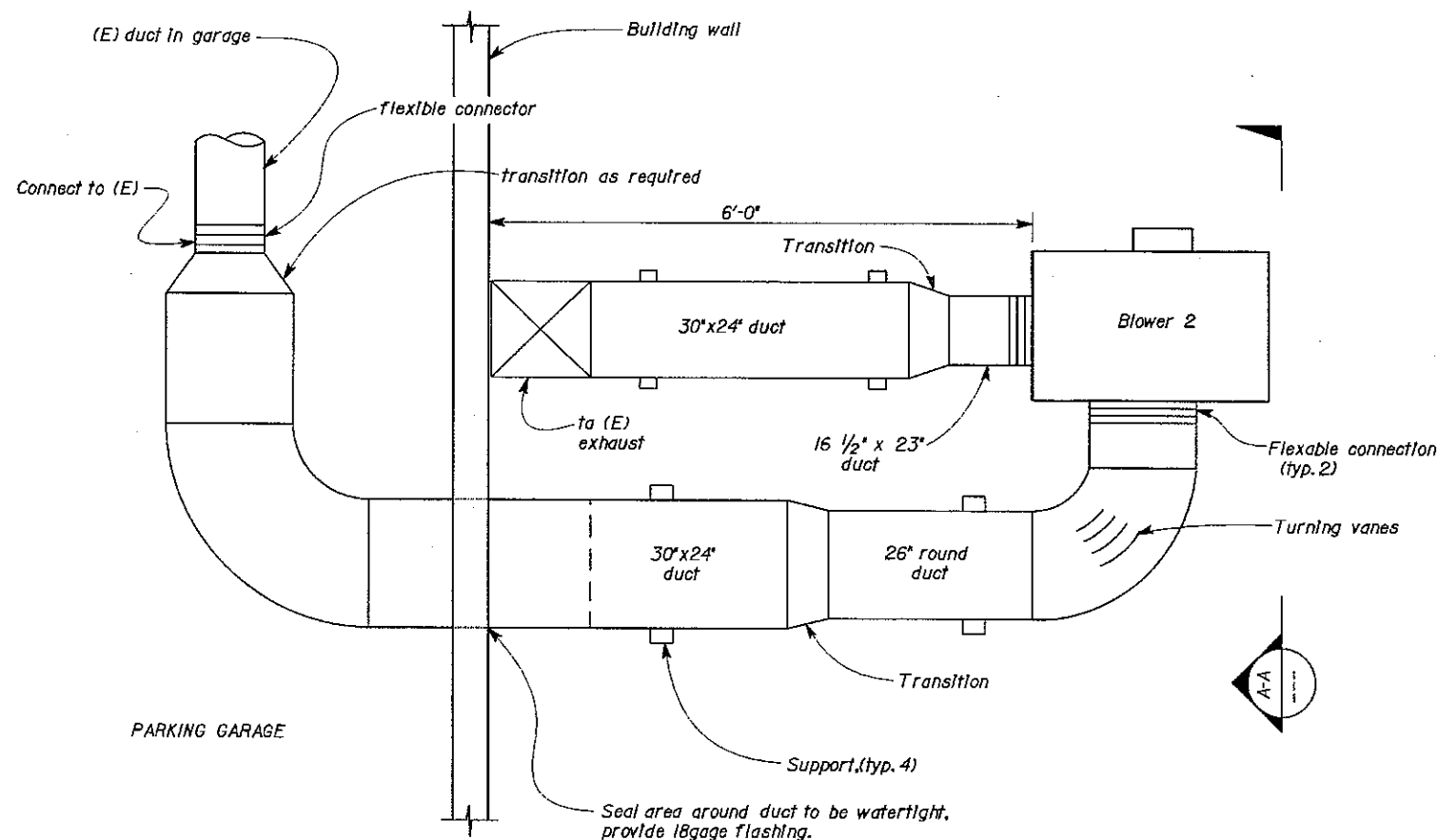
DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	159	166

REGISTERED ENGINEER-MECHANICAL
12-26-00
PLANS APPROVAL DATE

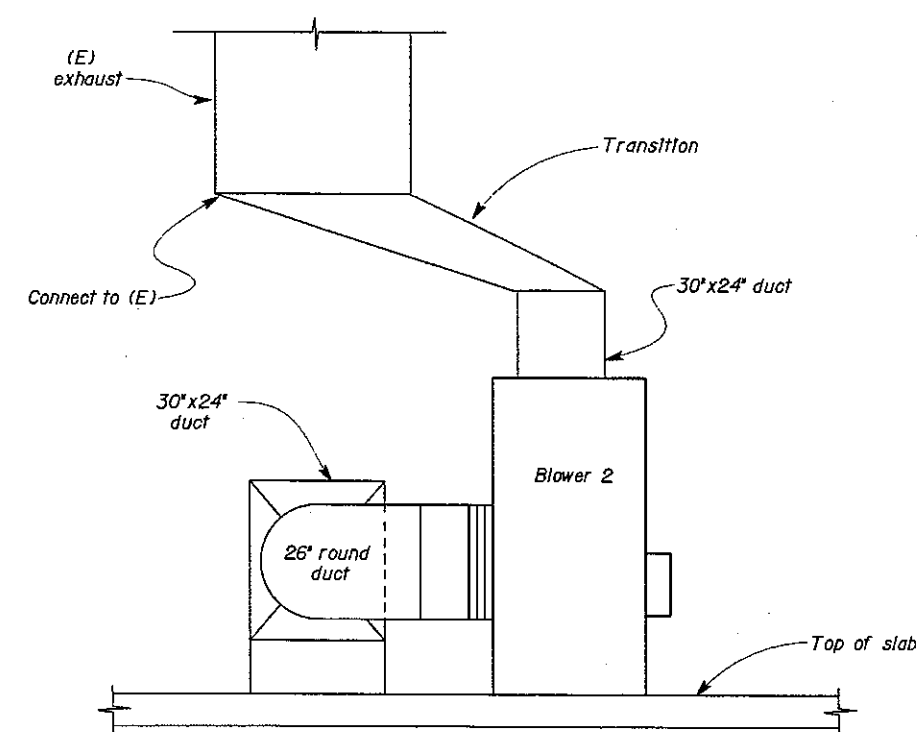
Jack Wheeler
No. 21648
Exp. 6-30-03
MECH
STATE OF CALIFORNIA

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GARAGE EXHAUST BLOWER PLAN
No Scale



SECTION A-A
No Scale

Notes:

- 1.Connection to (E) exhaust not shown for clarity.
- 2.Provide transition as required to match blower provided.
- 3.Provide transitions as required to penetrate wall to (E) exhaust duct system.
- 4.Install fan on (4) vibration dampers using stainless steel concrete expansion anchor bolts.

