

ORANGE COUNTY
RESOURCES AND DEVELOPMENT
MANAGEMENT DEPARTMENT

SANTA ANA, CALIFORNIA

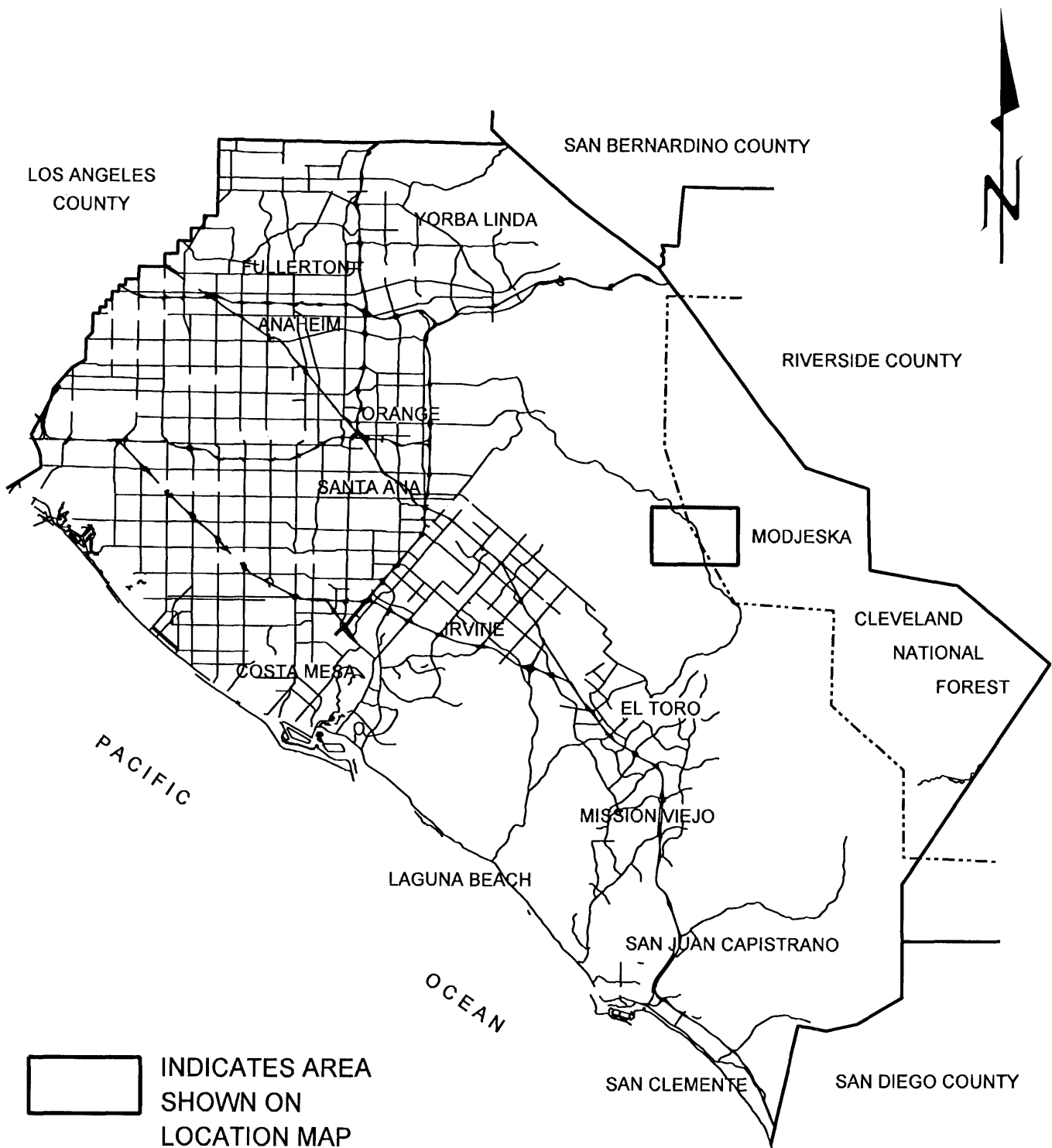
BRYAN G. SPEEGLE, DIRECTOR

PLANS FOR THE
CONSTRUCTION OF

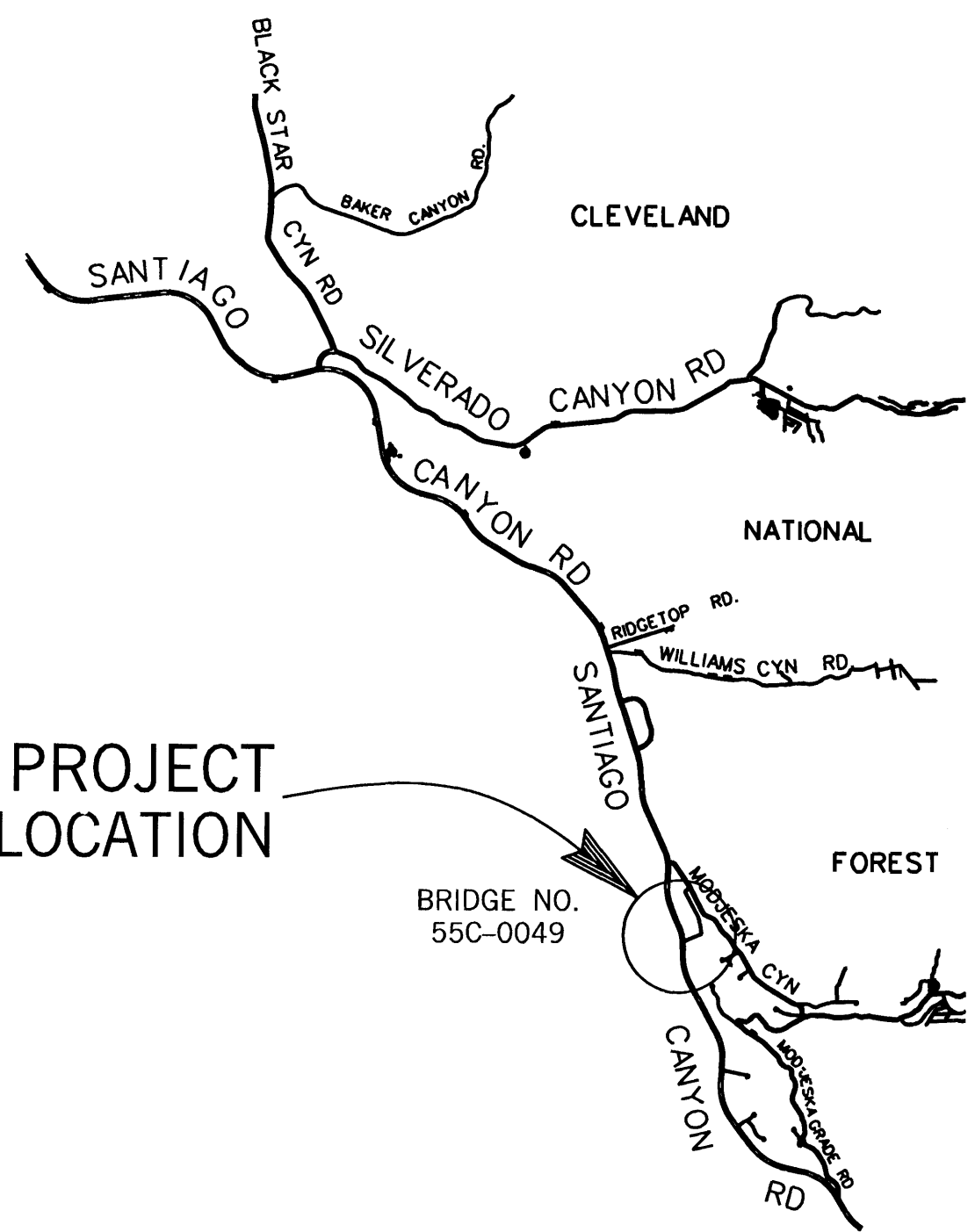
BARRIER REPLACEMENT FOR
SANTIAGO CANYON ROAD BRIDGE SC-8
(BR No. 55C-0049)

W.O. # ER09338

MARCH 2007



VICINITY MAP
NO SCALE



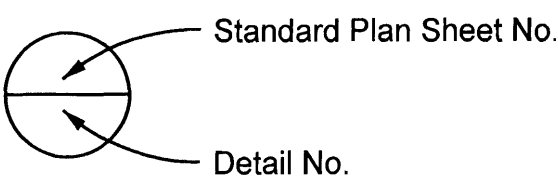
LOCATION MAP
NO SCALE

INDEX OF SHEETS

SHEET	DESCRIPTION
1.	TITLE SHEET
2.	METAL BEAM GUARD RAILING PLAN
3.	TRAFFIC HANDLING PLAN
4.	GENERAL PLAN
5.	DEMOLITION PLAN
6.	ABUTMENT 1 DETAILS
7.	ABUTMENT 4 DETAILS
8.	BARRIER RECONSTRUCTION DETAILS

CALTRANS STANDARD PLANS DATED MAY, 2006

ROADWAY	
A20A, B & D	PAVEMENT MARKERS & TRAFFIC LINES TYPICAL DETAILS
A73B	MARKERS
A73C	DELINEATORS, CHANNELIZERS AND BARRICADES
A77F1, A77F4	METAL BEAM GUARD RAILING TYPICAL LAYOUT
A77J4	METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)
A77L1	METAL BEAM RAILING TERMINAL SYSTEM (TYPE SRT)
A77L3	METAL BEAM RAILING TERMINAL SYSTEM (TYPE ET)
T2	TEMPORARY CRASH CUSHION SAND FILLED (SHOULDER INSTALLATION)
T3	TEMPORARY RAILING (TYPE K)
BRIDGE	
A10A	ACRONYMS AND ABBREVIATION (A-L)
A10B	ACRONYMS AND ABBREVIATION (M-Z)
A10C & D	SYMBOLS
A77J THRU	METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILS,
A77J4	RETAINING WALLS & ABUTMENTS
B3-7	RETAINING WALL TYPE 5
B7-1	BOX GIRDER DETAILS
B7-5	DECK DRAINS
B11-51	TUBULAR HAND RAILING
B11-53	CONCRETE BARRIER TYPE 25



UTILITY OWNER	PHONE NO.	CONTACT
IRVINE RANCH WATER DISTRICT (I.R.W.D.)	949-453-5551	MALCOLM CORTEZ
SOUTHERN CALIFORNIA EDISON	714-934-0847	JENNIFER WARD
SBC (PACIFIC BELL)	714-237-6950	STEVE HICKS
UNDERGROUND SERVICE ALERT	800-227-2600	

No As-Built Changes

AS BUILT

CORRECTION BY RWH
CONTRACT NO. _____
DATE 4/30/08

FUNDED BY: THE COUNTY OF ORANGE
POST-PROJECT OWNERSHIP & MAINTENANCE RESPONSIBILITY: THE COUNTY OF ORANGE

DEVIATIONS FROM STANDARDS

THE FOLLOWING RDMD STANDARDS HAVE BEEN MODIFIED:
STD PLAN 1103, PRIMARY HIGHWAY TYPICAL SECTIONS
- 11 FT. TRAVEL LANE WIDTH
- 5'-3 1/2" SHOULDER WIDTH

RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

APPROVED FOR CONTRACT ADMINISTRATION PURPOSES:

SUBMITTED:

JAVIER SOTO, P.E.
MANAGER, ROAD CAPITAL PROJECTS

RECOMMENDED:

EDWARD M.Y. KWAN, P.E.
MANAGER, ROAD DIVISION

APPROVED:

IGNACIO G. SCHOA, P.E.
ASSISTANT DIRECTOR OF PUBLIC WORKS/CHIEF ENGINEER

PREPARED BY

LIM & NASCIMENTO ENGINEERING
12-L MAUCHLY
IRVINE, CALIFORNIA 92618

APPROVED:

MOHAN S. CHAR
REGISTERED CIVIL ENGINEER

12/18/06
DATE

RESIDENT ENGR: DAVE RECHA / CHRIS KUBASEK
INSPECTOR: HALBERT TRAN
CONTRACTOR: R.J. BULLARD CONST. INC.
DATE OF COMPLETION: 3/21/08

