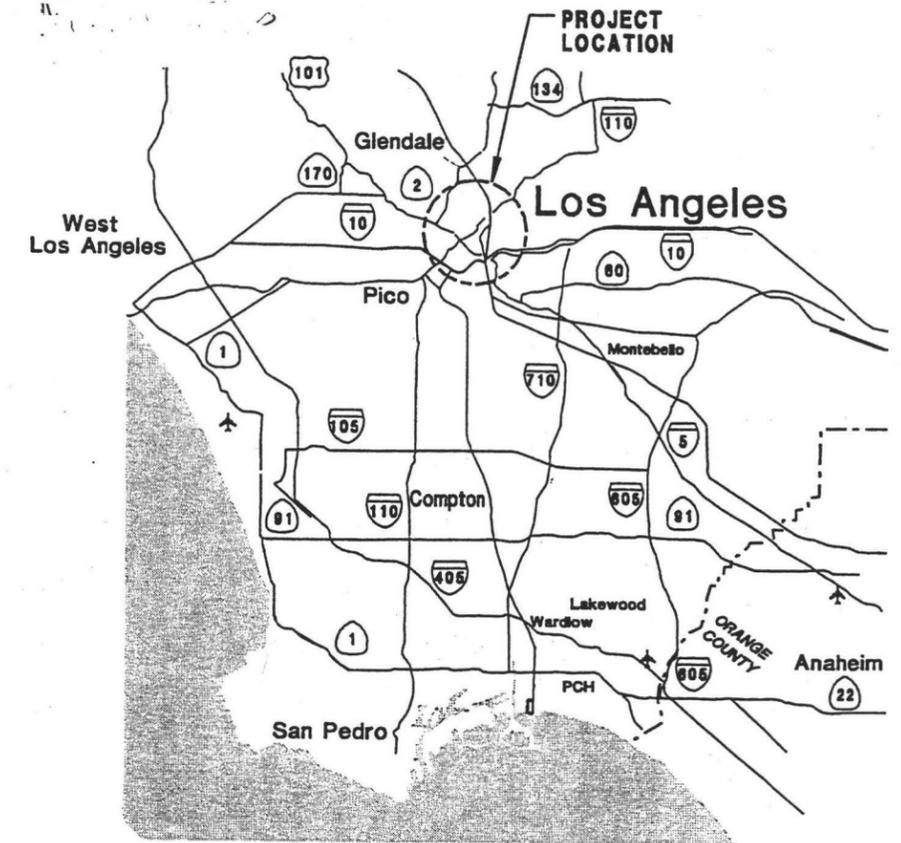
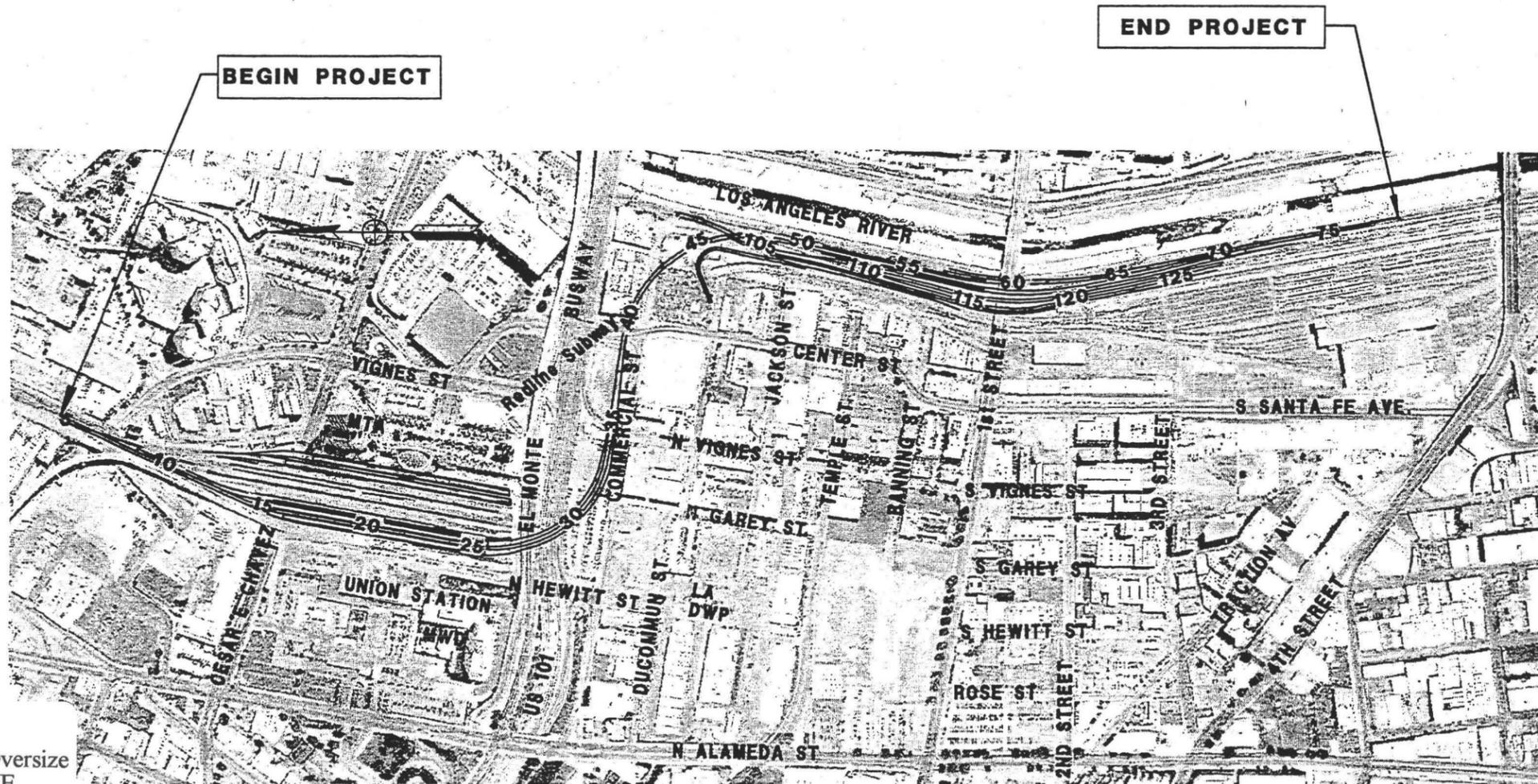


# LOS ANGELES UNION STATION RUN-THROUGH TRACKS

35% DESIGN SUBMITTAL



VICINITY MAP



PRELIMINARY - NOT FOR CONSTRUCTION

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.L67  
L675  
2003  
v.3  
App.  
B

MAR 28, 2003











**DESCRIPTION**

**DWG NO. SHEET NO.**

**UTILITIES**

KEY MAP - UTILITIES  
 ABBREVIATIONS AND GENERAL NOTES - UTILITIES  
 COMPOSITE UTILITIES REARRANGEMENT PLAN - 1  
 COMPOSITE UTILITIES REARRANGEMENT PLAN - 2  
 COMPOSITE UTILITIES REARRANGEMENT PLAN - 3  
 COMPOSITE UTILITIES REARRANGEMENT PLAN - 4  
 COMPOSITE UTILITIES REARRANGEMENT PLAN - 5  
 COMPOSITE UTILITIES REARRANGEMENT PLAN - 6

UG-1 96  
 UG-2 97  
 U-1 98  
 U-2 99  
 U-3 100  
 U-4 101  
 U-5 102  
 U-6 103

**ELECTRICAL**

GENERAL NOTES, SYMBOLS AND ABBREVIATIONS  
 SINGLE LINE DIAGRAM  
 PLATFORMS 2 & 3 LOWER LEVEL ELECTRICAL PLAN  
 PLATFORMS 2 & 3 PLATFORM ELECTRICAL PLAN  
 PLATFORMS 2 & 3 CANOPY ELECTRICAL PLAN  
 PLATFORMS 4, 5 & 6 LOWER LEVEL ELECTRICAL PLAN - NORTH  
 PLATFORMS 4, 5 & 6 LOWER LEVEL ELECTRICAL PLAN - SOUTH  
 PLATFORMS 4, 5 & 6 PLATFORM ELECTRICAL PLAN - NORTH  
 PLATFORMS 4, 5 & 6 PLATFORM ELECTRICAL PLAN - SOUTH  
 PLATFORMS 4, 5 & 6 CANOPY ELECTRICAL PLAN - NORTH  
 PLATFORMS 4, 5 & 6 CANOPY ELECTRICAL PLAN - SOUTH  
 PLATFORMS 7 & 8 LOWER LEVEL ELECTRICAL PLAN  
 PLATFORMS 7 & 8 PLATFORM ELECTRICAL PLAN  
 PLATFORMS 7 & 8 CANOPY ELECTRICAL PLAN  
 PLATFORMS 2 & 3 ELECTRICAL SECTION/ELEVATION  
 PLATFORMS 4, & 5 ELECTRICAL SECTION/ELEVATION  
 PLATFORM 6 ELECTRICAL SECTION/ELEVATION  
 PLATFORM 7 ELECTRICAL SECTION/ELEVATION  
 PLATFORM 8 ELECTRICAL SECTION/ELEVATION  
 SERVICE AND BAGGAGE CAR ACCESS ROAD ELECTRICAL PLAN  
 ACCESS ROAD ELECTRICAL ELEVATIONS  
 ELECTRICAL FIXTURE SCHEDULE

E-1 104  
 E-2 105  
 E-3 106  
 E-4 107  
 E-5 108  
 E-6 109  
 E-7 110  
 E-8 111  
 E-9 112  
 E-10 113  
 E-11 114  
 E-12 115  
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 E-14 117  
 E-15 118  
 E-16 119  
 E-17 120  
 E-18 121  
 E-19 122  
 E-20 123  
 E-21 124  
 E-22 125

**STRUCTURAL**

RETAINING WALL NO. 6 PLAN & ELEVATION NO. 1  
 RETAINING WALL NO. 6 PLAN & ELEVATION NO. 2  
 TYPICAL SECTIONS NO. 1  
 TYPICAL SECTIONS NO. 2  
 TYPICAL SECTIONS NO. 3  
 TYPICAL SECTIONS NO. 4  
 TYPICAL SECTIONS NO. 5  
 TYPICAL SECTIONS NO. 6  
 TYPICAL SECTIONS NO. 7  
 STRUCTURAL KEY MAP  
 GENERAL PLAN NO. 1 - SEGMENT 1 TO 4  
 GENERAL PLAN NO. 2 - SEGMENT 5 TO SEGMENT 9  
 GENERAL PLAN NO. 3 - SEGMENT 9 TO SEGMENT 12  
 GENERAL PLAN NO. 4 AT MSE WALL  
 ABUTMENT DETAILS NO. 1 SEGMENT 1  
 ABUTMENT DETAILS NO. 2 (ABUTMENT 30)  
 BENT PLAN & ELEVATION NO. 1 (BENTS 2 TO 5, 7 AND 8 TO 12)  
 BENT PLAN & ELEVATION NO. 2 (BENT 6)  
 BENT PLAN & ELEVATION NO. 3 (BENTS 13-15, 21-22 AND 26 TO 29)  
 BENT PLAN & ELEVATION NO. 4 (BENTS 16 AND 20)  
 BENT PLAN & ELEVATION NO. 5 (BENTS 17 TO 19)  
 BENT PLAN & ELEVATION NO. 6 (BENTS 23 AND 25)  
 BENT PLAN & ELEVATION NO. 7 (BENT 24)

RW-1 126  
 RW-2 127  
 SX-1 128  
 SX-2 129  
 SX-3 130  
 SX-4 131  
 SX-5 132  
 SX-6 133  
 SX-7 134  
 K-3 135  
 S-1 136  
 S-2 137  
 S-3 138  
 S-4 139  
 S-5 140  
 S-6 141  
 S-7 142  
 S-8 143  
 S-9 144  
 S-10 145  
 S-11 146  
 S-12 147  
 S-13 148

**DESCRIPTION**

**DWG NO. SHEET NO.**

**STRUCTURAL (CONTINUED)**

TYPICAL SECTION NO. 1 SEGMENT 1 TO SEGMENT 3  
 TYPICAL SECTION NO. 2 SEGMENT 4  
 TYPICAL SECTION NO. 3 SEGMENTS 5, 9B AND 11  
 TYPICAL SECTION NO. 4 SEGMENTS 6, 7, 8 AND 9A  
 TYPICAL SECTION NO. 5 SEGMENT 10  
 TYPICAL SECTION NO. 6 SEGMENT 12

S-14 149  
 S-15 150  
 S-16 151  
 S-17 152  
 S-18 153  
 S-19 154

**RIGHT-OF-WAY AND EASEMENT**

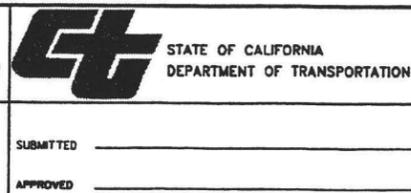
RIGHT OF WAY & EASEMENT KEY MAP  
 RIGHT OF WAY & CONSTRUCTION EASEMENT PLAN  
 RIGHT OF WAY & CONSTRUCTION EASEMENT PLAN

K-4 155  
 CE-1 156  
 CE-2 157

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	1/10/03				25% DESIGN SUBMITTAL						

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DRAWN BY JM
CHECKED BY ME
IN CHARGE TTK
DATE MAR 10, 2003



SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**INDEX SHEET 2**

CONTRACT NO.	
DRAWING NO.	REV
G-3	
SCALE	N/A
SHEET NO.	3



**GENERAL**

Ø	DIAMETER
&	AND
%	PERCENT
•	AT
AB	AGGREGATE BASE
AC, ASPH	ASPHALT CONCRETE
ADA	AMERICAN DISABILITIES ACT
AHD	AHEAD
AP	ANGLE POINT
APPROX	APPROXIMATE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
AREMA	AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION
AVE	AVENUE
BEG	BEGIN
BK	BACK
BLDG	BUILDING
BNSF	BURLINGTON NORTH SANTA FE
BR	BRIDGE
CA, CAL	CALIFORNIA
CAB	CRUSHED AGGREGATE BASE
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CB	CATCH BASIN
CI	CAST IRON
CITY OF LA	CITY OF LOS ANGELES
CL	CENTERLINE
CLR	CLEAR, CLEARANCE
CO	COMPANY
COLA	CITY OF L.A.
CONC	CONCRETE
CONT	CONTINUOUS
CP	CONTROL POINT
CPUC	CALIFORNIA PUBLIC UTILITIES COMMISSION
CV	CURVE
CWR	CONTINUOUSLY WELDED RAIL
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EACH
ELEV/EL	ELEVATION
EQ	EQUAL, EQUATION
ESMT	EASEMENT
EXIST/EX	EXISTING
FH	FIRE HYDRANT
FL	FLOW LINE
FO	FIBER OPTIC
FS	FINISHED SURFACE
FT	FOOT, FEET
FRA	FEDERAL RAILROAD ADMINISTRATION
FWY	FREEWAY
G	GRADE
GA	GAGE
H	HORIZONTAL
IN, "	INCH, INCHES
INVT	INVERT
JCT	JUNCTION
L	LENGTH
LACDPW	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LACFCD	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
LACSD	LOS ANGELES COUNTY SANITATION DISTRICT
LADOT	LOS ANGELES DEPARTMENT OF TRANSPORTATION
LAUS	LOS ANGELES UNION STATION
LB, #	POUND
LF	LINEAR FOOT
LH	LEFT HAND
LT	LEFT
LRT	LIGHT RAIL TRACK
M	METER
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
ML	MAINLINE
MP	MILE POST
MPH	MILES PER HOUR
MTA	METROPOLITAN TRANSPORTATION AUTHORITY
N	NORTH
NA	NOT APPLICABLE
NB	NORTHBOUND
NIC	NOT IN CONTRACT
NO., #	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OG	ORIGINAL GROUND
OH	OVERHEAD
PASS	PASSENGER
PUC	PUBLIC UTILITIES COMMISSION
STRUCT.	STRUCTURAL
VC	VERTICAL CURVE

**GENERAL (CONT'D)**

PCC	PORTLAND CEMENT CONCRETE
PI	POINT OF INTERSECTION
PITO	POINT OF INTERSECTION OF TURNOUT
POB	POINT OF BEGINNING
POE	POINT OF ENDING
PROP.	PROPOSED
PS	POINT OF SWTCH
QTY	QUANTITY
R	RADIUS
R/W	RIGHT OF WAY
RD	ROAD
REF.	REFERENCE
REQ'D	REQUIRED
RH	RIGHT HAND
RR	RAILROAD
S	SOUTH OR SEWER
SB	SOUTHBOUND
SCRRA	SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SIG	SIGNAL
SO	SOUTHERN
ST	STREET
STA	STATION
STD	STANDARD
SUB	SUBDIVISION
SYMM	SYMMETRY
T/R	TOP OF RAIL
T/LR	TOP OF LOW RAIL
TC	TRACK CENTER
T.O.	TURNOUT
TRK	TRACK
TW	TOP OF WALL
TYP	TYPICAL
UP	UNDERPASS
V	SPEED
W/	WITH
WB	WESTBOUND
X-ING	CROSSING
X-OVER	CROSS OVER
TP	TURNING POINT
RT1	RUN-THROUGH 1
RT2	RUN-THROUGH 2
SPEC.	SPECIFICATION

**STRUCTURES**

ABUT	ABUTMENT
BB	BEGIN BRIDGE
BRG	BEARING
CIDH	CAST IN DRILLED HOLE
EB	END BRIDGE
EF	EACH FACE
EW	EACH WAY
FF	FAR FACE
GFRC	GLASS FIBER REINFORCED CONCRETE
HP	H PILE
JT	JOINT
LOL	LAYOUT LINE
MSE	MECHANICALLY STABILIZED EARTH
NF	NEAR FACE
OVHD	OVERHEAD
PC	PRECAST
REINF	REINFORCED
RET	RETAINING
SPA	SPACED
TEMP	TEMPORARY
TOT	TOTAL
TPG	THROUGH PLATE GIRDER
TPGBD	THROUGH PLATE GIRDER BALLAST DECK
WP	WORKING POINT

**TRACK ALIGNMENT (HORIZONTAL)**

CS	POINT OF CURVE TO SPIRAL
Dc	DEGREE OF CURVE
DELTA	TOTAL ANGLE OF DEFLECTION
E	TOTAL SUPERELEVATION
Ea	ACTUAL SUPER ELEVATION
Eu	UNBALANCED SUPER ELEVATION
LS	SPIRAL LENGTH
LT	LENGTH OF TANGENT
PC	POINT OF CIRCULAR CURVE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION OF TWO TANGENTS
PT	POINT OF TANGENCY
R	RADIUS OF CIRCULAR CURVE
SC	POINT OF SPIRAL TO CURVE
ST	POINT OF SPIRAL TO TANGENT
TS	POINT OF TANGENT TO SPIRAL
DESC.	DESCRIPTION
X	THE TANGENT DISTANCE FROM THE TS TO THE SC
Y	THE TANGENT OFFSET OF SC

**TRACK ALIGNMENT (VERTICAL)**

PVC	BEGIN VERTICAL CURVE
PVT	END VERTICAL CURVE
L/LVC	LENGTH OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION

**LEGEND**

•••••	TRACK REMOVAL
-----	ACCESS ROAD
-----	FUTURE PROJECT
-----	CENTERLINE
-----	EXISTING TRACK
-----	PROPOSED TRACK
-----	REALIGNED MTA MAINTENANCE ROAD
-----	EASTSIDE EXTENSION PROJECT (MTA)
-----	COMMERCIAL STREET WIDENING PROJECT (LADOT)
-----	US 101 REALIGNMENT PROJECT (CALTRANS)

**ROADWAY**

BVC	BEGIN VERTICAL CURVE
EVC	END OF VERTICAL CURVE
PRVC	POINT OF REVERSE VERTICAL CURVE

**DESCRIPTION**

BALLAST	
BENT	
CONCRETE	
FENCE	
MILE POST	
POST	
POWER POLE	
SEWER MANHOLE	
SUBGRADE EARTH	
TIMBER	
TRACK CENTERLINE	
TURNOUT	
RETAINING WALL	
POINT OF MINIMUM VERTICAL CLEARANCE	
TRACK TIE	

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	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY	MW
DRAWN BY	JM
CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

 NATIONAL RAILROAD PASSENGER CORPORATION  
 HDR Engineering, Inc.

 STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**ABBREVIATIONS & SYMBOLS**

CONTRACT NO.	
DRAWING NO.	G-4
SCALE	NA
SHEET NO.	4



**GENERAL NOTES:**

1. ALL WORK REQUIREMENTS SHOWN ON THESE DRAWINGS AND NOT OTHERWISE DETAILED SHALL BE ACCOMPLISHED AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND MOST CURRENT AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION (AREMA) MANUAL FOR RAILWAY ENGINEERING. IN THE EVENT OF CONFLICTS BETWEEN SPECIFICATIONS, THE MORE RESTRICTIVE WILL APPLY.
2. THE SUPERSTRUCTURE AND SUBSTRUCTURE HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2002 AREMA MANUAL, CHAPTER 8-CONCRETE STRUCTURES AND FOUNDATIONS AND CHAPTER 15-STEEL STRUCTURES.
3. THE SUPERSTRUCTURE AND SUBSTRUCTURE HAVE BEEN DESIGNED FOR COOPER E80 LIVE LOAD PLUS IMPACT AND 30 INCHES TOTAL BALLAST DEPTH.
4. THE TRACK DESIGN SPEEDS FOR THIS PROJECT SHALL BE AS FOLLOWS:  
 RUN-THROUGH TRACK:  
 UNION STATION TO SCRRA MAINLINE: MAXIMUM - 45 MPH, MINIMUM - 15 MPH.  
 SPEED THROUGH TURNOUTS: PER METROLINK E.S. 2401, SPEED THROUGH TURNOUTS.  
 CURVE SPEEDS: PER METROLINK E.S. 2302, CURVE SPEED, SUPERELEVATION AND SPIRAL LENGTH.  
 BNSF YARD:  
 10 TO 15 MPH (NON-SIGNALED YARD TRACKAGE).  
 AMTRAK LEAD:  
 10 TO 15 MPH (NON-SIGNALED YARD TRACKAGE).
5. ALL INFORMATION SHOWN ON THESE PLANS REGARDING LOCATION OF THE NEW TRACK AND EXISTING ELEVATIONS IS BASED ON INFORMATION PROVIDED ON TRACK PLANS AND SITE LOCATION SURVEY PERFORMED BY PSOMAS SURVEYING AND MAPPING, 3187 RED HILL AVENUE, SUITE 250, COSTA MESA, CA. 92626, PHONE: (714)751-7373
6. QUANTITIES ARE BASED ON THE LINES AND DIMENSIONS SHOWN ON THE PLANS AND SHALL BE VERIFIED BY THE CONTRACTOR.
7. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE.
8. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 REOBSERVED AND ADJUSTED MEAN SEA LEVEL (MSL) BY THE COUNTY OF LOS ANGELES IN 1995 PER PSOMAS SURVEYING AND MAPPING, 3187 RED HILL, AVENUE, SUITE 250, COSTA MESA, CA. 92626, PHONE: (714)751-7373
9. COORDINATES ARE BASED ON THE 1983 CALIFORNIA COORDINATE SYSTEM, ZONE 5 PER PSOMAS SURVEYING AND MAPPING, 3187 RED HILL, AVENUE, SUITE 250, COSTA MESA, CA. 92626, PHONE: (714)751-7373. COORDINATES SHOWN ROUNDED OFF TO THE NEAREST TENTH ARE APPROXIMATE.
10. AERIAL IMAGERY WAS PRODUCED BY PSOMAS SURVEYING AND MAPPING, 3187 RED HILL, AVENUE, SUITE 250, COSTA MESA, CA. 92626, PHONE: (714)751-7373. NO REPRESENTATION IS HEREBY MADE AS TO ITS ACCURACY.
11. GROUND CONTROL AND SUPPLEMENTAL TOPOGRAPHICAL SURVEY WAS CONDUCTED BY PSOMAS SURVEYING AND MAPPING, 3187 RED HILL AVENUE, SUITE 250, COSTA MESA, CA. 92626, PHONE: (714)751-7373. NO REPRESENTATION IS HEREBY MADE AS TO THEIR ACCURACY.
12. THE GEOTECHNICAL REPORT IS PROVIDED FOR INFORMATION ONLY. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF DIFFERING SITE CONDITIONS..
13. RIGHT-OF-WAY DELINEATED ON THESE PLANS WAS OBTAINED FROM RAILROAD VALUATION MAPS AND ASSESSOR'S MAPS AND IS APPROXIMATE. CONTRACTOR SHALL VERIFY THE LOCATION OF RIGHT-OF-WAY IN ANY AREA WHERE THE LOCATION OF THE BOUNDARY LINE IS NOT CLEARLY DISCERNABLE.
14. THE UTILITY LINES SHOWN IN THESE DRAWINGS ARE BASED UPON A SEARCH OF AVAILABLE EXISTING RECORDS. THERE IS NO ASSURANCE THAT THE LOCATIONS OF UTILITIES OR SUBSTRUCTURES SHOWN ARE ACCURATE. PRIOR TO ANY EXCAVATION WORK, CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA ("DIGALERT") TO MARK THE LOCATION OF SUBSTRUCTURES AND UTILITIES WHETHER SHOWN OR NOT ON THESE DRAWINGS, AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF EXCAVATION ACTIVITIES.

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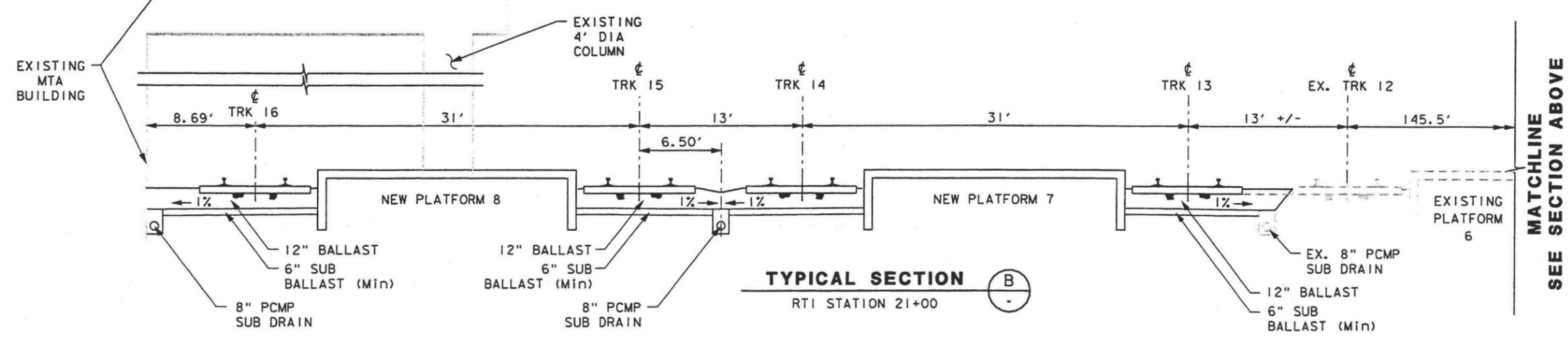
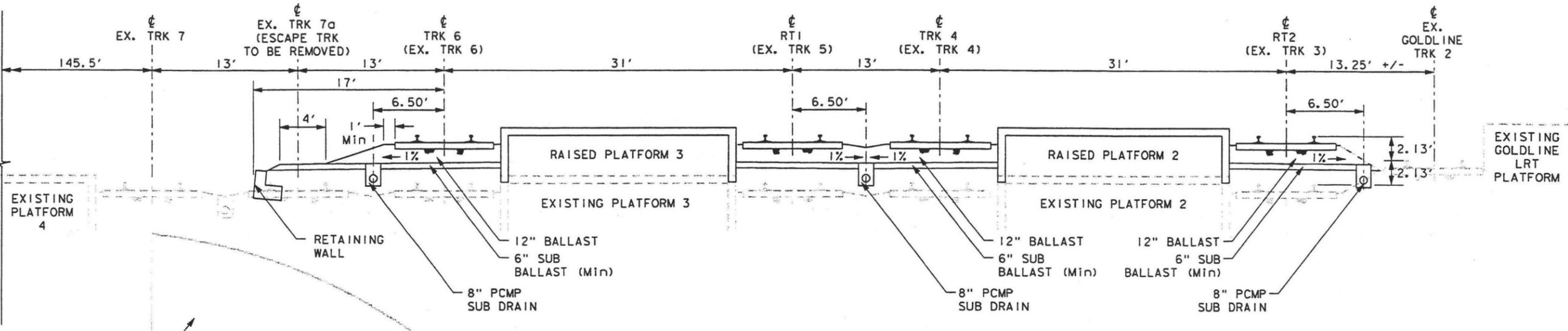
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										IN CHARGE TTK						SHEET NO. 5	
										DATE MAR 10, 2003							
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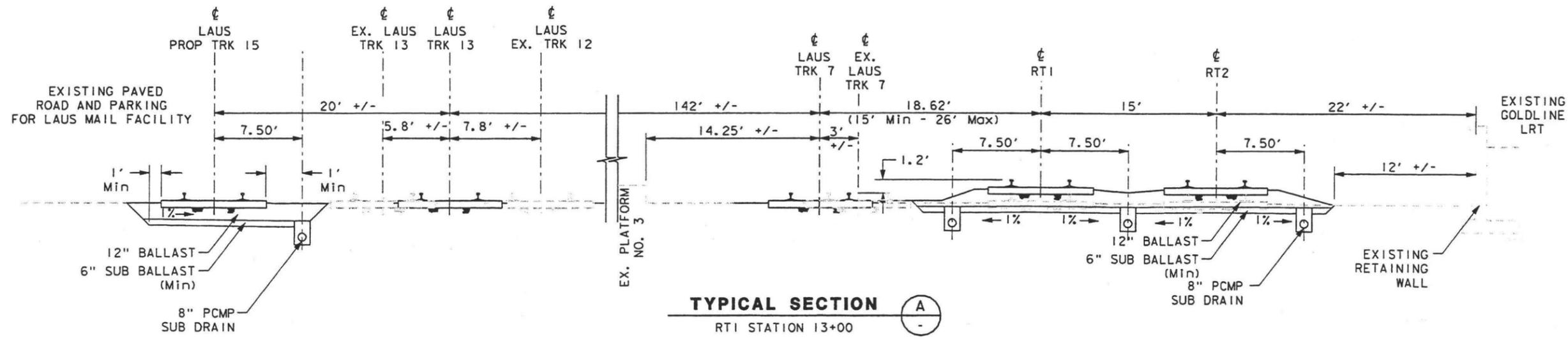




MATCHLINE  
SEE SECTION BELOW



MATCHLINE  
SEE SECTION ABOVE



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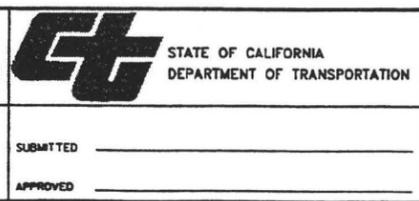
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KW

DRAWN BY  
JYM

CHECKED BY  
ME

IN CHARGE  
TTK

DATE  
MAR 10, 2003

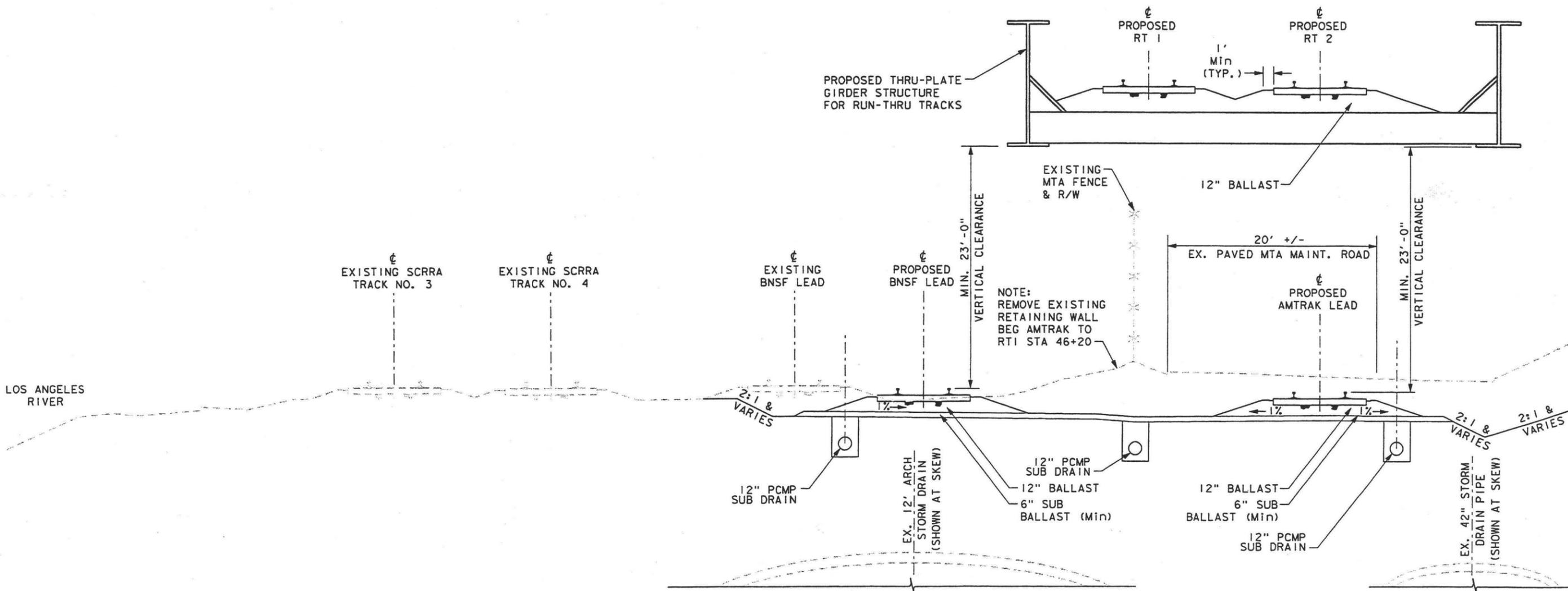


**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TRACK TYPICAL SECTIONS**

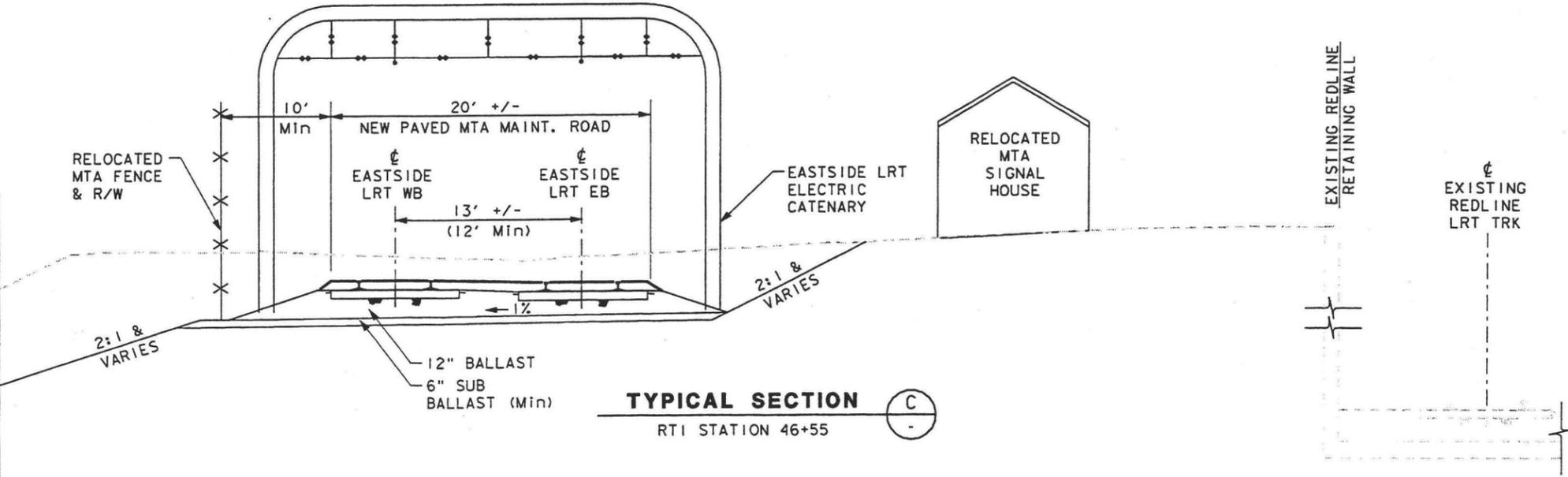
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DRAWING NO.	TS-1
SCALE	NTS
SHEET NO.	7





MATCHLINE  
SEE SECTION BELOW

MATCHLINE  
SEE SECTION ABOVE



**TYPICAL SECTION C**  
RTI STATION 46+55

FILE NAME\$  
DATE\$

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**AMTRAK**  
NATIONAL RAILROAD  
PASSENGER CORPORATION

**HDR** HDR Engineering, Inc.

**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

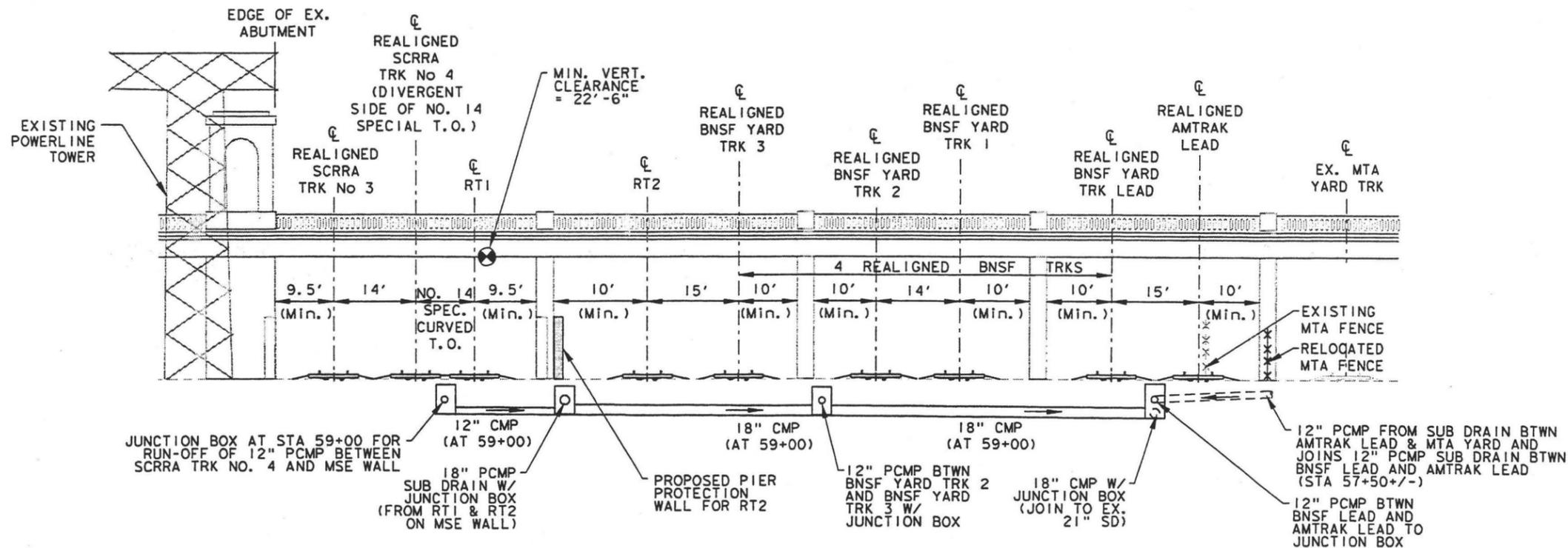
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

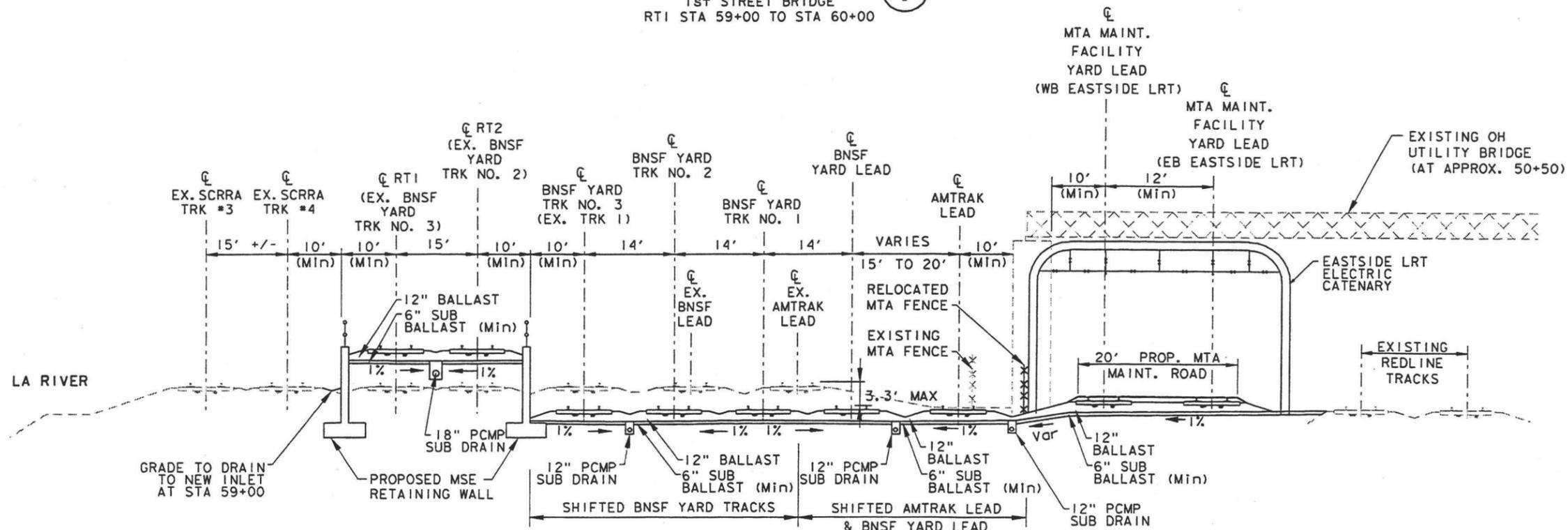
**TRACK TYPICAL SECTIONS**

CONTRACT NO.	
DRAWING NO.	TS-2
SCALE	NTS
SHEET NO.	8





**TYPICAL SECTION E**  
 1st STREET BRIDGE  
 RT1 STA 59+00 TO STA 60+00



**TYPICAL SECTION D**  
 AT APPROX. STA 55+50

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**AMTRAK**  
 NATIONAL RAILROAD PASSENGER CORPORATION

**HDR**  
 HDR Engineering, Inc.

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_

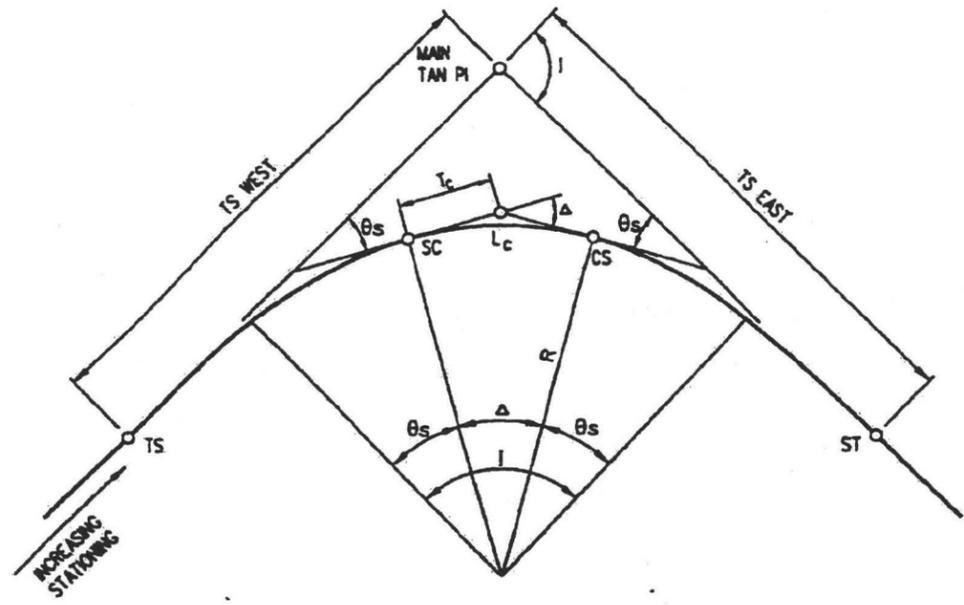
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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

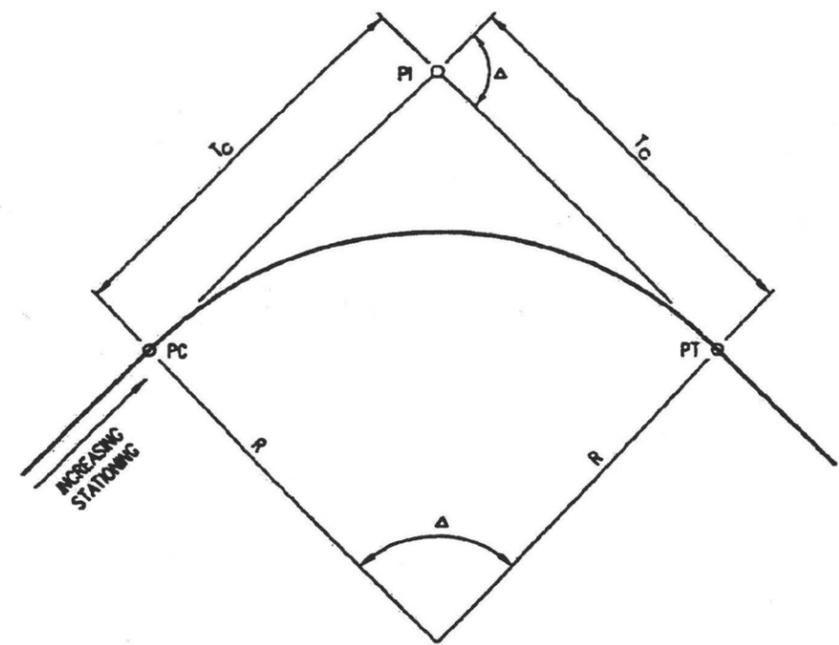
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SCALE	NTS
SHEET NO.	9

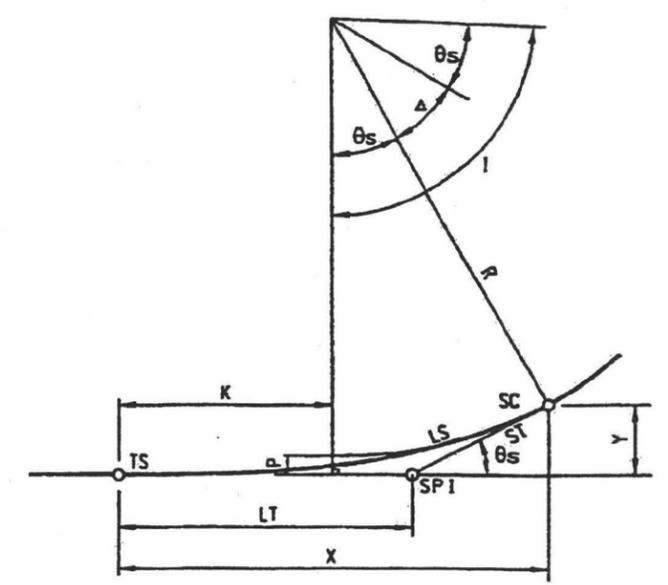




**FIGURE A**  
**CIRCULAR CURVES**  
**WITH SPIRAL TRANSITION**



**FIGURE B**  
**SIMPLE CIRCULAR CURVE**



**FIGURE C**  
**SPIRAL TRANSITION CURVE**

- I - TOTAL INTERSECTION ANGLE
- $\theta_s$  - SPIRAL ANGLE -  $\frac{LS D_c}{200}$
- Δ - CENTRAL ANGLE OF CIRCULAR CURVE -  $1 - 2 \theta_s$
- R - RADIUS OF CIRCULAR CURVE
- T - TANGENT LENGTH OF CIRCULAR CURVE -  $R \tan \frac{\Delta}{2}$
- $L_c$  - LENGTH OF CIRCULAR CURVE -  $\frac{\Delta}{180} \pi R$
- TS - TANGENT TO SPIRAL
- SC - SPIRAL TO CURVE
- CS - CURVE TO SPIRAL
- ST - SPIRAL TO TANGENT
- MAIN TAN PI - POINT OF INTERSECTION OF MAIN TANGENTS
- (TS WEST) - TANGENT LENGTH OF COMPLETE CURVE
- (TS EAST)

Ds, θs, Δ, and I are in degrees.  
all other dimensions are in feet.  
if conditions permit: the degree of curve  
chosen should be an integral number of  
degrees and/or minutes incremented by  
10 minutes.

Circular curves are defined  
by the arc definition of  
curvature and specified by  
their degree.

- R - RADIUS OF CIRCULAR CURVE
- Δ - CENTRAL ANGLE OF CIRCULAR CURVE
- $T_c = R \tan \frac{\Delta}{2}$
- $L_c = \frac{\Delta}{180} \pi R$
- $D_c = \frac{5,729.58}{R}$
- Tc - TANGENT TO SIMPLE CURVE
- CC - COMPOUND CURVE TO CURVE
- CT - SIMPLE CURVE TO TANGENT

To be used in new construction, reconstruction, and whenever alignment  
is surveyed in the field.  
Refer to es2302 for proper length and use of spirals.  
computer calculations: the linear (clothoid) spiral shall be used.  
manual calculations: the 10 cord spiral may be used if d=8° and d=15°.  
refer to es2302.

- LS = LENGTH OF SPIRAL (TS TO SC)
- $\theta_s = \frac{LS D_c}{200}$
- $ST = \frac{Y}{\sin \theta_s}$
- $LT = X - \frac{Y}{\tan \theta_s}$

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REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL
1/10/03					25% DESIGN SUBMITTAL

DESIGNED BY	MW
DRAWN BY	JYM
CHECKED BY	KW
IN CHARGE	
DATE	MAR 10, 2003


 NATIONAL RAILROAD  
 PASSENGER CORPORATION


 HDR Engineering, Inc.


 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

**HORIZONTAL**  
**CURVE GEOMETRY**

CONTRACT NO.	
DRAWING NO.	HC-1
SCALE	N/A
SHEET NO.	10



**RT1 GEOMETRY TABLE**

CURVE	PT.	DISTANCE					RADIUS	DEGREE		LENGTH	Ea	Eu*	V	Ls	Lt	S+	X	Y	
No.	DESC.	(feet)	BEARING	STATION	NORTHING	EASTING	(feet)	OF CURVE	DELTA	(feet)	(In)	(In)	(mph)	(feet)	THETA	(feet)	(feet)	(feet)	(feet)
	POB	892.54	S 24° 33' 10" W	4+75.00	1844340.6603	6491161.0594													
	PC			13+67.54	1843528.8216	6490790.1795													
CV-1	PI				1843419.2008	6490740.1004	954.93	6° 00' 00"	14° 23' 10"	239.77	0.00	4.00	15						
	PT			16+07.31	1843300.5750	6490718.8275													
		913.25	S 10° 10' 00" W																
	PC			25+20.57	1842401.6604	6490557.6270													
CV-2	PI				1842283.7143	6490536.4760	477.46	12° 00' 00"	28° 10' 36"	234.81	0.00	4.00	15						
	PT			27+55.37	1842169.7580	6490573.5247													
		33.53	S 18° 00' 36" E																
	PC			27+88.91	1842137.8673	6490583.8927													
CV-3	PI				1841844.9308	6490679.1302	494.46	11° 35' 15"	63° 50' 31"	550.96	0.00	4.00	15						
	PT			33+39.87	1841801.2741	6490984.0500													
		471.63	S 81° 51' 08" E																
	TS			38+11.50	1841734.4295	6491450.9262								190.00	9° 30' 00"	126.85	63.50	189.48	10.48
	SC			40+01.50	1841697.2002	6491637.0064													
CV-4	PI				1841632.3813	6492163.6810	572.96	10° 00' 00"	75° 43' 28"	757.24	2.50	4.00	30						
	CS			47+58.75	1841117.5043	6492035.2703								190.00	9° 30' 00"	126.85	63.50	189.48	10.48
	ST			49+48.75	1840930.4529	6492003.2759													
		368.96	S 12° 52' 20" W																
	TS			53+17.70	1840570.7661	6491921.0800								40.00	0° 06' 00"	26.67	13.33	40.00	0.02
	SC			53+57.70	1840531.7765	6491912.1462													
CV-5	PI				1840479.2659	6491900.1703	11459.16	0° 30' 00"	0° 32' 19"	107.72	0.50	4.00	45						
	CS			54+65.42	1840426.9250	6491887.4733								40.00	0° 06' 00"	26.67	13.33	40.00	0.02
	ST			55+05.42	1840388.0429	6491878.0829													
		115.17	S 13° 36' 39" W																
	TS			56+20.59	1840276.1050	6491850.9799								160.00	3° 43' 56"	106.69	53.35	159.93	3.47
	SC			57+80.59	1840119.8470	6491816.7194													
							1228.11	4° 39' 55"	4° 18' 38"	92.39	2.50	4.00	45						
	CS			58+72.99	1840028.3126	6491804.3056								130.00	4° 38' 28"	71.68	58.39	129.88	4.72
CV-6	PI				1839848.7787	6491747.5134													
	SC			60+02.99	1839898.5277	6491797.4810													
							2315.16	2° 28' 29"	12° 29' 36"	504.82	0.50	4.00	45						
	CS			65+07.81	1839396.8760	6491844.1928								40.00	0° 29' 42"	26.67	13.33	40.00	0.12
	ST			65+47.81	1839357.7353	6491852.4385													
		158.44	S 12° 03' 41" E																
NO. 20 X-OVER	PITO	300.19	S 14° 55' 45" E	67+06.25	1839202.7923	6491885.5464													
	PITO	238.45	S 12° 03' 45" E	70+06.44	1838912.7373	6491962.8824													
	TS			72+44.89	1838679.5531	6492012.7133								40.00	0° 38' 00"	26.67	13.33	40.00	0.15
	SC			72+84.89	1838640.4060	6492020.9283													
CV-7	PI				1838636.1059	6492021.9979	1809.34	3° 10' 00"	0° 16' 49"	8.85	0.50	4.00	45						
	CS			72+93.74	1838631.7247	6492022.6612								40.00	0° 38' 00"	26.67	13.33	40.00	0.15
	ST			73+33.74	1838592.4238	6492030.1061													
		459.62	S 10° 30' 56" E																
NO. 20 X-OVER	PITO	58.46	S 10° 30' 56" E	77+93.36	1838140.5182	6492113.9887													
	PS			78+51.82	1838083.0400	6492124.6578													

LAUS TRK NO. 5

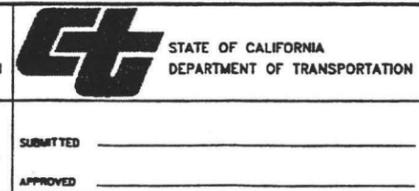
SCRRRA TRK NO. 4

SCRRRA TRK NO. 3

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DATE: \$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY MW
DRAWN BY JYM
CHECKED BY KW
IN CHARGE TTK
DATE MAR 10, 2003



<b>LOS ANGELES UNION STATION RUN-THROUGH TRACKS</b>		CONTRACT NO.
<b>TRACK GEOMETRY TABLE (SHEET 1 OF 10)</b>		DRAWING NO. GT-1
		SCALE N/A
		SHEET NO. 11



**RT2 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (In)	Eu* (In)	V (mph)	Ls (feet)	THETA	Lt (feet)	St (feet)	X (feet)	Y (feet)
	POB	1055.56	S 24° 33' 10" W	4+75.00	1844346.8933	6491147.4155													
	PC			15+30.56	1843386.7788	6490708.7975													
CV-8	PI				1843317.5446	6490677.1686	603.11	9° 30' 00"	14° 23' 10"	151.43	0.00	4.00	15						
	PT			16+81.99	1843242.6230	6490663.7331													
		836.26	S 10° 10' 00" W																
	PC			25+18.25	1842419.4932	6490516.1230													
CV-9	PI				1842301.5749	6490494.9770	477.46	12° 00' 00"	28° 10' 13"	234.75	0.00	4.00	15						
	PT			27+53.01	1842187.6413	6490532.0043													
		63.34	S 18° 00' 13" E																
	PC			28+16.34	1842127.4061	6490551.5801													
CV-10	PI				1841803.3485	6490656.8956	528.46	10° 50' 31"	65° 37' 33"	605.30	0.00	4.00	15						
	PT			34+21.64	1841765.5410	6490995.5330													
		435.56	S 83° 37' 46" E																
	TS			38+57.20	1841717.2127	6491428.4047								190.00	9° 43' 11"	126.86	63.51	189.45	10.72
	SC			40+47.20	1841685.5358	6491615.4991													
CV-11	PI				1841636.7291	6492149.2877	560.00	10° 13' 53"	77° 03' 44"	753.19	2.50	4.00	30						
	CS			48+00.39	1841116.6775	6492019.4469								190.00	9° 43' 11"	126.86	63.51	189.45	10.72
	ST			49+90.39	1840929.5961	6491987.6933													
		364.56	S 12° 52' 20" W																
	TS			53+54.95	1840574.1977	6491906.4775								40.00	0° 06' 00"	26.67	13.33	40.00	0.02
	SC			53+94.95	1840535.2081	6491897.5437													
CV-12	PI				1840482.7018	6491885.5688	11459.16	0° 30' 00"	0° 32' 19"	107.71	0.50	4.00	45						
	CS			55+02.66	1840430.3652	6491872.8729								40.00	0° 06' 00"	26.67	13.33	40.00	0.02
	ST			55+42.66	1840391.4830	6491863.4825													
		185.42	S 13° 36' 39" W																
	TS			57+28.08	1840211.2667	6491819.8478								180.00	4° 16' 30"	120.04	60.03	179.90	4.47
	SC			59+08.08	1840035.3660	6491781.8622													
CV-13	PI				1839871.5327	6491737.5899	1206.23	4° 45' 00"	15° 43' 00"	330.88	2.50	4.00	45						
	CS			62+38.96	1839705.6350	6491773.3578								180.00	4° 16' 30"	120.04	60.03	179.90	4.47
	ST			64+18.96	1839528.0101	6491802.2253													
		143.75	S 10° 39' 21" E																
	TS			65+62.71	1839386.7411	6491828.8057								40.00	0° 24' 00"	26.67	13.33	40.00	0.09
	SC			66+02.71	1839347.4483	6491836.2936													
CV-14	PI				1839262.2274	6491852.2336	2864.79	2° 00' 00"	3° 27' 57"	173.30	0.50	4.00	45						
	CS			67+76.01	1839178.4762	6491874.6486								40.00	0° 24' 00"	26.67	13.33	40.00	0.09
	ST			68+16.01	1839139.8013	6491884.8586													
		277.64	S 14° 55' 19" E																
	PITO	196.75	S 12° 03' 24" E	70+93.64	1838871.5276	6491956.3502													
	TS			72+90.39	1838679.1209	6491997.4469								40.00	0° 36' 00"	26.67	13.33	40.00	0.14
	SC			73+30.39	1838639.9745	6492005.6655													
CV-15	PI				1838634.4392	6492006.9906	1909.86	3° 00' 00"	0° 20' 29"	11.38	0.50	4.00	45						
	CS			73+41.76	1838628.8193	6492007.8918								40.00	0° 36' 00"	26.67	13.33	40.00	0.14
	ST			73+81.76	1838589.5170	6492015.3290													
		158.46	S 10° 30' 56" E																
	PITO	359.46	S 10° 30' 56" E	75+40.22	1838433.7183	6492044.2483													
	POE			78+99.69	1838080.2916	6492109.8513													

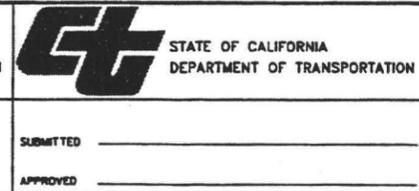
LAUS TRK NO. 3

SCRRA TRK NO. 4

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REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL
1/10/03					25% DESIGN SUBMITTAL

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IN CHARGE TTK
DATE MAR 10, 2003



**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TRACK GEOMETRY TABLE  
(SHEET 2 OF 10)**

CONTRACT NO.	
DRAWING NO.	GT-2
SCALE	N/A
SHEET NO.	12



**TRACK 4 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (in)	Eu* (in)	V (mph)	Ls (feet)	THETA	L+ (feet)	S+ (feet)	X (feet)	Y (feet)	
NO. 14 T.O.	PS	42.18	S 24° 33' 10" W	43+29.38	1843566.5852	6490790.9402														
	PITO	105.50	S 20° 27' 43" W	43+71.56	1843528.2148	6490773.4111														
	PC			44+77.07	1843429.3683	6490736.5286														
CV-63	PI				1843389.0578	6490721.4876	477.46	12° 00' 00"	10° 17' 54"	85.82	N/A	N/A	N/A							
	PT			45+62.88	1843346.7078	6490713.8953														
		969.61	S 10° 09' 49" W																	
CV-64	PC			55+32.50	1842392.3090	6490542.7948														
	PI				1842274.3859	6490521.6541	477.46	12° 00' 00"	28° 10' 16"	234.76	N/A	N/A	N/A							
	PT			57+67.26	1842160.4511	6490558.6902														
		29.25	S 18° 00' 27" E																	
CV-65	PC			57+96.51	1842132.6312	6490567.7334														
	PI				1841852.3818	6490658.8321	511.46	11° 12' 08"	59° 53' 51"	534.69	N/A	N/A	N/A							
	PT			63+31.20	1841790.6347	6490946.9744														
NO. 10 T.O.	PITO	196.00	S 77° 54' 17" E	65+27.20	1841749.5655	6491138.6237														
	PS	32.91	S 83° 37' 46" E	65+60.12	1841745.9139	6491171.3305														

**TRACK 6 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (in)	Eu* (in)	V (mph)	Ls (feet)	THETA	L+ (feet)	S+ (feet)	X (feet)	Y (feet)	
NO. 8 T.O.	PS	30.42	S 24° 33' 10" W	62+73.35	1843617.9741	6490830.9445														
	PITO	72.84	S 17° 24' 40" W	63+03.77	1843590.3289	6490818.2526														
	PC			63+76.61	1843520.8300	6490796.4582														
CV-66	PI				1843471.3882	6490780.9536	818.51	7° 00' 00"	7° 14' 40"	103.49	N/A	N/A	N/A							
	PT			64+80.10	1843420.3874	6490771.8077														
		1062.08	S 10° 10' 00" W																	
CV-67	PC			75+42.18	1842374.9842	6490584.3378														
	PI				1841934.4675	6490505.3409	477.46	12° 00' 00"	86° 17' 41"	719.11	N/A	N/A	N/A							
	PT			82+61.29	1841827.1681	6490939.8267														
NO. 10 T.O.	PITO	194.14	S 76° 07' 39" E	84+55.43	1841780.6214	6491128.2991														
	PS	32.91	S 81° 51' 08" E	84+88.34	1841775.9571	6491160.8769														

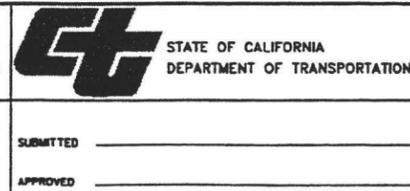
**TRACK 13 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (in)	Eu* (in)	V (mph)	Ls (feet)	THETA	L+ (feet)	S+ (feet)	X (feet)	Y (feet)	
NO. 8 T.O.	PS	32.91	S 3° 00' 50" W	132+52.70	1843613.6935	6490976.7996														
	PITO	67.97	S 3° 00' 50" W	132+85.61	1843580.8290	6490975.0693														
	PC			133+50.58	1843515.9475	6490971.6532														
CV-60	PI				1843478.3040	6490969.6712	603.11	9° 30' 00"	7° 09' 10"	75.28	N/A	N/A	N/A							
	PT			134+25.87	1843441.2010	6490963.0176														
	POE	1217.93	S 10° 10' 00" W	146+43.81	1842242.3917	6490748.0375														

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DATE: 3/10/03

REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL
	1/10/03				25% DESIGN SUBMITTAL

DESIGNED BY MW
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DATE MAR 10, 2003



**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TRACK GEOMETRY TABLE  
(SHEET 3 OF 10)**

CONTRACT NO.	
DRAWING NO.	GT-3
SCALE	N/A
SHEET NO.	13



**TRACK 14 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (In)	Eu* (In)	V (mph)	Ls (feet)	THETA	L+ (feet)	S+ (feet)	X (feet)	Y (feet)	
NO. 8 T.O.	PS	30.42	S 3°00'50" W	144+43.32	1843418.9076	6490986.6661														
	PITO	1165.89	S 10°10'00" W	144+73.74	1843388.5297	6490985.0667														
	POE			156+39.63	1842240.9471	6490779.2730														