ALL DIMENSIONS SHOWN IN MILLIMETERS, EXCEPT AS NOTED

DESIGN BY Jack Wheeler CHECKED Mike Slavensky				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES		BRIDGE NO.	SFOBB-SEISMIC RETROFIT PROJECT NO. 14A		SHEET M-9			
DETAILS BY J.R. Stangl CHECKED Jack Wheeler						ELECTRICAL-MECHANICAL-WATER		34-0119Y	TRANSBAY TRANSIT TERMINAL RAMPS					
QUANTITIES BY Jack Wheeler CHECKED Mike Slavensky						AND WASTEWATER DESIGN		KM POST	BLOWER 2 DETAILS					
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS				CU 04 EA 0435CI				DISREGARD PRINTS BEARING EARLIER REVISION DATES				REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET OF
DATE PLOTTED => 18-DEC-2000 TIME PLOTTED => 09:58				FILE => m_9.dgn										

TIME PLOTTED => 09:58
DATE PLOTTED => 18-DEC-2000
USERNAME => jrttchf

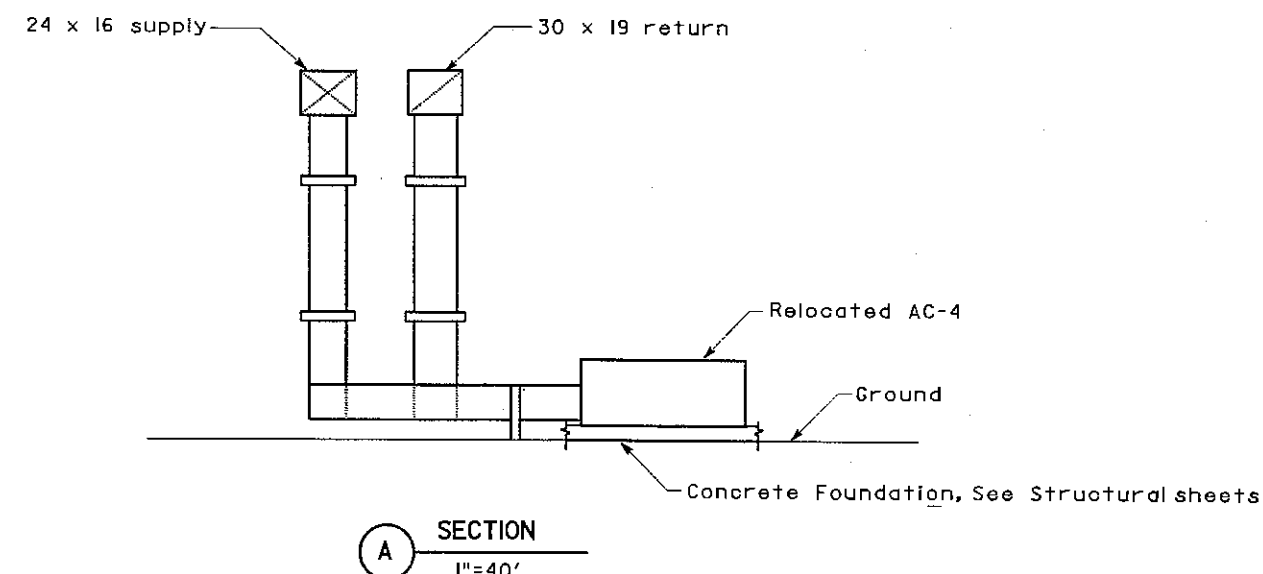
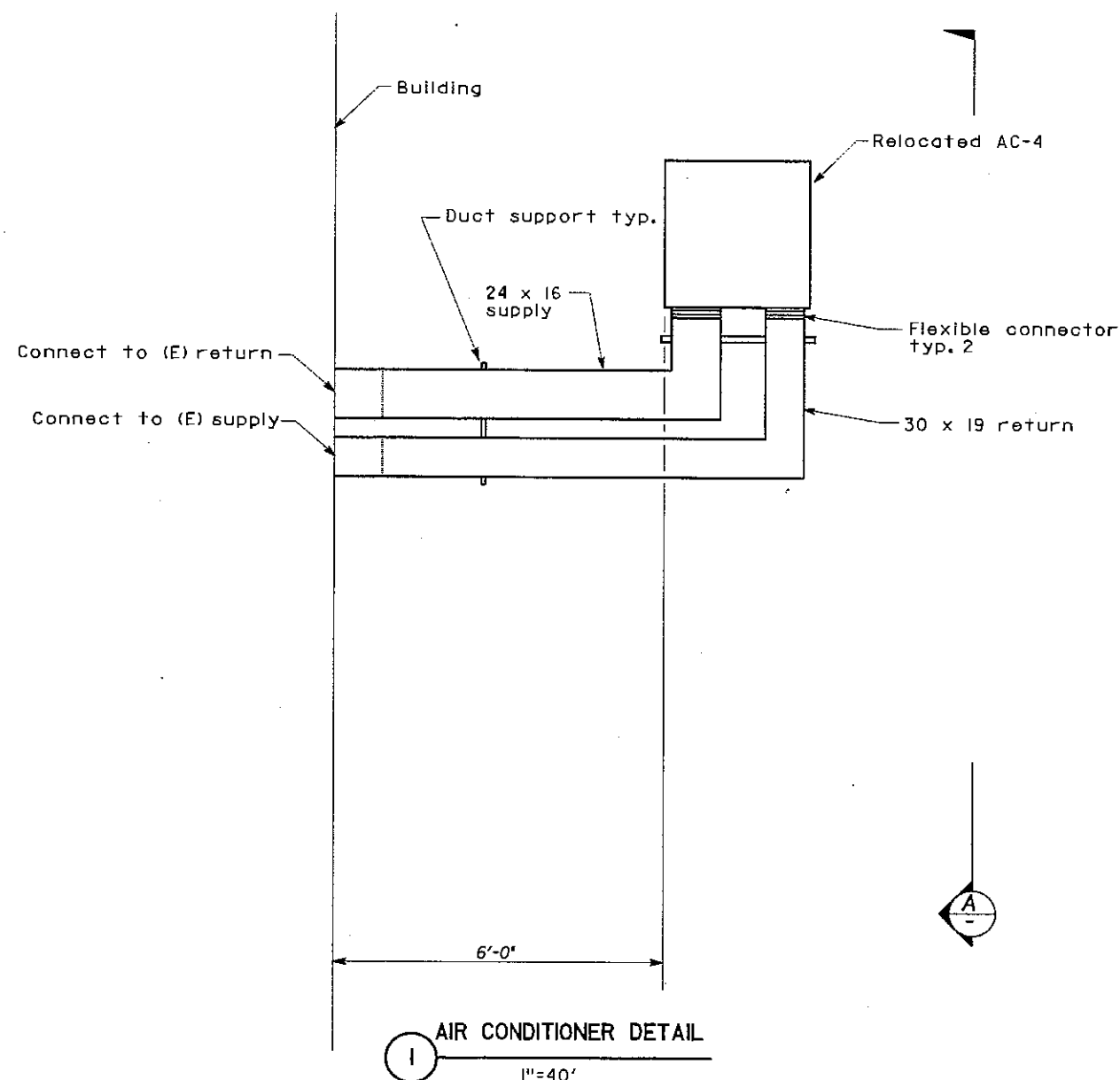
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	158	166

Jack Wheeler
 REGISTERED ENGINEER-ELECTRICAL
 No. 21648
 Exp. 6-30-03
 MECH
 STATE OF CALIFORNIA

12-26-00
PLANS APPROVAL DATE

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Notes:

1. Provide fittings and transition as required to connect to (E) wall openings.
2. Install AC-4 with vibration isolators and concrete expansion anchor bolts.
3. Exact duct routing to be determined in the field based on existing building and air conditioning equipment conditions.