NO.	DESCRIPTION	SHT.	APPROVED	DATE
	AS-BUILT PLANS		RWH	4/30/08
	NO AS-BUILT CHANGES TO ANY PLAN SHEETS			

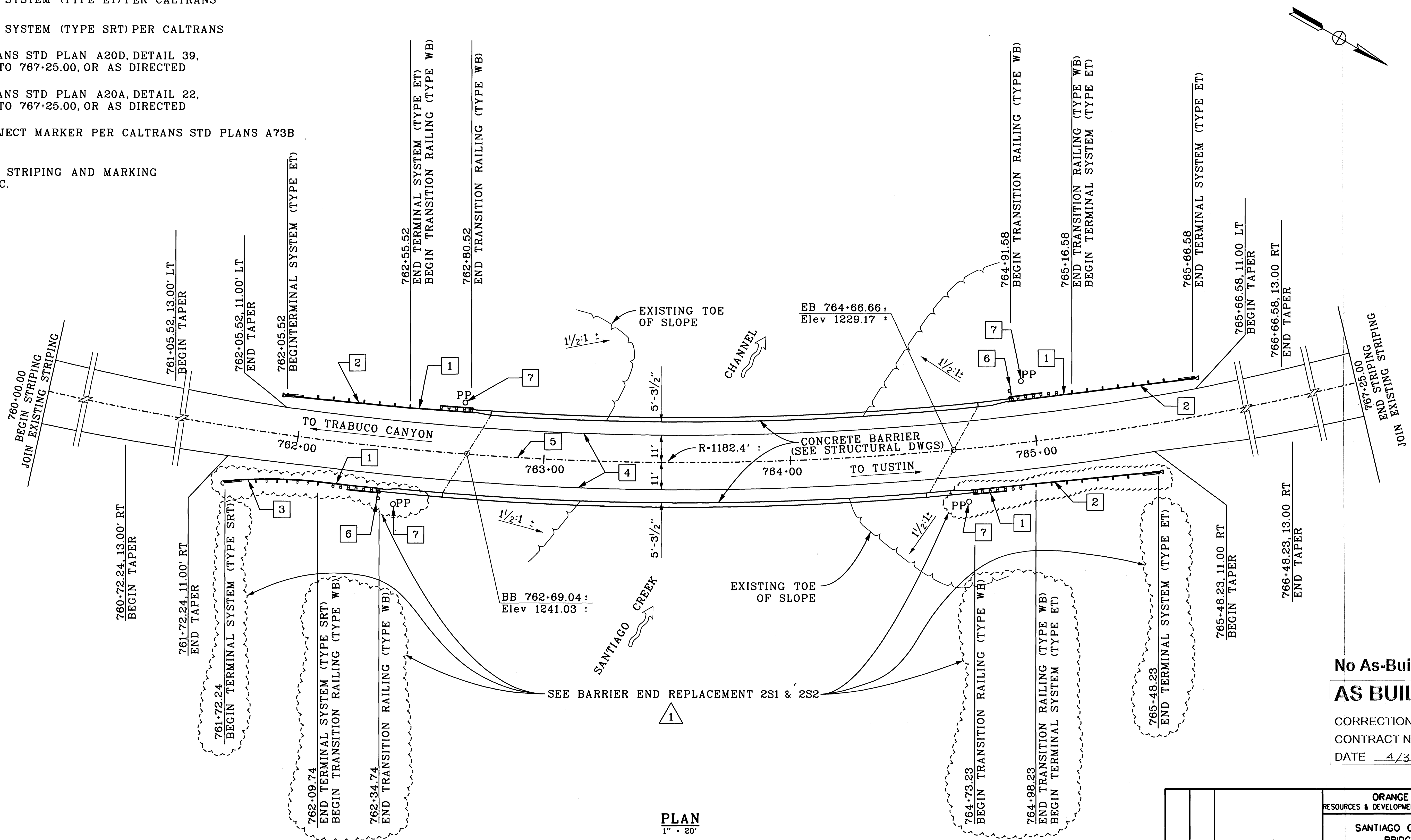
BRIDGE NO. 55C-0049
DWG. NO. _____

SHEET 1 OF 8

CONSTRUCTION NOTES:

- 1 CONSTRUCT TRANSITION RAILING (TYPE WB) PER CALTRANS STD PLANS A77F1, A77F4, A77J4
- 2 CONSTRUCT TERMINAL SYSTEM (TYPE ET) PER CALTRANS STD PLAN A77L3
- 3 CONSTRUCT TERMINAL SYSTEM (TYPE SRT) PER CALTRANS STD PLAN A77L1
- 4 RESTRIPE PER CALTRANS STD PLAN A20D, DETAIL 39, FROM STA 760+00.00 TO 767+25.00, OR AS DIRECTED BY ENGINEER
- 5 RESTRIPE PER CALTRANS STD PLAN A20A, DETAIL 22, FROM STA 760+00.00 TO 767+25.00, OR AS DIRECTED BY ENGINEER
- 6 INSTALL TYPE "P" OBJECT MARKER PER CALTRANS STD PLANS A73B
- 7 PROTECT IN PLACE

ALL PERMANENT TRAFFIC STRIPING AND MARKING SHALL BE THERMOPLASTIC.



No As-Built Changes
AS BUILT
CORRECTION BY R.W.H.
CONTRACT NO. _____
DATE 4/30/08

Note:
The Contractor shall verify all
controlling field dimensions before
ordering or fabricating any material.

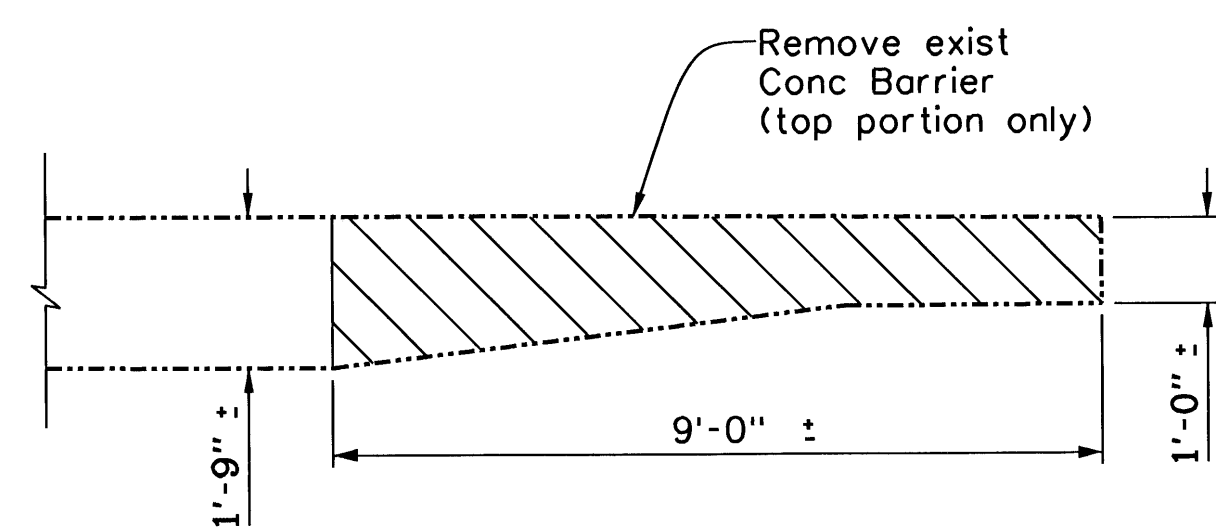
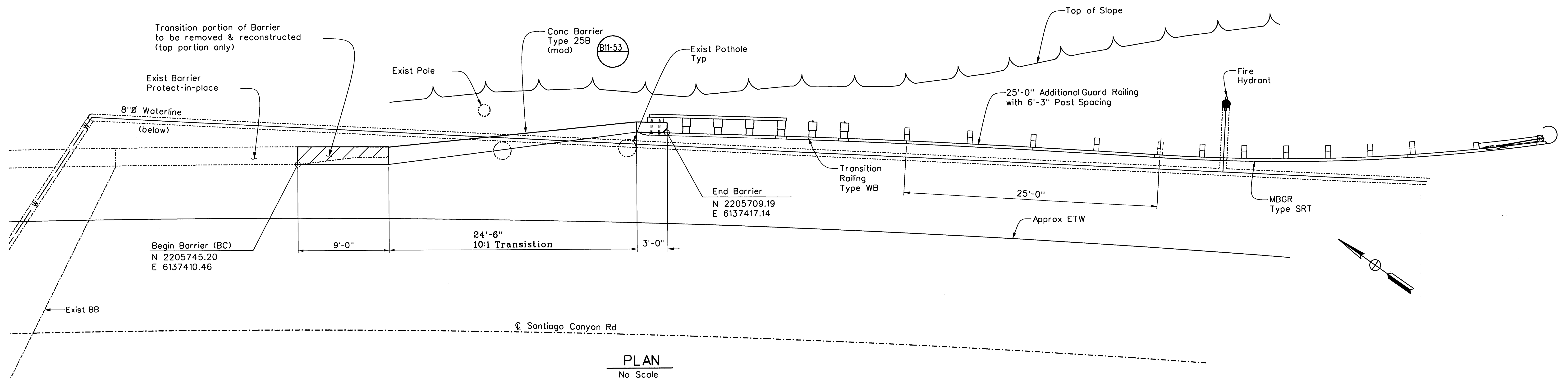
ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT	
SANTIAGO CANYON ROAD BRIDGE SC-8	
BRIDGE No. 55C-0049	
METAL BEAM GUARD RAILING PLAN	
DESIGNED <u>F. ONG</u>	SHEET
DRAWN <u>F. ONG</u>	2R
CHECKED <u>M. CHAR</u>	OF 8
DATE <u>2/14/07</u>	
SCALE VARIES	
DATE <u>2/14/07</u>	
DRAWING NO.	

REV.	DATE	DESCRIPTION
1	10/01/07	REVISE BARRIER END PLACEMENT & MBR

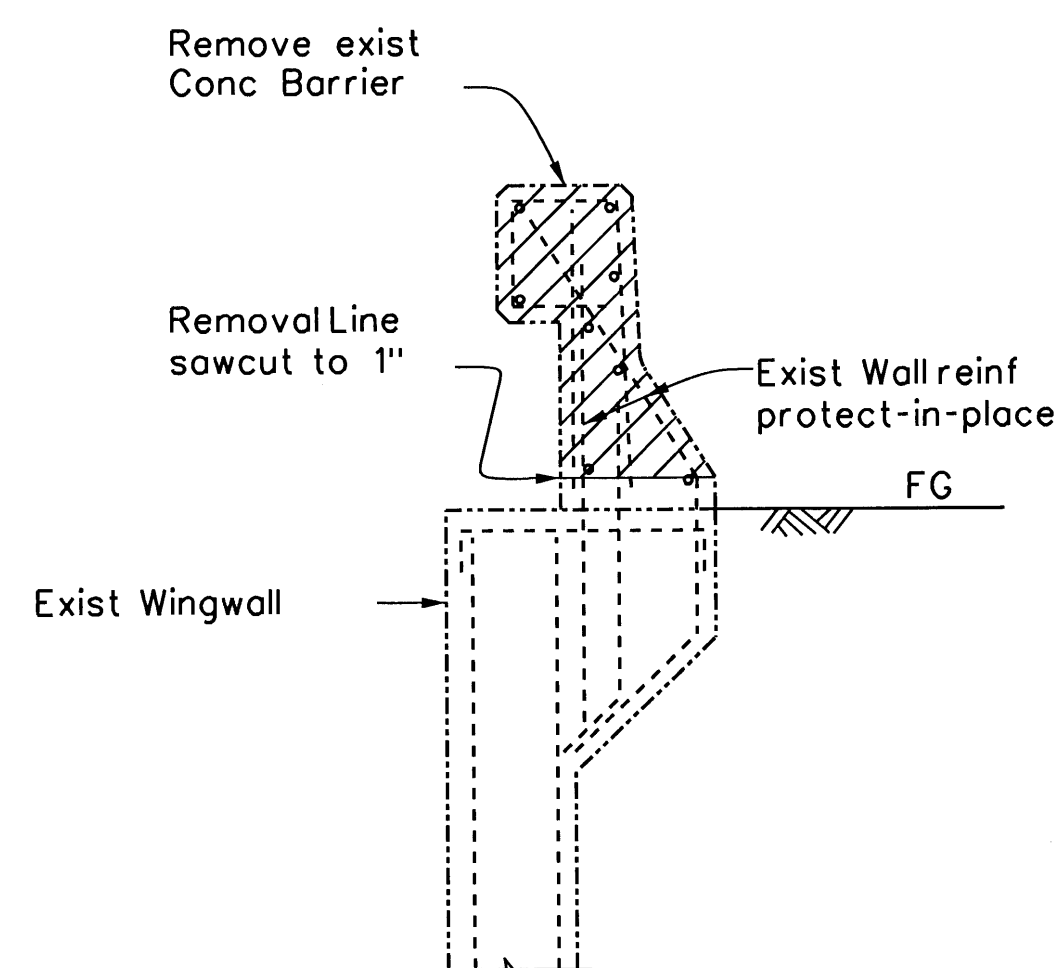
PREPARED UNDER SUPERVISION OF

MP

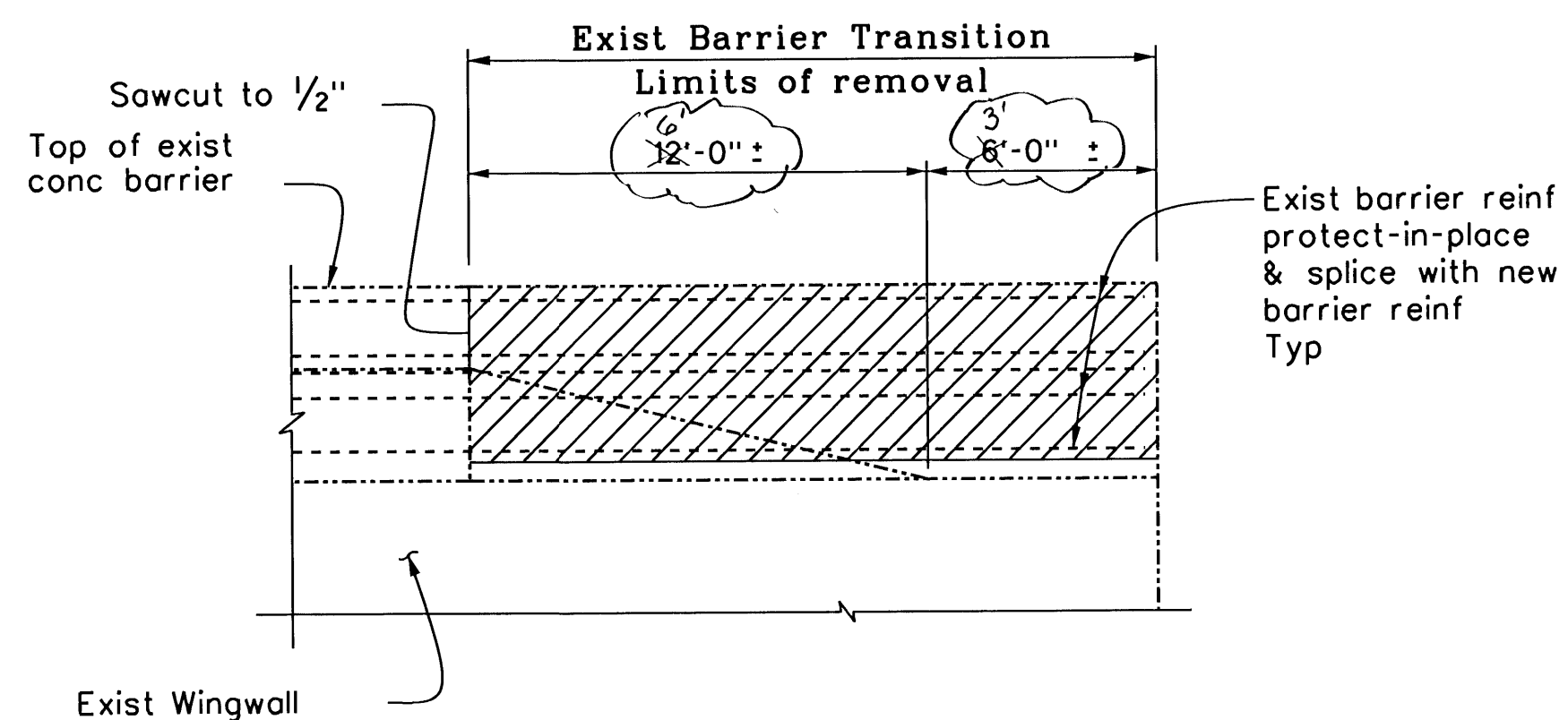
REGISTERED PROFESSIONAL ENGINEER
F. ONG
No. 070543
Exp. 12/31/08
CIVIL
STATE OF CALIFORNIA