**TRACK 15 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (In)	Eu* (In)	V (mph)	Ls (feet)	THETA	L+ (feet)	S+ (feet)	X (feet)	Y (feet)	
	POB	345.22	S 3°00'50" W	151+94.61	1843666.6500	6490999.7099														
	PC			155+39.83	1843321.9127	6490981.5593														
CV-61	PI				1843284.2696	6490979.5773	603.11	9°30'39"	7°09'10"	75.21	N/A	N/A	N/A							
	PT			156+15.03	1843247.1663	6490972.9237														
	POE	1022.89	S 10°10'00" W	166+37.92	1842240.3413	6490792.3718														

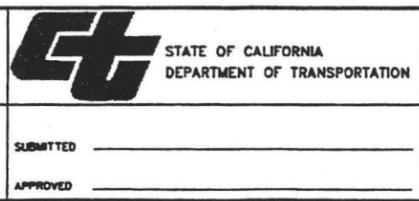
**TRACK 16 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (In)	Eu* (In)	V (mph)	Ls (feet)	THETA	L+ (feet)	S+ (feet)	X (feet)	Y (feet)	
NO. 8 T.O.	POB	30.42	S 3°00'50" W	163+14.69	1843541.8398	6490993.1385														
	PITO	164.42	S 4°08'20" E	163+45.11	1843511.4619	6490991.5392														
	PC			165+09.53	1843347.4722	6491003.4061														
CV-62	PI				1843271.9829	6491008.8687	603.11	9°30'00"	14°18'20"	150.59	N/A	N/A	N/A							
	PT			166+60.11	1843197.4858	6490995.5092														
	POE	957.90	S 10°10'00" W	176+18.01	1842254.6295	6490826.4285														

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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY MW
DRAWN BY JYM
CHECKED BY KW
IN CHARGE
DATE MAR 10, 2003



**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK GEOMETRY TABLE  
 (SHEET 4 OF 10)**

CONTRACT NO.	
DRAWING NO.	GT-4
SCALE	N/A
SHEET NO.	14







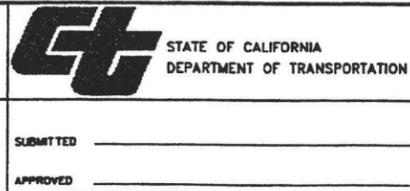
**BNSF YARD LEAD GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	E <sub>o</sub> (In)	E <sub>u</sub> * (In)	V (mph)	L <sub>s</sub> (feet)	THETA	L <sub>t</sub> (feet)	S <sub>t</sub> (feet)	X (feet)	Y (feet)	
NO. 10 T.O.	PS	32.92	S 12° 12' 51" W	100+87.50	1841457.7445	6492138.5749														
	PITO	93.65	S 17° 56' 36" W	101+20.42	1841425.5697	6492131.6101														
	PC			102+14.07	1841336.4702	6492102.7571														
CV-37	PI				1841287.9399	6492087.0416	603.00	9° 30' 06"	9° 40' 16"	101.78	N/A	N/A	N/A							
	PT	100.45	S 27° 36' 52" W	103+15.85	1841242.7393	6492063.3968														
CV-38	PC			104+16.30	1841153.7295	6492016.8351														
	PI				1841076.8330	6491976.6099	603.00	9° 30' 06"	16° 22' 45"	172.38	N/A	N/A	N/A							
	PT	152.31	S 11° 14' 07" W	105+88.68	1840991.7140	6491959.7016														
CV-39	PITO	77.20	S 11° 14' 07" W	107+41.00	1840842.3212	6491930.0166														
	PC			108+18.20	1840766.5958	6491914.9833														
	PI				1840748.6288	6491911.4143	1221.77	4° 41' 22"	1° 43' 05"	36.63	N/A	N/A	N/A							
CV-40	PT	56.34	S 12° 57' 11" W	108+54.83	1840730.7769	6491907.3082														
	PITO	138.02	S 19° 18' 45" W	109+11.17	1840675.8722	6491894.6798														
	PITO	79.48	S 19° 18' 45" W	110+49.19	1840545.6217	6491849.0350														
CV-41	PC			111+28.67	1840470.6151	6491822.7490														
	PI				1840430.2488	6491808.6029	1637.02	3° 30' 00"	2° 59' 36"	85.53	N/A	N/A	N/A							
	PT	297.33	S 16° 19' 09" W	112+14.20	1840389.1989	6491796.5841														
CV-42	PC			115+11.52	1840103.8514	6491713.0389														
	PI				1840013.4735	6491686.5777	699.77	8° 11' 16"	15° 19' 45"	187.22	N/A	N/A	N/A							
	PCC			116+98.74	1839919.3154	6491684.9506														
CV-43	PI				1839841.5250	6491683.6064	764.69	7° 29' 34"	11° 37' 08"	155.07	N/A	N/A	N/A							
	PT	381.06	S 10° 37' 44" E	118+53.81	1839765.0573	6491697.9570														
	PC			122+34.87	1839390.5372	6491768.2428														
CV-44	PI				1839316.0943	6491782.2134	3819.72	1° 30' 00"	2° 16' 19"	151.47	N/A	N/A	N/A							
	PT	260.29	S 12° 54' 04" E	123+86.34	1839242.2638	6491799.1242														
	PC			126+46.63	1838988.5398	6491857.2393														
CV-44	PI				1838960.9562	6491863.5573	1348.14	4° 15' 00"	2° 24' 18"	56.59	N/A	N/A	N/A							
	PT			127+03.22	1838933.1318	6491868.7122														
			S 10° 29' 46" E																	

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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY MW
DRAWN BY JYM
CHECKED BY KW
IN CHARGE
DATE MAR 10, 2003



**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK GEOMETRY TABLE  
 (SHEET 6 OF 10)**

CONTRACT NO.	
DRAWING NO.	GT-6
SCALE	N/A
SHEET NO.	16



**BNSF YARD TRACK No. 1 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	E <sub>o</sub> (In)	E <sub>u</sub> * (In)	V (mph)	L <sub>s</sub> (feet)	THETA	L <sub>t</sub> (feet)	S <sub>t</sub> (feet)	X (feet)	Y (feet)
NO. 9 T.O.	PS	30.42	S 19° 18' 45" W	310+19.58	1840574.3299	6491859.0956													
	PITO	77.68	S 12° 57' 11" W	310+50.00	1840545.6217	6491849.0350													
	PC			311+27.48	1840470.1122	6491831.6675													
CV-23	PI				1840432.8703	6491823.1017	1710.43	3° 20' 59"	2° 33' 34"	76.41	N/A	N/A	N/A						
	PT			312+03.89	1840396.0561	6491812.8835													
		224.75	S 15° 30' 44" W																
CV-24	PC			314+28.59	1840179.5411	6491752.7879													
	PI				1839925.1037	6491682.1664	1137.36	5° 02' 15"	26° 08' 29"	518.92	N/A	N/A	N/A						
	PT			319+47.51	1839665.5739	6491730.8714													
CV-25		279.98	S 10° 37' 44" E																
	PC			322+27.64	1839390.2521	6491782.5407													
	PI				1839276.7201	6491803.8469	3658.63	1° 33' 58"	3° 37' 01"	230.97	N/A	N/A	N/A						
CV-26	PT			324+58.41	1839164.7409	6491832.2776													
		166.27	S 14° 14' 46" E																
	PC			326+24.88	1839003.5878	6491873.1936													
CV-26	PI				1838961.7715	6491883.8106	1348.14	4° 15' 00"	3° 39' 57"	86.26	N/A	N/A	N/A						
	PT			327+11.13	1838919.3622	6491891.7321													
			S 10° 34' 49" E																

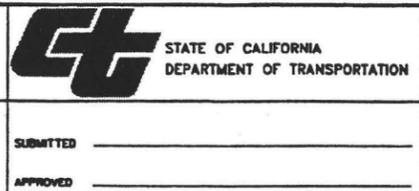
**BNSF YARD TRACK No. 2 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	E <sub>o</sub> (In)	E <sub>u</sub> * (In)	V (mph)	L <sub>s</sub> (feet)	THETA	L <sub>t</sub> (feet)	S <sub>t</sub> (feet)	X (feet)	Y (feet)
NO. 9 T.O.	PS	30.42	S 12° 57' 11" W	308+98.49	1840705.5181	6491901.4986													
	PITO	174.55	S 12° 57' 11" W	309+28.91	1840675.8719	6491894.6810													
	PC			311+03.46	1840505.7644	6491855.5556													
CV-27	PI				1840454.2079	6491843.6979	2354.62	2° 26' 00"	2° 34' 28"	105.79	N/A	N/A	N/A						
	PT			312+09.25	1840403.2302	6491829.5348													
		235.92	S 15° 31' 37" W																
CV-28	PC			314+45.17	1840175.9212	6491766.3815													
	PI				1839924.4893	6491696.5259	1123.36	5° 06' 01"	26° 09' 21"	512.82	N/A	N/A	N/A						
	PT			319+57.99	1839668.0071	6491744.6591													
CV-29		279.98	S 10° 37' 44" E																
	PC			322+37.97	1839392.8346	6491796.3005													
	PI				1839266.4802	6491820.0130	3644.63	1° 34' 19"	4° 02' 26"	257.03	N/A	N/A	N/A						
CV-30	PT			324+95.00	1839142.0955	6491852.5741													
		138.91	S 14° 40' 11" E																
	PC			326+33.91	1839007.7143	6491887.7524													
CV-30	PI				1838960.9335	6491899.9987	1348.14	4° 15' 00"	4° 06' 32"	96.68	N/A	N/A	N/A						
	PT			327+30.59	1838913.3916	6491908.8625													
			S 10° 33' 40" E																

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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY MW
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CHECKED BY KW
IN CHARGE
DATE MAR 10, 2003



**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TRACK GEOMETRY TABLE  
(SHEET 7 OF 10)**

CONTRACT NO.	
DRAWING NO.	GT-7
SCALE	N/A
SHEET NO.	17



**BNSF YARD TRACK No. 3 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (In)	Eu* (In)	V (mph)	Ls (feet)	THETA	L+ (feet)	S+ (feet)	X (feet)	Y (feet)	
NO. 9 T.O.	PS	30.42	S 11° 14' 07" W	407+23.94	1840872.1582	6491935.9435														
	PITO	77.68	S 4° 51' 57" W	407+54.36	1840842.3212	6491930.0166														
	PC			408+32.04	1840764.9222	6491923.4276														
CV-31	PI				1840722.3649	6491919.8047	603.00	9° 30' 07"	8° 06' 12"	85.28	N/A	N/A	N/A							
	PT			409+17.32	1840680.7421	6491910.2190														
		185.33	S 12° 58' 09" W																	
	PC			411+02.65	1840500.1367	6491868.6255														
CV-32	PI				1840450.4946	6491857.1928	9094.68	0° 37' 48"	0° 38' 30"	101.85	N/A	N/A	N/A							
	PT			412+04.51	1840401.0118	6491845.2118														
		281.11	S 13° 36' 39" W																	
	PC			414+85.62	1840127.7950	6491779.0593														
CV-33	PI				1840066.6625	6491764.2576	909.42	6° 18' 01"	7° 54' 47"	125.60	N/A	N/A	N/A							
	PCC			416+11.22	1840004.0739	6491758.0129														
CV-34	PI				1839782.5388	6491735.9094	1512.69	3° 47' 16"	16° 44' 43"	442.10	N/A	N/A	N/A							
	PT			420+53.31	1839564.0294	6491778.5706														
		245.47	S 11° 02' 50" E																	
	PC			422+98.78	1839323.1121	6491825.6067														
CV-35	PI				1839233.7406	6491843.0552	2879.79	1° 59' 22"	3° 37' 20"	182.07	N/A	N/A	N/A							
	PT			424+80.84	1839145.6411	6491866.1177														
		281.26	S 14° 40' 11" E																	
	PC			427+62.10	1838873.5526	6491937.3449														
CV-36	PI				1838826.8283	6491949.5764	1348.14	4° 15' 00"	4° 06' 14"	96.56	N/A	N/A	N/A							
	PT			428+58.66	1838779.3440	6491958.4338														
			S 10° 33' 57" E																	

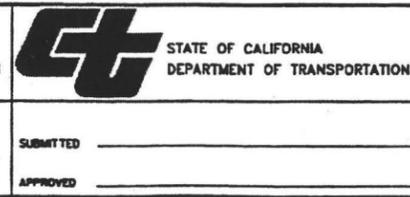
**SCRRA MAINLINE TRACK No. 3 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	Ea (In)	Eu* (In)	V (mph)	Ls (feet)	THETA	L+ (feet)	S+ (feet)	X (feet)	Y (feet)	
			S 12° 53' 10" W																	
	TS			756+87.40	1840202.5547	6491872.2474								40.00	0° 35' 00"	26.67	13.33	40.00	0.14	
	SC			757+27.40	1840163.5322	6491863.4593														
							1964.43	2° 55' 00"	7° 56' 24"	272.23	0.00	4.00	45							
	CS			759+99.63	1839894.3891	6491824.0383								40.00	1° 16' 00"	20.53	19.47	40.00	0.43	
CV-57	PI				1839784.4592	6491776.5971														
	SC			760+39.63	1839854.4754	6491821.4250														
							1676.95	3° 25' 00"	13° 57' 46"	408.67	0.00	4.00	45							
	CS			764+48.30	1839447.7564	6491849.0478								70.00	1° 11' 45"	46.67	23.33	70.00	0.49	
	ST			765+18.30	1839379.2032	6491863.1995														
	POE	477.00	S 12° 03' 45" E	769+95.30	1838912.7373	6491962.8824														

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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL						
1/10/03					25% DESIGN SUBMITTAL						

DESIGNED BY MW
DRAWN BY JYM
CHECKED BY KW
IN CHARGE
DATE MAR 10, 2003



**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TRACK GEOMETRY TABLE  
(SHEET 8 OF 10)**

CONTRACT NO.	
DRAWING NO.	GT-8
SCALE	N/A
SHEET NO.	18



**SCRRA MAINLINE TRACK No. 4 GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	EA (in)	EU* (in)	V (mph)	Ls (feet)	THETA	Lt (feet)	St (feet)	X (feet)	Y (feet)	
			S 12° 57' 10" W																	
	TS			656+65.41	1840227.2343	6491862.8901								40.00	0° 30' 00"	26.67	13.33	40.00	0.12	
	SC			657+05.41	1840188.2263	6491854.0377														
CV-58	PI				1840107.4532	6491835.3406	2291.83	2° 30' 00"	4° 08' 31"	165.68	0.00	4.00	45							
	CS			658+71.08	1840025.2978	6491824.1884								40.00	0° 30' 00"	26.67	13.33	40.00	0.12	
	ST			659+11.08	1839985.6850	6491818.6371														
		49.11	S 7° 48' 39" W																	
	TS			659+60.19	1839937.0323	6491811.9631								40.00	1° 07' 10"	26.67	13.33	40.00	0.26	
	SC			660+00.19	1839897.3695	6491806.7853														
CV-59	PI				1839815.4711	6491795.2880	1023.60	5° 35' 51"	10° 22' 29"	185.35	0.00	4.00	45							
	PT			661+85.54	1839712.3377	6491801.9275														
	POE	383.64	S 3° 41' 01" E	665+69.18	1839329.4853	6491826.5749														

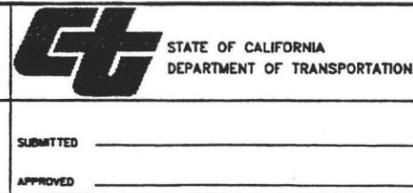
**EASTSIDE EB LRT GEOMETRY TABLE**

CURVE No.	PT. DESC.	DISTANCE (feet)	BEARING	STATION	NORTHING	EASTING	RADIUS (feet)	DEGREE OF CURVE	DELTA	LENGTH (feet)	EA (in)	EU* (in)	V (mph)	Ls (feet)	THETA	Lt (feet)	St (feet)	X (feet)	Y (feet)	
	POB	69.78	S 80° 47' 48" E	221+00.00	1841296.5889	6491529.9158														
	PC			221+69.78	1841285.4281	6491598.7992														
CV-45	PI				1841276.0435	6491656.7199	214.00	26° 46' 25"	30° 39' 57"	114.54	N/A	N/A	N/A							
	PT			222+83.32	1841297.5127	6491711.3272														
		143.88	N 68° 32' 15" E																	
	PC			224+28.20	1841350.1576	6491845.2307														
CV-46	PI				1841409.6183	6491996.4708	86.00	66° 37' 23"	124° 13' 27"	186.46	N/A	N/A	N/A							
	PT			226+14.66	1841251.1239	6491960.5730														
		202.21	S 12° 45' 42" W																	
	PC			228+16.87	1841053.9090	6491915.9052														
CV-47	PI				1841049.1653	6491914.8308	213.00	26° 53' 58"	2° 36' 56"	9.72	N/A	N/A	N/A							
	PT			228+26.59	1841044.3798	6491913.9744														
		44.35	S 10° 08' 46" W																	
	PC			228+70.94	1841000.7232	6491906.1617														
CV-48	PI				1840986.3138	6491903.5830	300.00	19° 05' 55"	5° 35' 12"	29.25	N/A	N/A	N/A							
	PT			229+61.99	1840972.2251	6491899.6140														
		61.80	S 15° 43' 59" W																	
	PC			229+87.47	1840912.7428	6491882.8573														
CV-49	PI				1840888.2222	6491875.9496	1145.92	5° 00' 00"	2° 32' 49"	50.94	N/A	N/A	N/A							
	PT			230+15.71	1840863.4187	6491870.1384														
			S 13° 11' 06" W																	

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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY MW
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**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK GEOMETRY TABLE  
 (SHEET 9 OF 10)**

CONTRACT NO.	
DRAWING NO.	GT-9
SCALE	N/A
SHEET NO.	19



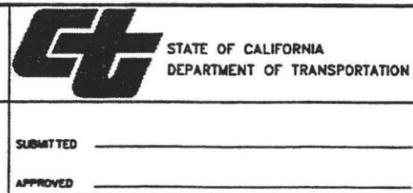
**EASTSIDE WB LRT GEOMETRY TABLE**

CURVE	PT.	DISTANCE					RADIUS	DEGREE		LENGTH	Eo	Eu*	V	Ls		Lt	St	X	Y
No.	DESC.	(feet)	BEARING	STATION	NORTHING	EASTING	(feet)	OF CURVE	DELTA	(feet)	(In)	(In)	(mph)	(feet)	THETA	(feet)	(feet)	(feet)	(feet)
	POB	69.75	S 80° 46' 38" E	320+28.56	1841308.4338	6491531.8391													
	PC			320+98.31	1841297.2540	6491600.6920													
CV-50	PI				1841288.3712	6491655.3982	202.00	28° 21' 51"	30° 41' 07"	108.18	N/A	N/A	N/A						
	PT			322+06.50	1841308.6500	6491706.9777													
		154.45	N 68° 32' 15" E																
	PC			323+60.94	1841365.1610	6491850.7146													
CV-51	PI				1841428.6536	6492012.2099	92.34	62° 02' 55"	123° 57' 41"	199.78	N/A	N/A	N/A						
	PT			325+60.73	1841259.2393	6491974.6551													
		214.16	S 12° 29' 53" W																
	PC			327+74.89	1841050.1533	6491928.3090													
CV-52	PI				1841046.3390	6491927.4635	202.00	28° 21' 51"	2° 12' 58"	7.81	N/A	N/A	N/A						
	PT			327+82.70	1841042.4944	6491926.7661													
		45.49	S 10° 16' 55" W																
	PC			328+28.19	1840997.7366	6491918.6468													
CV-53	PI				1840983.0833	6491915.9886	312.82	18° 18' 57"	5° 27' 04"	29.76	N/A	N/A	N/A						
	PT			328+57.95	1840968.7497	6491911.9507													
		107.42	S 13° 24' 02" W																
	PC			329+18.33	1840910.6345	6491895.5791													
CV-54	PI				1840861.6500	6491881.7797	2500.00	2° 17' 31"	2° 19' 57"	101.77	N/A	N/A	N/A						
	PT			330+20.09	1840812.1442	6491869.9851													
		107.42	S 13° 24' 02" W																
	PC			331+27.52	1840707.6487	6491845.0895													
CV-55	PI				1840678.9922	6491838.2623	1597.25	3° 35' 14"	2° 06' 48"	58.92	N/A	N/A	N/A						
	PT			331+86.43	1840650.5999	6491830.3809													
		366.30	S 15° 30' 51" W																
	PC			335+52.73	1840297.6484	6491732.4050													
CV-56	PI				1840257.4779	6491721.2540	636.62	9° 00' 00"	7° 29' 36"	83.26	N/A	N/A	N/A						
	PT			336+35.99	1840219.1059	6491704.9602													
		67.50	S 23° 00' 27" W																
NO. 8 T.O.	PITO	30.48	S 15° 51' 17" W	337+03.49	1840156.9772	6491678.5786													
	PS			337+33.97	1840127.6567	6491670.2515													

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MW  
 DRAWN BY  
JYM  
 CHECKED BY  
KW  
 IN CHARGE  
 DATE  
MAR 10, 2003



**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK GEOMETRY TABLE  
 (SHEET 10 OF 10)**

CONTRACT NO.	
DRAWING NO.	REV
	GT-10
SCALE	N/A
SHEET NO.	20







MTA  
BUILDING  
OFFICE TOWER

REMOVE MAIL & EXPRESS  
FACILITIES

MTA  
EAST PORTAL

CONSTRUCT NEW TRACKS  
13, 14, 15 & 16

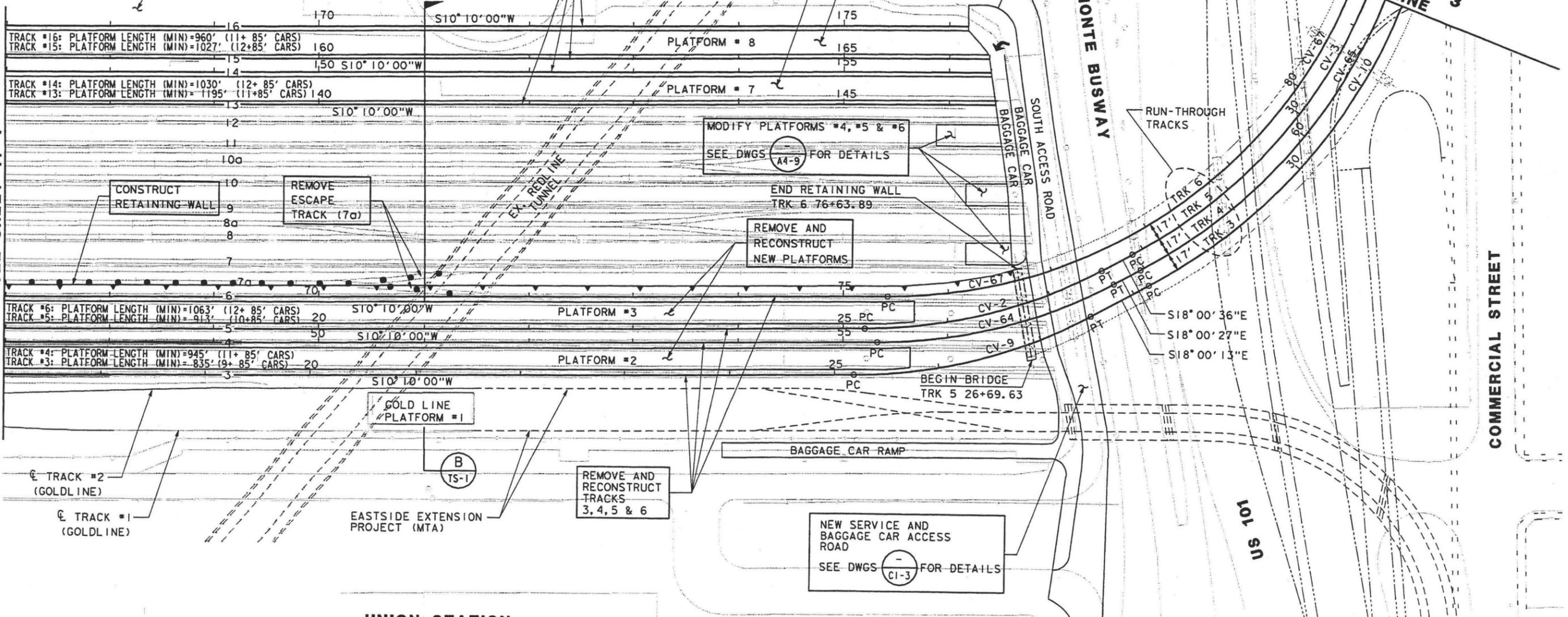
CONSTRUCT NEW  
PLATFORM #7

CONSTRUCT NEW  
PLATFORM #8

EL MONTE  
BUSWAY

SEE SHEET TP-3  
MATCHLINE

MATCHLINE  
SEE SHEET TP-1



TRACK #6: PLATFORM LENGTH (MIN)=1063' (12+ 85' CARS)  
TRACK #5: PLATFORM LENGTH (MIN)= 913' (10+85' CARS)  
TRACK #4: PLATFORM LENGTH (MIN)=945' (11+ 85' CARS)  
TRACK #3: PLATFORM LENGTH (MIN)= 835' (9+ 85' CARS)

TRACK #2  
(GOLD LINE)  
TRACK #1  
(GOLD LINE)

UNION STATION  
BAGGAGE HANDLING

LEGEND

- EXISTING TRACK
- PROPOSED TRACK
- EASTSIDE EXTENSION PROJECT (MTA)
- COMMERCIAL STREET WIDENING PROJECT (LADOT)
- US 101 REALIGNMENT PROJECT (CALTRANS)



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CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

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NATIONAL RAILROAD  
PASSENGER CORPORATION

**HDR** HDR Engineering, Inc.

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

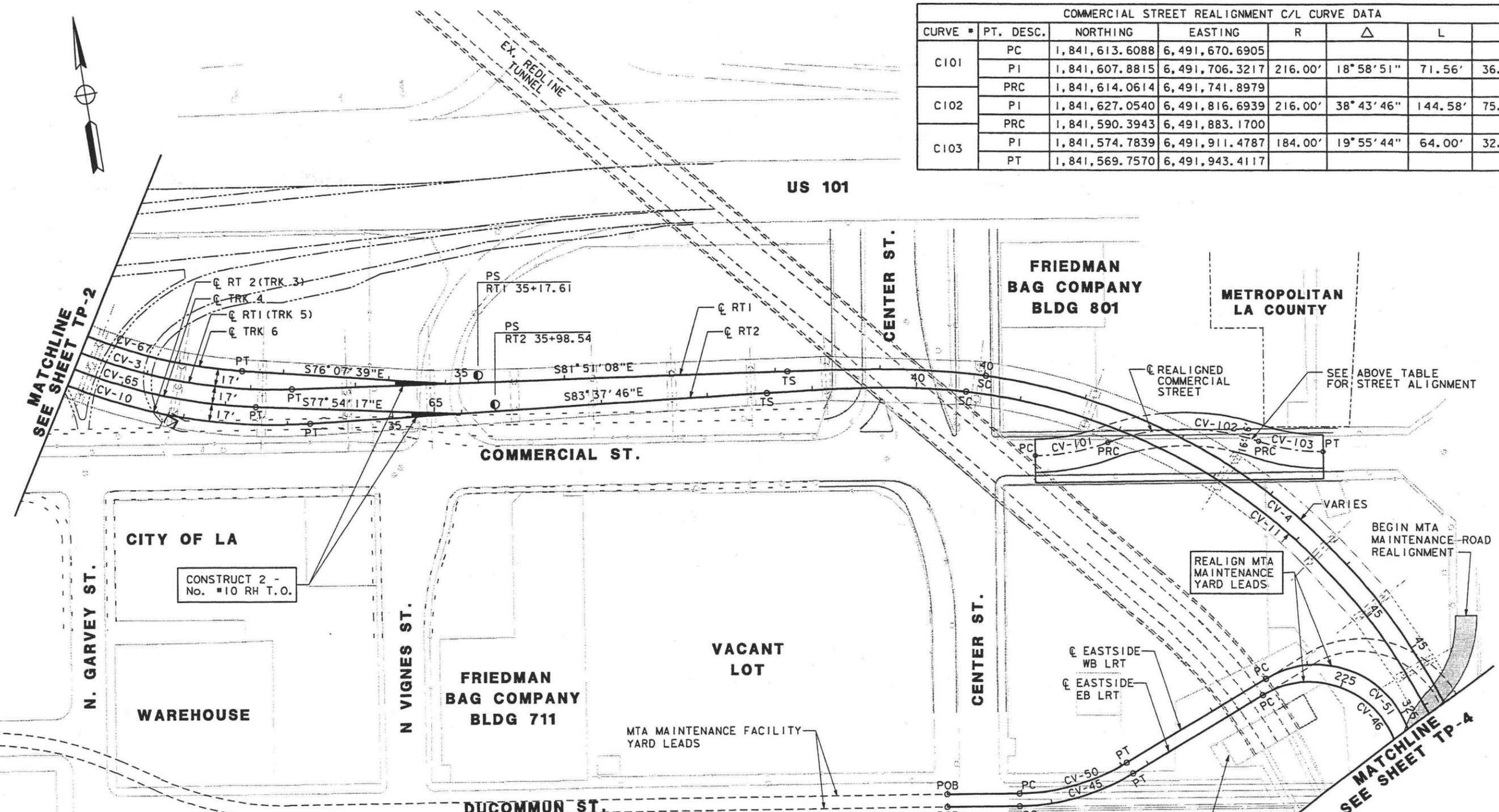
**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TRACK PLAN**

CONTRACT NO.	
DRAWING NO.	TP-2
SCALE	1"=50'
SHEET NO.	22



COMMERCIAL STREET REALIGNMENT C/L CURVE DATA							
CURVE #	PT. DESC.	NORTHING	EASTING	R	Δ	L	T
C101	PC	1,841,613.6088	6,491,670.6905				
	PI	1,841,607.8815	6,491,706.3217	216.00'	18°58'51"	71.56'	36.11'
	PRC	1,841,614.0614	6,491,741.8979				
C102	PI	1,841,627.0540	6,491,816.6939	216.00'	38°43'46"	144.58'	75.92'
	PRC	1,841,590.3943	6,491,883.1700				
C103	PI	1,841,574.7839	6,491,911.4787	184.00'	19°55'44"	64.00'	32.33'
	PT	1,841,569.7570	6,491,943.4117				



MATCHLINE  
SEE SHEET TP-2

MATCHLINE  
SEE SHEET TP-4

**LEGEND**

- PROPOSED TRACK
- TURNOUT
- EASTSIDE EXTENSION PROJECT (MTA)
- COMMERCIAL STREET WIDENING PROJECT (LADOT)
- US 101 WIDENING PROJECT (CALTRANS)
- REALIGNED MTA MAINTENANCE ROAD



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DRAWN BY	JM
CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

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PASSENGER CORPORATION

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**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

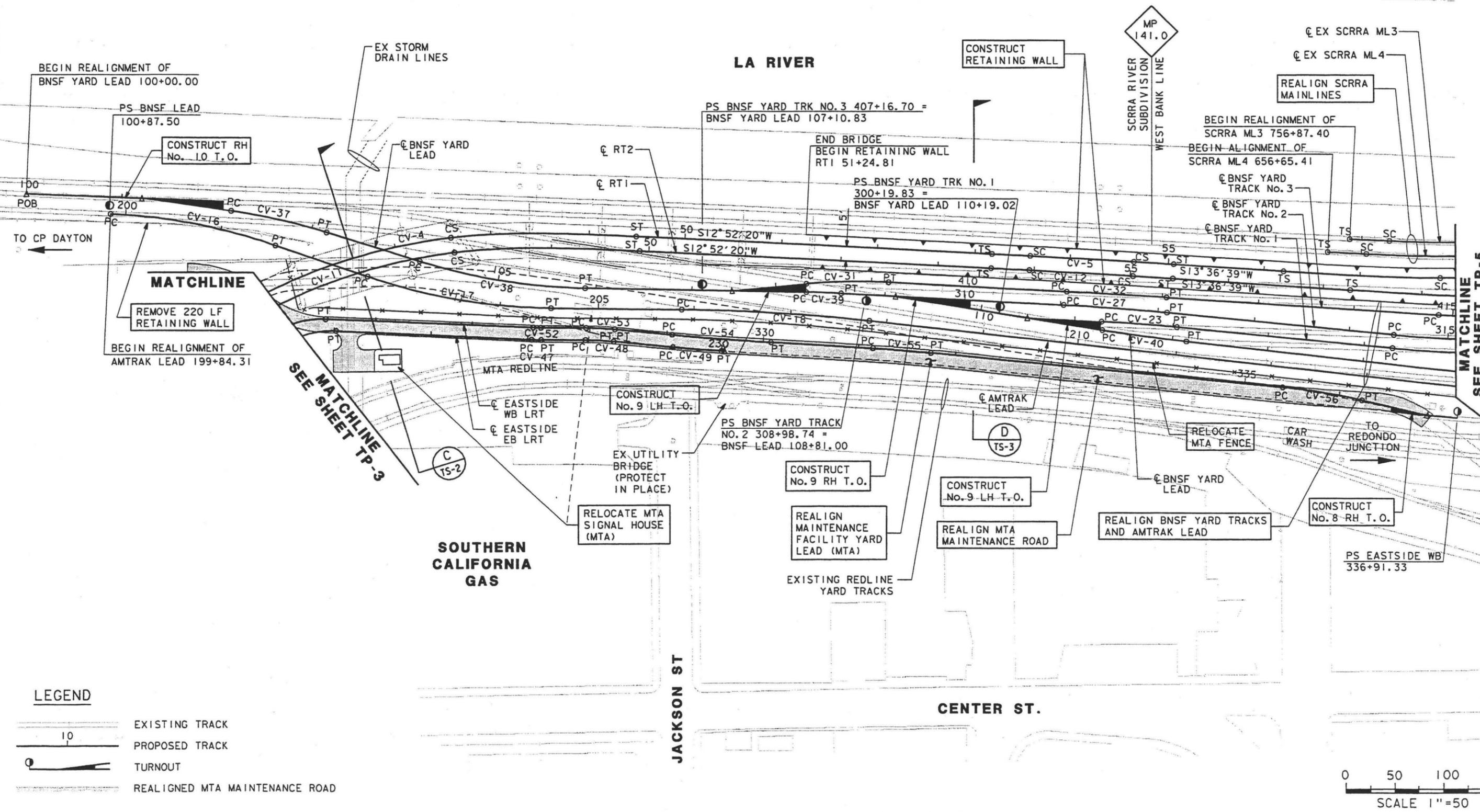
**TRACK PLAN**

CONTRACT NO.	
DRAWING NO.	TP-3
SCALE	1"=50'
SHEET NO.	23





LA RIVER



**LEGEND**

- EXISTING TRACK
- PROPOSED TRACK
- TURNOUT
- REALIGNED MTA MAINTENANCE ROAD



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DESIGNED BY	KW
DRAWN BY	JYM
CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

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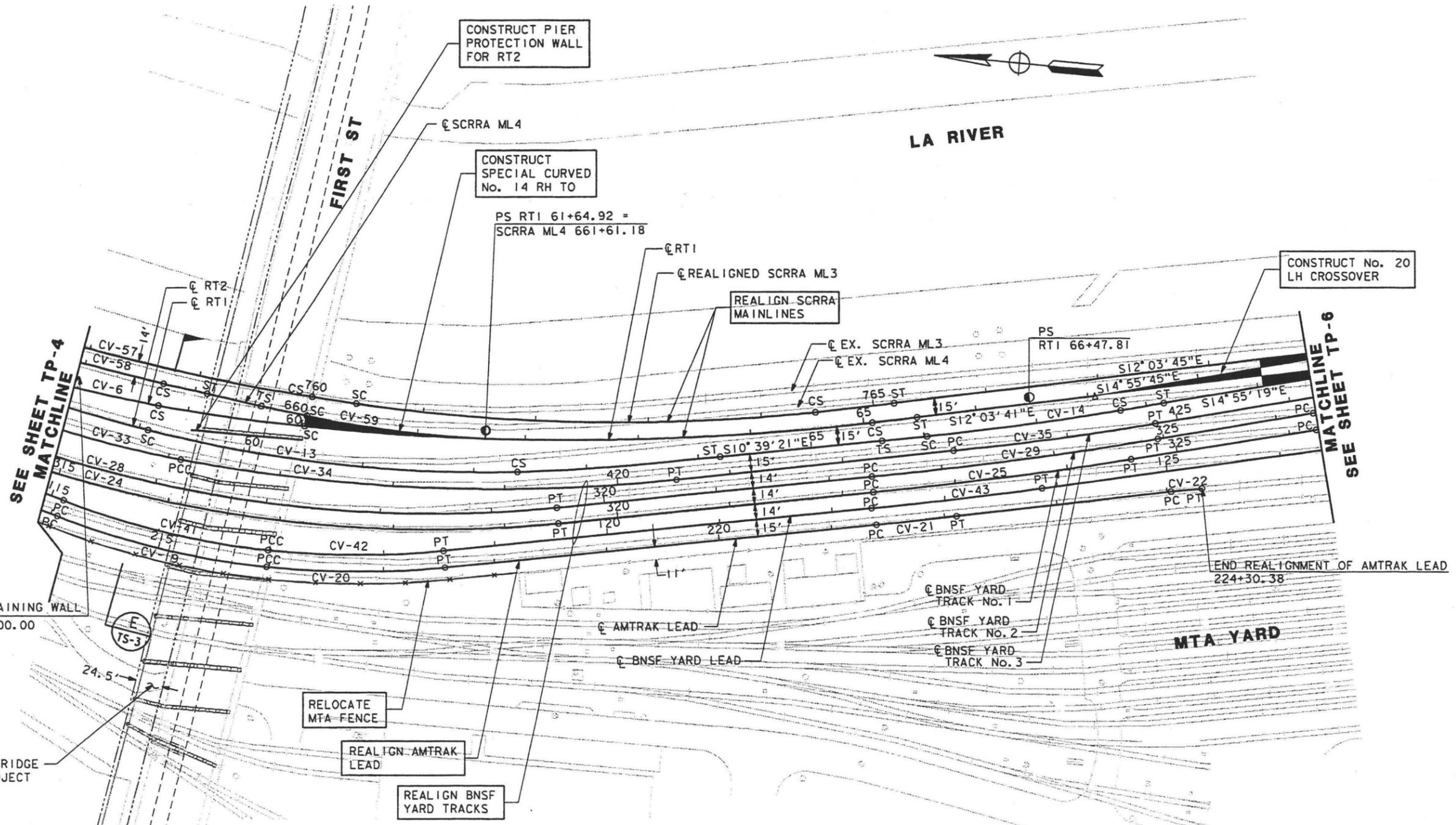
SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

**TRACK PLAN**

CONTRACT NO.	
DRAWING NO.	TP-4
SCALE	1"=50'
SHEET NO.	24





**LEGEND**

- EXISTING TRACK
- PROPOSED TRACK
- TURNOUT
- EASTSIDE EXTENSION PROJECT (MTA)
- FIRST STREET BRIDGE WIDENING PROJECT (CITY OF LA)



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CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

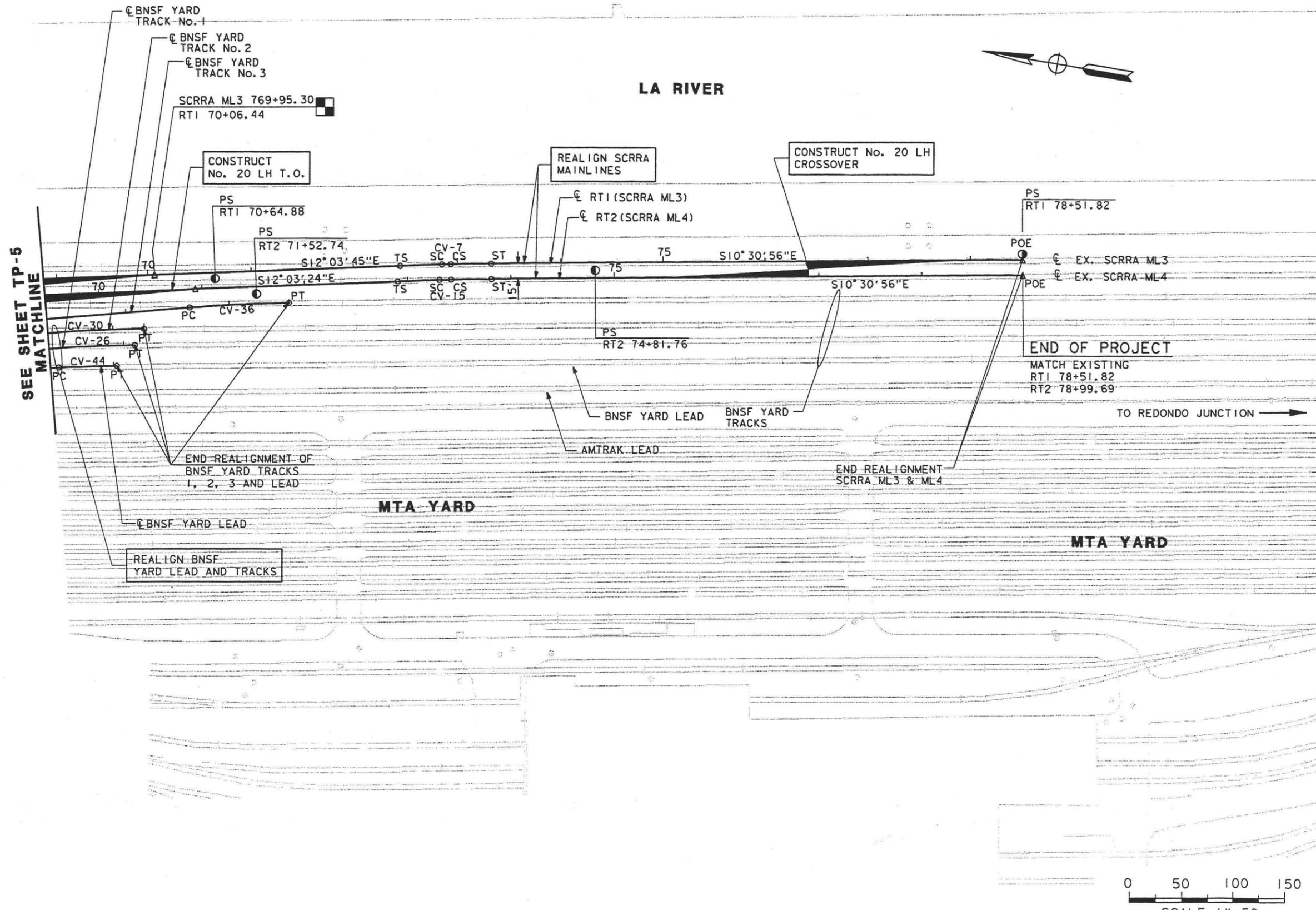


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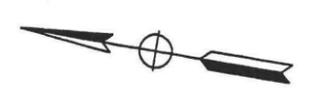
**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**TRACK PLAN**

CONTRACT NO.	
DRAWING NO.	TP-5
SCALE	1"=50'
SHEET NO.	25



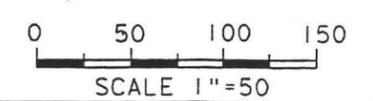


SEE SHEET TP-5  
MATCHLINE



**LEGEND**

- EXISTING TRACK
- PROPOSED TRACK
- TURNOUT



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DESIGNED BY	KW
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CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

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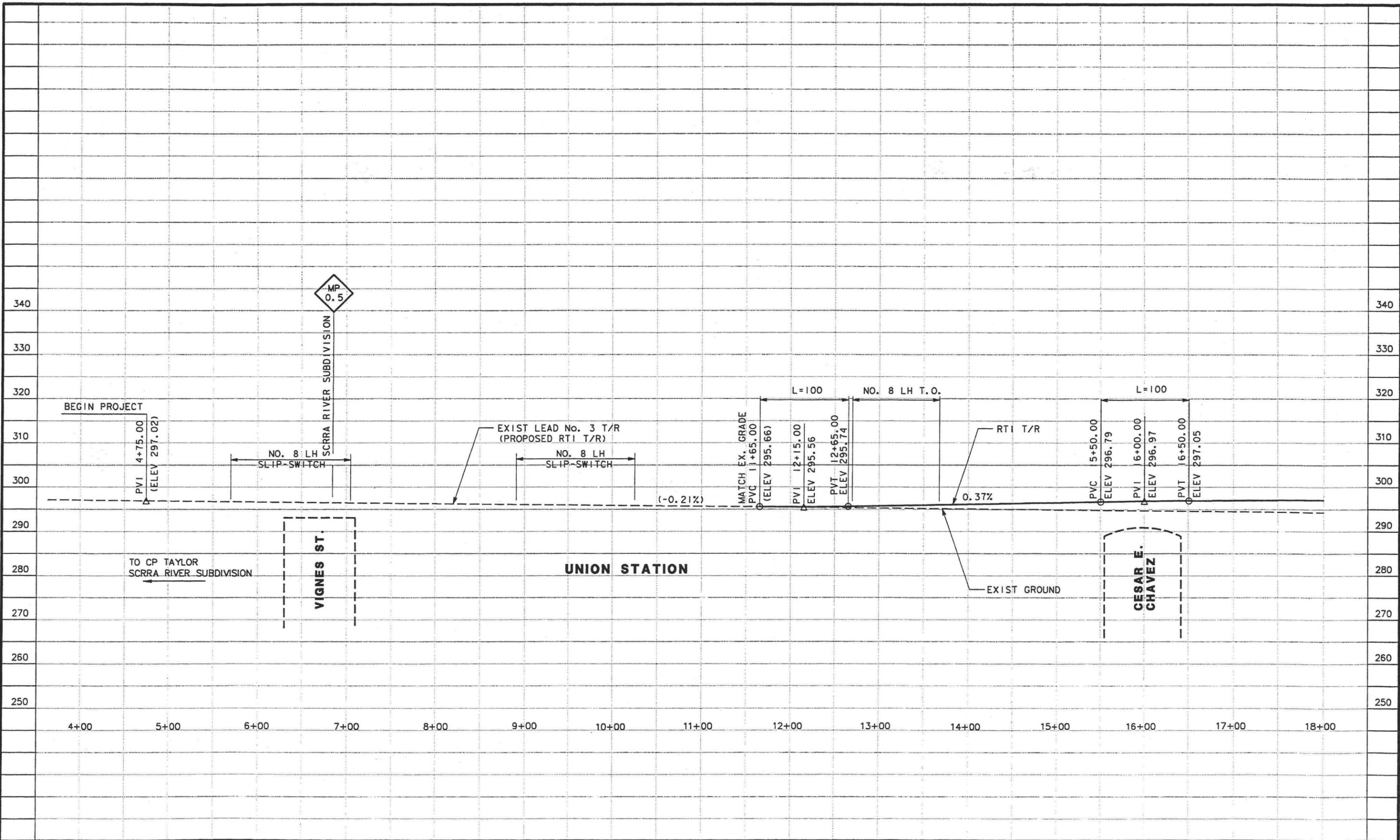
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**TRACK PLAN**

CONTRACT NO.	
DRAWING NO.	TP-6
SCALE	1"=50'
SHEET NO.	26

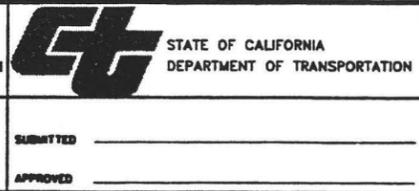


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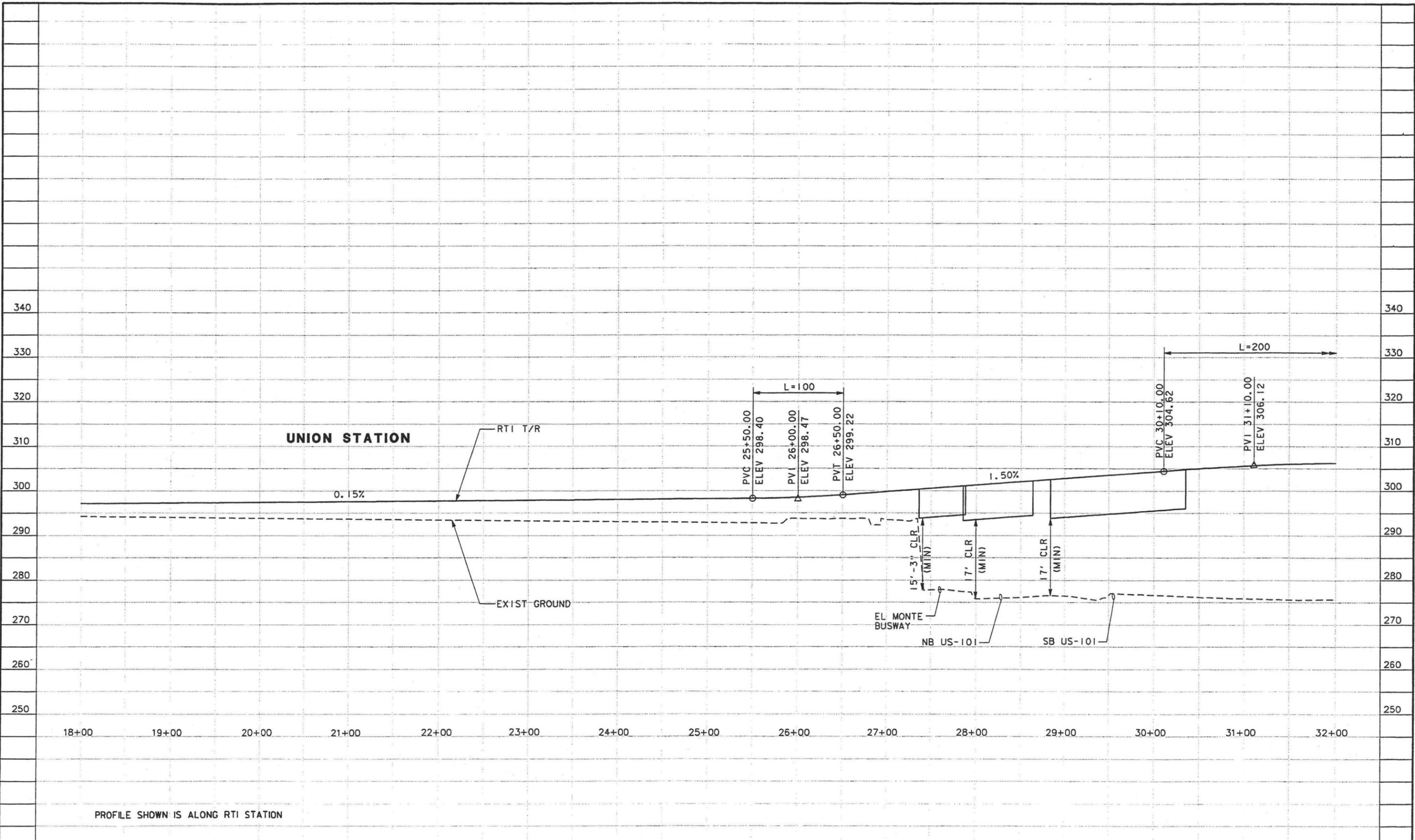


**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK RT1  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TFOI
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	27





PROFILE SHOWN IS ALONG RT1 STATION

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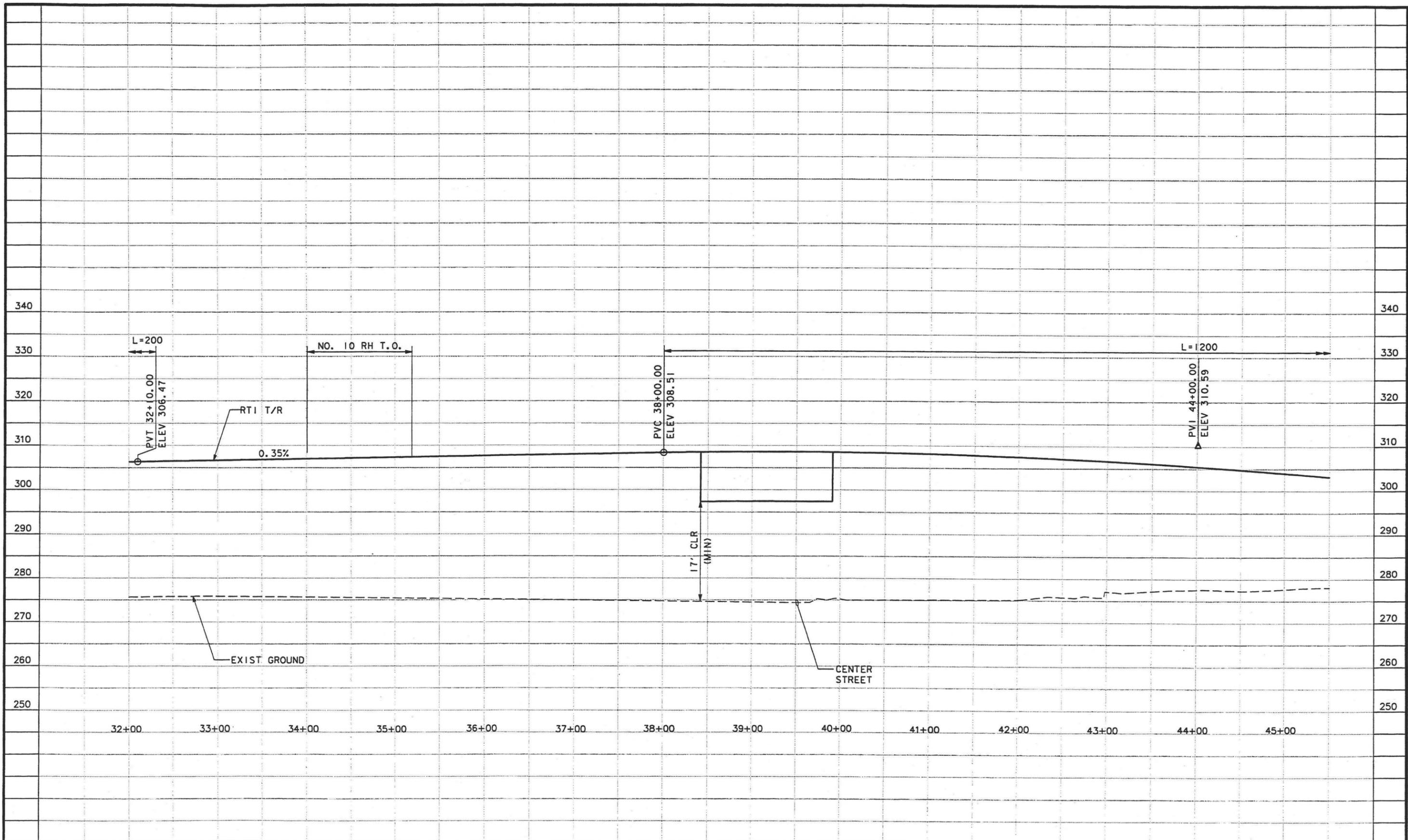

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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**TRACK RT1**  
**TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF02
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	28



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**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK RT1  
 TRACK PROFILE**

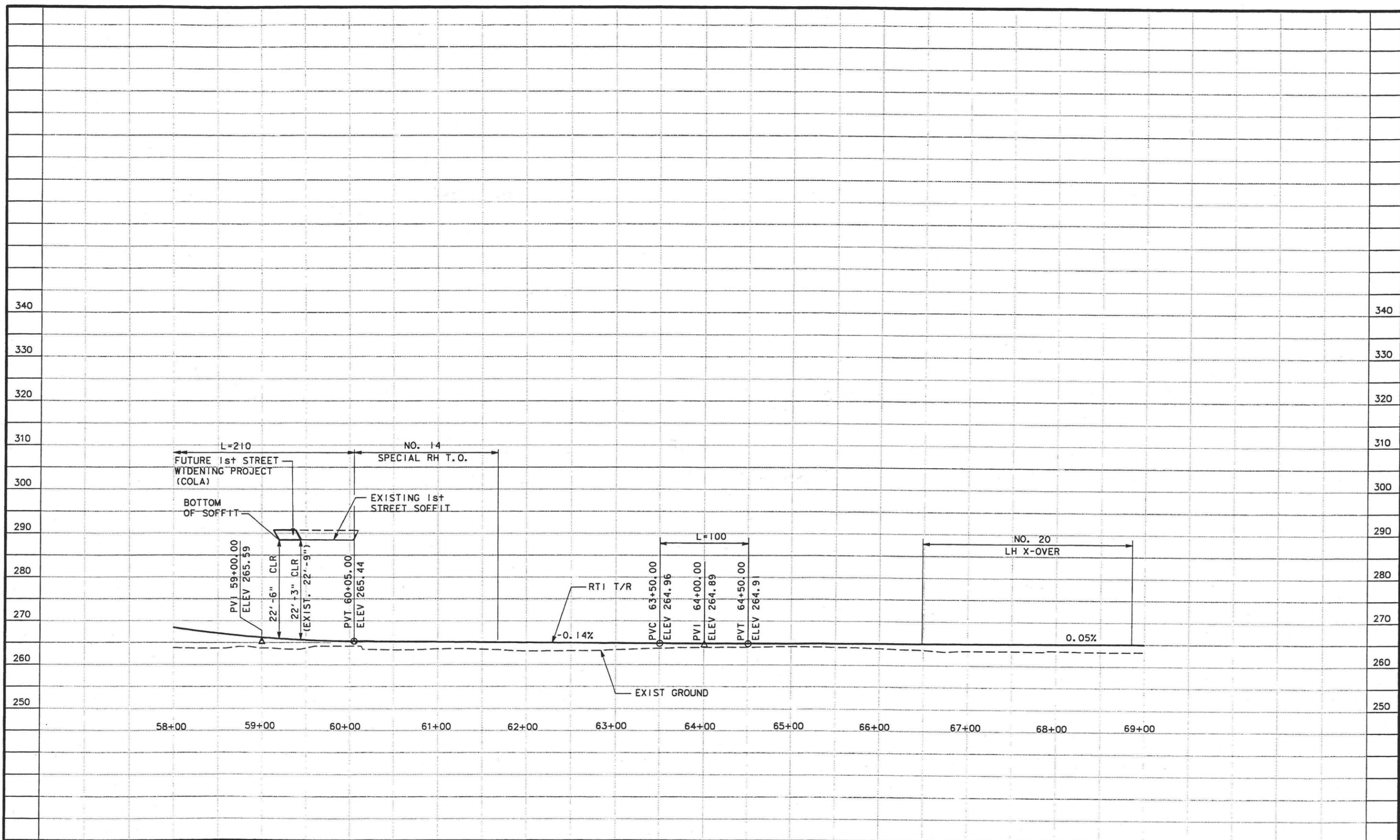
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SHEET NO.	29





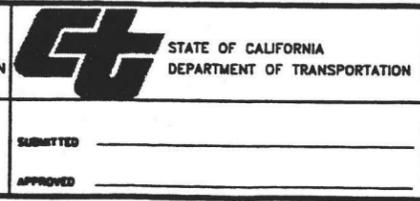


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TTK  
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MAR 10, 2003



**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK RT1  
 TRACK PROFILE**

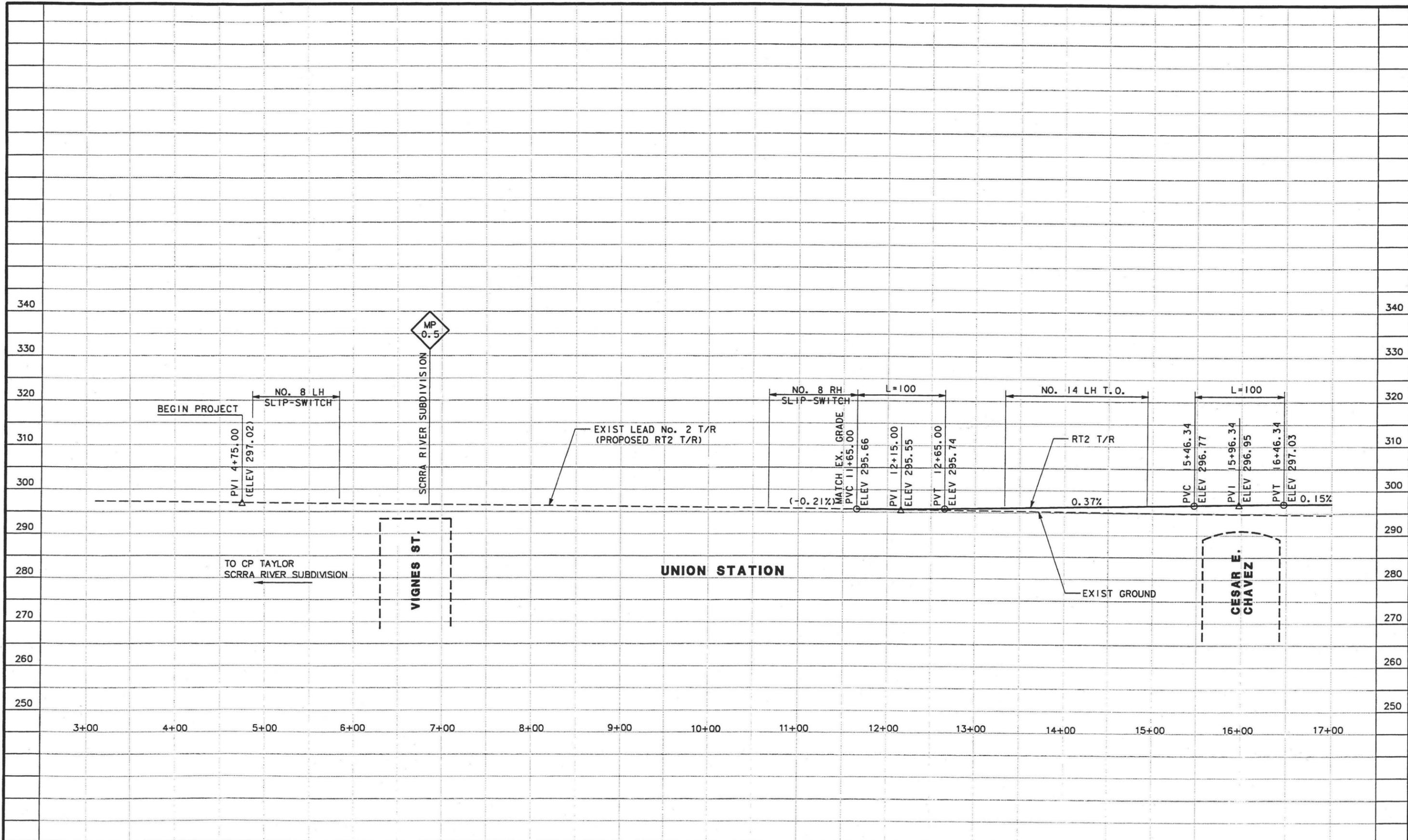
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SHEET NO.	31







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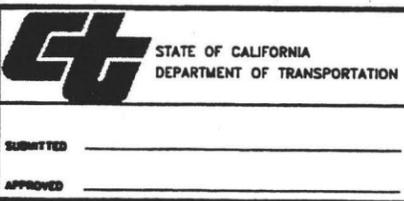
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IN CHARGE  
TTK

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MAR 10, 2003



**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK RT2  
 TRACK PROFILE**

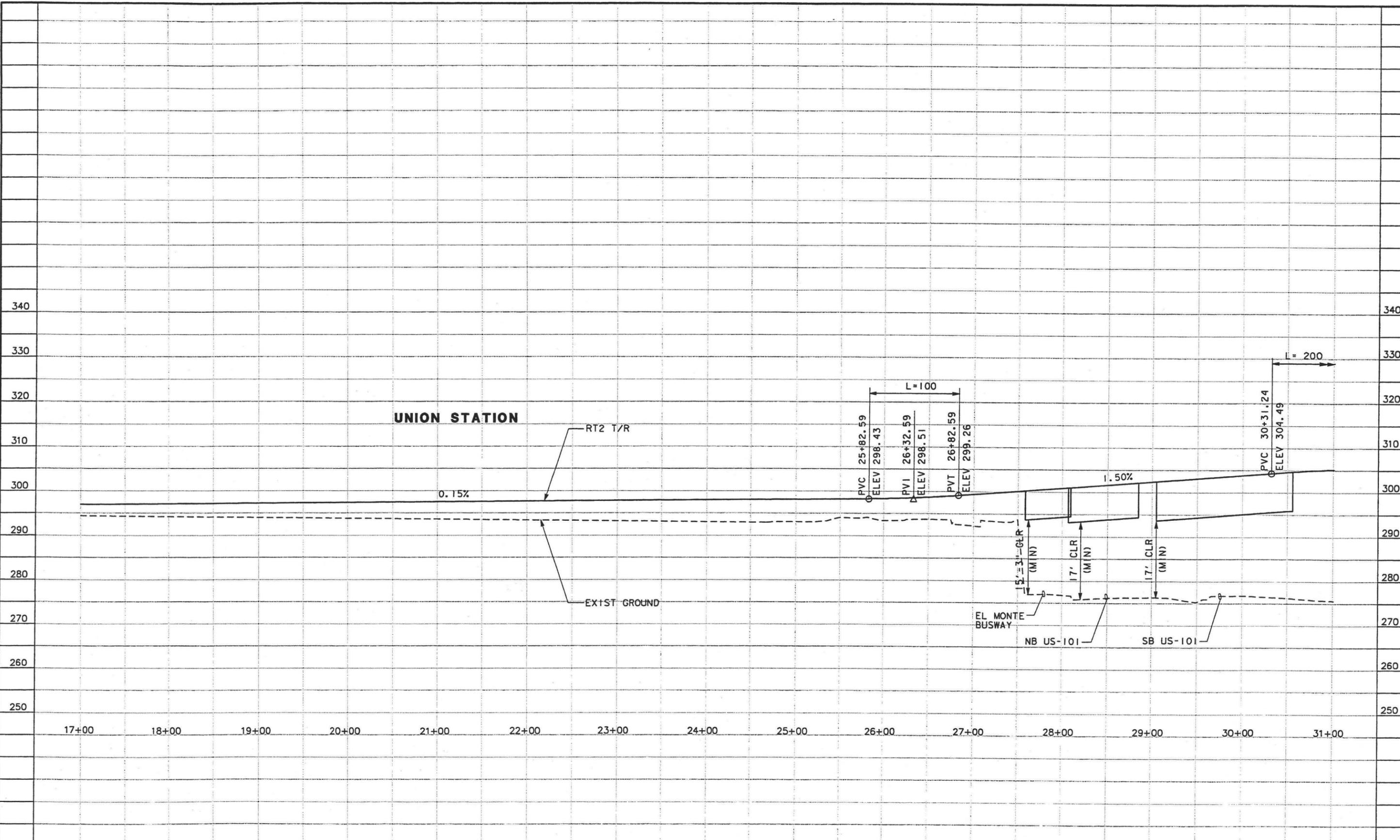
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SCALE HOR 1"=50'  
 VERT 1"=10'

SHEET NO. 33

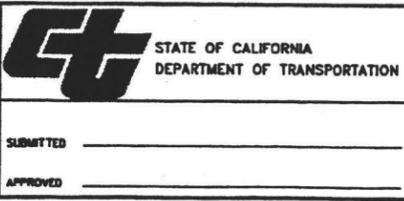




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KW  
 DRAWN BY  
JYM  
 CHECKED BY  
ME  
 IN CHARGE  
TTK  
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MAR 10, 2003



**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
  
**TRACK RT2**  
**TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF08
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	34

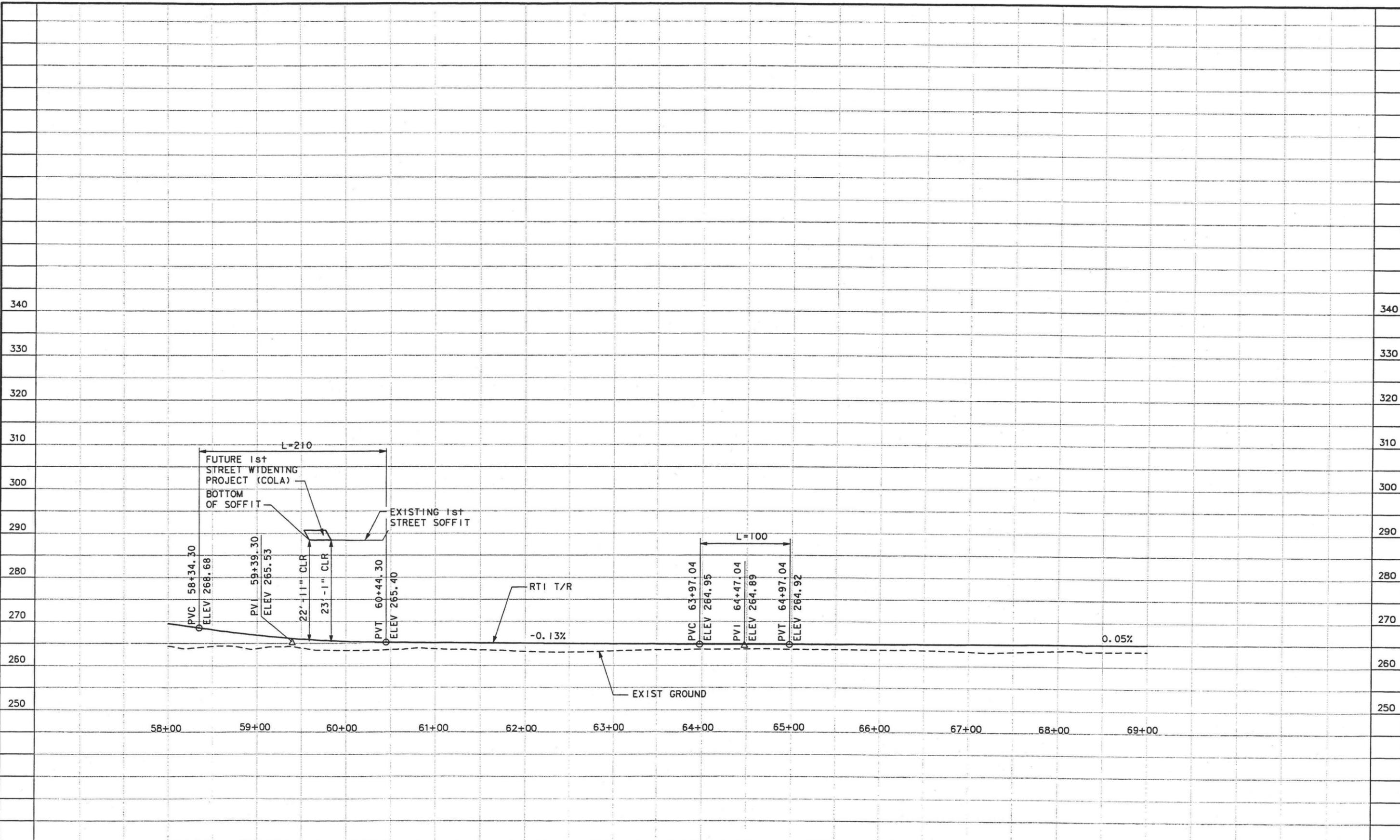












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PASSENGERS CORPORATION

HDR Engineering, Inc.