BKW DOS ELEC(1/93)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 04 EA 0435C1		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY) 10/20/00		SHEET OF	
DESIGN BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i> DETAILS BY <i>J.R. Stangl</i> CHECKED <i>Jack Wheeler</i> QUANTITIES BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i>				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN		BRIDGE NO. 34-0119Y POST MILE		SFOBB-SEISMIC RETROFIT PROJECT NO 14A TRANSBAY TRANSIT TERMINAL RAMPS RELOCATED AIR CONDITIONER NO. 4				SHEET M-8	

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	157	166

Jack Wheeler
REGISTERED ENGINEER-ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER

Jack Wheeler

No. 21648

Exp. 6-30-03

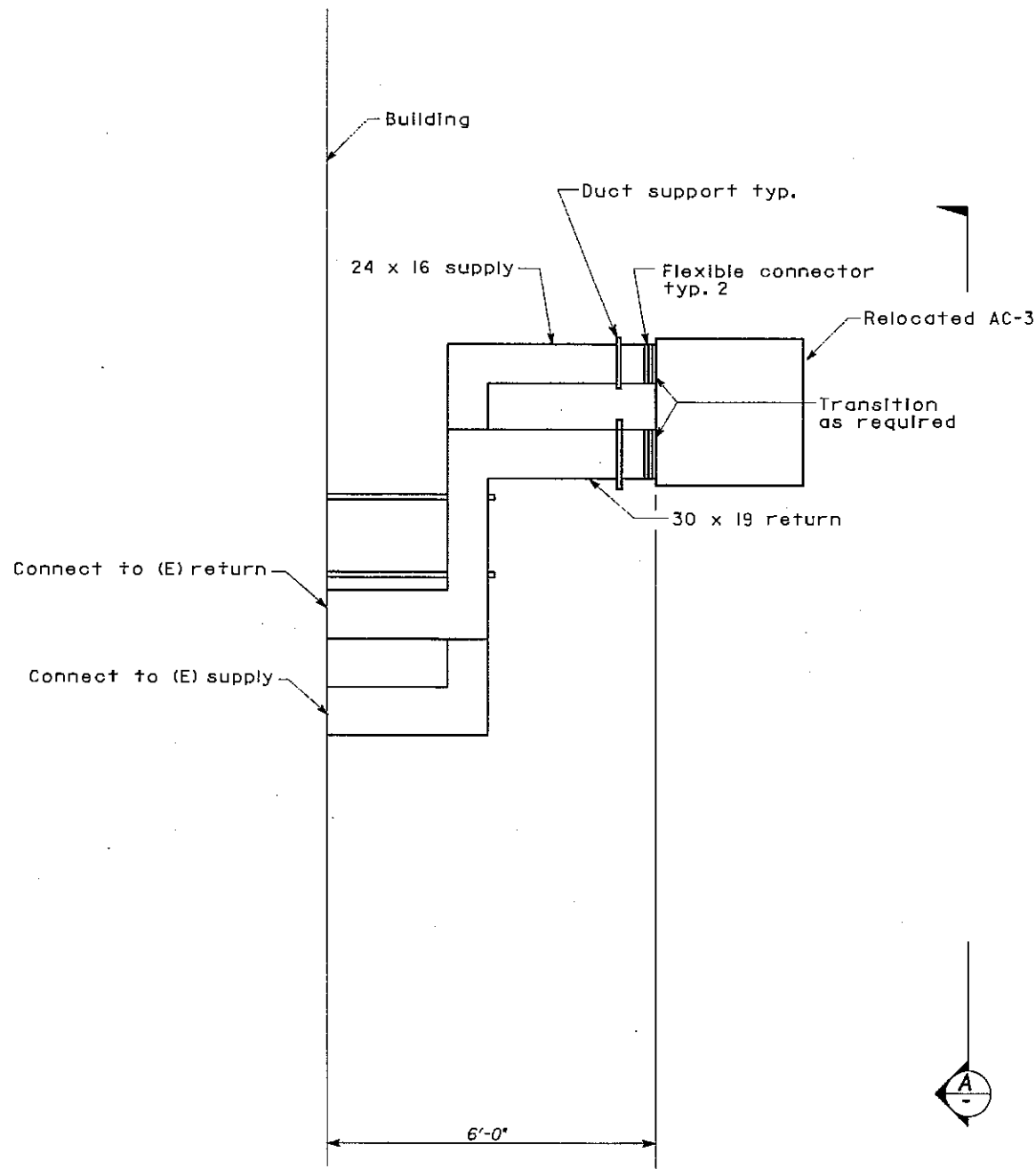
MECH

STATE OF CALIFORNIA

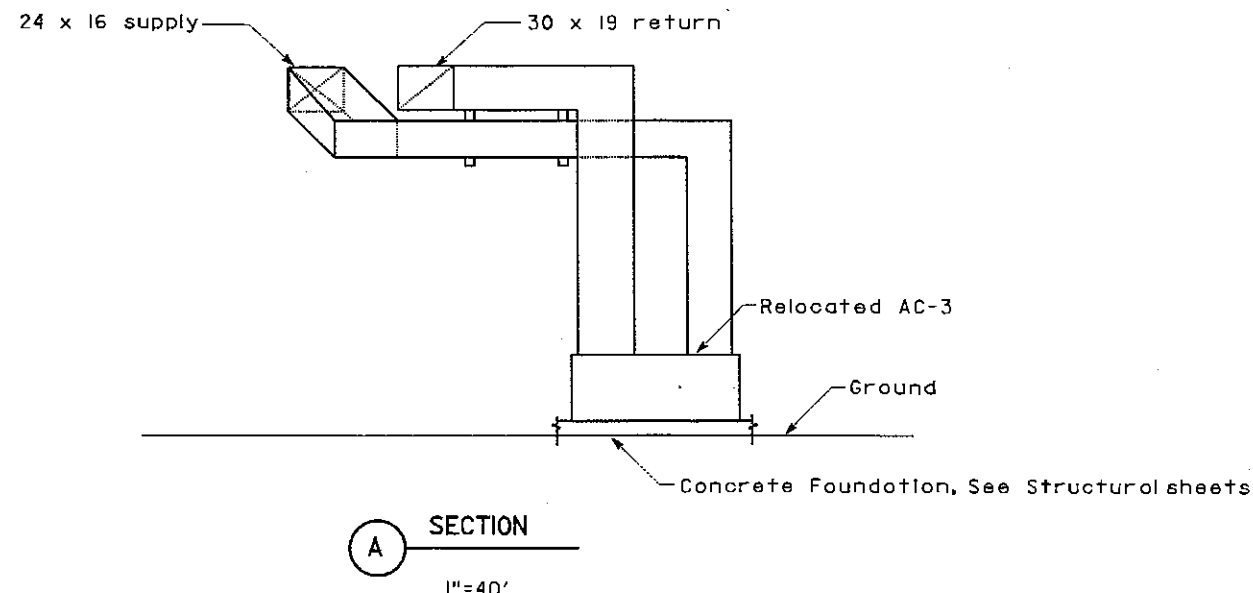
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PLANS APPROVAL DATE