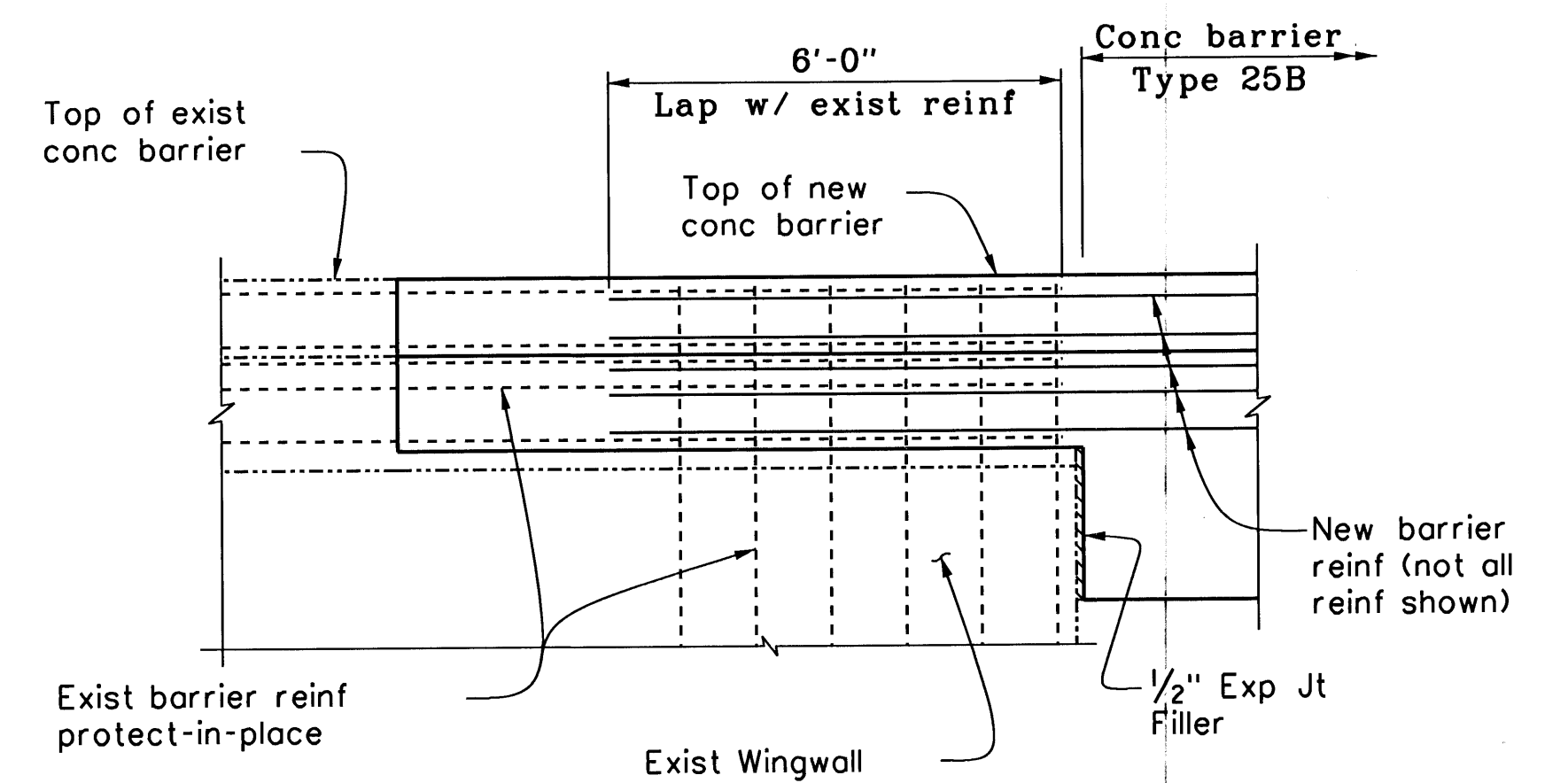
TRANSITION REMOVAL
No Scale



REMOVAL SECTION
No Scale



REMOVAL ELEVATION
No Scale



RECONSTRUCTION ELEVATION
No Scale

LEGEND:
 --- Indicates existing
 // Indicates Barrier Removal (portion)

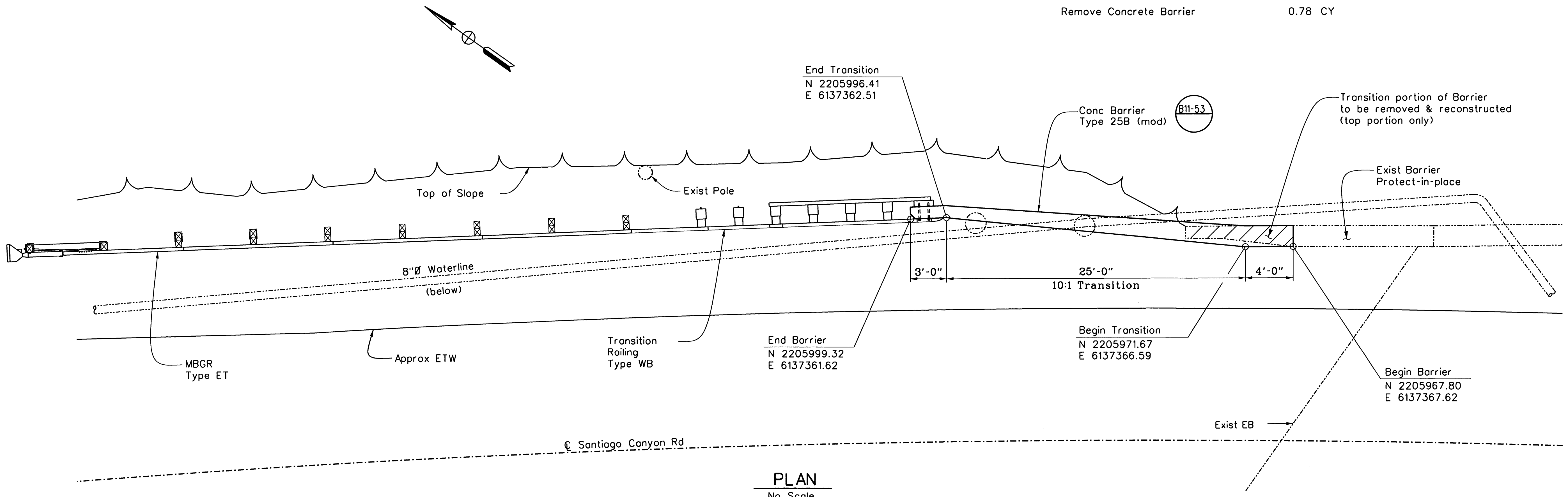
ADDITIONAL QUANTITIES	
Concrete Barrier Type 25B (mod)	36.5 LF
Remove Concrete Barrier	0.78 CY

No As-Built Changes
AS BUILT

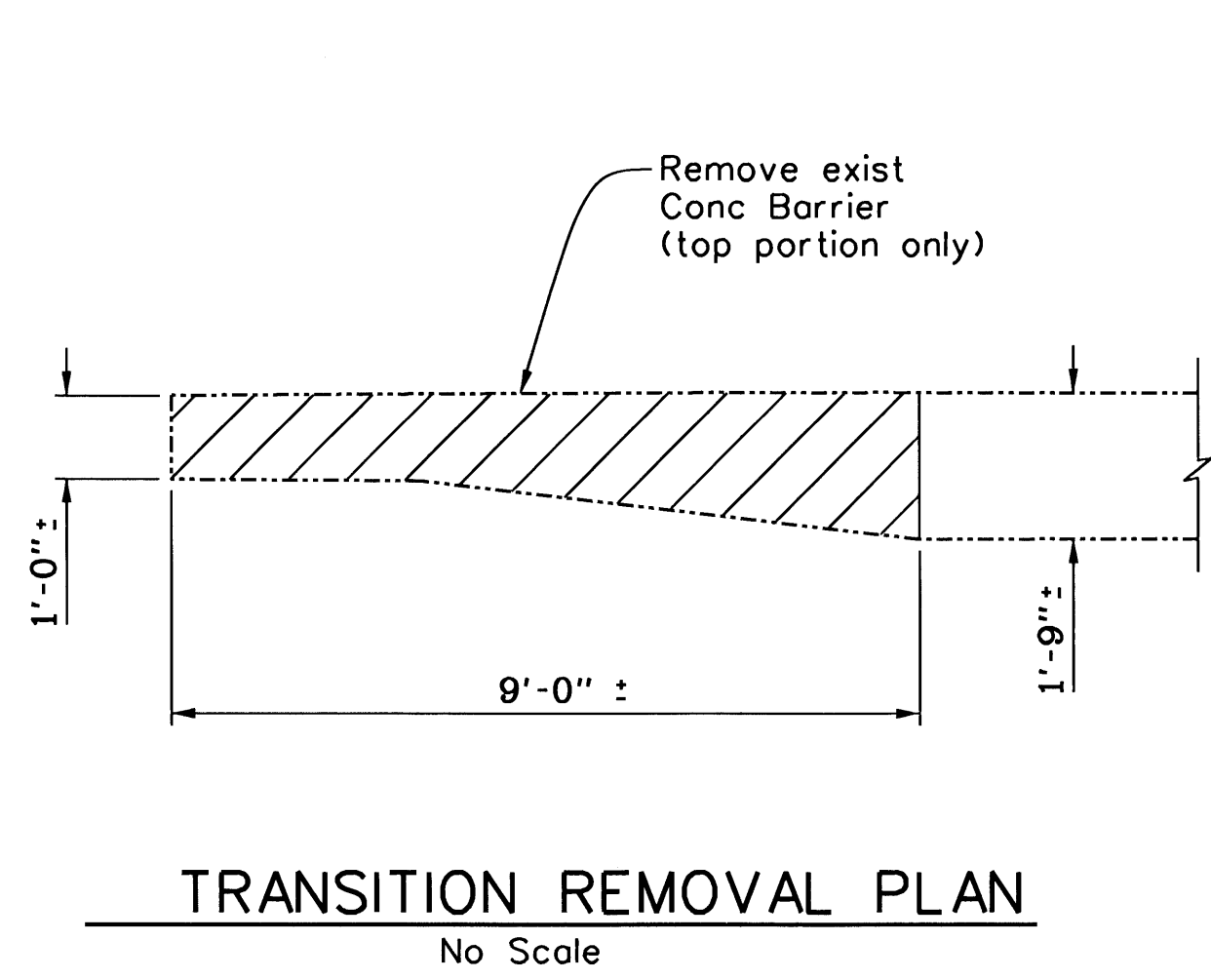
CORRECTION BY R.W.H.
 CONTRACT NO. _____
 DATE 4/30/08

ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT	
SANTIAGO CANYON ROAD BRIDGE SC-8	
BRIDGE No. 55C-0049	
BARRIER END REPLACEMENT ABUTMENT 1	
DESIGNED <u>U. SANDIRA</u>	SHEET
DRAWN <u>R. ANDRASEK</u>	2S1
SCALE <u>VARIES</u>	DATE <u>10/01/07</u>
CHECKED <u>M. CHAR</u>	DRAWING NO.
DATE <u>10/01/07</u>	OF 2