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DEPARTMENT OF TRANSPORTATION

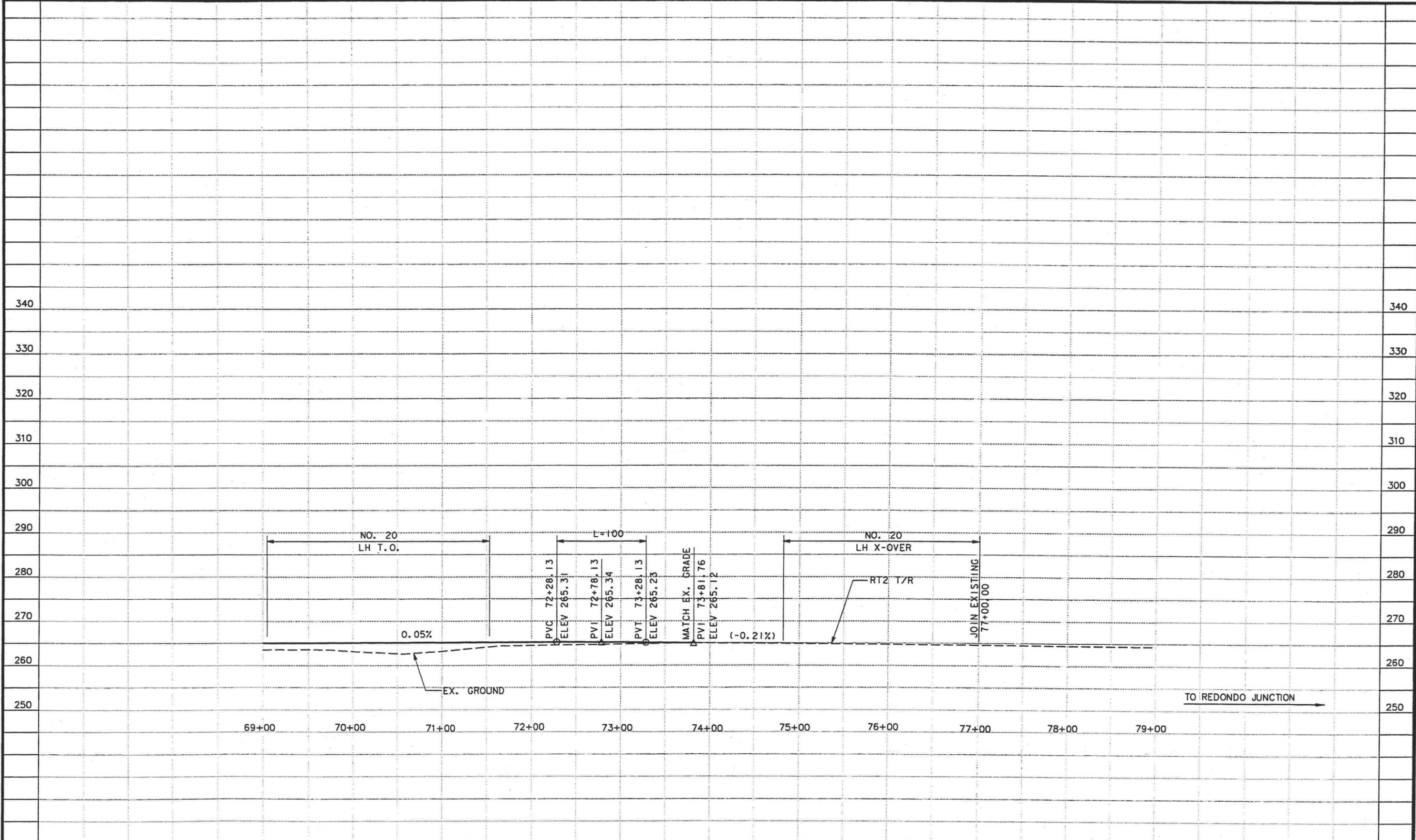
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LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS  
 TRACK RT2  
 TRACK PROFILE

CONTRACT NO.	
DRAWING NO.	TF11
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	37



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DATE MAR 10, 2003

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**HDR**  
 HDR Engineering, Inc.

**CT**  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

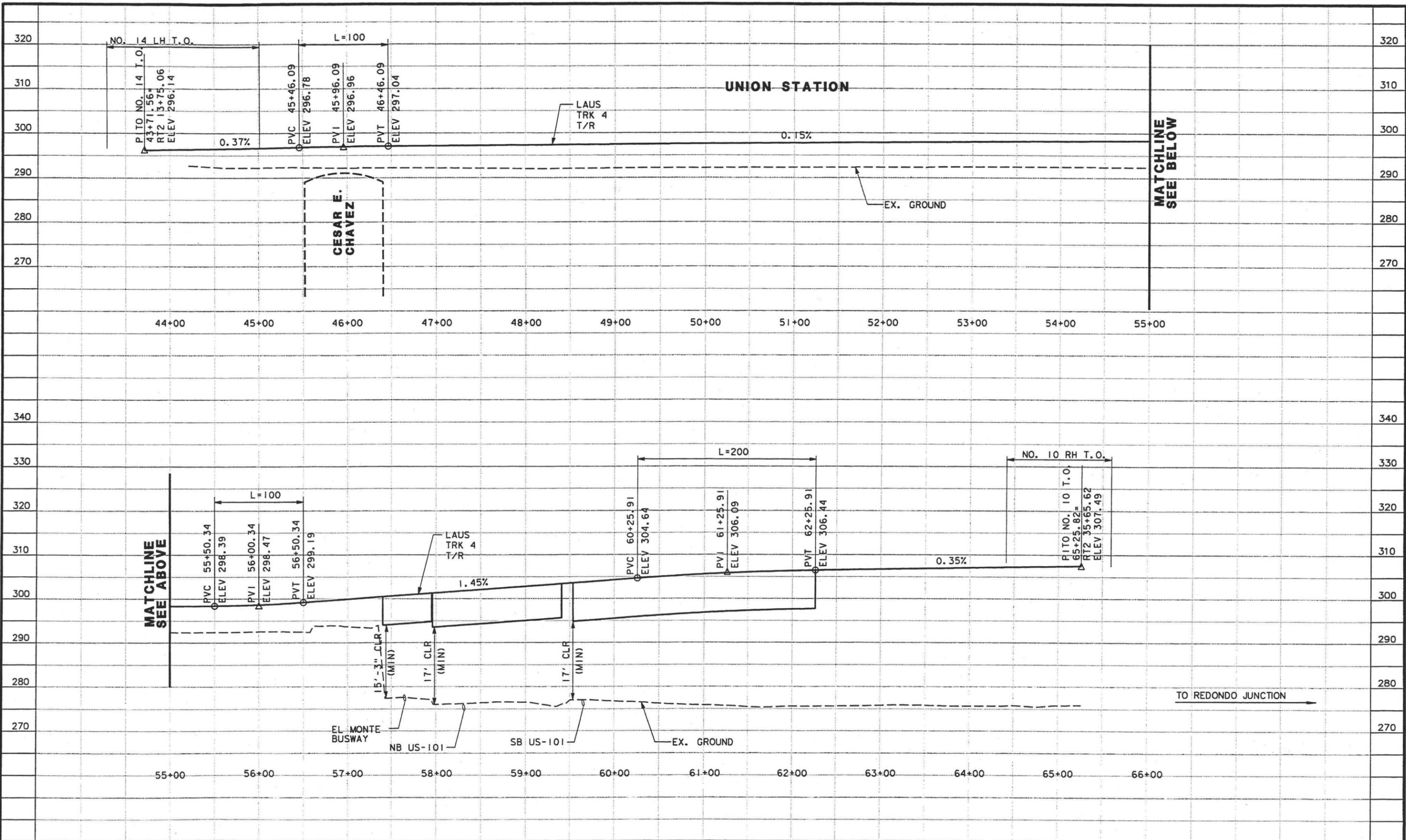
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**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK RT2  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF12
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	38





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ME  
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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**TRACK 4 (LAUS)**  
**TRACK PROFILE**

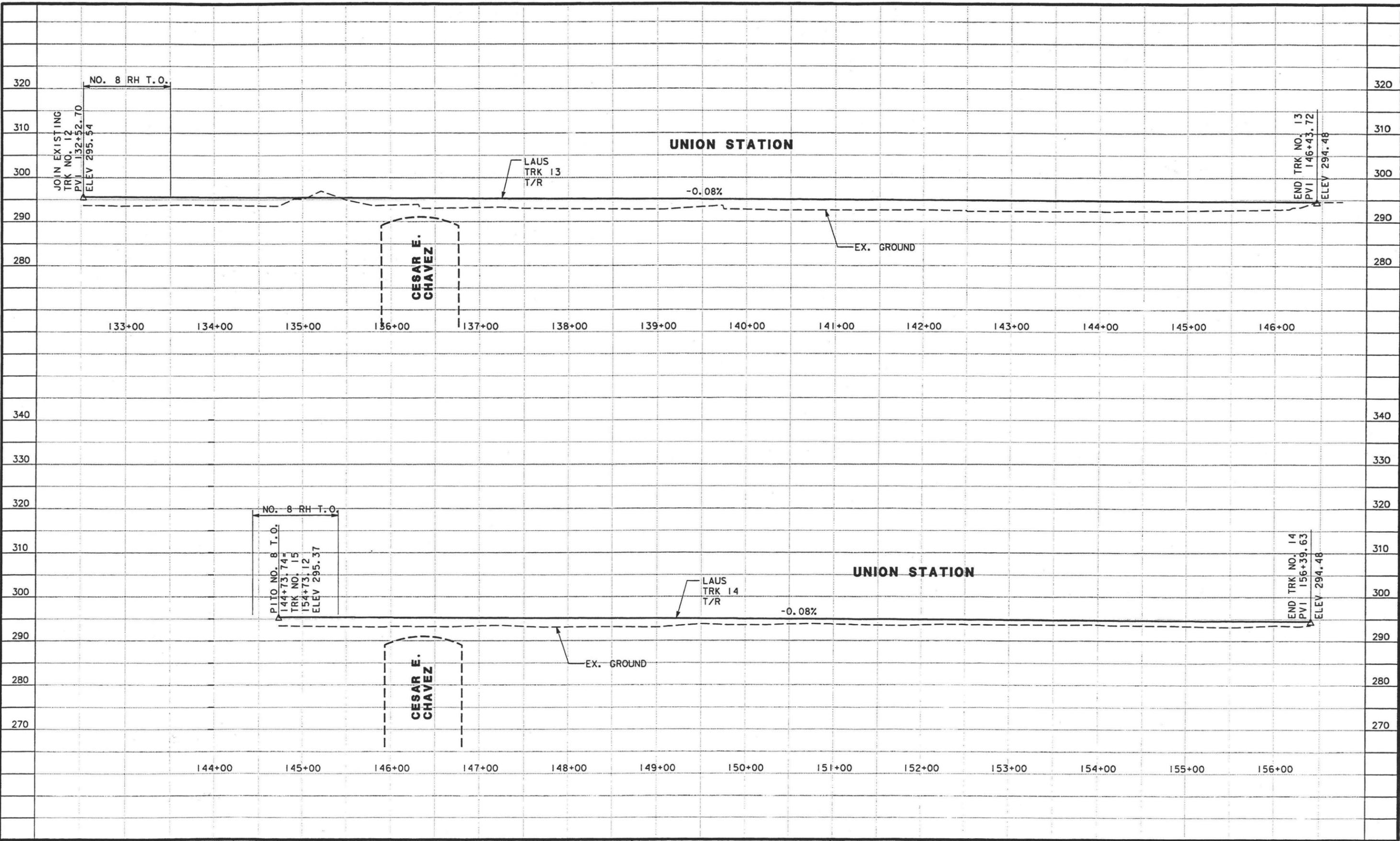
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SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	39







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CHECKED BY ME
IN CHARGE TTK
DATE MAR 10, 2003

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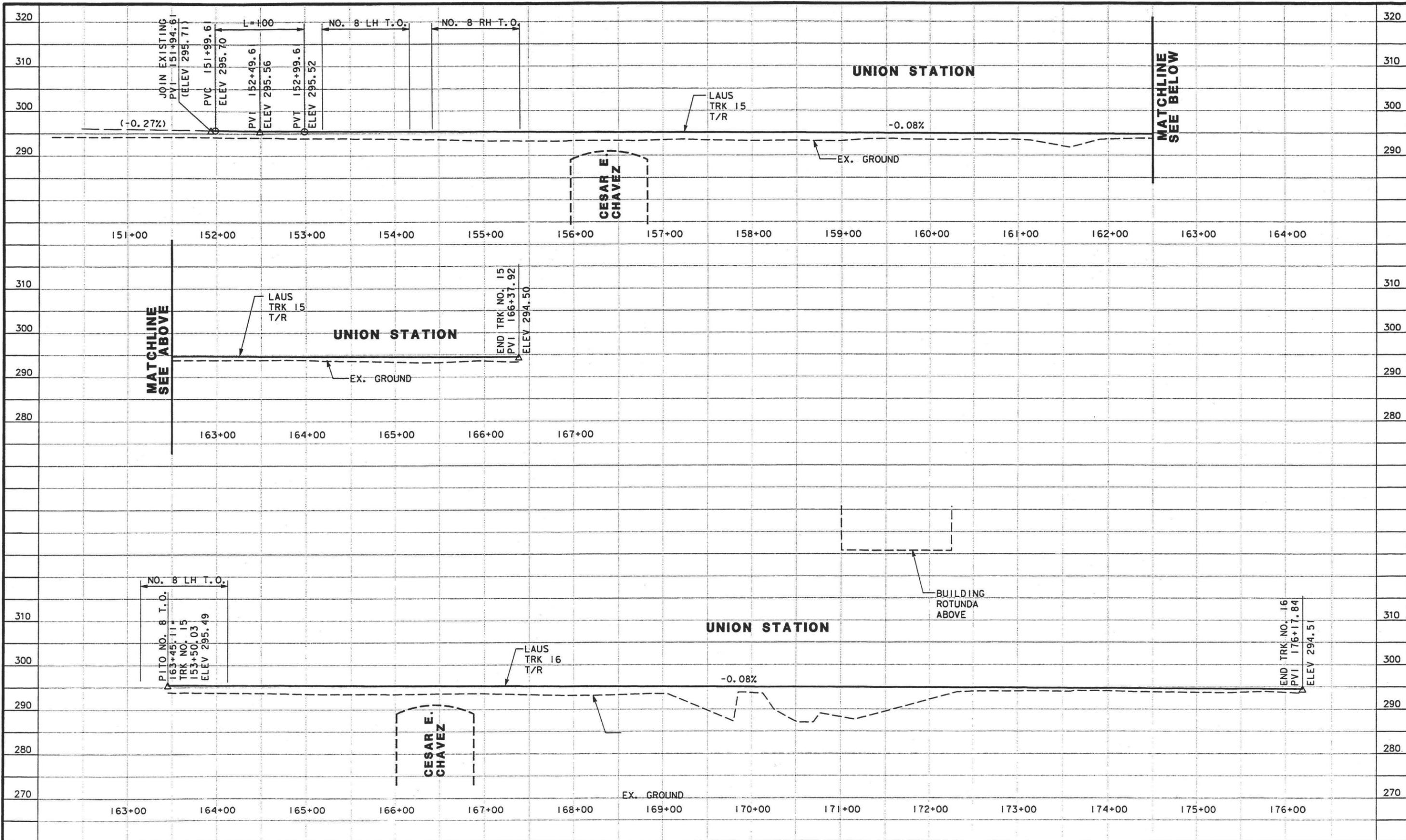
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 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TRACK 13 & 14 (LAUS)  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF15
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	41





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DESIGNED BY	KW
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IN CHARGE	TTK
DATE	MAR 10, 2003



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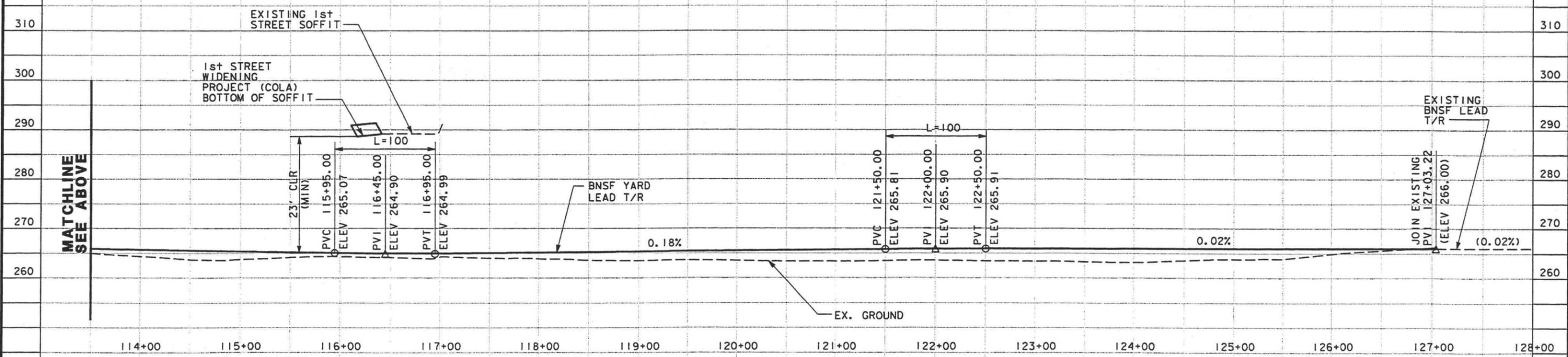
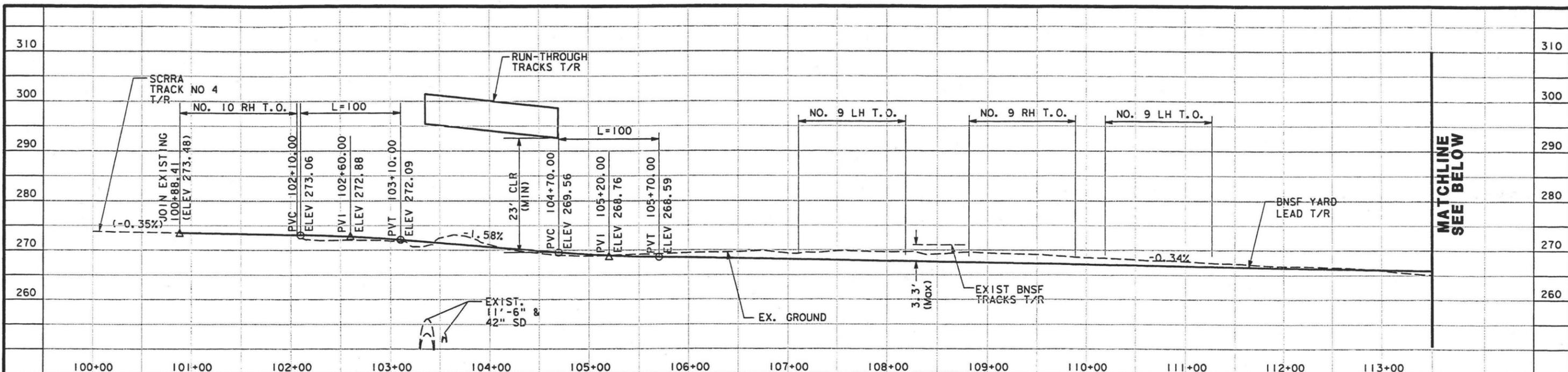


STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**TRACK 15 & 16 (LAUS)  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF16
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	42

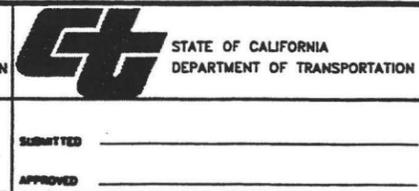




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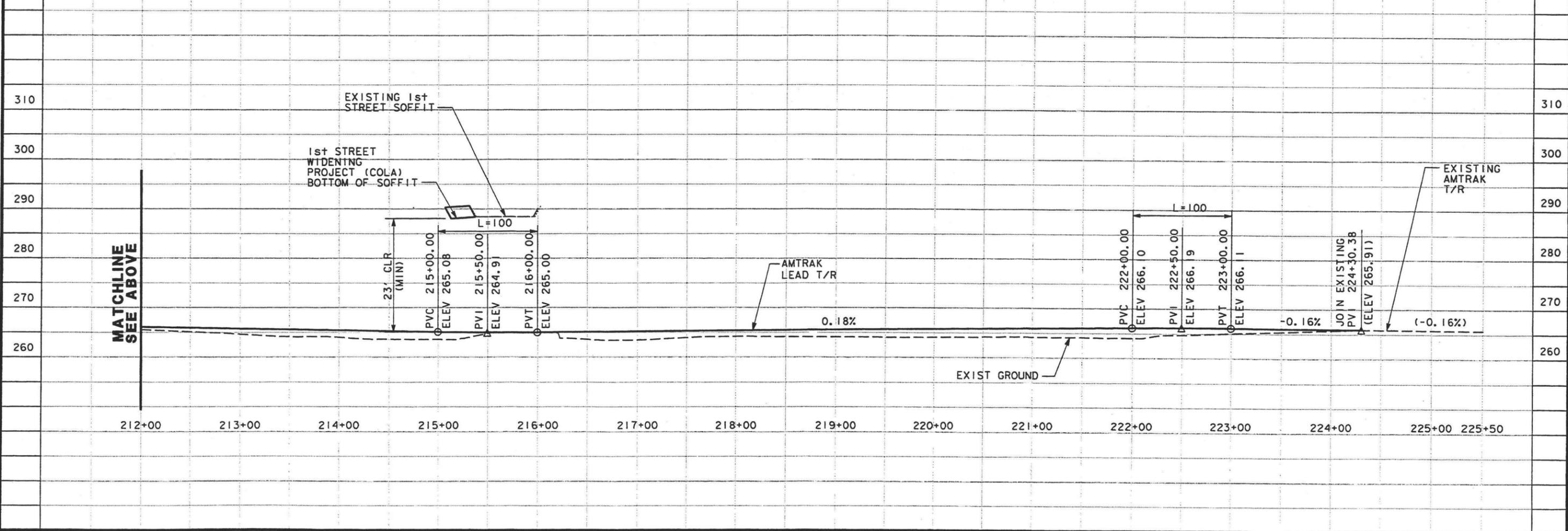
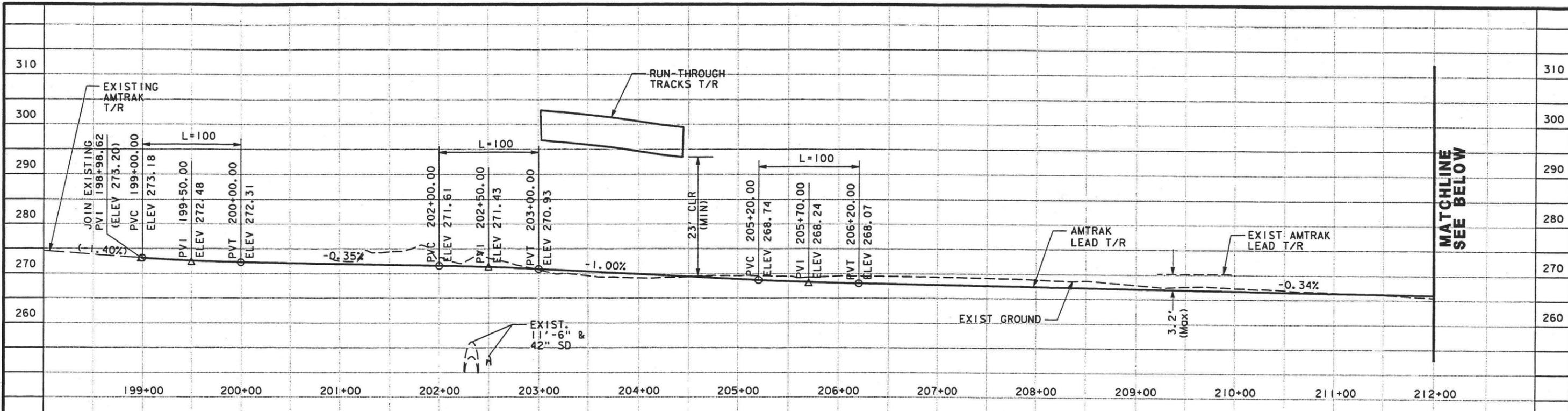
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KW  
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JYM  
 CHECKED BY  
ME  
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TTK  
 DATE  
MAR 10, 2003



**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**BNSF YARD LEAD  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF17
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	43





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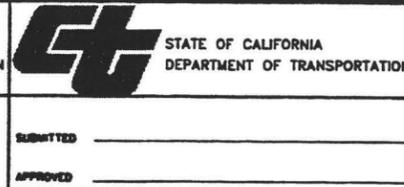
DESIGNED BY  
KW

DRAWN BY  
JYM

CHECKED BY  
ME

IN CHARGE  
TTK

DATE  
MAR 10, 2003

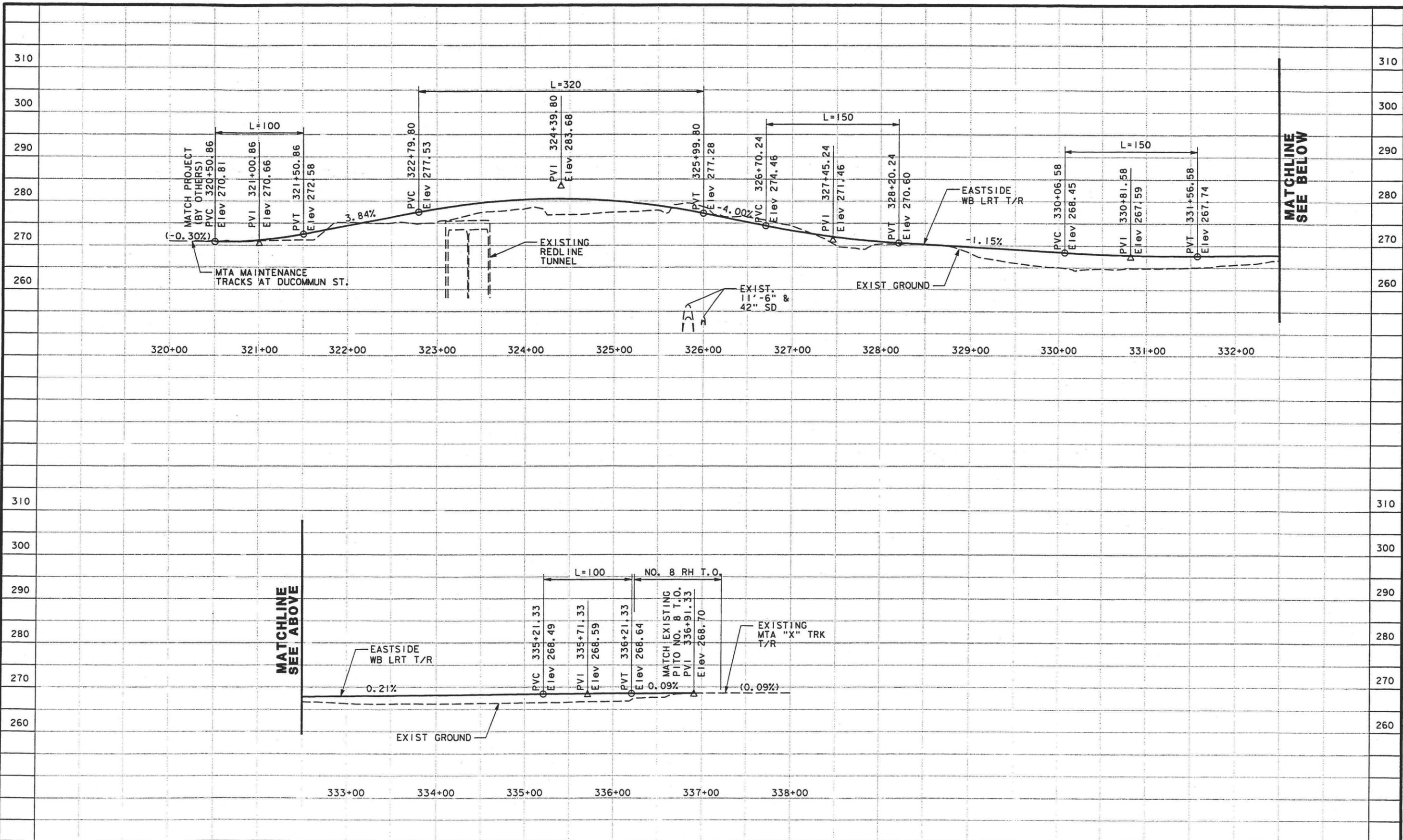


**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**AMTRAK YARD LEAD  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF18
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	44





REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL
1/10/03					25% DESIGN SUBMITTAL

DESIGNED BY KW
DRAWN BY JYM
CHECKED BY ME
IN CHARGE TTK
DATE MAR 10, 2003



NATIONAL RAILROAD PASSENGERS CORPORATION



HDR Engineering, Inc.



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_

APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**EASTSIDE WB LRT  
TRACK PROFILE**

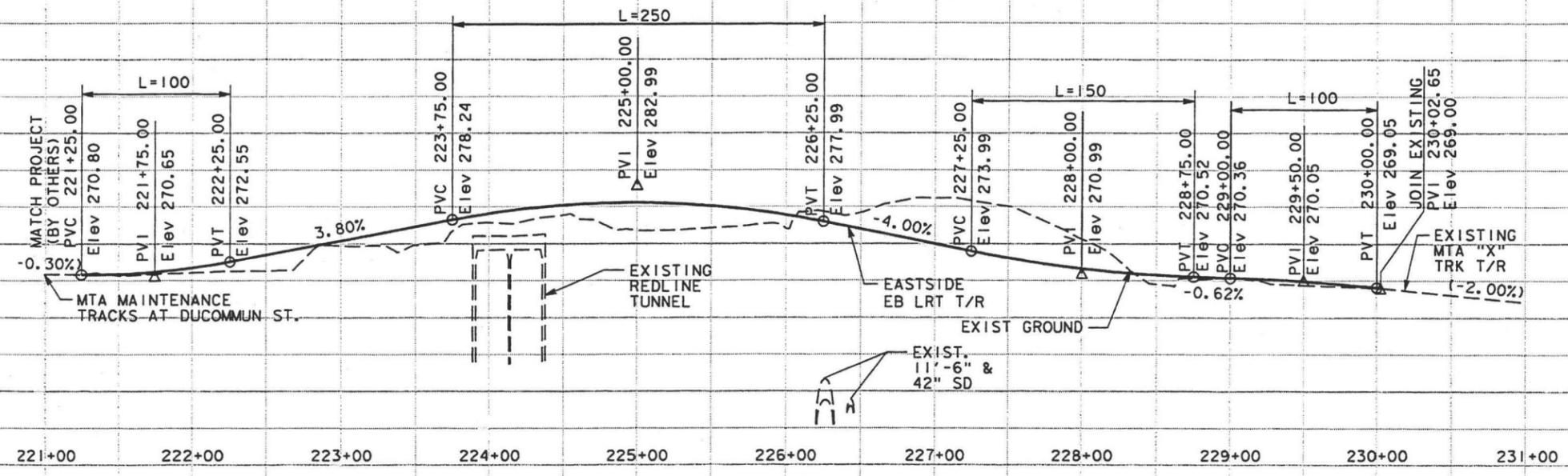
CONTRACT NO.	
DRAWING NO.	TF19
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	45

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270  
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290  
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260



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1/10/03					25% DESIGN SUBMITTAL

DESIGNED BY KW
DRAWN BY JYM
CHECKED BY ME
IN CHARGE TTK
DATE MAR 10, 2003


 NATIONAL RAILROAD PASSENGERS CORPORATION  

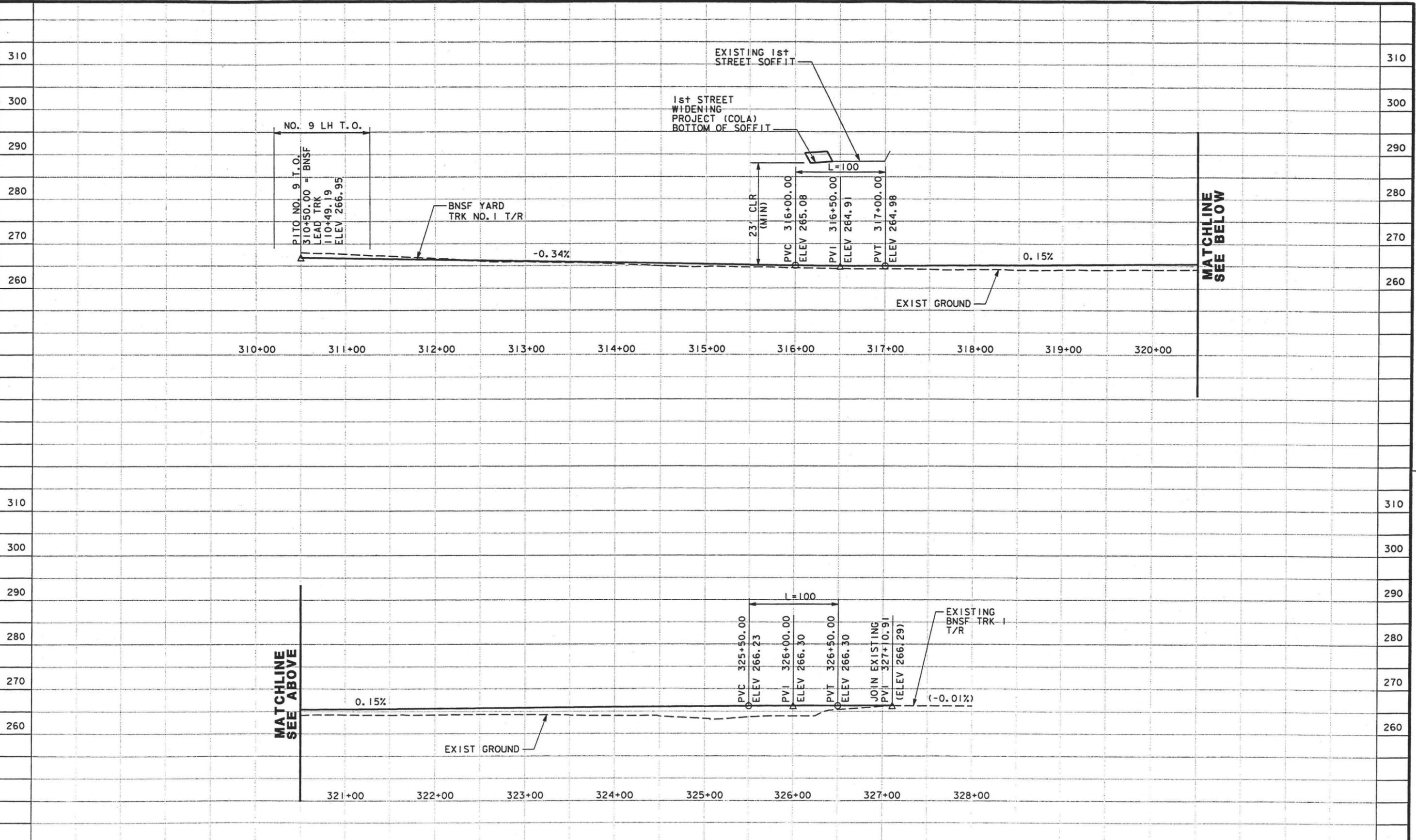
 HDR Engineering, Inc.


 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**EASTSIDE EB LRT  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF20
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	46

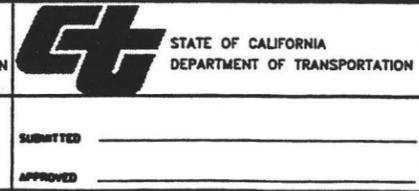




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DRAWN BY	JYM
CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

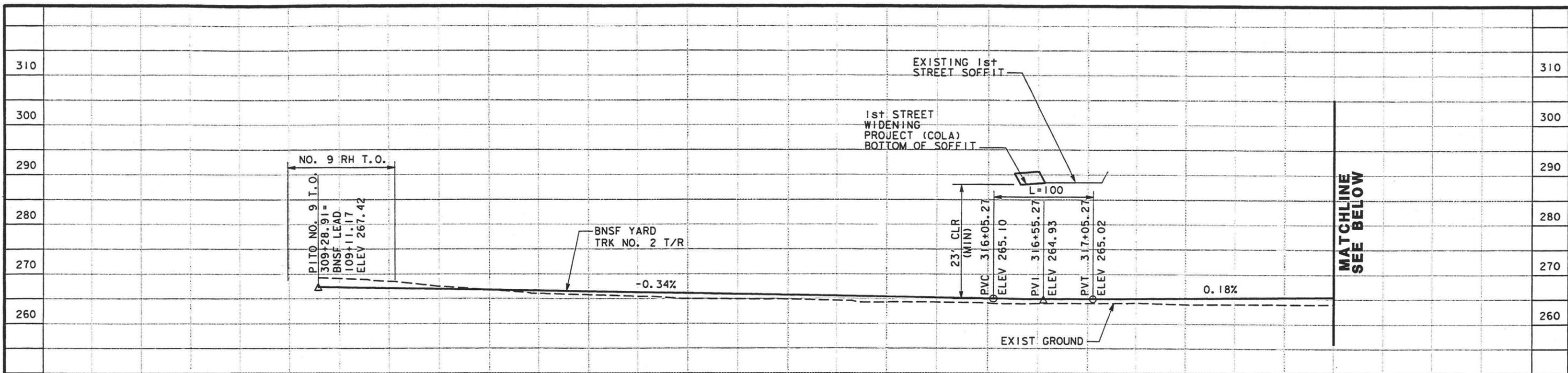


**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

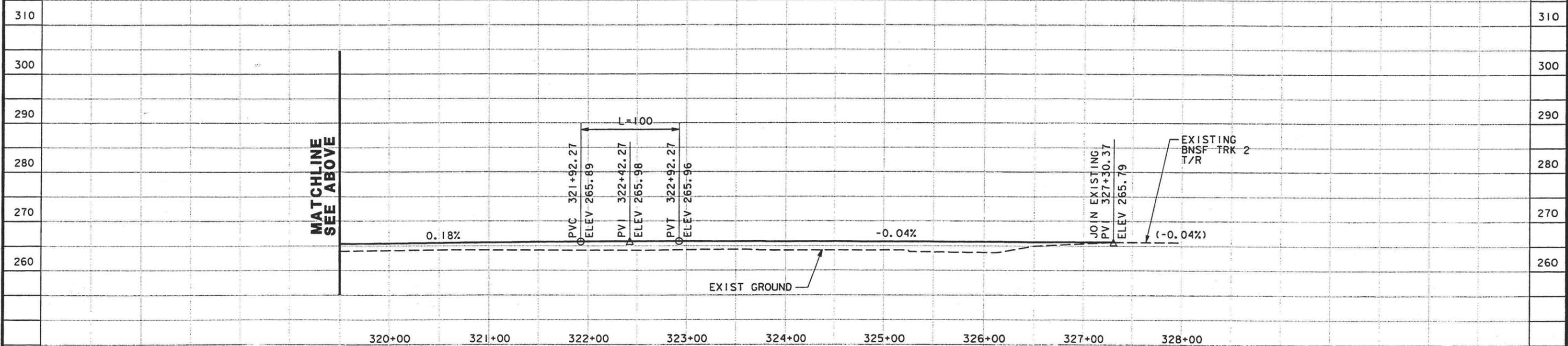
**BNSF YARD TRACK No. 1  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF21
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	47





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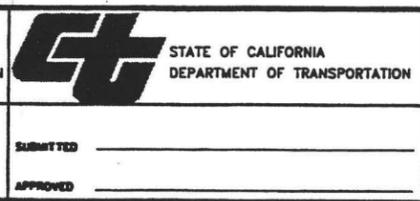


320+00    321+00    322+00    323+00    324+00    325+00    326+00    327+00    328+00

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DESIGNED BY KW
DRAWN BY JYM
CHECKED BY ME
IN CHARGE TTK
DATE MAR 10, 2003



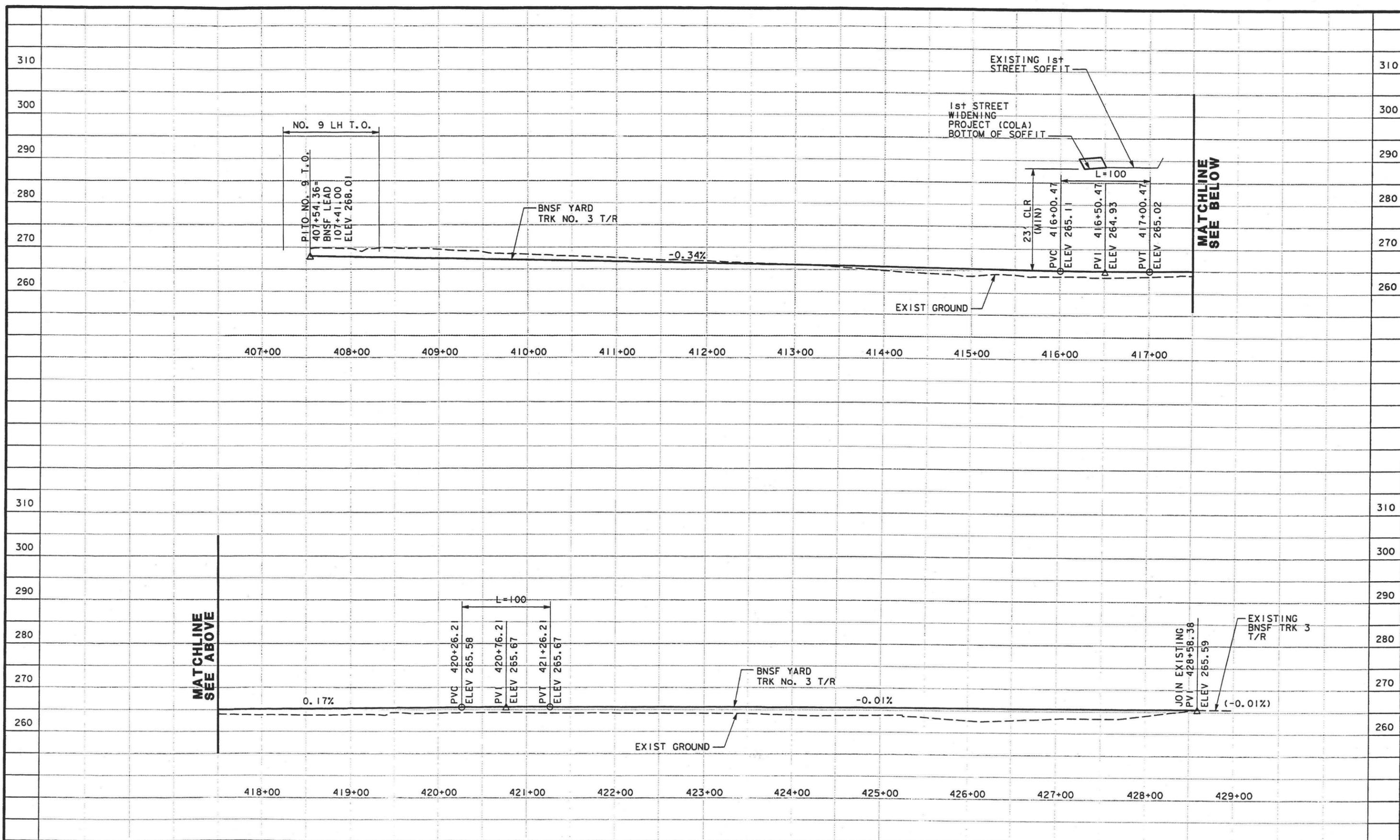
**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**BNSF YARD TRACK No. 2  
TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF22
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	48

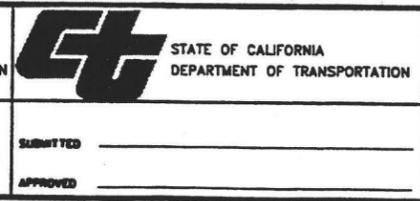


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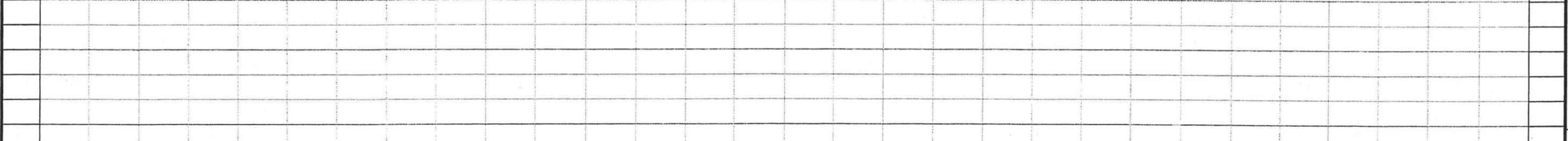
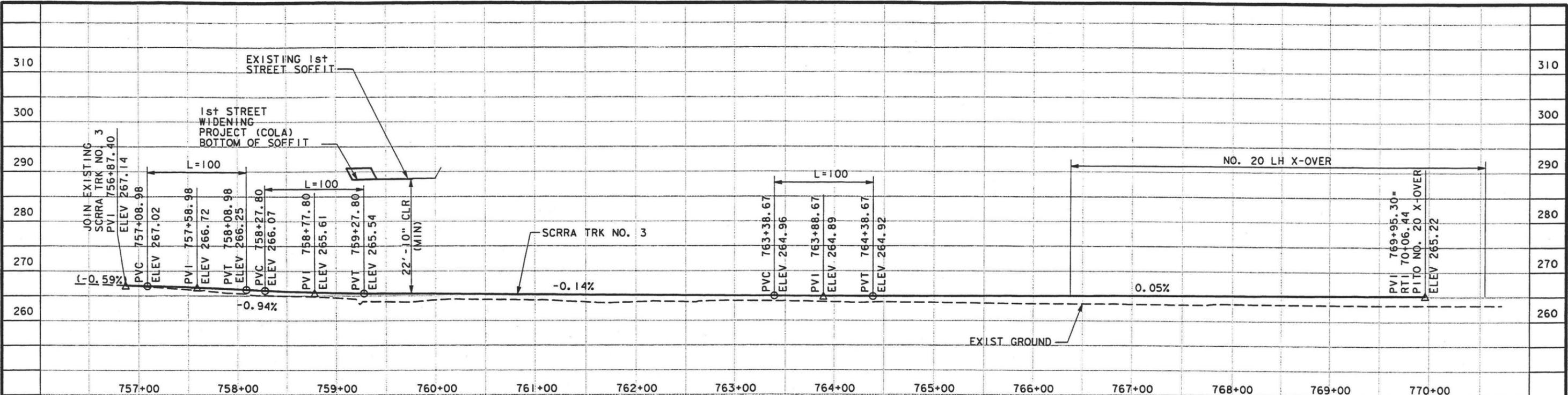
DESIGNED BY  
KW  
 DRAWN BY  
JYM  
 CHECKED BY  
ME  
 IN CHARGE  
TTK  
 DATE  
MAR 10, 2003



**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**BNSF YARD TRACK No. 3  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF23
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	49





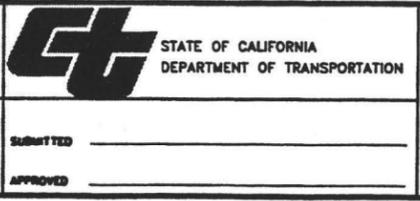
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REV	DATE	BY	SUB	APP	DESCRIPTION
	MAR 10, 2003				

DESIGNED BY  
KW  
 DRAWN BY  
JYM  
 CHECKED BY  
ME  
 IN CHARGE  
TTK  
 DATE  
MAR 10, 2003

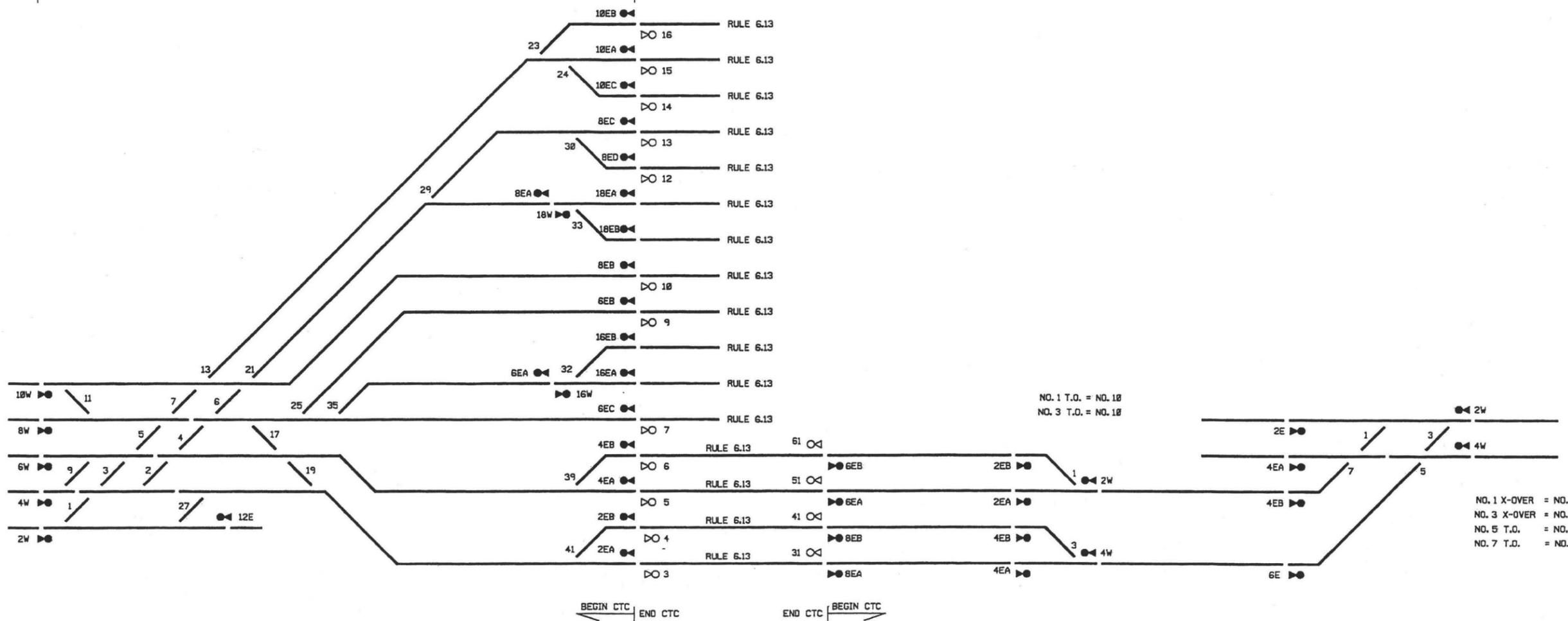


**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**SCRR TRACKS No. 3 & 4  
 TRACK PROFILE**

CONTRACT NO.	
DRAWING NO.	TF24
SCALE	HOR 1"=50' VERT 1"=10'
SHEET NO.	50



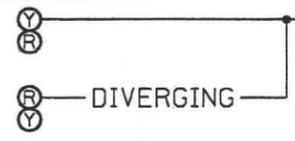
CP TERMINAL



NO. 1 T.O. = NO. 18  
NO. 3 T.O. = NO. 18

NO. 1 X-OVER = NO. 28  
NO. 3 X-OVER = NO. 28  
NO. 5 T.O. = NO. 28  
NO. 7 T.O. = NO. 14

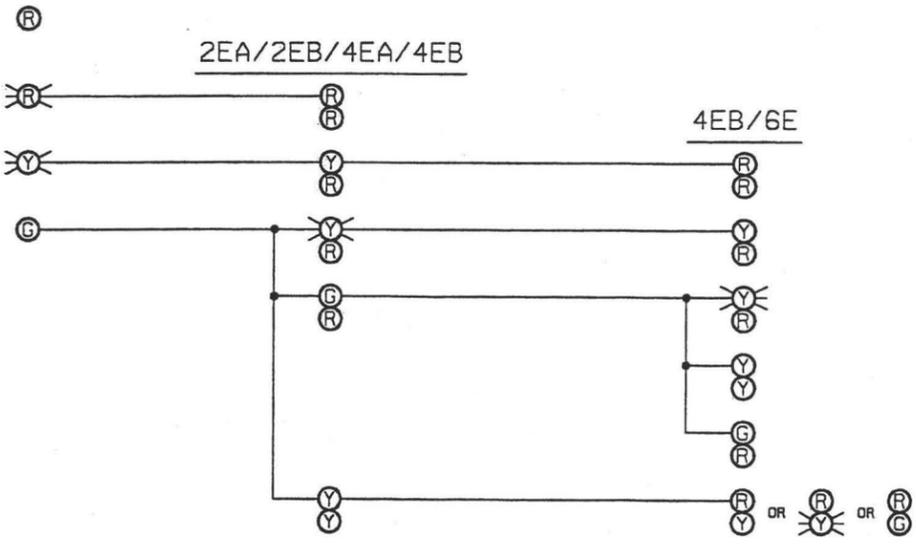
2W/4W/6W/8W/10W



NOTE 1

NOTE 1:  
THE FOLLOWING SIGNALS DISPLAY "RESTRICTING" CONTINUALLY:  
3, 4, 5, 6, 7, 9, 18, 12, 13, 14, 15, & 16.  
SIGNAL 16W AND 18W DISPLAY RESTRICTING WHEN LINED.

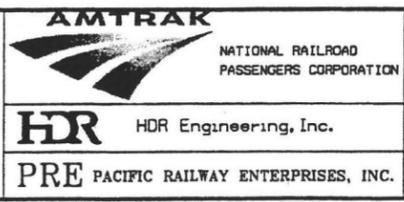
6EA/6EB/8EA/8EB



FILE NAME\$ DATE\$ TIME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	1/10/03				35% DESIGN SUBMITTAL						

DESIGNED BY  
DJH  
DRAWN BY  
DJH  
CHECKED BY  
JLH  
IN CHARGE  
JLH  
DATE  
JAN 10, 2003

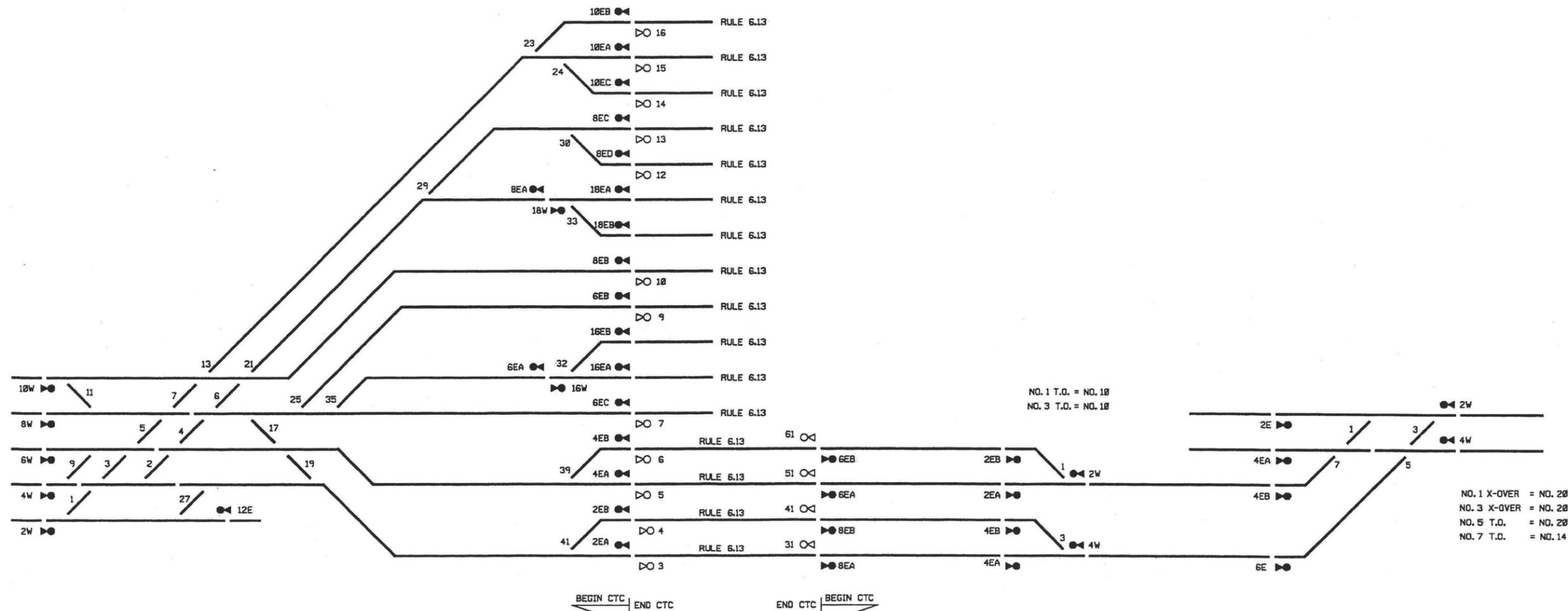


STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
EASTBOUND SIGNAL ASPECTS

CONTRACT NO.	
DRAWING NO.	REV
RS-1	
SCALE	
NTS	
SHEET NO.	
51	

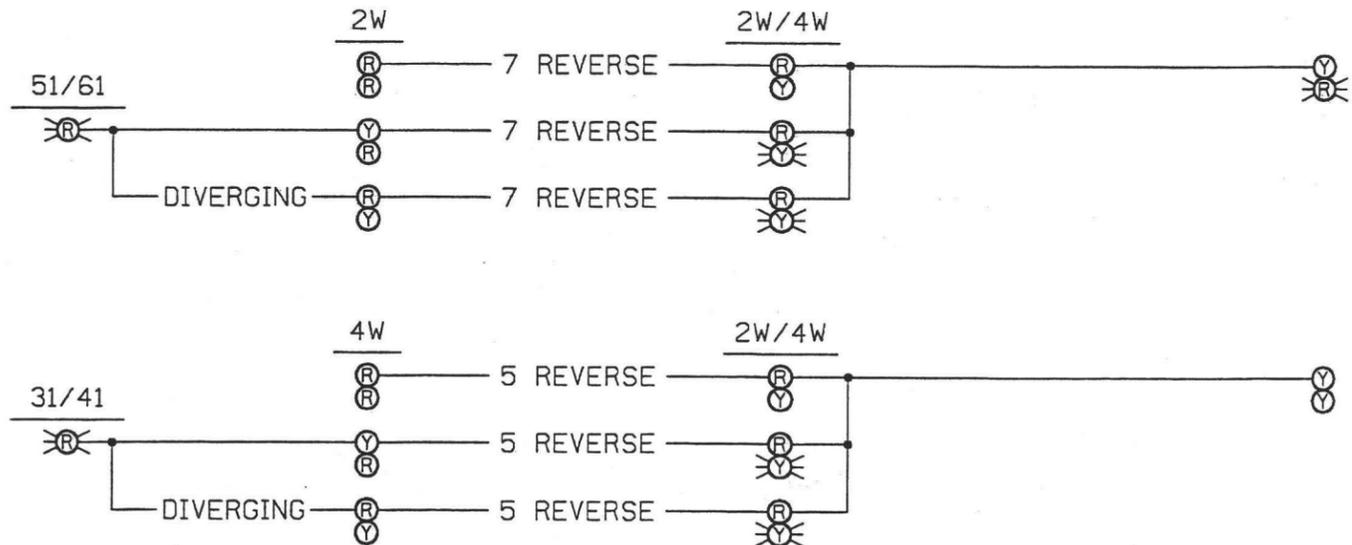




NO. 1 T.O. = NO. 10  
NO. 3 T.O. = NO. 10

NO. 1 X-OVER = NO. 20  
NO. 3 X-OVER = NO. 20  
NO. 5 T.O. = NO. 20  
NO. 7 T.O. = NO. 14

NOTE:  
SIGNALS 31, 41, 51 AND 61 DISPLAY "RESTRICTING" CONTINUALLY.