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AIR CONDITIONER DETAIL
1"=40'



Notes:

1. Provide fittings and transition as required to connect to (E) wall openings.
2. Install AC-3 with vibration isolators and concrete expansion anchor bolts.
3. Exact duct routing to be determined in the field based on existing building and air conditioning equipment conditions.

				SFOBB-SEISMIC RETROFIT PROJECT NO 14A					
DESIGN BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i> DETAILS BY <i>J.R. Stangl</i> CHECKED <i>Jack Wheeler</i> QUANTITIES BY <i>Jack Wheeler</i> CHECKED <i>Mike Slavensky</i>		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN		BRIDGE NO.	TRANSBAY TRANSIT TERMINAL RAMPS RELOCATED AIR CONDITIONER NO. 3	SHEET M-7	
						34-0119Y			
						POST MILE			
BKW DOS ELEC(1/93)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 04 EA 0435CI		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY) 10/22/00	SHEET OF

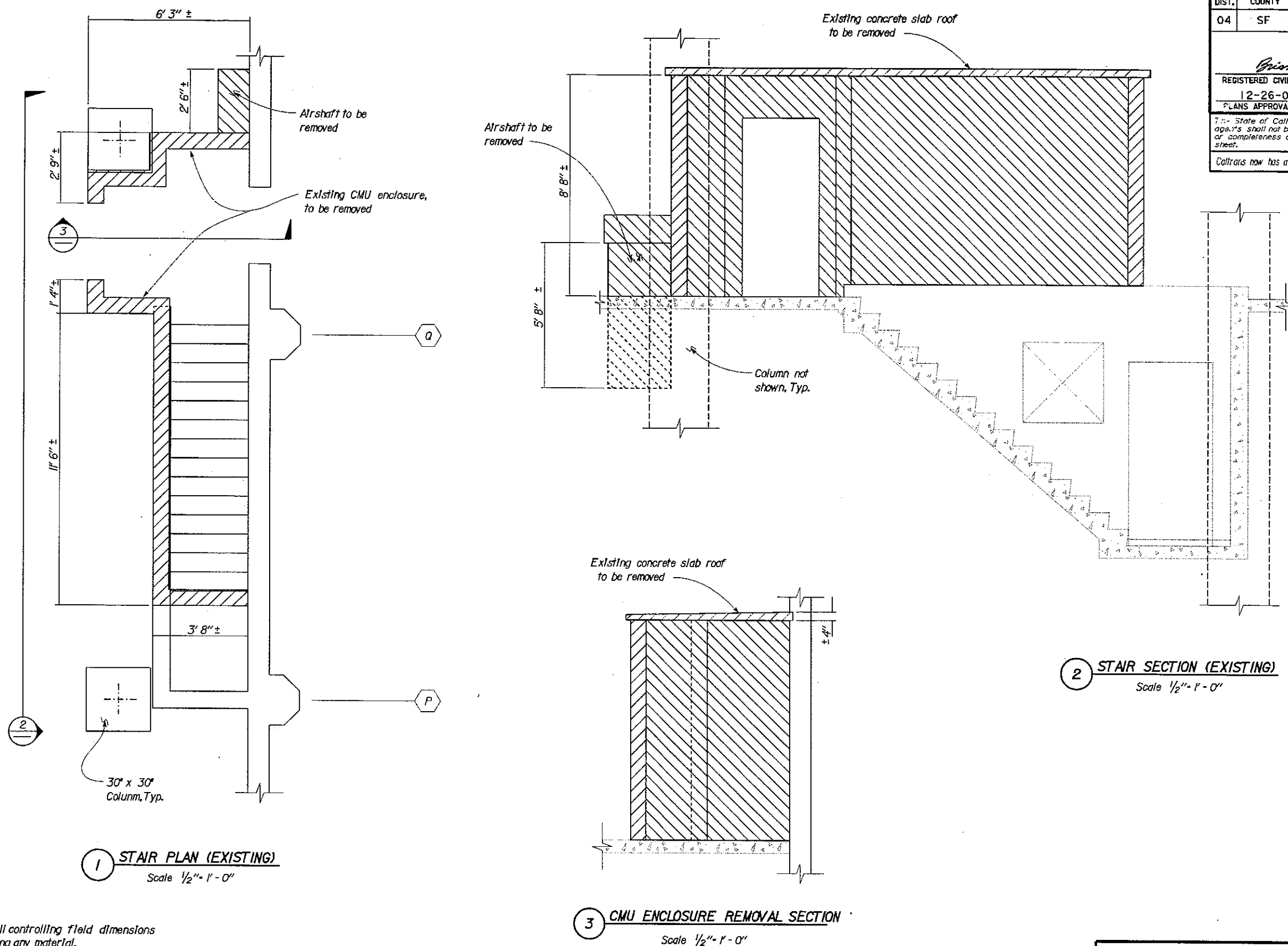
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	162	166

Brian T. Sutcliffe
 REGISTERED CIVIL ENGINEER
 No. 3862
 Exp. 3-31-98
 STRUCTURAL
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<div>DESIGN BY Robert du Plaine</div> <div>DETAILS BY Robert du Plaine</div> <div>QUANTITIES BY Robert du Plaine</div>			CHECKED John McDonald		<div>STATE OF CALIFORNIA</div> <div>DEPARTMENT OF TRANSPORTATION</div>		<div>DIVISION OF STRUCTURES</div> <div>STRUCTURAL DESIGN</div>		BRIDGE NO.		<div>TRANSBAY TRANSIT TERMINAL RAMPS</div> <div>ENCLOSURE REMOVAL DETAILS</div>		SHEET ST-3				
			34-0119Y														
			POST MILE														
st_03.dgn																	
DS OSD Imperial Rev.11/98 18-DEC-2000 09:59																	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						0 1 2 3		CU 04		EA 0435C1		DISREGARD PRINTS BEARING EARLIER REVISION DATES → 12/3/00		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET OF	