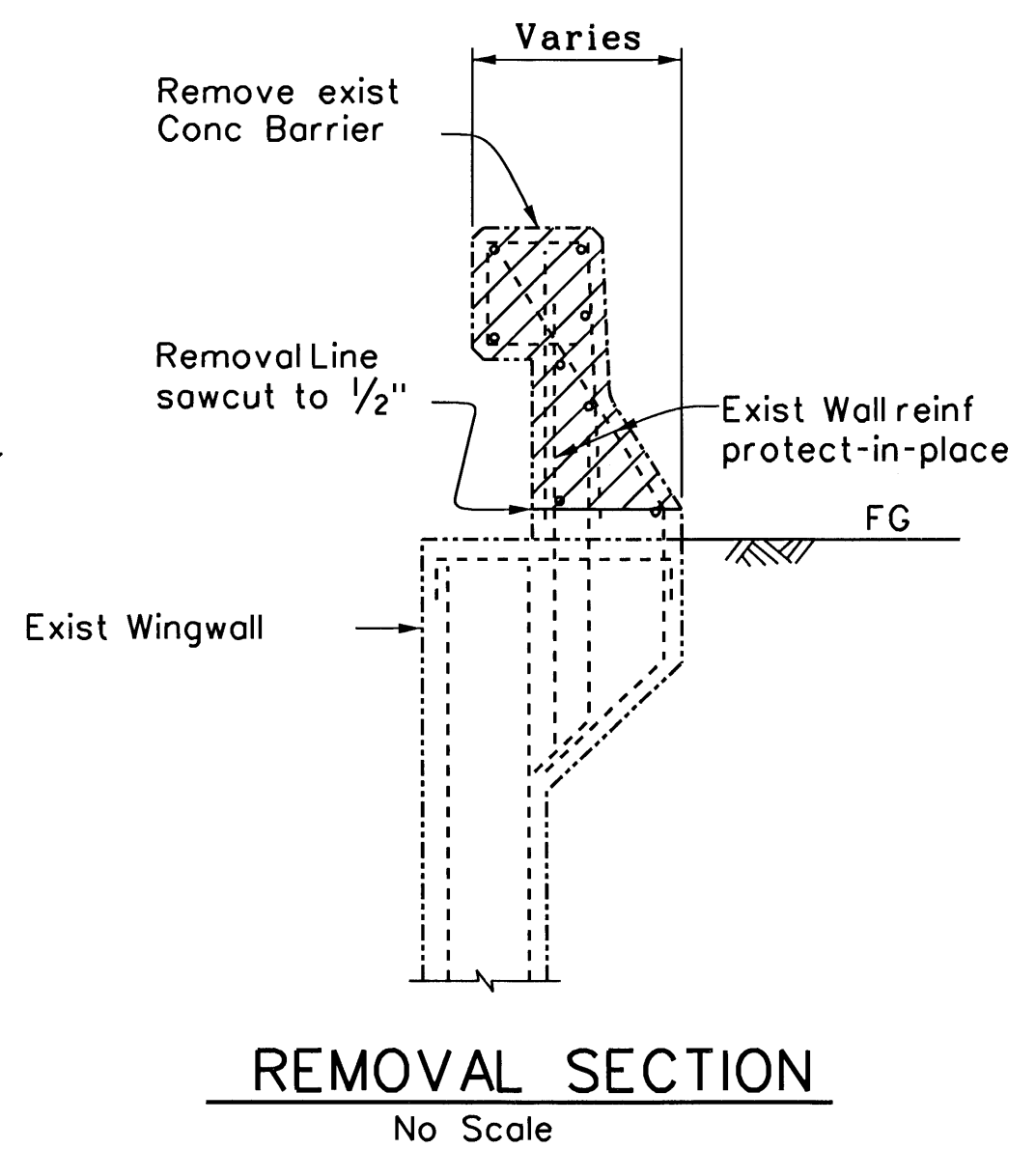
ADDITIONAL QUANTITIES		
Concrete Barrier Type 25B (mod)	32	LF
Remove Concrete Barrier	0.78	CY



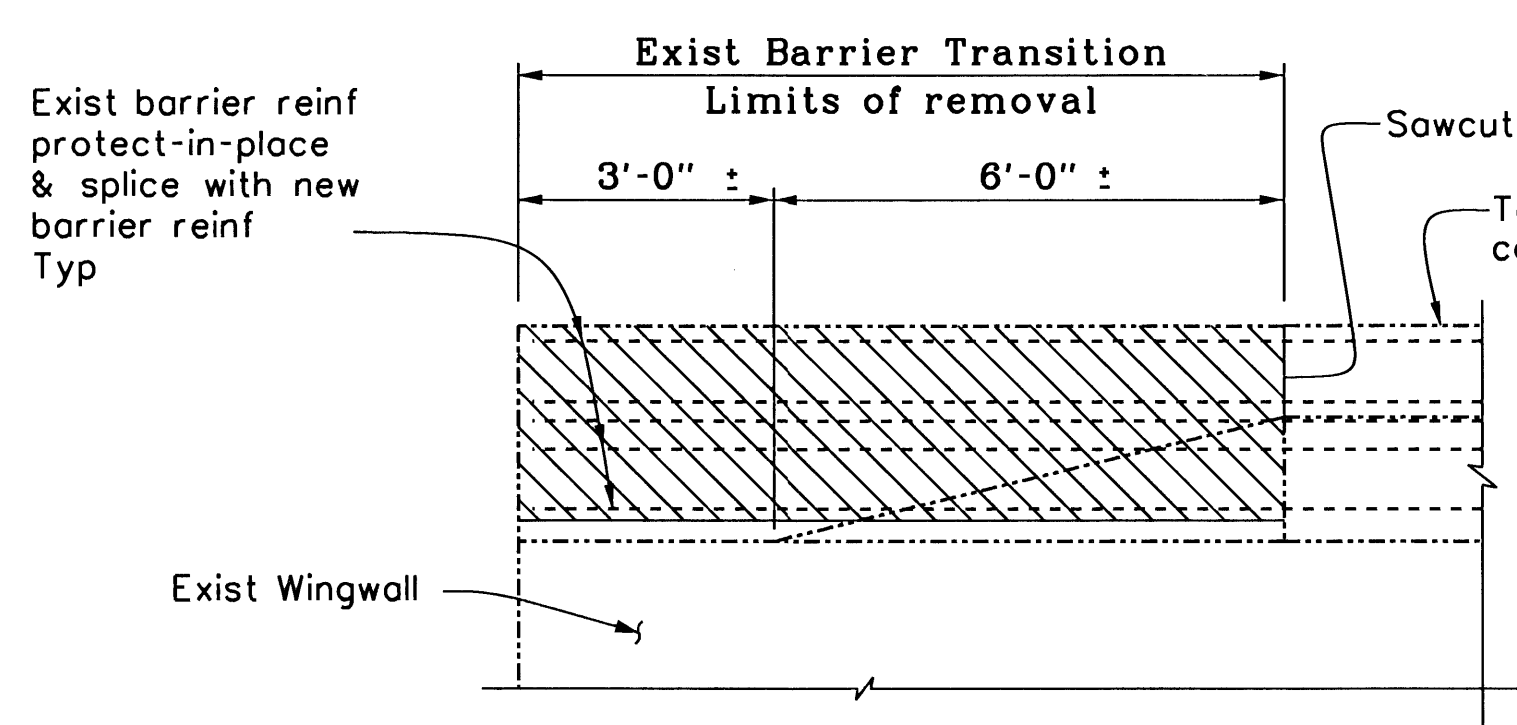
PLAN
No Scale



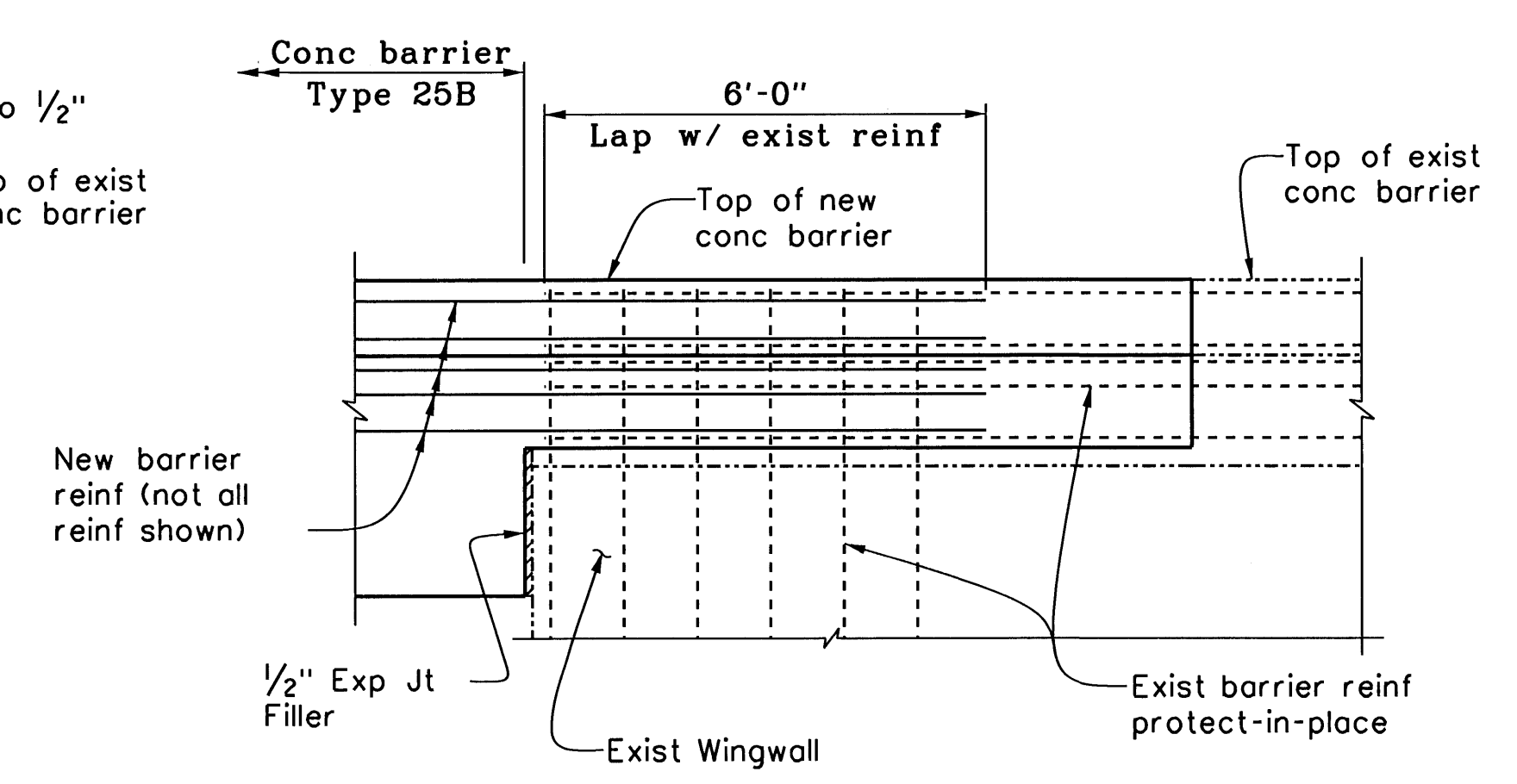
TRANSITION REMOVAL PLAN
No Scale



REMOVAL SECTION
No Scale



REMOVAL ELEVATION
No Scale



RECONSTRUCTION ELEVATION
No Scale

LEGEND:
 - - - Indicates existing
 [Hatched] Indicates Barrier Removal (portion)

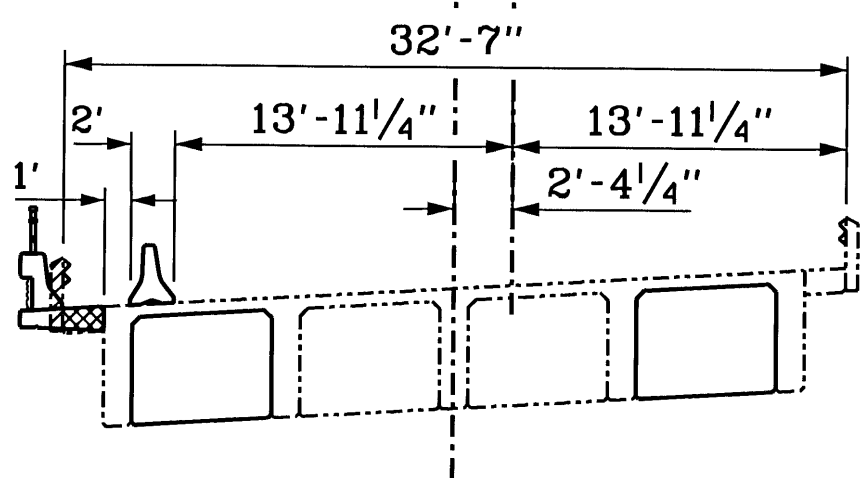
No As-Built Changes
AS BUILT
 CORRECTION BY R.W.H.
 CONTRACT NO.
 DATE 4/30/08

ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT	
SANTIAGO CANYON ROAD BRIDGE SC-8	
BRIDGE No. 55C-0049	
BARRIER END REPLACEMENT ABUTMENT 4	
DESIGNED U. SANDRA	SHEET
DRAWN R. ANDRASEK	252
CHECKED M. CHAR	OF 2
SCALE VARIES	DRAWING NO.
DATE 10/01/07	

NOTES:

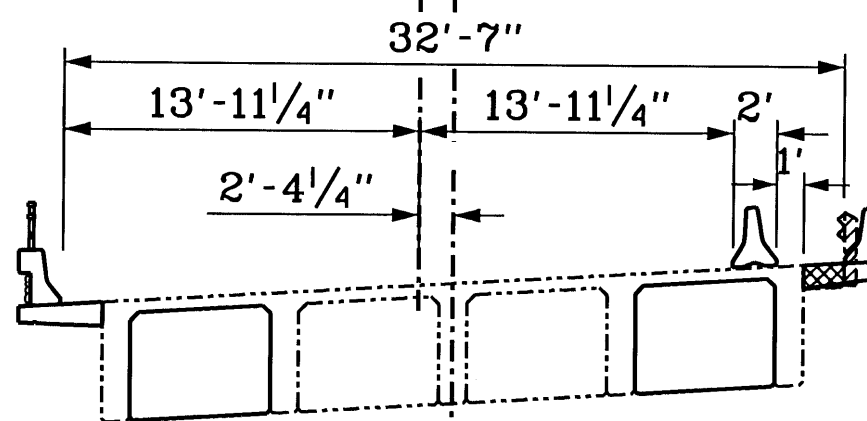
1. THE GRAPHICS SHOWN ON THIS PLAN ARE FOR OBTAINING HORIZONTAL DISTANCE PURPOSE ONLY. THE GRAPHICS SHOWN DO NOT REPRESENT THE ACTUAL GEOMETRY OF THE ROADWAY.
2. ALL TEMPORARY CONSTRUCTION SIGNS SHALL BE INSTALLED AT THE LOCATION SHOWN ON PLANS, OR AS DIRECTED BY ENGINEER.
3. TRAFFIC STRIPING AND PAVEMENT MARKING SHALL BE REMOVED BY SANDBLASTING AND GRINDING, OR AS DIRECTED BY ENGINEER.
4. TEMPORARY STRIPING USED AT STAGE 1 SHALL BE REMOVED BY SANDBLASTING AND GRINDING, OR AS DIRECTED BY ENGINEER, PRIOR TO STAGE 2 CONSTRUCTION.
5. ALL PERMANENT TRAFFIC STRIPING AND MARKING SHALL BE THERMOPLASTIC.
6. FOR DEMOLITION AT STAGE 1 AND STAGE 2, SEE "DEMOLITION PLAN" SHEET.
7. LOCATION OF PROJECT INFORMATION SIGN SHALL BE DETERMINED AS DIRECTED BY ENGINEER. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION F-20, "PROJECT INFORMATION SIGNS" OF THE PROJECT SPECIAL PROVISIONS.