\$\$\$DATE\$\$\$ \$TIME\$  
 \$\$\$FILE NAME\$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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DESIGNED BY  
DJH  
 DRAWN BY  
DJH  
 CHECKED BY  
JLH  
 IN CHARGE  
JLH  
 DATE  
JAN 10, 2003

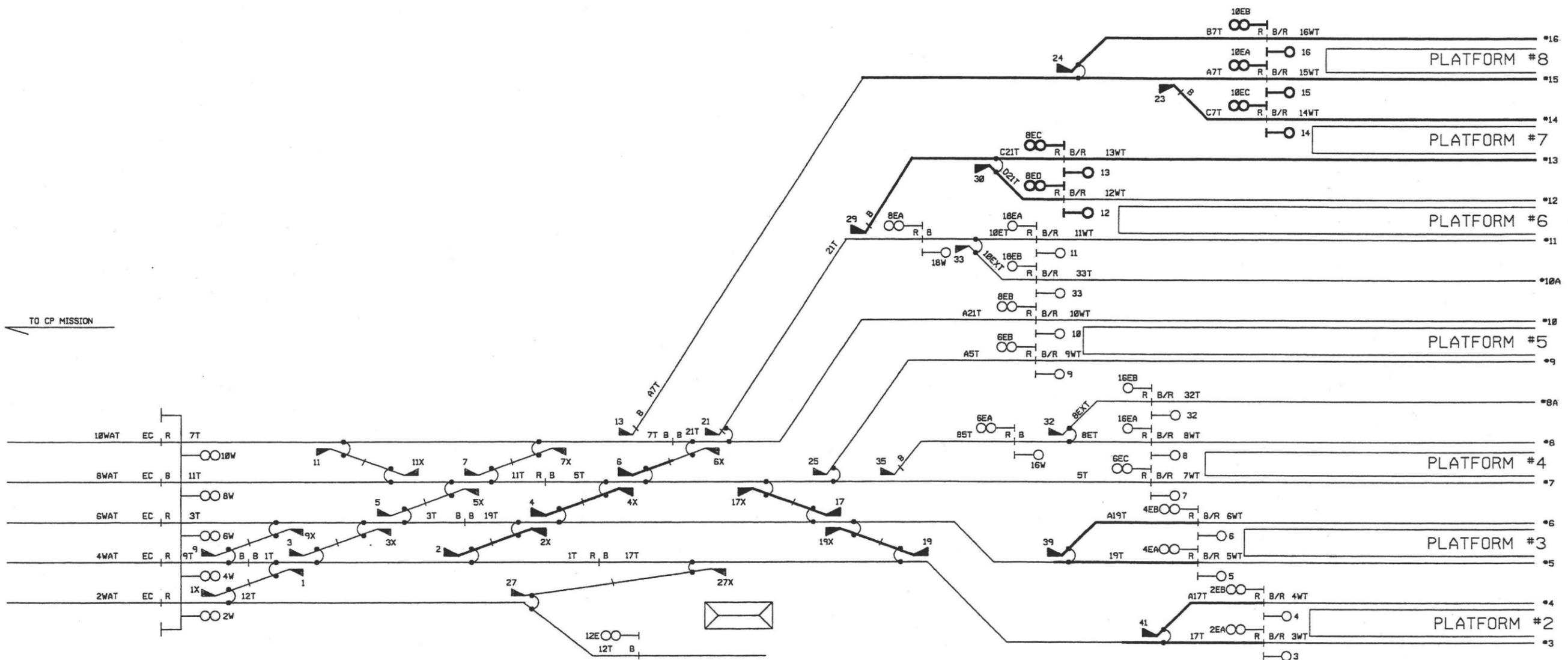
NATIONAL RAILROAD PASSENGERS CORPORATION  
 HDR Engineering, Inc.  
 PACIFIC RAILWAY ENTERPRISES, INC.

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS  
 WESTBOUND SIGNAL ASPECTS

CONTRACT NO.	
DRAWING NO.	REV
RS-2	
SCALE	
NTS	
SHEET NO.	
52	





TO CP OLYMPIC  
SEE DWG. S-84

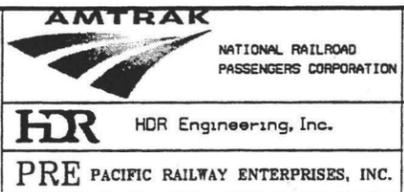
MODIFY CP TERMINAL TO SUPPORT  
ADDITIONAL POWER TURNOUTS AND SIGNALS

BOLD = NEW

\$\$\$DATE\$\$\$ \$TIME\$\$\$  
 \$\$\$FILE NAME\$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	1/10/03				35% DESIGN SUBMITTAL						

DESIGNED BY  
DJH  
 DRAWN BY  
DJH  
 CHECKED BY  
JLH  
 IN CHARGE  
JLH  
 DATE  
JAN 10, 2003

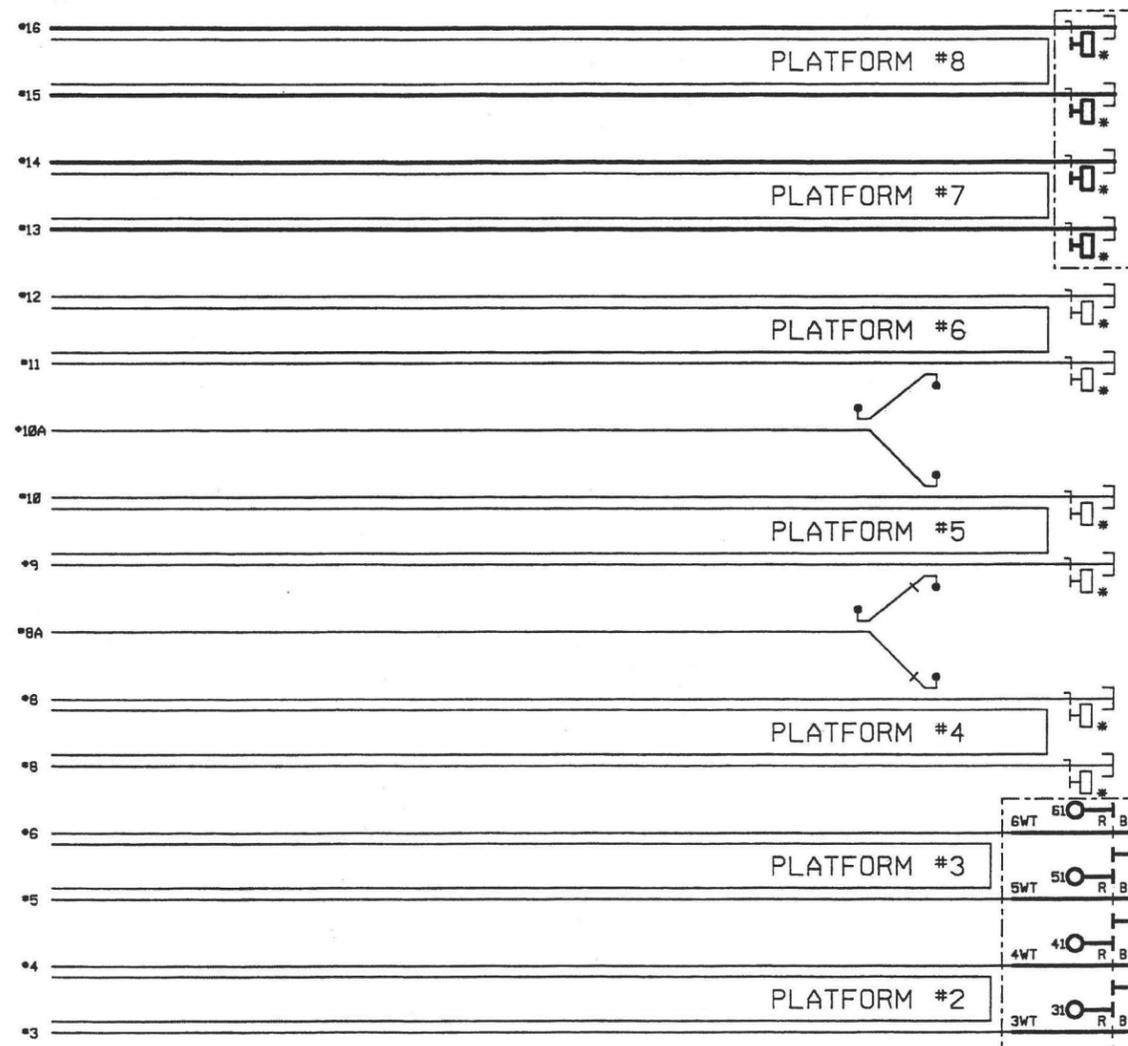


STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
 SIGNAL ASPECTS

CONTRACT NO.	
DRAWING NO.	RS-3
SCALE	NTS
SHEET NO.	53

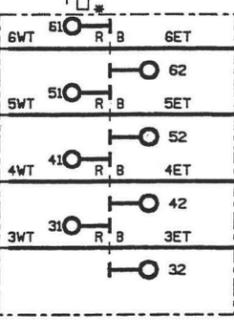




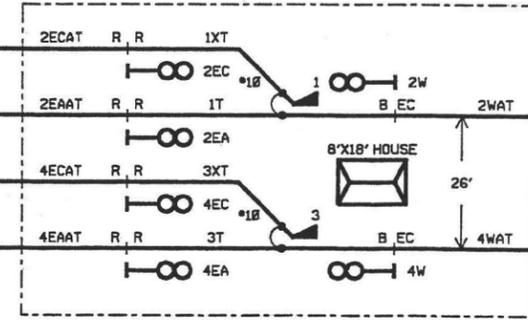
INSTALL  
"END OF BLOCK"  
SIGNS

\* = "END OF BLOCK"  
SIGN

TO CP MISSION  
SEE DWG. S-03



INSTALL  
AUTOMATIC  
SIGNALS



INSTALL CONTROL POINT

TO CP OLYMPIC  
SEE DWG. S-05

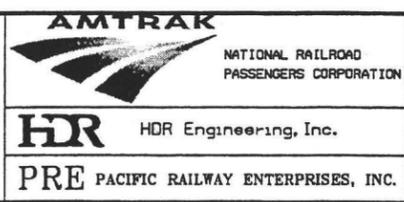
RUN-THROUGH TRACKS  
TO WEST BANK MAIN TRACKS  
SEE DWG. S-05

BOLD = NEW

\$DATE\$ \$TIME\$  
 \$FILE NAME\$

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DESIGNED BY  
DJH  
 DRAWN BY  
DJH  
 CHECKED BY  
JLH  
 IN CHARGE  
JLH  
 DATE  
JAN 10, 2003



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS

SIGNAL ASPECTS

CONTRACT NO.	
DRAWING NO.	REV
RS-4	
SCALE	NTS
SHEET NO.	54



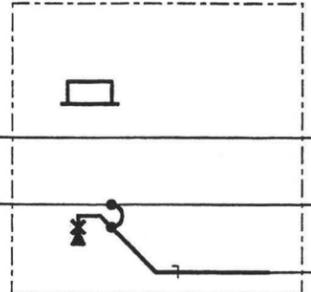
← MAKE MODIFICATIONS TO VHLC PROGRAM AT CP SAN DIEGO JCT. TO ACCOMMODATE NEW ASPECTS

MAKE MODIFICATIONS TO VHLC PROGRAM AT CP OLYMPIC TO ACCOMMODATE NEW ASPECTS →

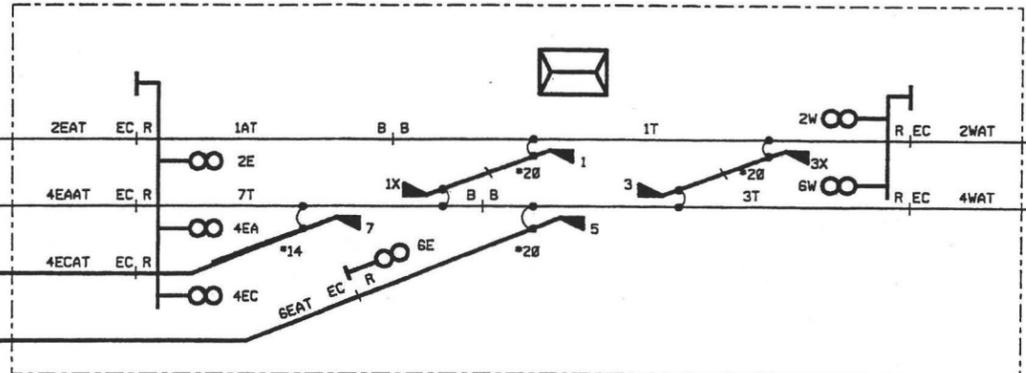
← TO CP SAN DIEGO JCT.

TO CP OLYMPIC →

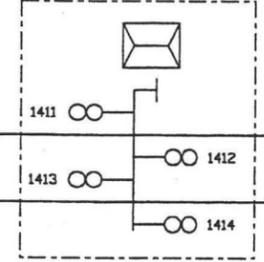
INSTALL HANDTHROW SWITCH WITH ELECTRIC LOCK



INSTALL CONTROL POINT



REMOVE SIGNALS 1411, 1412, 1413, AND 1414



RUN-THROUGH TRACK TO LAUPT SEE DWG. S-04

BOLD = NEW

\$\$\$DATE\$\$\$ \$TIME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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DESIGNED BY  
DJH  
DRAWN BY  
DJH  
CHECKED BY  
JLH  
IN CHARGE  
JLH  
DATE  
JAN 10, 2003

**AMTRAK**  
NATIONAL RAILROAD PASSENGERS CORPORATION

**HDR** HDR Engineering, Inc.  
PRE PACIFIC RAILWAY ENTERPRISES, INC.

**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS

SIGNAL ASPECTS

CONTRACT NO.	
DRAWING NO.	REV
RS-5	
SCALE	NTS
SHEET NO.	55













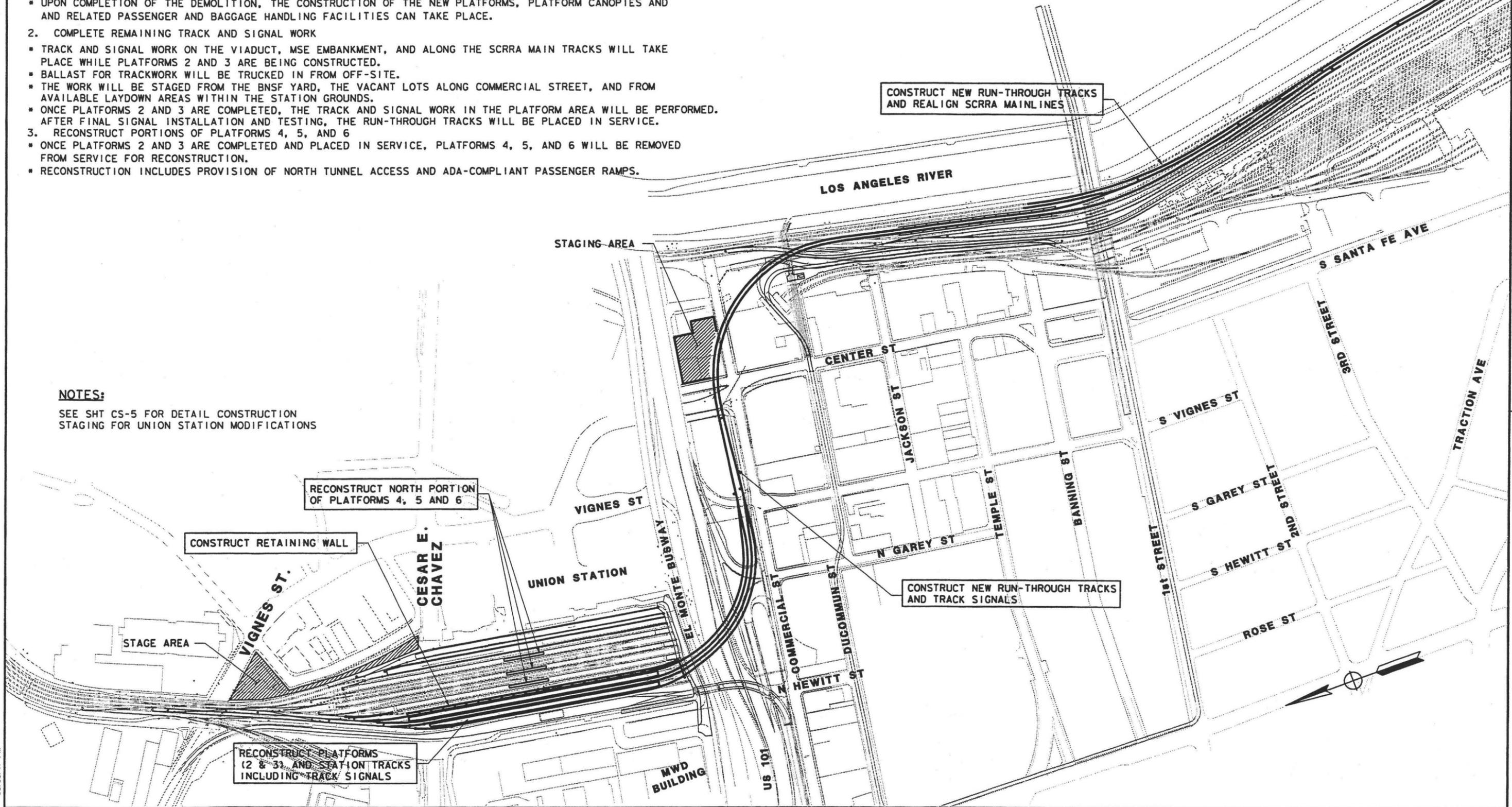


**CONSTRUCTION ACTIVITIES FOR STAGE 4**

1. CONSTRUCT PLATFORMS 2 AND 3
  - ONCE PLATFORMS 7 AND 8 ARE COMPLETED AND PLACED IN SERVICE, THE EXISTING PLATFORMS 2 AND 3 AND RELATED TRACKAGE CAN BE DEMOLISHED
  - UPON COMPLETION OF THE DEMOLITION, THE CONSTRUCTION OF THE NEW PLATFORMS, PLATFORM CANOPIES AND RELATED PASSENGER AND BAGGAGE HANDLING FACILITIES CAN TAKE PLACE.
2. COMPLETE REMAINING TRACK AND SIGNAL WORK
  - TRACK AND SIGNAL WORK ON THE VIADUCT, MSE EMBANKMENT, AND ALONG THE SCRRRA MAIN TRACKS WILL TAKE PLACE WHILE PLATFORMS 2 AND 3 ARE BEING CONSTRUCTED.
  - BALLAST FOR TRACKWORK WILL BE TRUCKED IN FROM OFF-SITE.
  - THE WORK WILL BE STAGED FROM THE BNSF YARD, THE VACANT LOTS ALONG COMMERCIAL STREET, AND FROM AVAILABLE LAYDOWN AREAS WITHIN THE STATION GROUNDS.
  - ONCE PLATFORMS 2 AND 3 ARE COMPLETED, THE TRACK AND SIGNAL WORK IN THE PLATFORM AREA WILL BE PERFORMED. AFTER FINAL SIGNAL INSTALLATION AND TESTING, THE RUN-THROUGH TRACKS WILL BE PLACED IN SERVICE.
3. RECONSTRUCT PORTIONS OF PLATFORMS 4, 5, AND 6
  - ONCE PLATFORMS 2 AND 3 ARE COMPLETED AND PLACED IN SERVICE, PLATFORMS 4, 5, AND 6 WILL BE REMOVED FROM SERVICE FOR RECONSTRUCTION.
  - RECONSTRUCTION INCLUDES PROVISION OF NORTH TUNNEL ACCESS AND ADA-COMPLIANT PASSENGER RAMPS.

**NOTES:**

SEE SHT CS-5 FOR DETAIL CONSTRUCTION STAGING FOR UNION STATION MODIFICATIONS



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	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY	CW
DRAWN BY	JM
CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD PASSENGER CORPORATION

**HDR** HDR Engineering, Inc.

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

**CONSTRUCTION STAGING PLAN**  
**STAGE 4**

CONTRACT NO.	
DRAWING NO.	CS-4
SCALE	NTS
SHEET NO.	59





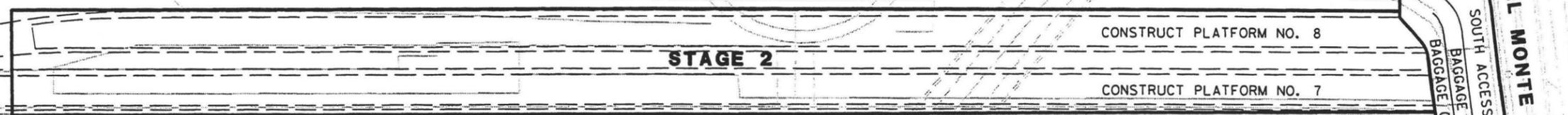
CESAR E. CHAVEZ

MTA OFFICE TOWER

MTA BUS PLAZA

MTA EAST PORTAL

US 101



MODIFY PLATFORMS NO. 4, 5 AND 6



GOLDLINE PLATFORM NO. 1

EASTSIDE EXTENSION PROJECT (MTA)

PROPOSED RUN THROUGH TRACK BRIDGE

BAGGAGE CAR RAMP



MAIN PASSENGER TUNNEL

UNION STATION BAGGAGE HANDLING

CESAR E. CHAVEZ

EL MONTE BUSWAY

US 101

STAGE 1	S. ACCESS ROAD, BAGGAGE CAR RAMPS AND SOUTH END OF PLATFORMS 4, 5 AND 6 MODIFICATIONS
STAGE 2	PLATFORMS 7 AND 8 CONSTRUCTION
STAGE 3	PLATFORMS 2 AND 3 RECONSTRUCTION
STAGE 4A	NORTH PORTION OF PLATFORM 4 RECONSTRUCTION
STAGE 4B	NORTH PORTION OF PLATFORM 5 RECONSTRUCTION
STAGE 4C	NORTH PORTION OF PLATFORM 6 RECONSTRUCTION

SDATES STIMES

REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL

DESIGNED BY  
R.I.  
DRAWN BY  
R.I.  
CHECKED BY  
PM  
IN CHARGE  
PM  
DATE  
MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD PASSENGER CORPORATION

**DMJM HARRIS**  
3800 Kilroy Airport Way, Suite 350  
Long Beach, CA 90806

**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

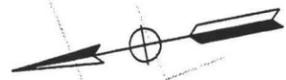
**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
CONSTRUCTION STAGING  
AT UNION STATION**

CONTRACT NO.	
DRAWING NO.	CS-5
SCALE	1" = 100'
SHEET NO.	60









CESAR E. CHAVEZ

MTA OFFICE TOWER

MTA BUS PLAZA

MTA EAST PORTAL

US 101

CONSTRUCT PLATFORM NO. 8

CONSTRUCT PLATFORM NO. 7

RECONSTRUCT PLATFORM NO. 6

RECONSTRUCT PLATFORM NO. 5

RECONSTRUCT PLATFORM NO. 4

MODIFY PLATFORMS NO. 4, 5 AND 6

REMOVE & RECONSTRUCT PLATFORM NO. 3

REMOVE & RECONSTRUCT PLATFORM NO. 2

GOLDLINE PLATFORM NO. 1

EASTSIDE EXTENSION PROJECT (MTA)

BAGGAGE CAR RAMP

SOUTH ACCESS ROAD  
BAGGAGE CAR RAMP  
BAGGAGE CAR (PLATFORM LEVEL)

PROPOSED RUN THROUGH TRACK BRIDGE

CESAR E. CHAVEZ

RED LINE TUNNEL

MAIN PASSENGER TUNNEL

UNION STATION BAGGAGE HANDLING

EL MONTE BUSWAY

US 101

MWD BUILDING

SD DATES 8 TIMES

8 FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL						

DESIGNED BY  
JC  
DRAWN BY  
JC  
CHECKED BY  
JD  
IN CHARGE  
PM  
DATE  
MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD PASSENGER CORPORATION

**DMJM HARRIS**  
3800 Kiliroy Airport Way, Suite 350  
Long Beach, CA 90806

**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**SITE PLAN**

CONTRACT NO.	
DRAWING NO.	AS-1
SCALE	1"=50'
SHEET NO.	62





CESAR E. CHAVEZ

MTA OFFICE TOWER

MTA BUS PLAZA

MTA EAST PORTAL

TO METRO RAIL EAST ENTRANCE

UP TO BUS PLAZA

TO PLATFORM NO. 8 (NORTH) TO PLATFORM NO. 8 (SOUTH)

TO PLATFORM NO. 7 (NORTH) TO PLATFORM NO. 7 (SOUTH)

TO PLATFORM NO. 6 (NORTH) TO PLATFORM NO. 6 (SOUTH)

TO PLATFORM NO. 5 (NORTH) TO PLATFORM NO. 5 (SOUTH)

TO PLATFORM NO. 4 (NORTH) TO PLATFORM NO. 4 (SOUTH)

TO PLATFORM NO. 3 (NORTH) TO PLATFORM NO. 3 (SOUTH)

TO PLATFORM NO. 2 (NORTH) TO PLATFORM NO. 2 (SOUTH)

GOLDLINE PLATFORM NO. 1 TO PLATFORM NO. 1

EASTSIDE EXTENSION PROJECT (MTA)

PASSENGER EXIT FROM LOWER LEVEL TO BAGGAGE CAR RAMP

BAGGAGE CAR RAMP

REDLINE TUNNEL

PROPOSED ACCESS TUNNEL TO METRO RAIL WEST ENTRANCE

MAIN PASSENGER TUNNEL

TO MWD OFFICE BUILDING

UNION STATION

MWD BUILDING

TO CESAR E. CHAVEZ

TO ALAMEDA ST.

TO MWD OFFICE BUILDING

BAGGAGE CAR PLATFORM LEVEL

BAGGAGE CAR RAMP ACCESS ROAD

EL MONTE BUSWAY

US 101

US 101

EL MONTE BUSWAY

LEGEND:

ALL PLATFORMS

PLATFORMS 2 & 3

PLATFORMS 4, 5 & 6

PLATFORMS 7 & 8

TO PASSENGER TUNNEL / OTHER CONNECTIONS & EXISTS

STAIRS TO LOWER LEVEL (SOUTH END)  
LOWER LEVEL TO BAGGAGE CAR RAMP

TO BAGGAGE CAR PLATFORM LEVEL / PLATFORMS 4 THRU 8

STAIRS TO BAGGAGE CAR RAMP

TO BAGGAGE CAR PLATFORM LEVEL / PLATFORMS 4 THRU 8

DATE

REV

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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PM  
DATE  
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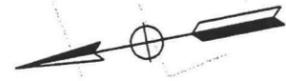
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
PASSENGER TRAFFIC / EXIT  
FLOW PLAN**

CONTRACT NO.	
DRAWING NO.	T-1
SCALE	1"=50'
SHEET NO.	63





CESAR E. CHAVEZ

MTA  
OFFICE TOWER

MTA BUS PLAZA

MTA  
EAST PORTAL

LEGEND:



BAGGAGE CAR PATH TO PLATFORMS 4 THRU 8.  
BAGGAGE CAR PATH TO LOWER LEVEL. SEE DRAWINGS A-1 & A-2 FOR DETAILS ON PLATFORMS 2 & 3.  
BAGGAGE CAR PATH FROM LOWER LEVEL, CONCOURSE TO PLATFORMS 2 AND 3

BAGGAGE CAR TO PLATFORMS, TYP.

BAGGAGE CAR PLATFORM LEVEL

EL MONTE BUSWAY

PLATFORM NO. 8

PLATFORM NO. 7

PLATFORM NO. 6

PLATFORM NO. 5

PLATFORM NO. 4

PLATFORM NO. 3

PLATFORM NO. 2

GOLDLINE PLATFORM NO. 1

BAGGAGE CAR TO LOWER LEVEL, CONCOURSE, RAMPS & PLATFORMS 2 & 3

BAGGAGE CAR RAMP

REDLINE TUNNEL

MAIN PASSENGER TUNNEL

BAGGAGE HANDLING

UNION STATION

MWD BUILDING

EL MONTE BUSWAY

US 101

CESAR E. CHAVEZ

DATE: 3/10/03 BY: JC DESCRIPTION: 35% DESIGN SUBMITTAL

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

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JC  
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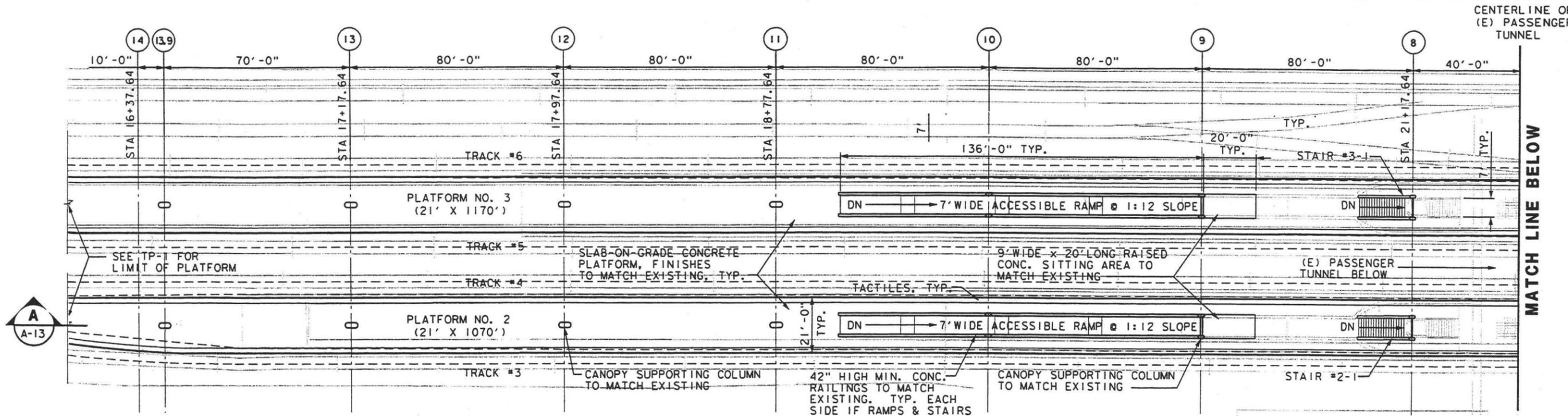
**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
BAGGAGE CAR TRAFFIC  
FLOW PLAN**

CONTRACT NO.	
DRAWING NO.	T-2
SCALE	1" = 50'
SHEET NO.	64

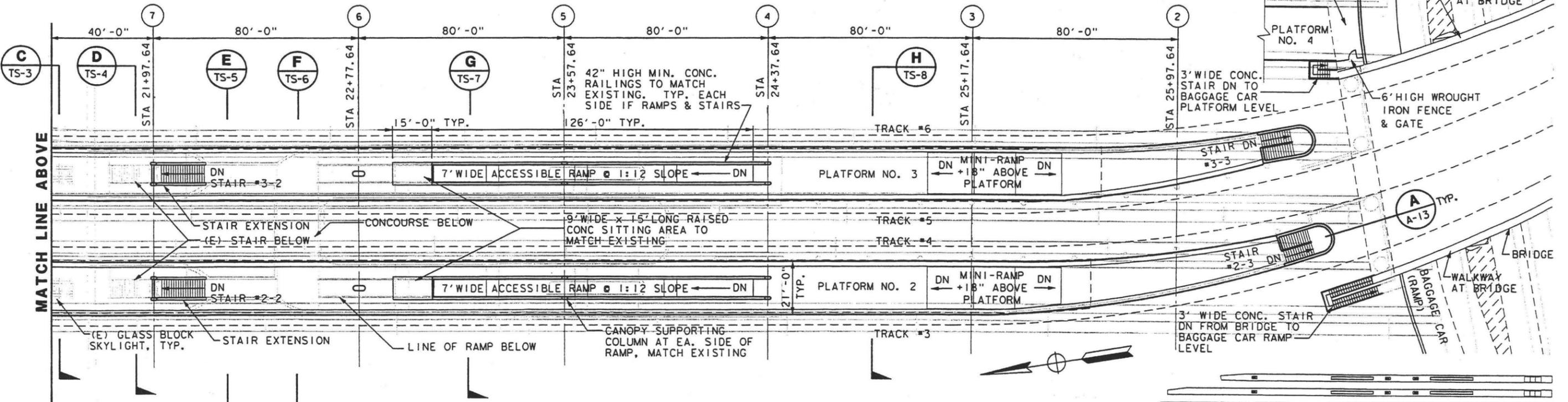




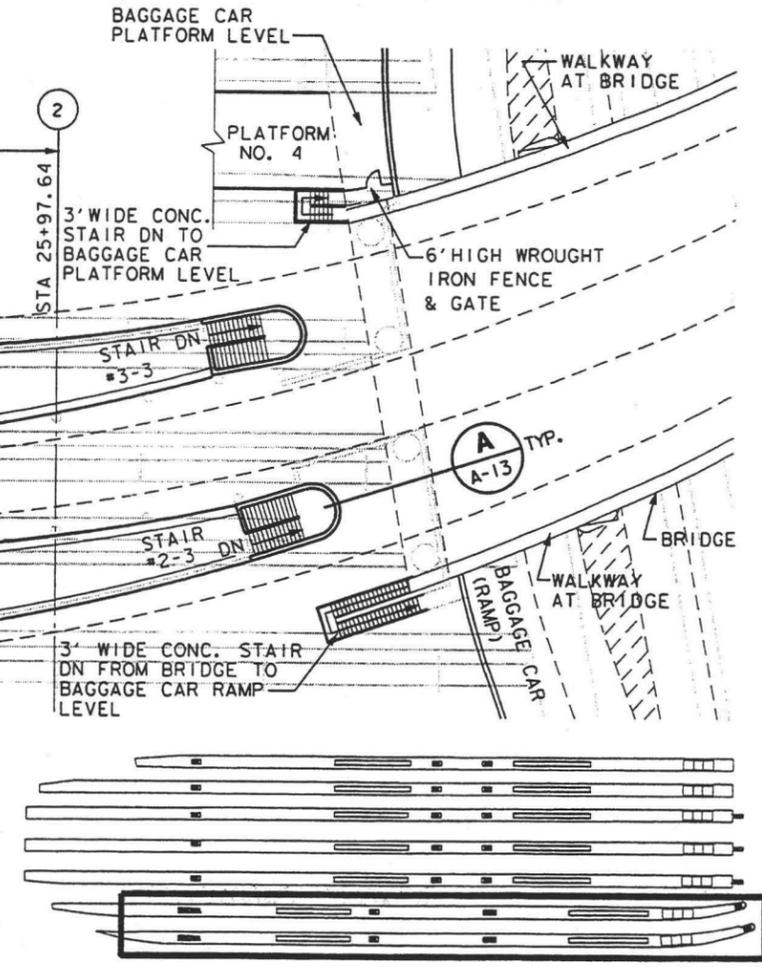




**PLATFORMS 2 & 3 PLATFORM PLAN - NORTH**  
1"=20'



**PLATFORMS 2 & 3 PLATFORM PLAN - SOUTH**  
1"=20'



**KEY PLAN**

**LEGEND:**  
SEE DRAWING A-1  
**NOTES:**  
SEE DRAWING A-1

DATE: 3/10/03 35% DESIGN SUBMITTAL

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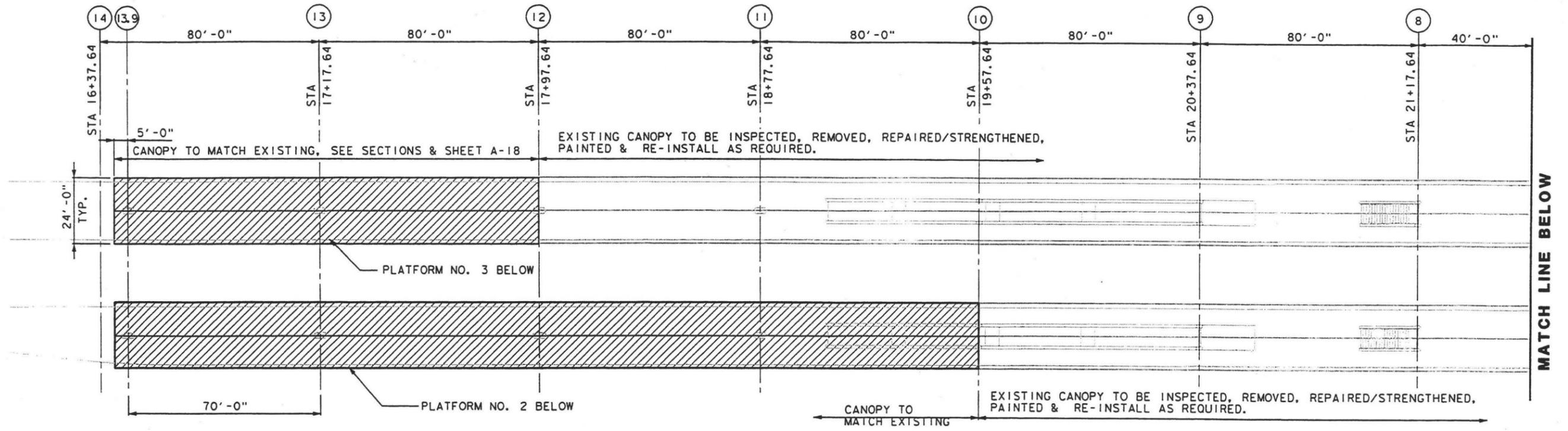
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DEPARTMENT OF TRANSPORTATION

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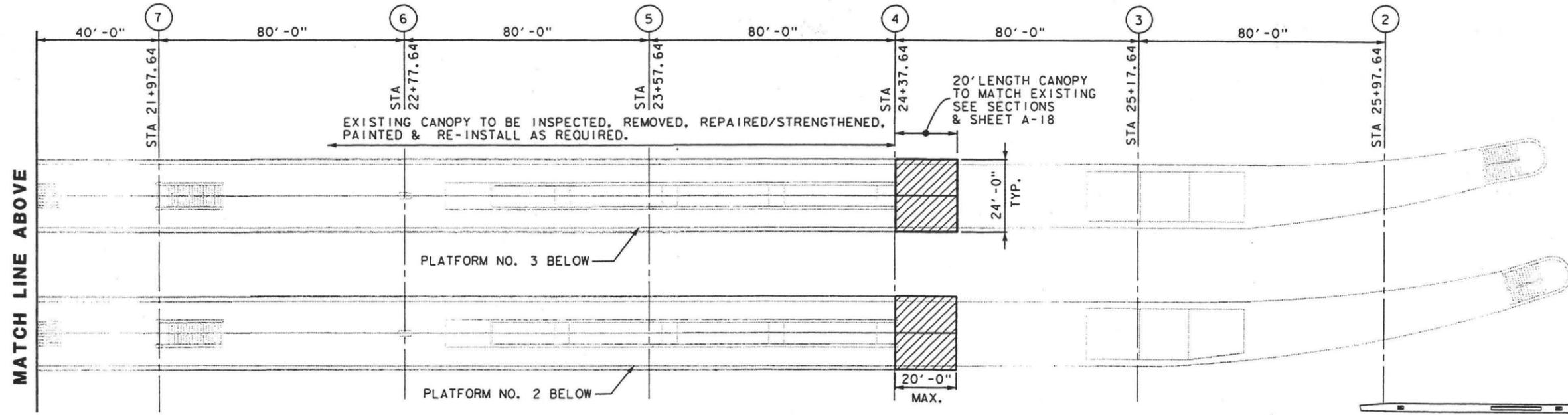
**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**PLATFORMS 2 & 3**  
**PLATFORM PLAN**

CONTRACT NO.	
DRAWING NO.	A-2
SCALE	1"=20'
SHEET NO.	66



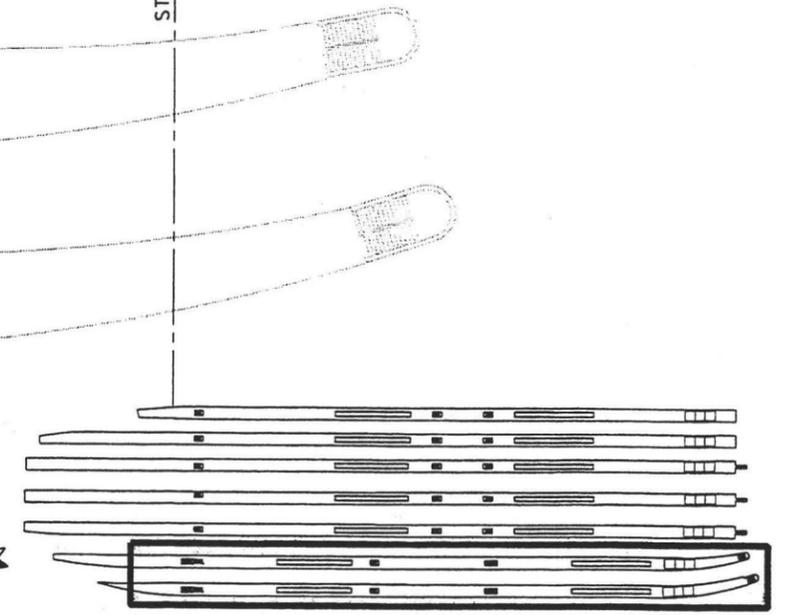


**PLATFORMS 2 & 3 CANOPY PLAN - NORTH**  
1"=20'



**PLATFORMS 2 & 3 CANOPY PLAN - SOUTH**  
1"=20'

**LEGEND:**  
SEE DRAWING A-1  
**NOTES:**  
SEE DRAWING A-1



**KEY PLAN**

sDATESS sTIMES sFILE NAMES

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	3/10/03				35% DESIGN SUBMITTAL						

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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 2 & 3  
CANOPY PLAN**

CONTRACT NO.	
DRAWING NO.	A-3
SCALE	1"=20'
SHEET NO.	67



14

13

12

11

10

9

8

80'-0"

80'-0"

80'-0"

80'-0"

40'-0"

STA 18+77.64

STA 19+57.64

STA 20+37.64

STA 21+17.64



(E) CONCRETE PLATFORM LINE ABOVE, TYP.

7' WIDE ACCESSIBLE RAMP @ 1:12 SLOPE TO PLATFORM ABOVE

STAIR #6-1

(E) PASSENGER TUNNEL

LANDING TYP.

STAIR #5-1

7' TYP.

(5) 30' RAMPS & (5) 5' LANDINGS, TYP.

195'-0" OVERALL

22'-8"

CONC. RETAINING WALL

STAIR #4-1

MATCH LINE - SEE DRAWING A-5

CENTERLINE OF (E) PASSENGER TUNNEL

PLATFORMS 4, 5 & 6 LOWER LEVEL PLAN - NORTH

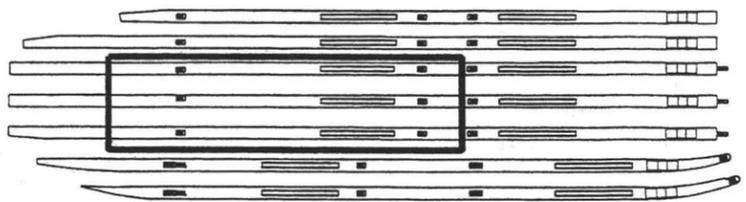
1"=20'

LEGEND:

SEE DRAWING A-1

NOTES:

SEE DRAWING A-1



KEY PLAN

88042558 STIMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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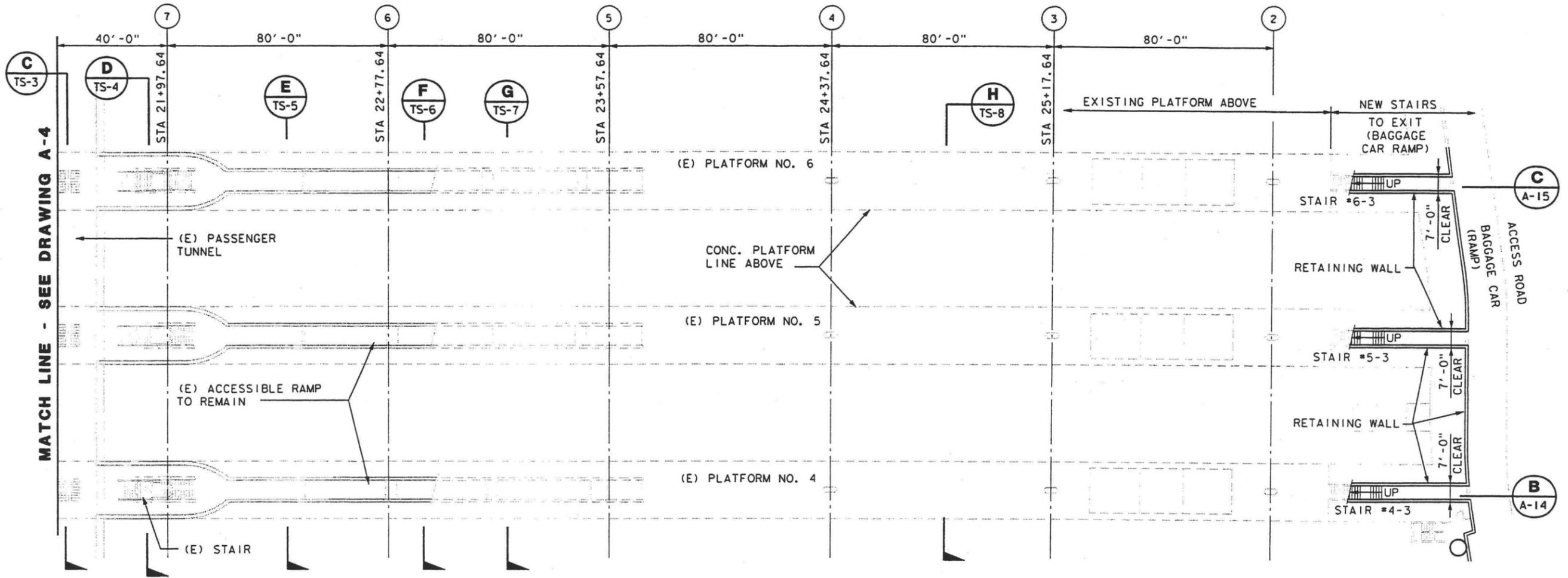
APPROVED \_\_\_\_\_

LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS

PLATFORMS 4, 5 & 6  
LOWER LEVEL PLAN - NORTH

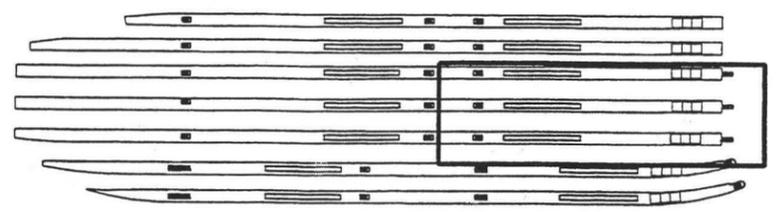
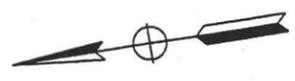
CONTRACT NO.	
DRAWING NO.	A-4
SCALE	1"=20'
SHEET NO.	68





**PLATFORMS 4, 5 & 6 LOWER LEVEL PLAN - SOUTH**  
1"=20'

**LEGEND:**  
SEE DRAWING A-1  
**NOTES:**  
SEE DRAWING A-1



**KEY PLAN**

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3/10/03					35% DESIGN SUBMITTAL

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JC  
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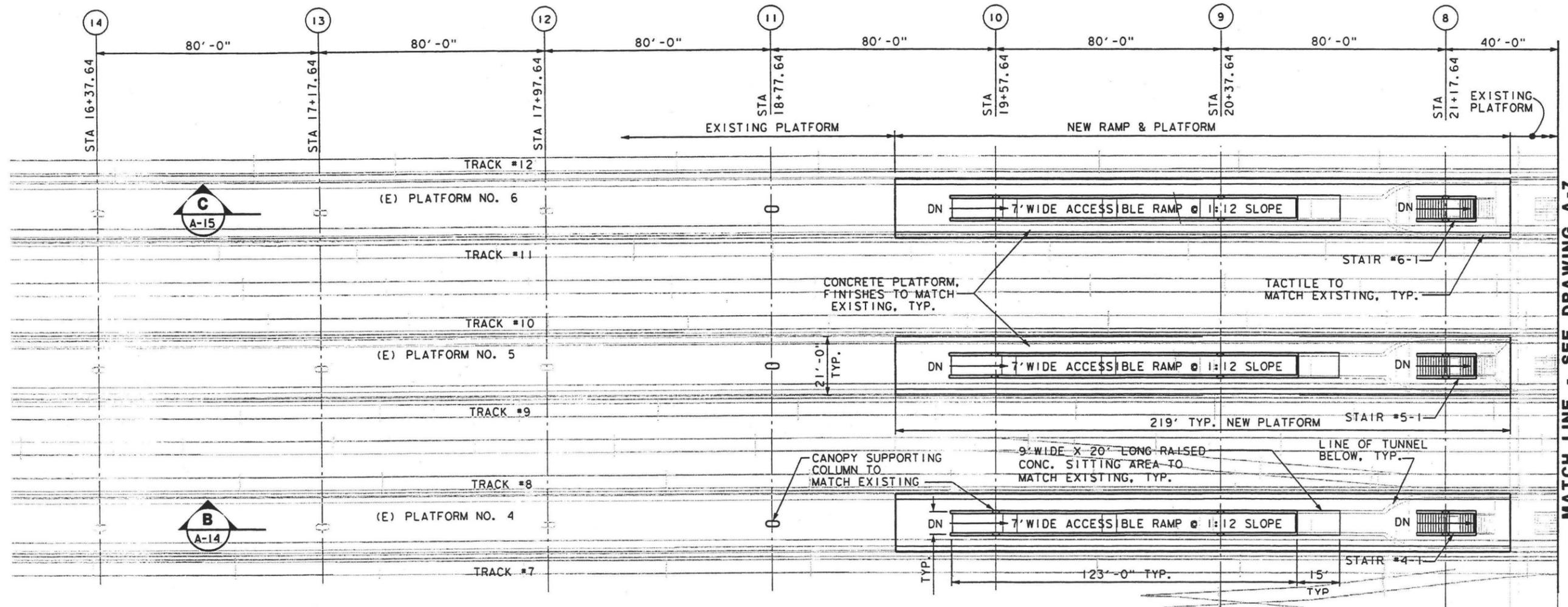
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**PLATFORMS 4, 5 & 6**  
**PARTIAL LOWER LEVEL PLAN**  
**SOUTH**

CONTRACT NO.	
DRAWING NO.	A-5
SCALE	1"=20'
SHEET NO.	69

DATE: 3/10/03 11:50 AM





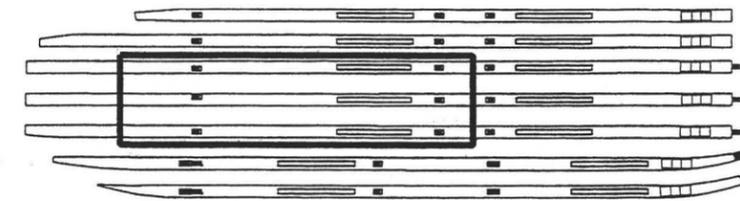
**PLATFORMS 4, 5 & 6 PLATFORM FLOOR PLAN - NORTH**  
1" = 20'

**LEGEND:**

SEE DRAWING A-1

**NOTES:**

SEE DRAWING A-1



**KEY PLAN**

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**PLATFORMS 4, 5 & 6**  
**PARTIAL PLATFORM PLAN**  
**NORTH**

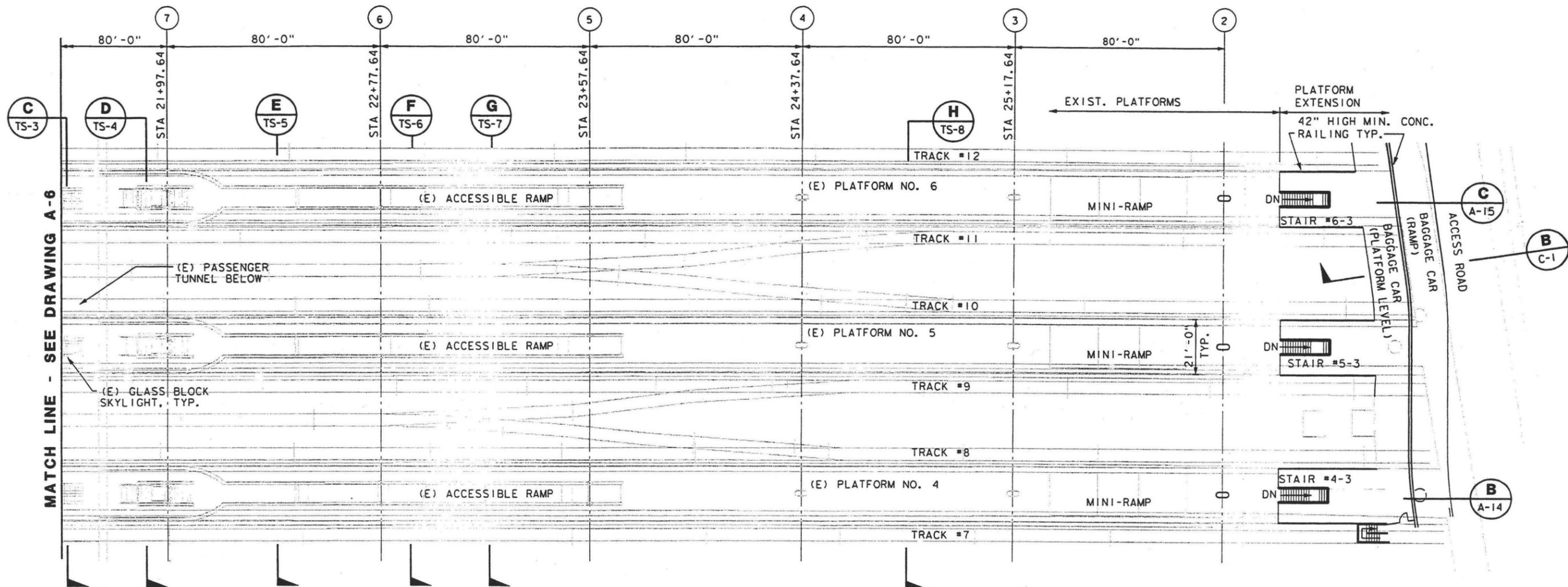
CONTRACT NO.	
DRAWING NO.	REV
A-6	
SCALE	
1' = 20'	
SHEET NO.	
70	

99DATESS STIMES

99FILE NAMES

MATCH LINE - SEE DRAWING A-7





MATCH LINE - SEE DRAWING A-6

**LEGEND:**

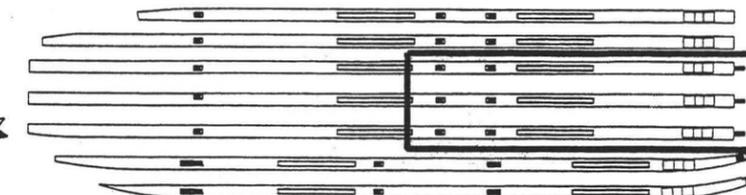
SEE DRAWING A-1

**NOTES:**

SEE DRAWING A-1

**PLATFORMS 4, 5 & 6 PLATFORM FLOOR PLAN-SOUTH**

1"=20'



**KEY PLAN**

REVISIONS

FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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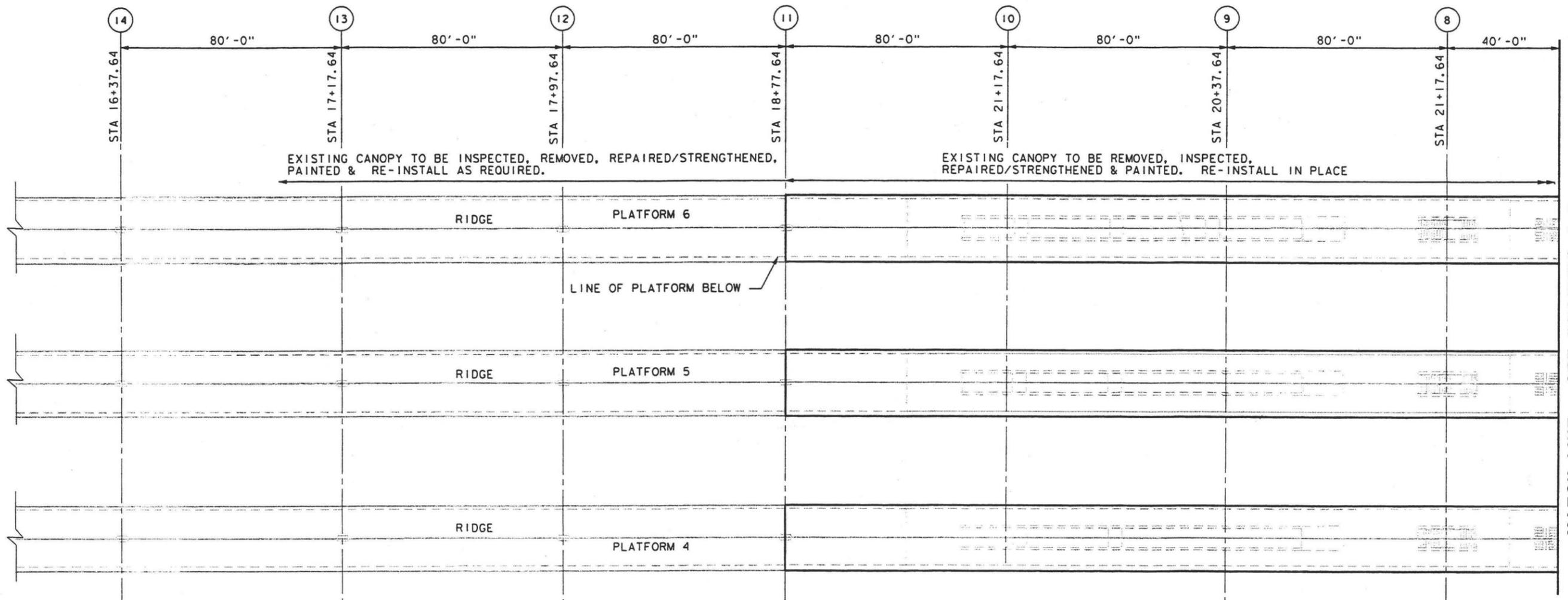
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
PLATFORMS 4, 5 & 6  
PARTIAL PLATFORM PLAN  
SOUTH**

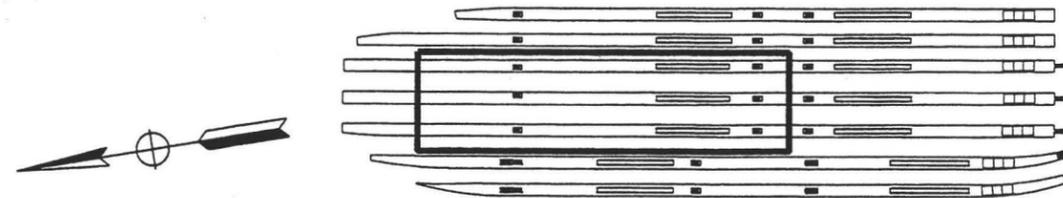
CONTRACT NO.	
DRAWING NO.	REV
A-7	
SCALE	1"=20'
SHEET NO.	71





**PLATFORMS 4, 5 & 6 CANOPY PLAN - NORTH**  
1"=20'

**LEGEND:**  
SEE DRAWING A-1  
**NOTES:**  
SEE DRAWING A-1



**KEY PLAN**

DATE: 03/10/03

FILE NAME:

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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DRAWN BY JC
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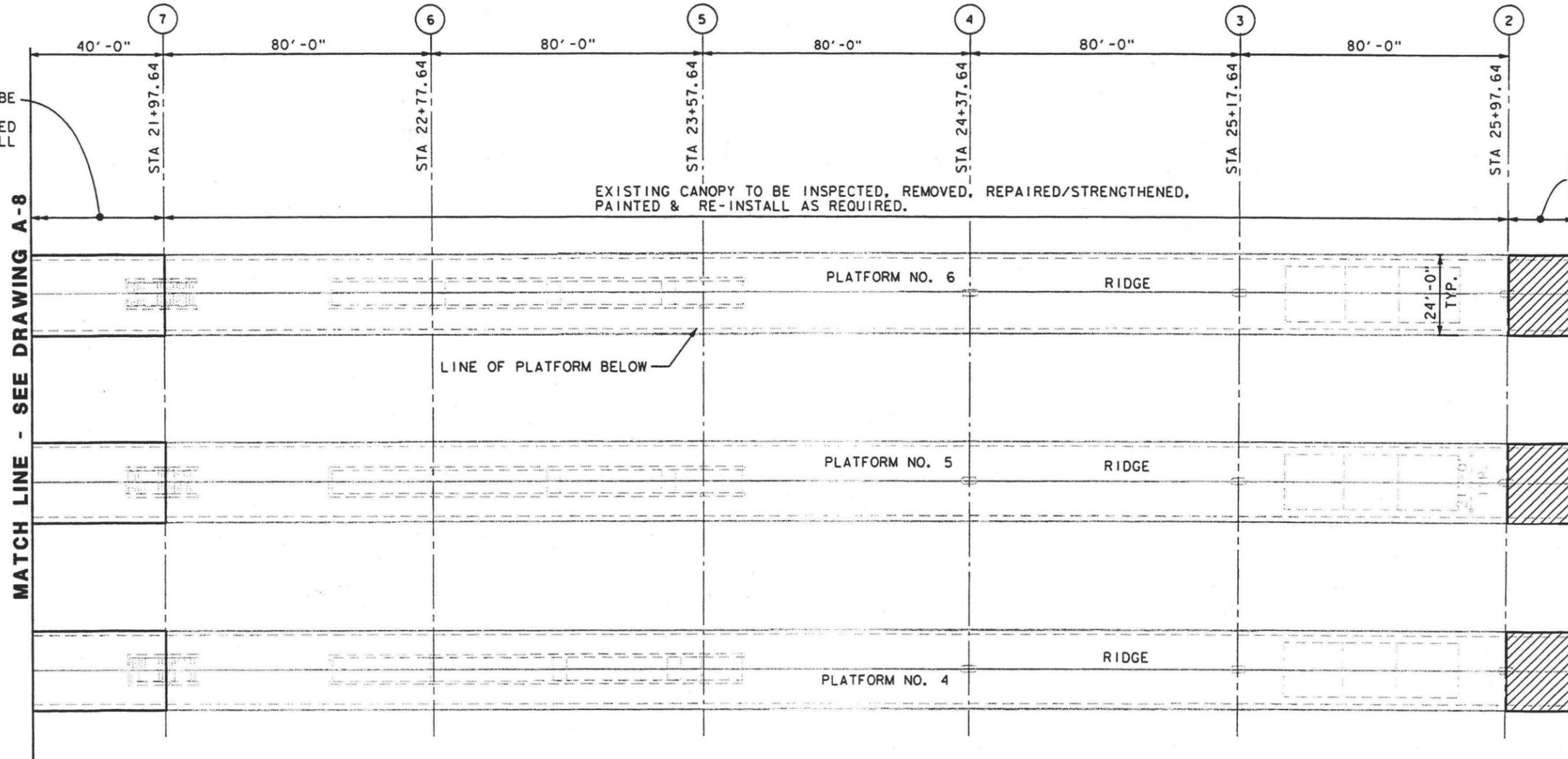
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 4, 5 & 6  
PARTIAL CANOPY PLAN  
NORTH**

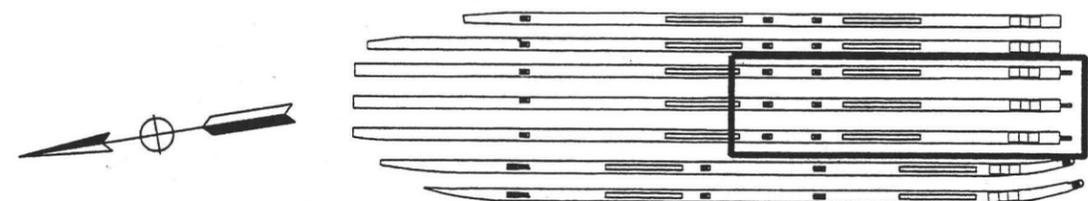
CONTRACT NO.	
DRAWING NO.	A-8
SCALE	1"=20'
SHEET NO.	72





**PLATFORMS 4, 5 & 6 CANOPY PLAN - SOUTH**  
1"=20'

**LEGEND:**  
SEE DRAWING A-1  
**NOTES:**  
SEE DRAWING A-1



**KEY PLAN**

DATE: 3/10/03

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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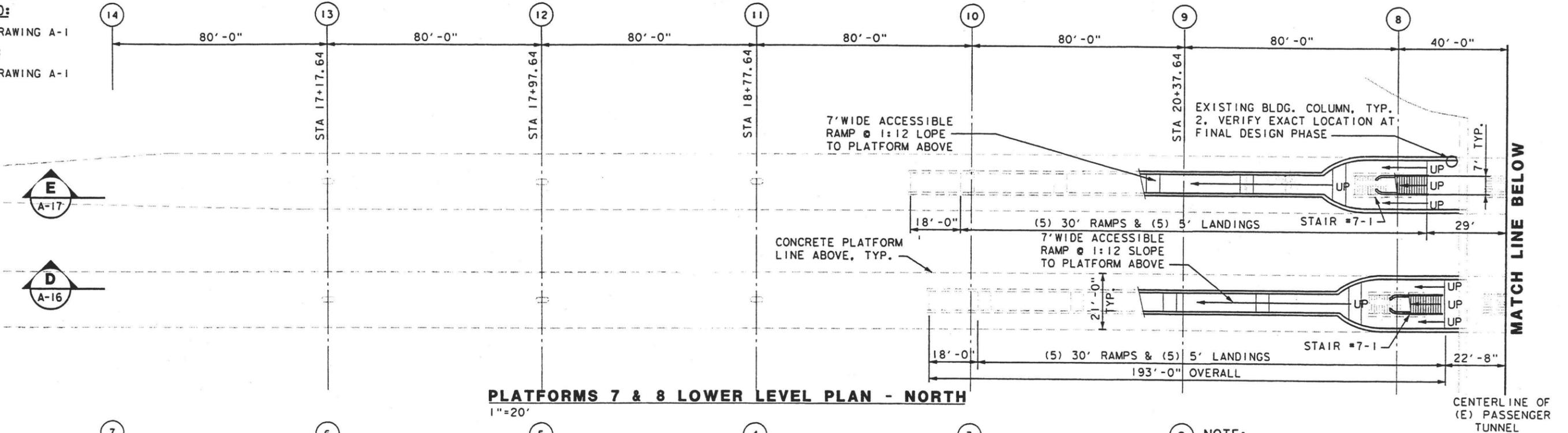
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
PLATFORMS 4, 5 & 6  
PARTIAL CANOPY PLAN  
SOUTH**

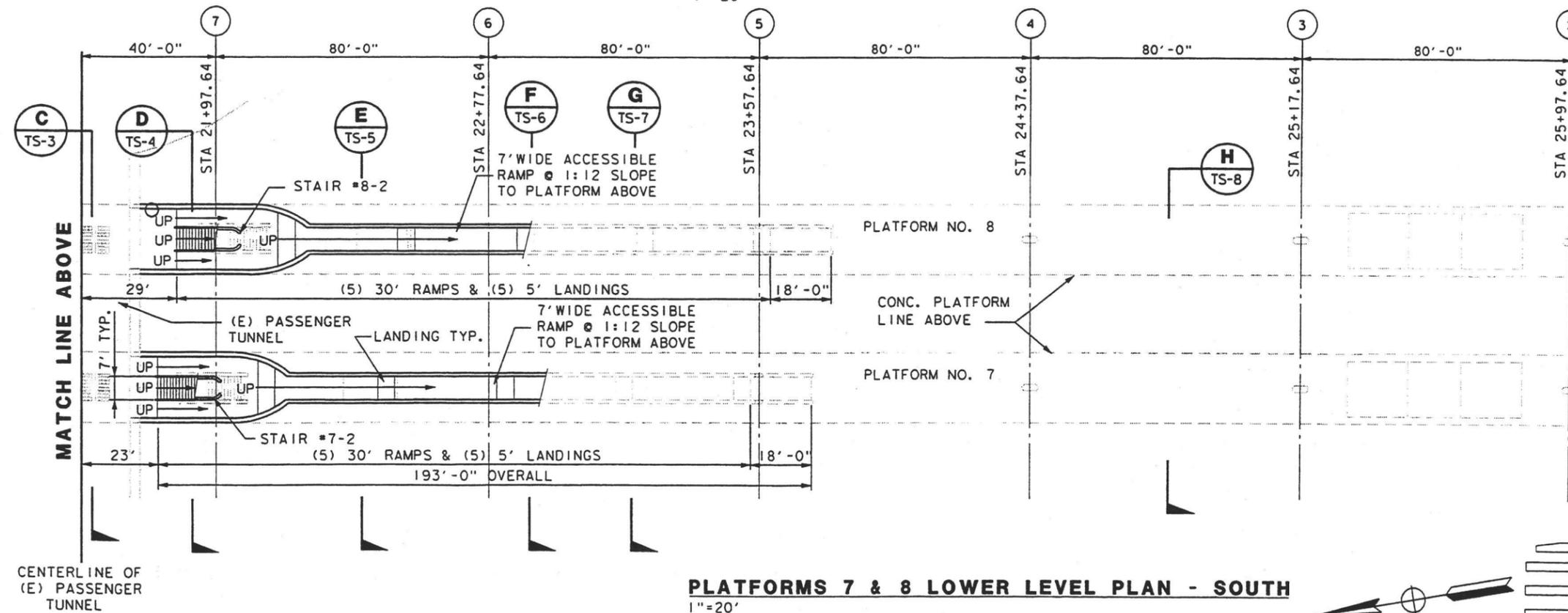
CONTRACT NO.	
DRAWING NO.	REV
A-9	
SCALE	1"=20'
SHEET NO.	73



**LEGEND:**  
SEE DRAWING A-1  
**NOTES:**  
SEE DRAWING A-1

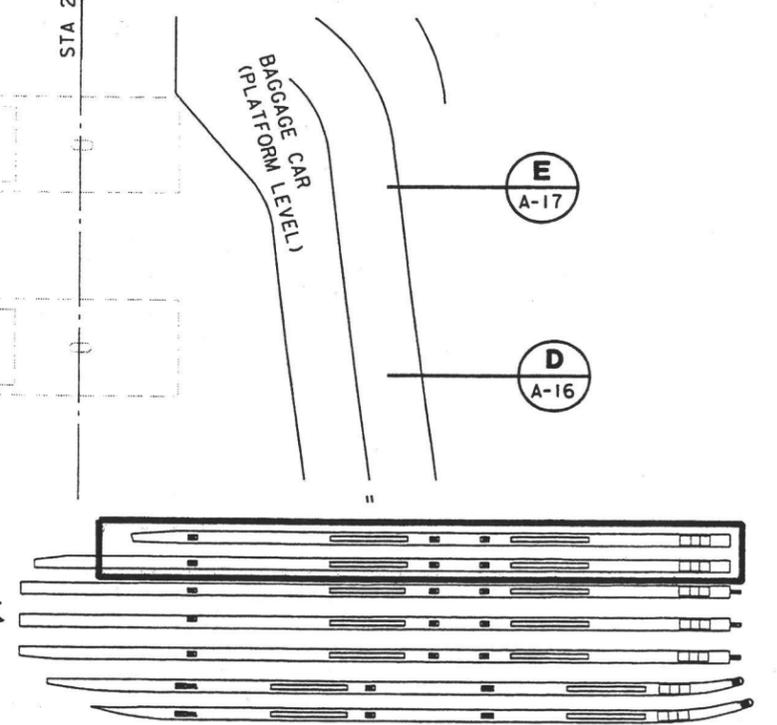


**PLATFORMS 7 & 8 LOWER LEVEL PLAN - NORTH**  
1"=20'



**PLATFORMS 7 & 8 LOWER LEVEL PLAN - SOUTH**  
1"=20'

**NOTE:**  
PROVIDE AND INSTALL 1/2" ROUND GALV. STEEL PIPE HANDRAILS, 34' ABOVE GROUND, WALL MOUNTED AT EACH SIDE OF ALL RAMPS, CONFORM TO ADA REQUIREMENTS.