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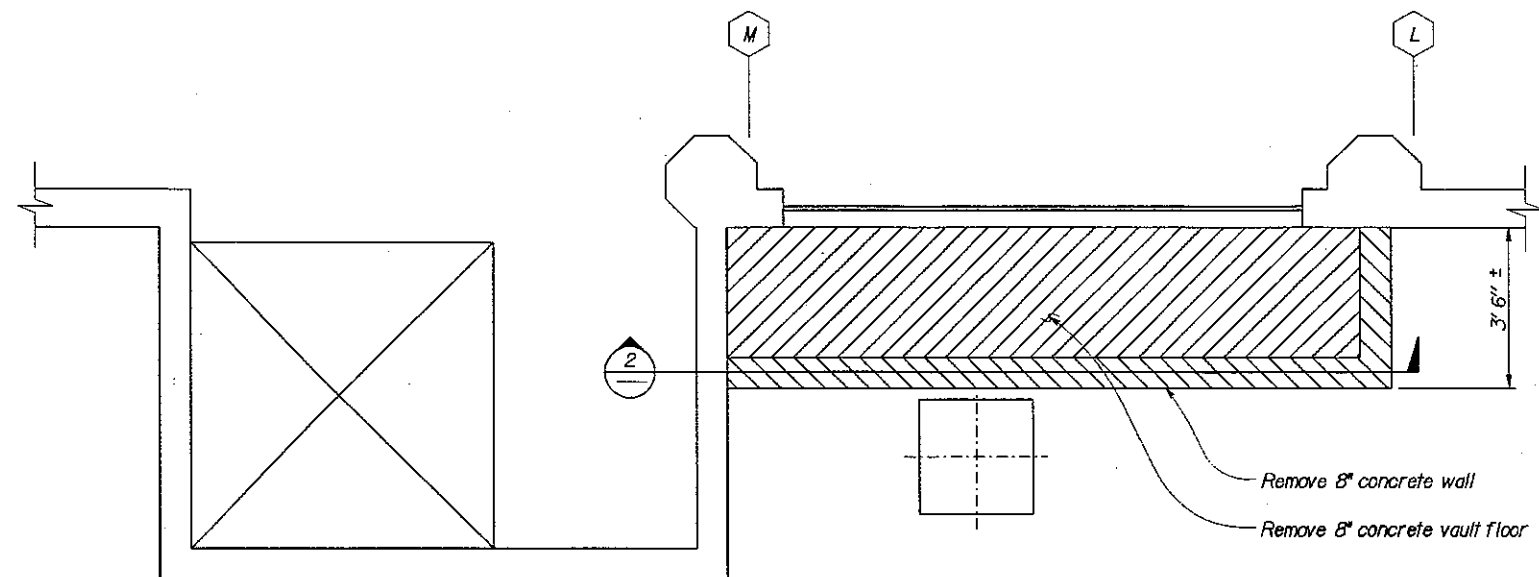
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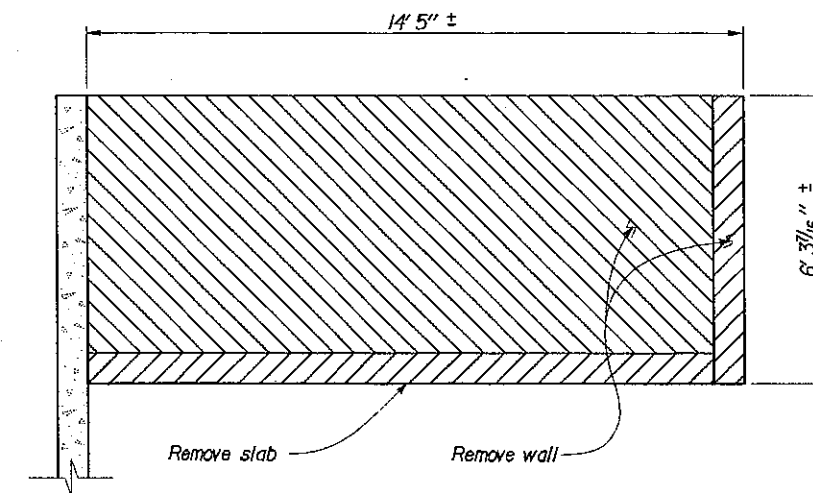
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	161	166

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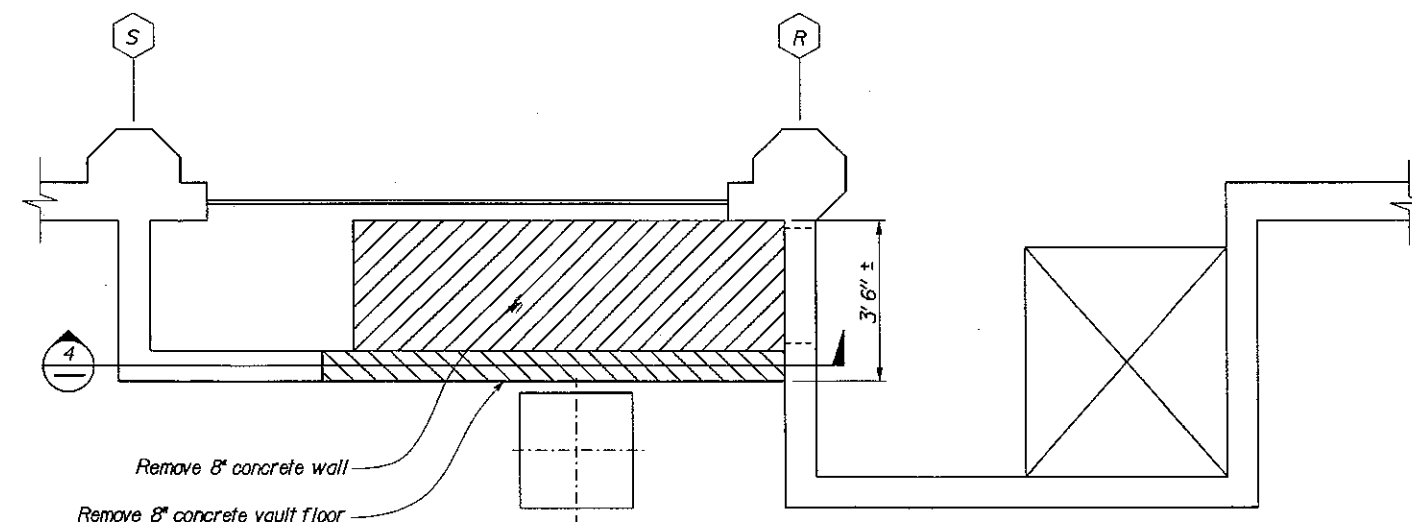
REGISTERED PROFESSIONAL ENGINEER
 Brian T. Sutliff
 No. 3862
 Exp. 3-31-98
 STATE OF CALIFORNIA