CL SANTIAGO CANYON RD



TYPICAL SECTION-STAGE 1
NOT TO SCALE

CL TRAFFIC (STAGE 2)



TYPICAL SECTION-STAGE 2
NOT TO SCALE

CONSTRUCTION SIGNS:



W20-1



C30A(1000 FT)



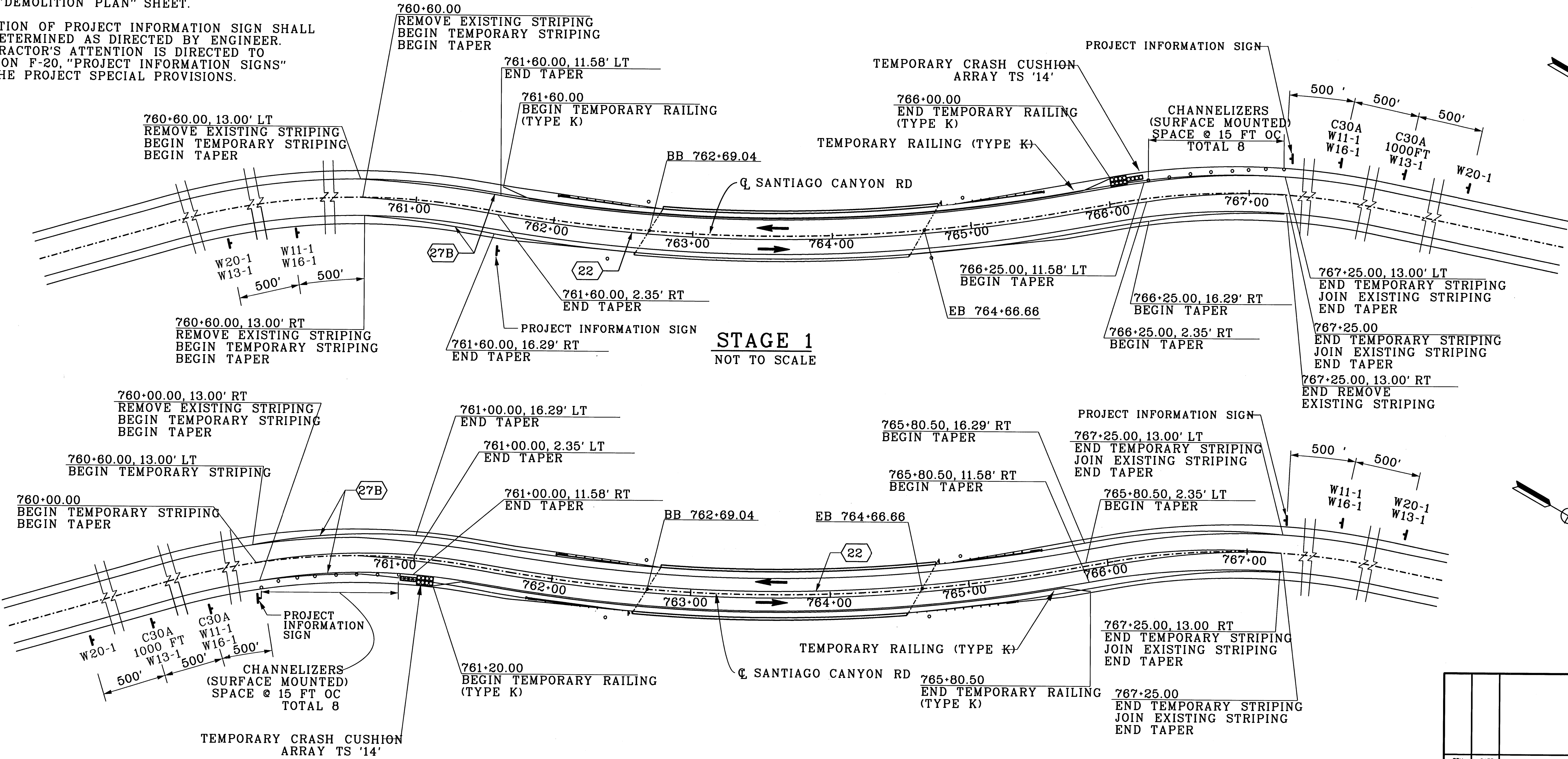
W13-1



C30A



W11-1
AND W16-1



STAGE 1
NOT TO SCALE

STAGE 2
NOT TO SCALE

No As-Built Changes

AS BUILT

CORRECTION BY R.W.H.
CONTRACT NO. _____
DATE 4/30/08

Note:
The Contractor shall verify all
controlling field dimensions before
ordering or fabricating any material.

REV.		DATE	DESCRIPTION
REVISIONS			
PREPARED UNDER SUPERVISION OF			
DESIGNED F. ONG			
DRAWN F. ONG			
CHECKED M. CHAR			
SCALE VARIES			
DATE 2/14/07			
DRAWING NO.			
SHEET 3 OF 8			

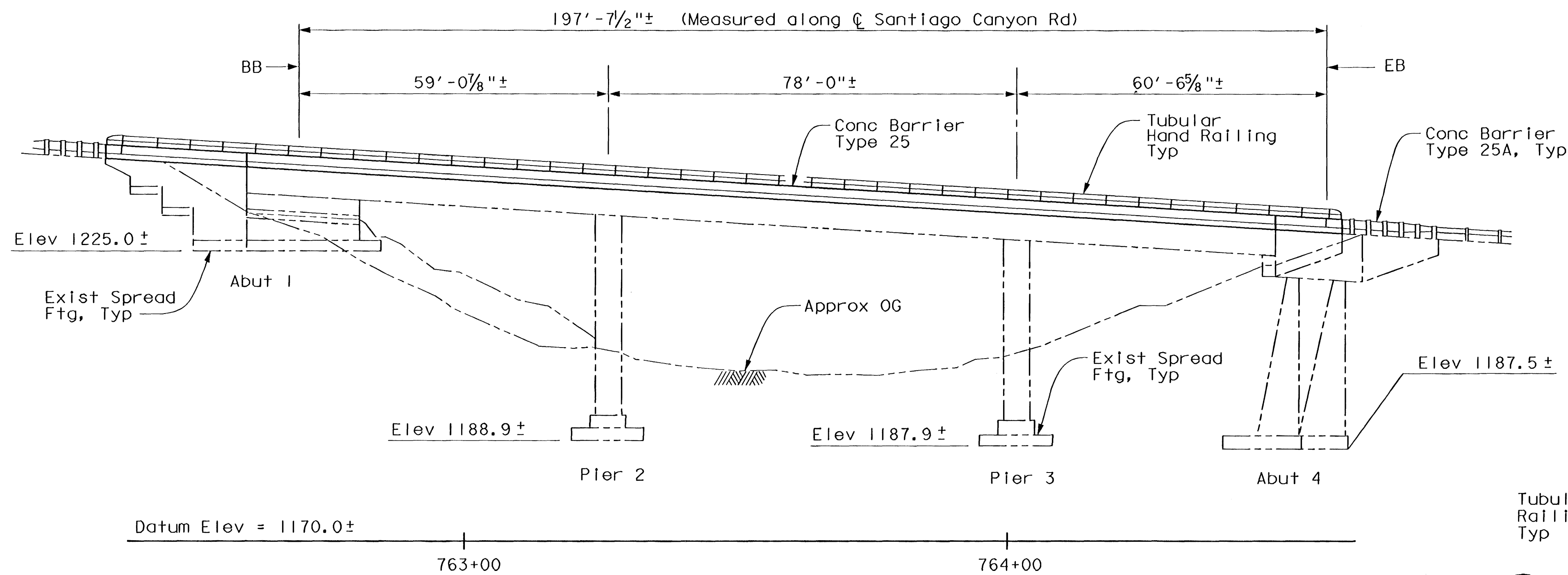
ORANGE COUNTY
RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

SANTIAGO CANYON ROAD
BRIDGE SC-8

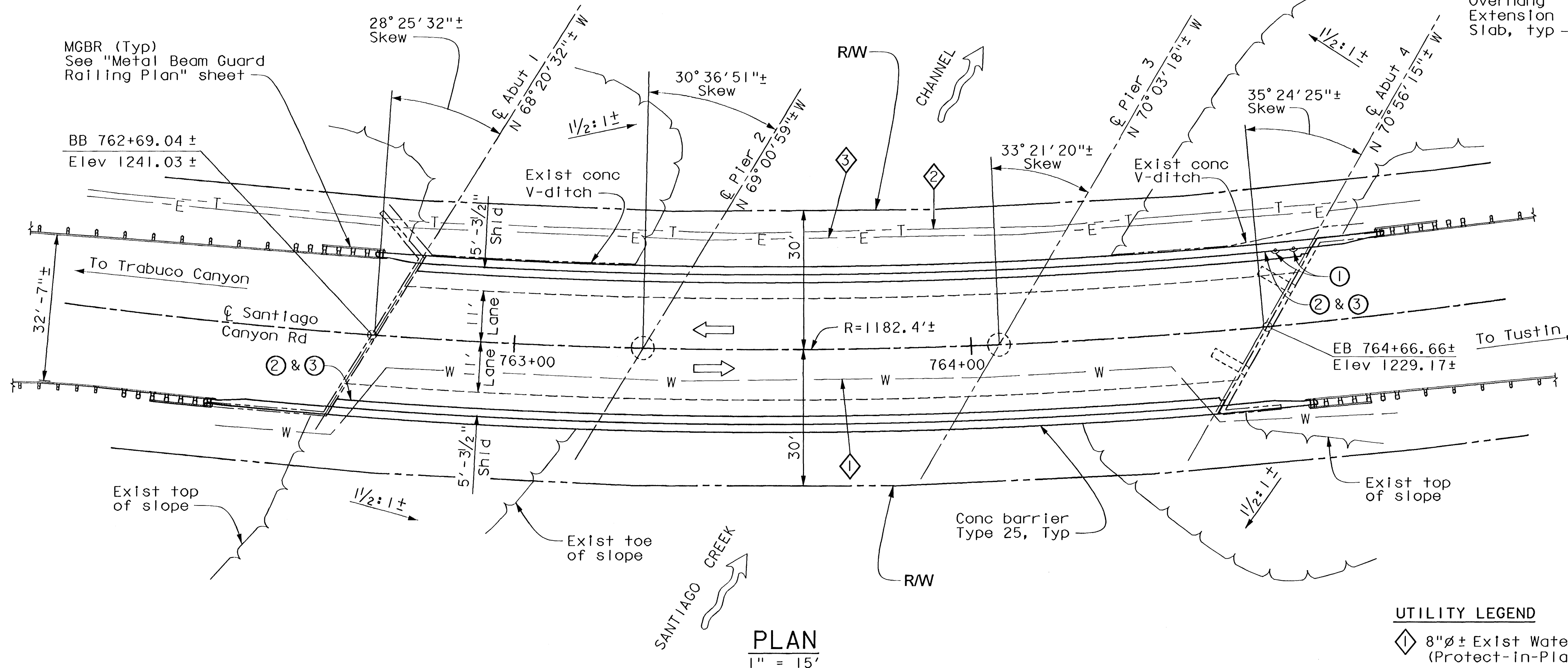
BRIDGE No. 55C-0049

TRAFFIC HANDLING PLAN

2/14/07



ELEVATION
1" = 15'



PLAN
1" = 15'