**KEY PLAN**

DATE: 3/10/03 35% DESIGN SUBMITTAL

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

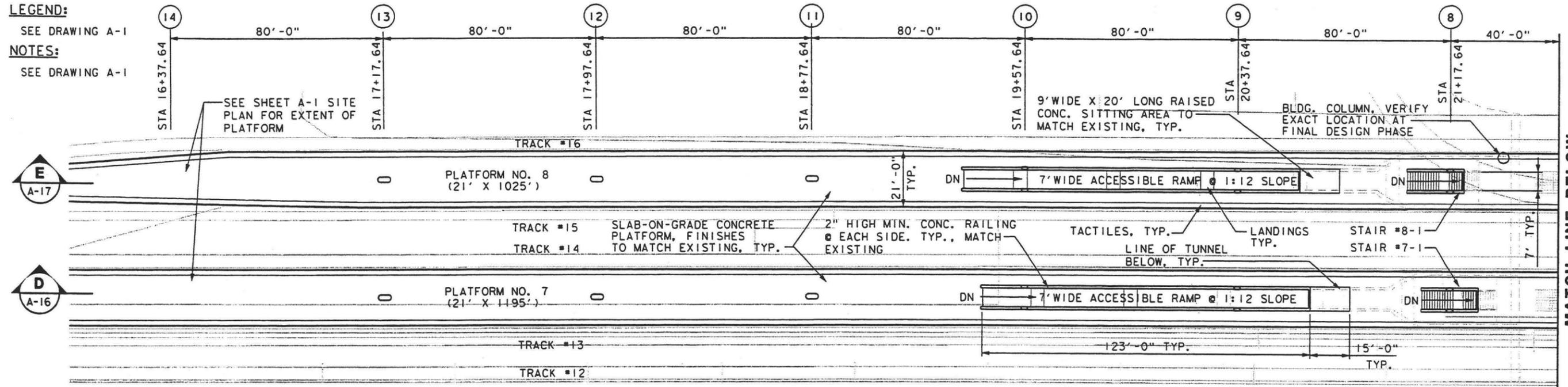
**PLATFORMS 7 & 8  
LOWER LEVEL PLANS**

CONTRACT NO.	
DRAWING NO.	REV
A-10	
SCALE	1"=20'
SHEET NO.	74

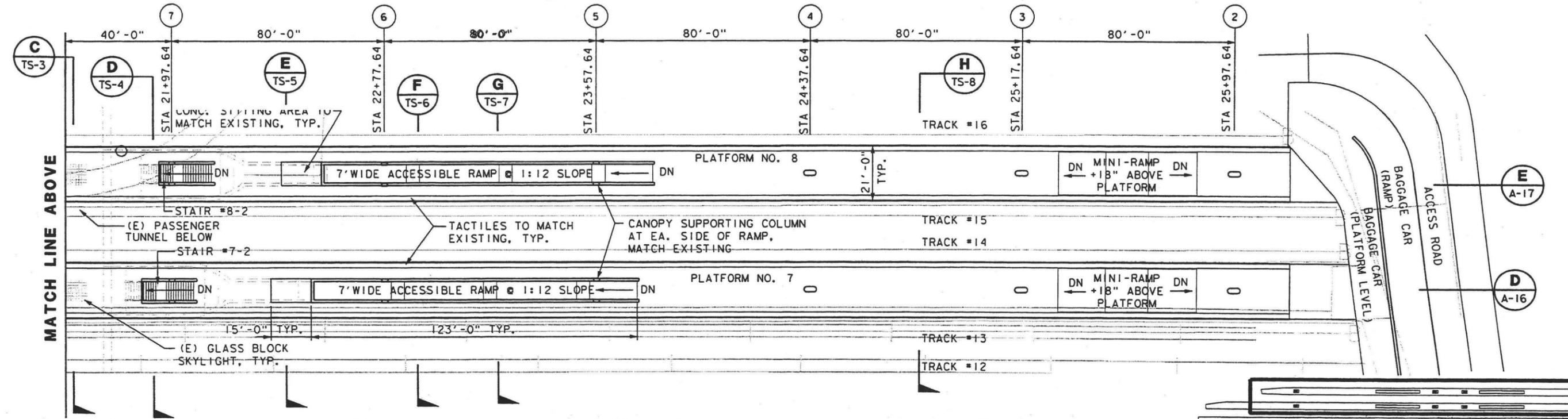


**LEGEND:**  
SEE DRAWING A-1

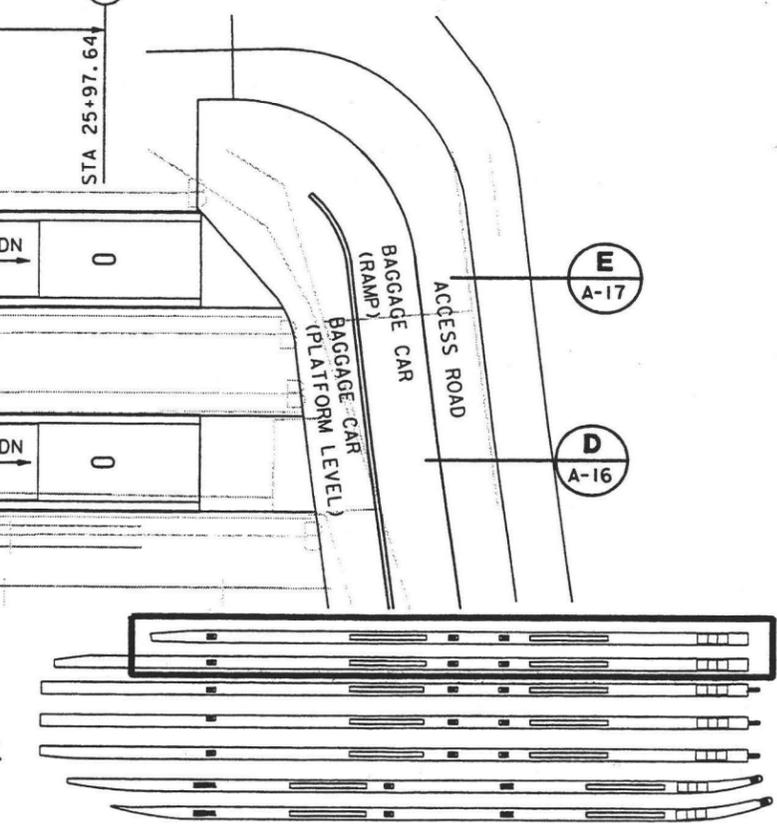
**NOTES:**  
SEE DRAWING A-1



**PLATFORMS 7 & 8 PLATFORM PLAN - NORTH**  
1"=20'



**PLATFORMS 7 & 8 PLATFORM PLAN - SOUTH**  
1"=20'



**KEY PLAN**

DATE: 3/10/03 9:15 AM

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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DRAWN BY JC
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DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_

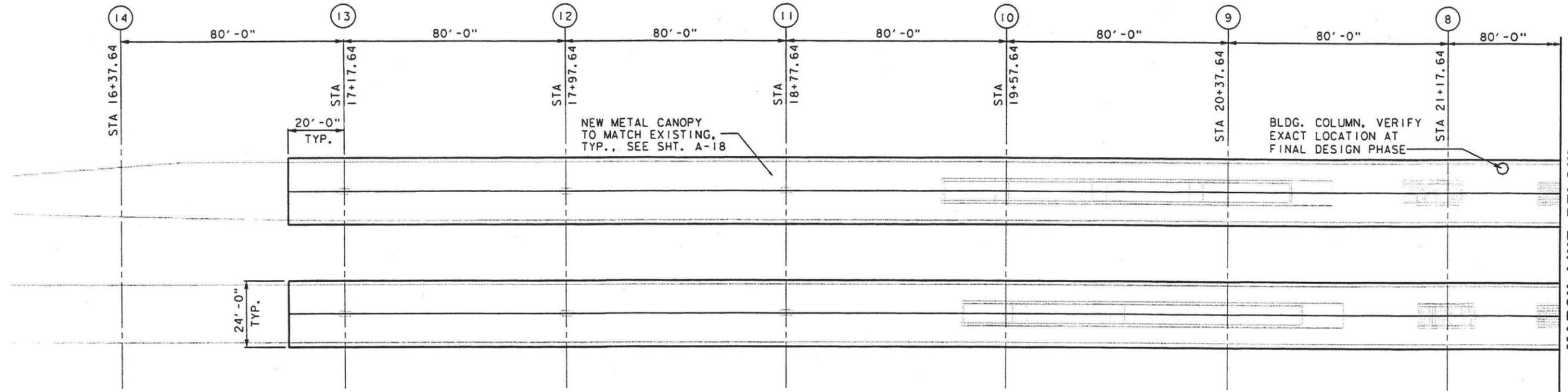
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

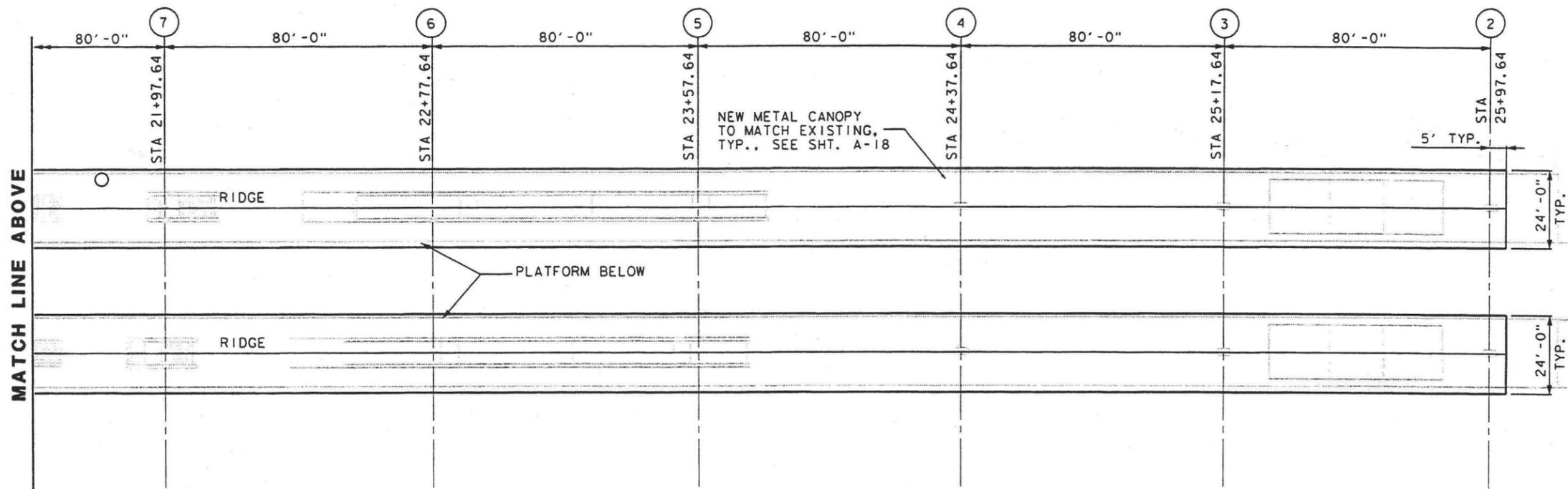
**PLATFORMS 7 & 8  
PLATFORM PLANS**

CONTRACT NO.	
DRAWING NO.	A-11
SCALE	1"=20'
SHEET NO.	75



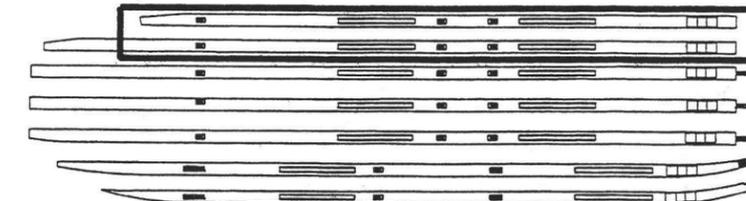


**PLATFORMS 7 & 8 CANOPY PLAN - NORTH**  
1"=20'



**PLATFORMS 7 & 8 CANOPY PLAN - SOUTH**  
1"=20'

**LEGEND:**  
SEE DRAWING A-1  
**NOTES:**  
SEE DRAWING A-1



**KEY PLAN**

DATE: 3/10/03 BY: JC APP: 35% DESIGN SUBMITTAL

REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY  
JC  
DRAWN BY  
JC  
CHECKED BY  
JD  
IN CHARGE  
PM  
DATE  
MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD  
PASSENGER CORPORATION

**DMJM HARRIS**  
3800 Kilroy Airport Way, Suite 350  
Long Beach, CA 90806

**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

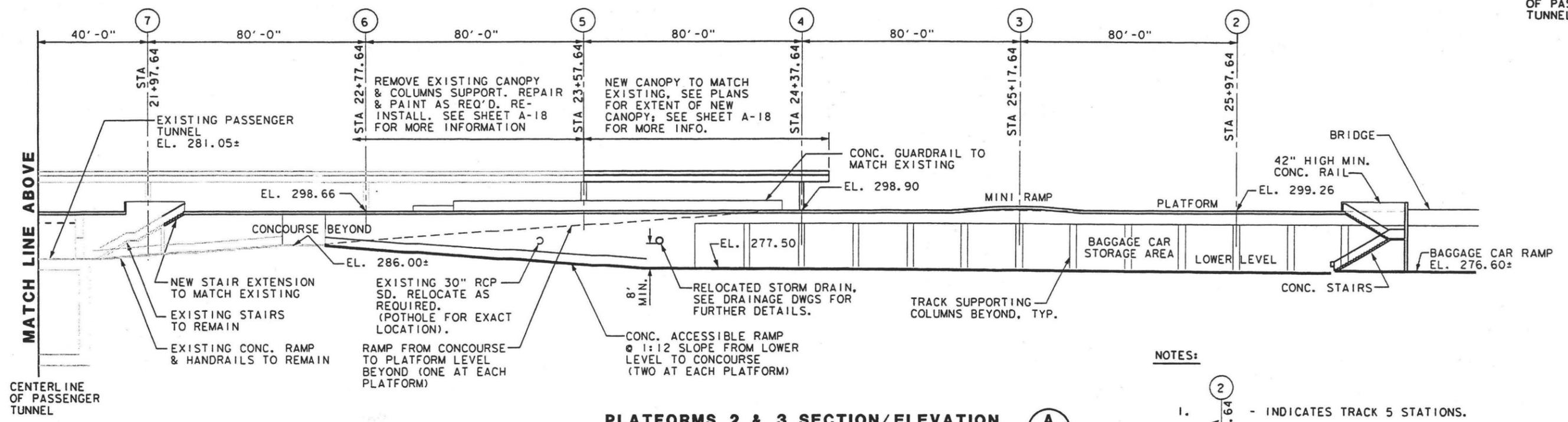
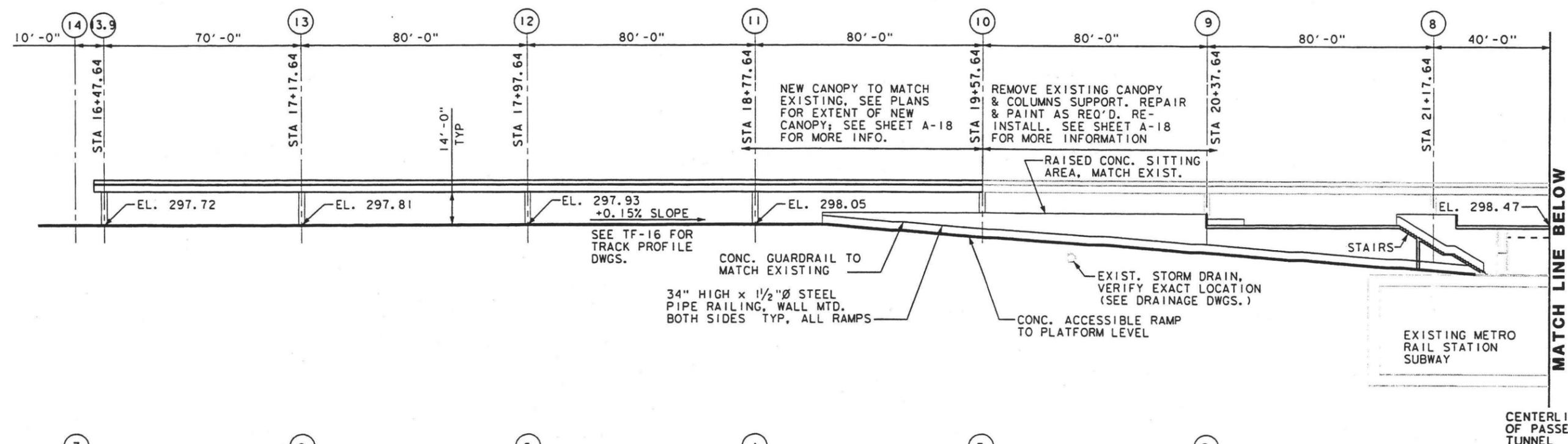
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 7 & 8  
CANOPY PLANS**

CONTRACT NO.	
DRAWING NO.	REV
A-12	
SCALE	1"=20'
SHEET NO.	76





**PLATFORMS 2 & 3 SECTION/ELEVATION** A  
 1" = 20'

- NOTES:**
1. 2 - INDICATES TRACK 5 STATIONS.
  2. EL. 299.26 - INDICATES TOP OF PLATFORM/ CONCOURSE/LOWER LEVEL ELEVATIONS.

8504255 8TIMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

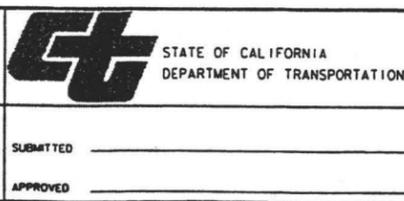
DESIGNED BY  
JC

DRAWN BY  
JC

CHECKED BY  
JD

IN CHARGE  
PM

DATE  
MAR 10, 2003

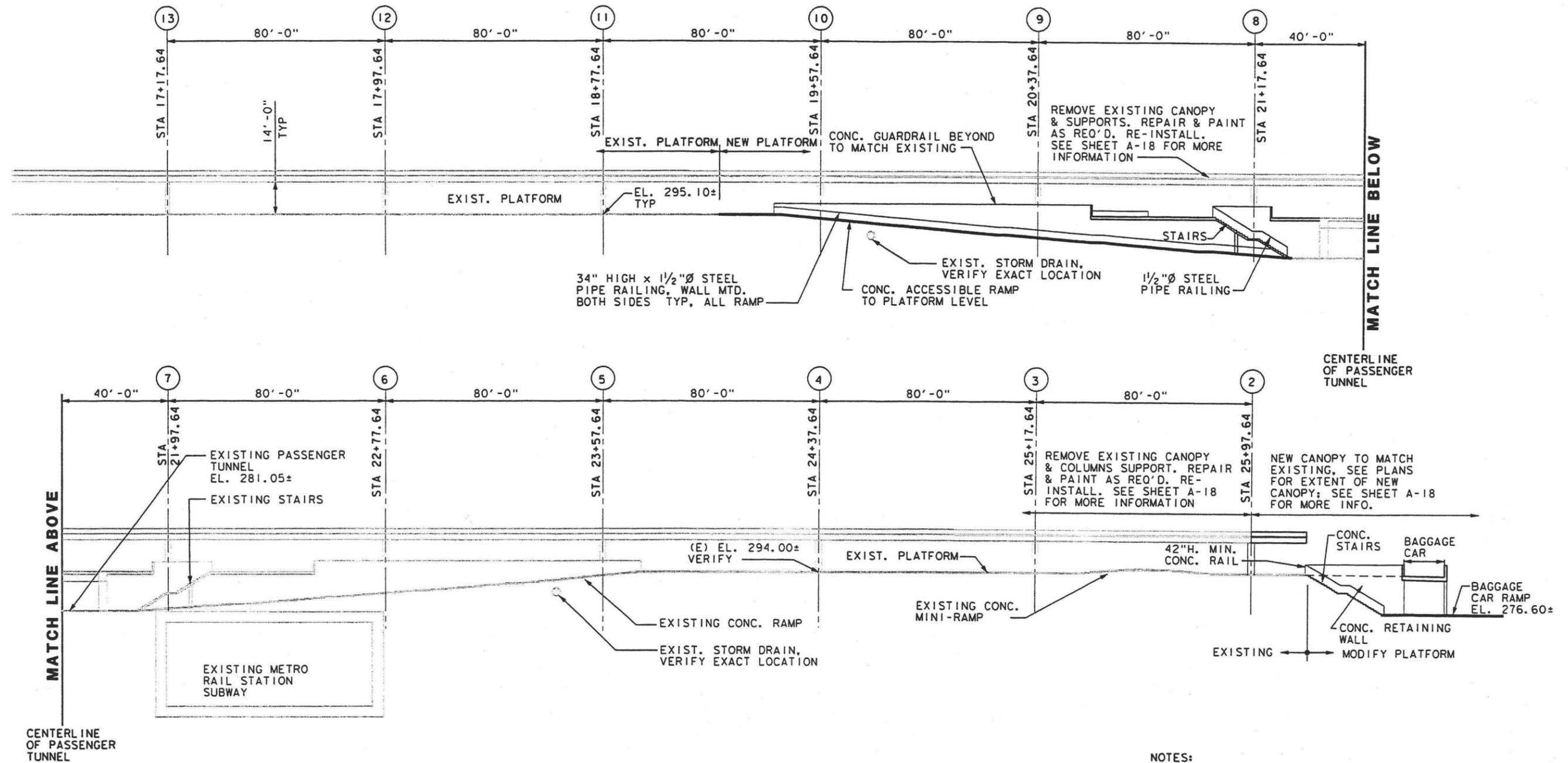


**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**PLATFORMS 2 & 3  
 SECTION**

CONTRACT NO.	
DRAWING NO.	REV
A-13	
SCALE	1"=20'
SHEET NO.	77





**PLATFORMS 4 & 5 SECTION/ELEVATION**

1" = 20'

**B**

**NOTES:**

1.  - INDICATES TRACK 5 STATIONS.
2.  - INDICATES TOP OF PLATFORM/ CONCOURSE/LOWER LEVEL ELEVATIONS.

DATESS STINES

FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

DESIGNED BY JC
DRAWN BY JC
CHECKED BY JD
IN CHARGE PM
DATE MAR 10, 2003

**AMTRAK**  
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PASSENGER CORPORATION

**DMJM HARRIS**  
3800 Kilroy Airport Way, Suite 350  
Long Beach, CA 90806

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

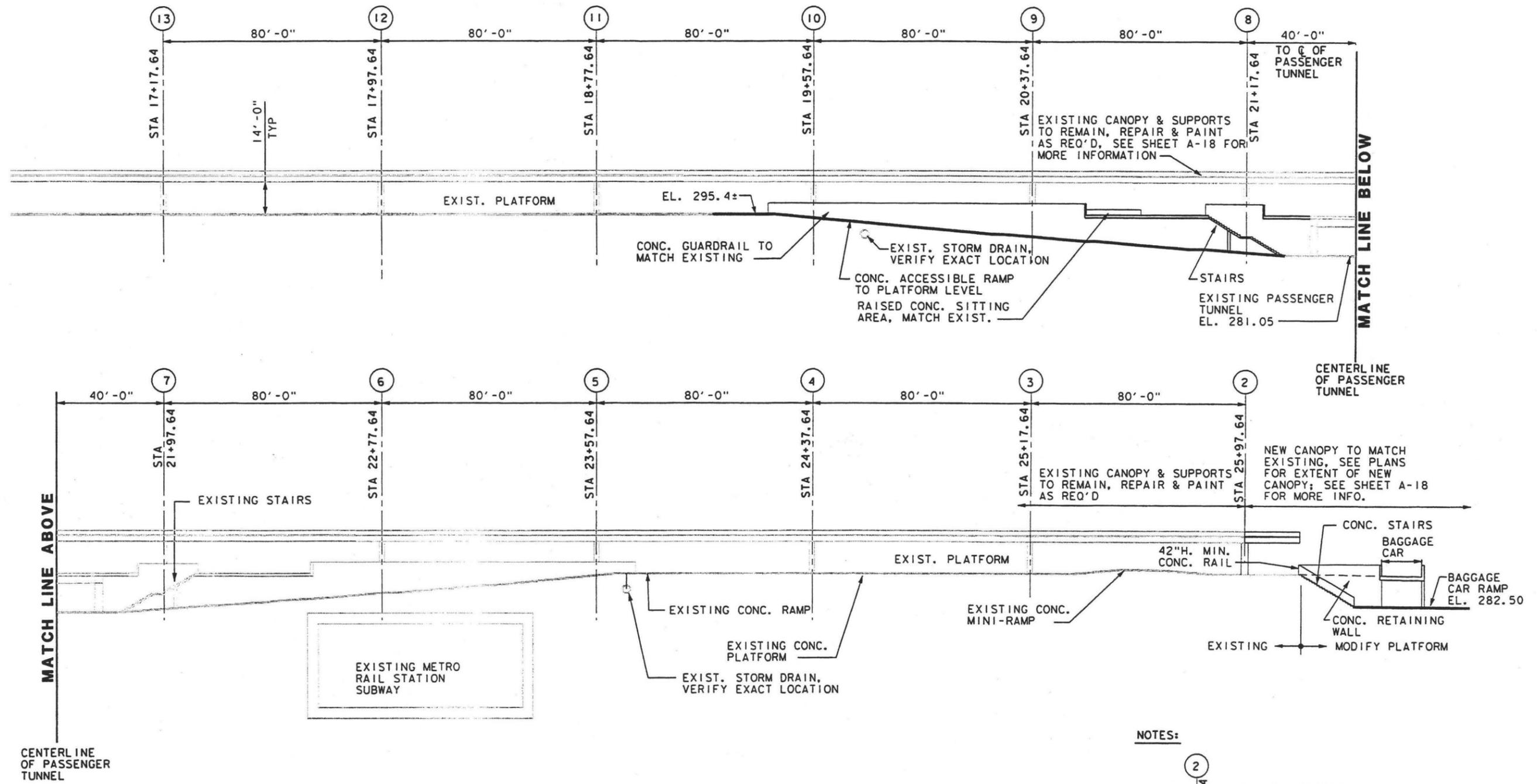
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

**PLATFORMS 4 & 5**  
**SECTION/ELEVATION**

CONTRACT NO.	
DRAWING NO.	A-14
SCALE	1"=20'
SHEET NO.	78





**PLATFORMS 6 SECTION/ELEVATION** (C)  
 1" = 20'

- NOTES:**
1. (C) STA 25+97.64 - INDICATES TRACK 5 STATIONS.
  2. EL. 299.26 - INDICATES TOP OF PLATFORM/ CONCOURSE/LOWER LEVEL ELEVATIONS.

DATE: 3/10/03  
 FILE NAME: 352 DESIGN SUBMITTAL

REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY  
JC  
 DRAWN BY  
JC  
 CHECKED BY  
JD  
 IN CHARGE  
PM  
 DATE  
MAR 10, 2003

NATIONAL RAILROAD  
PASSENGER CORPORATION

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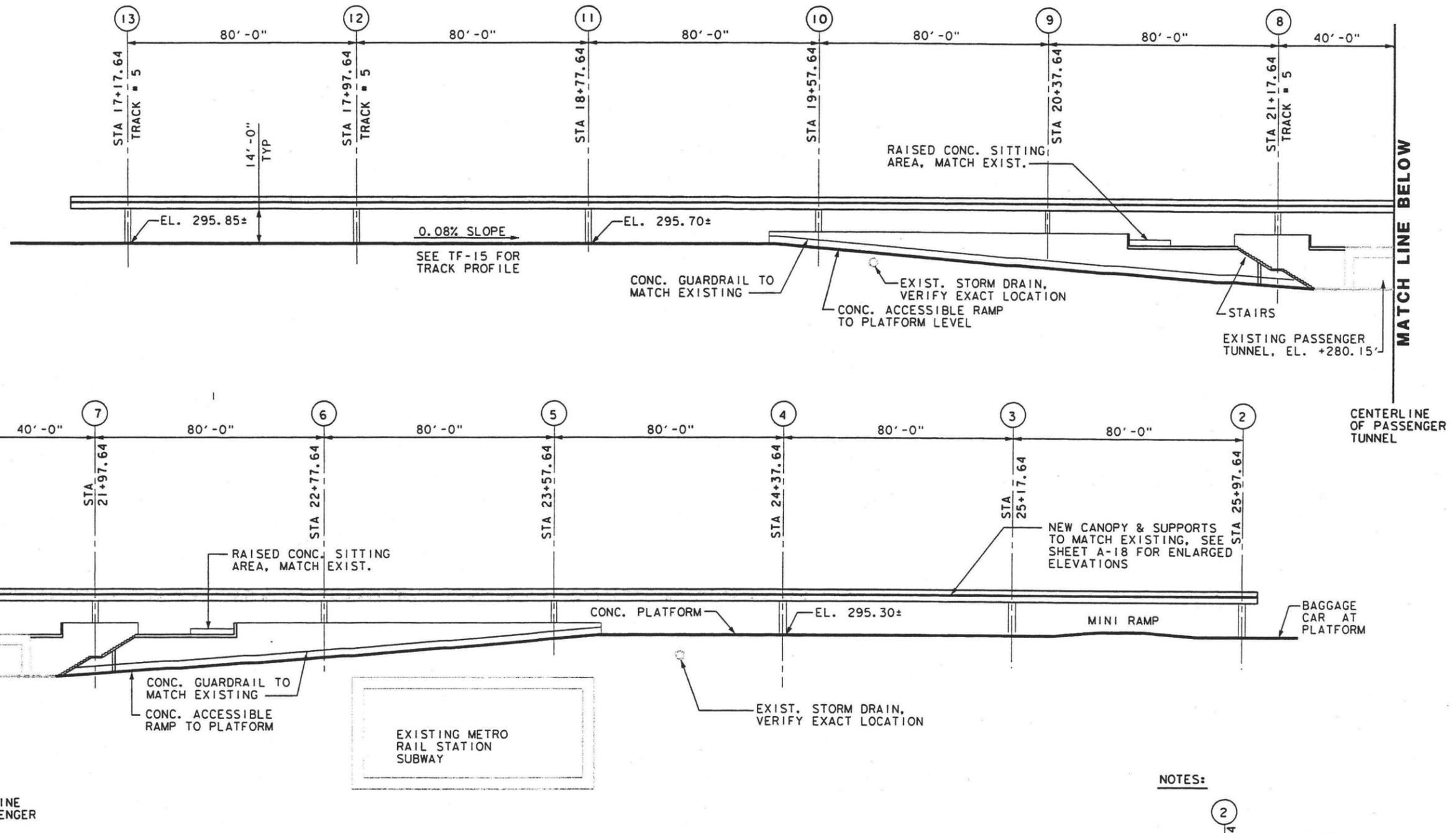
3800 Kilroy Airport Way, Suite 350  
Long Beach, CA 90806

SUBMITTED \_\_\_\_\_

APPROVED \_\_\_\_\_

<b>LOS ANGELES UNION STATION</b>		CONTRACT NO.
<b>RUN-THROUGH TRACKS</b>		DRAWING NO. A-15
<b>PLATFORM 6</b>		SCALE 1" = 20'
<b>SECTION/ELEVATION</b>		SHEET NO. 79





**PLATFORM 7 SECTION/ELEVATION** (D)  
1" = 20'

**NOTES:**

1. (2) STA 21+97.64 - INDICATES TRACK 5 STATIONS.
2. EL. 299.26 - INDICATES TOP OF PLATFORM/ CONCOURSE/LOWER LEVEL ELEVATIONS.

DATE 3/10/03 35% DESIGN SUBMITTAL

REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY  
JC  
DRAWN BY  
JC  
CHECKED BY  
JD  
IN CHARGE  
PM  
DATE  
MAR 10, 2003

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APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORM 7  
SECTION**

CONTRACT NO.	
DRAWING NO.	A-16
SCALE	1" = 20'
SHEET NO.	80

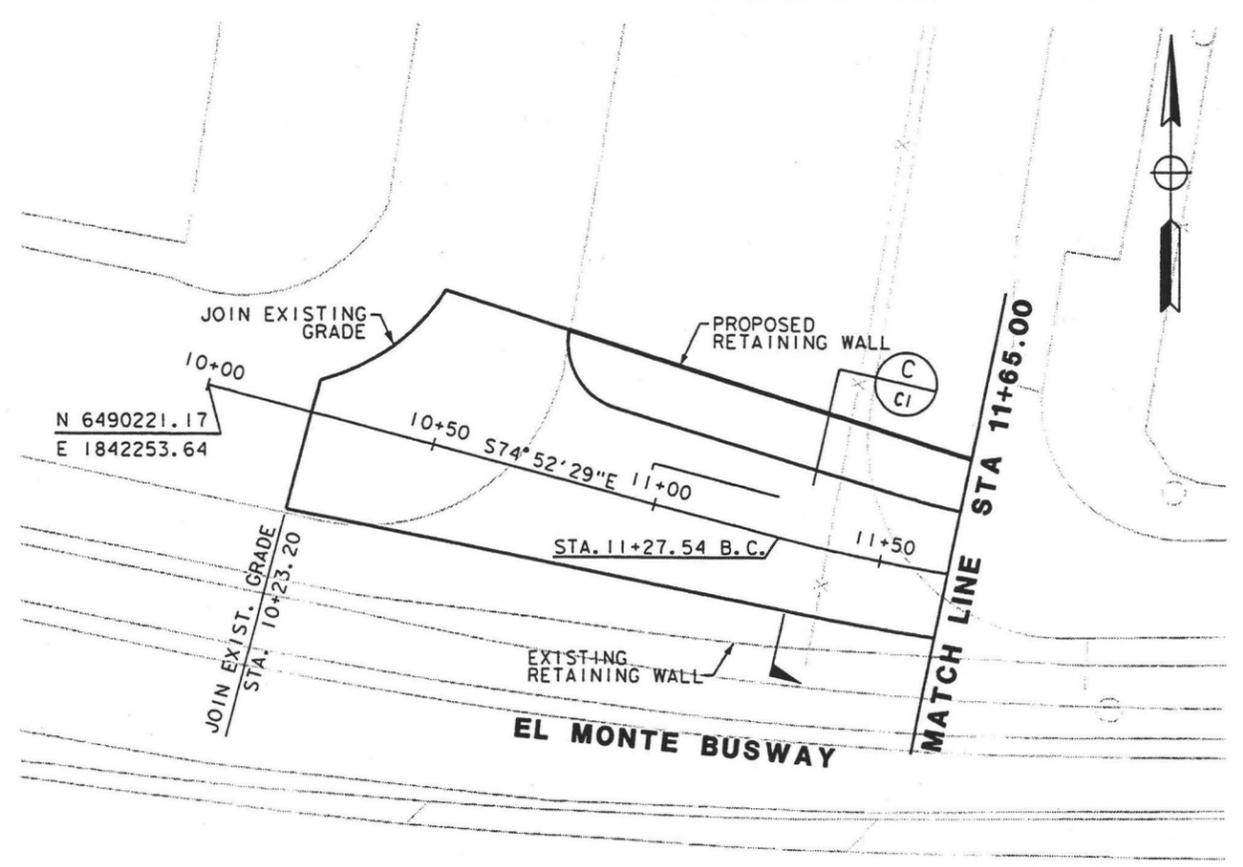
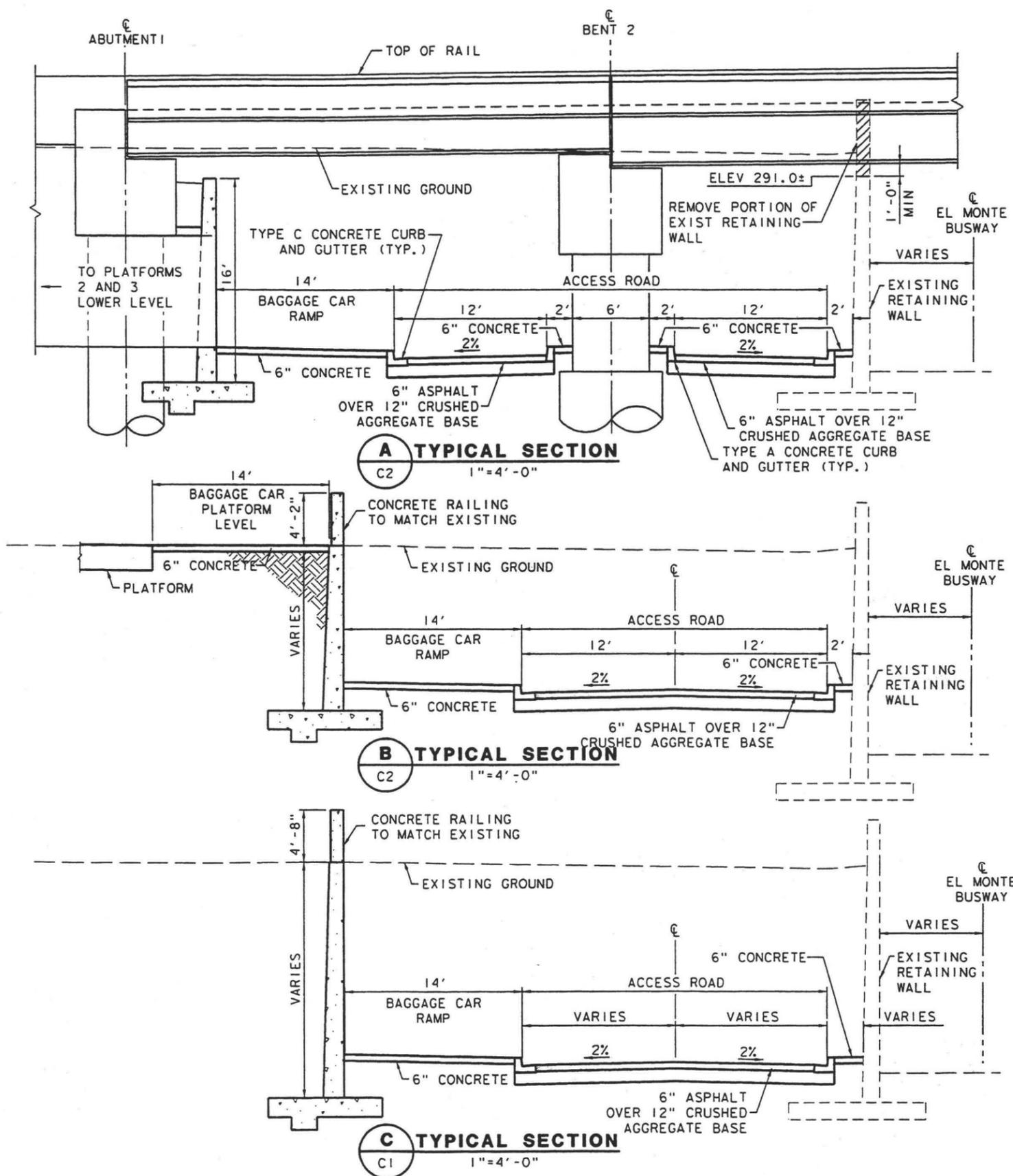




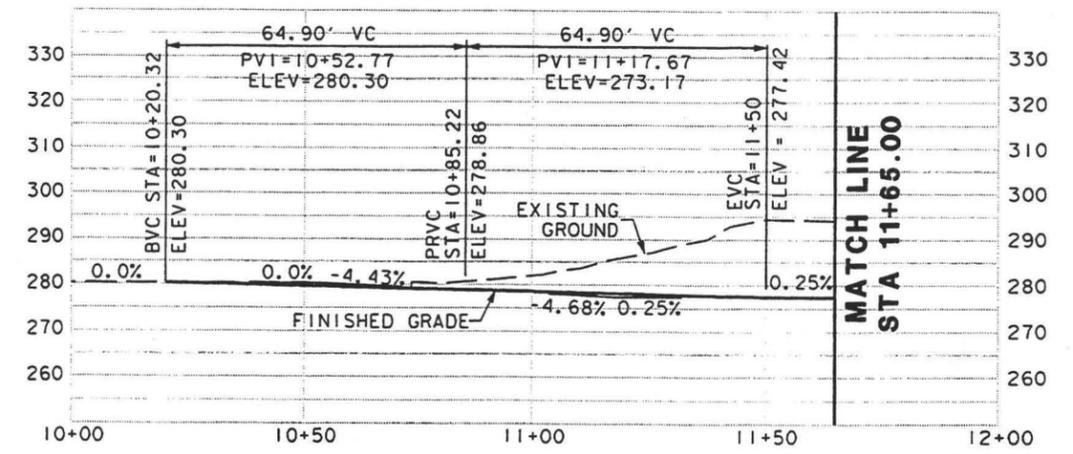








**SERVICE & BAGGAGE CAR ACCESS ROAD PLAN STA 10+00 TO 11+65.00**  
1"=20'



**SERVICE & BAGGAGE CAR ACCESS ROAD PROFILE STA 10+00 TO 11+65.00**  
1"=20'

DATE 8/10/03

REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL

DESIGNED BY  
RI  
DRAWN BY  
RI  
CHECKED BY  
AN  
IN CHARGE  
PM  
DATE  
MAR 10, 2003

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Long Beach, CA 90806

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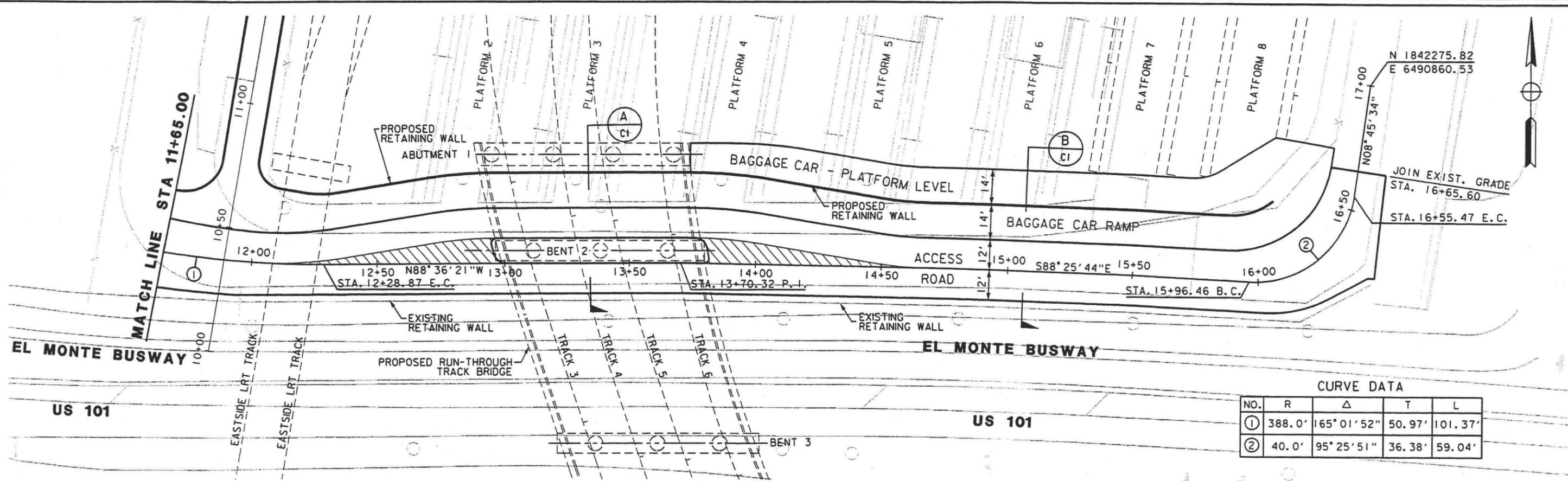
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**SERVICE & BAGGAGE CAR  
ACCESS ROAD PLAN - 1 OF 3**

CONTRACT NO.	
DRAWING NO.	C-1
SCALE	AS NOTED
SHEET NO.	83



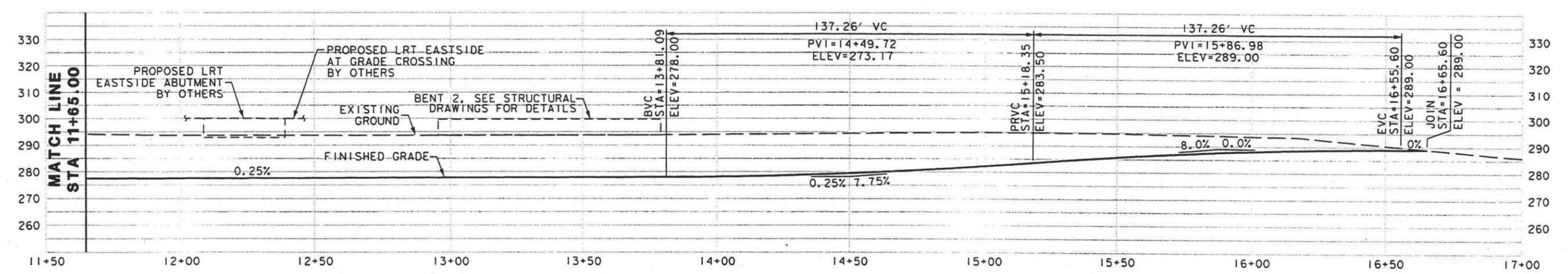


**CURVE DATA**

NO.	R	Δ	T	L
①	388.0'	165° 01' 52"	50.97'	101.37'
②	40.0'	95° 25' 51"	36.38'	59.04'

**SERVICE AND BAGGAGE CAR ACCESS ROAD PLAN STATION 11+65 TO 17+00**  
1"=20'

- NOTES:**
1. SEE ARCHITECTURAL DRAWINGS FOR DETAILS OF PLATFORM MODIFICATIONS.
  2. SEE STRUCTURAL DRAWINGS FOR DETAILS OF BRIDGE STRUCTURE.



**SERVICE AND BAGGAGE CAR ACCESS ROAD PROFILE STATION 11+65 TO 17+00**  
1"=20'

REV	DATE	BY	SUB	APP	DESCRIPTION

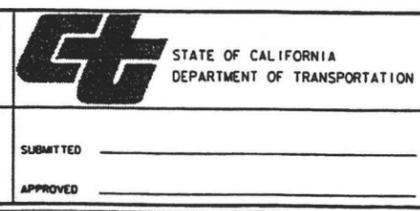
DESIGNED BY  
RI

DRAWN BY  
RI

CHECKED BY  
AN

IN CHARGE  
PM

DATE  
MAR 10, 2003

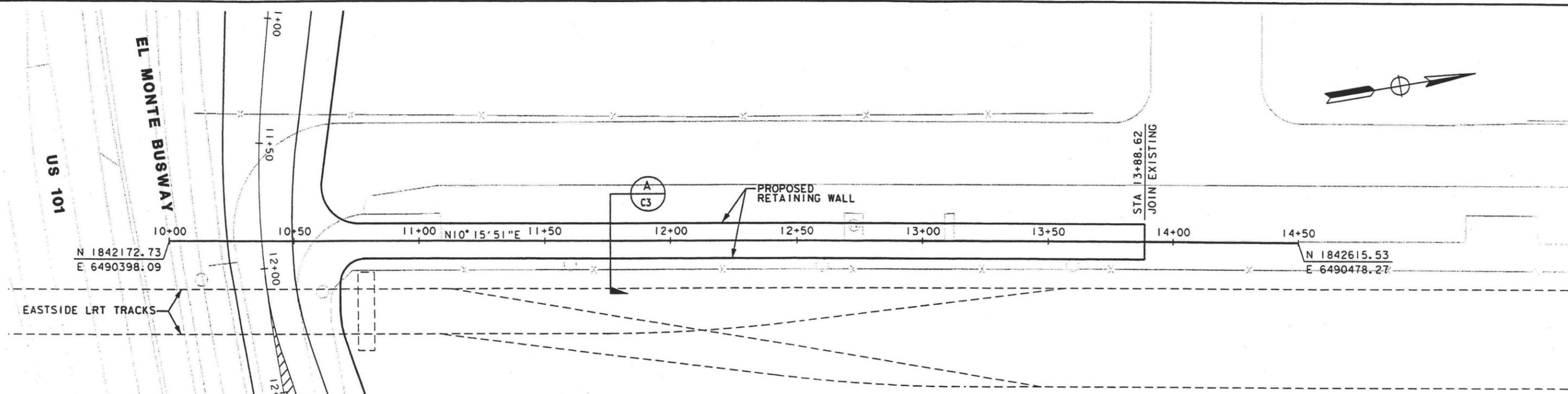
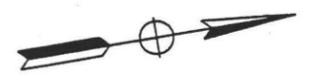


**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

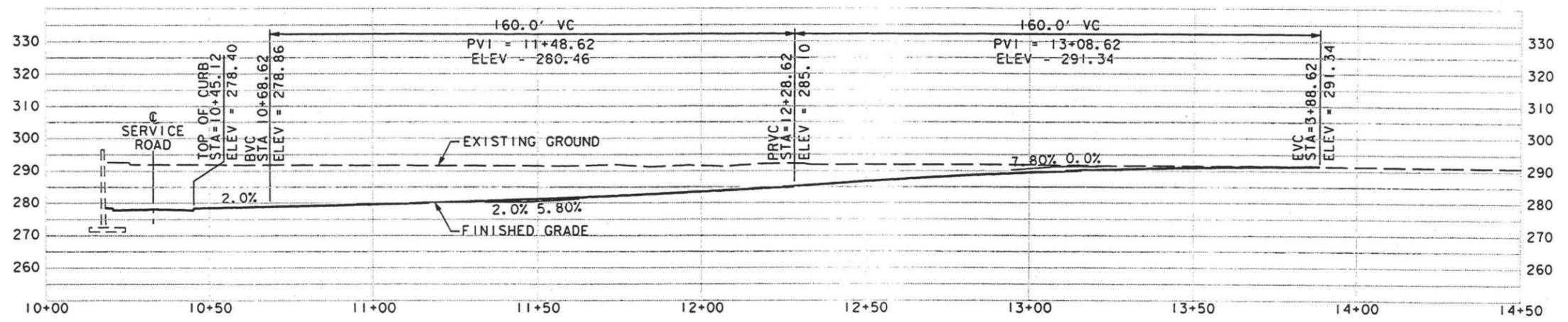
**SERVICE & BAGGAGE CAR  
ACCESS ROAD PLAN - 1 OF 3**

CONTRACT NO.	
DRAWING NO.	C-2
SCALE	1"=20'
SHEET NO.	84

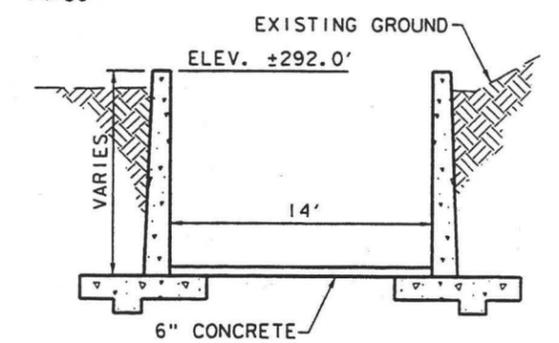




**BAGGAGE CAR RAMP PLAN STATION 10+00 TO 14+50**  
1"=20'



**BAGGAGE CAR RAMP PROFILE STATION 10+00 TO 14+50**  
1"=20'



**A TYPICAL SECTION**  
C3  
1"=4'-0"

# FILE NAMES  
 # DATES # TIMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

DESIGNED BY  
RI  
 DRAWN BY  
RI  
 CHECKED BY  
AN  
 IN CHARGE  
PM  
 DATE  
MAR 10, 2003

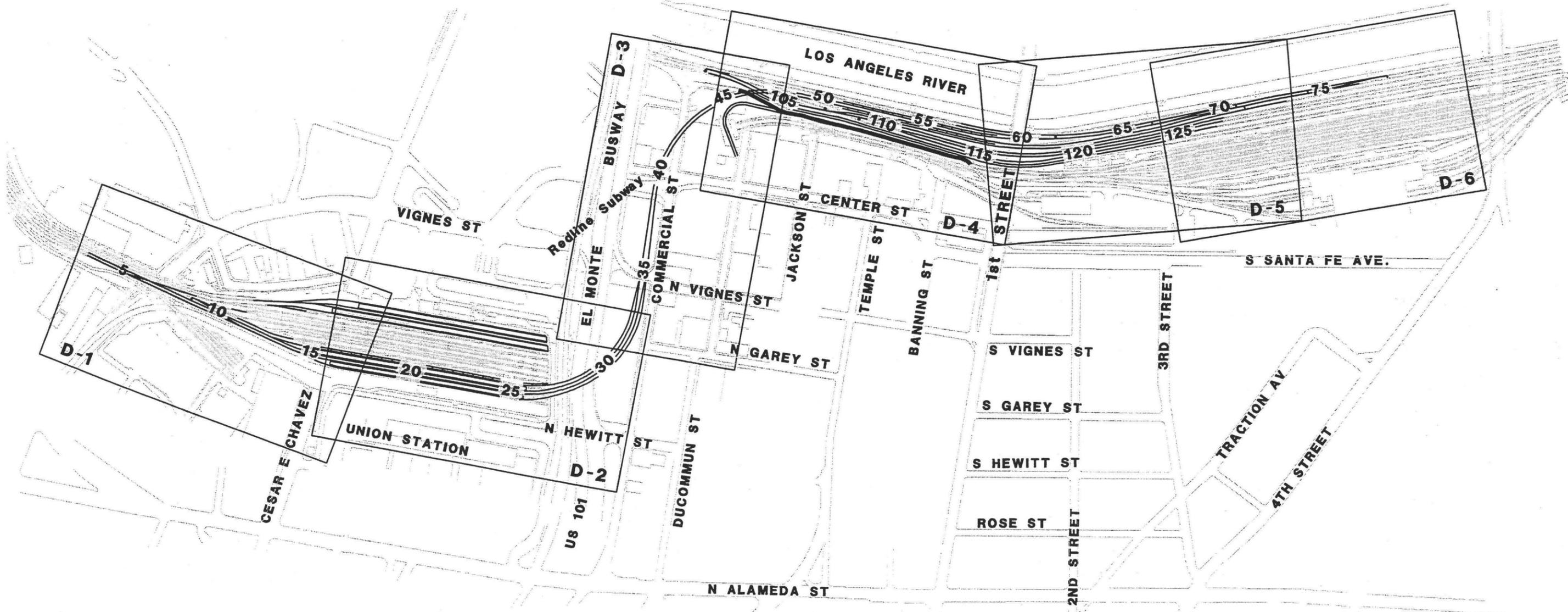
**AMTRAK**  
 NATIONAL RAILROAD  
 PASSENGER CORPORATION  
**DMJM HARRIS**  
 3800 Kilroy Airport Way, Suite 350  
 Long Beach, CA 90806

**CT** STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
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 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**SERVICE & BAGGAGE CAR**  
**ACCESS ROAD PLAN - 3 OF 3**

CONTRACT NO.	
DRAWING NO.	C-3
SCALE	AS NOTED
SHEET NO.	85

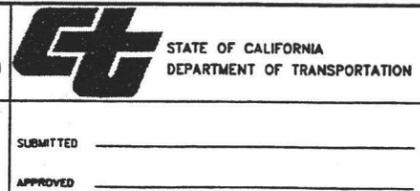




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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY  
 KW  
 DRAWN BY  
 JM  
 CHECKED BY  
 ME  
 IN CHARGE  
 TTK  
 DATE  
 MAR 10, 2003



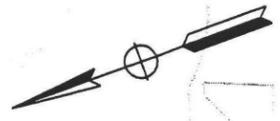
**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**DRAINAGE KEY MAP**

CONTRACT NO.	
DRAWING NO.	REV
K-2	
SCALE	N/A
SHEET NO.	86



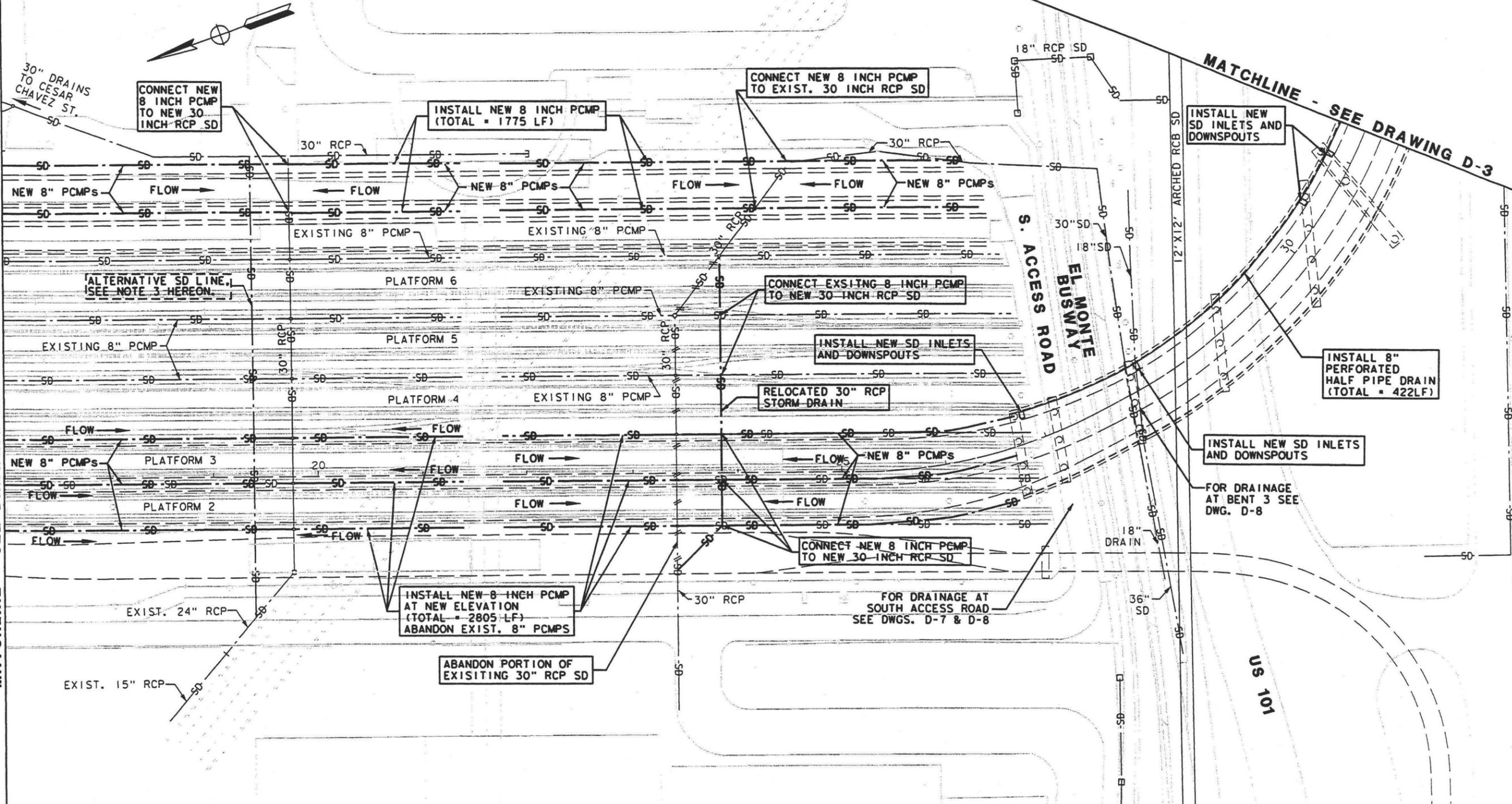






MATCHLINE - SEE DRAWING D-1

MATCHLINE - SEE DRAWING D-3



**NOTES:**

1. CONNECT 8 INCH PCMP TO NEW 30 INCH RCP SD PER CITY OF LOS ANGELES STND. DWG. B-3334
2. EXISTING PLATFORM TO 8" PCMP SD DETAILS ARE SHOWN ON SHEET D-9
3. ALTERNATE LOCATION FOR A NEW 30" RCP SD APPROX. 37' NORTH OF EXISTING 30" SD. REQUIRED ONLY IF EXISTING SD IS IN CONFLICT WITH PROPOSED PLATFORM RAMPS. POTHOLE EXISTING SD LINE FOR EXACT LOCATION.