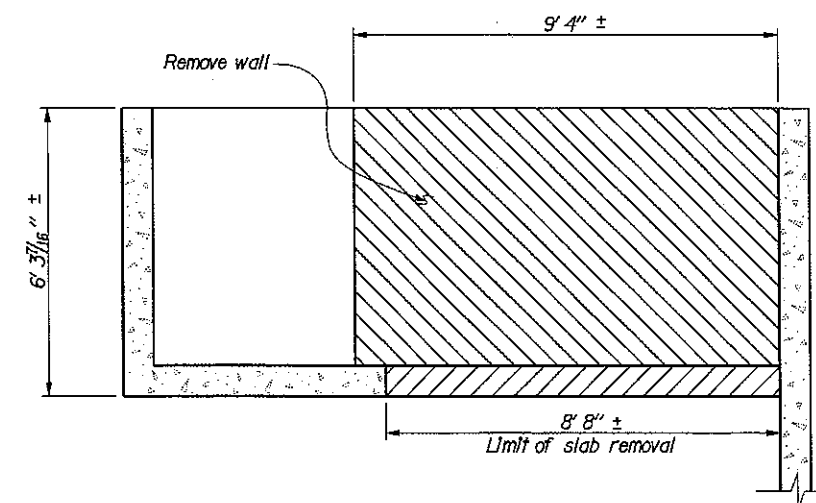
1 NORTH WINDOW AND VAULT REMOVAL PLAN
Scale 1/2" = 1' - 0"



2 WALL AND FLOOR REMOVAL SECTION
Scale 1/2" = 1' - 0"



3 SOUTH WINDOW AND VAULT REMOVAL PLAN
Scale 1/2" = 1' - 0"



4 WALL AND FLOOR REMOVAL SECTION
Scale 1/2" = 1' - 0"

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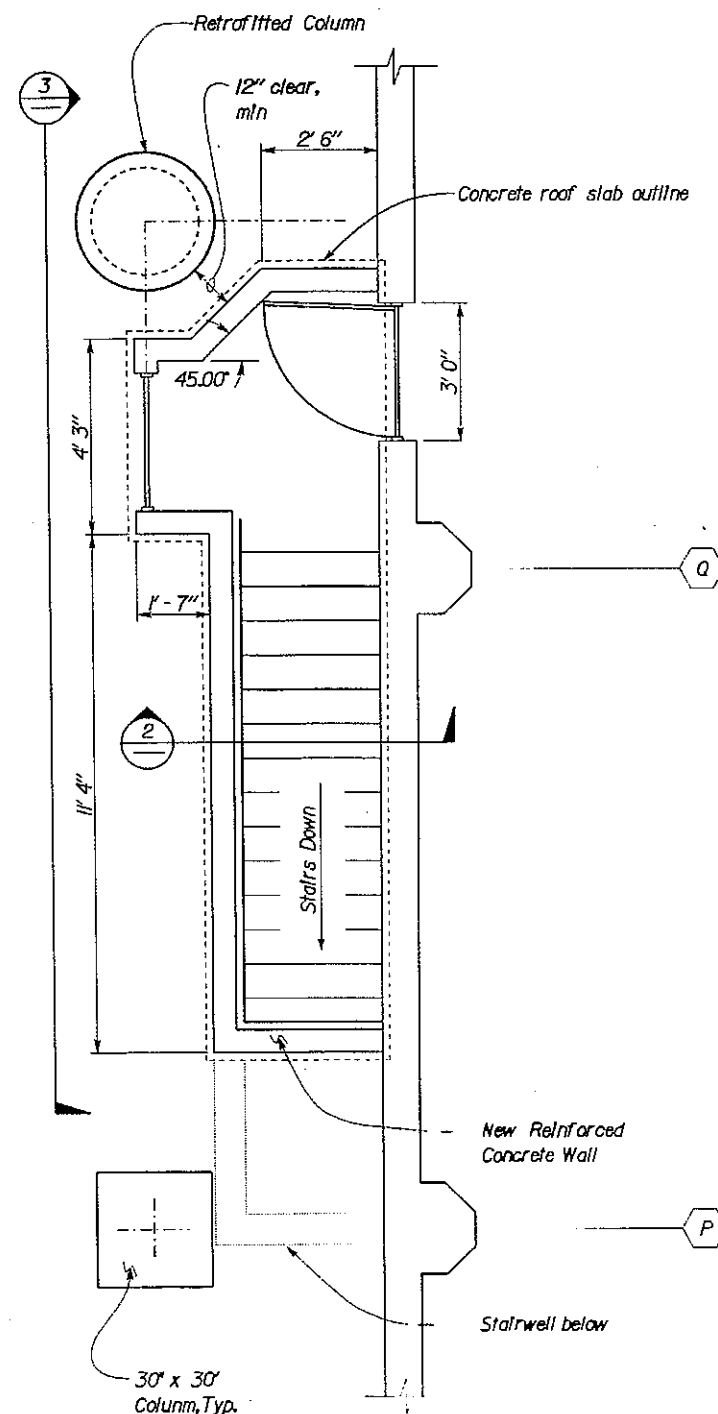
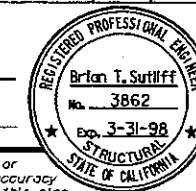
DESIGN BY Robert du Plaine CHECKED John McDonald		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF STRUCTURES STRUCTURAL DESIGN	BRIDGE NO. 34-0119Y	SFOBB-SEISMIC RETROFIT PROJECT NO 14A		SHEET ST-2
DETAILS BY Robert du Plaine CHECKED John McDonald			POST MILE	TRANSBAY TRANSIT TERMINAL RAMPS		
QUANTITIES BY Robert du Plaine CHECKED John McDonald			CU 04 EA 0435C1	REMOVAL DETAILS		SHEET OF