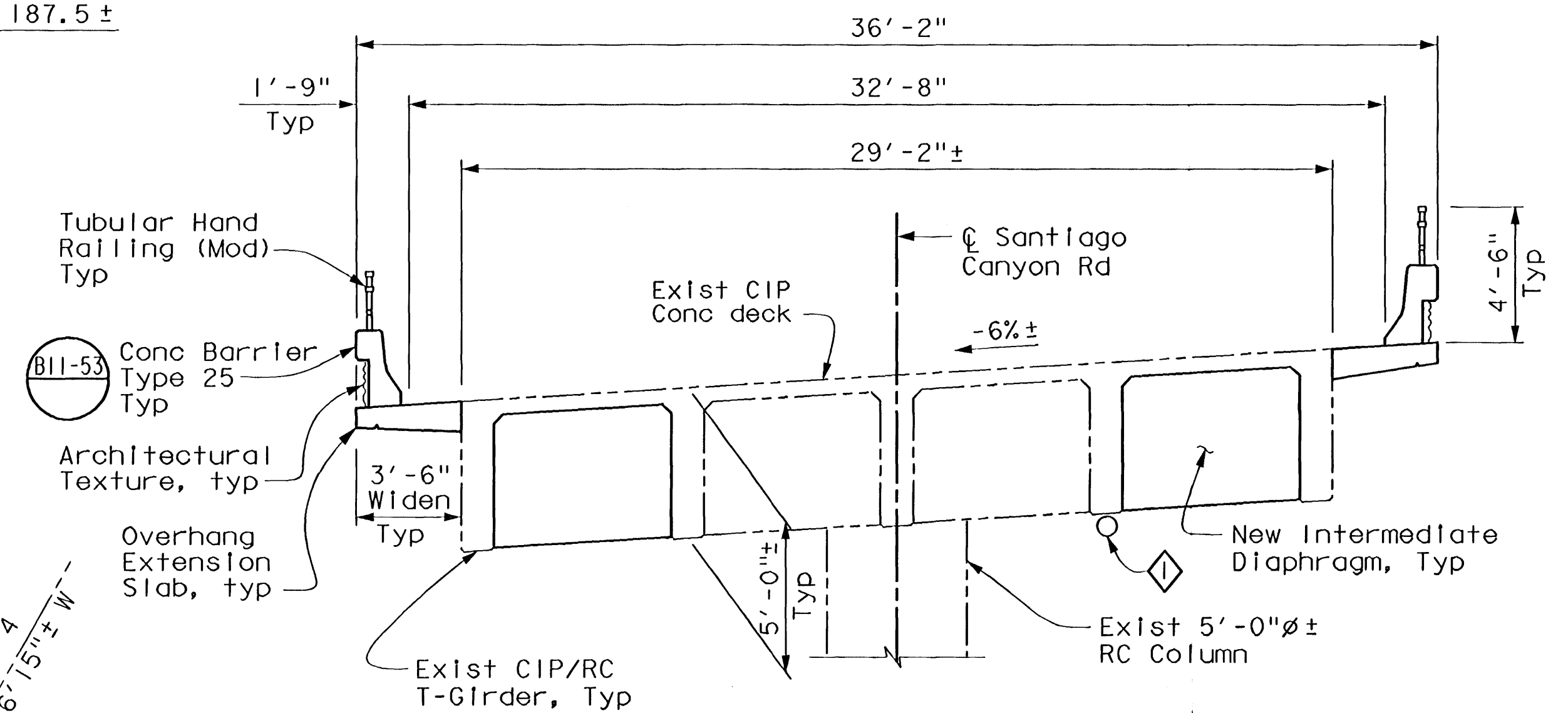
GENERAL NOTES LOAD FACTOR DESIGN

DESIGN: BRIDGE DESIGN SPECIFICATIONS
(1996 AASHTO with Interims and
Revisions by CALTRANS)

LIVE
LOADING: HS20-44 and alternative and
permit design load.

REINFORCED
CONCRETE: $f'_c = 4,000$ psi unless noted otherwise
Class 2 (Barrier only)

REINFORCING
STEEL: ASTM A706. $f_y = 60,000$ psi



TYPICAL SECTION No As-Built Changes
1/4" = 1'-0"

AS BUILT

CORRECTION BY R.W.H.
CONTRACT NO. _____
DATE 4/30/08

LEGEND

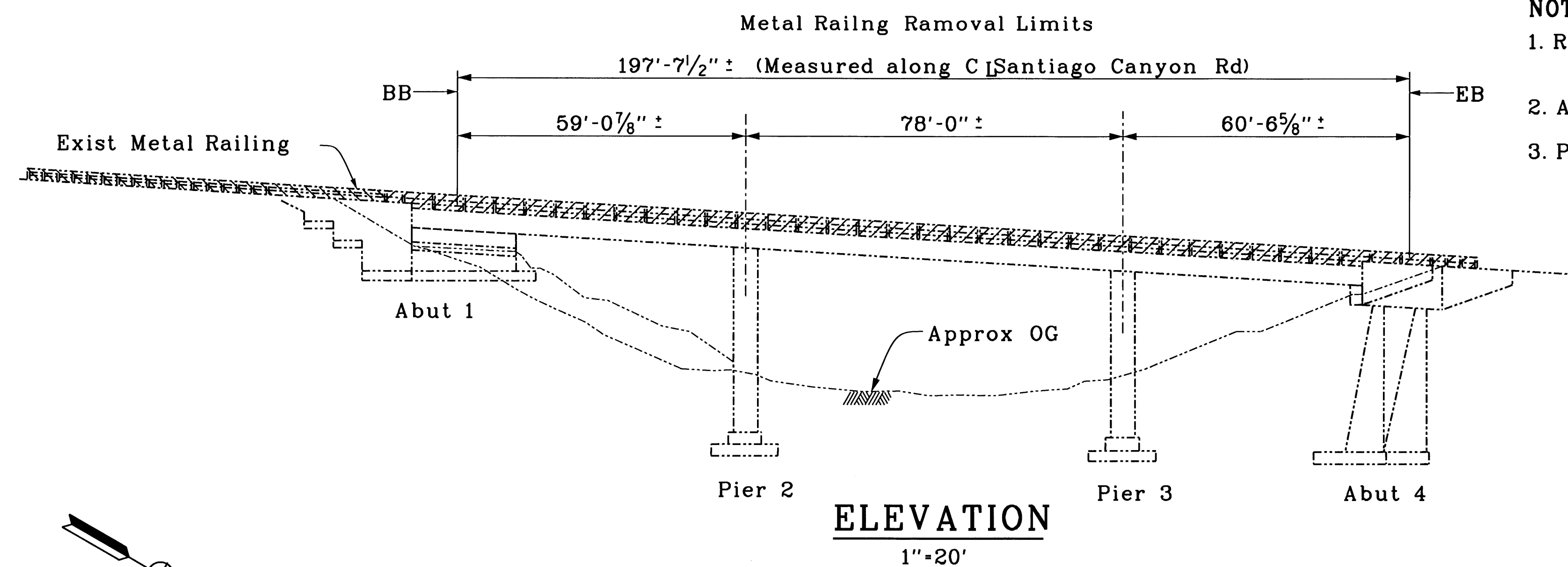
- Existing
- New construction
- Direction of traffic
- Direction of flow
- MGBR, See "Roadway Plan"
- ① Deck Drains, Type B (B7-5 7-3)
- ② Paint "Santiago Canyon Road Bridge"
- ③ Paint "Br. No. 55C-0049"

UTILITY LEGEND

- ① 8"± Exist Water Line (S.C.W.D.) (Protect-in-Place)
- ② Exist overhead SBC Pacific Bell telephone line
- ③ Exist overhead Southern California Edison power line

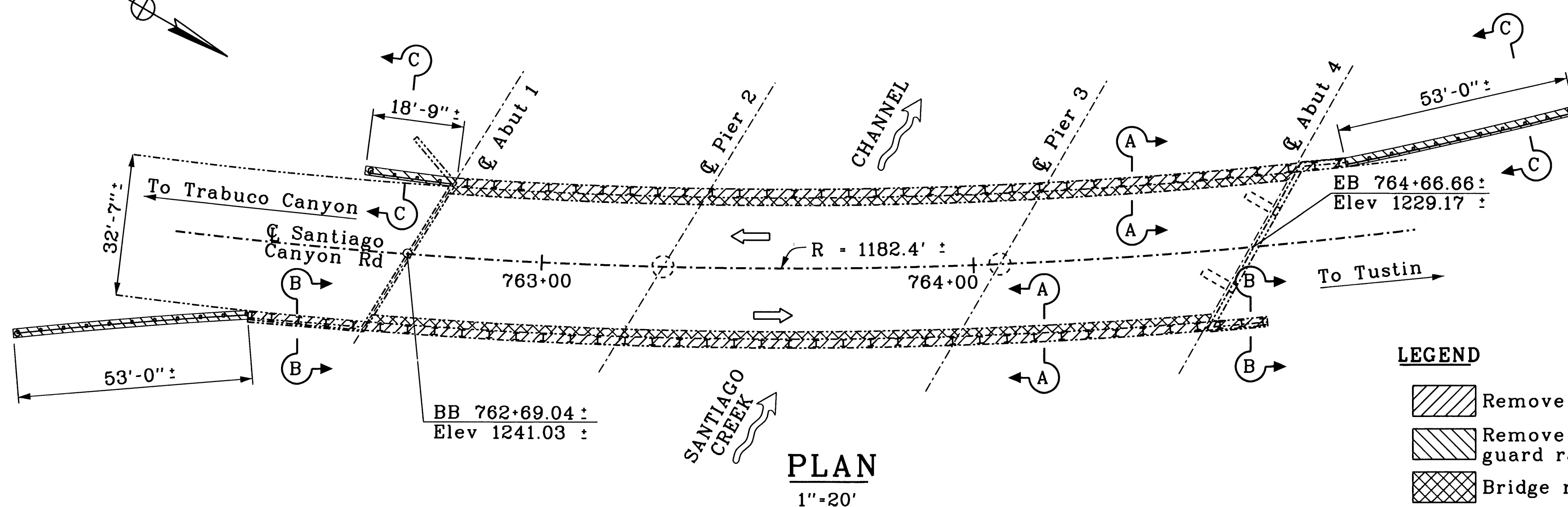
Note:
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controlling field dimensions before
ordering or fabricating any material.

ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT	
SANTIAGO CANYON ROAD BRIDGE SC-8	
BRIDGE No. 55C-0049	
GENERAL PLAN	
DESIGNED: U. SANDIRA	SHEET
DRAWN: M. ANDRASEK	4
SCALE: VARIES	DATE: 12/18/06
CHECKED: M. CHAR	DRAWING NO.
DATE: 12/18/06	OF 8



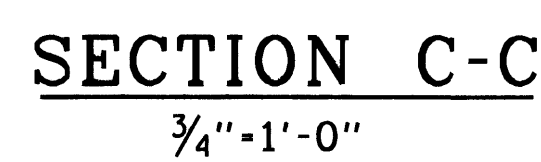
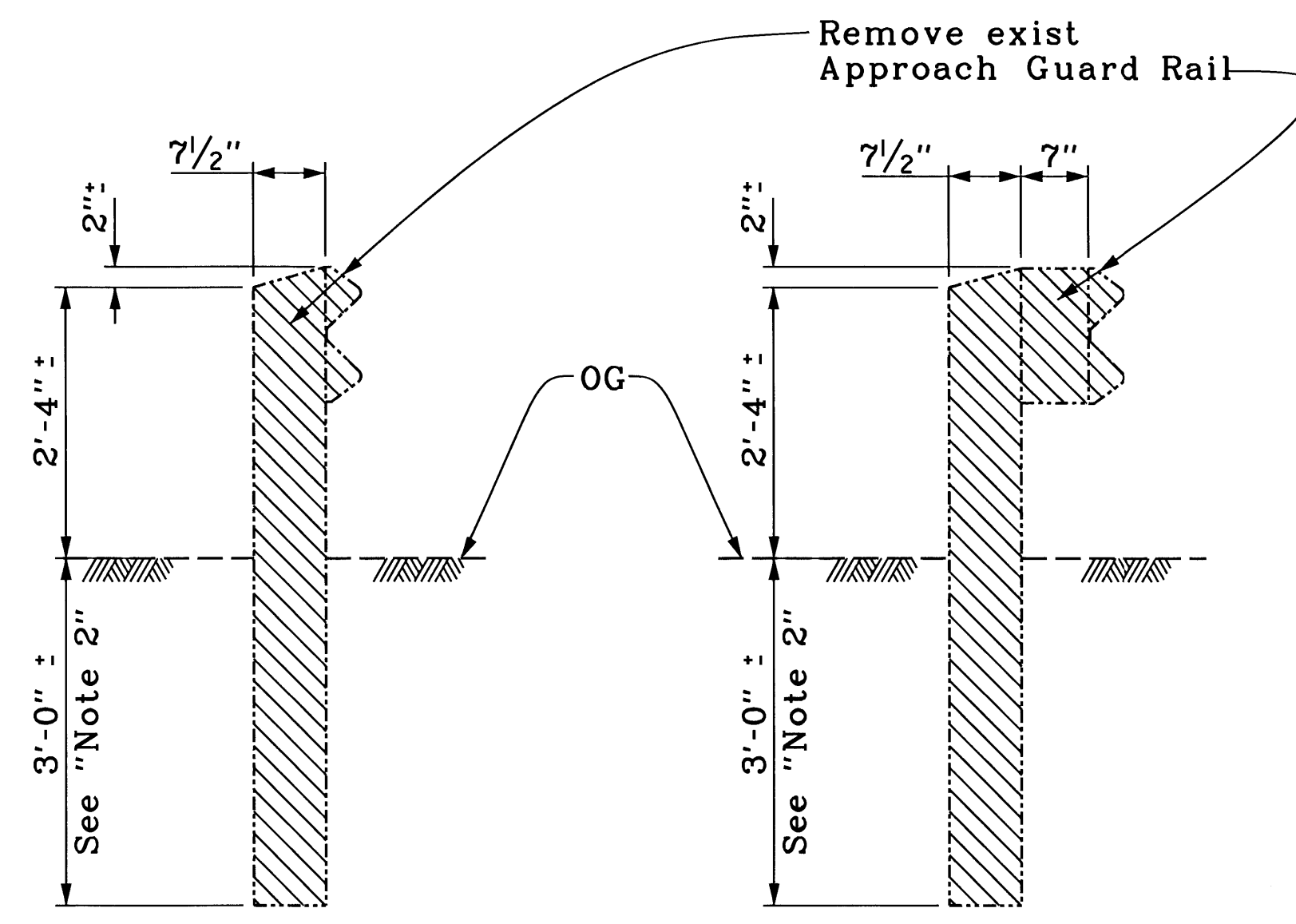
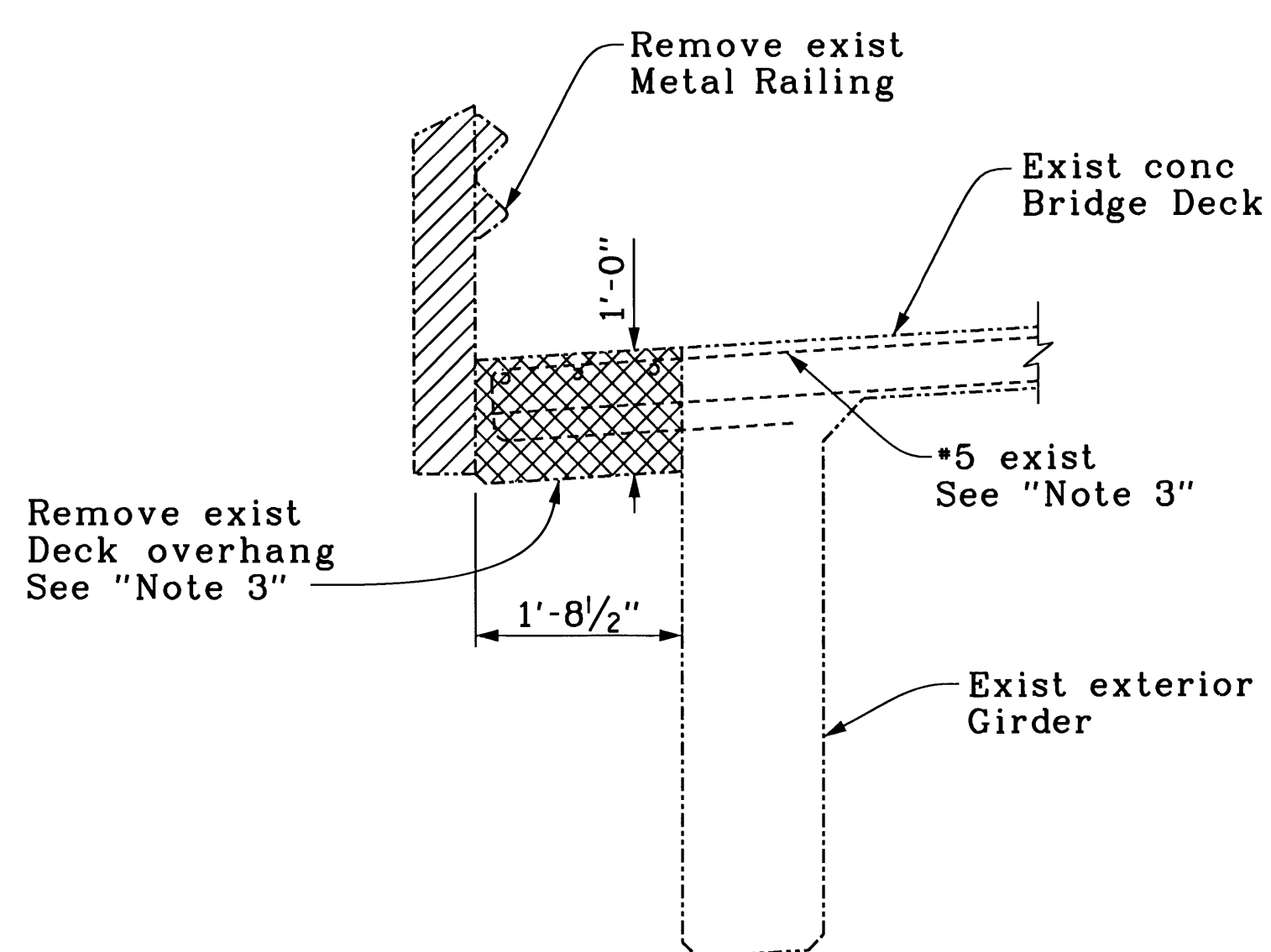
NOTES:

1. Removal limits shown are approximate linear measurements.
2. Actual embedment of timber post is unknown.
3. Protect existing transverse and longitudinal reinforcement in place. See Project Standard Special Provisions and "Barrier Reconstruction Details" sheet.

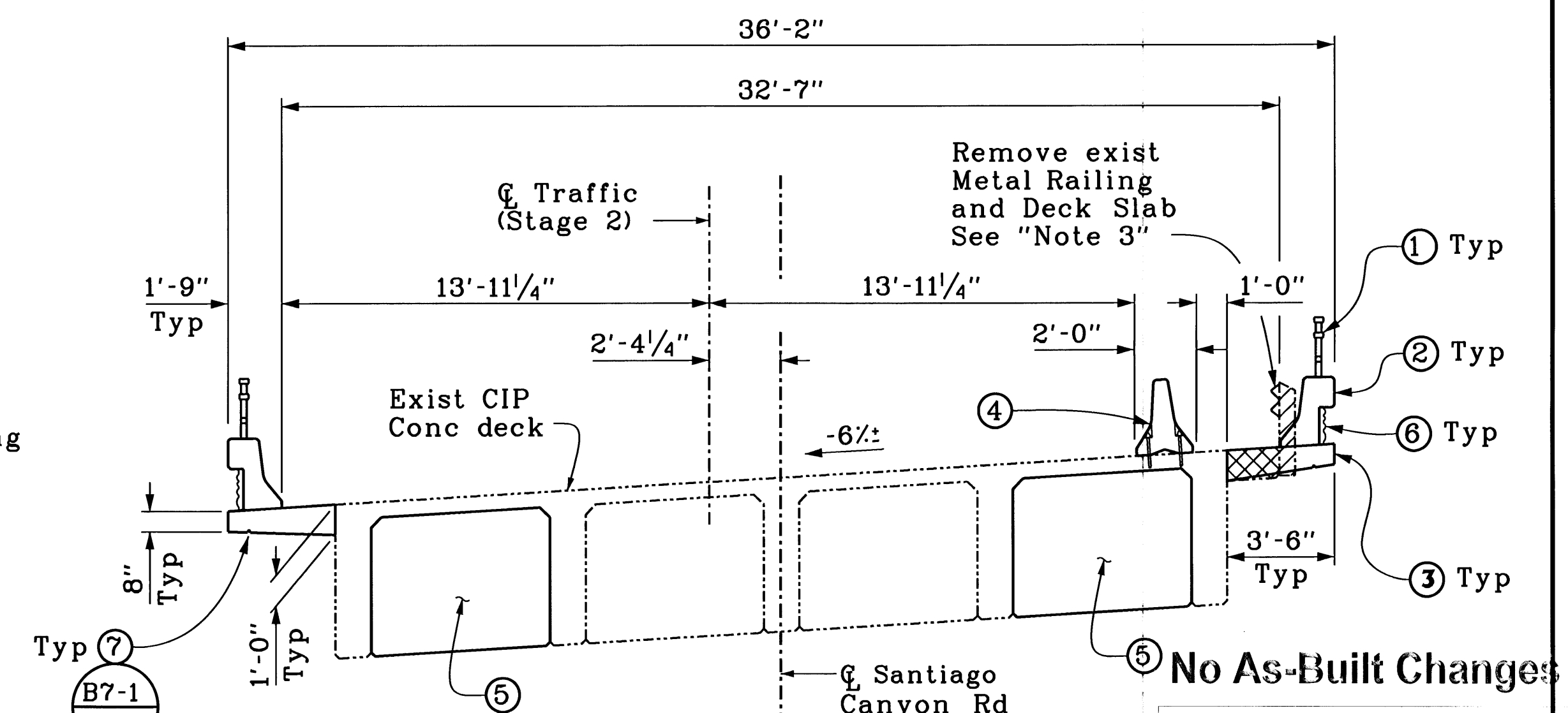
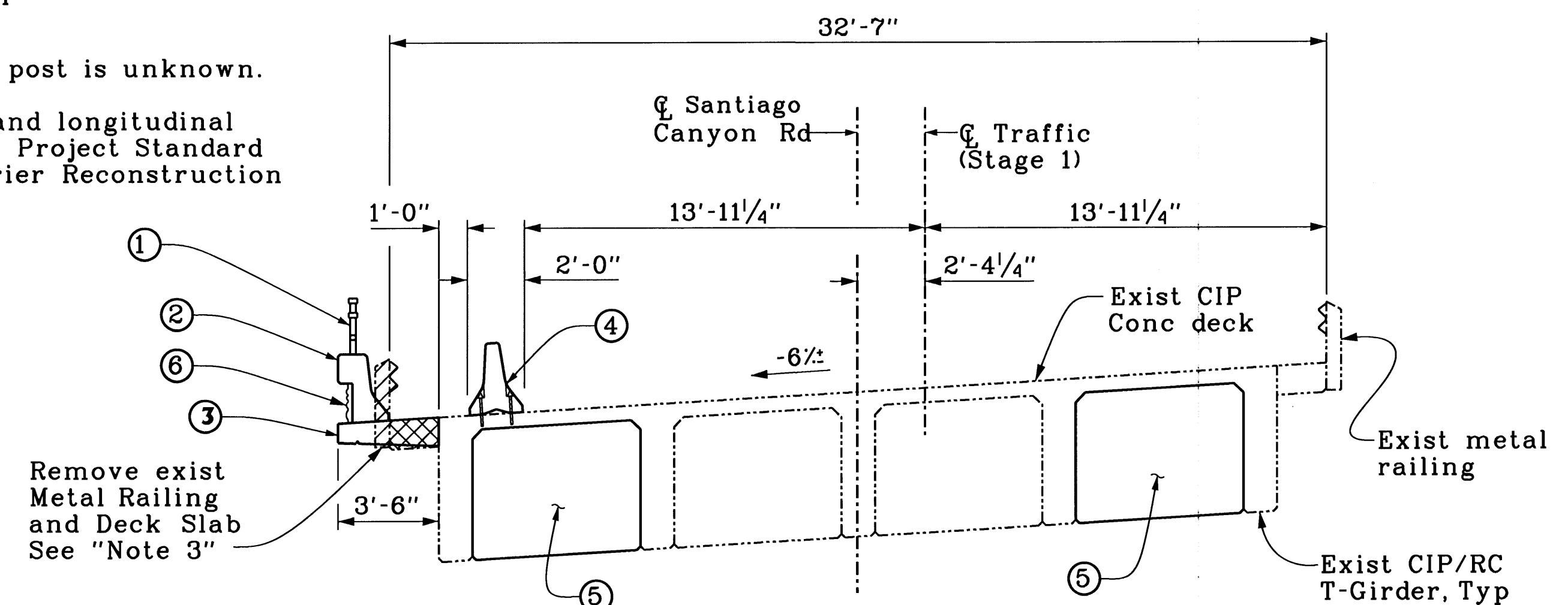


LEGEND

- Remove existing metal railing
- Remove existing approach guard railing
- Bridge removal (Portion)