DATE: 3/10/03 35% DESIGN SUBMITTAL

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY  
NAB  
DRAWN BY  
NAB  
CHECKED BY  
LJ  
IN CHARGE  
PM  
DATE  
MAR 10, 2003

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APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
PROPOSED DRAINAGE  
AT UNION STATION  
SHEET 2**

CONTRACT NO.	
DRAWING NO.	D-2
SCALE	1" = 50'
SHEET NO.	88



EI MONTE BUSWAY

US 101

FRIEDMAN  
BAG COMPANY  
BLDG 801

CITY OF LA

MATCHLINE  
SEE SHEET D-2

INSTALL NEW SD INLETS  
AND DOWNSPOUTS (TYP.)

COMMERCIAL ST.

CITY OF LA

N. GARVEY ST.

WAREHOUSE

FRIEDMAN  
BAG COMPANY  
BLDG 711

COMMERCIAL ST  
WIDENING PROJECT  
(LADOT)

MTA MAINTENANCE FACILITY  
YARD LEADS

CENTER ST.

DUCCOMMUN ST.

MATCHLINE  
SEE SHEET D-4



01:26:40 PM

FILE NAME\$  
DATE\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY  
JO

DRAWN BY  
JM

CHECKED BY  
ME

IN CHARGE  
TTK

DATE  
MAR 10, 2003



NATIONAL RAILROAD  
PASSENGER CORPORATION



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION



HDR Engineering, Inc.

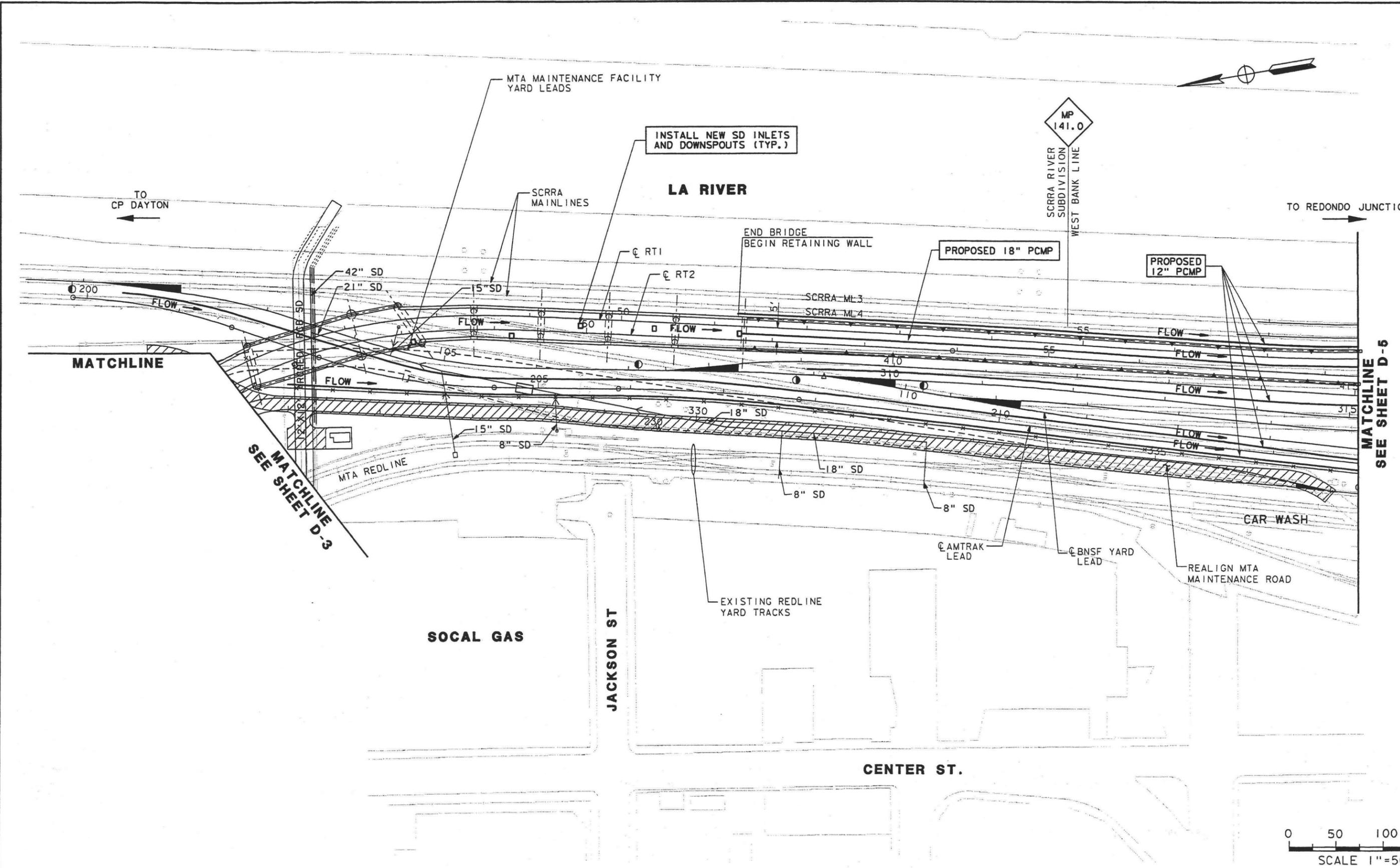
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS

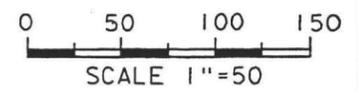
PROPOSED DRAINAGE PLAN

CONTRACT NO.	
DRAWING NO.	REV
D-3	
SCALE	
1"=50'	
SHEET NO.	
89	



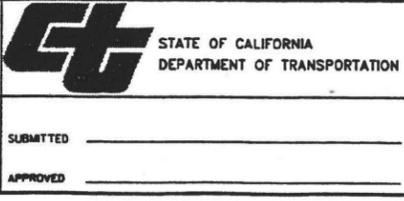


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 DATE: \$  
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	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY KO  
 DRAWN BY JYM  
 CHECKED BY TTK  
 IN CHARGE TTK  
 DATE MAR 10, 2003



**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**PROPOSED DRAINAGE PLAN**

CONTRACT NO.	
DRAWING NO. D-4	REV
SCALE 1"=50'	
SHEET NO. 90	





LA RIVER

FIRST ST

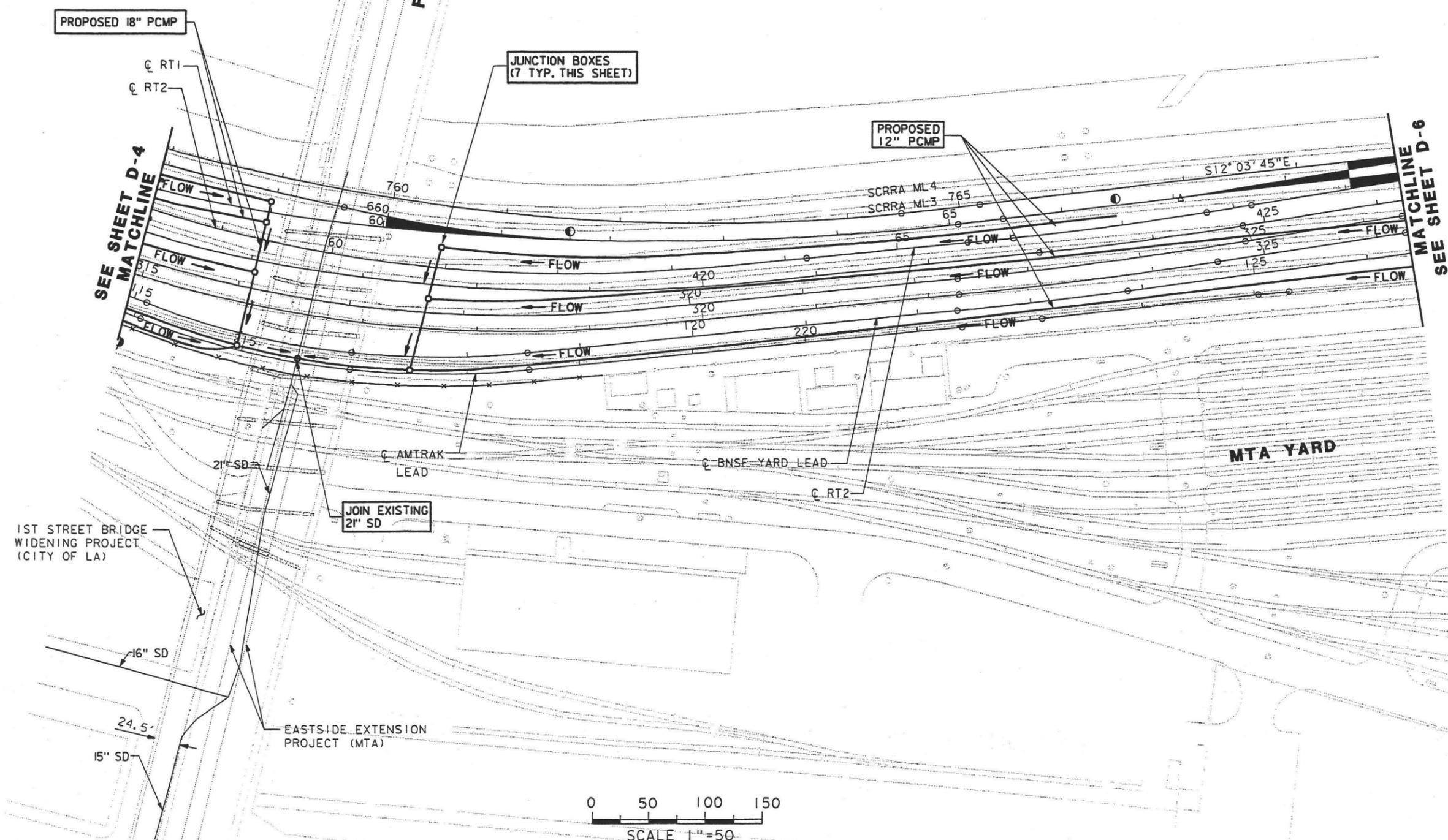
PROPOSED 18" PCMP

JUNCTION BOXES  
(7 TYP. THIS SHEET)

PROPOSED 12" PCMP

SEE SHEET D-4  
MATCHLINE

MATCHLINE  
SEE SHEET D-6



1ST STREET BRIDGE  
WIDENING PROJECT  
(CITY OF LA)

JOIN EXISTING  
21" SD

MTA YARD

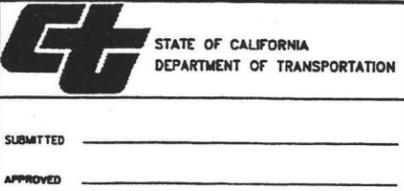
EASTSIDE EXTENSION  
PROJECT (MTA)



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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY JO  
 DRAWN BY JM  
 CHECKED BY ME  
 IN CHARGE TTK  
 DATE MAR 10, 2003

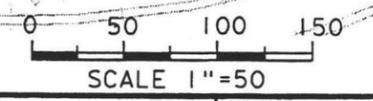
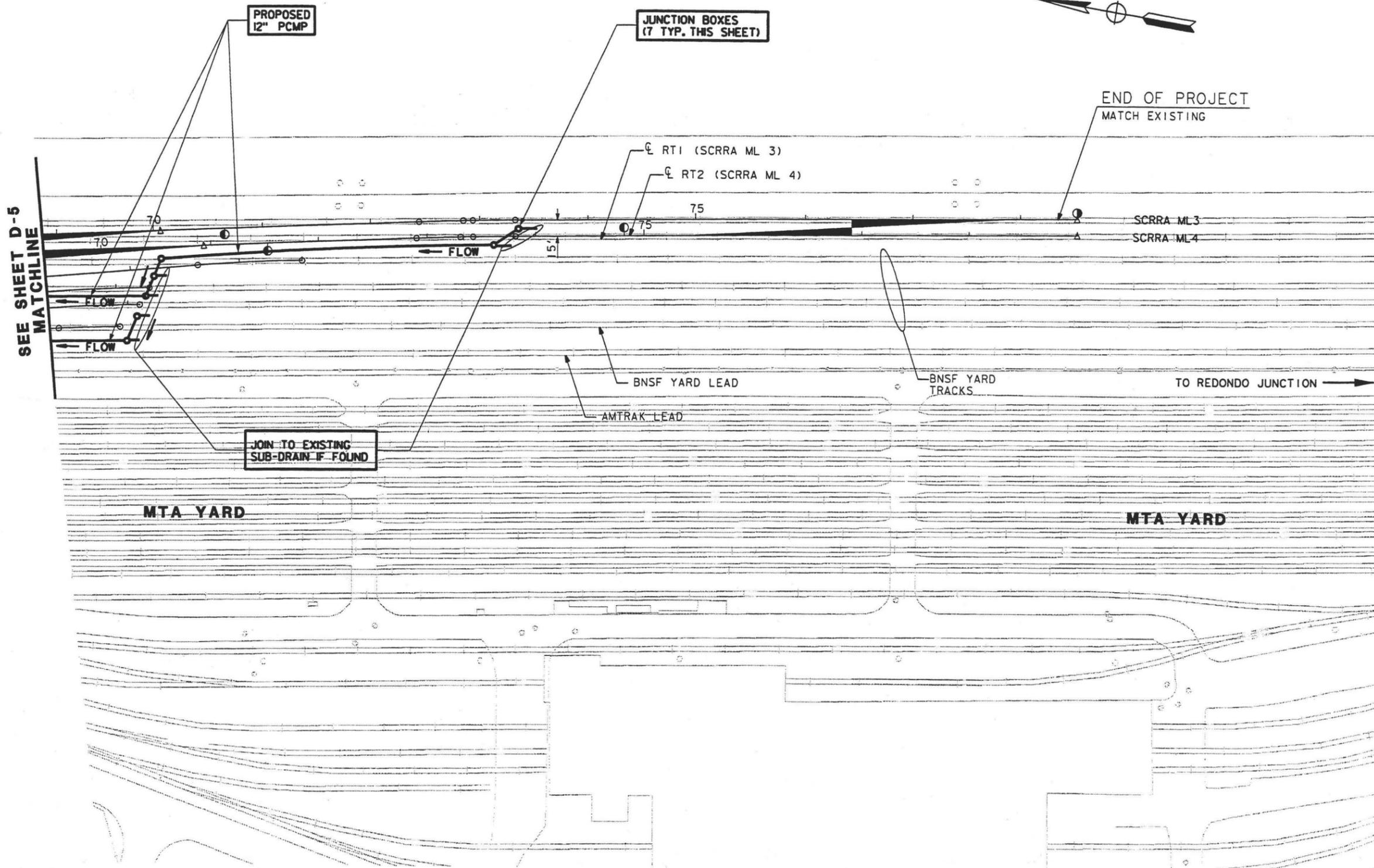


**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**PROPOSED DRAINAGE PLAN**

CONTRACT NO.	
DRAWING NO.	REV
D-5	
SCALE	
1" = 50'	
SHEET NO.	
91	



LA RIVER



N:\07730\011\30% Sub\A-1\01-07730.dgn  
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REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL
1/10/03					25% DESIGN SUBMITTAL

DESIGNED BY	JO
DRAWN BY	JM
CHECKED BY	ME
IN CHARGE	TTK
DATE	MAR 10, 2003

**AMTRAK**  
 NATIONAL RAILROAD  
 PASSENGER CORPORATION

**HDR**  
 HDR Engineering, Inc.

**CT** STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**PROPOSED DRAINAGE PLAN**

CONTRACT NO.	
DRAWING NO.	D-6
SCALE	1"=50'
SHEET NO.	92

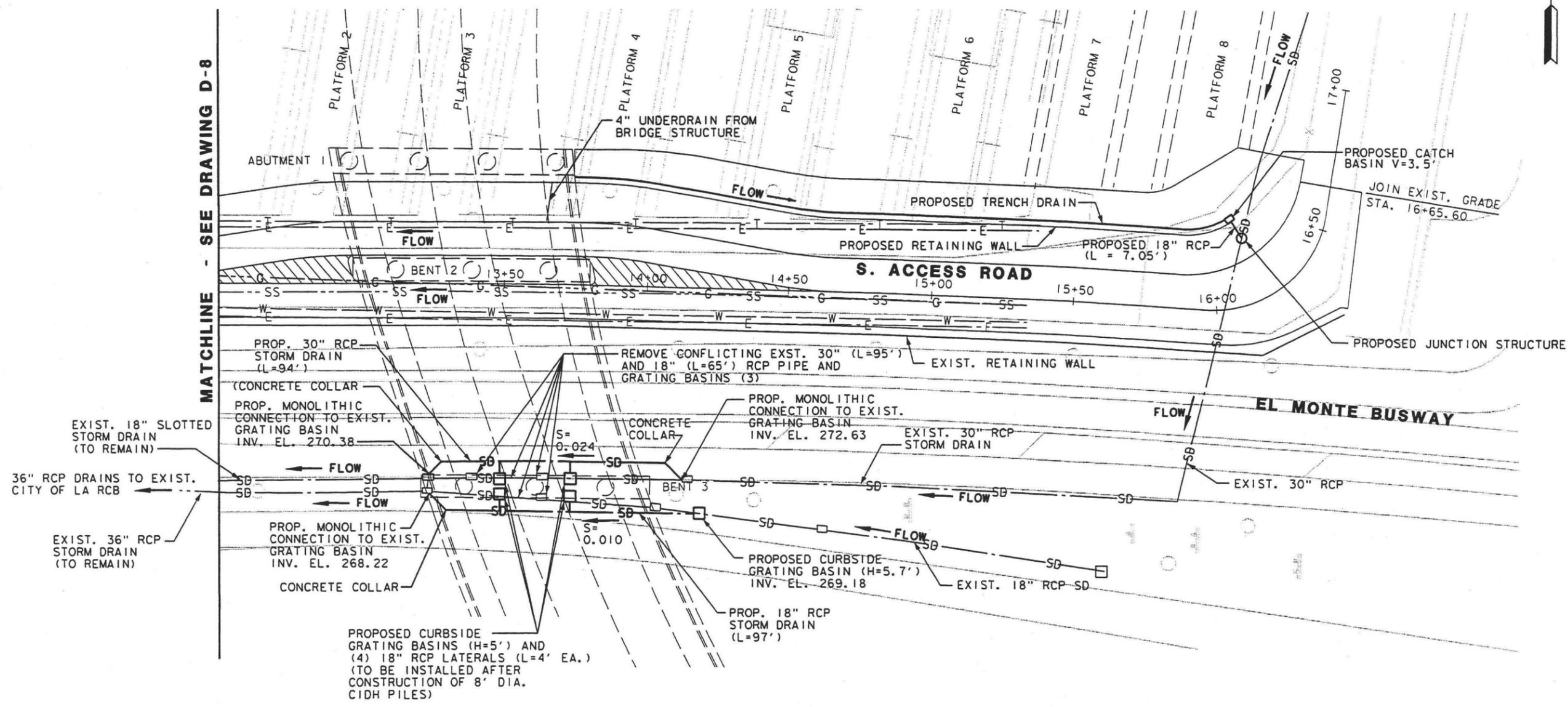








MATCHLINE - SEE DRAWING D-8



**NOTES:**

1. CURBSIDE GRATING BASINS PER CALTRANS STD. PLAN D-73, TYPE G-2
2. MONOLITHIC CONNECTION PER CITY OF LOS ANGELES STD. S-331-1
3. CONCRETE COLLAR PER CITY OF LOS ANGELES STD. S-333-0

DATE: 3/10/03 35% DESIGN SUBMITTAL

REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY  
NAB  
DRAWN BY  
NAB  
CHECKED BY  
LJ  
IN CHARGE  
PM  
DATE  
MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD  
PASSENGER CORPORATION

**DMJM HARRIS**  
3800 Kilroy Airport Way, Suite 350  
Long Beach, CA 90806

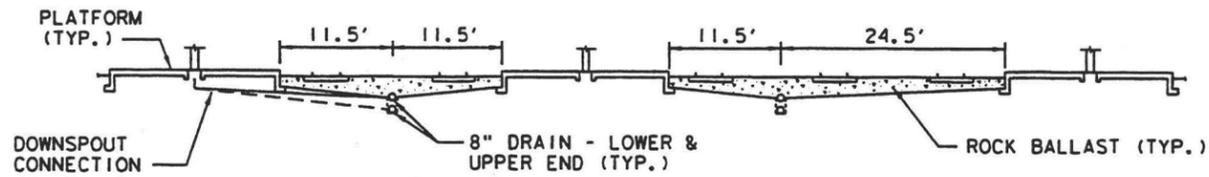
**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

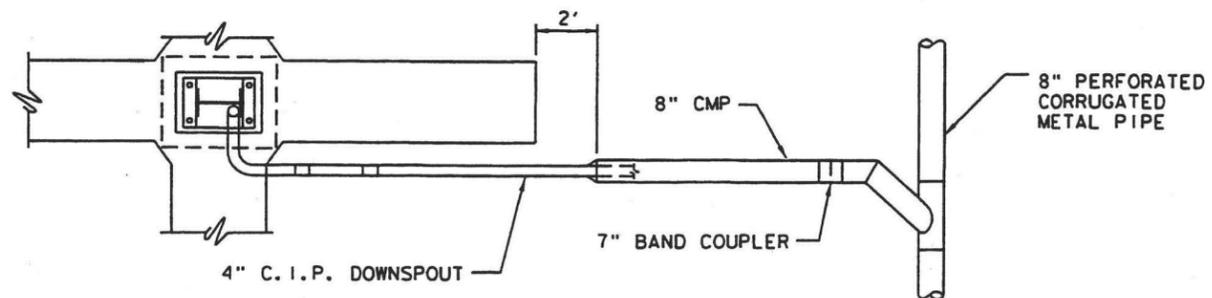
**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
PROPOSED DRAINAGE  
AT SOUTH ACCESS ROAD  
SHEET 2**

CONTRACT NO.	
DRAWING NO.	D-8
SCALE	1"=20'
SHEET NO.	94

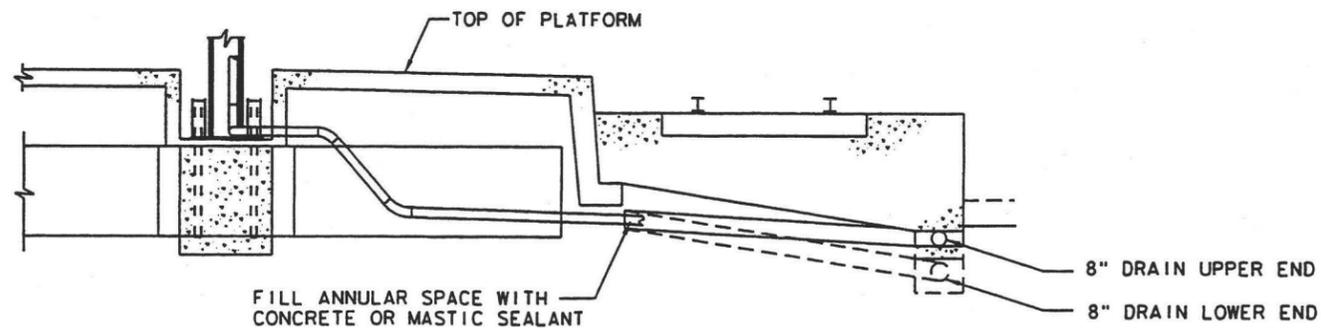




**EXISTING STATION TRACKS DRAINAGE (TYPICAL)**



**EXISTING DOWNSPOUT CONNECTION-PLAN**



**EXISTING DOWNSPOUT CONNECTION-PROFILE**

DATESS STINES

FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				352 DESIGN SUBMITTAL						

DESIGNED BY NAB
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DATE MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD  
PASSENGER CORPORATION

**DMJM HARRIS**  
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Long Beach, CA 90806

**CT** STATE OF CALIFORNIA  
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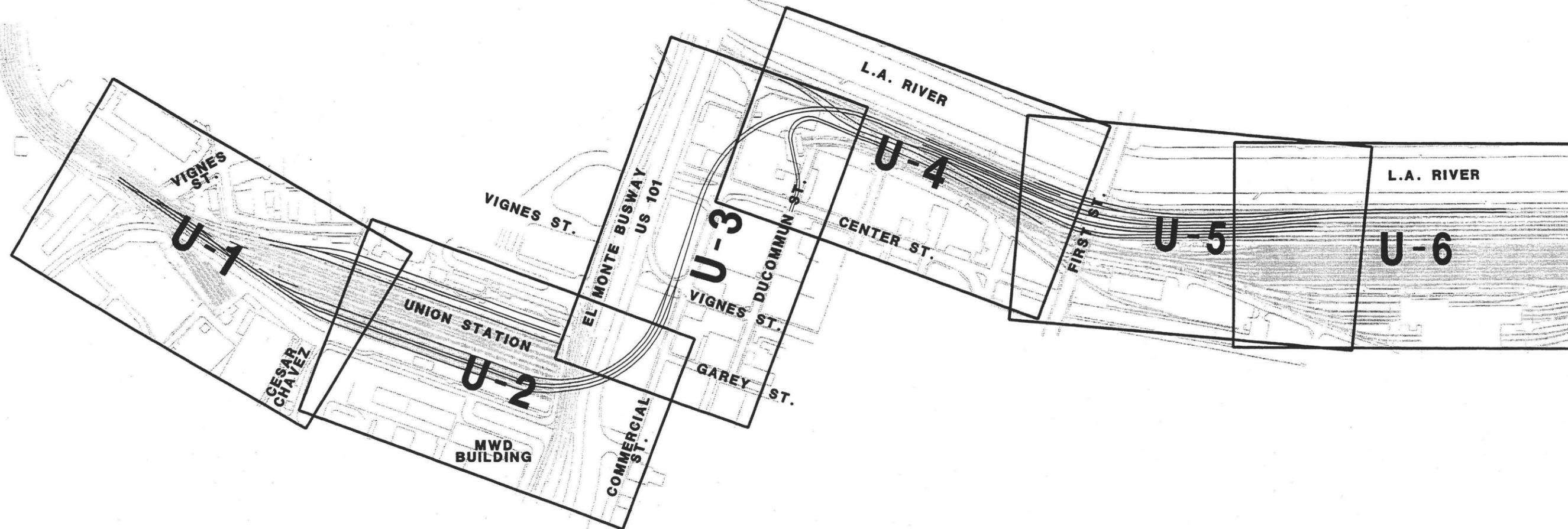
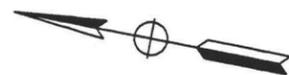
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
EXISTING DRAINAGE DETAILS**

CONTRACT NO.	
DRAWING NO. D-9	REV
SCALE NOT TO SCALE	
SHEET NO. 95	





DATE STIMES

FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

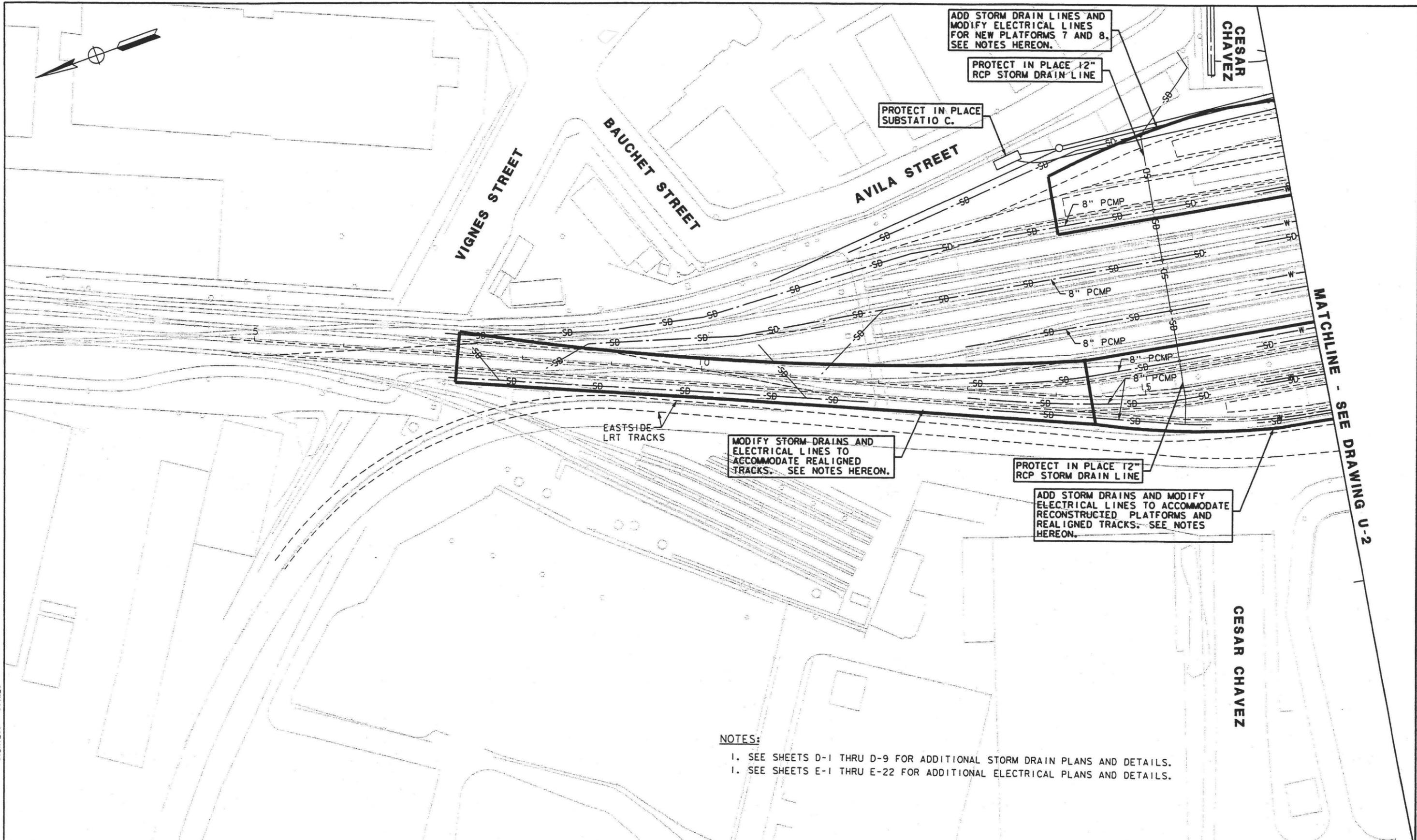
**KEY MAP - UTILITIES**

CONTRACT NO.	
DRAWING NO.	UG-1
SCALE	1" = 250"
SHEET NO.	96









ADD STORM DRAIN LINES AND MODIFY ELECTRICAL LINES FOR NEW PLATFORMS 7 AND 8. SEE NOTES HEREON.

PROTECT IN PLACE 12" RCP STORM DRAIN LINE

PROTECT IN PLACE SUBSTATION C.

MODIFY STORM DRAINS AND ELECTRICAL LINES TO ACCOMMODATE REALIGNED TRACKS. SEE NOTES HEREON.

PROTECT IN PLACE 12" RCP STORM DRAIN LINE

ADD STORM DRAINS AND MODIFY ELECTRICAL LINES TO ACCOMMODATE RECONSTRUCTED PLATFORMS AND REALIGNED TRACKS. SEE NOTES HEREON.

**NOTES:**

1. SEE SHEETS D-1 THRU D-9 FOR ADDITIONAL STORM DRAIN PLANS AND DETAILS.
1. SEE SHEETS E-1 THRU E-22 FOR ADDITIONAL ELECTRICAL PLANS AND DETAILS.

DATE STIMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
COMPOSITE UTILITIES  
REARRANGEMENT PLAN - 1**

CONTRACT NO.	
DRAWING NO.	REV
SCALE	1" = 50'
SHEET NO.	98

MATCHLINE - SEE DRAWING U-2





ADD STORM DRAINS AND MODIFY AIR, WATER AND ELECTRICAL LINES FOR NEW PLATFORMS 7 AND 8. PROTECT IN PLACE ALL ELECTRICAL DUCT BANKS. SEE NOTES HEREON.

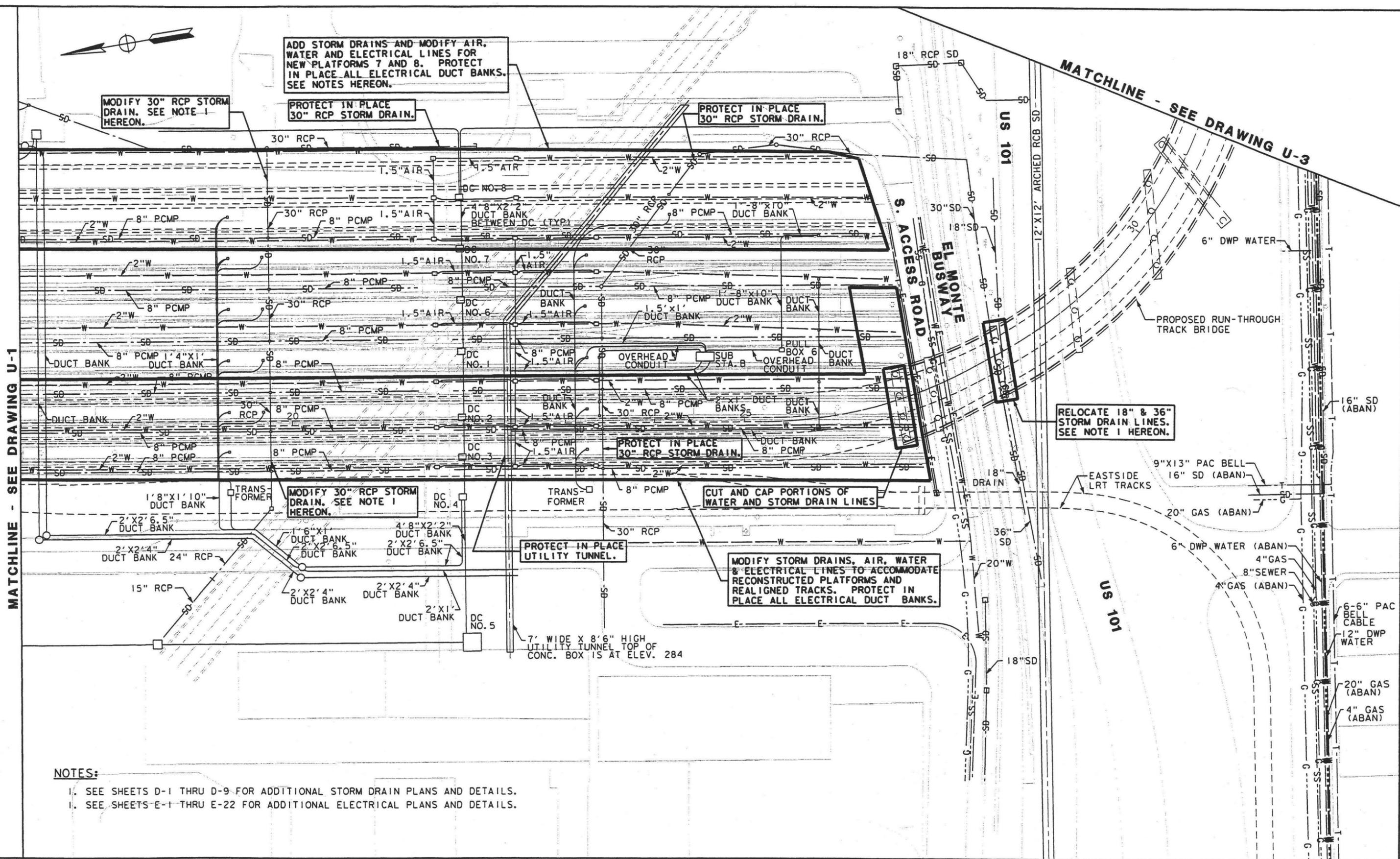
MODIFY 30" RCP STORM DRAIN. SEE NOTE 1 HEREON.

PROTECT IN PLACE 30" RCP STORM DRAIN.

PROTECT IN PLACE 30" RCP STORM DRAIN.

MATCHLINE - SEE DRAWING U-3

MATCHLINE - SEE DRAWING U-1



- NOTES:
- SEE SHEETS D-1 THRU D-9 FOR ADDITIONAL STORM DRAIN PLANS AND DETAILS.
  - SEE SHEETS E-1 THRU E-22 FOR ADDITIONAL ELECTRICAL PLANS AND DETAILS.

DATE: 3/10/03 35% DESIGN SUBMITTAL

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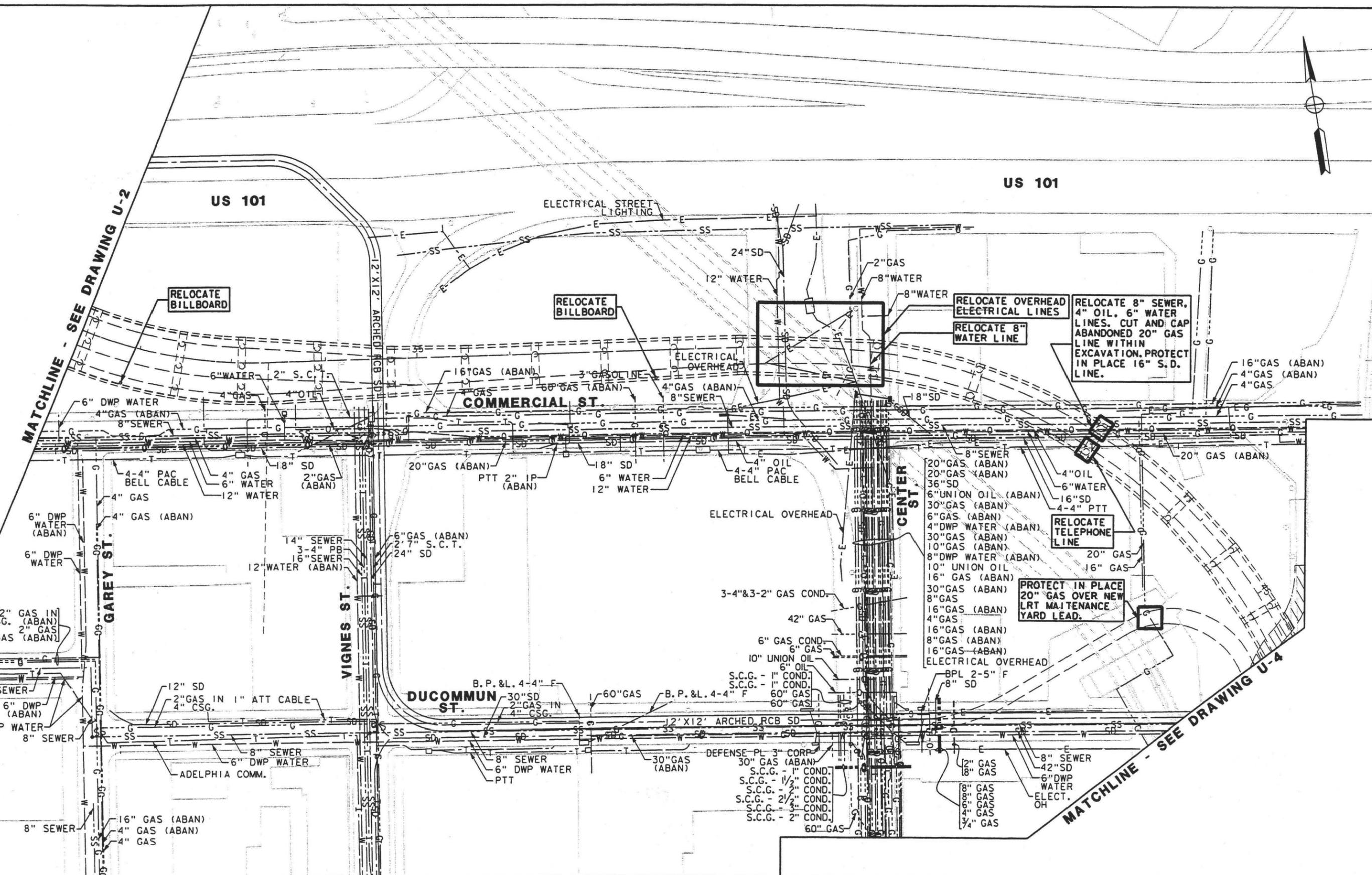
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**COMPOSITE UTILITIES  
REARRANGEMENT PLAN - 2**

CONTRACT NO.	
DRAWING NO.	U-2
SCALE	1"=50'
SHEET NO.	99





8/11/03 STIMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**COMPOSITE UTILITIES  
REARRANGEMENT PLAN - 3**

CONTRACT NO.	
DRAWING NO.	U-3
SCALE	1"=50'
SHEET NO.	100



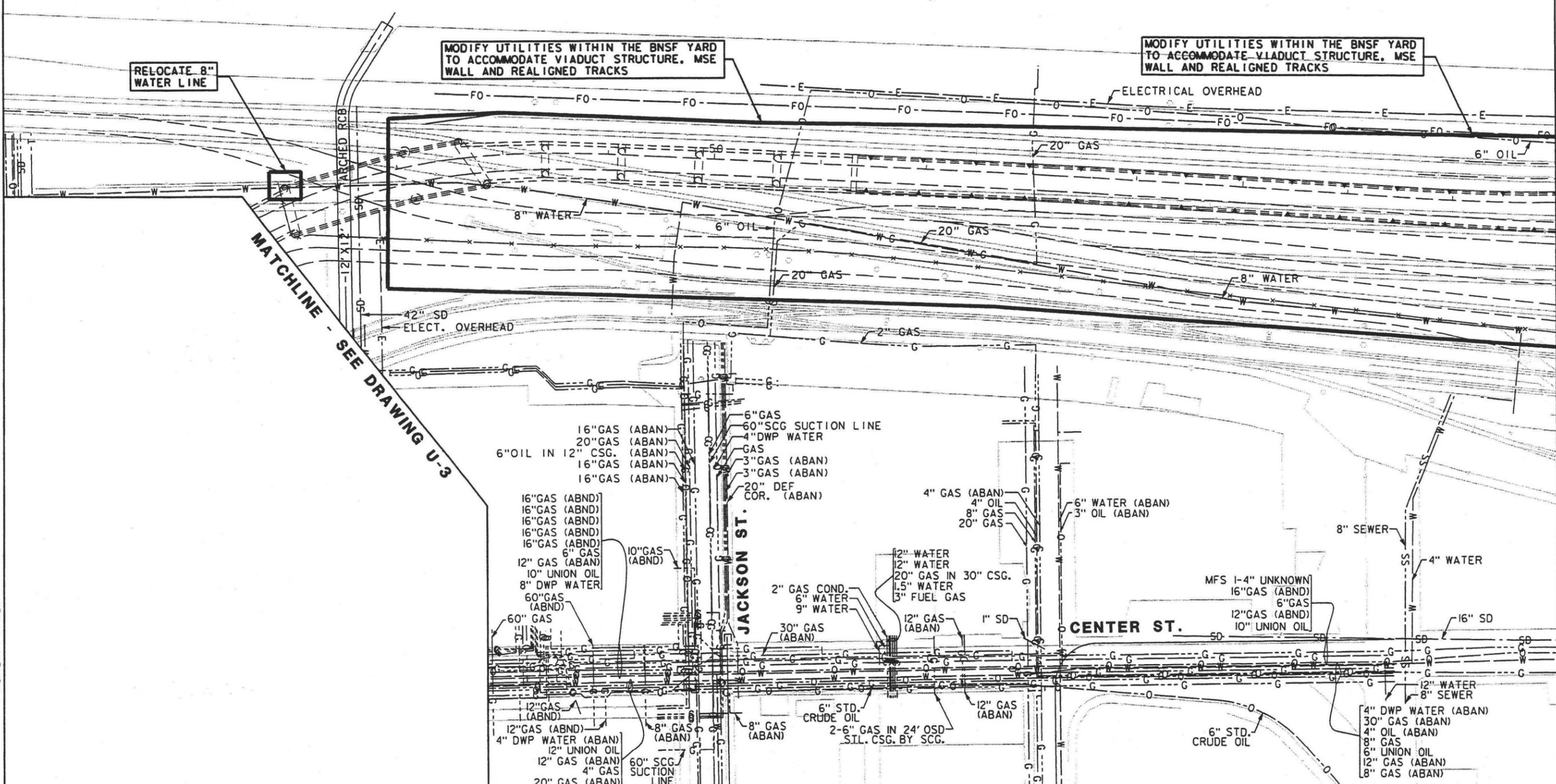


LOS ANGELES RIVER

RELOCATE 8" WATER LINE

MODIFY UTILITIES WITHIN THE BNSF YARD TO ACCOMMODATE VIADUCT STRUCTURE, MSE WALL AND REALIGNED TRACKS

MODIFY UTILITIES WITHIN THE BNSF YARD TO ACCOMMODATE VIADUCT STRUCTURE, MSE WALL AND REALIGNED TRACKS



MATCHLINE - SEE DRAWING U-3

MATCHLINE - SEE DRAWING U-5

- 16" GAS (ABAN)
- 20" GAS (ABAN)
- 6" OIL IN 12" CSG. (ABAN)
- 16" GAS (ABAN)
- 16" GAS (ABAN)

- 16" GAS (ABND)
- 6" GAS (ABND)
- 12" GAS (ABAN)
- 10" UNION OIL
- 8" DWP WATER
- 60" GAS (ABND)

- 60" GAS
- 12" GAS (ABND)
- 12" GAS (ABND)
- 4" DWP WATER (ABAN)
- 12" UNION OIL
- 12" GAS (ABAN)
- 4" GAS
- 20" GAS (ABAN)

- 12" GAS (ABND)
- 12" GAS (ABND)
- 4" DWP WATER (ABAN)
- 12" UNION OIL
- 12" GAS (ABAN)
- 4" GAS
- 20" GAS (ABAN)

- 12" GAS (ABND)
- 12" GAS (ABND)
- 4" DWP WATER (ABAN)
- 12" UNION OIL
- 12" GAS (ABAN)
- 4" GAS
- 20" GAS (ABAN)

- 6" GAS
- 60" SCG SUCTION LINE
- 4" DWP WATER
- GAS
- 3" GAS (ABAN)
- 3" GAS (ABAN)
- 20" DEF COR. (ABAN)

- 4" GAS (ABAN)
- 4" OIL
- 8" GAS
- 20" GAS

- 2" GAS COND.
- 6" WATER
- 9" WATER
- 12" WATER
- 20" GAS IN 30" CSG.
- 1.5" WATER
- 3" FUEL GAS

- 30" GAS (ABAN)
- 12" GAS (ABAN)
- 1" SD
- 6" STD. CRUDE OIL
- 2-6" GAS IN 24" OSD SIL. CSG. BY SCG.
- 12" GAS (ABAN)

- 8" GAS (ABAN)
- 8" GAS (ABAN)
- 6" STD. CRUDE OIL

- 4" GAS (ABAN)
- 4" OIL
- 8" GAS
- 20" GAS

- 6" WATER (ABAN)
- 3" OIL (ABAN)

- 12" WATER
- 20" GAS IN 30" CSG.
- 1.5" WATER
- 3" FUEL GAS

- 30" GAS (ABAN)
- 12" GAS (ABAN)
- 1" SD
- 6" STD. CRUDE OIL
- 2-6" GAS IN 24" OSD SIL. CSG. BY SCG.
- 12" GAS (ABAN)

- 8" GAS (ABAN)
- 8" GAS (ABAN)
- 6" STD. CRUDE OIL

- 4" GAS (ABAN)
- 4" OIL
- 8" GAS
- 20" GAS

- 6" WATER (ABAN)
- 3" OIL (ABAN)

- 12" WATER
- 20" GAS IN 30" CSG.
- 1.5" WATER
- 3" FUEL GAS

- 30" GAS (ABAN)
- 12" GAS (ABAN)
- 1" SD
- 6" STD. CRUDE OIL
- 2-6" GAS IN 24" OSD SIL. CSG. BY SCG.
- 12" GAS (ABAN)

- 8" GAS (ABAN)
- 8" GAS (ABAN)
- 6" STD. CRUDE OIL

- 4" GAS (ABAN)
- 4" OIL
- 8" GAS
- 20" GAS

- 6" WATER (ABAN)
- 3" OIL (ABAN)

- 12" WATER
- 20" GAS IN 30" CSG.
- 1.5" WATER
- 3" FUEL GAS

- 30" GAS (ABAN)
- 12" GAS (ABAN)
- 1" SD
- 6" STD. CRUDE OIL
- 2-6" GAS IN 24" OSD SIL. CSG. BY SCG.
- 12" GAS (ABAN)

- 8" GAS (ABAN)
- 8" GAS (ABAN)
- 6" STD. CRUDE OIL

- 4" GAS (ABAN)
- 4" OIL
- 8" GAS
- 20" GAS

- 6" WATER (ABAN)
- 3" OIL (ABAN)

- 12" WATER
- 20" GAS IN 30" CSG.
- 1.5" WATER
- 3" FUEL GAS

- 30" GAS (ABAN)
- 12" GAS (ABAN)
- 1" SD
- 6" STD. CRUDE OIL
- 2-6" GAS IN 24" OSD SIL. CSG. BY SCG.
- 12" GAS (ABAN)

- 8" GAS (ABAN)
- 8" GAS (ABAN)
- 6" STD. CRUDE OIL

DATE: 3/10/03

FILE NAME: 35Z DESIGN SUBMITTAL

REV	DATE	BY	SUB	APP	DESCRIPTION

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DATE	MAR 10, 2003

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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

**COMPOSITE UTILITIES**  
**REARRANGEMENT PLAN - 4**

CONTRACT NO.	
DRAWING NO.	U-4
SCALE	1" = 50'
SHEET NO.	101





LOS ANGELES RIVER

MODIFY UTILITIES WITHIN THE BNSF YARD TO ACCOMMODATE MSE WALL AND REALIGNED TRACKS

ELECTRICAL OVERHEAD  
FIBER OPTIC (MCI)

6" OIL

65

MATCHLINE - SEE DRAWING U-4

MATCHLINE - SEE DRAWING U-6

21" SD  
21" SD  
10" OIL  
16" GAS  
12" WATER

8" SEWER

10" OIL  
12" GAS  
16" SD  
8" WATER  
12" GAS

15" SD

6" OIL  
4" GSP & 1.25" HDPE (BROADWING)  
FIBER OPTIC (MCI)  
FIBER OPTIC (ADELPHIA)  
FIBER OPTIC (MCI)

8:15:00 AM 3/10/03

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	3/10/03				35% DESIGN SUBMITTAL						

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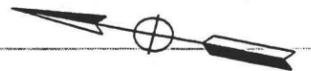
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**COMPOSITE UTILITIES  
REARRANGEMENT PLAN - 5**

CONTRACT NO.	
DRAWING NO.	REV
U-5	
SCALE	1"=50'
SHEET NO.	102



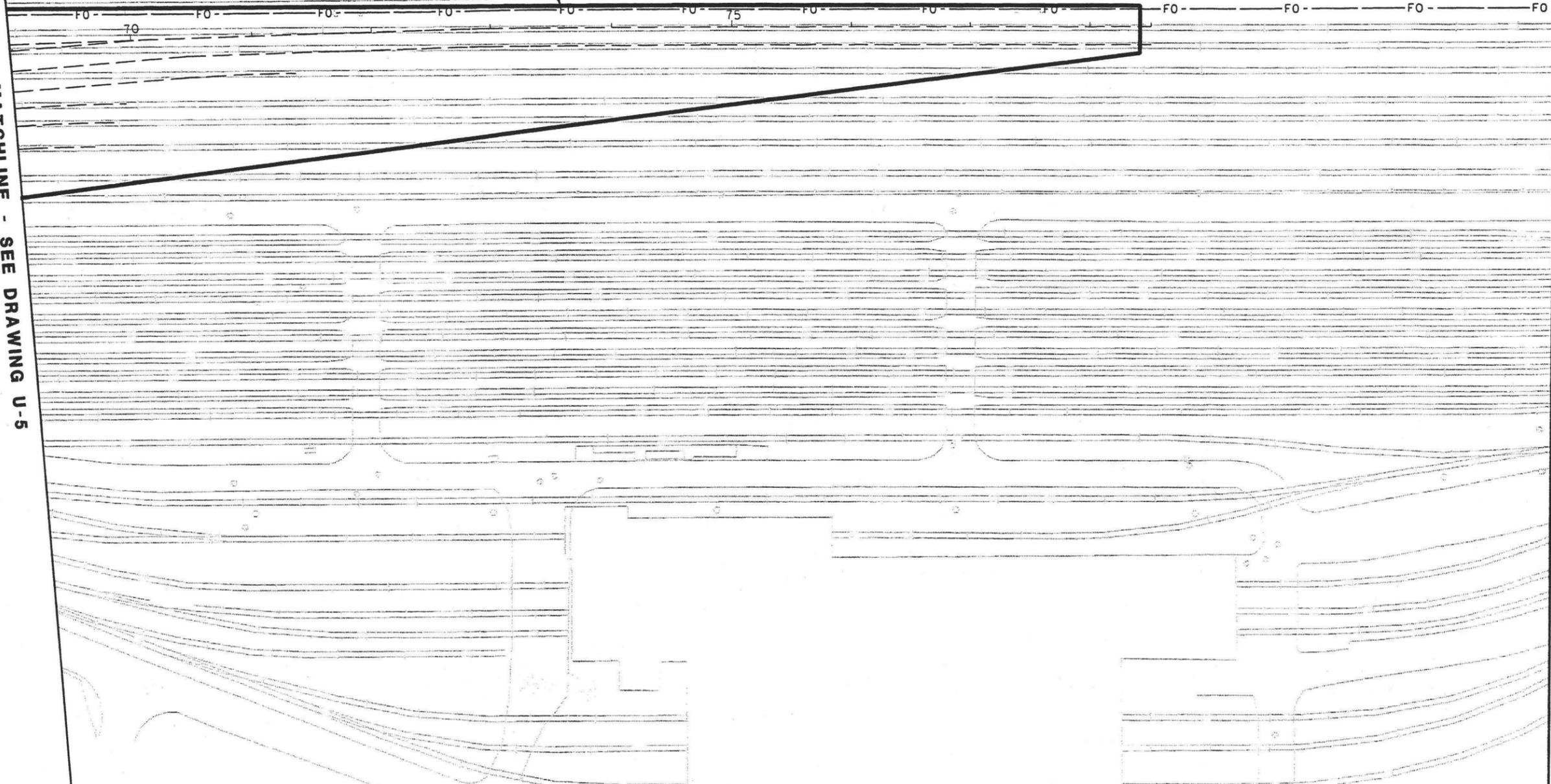


LOS ANGELES RIVER

LOS ANGELES RIVER

MODIFY UTILITIES WITHIN THE  
BNSF YARD TO ACCOMMODATE  
REALIGNED TRACKS

MATCHLINE - SEE DRAWING U-5



8804268 STIMES

8 FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**COMPOSITE UTILITIES  
REARRANGEMENT PLAN - 6**

CONTRACT NO.	
DRAWING NO.	U-6
SCALE	1"=50'
SHEET NO.	103



**ABBREVIATIONS:**

A	AMPERE, AMPS
AA	AIR AMBIENT
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
A. I. C.	AMPS INTERRUPTING CURRENT
ASTM	AMERICAN SOCIETY OF TESTING ENGINEERS
AT	AMPERE TRIP
AWG	AMERICAN WIRE GAUGE
B. C.	BARE COPPER
C	CONDUIT (WHEN USED W/ WIRE)
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CLR	CLEAR
C. O.	CONDUIT ONLY
COMM	COMMUNICATION
CU	COPPER
DF	DEMAND FACTOR
DS	DISTRIBUTION SWITCHBOARD
DWG	DRAWING
E, EXIST	EXISTING
ELECT	ELECTRICAL
ENGR	ENGINEER
EOPT	EQUIPMENT
FIXT	FIXTURE
GN	GREEN
GND	GROUND
H. V.	HIGH VOLTAGE
HZ	HERTZ
I. C.	INTERRUPTING CURRENT
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILLS
KV	KILO VOLTS
KVA	KILOVOLT AMPERE
LC	LIGHTING CONTROL
LTG	LIGHTING
LV	LOW VOLTAGE
MH	METAL HALIDE
MS	MAIN SWITCHGEAR
MTD	MOUNTED
N	NEW
NO.	NUMBER
OH	OVERHEAD
P	POLE
POC	POINT OF CONNECTION
PVC	POLYVINYL CHLORIDE
PWR	POWER
RECPT	RECEPTACLE
REF	REFERENCE
SCE	SOUTHERN CALIFORNIA EDISON COMPANY
SHT	SHEET
T, TEL	TELEPHONE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT (S)
W	WATT (S) / WIRE
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER

**LEGEND**

**SINGLE LINE DIAGRAM**

SYMBOL	DESCRIPTION
	POWER TRANSFORMER, DELTA-WYE CONNECTION GROUNDED NEUTRAL, KVA AS INDICATED
	ENCLOSED CIRCUIT BREAKER, 3P UNLESS NOTED
	GROUND
	MOLDED CASE CIRCUIT BREAKER, 3 POLE, UON, TRIP RATING AS INDICATED
	ENGINE GENERATOR
	HIGH VOLTAGE FUSED LOAD INTERRUPTER SWITCH 1200A = SWITCH RATING, 40E = FUSE TYPE AND RATING
	FUSE
	DISCONNECT SWITCH, FUSED 30AS = SWITCH RATING, 20 AF = FUSE RATING
	DISCONNECT SWITCH, NON FUSED, SIZE AS NOTED
	GROUND FAULT PROTECTION DEVICE
	FEEDER/CONDUIT IDENTIFIER.
	NOTE DESCRIPTION
	EQUIPMENT ENCLOSURE
	DASHED LINE INDICATES EXISTING CONDITION
	HEAVY LINE INDICATES NEW ELECTRICAL WORK

**LIGHTING**

SYMBOL	DESCRIPTION
	JUNCTION BOX
	LIGHTING FIXTURE

**SWITCHES (+48" UON)**

	SINGLE POLE SWITCH
--	--------------------

**COMMUNICATION**

SYMBOL	DESCRIPTION
	SPEAKER HORN
	SPEAKER

**GROUNDING**

SYMBOL	DESCRIPTION
	BARE COPPER GROUNDING WIRE
	EQUIPMENT OR SYSTEM GROUNDING CONNECTION
	3/4" DIA x 10' LONG GROUND ROD, COPPER CLAD STEEL IN GROUND WELL

**PANELBOARDS AND POWER EQUIPMENT**

SYMBOL	DESCRIPTION
	20A OUTLET WITH GFI (GROUND FAULT INTERRUPTER)
	DRY TYPE TRANSFORMER
	ENCLOSED CIRCUIT BREAKER 30A=CB RATING
	277/480V PANEL (UNLESS NOTED)
	120/208V PANEL

**CIRCUITING**

SYMBOL	DESCRIPTION
	CONDUIT RUN EXPOSED (3/4"C, UON)
	EXISTING CIRCUITS OR CONDUIT RUN
	CONDUIT RUN UNDER SLAB OR BELOW GRADE (3/4"C, UON)
	CROSS MARKS INDICATE NUMBER OF #12 CONDUCTORS IN CODE SIZE CONDUIT. EQUIPMENT GROUNDING CONDUCTOR IS NOT SHOWN, BUT IS REQUIRED. NO CROSSLINES (SAME AS PHASE CONDUCTORS) INDICATES 2*12, 3/4" CONDUIT WITH #12 GROUND WIRE. OTHER CONDUCTOR AND CONDUIT SIZES AS INDICATED.
	BRANCH CIRCUIT HOMERUN TO PANELBOARD LETTER AND NUMBER NOTATION IDENTIFIES PANEL AND CIRCUIT NUMBER(S)
	UNDERGROUND ELECTRICAL DUCT BANK
	CONDUIT AND WIRES FOR REMOVAL

**GENERAL NOTES**

- LIGHTING LEVELS IN ALL AREAS SHALL CONFORM TO THE REQUIREMENTS OF ANSI/IESNA. LIGHTING FIXTURES INDICATED ON THE DRAWINGS SHALL BE USED TO DEFINE THE TYPE OF LIGHTING FOR THE VARIOUS AREAS INDICATED ON PLANS.
- THE DESIGN OF LIGHTING IN ALL CONDITIONED SPACE SHALL MEET THE REQUIREMENTS OF THE STATE OF CALIFORNIA, TITLE 24, ENERGY CONSERVATION REQUIREMENTS.
- THE CONTROL OF LIGHTING SHALL EMPLOY TIMERS AND PHOTO CELL SWITCHES, MATCHING THE LIGHTING CONTROLS OF SIMILAR FIXTURES IN THE EXISTING PLATFORMS, PASSENGER TUNNELS AND OTHER AREAS.
- ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (LATEST EDITION), L.A. CITY CODE, AND OTHER AGENCIES HAVING JURISDICTION.
- ALL ELECTRICAL EQUIPMENT SHALL BEAR A UL (UNDERWRITER LABORATORY) LABEL FOR THE INTENDED USE OF EACH COMPONENT.
- PUBLIC ADDRESS SYSTEM COVERAGE SHALL BE PROVIDED FOR ALL AREAS. PROVIDE ADDITIONAL AMPLIFIERS, SPEAKERS, OTHER SOUND EQUIPMENT AND WIRING AND CONDUITS AS REQUIRED.
- CONTRACTOR SHALL COORDINATE AND VERIFY THE EXACT LOCATION AND CONNECTION REQUIREMENTS FOR POWER, LIGHTING AND COMMUNICATION SERVICES.
- CONTRACTOR SHALL PROVIDE PROPER PROTECTION OF ALL ELECTRICAL MATERIALS AND EQUIPMENT PRIOR TO INSTALLATION. STORAGE OUTDOORS WITH VISCOUINE OR DAMP COVERS SHALL NOT BE ACCEPTABLE.
- UNLESS NOTED, SHORT CIRCUIT RATING OF ELECTRICAL EQUIPMENT SHALL BE: 10,000 AIC - 240 VOLTS AND LOWER: 14,000 AIC - 480 VOLTS.
- THE CONTRACTOR IS CAUTIONED THAT EXISTING RACEWAY, CABLES AND EQUIPMENT ARE SHOWN ACCORDING TO LATEST DRAWINGS AVAILABLE AND PROVIDED BY RAILROAD STATION OWNER AND/OR OPERATOR. IF DISCREPANCIES ARE DISCOVERED BEFORE OR DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DISTRICT OR ITS DESIGNEE FOR PROPER DIRECTION AND ACTION.
- WHENEVER A CONCRETE STRUCTURE OR PLATFORM IS CUT AND LATER RESTORED, AND EMBEDDED RACEWAY, WITH OR WITHOUT WIRING, EXIST IN SUCH STRUCTURE OR PLATFORM, THE CONTRACTOR SHALL LEAVE AT LEAST 2" OF EXPOSED EXISTING CONDUIT IN ORDER TO BE ABLE TO INSTALL A COUPLING AND EXTEND THE CONDUIT WHEN IT IS LATER RESTORED. THE EXISTING WIRING SHALL BE CUT AND REMOVED FROM THE NEAREST FIXTURE AND/OR JUNCTION BOX.
- UNLESS OTHERWISE NOTED, ALL NEW EMBEDDED CONDUITS SHALL BE PVC, ALL NEW EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL.