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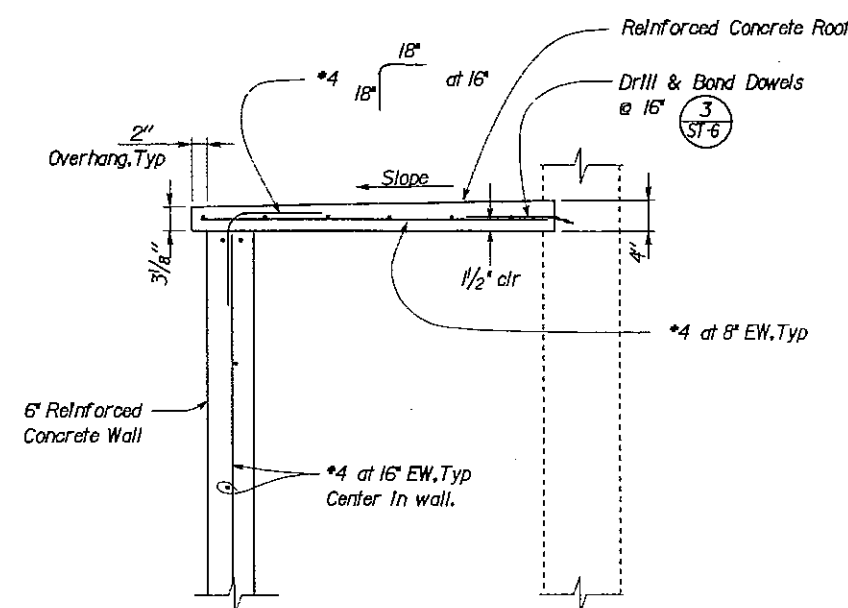
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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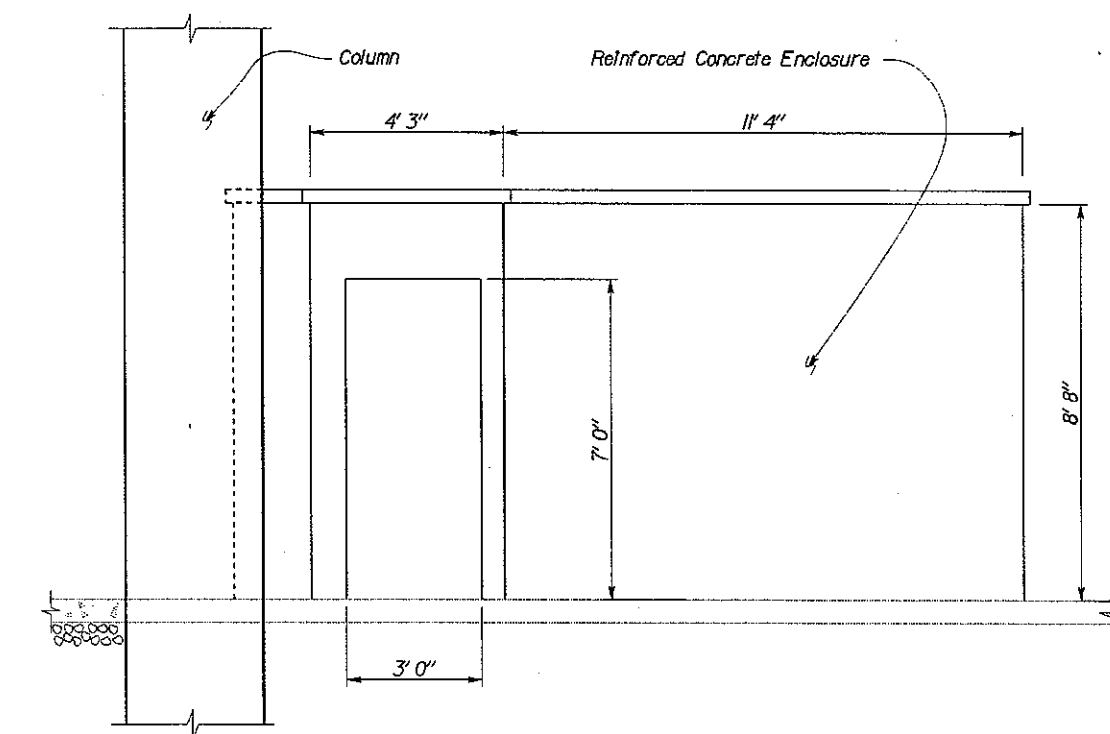
Brian T. Sutcliffe
 REGISTERED CIVIL ENGINEER
 12-26-00
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1 STAIR AND NEW CONCRETE WALL PLAN
Scale 1/2" = 1' - 0"



2 CONCRETE ROOF SLAB DETAIL
Scale 1" = 1' - 0"



3 CONCRETE WALL ELEVATION
Scale 1/2" = 1' - 0"

NOTE
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st_04.dgn DS OSD Imperial Rev.11/98 18-DEC-2000 09:59			DESIGN BY Robert du Plaine DETAILS BY Robert du Plaine QUANTITIES BY Robert du Plaine	CHECKED John McDonald CHECKED John McDonald CHECKED John McDonald	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES STRUCTURAL DESIGN	BRIDGE NO. 34-0119Y POST MILE	SFOBB-SEISMIC RETROFIT PROJECT NO 14A TRANSBAY TRANSIT TERMINAL RAMPS REINFORCED CONCRETE ENCLOSURE DETAILS		SHEET 163 OF 166 ST-4
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 04 EA 0435C1			DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET OF
								12/3/00		

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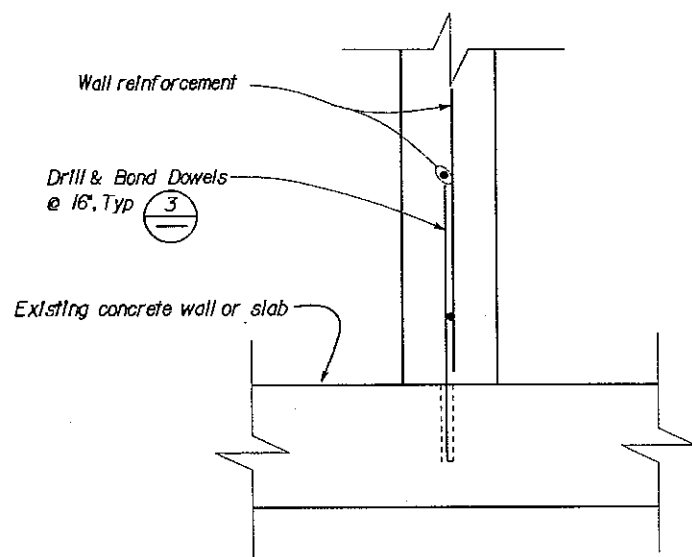
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	4.9/5.9	165	166

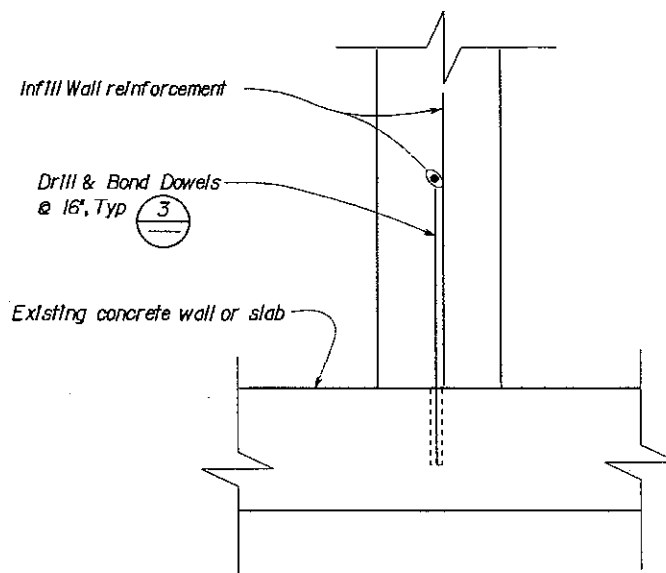
Brian T. Sutcliffe
 REGISTERED CIVIL ENGINEER
 12-26-00
 PLANS APPROVAL DATE