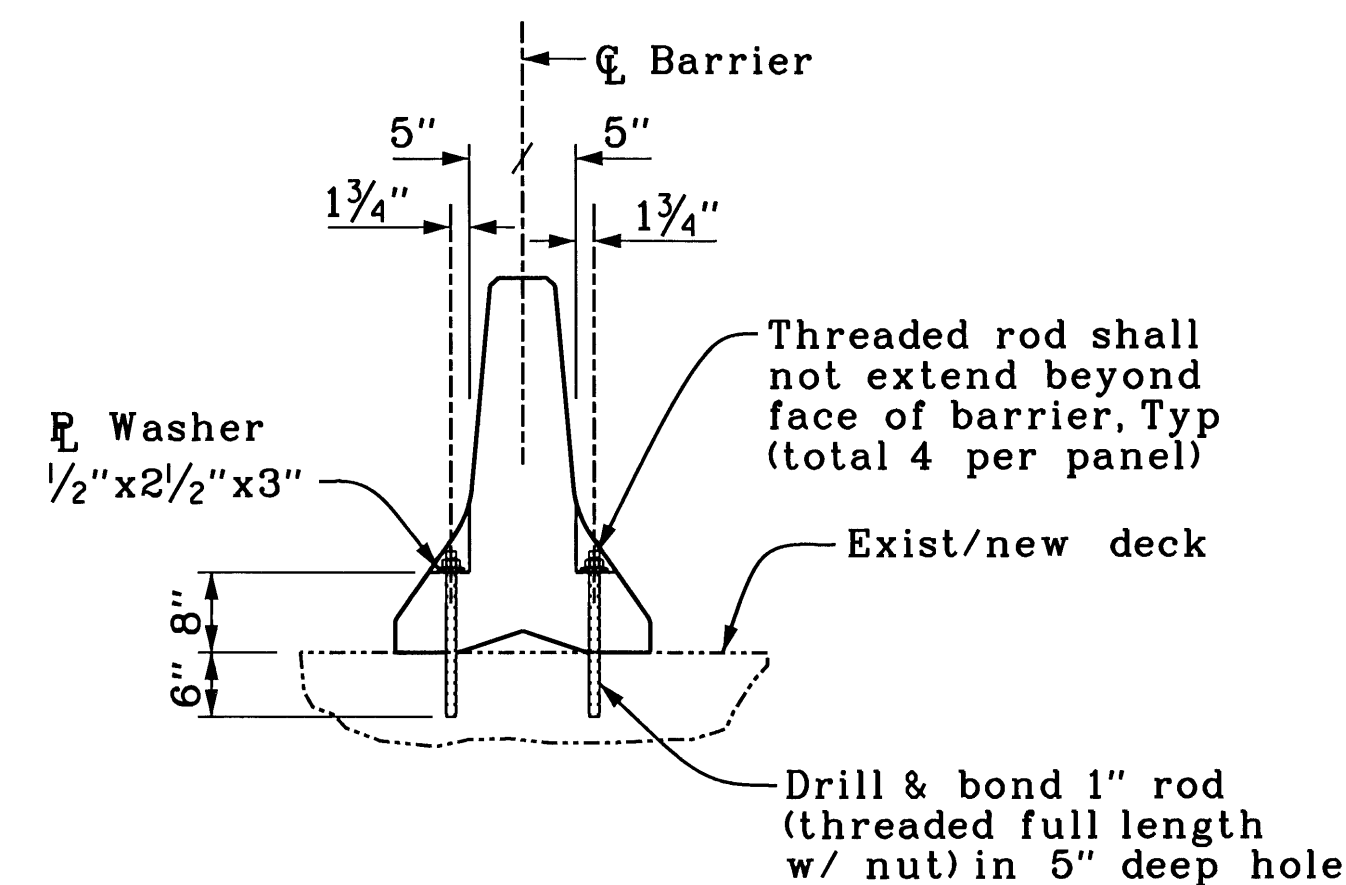


Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



LEGEND

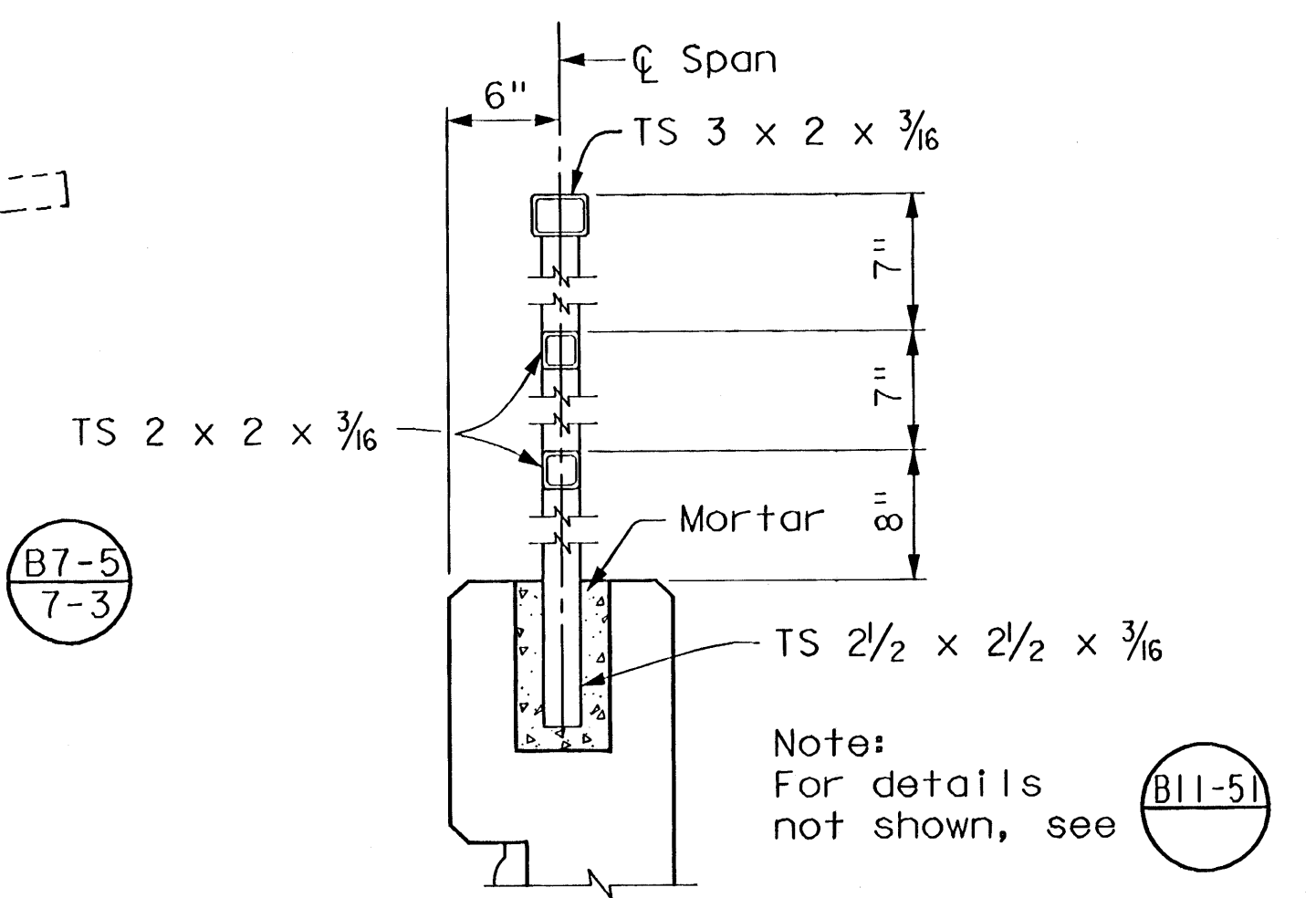
- ① Tubular Hand Railing (mod)
- ② Concrete Barrier, Type 25
- ③ Overhang Extension Slab
- ④ Temporary Railing, Type K
- ⑤ Intermediate Diaphragm
- ⑥ Architectural texture
- ⑦ Drip Groove



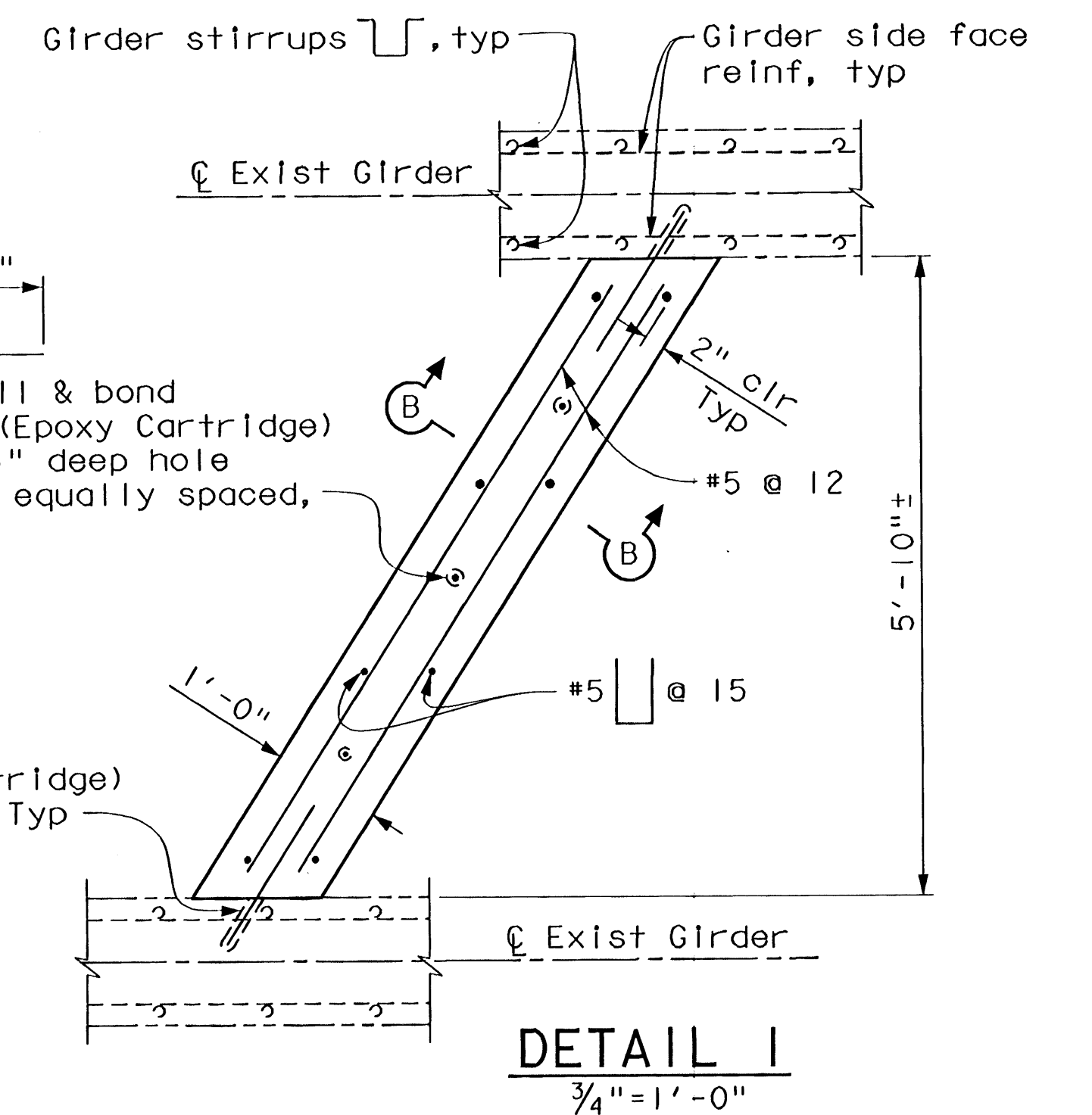
AS BUILT

CORRECTION BY R.W.H.
CONTRACT NO.
DATE 4/30/08

REV.		DATE	DESCRIPTION
REVISIONS			
PREPARED UNDER SUPERVISION OF			
DESIGNED U. SANDIRA DRAWN M. ANDRASEK SCALE VARIES DATE 2/14/07			
CHECKED M. CHAR DRAWING NO. DATE 2/14/07			
ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT SANTIAGO CANYON ROAD BRIDGE SC-8 BRIDGE No. 55C-0049 DEMOLITION PLAN			SHEET 5 OF 8



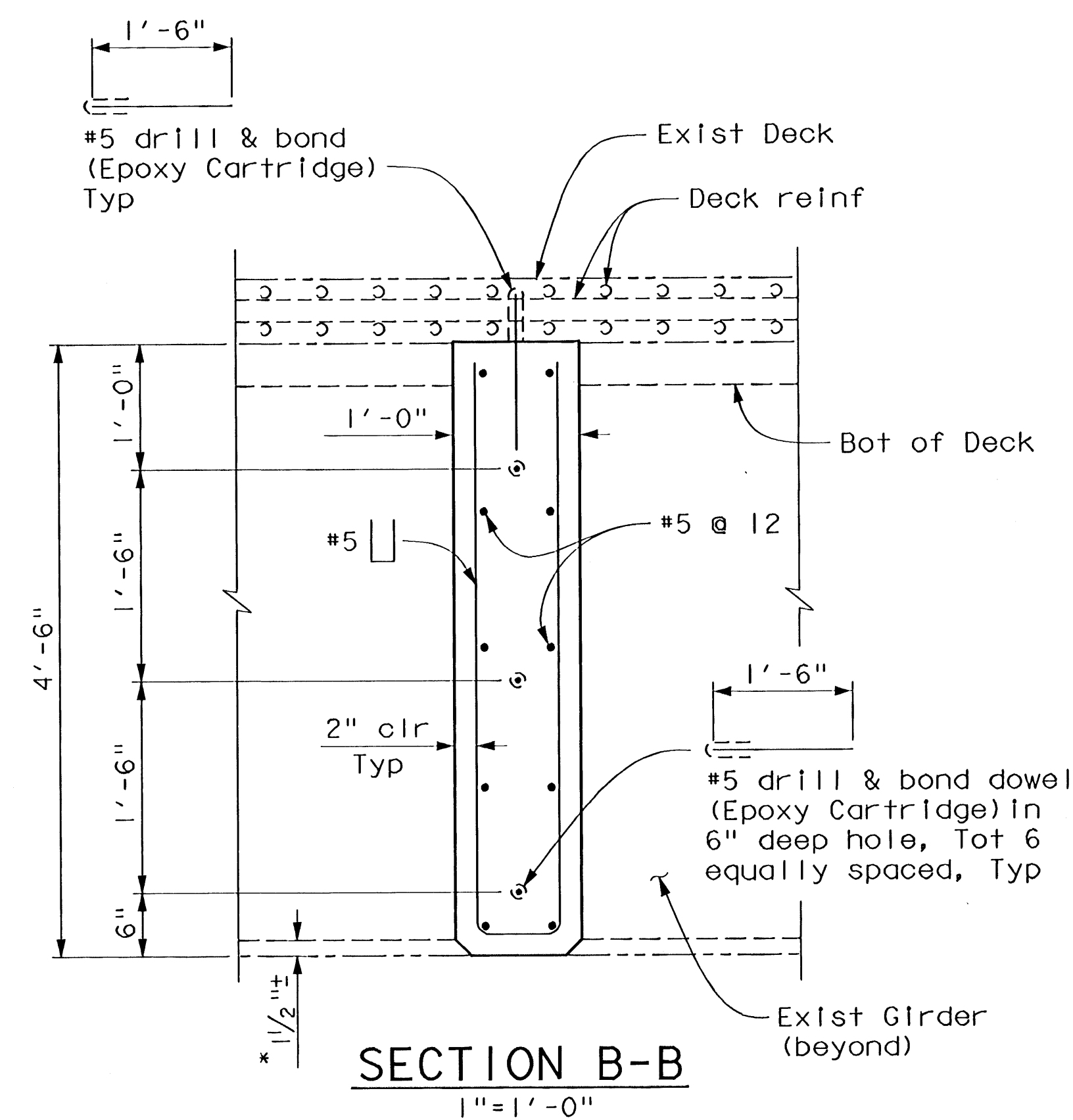
No Scale



DETAIL 1
 $\frac{3}{4}'' = 1' - 0''$

Notes:

1. Optional 2"Ø cored holes through deck for CIP concrete placement. Prior to coring operation, contractor shall locate all existing deck reinforcement and submit locations of holes to be cored to the Engineer for approval.
2. Location of Intermediate Diaphragm shall be adjusted within 12" maximum to clear deck reinforcement for coring and to clear any waterline hangers.
3. Architectural texture shall be of type Fitzgerald pattern #16985 "Indiana River Rock" or Custom Rock pattern #1204 "Riverstone". See Project Standard Special Provisions.



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

* Match exist
girder chamfer

Note:
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controlling field dimensions before
ordering or fabricating any material.

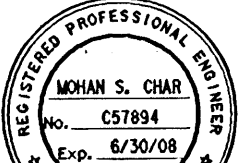
No As-Built Changes

AS BUILT

CORRECTION BY R.W.H.

CONTRACT NO. _____

DATE 4/30/08

			ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT SANTIAGO CANYON ROAD BRIDGE SC-8 BRIDGE No. 55C-0049 BARRIER RECONSTRUCTION DETAILS
REV.	DATE	DESCRIPTION	
R E V I S I O N S			
PREPARED UNDER SUPERVISION OF 			
M. N. Char 12/18/06 DATE			DESIGNED <u>U. SANDIRA</u> SHEET DRAWN <u>M. ANDRASEK</u> CHECKED <u>M. CHAR</u> SCALE VARIABLE DATE 12/18/06 DRAWING NO. 8 OF 8