SOME SYMBOLS AND ABBREVIATIONS ARE NOT USED ON THIS PROJECT.

\$DATE\$\$ TIME\$ FILE NAME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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**CT** STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

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APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

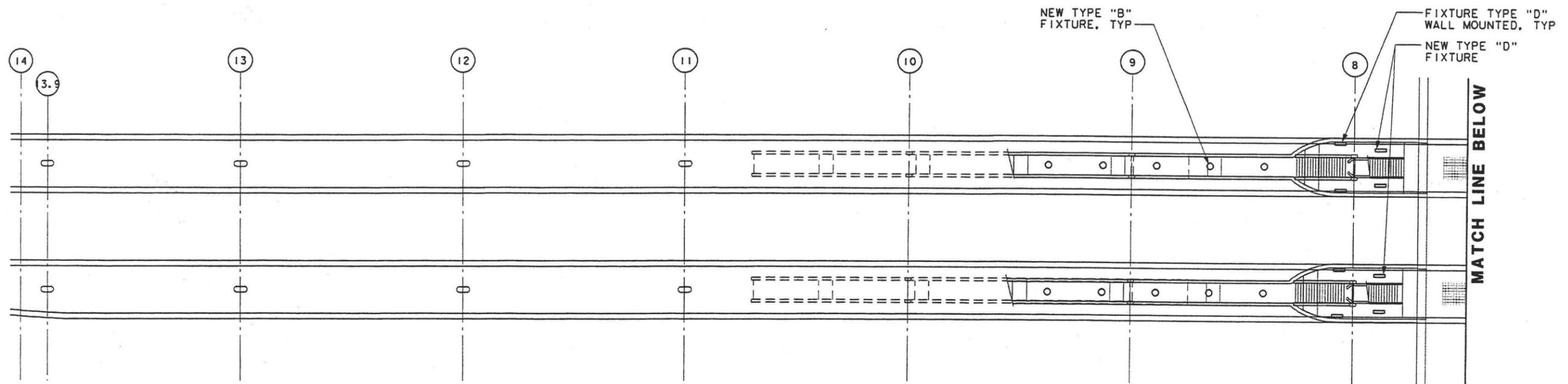
**GENERAL NOTES, SYMBOLS  
AND ABBREVIATIONS**

CONTRACT NO.	
DRAWING NO.	E-1
SCALE	NONE
SHEET NO.	104



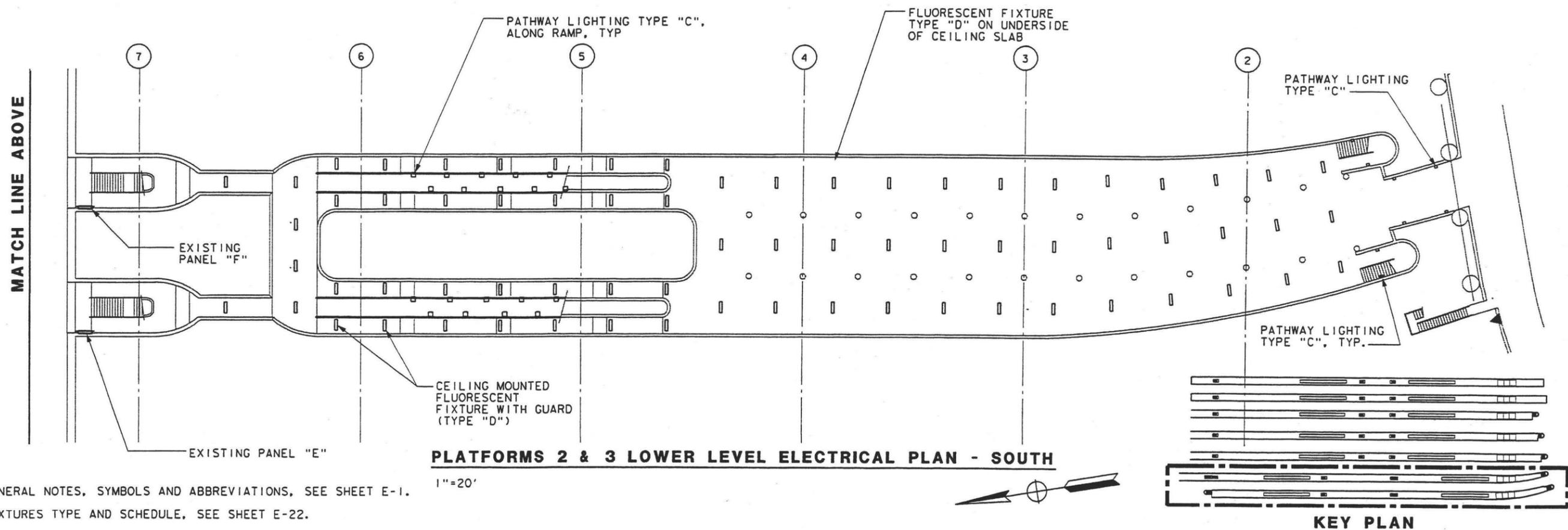






**PLATFORMS 2 & 3 LOWER LEVEL ELECTRICAL PLAN - NORTH**

1"=20'



**PLATFORMS 2 & 3 LOWER LEVEL ELECTRICAL PLAN - SOUTH**

1"=20'

**NOTES:**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.

\$\$\$DATE\$\$\$ \$TIME\$\$\$  
 \$\$\$FILE NAME\$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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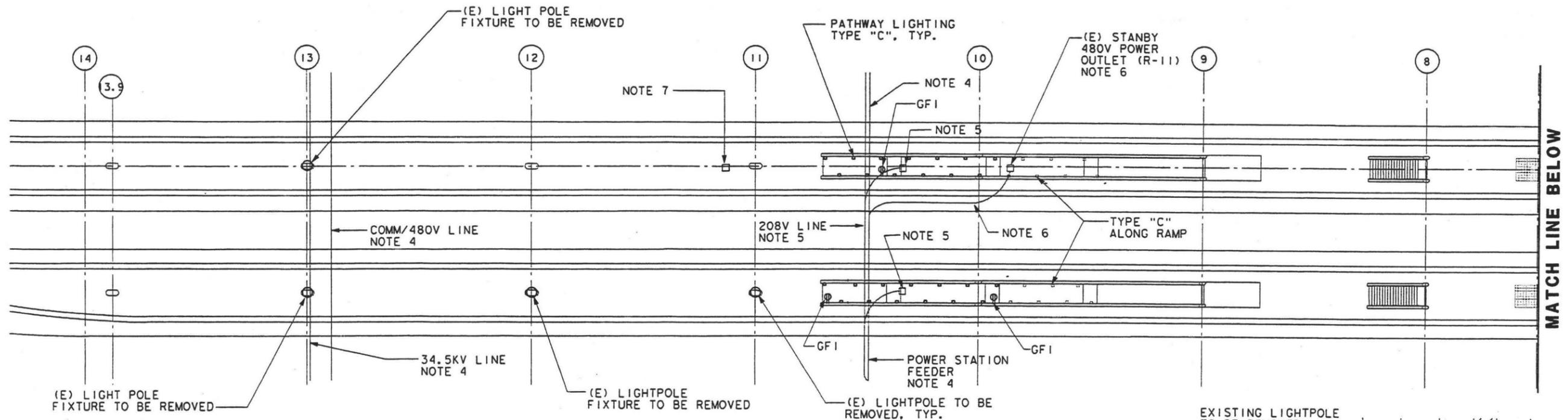
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 2 & 3 LOWER  
LEVEL ELECTRICAL PLAN**

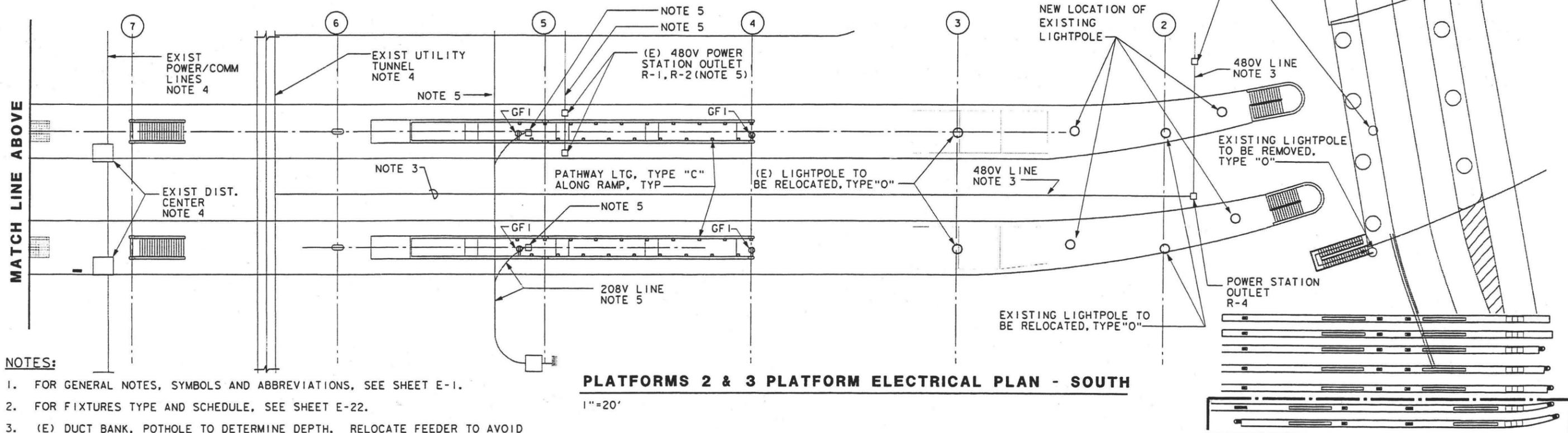
CONTRACT NO.	
DRAWING NO.	E-3
SCALE	1"=20'
SHEET NO.	106





**PLATFORMS 2 & 3 PLATFORM ELECTRICAL PLAN - NORTH**

1"=20'



**PLATFORMS 2 & 3 PLATFORM ELECTRICAL PLAN - SOUTH**

1"=20'

**NOTES:**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.
3. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH. RELOCATE FEEDER TO AVOID INTERFERENCE WITH NEW CONSTRUCTION..
4. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH. PROTECT IN PLACE.
5. ABANDONED ELECTRICAL DUCT BANK, CONDUIT OR POWER OUTLET STATION.
6. PROTECT AND RELOCATE EXISTING 480V POWER OUTLET INCLUDING CONDUIT AND WIRING.
7. NEW LOCATION OF 480V STANDBY POWER OUTLET. VERIFY WITH OWNER FOR EXACT LOCATION.

\$DATE\$ \$TIME\$

\$FILE NAME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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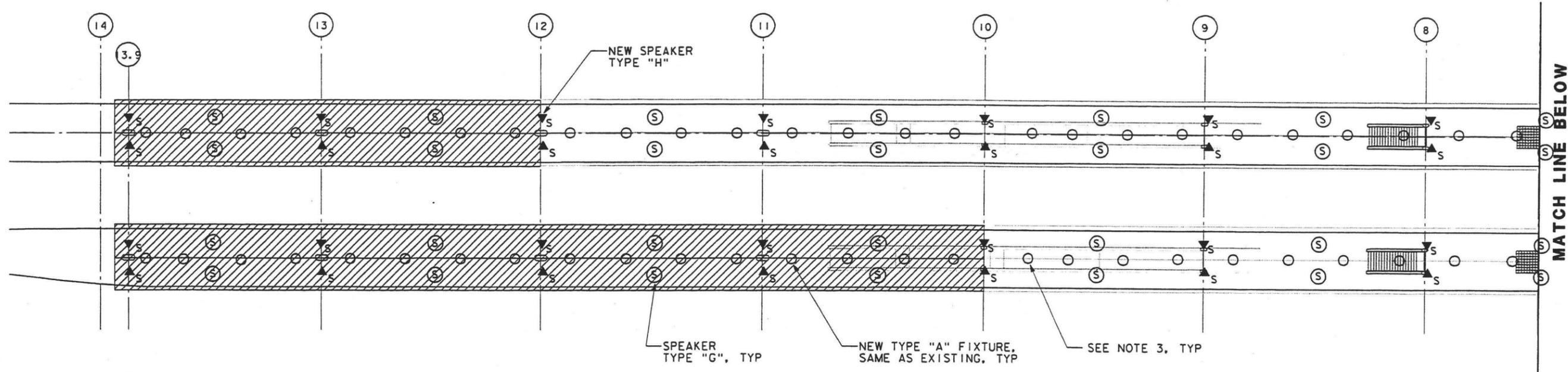
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 2 & 3  
ELECTRICAL PLAN**

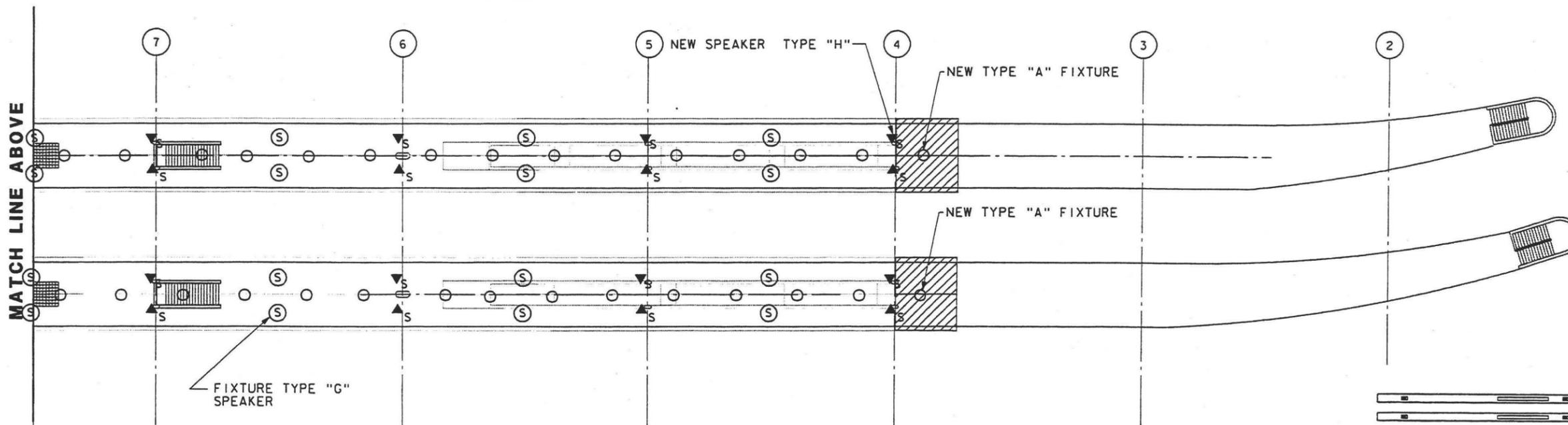
CONTRACT NO.	F-4
DRAWING NO.	REV
SCALE	1"=20'
SHEET NO.	107





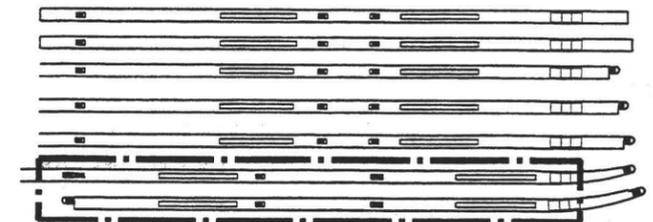
**PLATFORMS 2 & 3 CANOPY ELECTRICAL PLAN - NORTH**

1"=20'



**PLATFORMS 2 & 3 CANOPY ELECTRICAL PLAN - SOUTH**

1"=20'



**KEY PLAN**

**NOTES:**

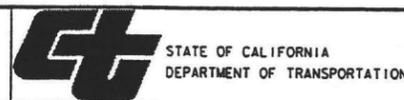
1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.
3. THE EXISTING CANOPIES BETWEEN COLUMN 4 & 12 ON PLATFORM 2 & 3 SHALL BE TEMPORARILY REMOVED. THE CONTRACTOR SHALL DISCONNECT AND REMOVE ALL LIGHTING FIXTURES AFFECTED BY THE TEMPORARILY REMOVAL. ALL FIXTURES SHALL BE CLEANED AND RECONDITIONED PRIOR TO INSTALLATION.

\$\$\$DATE\$\$\$ \$TIME\$  
 \$\$\$FILE NAME\$\$\$

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**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**PLATFORMS 2 & 3  
 CANOPY ELECTRICAL PLAN**

CONTRACT NO.	
DRAWING NO.	E-5
SCALE	1"=20'
SHEET NO.	108

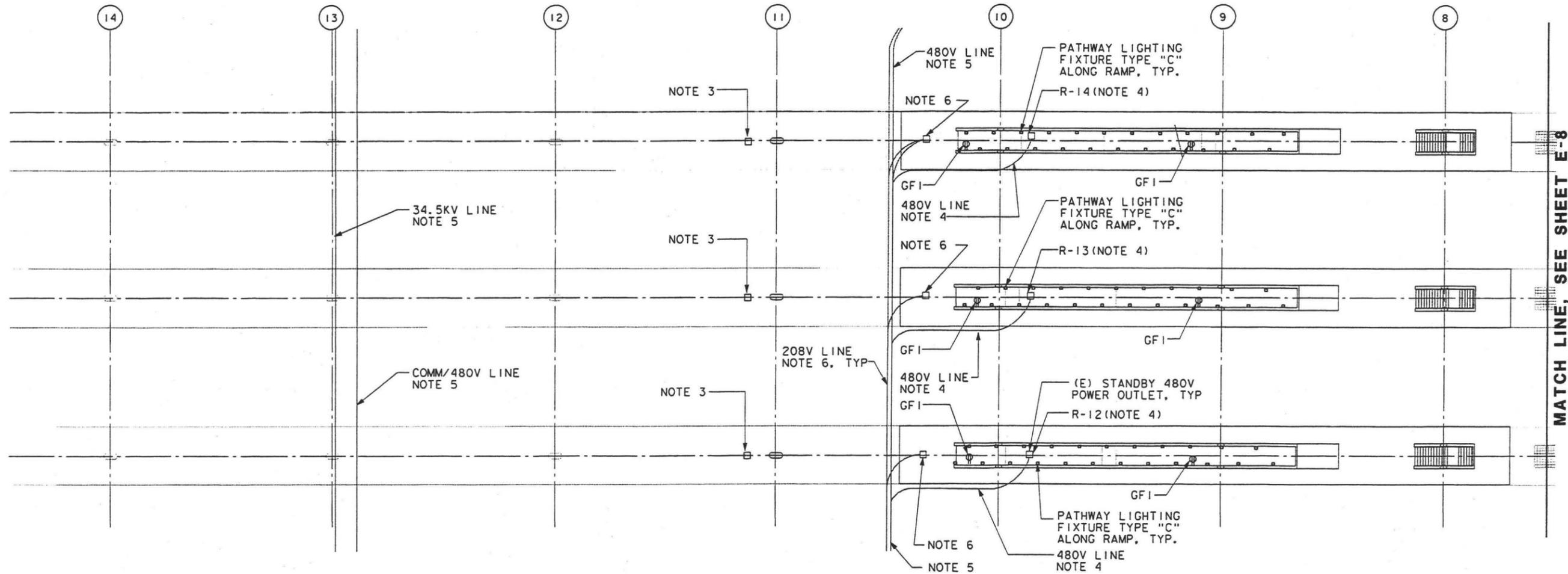










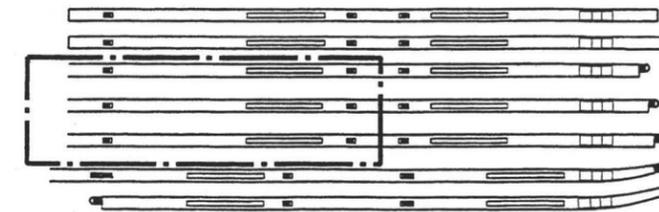


**NOTES:**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.
3. PROPOSE LOCATION OF 480V STANDBY POWER OUTLET, FOR FINAL LOCATION VERIFY WITH OWNER.
4. RELOCATE EXISTING 480V POWER OUTLET AND WIRING.
5. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH. PROTECT IN PLACE.
6. ABANDONED DUCT BANK OR CONDUIT

**PLATFORMS 4, 5 & 6 PLATFORM ELECTRICAL PLAN - NORTH**

1"=20'



**KEY PLAN**



\$\$\$DATE\$\$\$ \$TIME\$

\$FILE NAME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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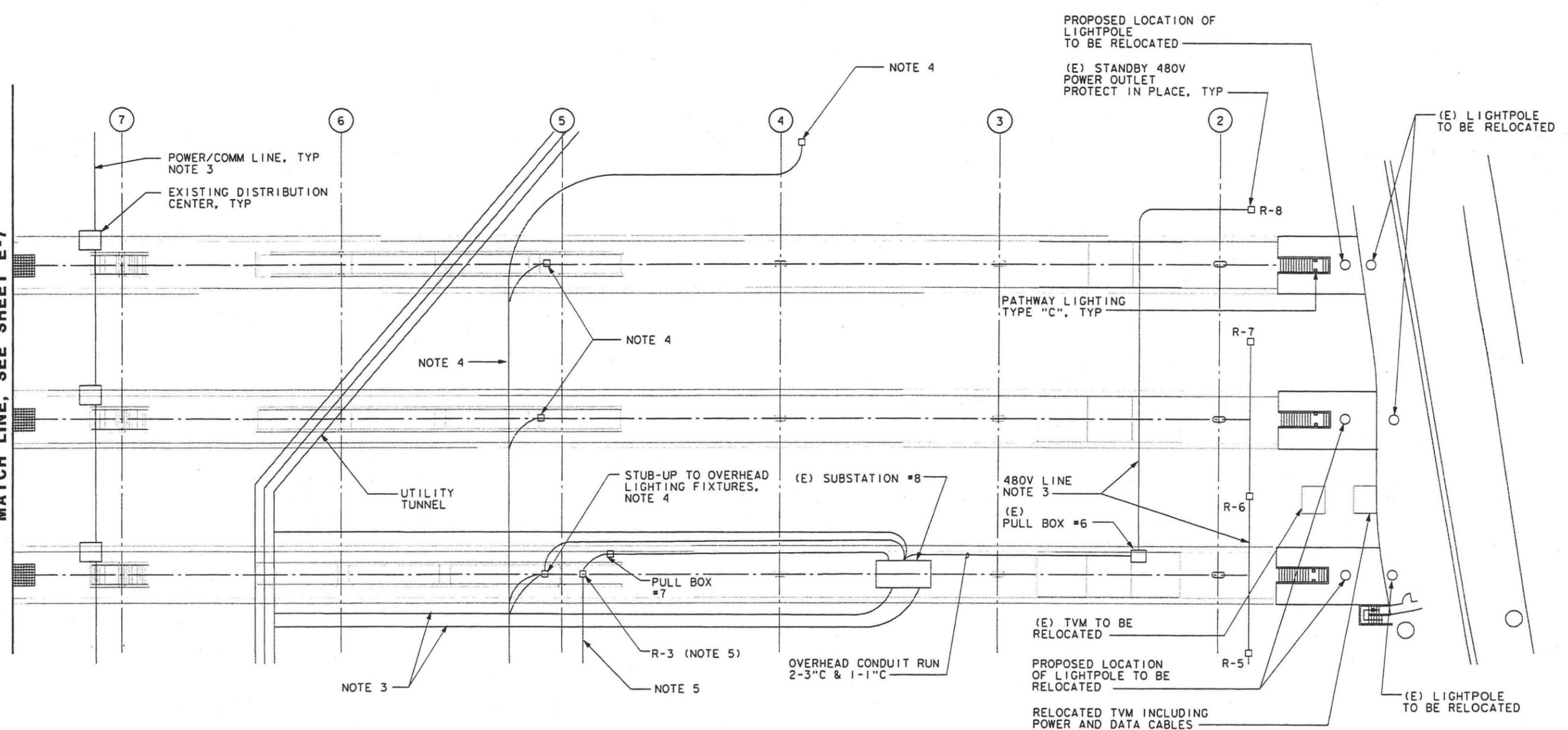
**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 4, 5 & 6  
PLATFORM ELECTRICAL  
PLAN-NORTH**

CONTRACT NO.	
DRAWING NO.	REV
E-8	
SCALE	1"=20'
SHEET NO.	111



MATCH LINE, SEE SHEET E-7

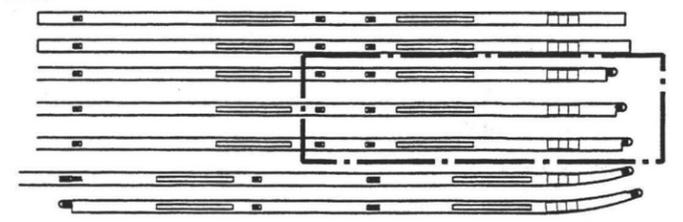


**PLATFORMS 4, 5 & 6 PLATFORM ELECTRICAL PLAN -SOUTH**

1"=20'

**NOTES:**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.
3. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH. PROTECT IN PLACE.
4. ABANDONED CONDUIT OR DUCT BANK
5. ABANDONED 480V STANDBY POWER OUTLET INCLUDING CONDUIT AND WIRING.



**KEY PLAN**

\$DATE\$ \$TIME\$  
\$FILE NAME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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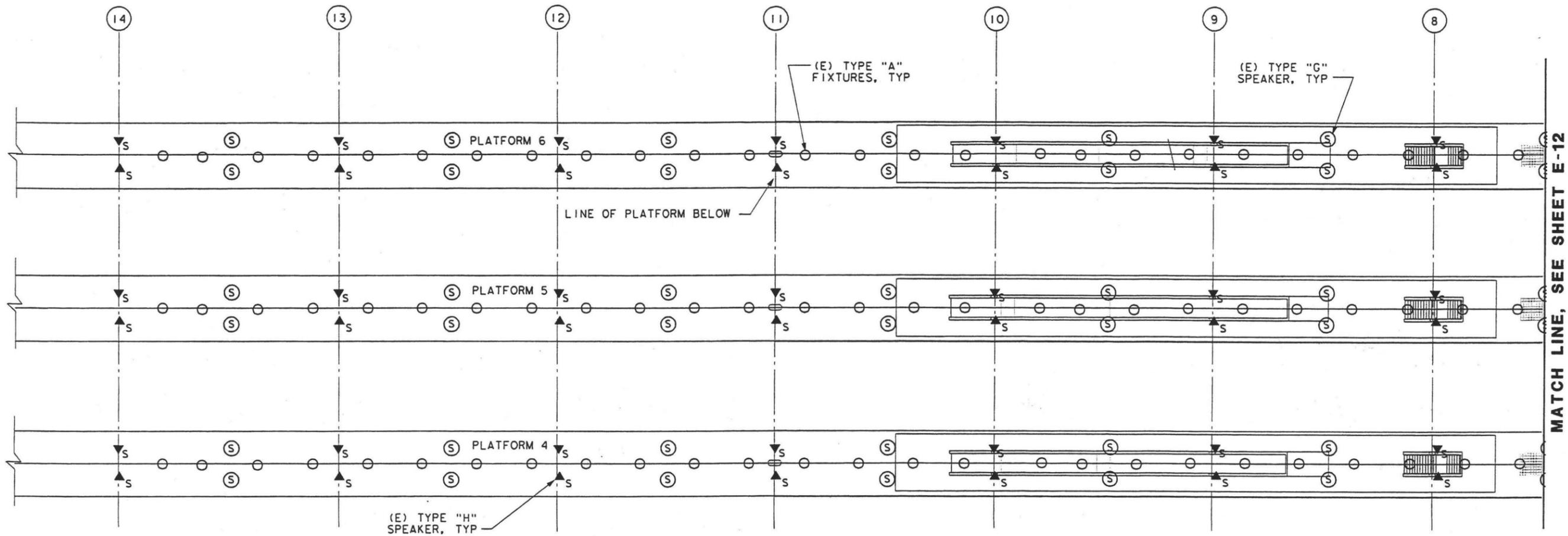
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 4, 5 & 6  
PLATFORM ELECTRICAL  
PLAN - SOUTH**

CONTRACT NO.	
DRAWING NO. E-9	REV
SCALE 1" = 20'	
SHEET NO. 112	





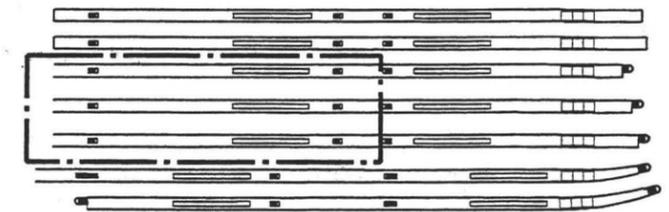
**PLATFORMS 4, 5 & 6 CANOPY ELECTRICAL PLAN - NORTH**

1"=20'



**NOTES:**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.
3. EXISTING FIXTURES TYPE "A" AT THE CANOPY TO BE RELAMPED AND REFURBISHED AS REQUIRED.



**KEY PLAN**

\$\$\$DATE\$\$\$ \$TIME\$\$\$  
\$\$\$FILE NAME\$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

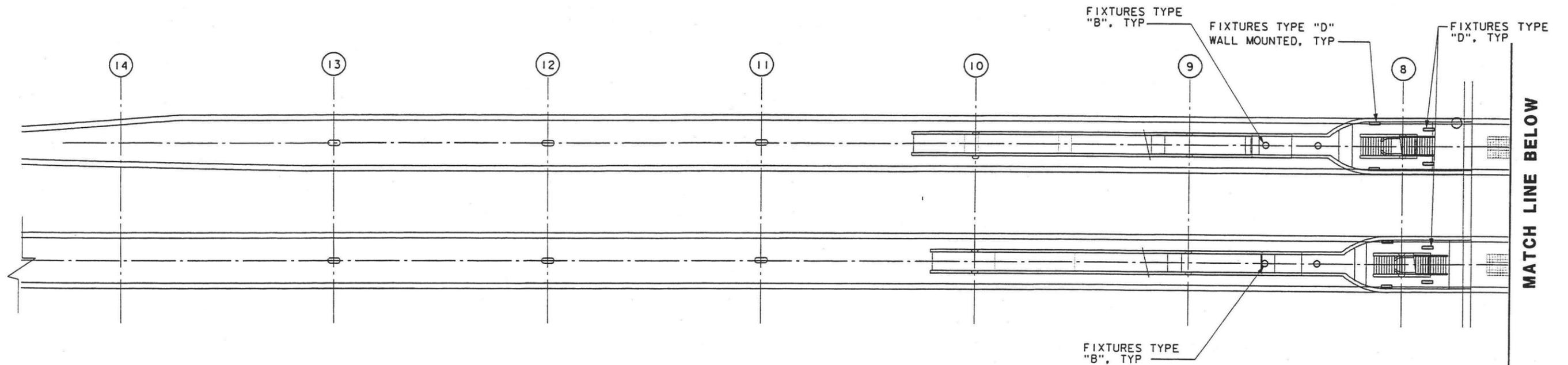
**PLATFORMS 4, 5 & 6  
CANOPY ELECTRICAL  
PLAN - NORTH**

CONTRACT NO.	
DRAWING NO.	E-10
SCALE	1"=20'
SHEET NO.	113

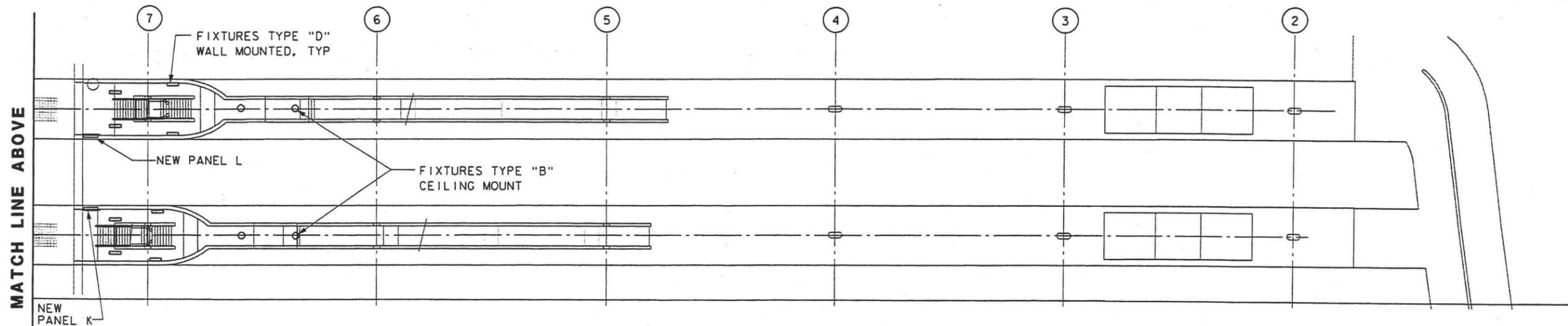






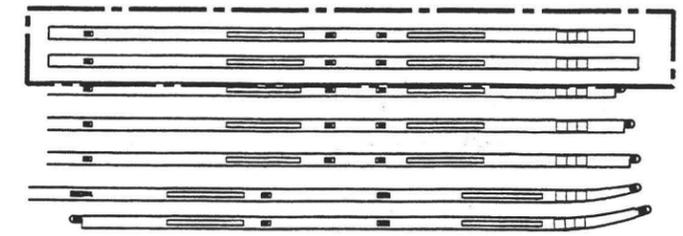


**PLATFORMS 7 & 8 LOWER LEVEL ELECTRICAL PLAN - NORTH**  
1"=20'



- NOTES:**
1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
  2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.

**PLATFORMS 7 & 8 LOWER LEVEL ELECTRICAL PLAN - SOUTH**  
1"=20'



**KEY PLAN**

\$\$\$DATE\$\$\$ \$TIME\$\$\$

\$\$\$FILE NAME\$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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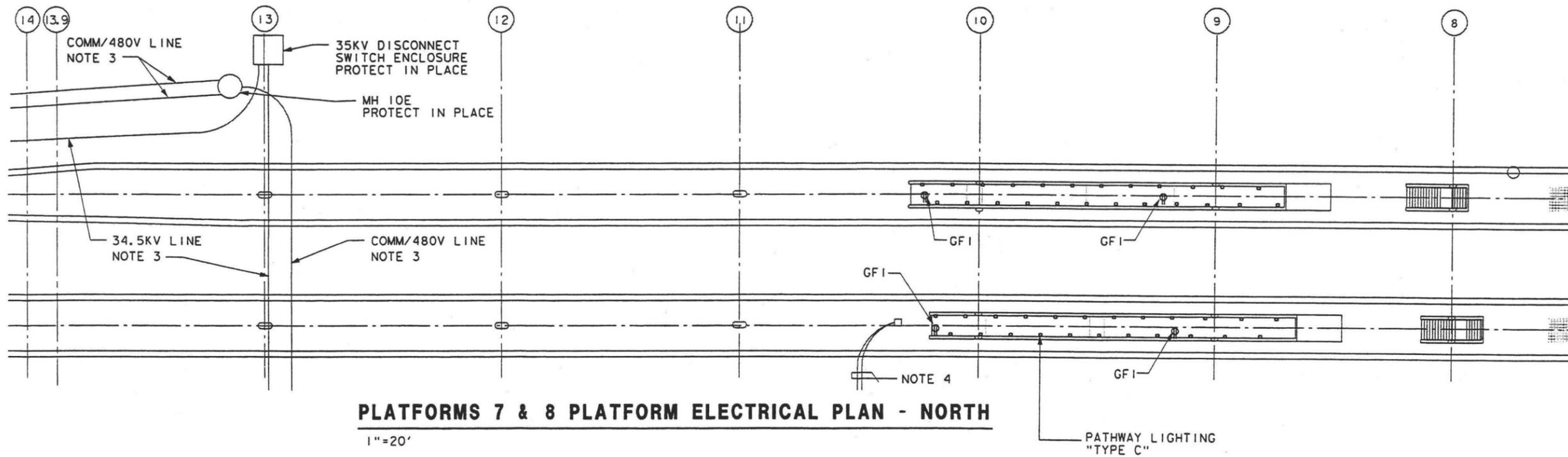
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 7 & 8  
LOWER LEVEL  
ELECTRICAL PLAN**

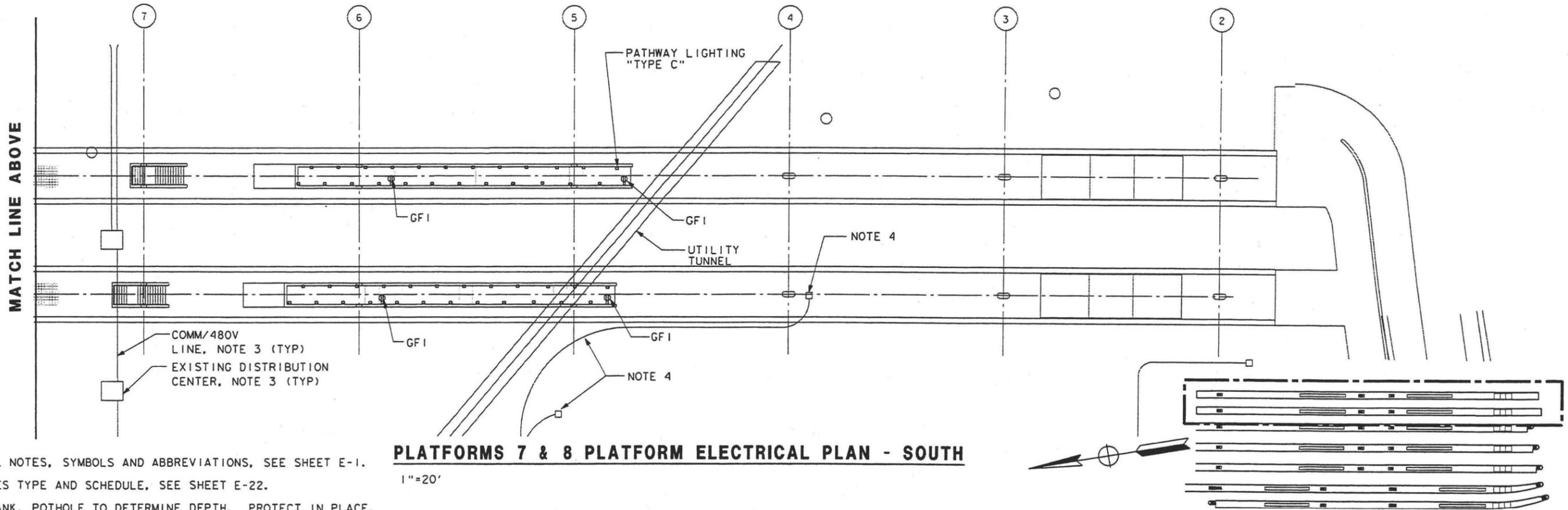
CONTRACT NO.	
DRAWING NO.	E-12
SCALE	1"=20'
SHEET NO.	115





**PLATFORMS 7 & 8 PLATFORM ELECTRICAL PLAN - NORTH**

1"=20'



**PLATFORMS 7 & 8 PLATFORM ELECTRICAL PLAN - SOUTH**

1"=20'

**NOTES:**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.
3. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH. PROTECT IN PLACE.
4. ABANDONED CONDUIT OR DUCT BANK.

\$\$\$DATE\$\$\$ \$TIME\$

\$\$\$FILE NAME\$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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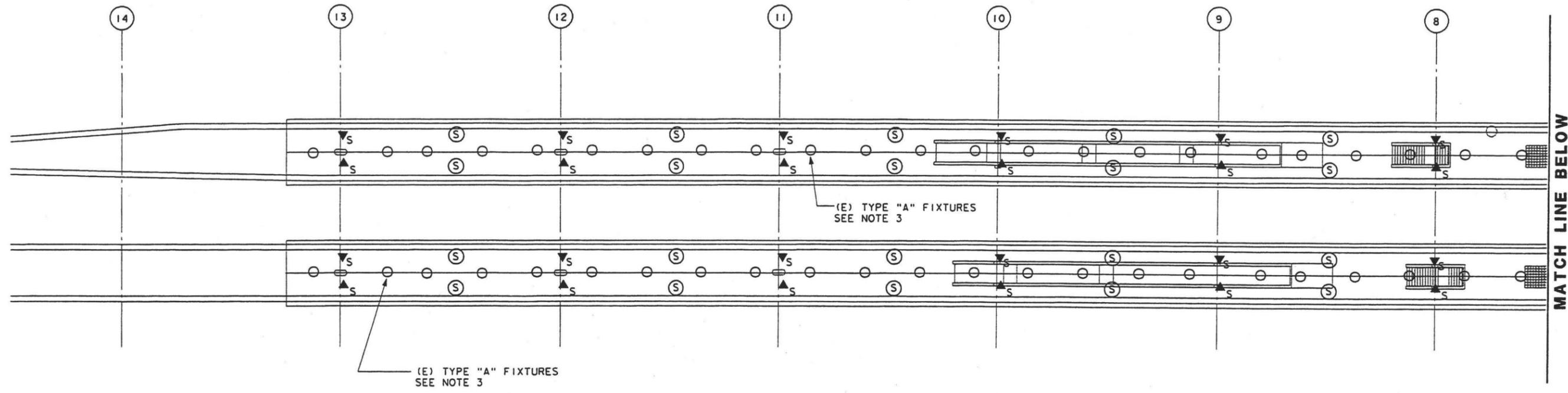
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**PLATFORMS 7 & 8  
PLATFORM ELECTRICAL PLAN**

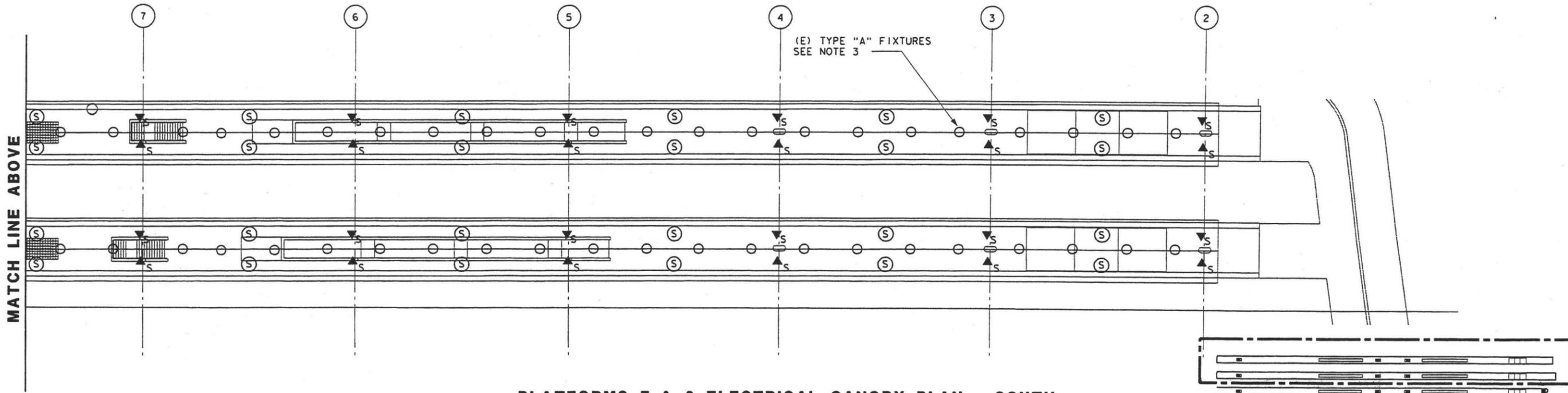
CONTRACT NO.	
DRAWING NO.	E-13
SCALE	1' = 20'
SHEET NO.	116





**PLATFORMS 7 & 8 ELECTRICAL CANOPY PLAN - NORTH**

1"=20'



**PLATFORMS 7 & 8 ELECTRICAL CANOPY PLAN - SOUTH**

1"=20'

**NOTES:**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.
3. EXISTING FIXTURES TYPE "A" AT THE CANOPY TO BE RELAMPED AND REFURBISHED AS REQUIRED.



\$\$\$DATE\$\$\$ \$TIME\$  
\$FILE NAME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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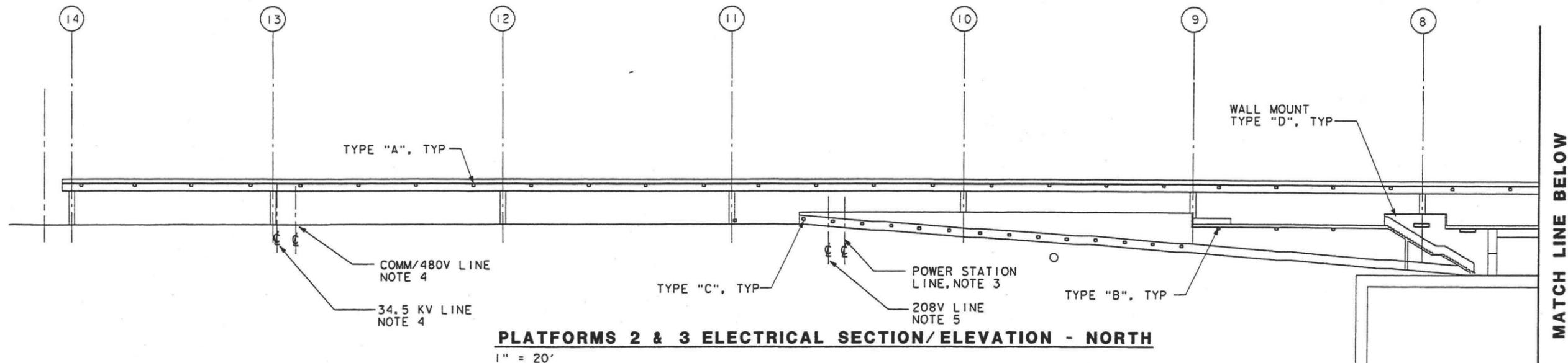
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

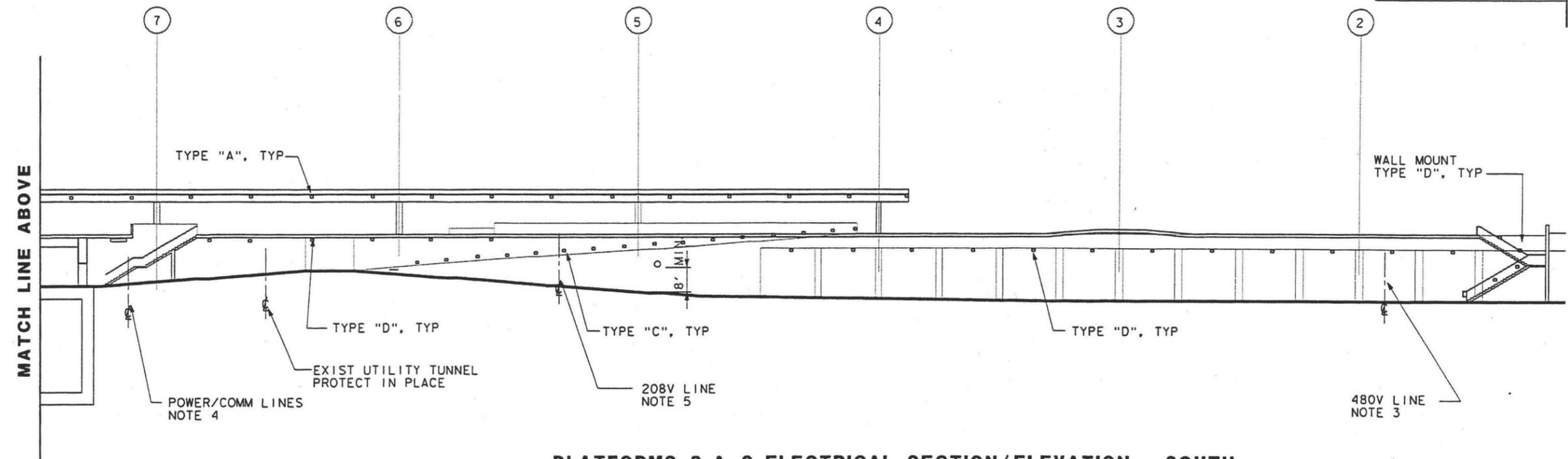
**PLATFORMS 7 & 8  
CANOPY ELECTRICAL PLAN**

CONTRACT NO.	
DRAWING NO.	E-14
SCALE	1"=20'
SHEET NO.	117





**PLATFORMS 2 & 3 ELECTRICAL SECTION/ELEVATION - NORTH**  
1" = 20'



**PLATFORMS 2 & 3 ELECTRICAL SECTION/ELEVATION - SOUTH**  
1" = 20'



**NOTES**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE SEE SHEET E-22.
3. (E) DUCT BANK POT HOLE TO DETERMINE DEPTH. RELOCATE TO ACCOMODATE NEW CONSTRUCTION.
4. (E) DUCT BANK POT HOLE TO DETERMINE THE DEPTH. PROTECT IN PLACE.
5. ABANDONED DUCT BANK AND CONDUIT.

\$\$\$DATE\$\$\$ \$TIME\$\$\$  
\$\$\$FILE NAME\$\$\$

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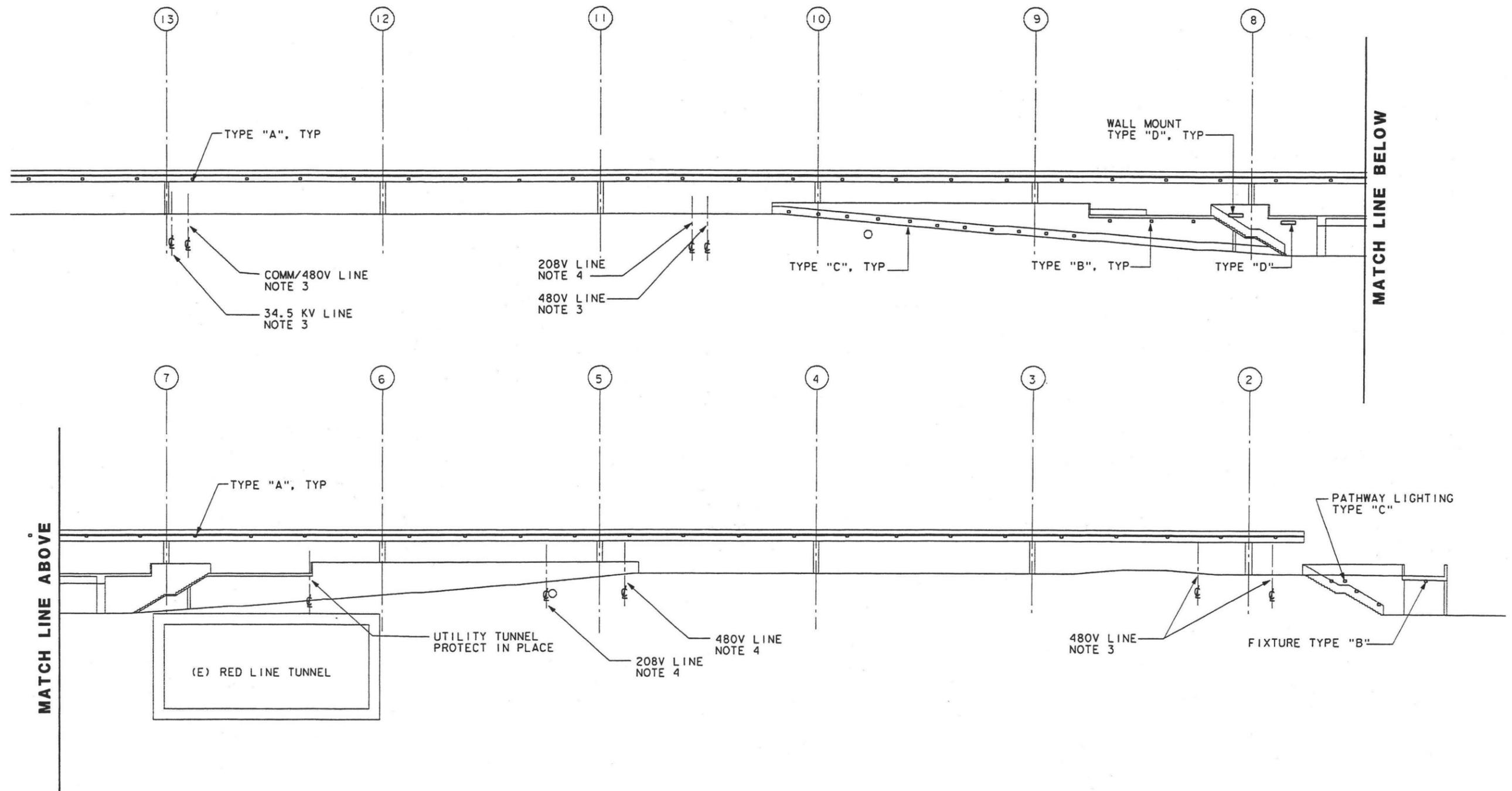
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
PLATFORMS 2 & 3  
ELECTRICAL  
SECTION/ELEVATION**

CONTRACT NO.	
DRAWING NO.	E-15
SCALE	1"=20'
SHEET NO.	118





**PLATFORMS 4 & 5 - ELECTRICAL SECTION/ELEVATION**

1" = 20'

**NOTES**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE SEE SHEET E-22.
3. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH. PROTECT IN PLACE.
4. ABANDONED DUCT BANK OR CONDUIT.

\$\$\$DATE\$\$ \$TIME\$\$  
 \$FILE NAME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL						

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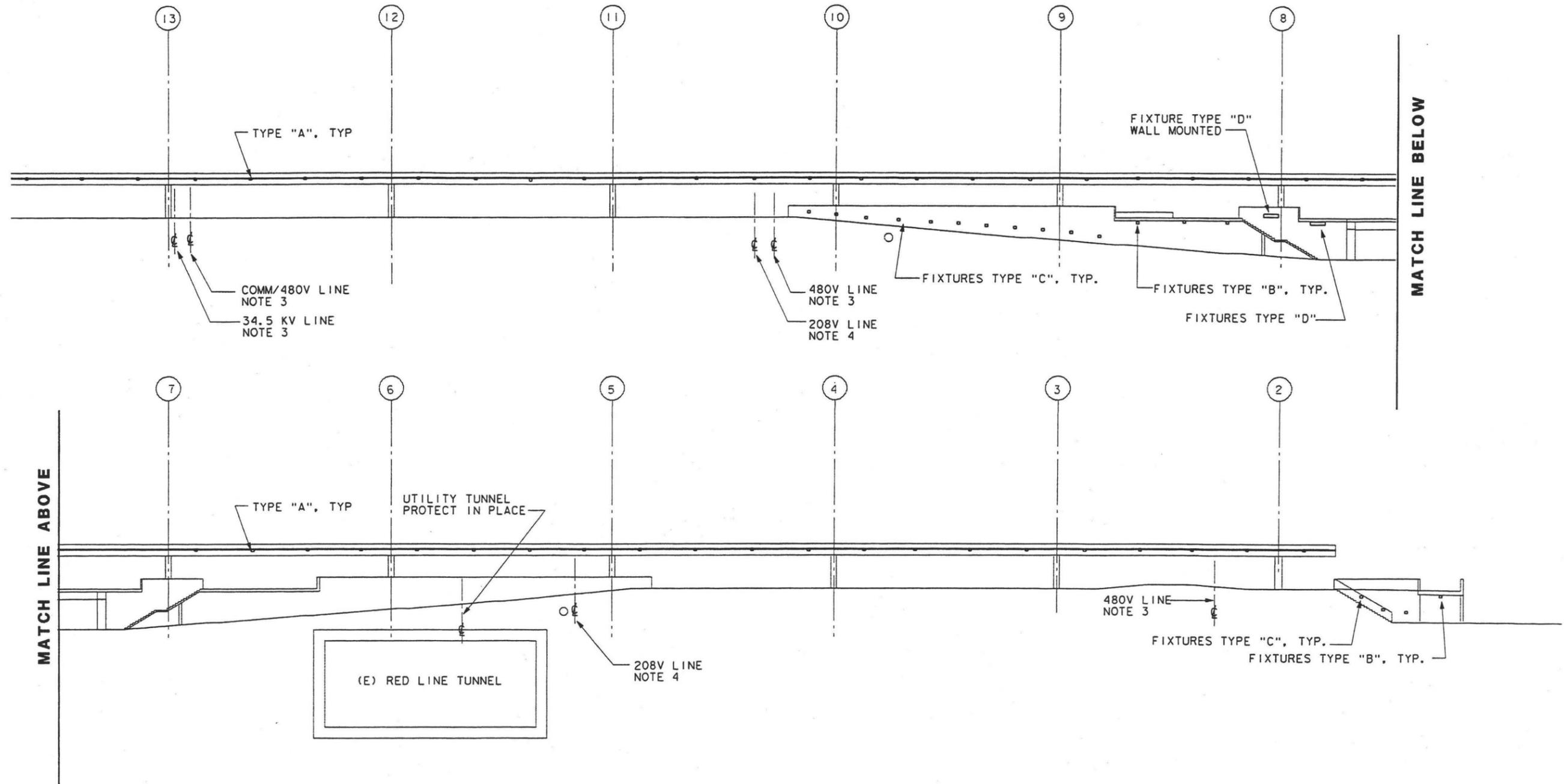

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**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS  
 PLATFORMS 4 & 5  
 ELECTRICAL  
 SECTION/ELEVATION**

CONTRACT NO.	
DRAWING NO.	E-16
SCALE	1" = 20'
SHEET NO.	119





**PLATFORM 6 - ELECTRICAL SECTION/ELEVATION**

1" = 20'

**NOTES**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE SEE SHEET E-22.
3. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH. PROTECT IN PLACE.
4. ABANDONED DUCT BANK OR CONDUIT.

\$\$\$DATE\$\$\$ \$TIME\$\$\$  
 \$\$\$FILE NAME\$\$\$

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	3/10/03				35% DESIGN SUBMITTAL						

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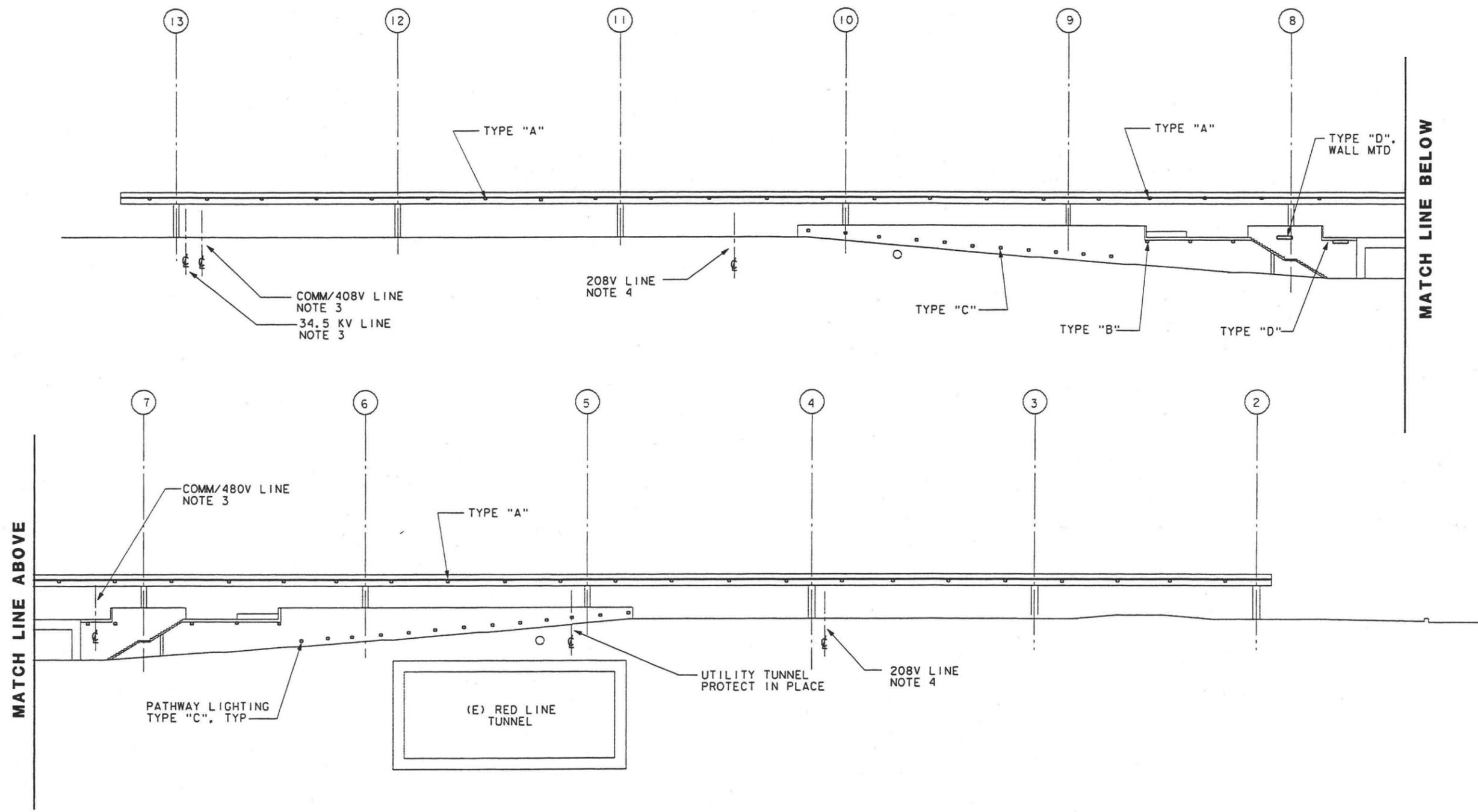

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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**PLATFORM 6**  
**ELECTRICAL**  
**SECTION/ELEVATION**

CONTRACT NO.	
DRAWING NO.	REV
E-17	
SCALE	
1" = 20'	
SHEET NO.	
120	





- NOTES**
1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS SEE SHEET E-1.
  2. FOR FIXTURES TYPE AND SCHEDULE SEE SHEET E-22.
  3. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH. PROTECT IN PLACE.
  4. ABANDONED DUCT BANK OR CONDUIT.