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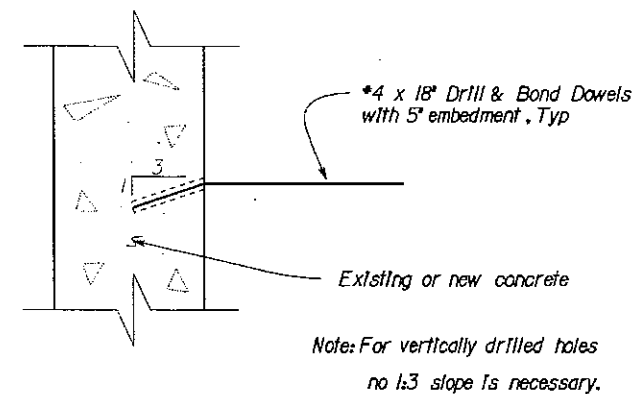
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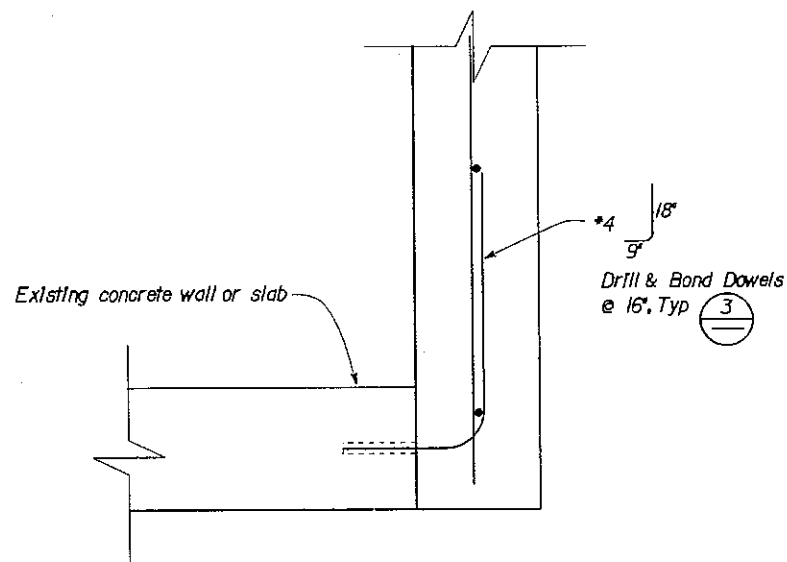
1 WALL ANCHORAGE DETAIL
Scale 2" = 1' - 0"



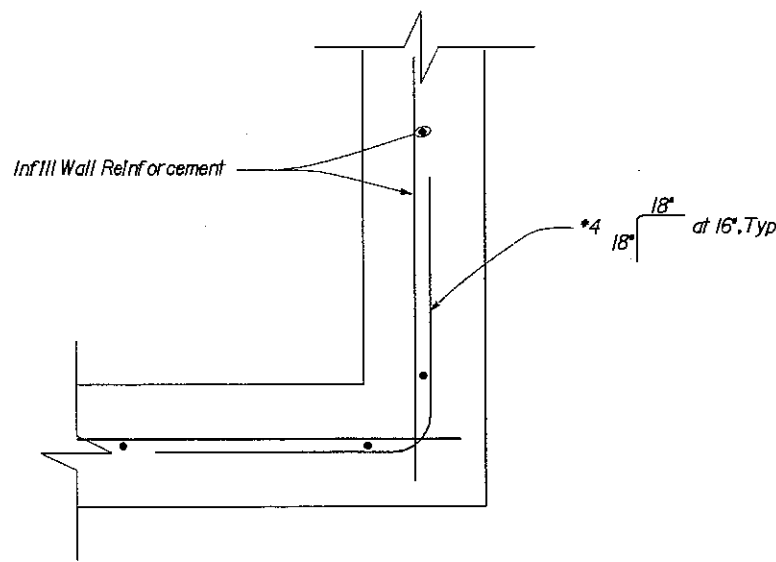
2 INFILL WALL ANCHORAGE DETAIL
Scale 2" = 1' - 0"



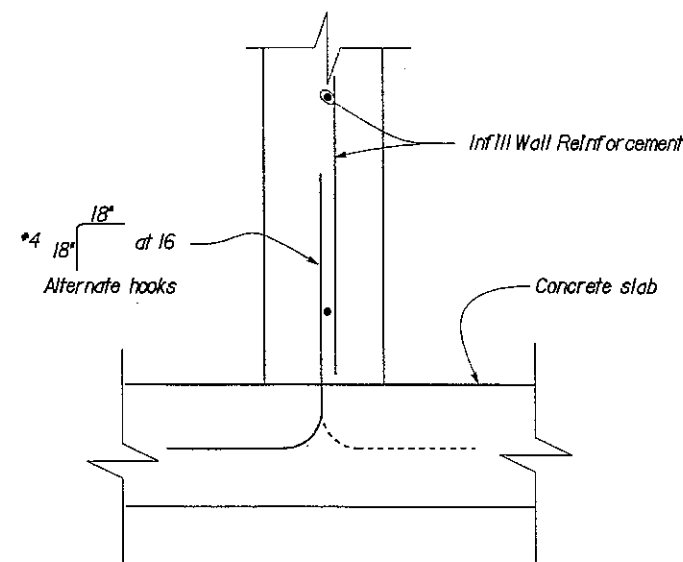
3 DRILL AND BOND DETAIL
Scale 2" = 1' - 0"



4 INFILL WALL CORNER ANCHORAGE DETAIL
Scale 2" = 1' - 0"



5 CORNER REINFORCEMENT DETAIL
Scale 2" = 1' - 0"



6 INFILL WALL REINFORCEMENT DETAIL
Scale 2" = 1' - 0"

NOTE
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DESIGN BY Robert du Plaine CHECKED John McDonald DETAILS BY Robert du Plaine CHECKED John McDonald QUANTITIES BY Robert du Plaine CHECKED John McDonald			STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES STRUCTURAL DESIGN		BRIDGE NO. 34-0119Y POST MILE		SFOBB-SEISMIC RETROFIT PROJECT NO 14A TRANSBAY TRANSIT TERMINAL RAMPS REINFORCED CONCRETE DETAILS				SHEET ST-6 OF	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 04 EA 0435C1		DISREGARD PRINTS BEARING EARLIER REVISION DATES				REVISION DATES (PRELIMINARY STAGE ONLY)				SHEET OF	

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