**PLATFORM 7 - ELECTRICAL SECTION/ELEVATION**  
1" = 20'

\$DATE\$\$ \$TIME\$  
\$FILE NAME\$

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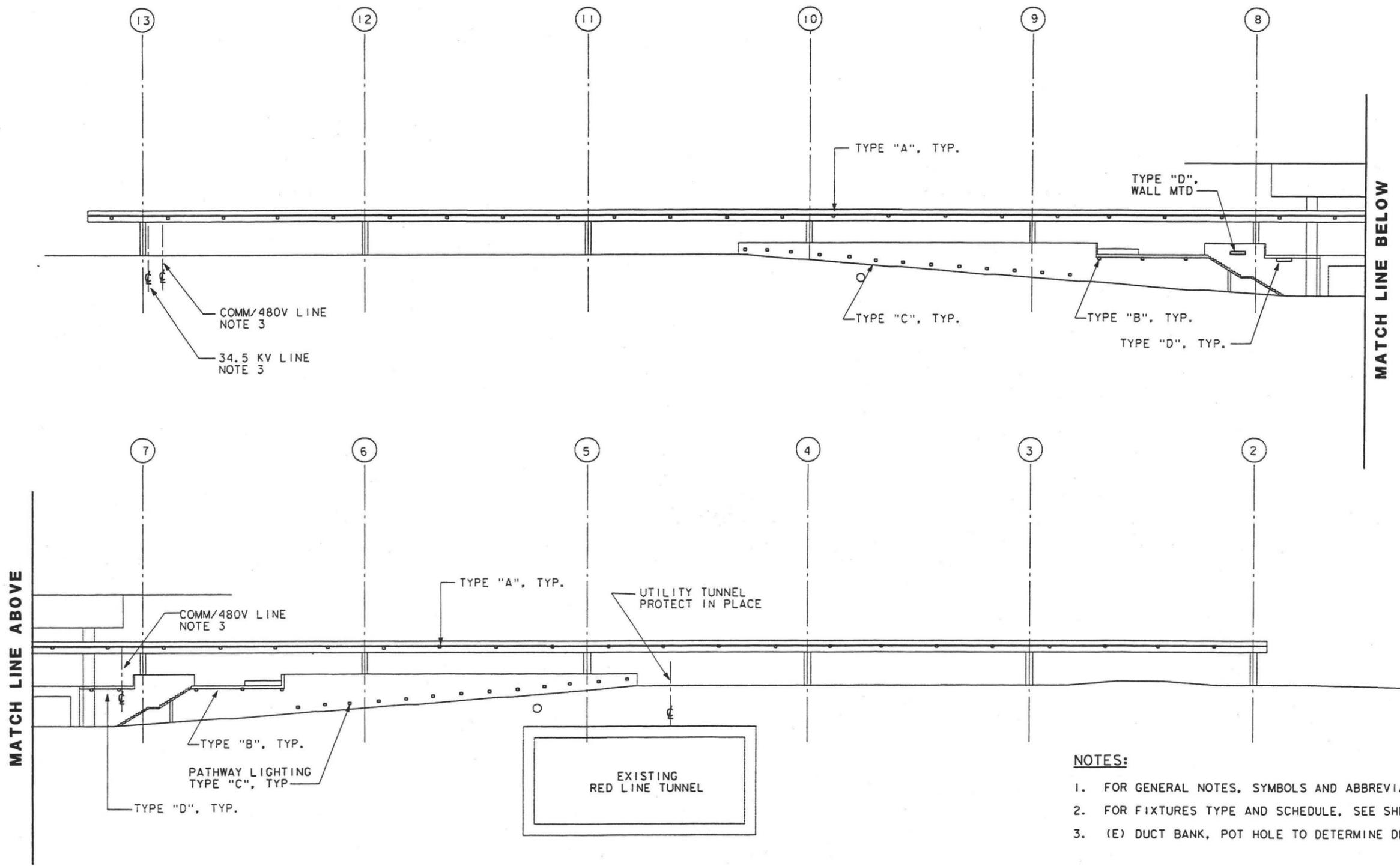
SUBMITTED \_\_\_\_\_

APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**PLATFORMS 7**  
**ELECTRICAL**  
**SECTION/ELEVATION**

CONTRACT NO.	
DRAWING NO. E-18	REV
SCALE 1" = 20'	
SHEET NO. 121	





- NOTES:**
1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS, SEE SHEET E-1.
  2. FOR FIXTURES TYPE AND SCHEDULE, SEE SHEET E-22.
  3. (E) DUCT BANK, POT HOLE TO DETERMINE DEPTH, PROTECT IN PLACE.

**PLATFORM 8 - ELECTRICAL SECTION/ELEVATION**  
 1" = 20'

\$\$\$DATE\$\$ \$TIME\$  
 \$FILE NAME\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

DESIGNED BY  
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 DRAWN BY  
 BF  
 CHECKED BY  
 BM  
 IN CHARGE  
 PM  
 DATE  
 MAR 10, 2003

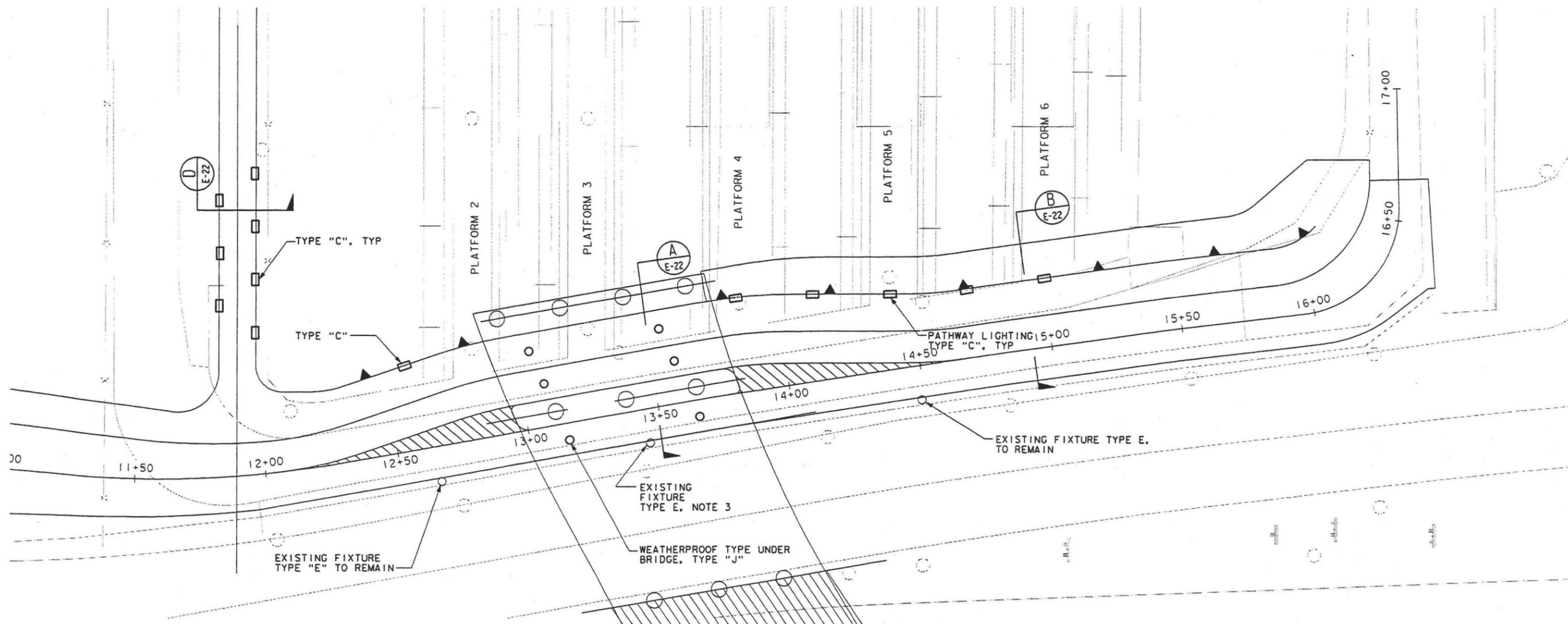
  
 NATIONAL RAILROAD  
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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**PLATFORMS 8**  
**ELECTRICAL**  
**SECTION/ELEVATION**

CONTRACT NO.	
DRAWING NO.	REV
E-19	
SCALE	
1" = 20'	
SHEET NO.	
122	





**SERVICE AND BAGGAGE CAR ACCESS ROAD ELECTRICAL PLAN**

1"=20'

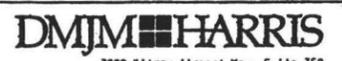
**NOTES**

1. FOR GENERAL NOTES, SYMBOLS AND ABBREVIATIONS SEE SHEET E-1.
2. FOR FIXTURES TYPE AND SCHEDULE SEE SHEET E-22.
3. REMOVE EXISTING FIXTURE TYPE "E". INTERRUPTED CIRCUITS DUE TO REMOVAL OF EARTH OR EXCAVATION ALONG EXISTING RETAINING WALL SHALL BE RESTORED TO KEEP REMAINING FIXTURES OPERATIONAL.

\$\$\$DATE\$\$\$ \$TIME\$\$\$  
\$\$\$FILE NAME\$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL

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IN CHARGE  
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DATE  
MAR 10, 2003

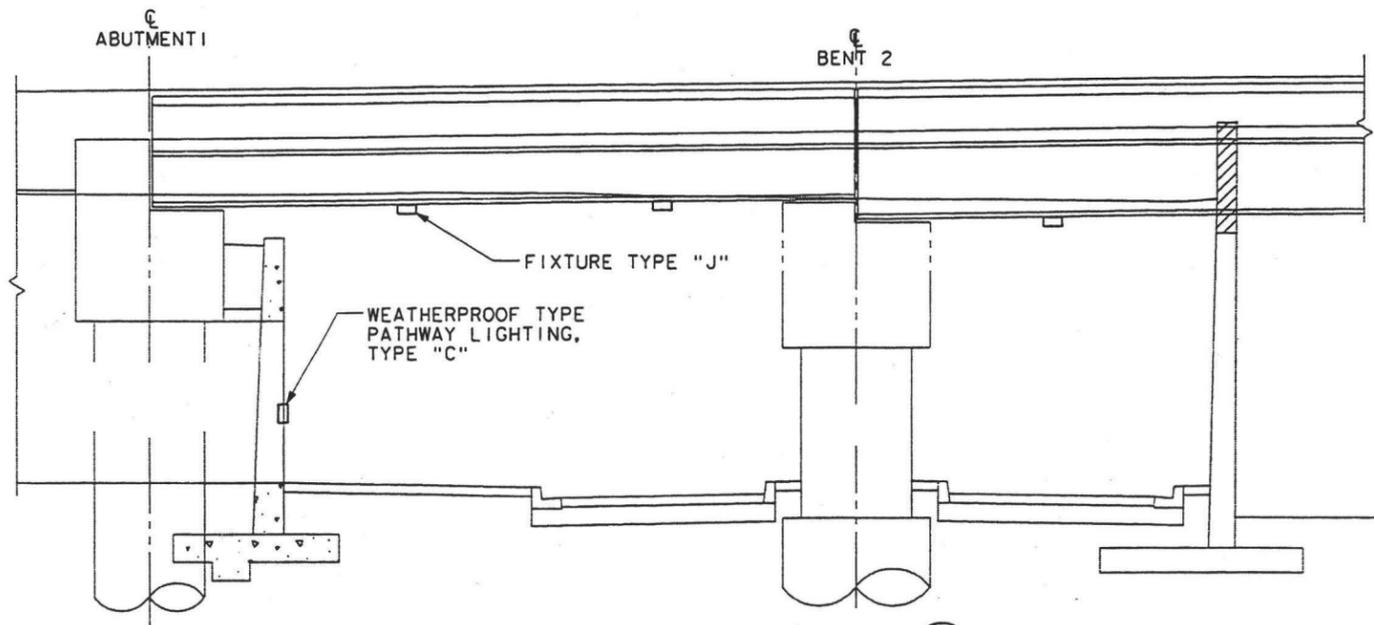
  
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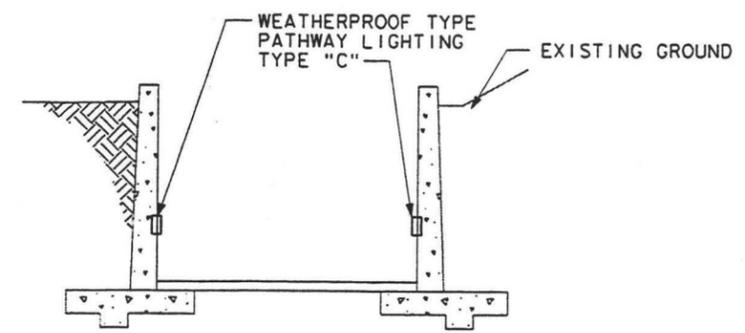
**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**SERVICE AND BAGGAGE**  
**CAR ACCESS ROAD**  
**ELECTRICAL PLAN**

CONTRACT NO.	
DRAWING NO.	REV
E-20	
SCALE	
1" = 20'	
SHEET NO.	
123	

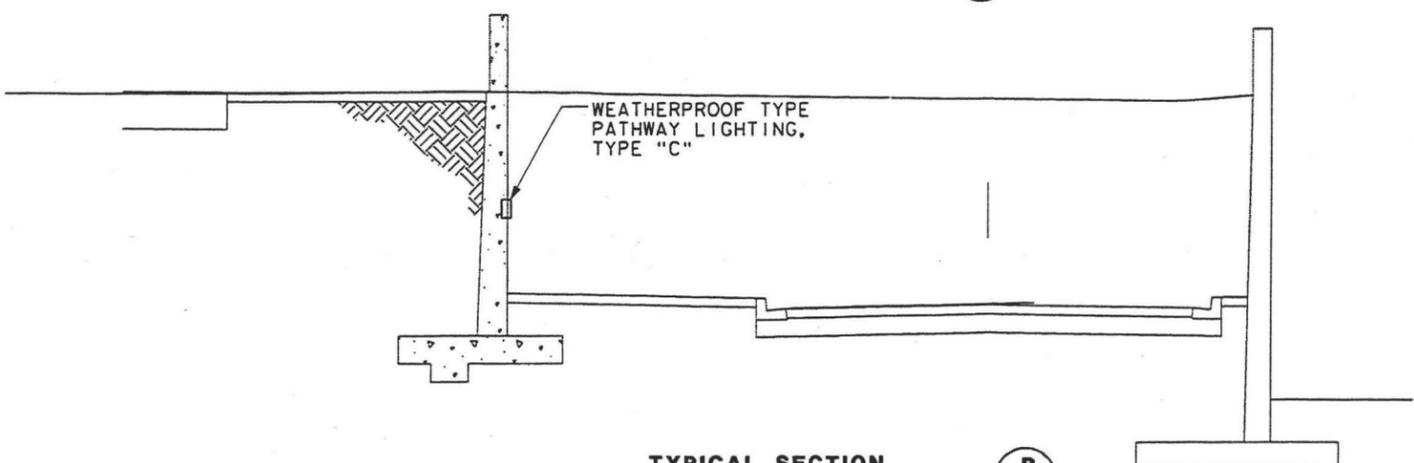




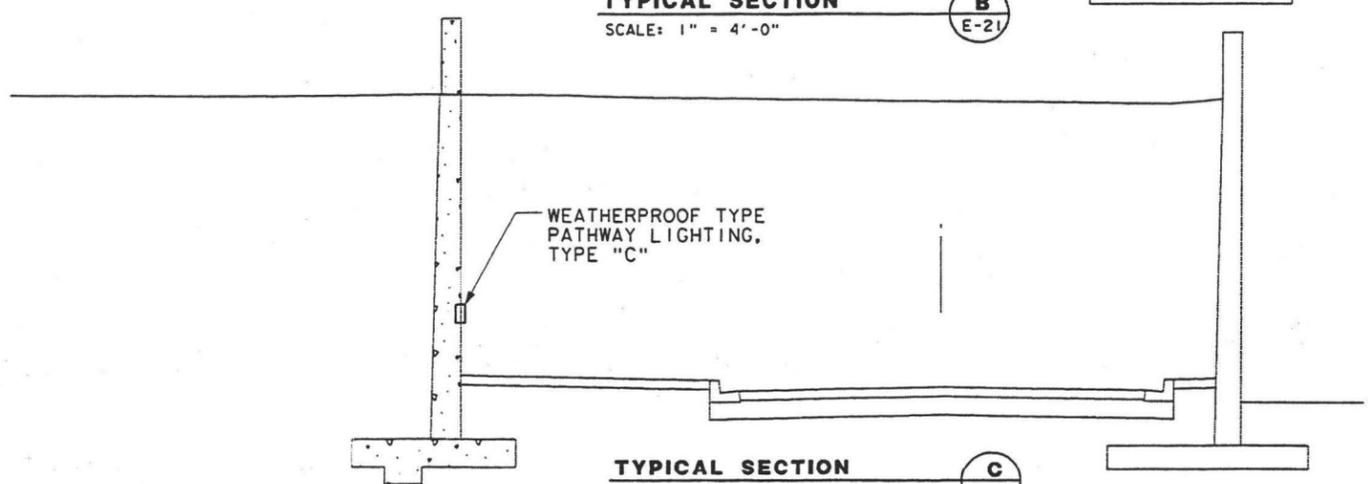
**TYPICAL SECTION**  
SCALE: 1" = 4'-0" **A**  
E-21



**TYPICAL SECTION**  
SCALE: 1" = 4'-0" **D**  
E-21



**TYPICAL SECTION**  
SCALE: 1" = 4'-0" **B**  
E-21



**TYPICAL SECTION**  
SCALE: 1" = 4'-0" **C**  
E-21

\$\$\$DATE\$\$\$ \$TIME\$\$\$  
\$\$\$NAME\$\$\$

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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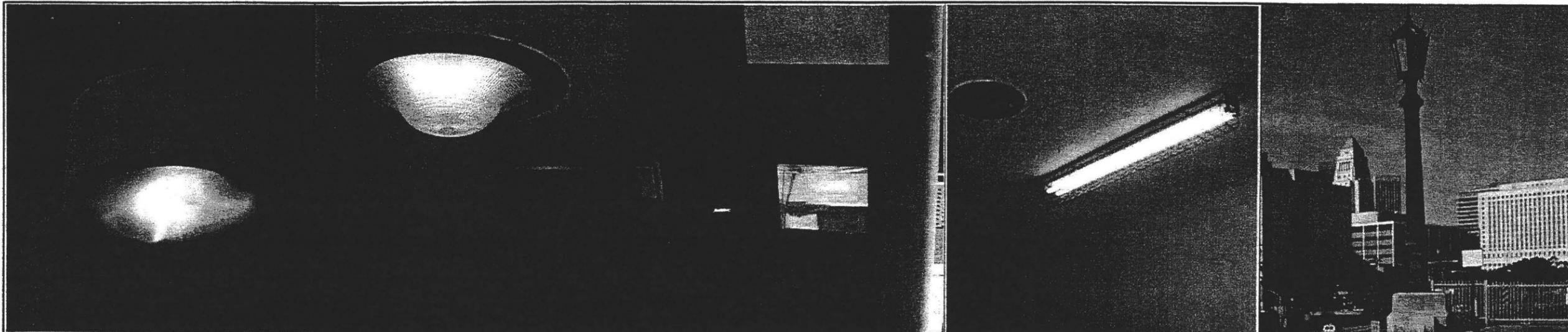
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**ACCESS ROAD ELECTRICAL  
ELEVATIONS**

CONTRACT NO.	
DRAWING NO.	REV
E-21	
SCALE AS NOTED	
SHEET NO.	124





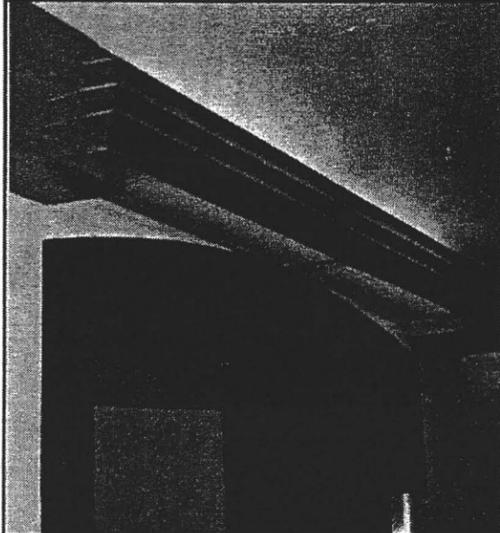
**A** 150 WATT HPS FIXTURE WITH ADAPTER FOR UNDER CANOPY MOUNTING

**B** CLG MTD. SEMI RECESSED GLASS LENSE FIXT W/ 70 W MH LAMP TO MATCH EXIST

**C** RECESSED, WALL MTD. 70 WATT HPS PATHWAY LIGHTING

**D** 4 FT SURFACE MOUNTED FLUORESCENT FIXTURE WITH 2 LAMPS AND GUARD

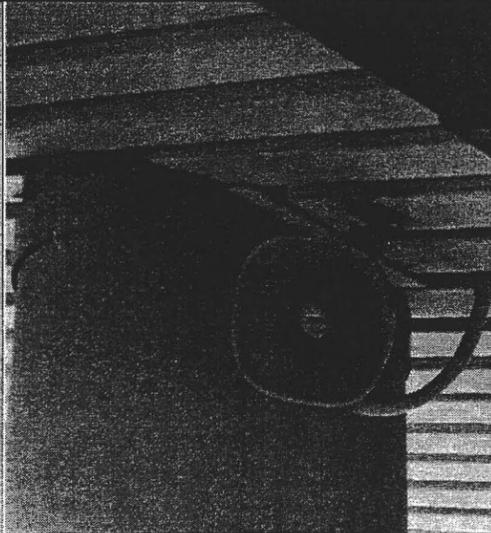
**E** 250 WATT HPS FIXTURE (POLE HEIGHT APPROX 7')



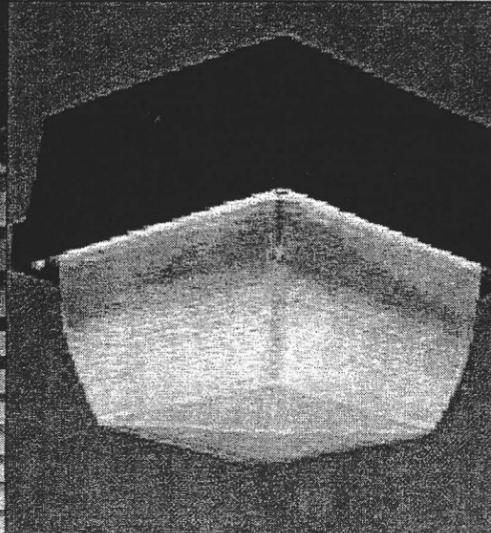
**F** CUSTOMIZED SPECIAL PASSENGER TUNNEL FLUORESCENT FIXTURE



**G** OUTDOOR TYPE. CEILING SPEAKER



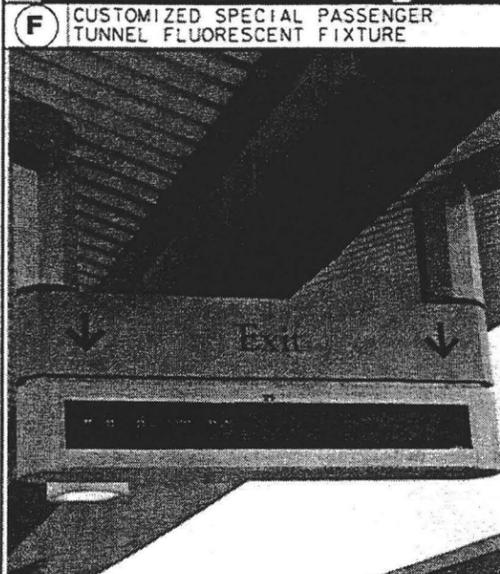
**H** OUTDOOR TYPE SPEAKER, HORN TYPE



**J** 150 WATT HPS POLYCARBONATE DIFFUSER



**O** 250 WATT HPS FIXTURE (POLE HEIGHT APPROX 7')



**K** PASSENGER SIGNAGE

**L**

**M**

**N**

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	3/10/03				35% DESIGN SUBMITTAL						

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**CT** STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**ELECTRICAL FIXTURE  
 SCHEDULE**

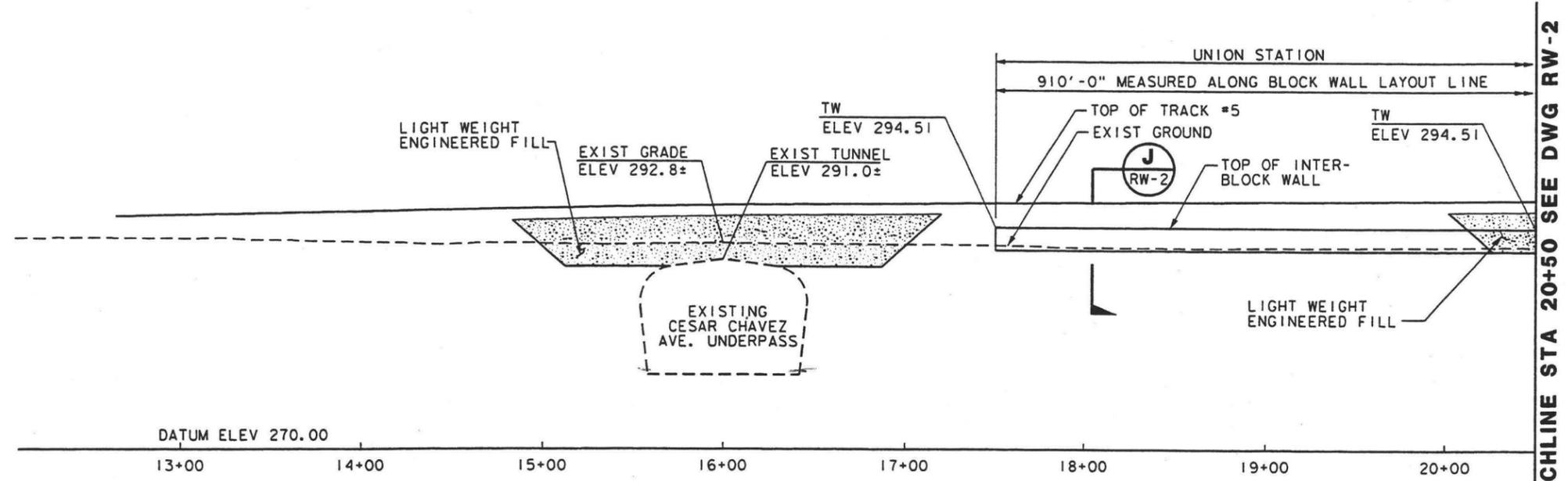
CONTRACT NO.	
DRAWING NO.	E-22
SCALE	NONE
SHEET NO.	125

\$FILE NAME\$ \$DATE\$ \$TIME\$

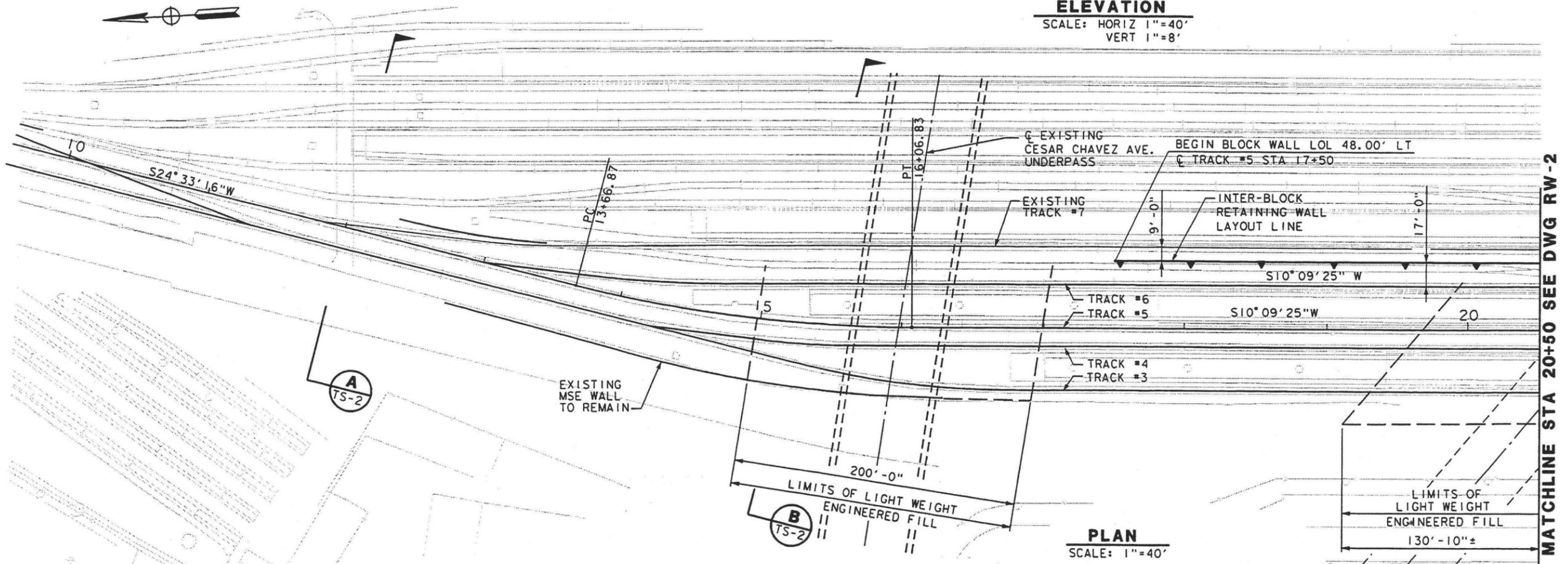


**NOTE:**

1.  $\text{C}$  TRACK 5 =  $\text{C}$  RUN-THROUGH TRACK RT 1.



**ELEVATION**  
SCALE: HORIZ 1"=40'  
VERT 1"=8'



**PLAN**  
SCALE: 1"=40'

MATCHLINE STA 20+50 SEE DWG RW-2

MATCHLINE STA 20+50 SEE DWG RW-2

SF FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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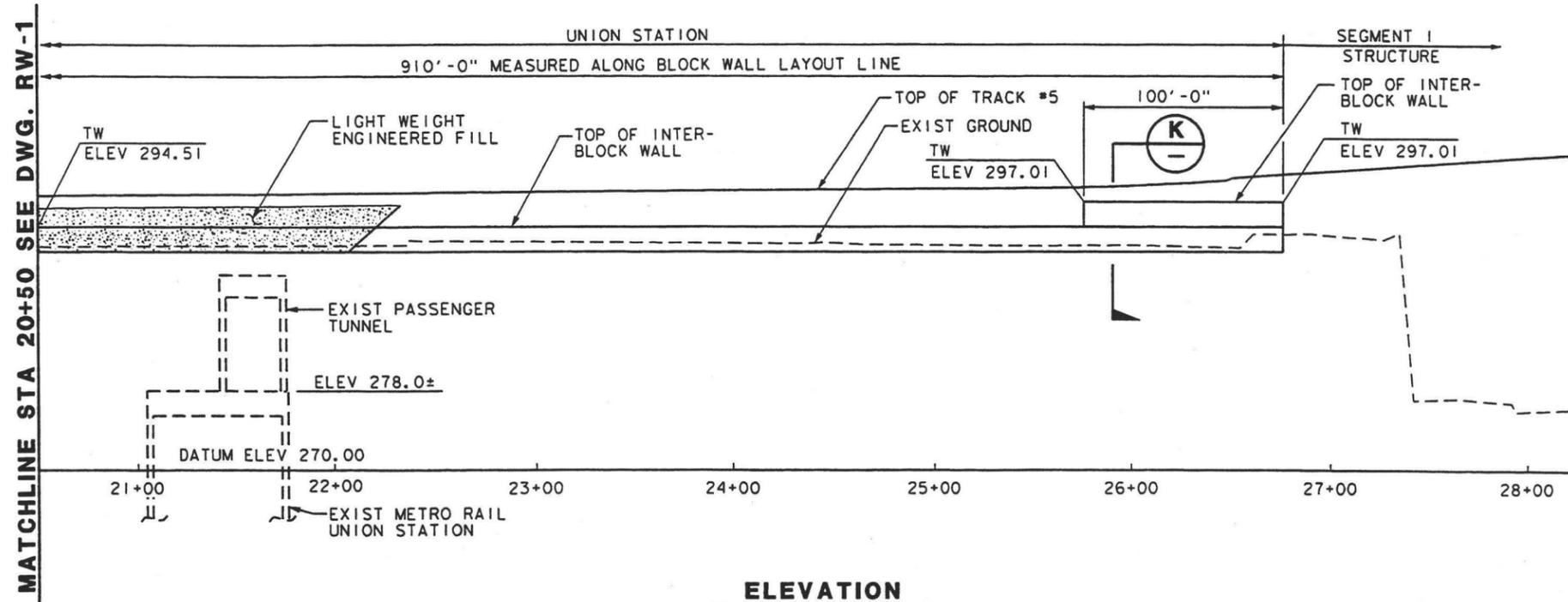
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APPROVED \_\_\_\_\_

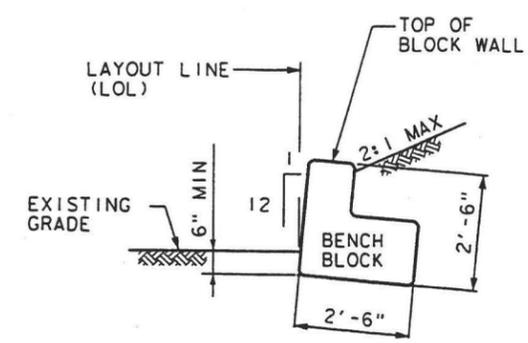
**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS  
RETAINING WALL NO. 6  
PLAN & ELEVATION NO. 1**

CONTRACT NO.	
DRAWING NO.	REV
RW-1	
SCALE	1" = 40'
SHEET NO.	126

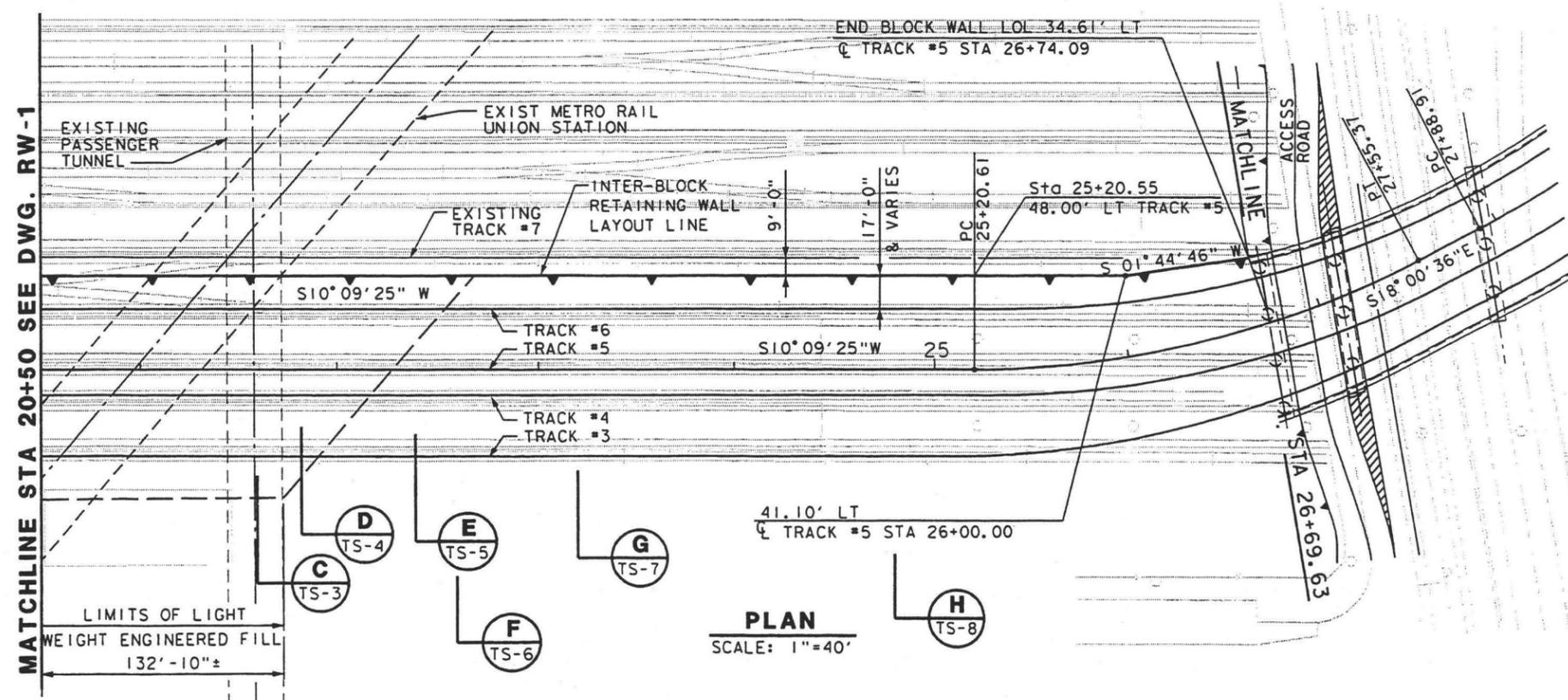




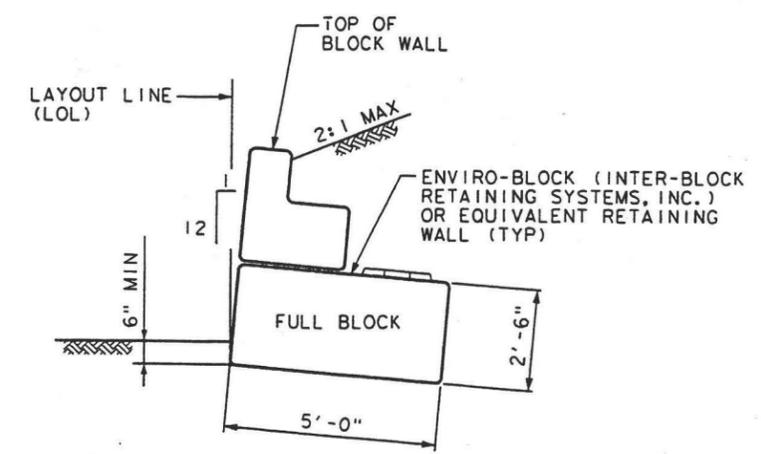
**ELEVATION**  
SCALE: HORIZ 1"=40'  
VERT 1"=8'



**SECTION J**  
1/2" = 1'-0" RW-1



**PLAN**  
SCALE: 1"=40'



**SECTION K**  
1/2" = 1'-0"

**NOTE:**  
1. Q TRACK 5 = Q RUN-THROUGH TRACK RT 1.

DATE: 3/10/03  
BY: DD  
SUB: 35% DESIGN SUBMITTAL  
APP: [ ]  
DESCRIPTION: [ ]  
REV: [ ]

REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY DD  
DRAWN BY LR  
CHECKED BY FM  
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DATE MAR 10, 2003

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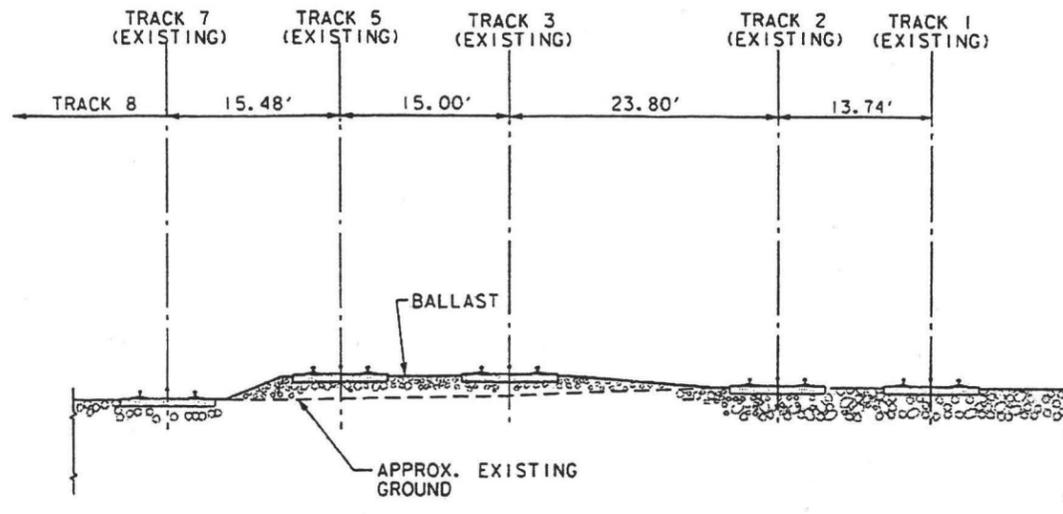
SUBMITTED: \_\_\_\_\_  
APPROVED: \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

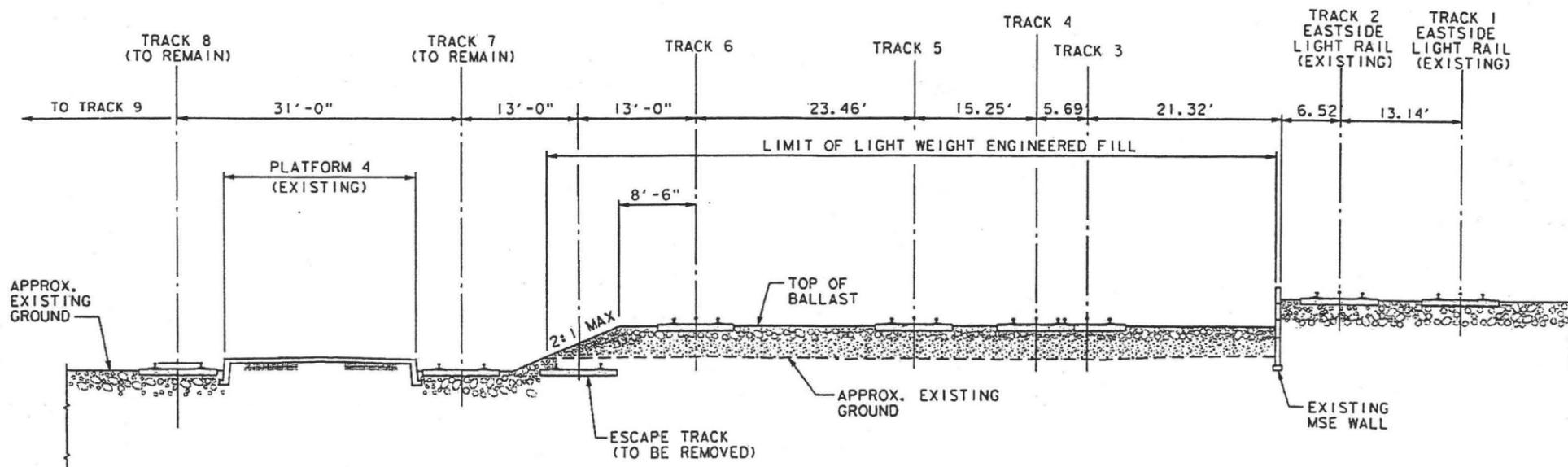
**RETAINING WALL NO. 6  
PLAN & ELEVATION NO. 2**

CONTRACT NO.	
DRAWING NO.	RW-2
SCALE	1" = 40'
SHEET NO.	127





**SECTION - NORTH OF PLATFORM 5** (A)  
 (STA 12+00±)  
 1/8" = 1'-0"



**SECTION - NORTH OF CESAR CHAVEZ GRADE SEPARATION** (B)  
 (STA 15+20±)  
 1/8" = 1'-0"

- NOTES:**
1. SEE ARCHITECTURAL DRAWINGS FOR PLATFORM PLANS & CANOPY PLANS.
  2. SEE TRACK DRAWINGS FOR TOP OF RAIL ELEVATIONS.

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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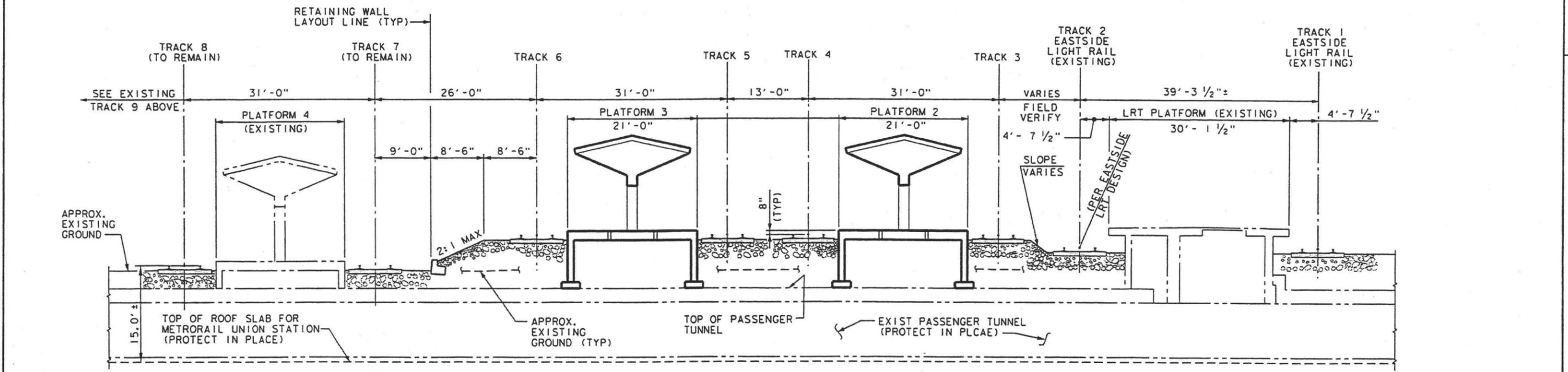
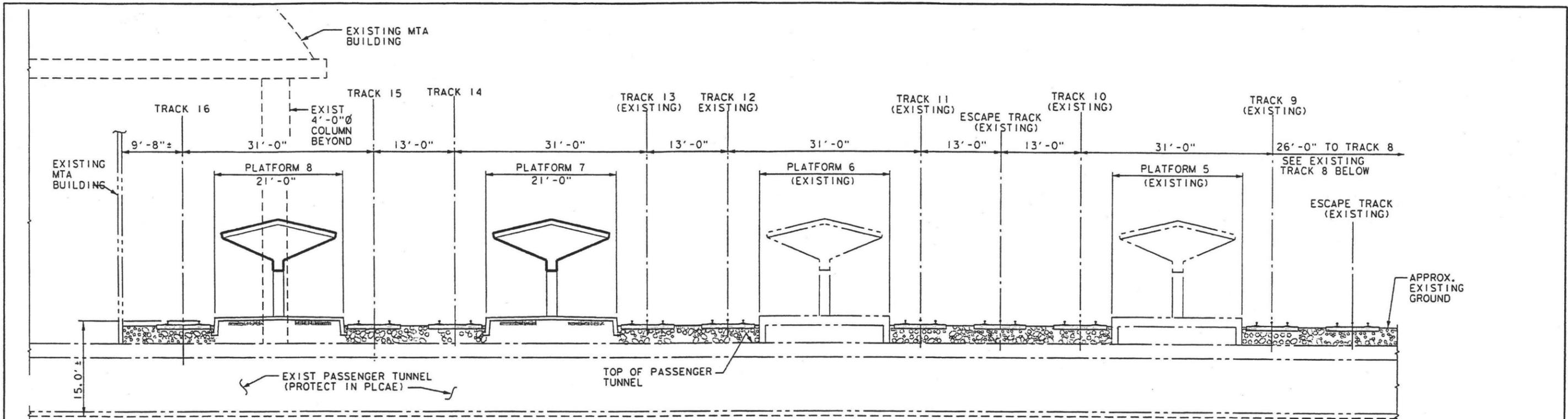
**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TYPICAL SECTIONS NO. 1**

CONTRACT NO.	
DRAWING NO.	SX-1
SCALE	1/8" = 1'-0"
SHEET NO.	128

DATE 3/10/03 BY DD





**SECTION - MAIN PASSENGER TUNNEL** C  
 (STA 21+60±)  
 1/8" = 1'-0"

**NOTE:**  
 1. SEE "TYPICAL SECTIONS NO. 1" SHEET FOR REFERENCE NOTES.

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3/10/03					35% DESIGN SUBMITTAL

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IN CHARGE PM
DATE MAR 10, 2003

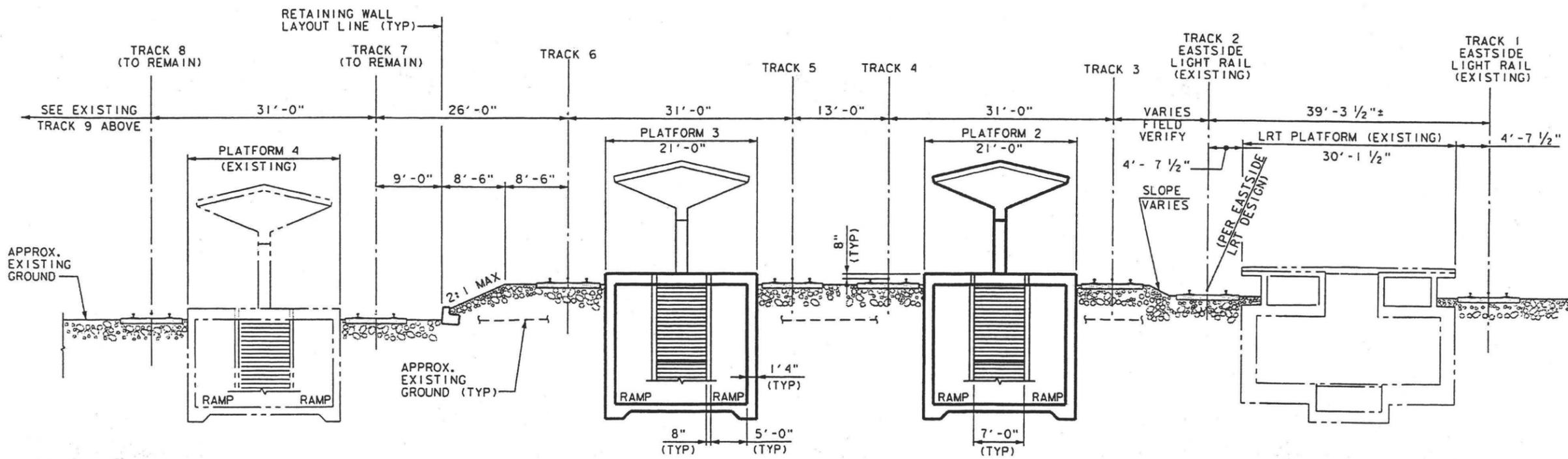
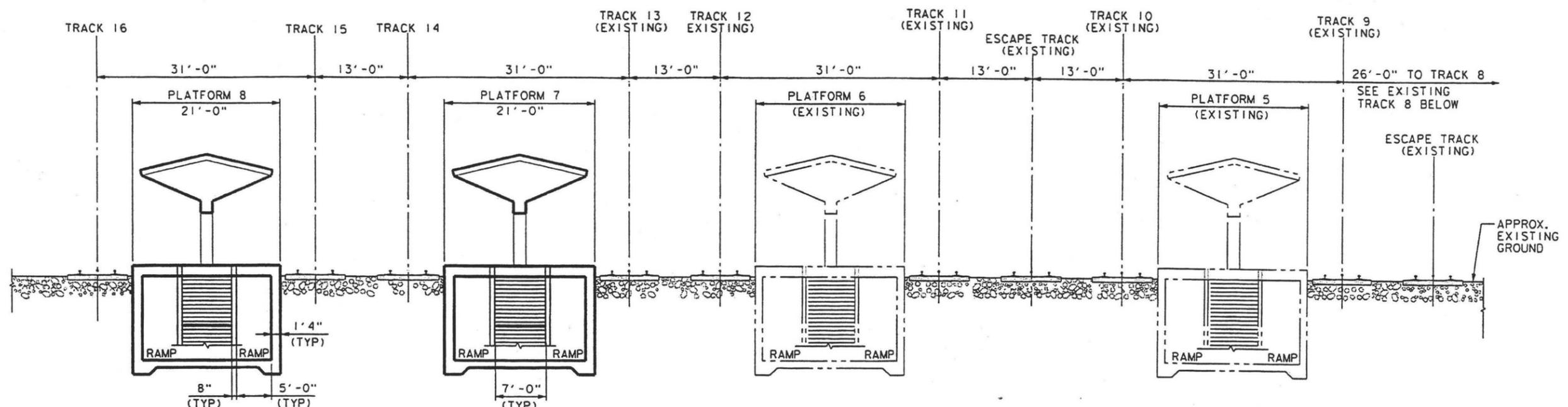

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**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
  
**TYPICAL SECTIONS NO. 2**

CONTRACT NO.	
DRAWING NO.	SX-2
SCALE	1/8" = 1'-0"
SHEET NO.	129





**SECTION - STAIR / RAMP** D  
 (STA 21+90±)  
 1/8" = 1'-0"

**NOTE:**  
 1. SEE "TYPICAL SECTIONS NO. 1" SHEET FOR REFERENCE NOTES.

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35X DESIGN SUBMITTAL						

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**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TYPICAL SECTIONS NO. 3**

CONTRACT NO. \_\_\_\_\_

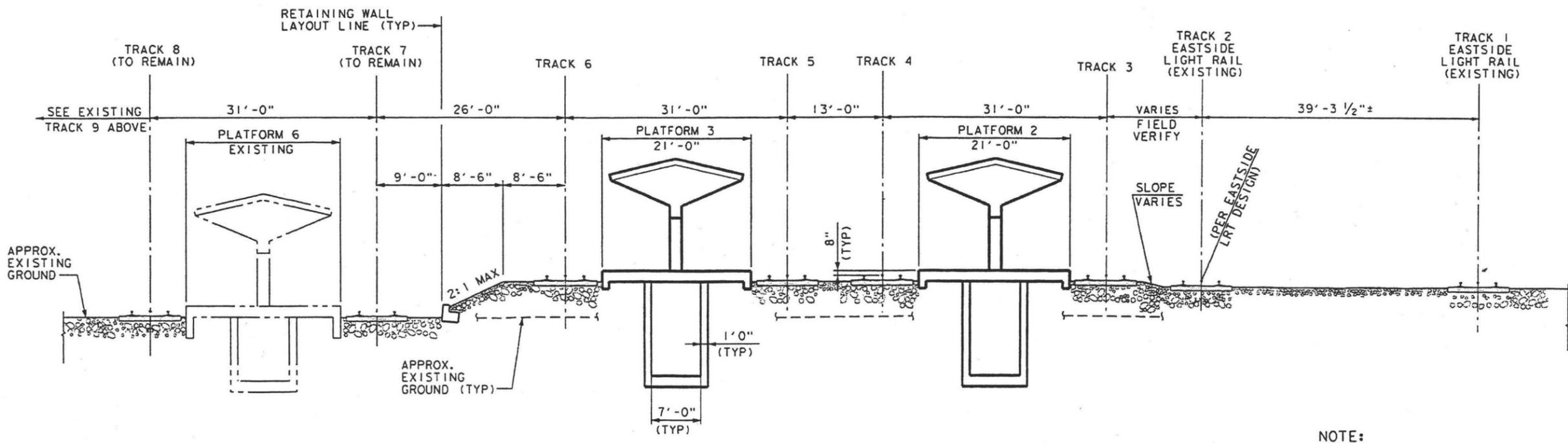
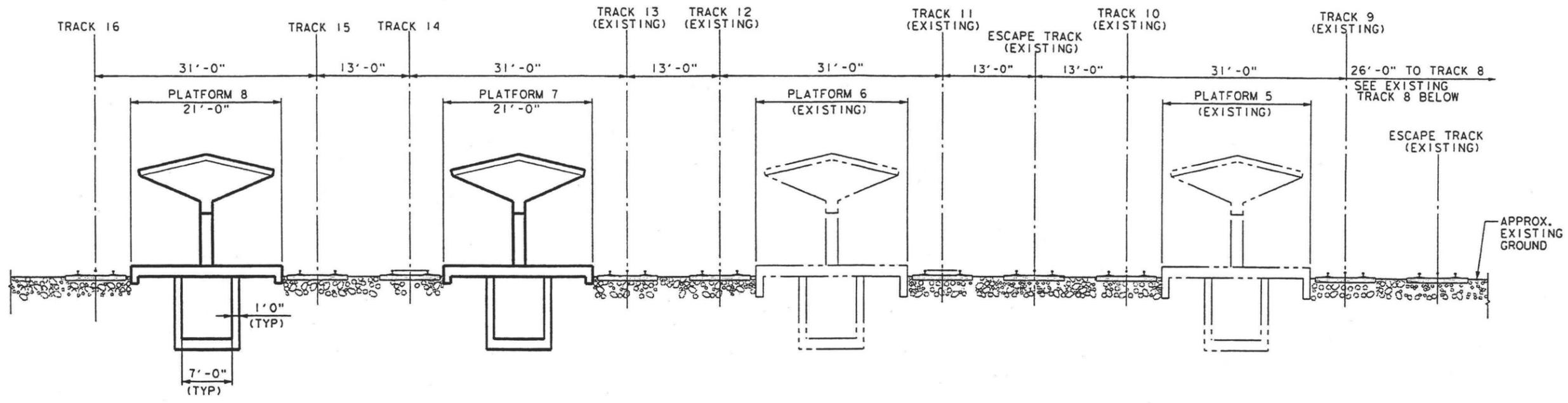
DRAWING NO. **SX-3** REV \_\_\_\_\_

SCALE 1/8" = 1'-0"

SHEET NO. **130**

DATE: 3/10/03





**SECTION - PLATFORM RAMP** E  
 (STA 22+40±)  
 1/8" = 1'-0"

**NOTE:**  
 1. SEE "TYPICAL SECTIONS NO. 1" SHEET FOR REFERENCE NOTES.

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

**TYPICAL SECTIONS NO. 4**

CONTRACT NO. \_\_\_\_\_

DRAWING NO. **SX-4** REV \_\_\_\_\_

SCALE **1/8" = 1'-0"**

SHEET NO. **131**

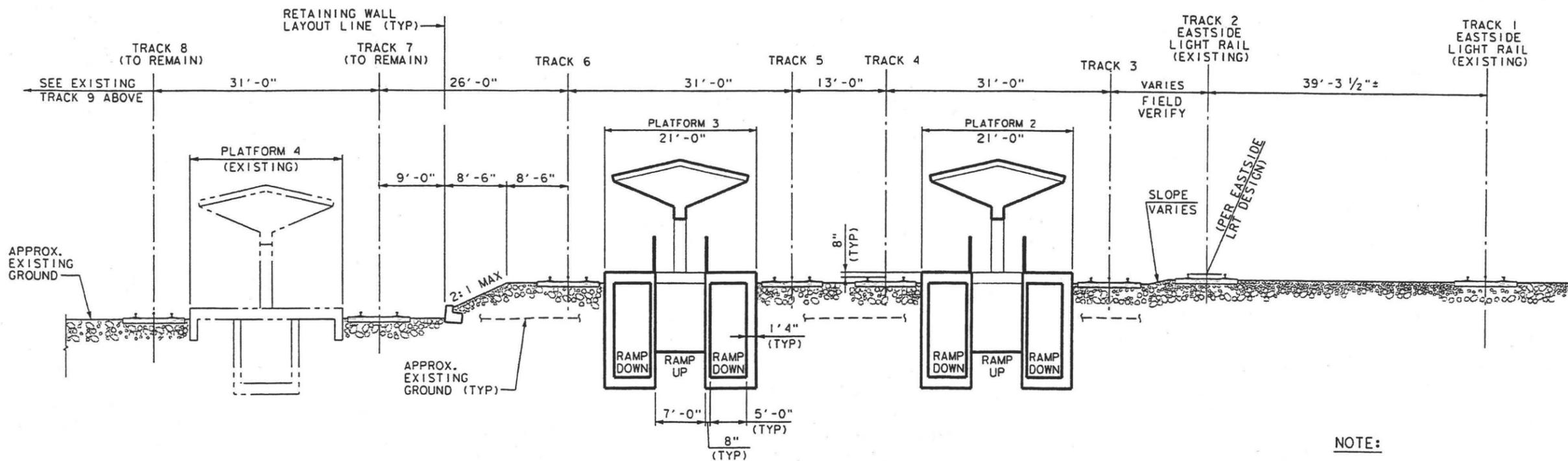
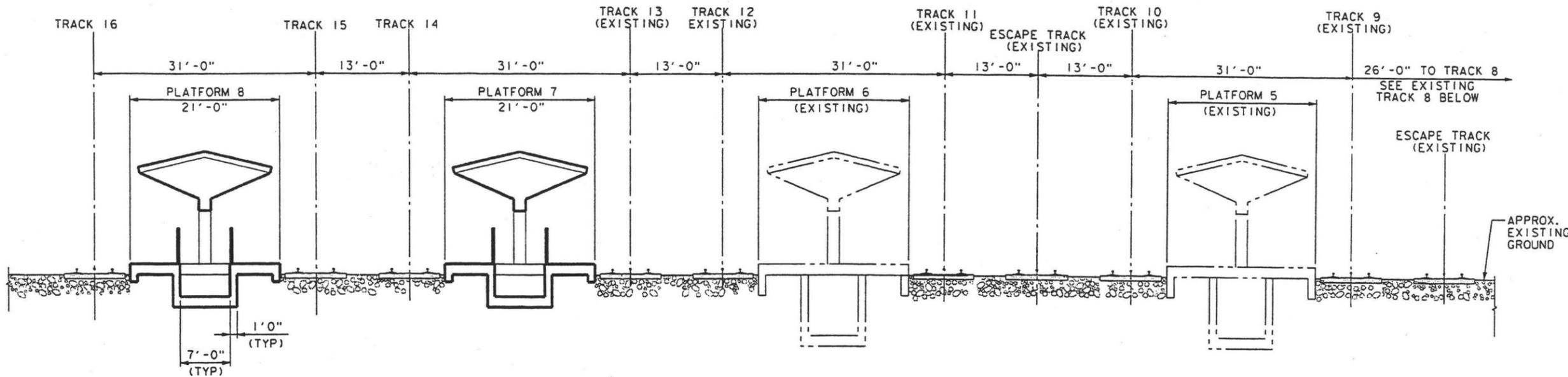
FILE NAMES

DATES









**SECTION - PLATFORM RAMPS**

(STA 23+20±)  
1/8" = 1'-0"

**G**  
RW-2

**NOTE:**

1. SEE "TYPICAL SECTIONS NO. 1" SHEET FOR REFERENCE NOTES.

DATE: 3/10/03

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						

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IN CHARGE  
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APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TYPICAL SECTIONS NO. 6**

CONTRACT NO. \_\_\_\_\_  
DRAWING NO. SX-6 REV \_\_\_\_\_  
SCALE 1/8" = 1'-0"  
SHEET NO. 133







**GENERAL NOTES:**

**A. SPECIFICATIONS:**

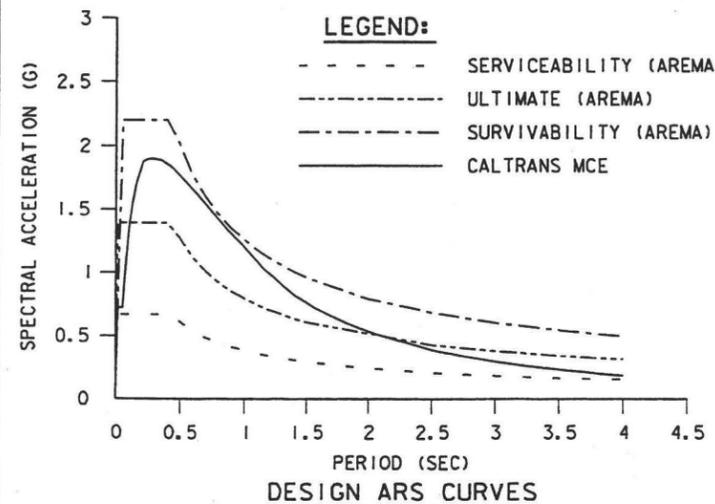
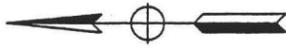
1. DESIGN: AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION (AREMA) 2002.
2. SEISMIC DESIGN: AREMA AND CALTRANS SEISMIC DESIGN CRITERIA (SDC) VERSION 1.2, DECEMBER 2001

**B. DESIGN LOADINGS:**

1. DEAD LOAD: AREMA, CHAPTER 15, INCLUDES 30" MAXIMUM BALLAST
2. LIVE LOAD: COOPER E80
3. IMPACT: AREMA, CHAPTER 8 AND CHAPTER 15
4. SEISMIC LOADS: THREE LEVEL EARTHQUAKE - SERVICEABILITY, ULTIMATE AND SURVIVABILITY PER AREMA. SEE "DESIGN ARS CURVE"

**C. MATERIALS:**

1. REINFORCED CONCRETE:  $f'c = 4000$  PSI @ 28 DAYS
2. REINFORCING STEEL: ASTM A706, GRADE 60  $F_y = 60,000$  PSI
3. PRESTRESSED CONCRETE:  $f'c = 6000$  PSI @ 28 DAYS
4. PRESTRESSING STEEL: ASTM A416, GRADE 270 LOW RELAXATION STRANDS
5. STRUCTURAL STEEL: ASTM A709, GRADE 50W  $F_y = 50,000$  PSI
6. WELDING: ALL WELDING SHALL BE IN ACCORDANCE WITH THE AREMA SPECIFICATIONS AND BRIDGE WELDING CODE, AWS D1.5



**LEGEND:**  
 - - - - - SERVICEABILITY (AREMA)  
 - · - · - ULTIMATE (AREMA)  
 · · · · · SURVIVABILITY (AREMA)  
 ———— CALTRANS MCE



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REV	DATE	BY	SUB	APP	DESCRIPTION
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1/10/03					25% DESIGN SUBMITTAL

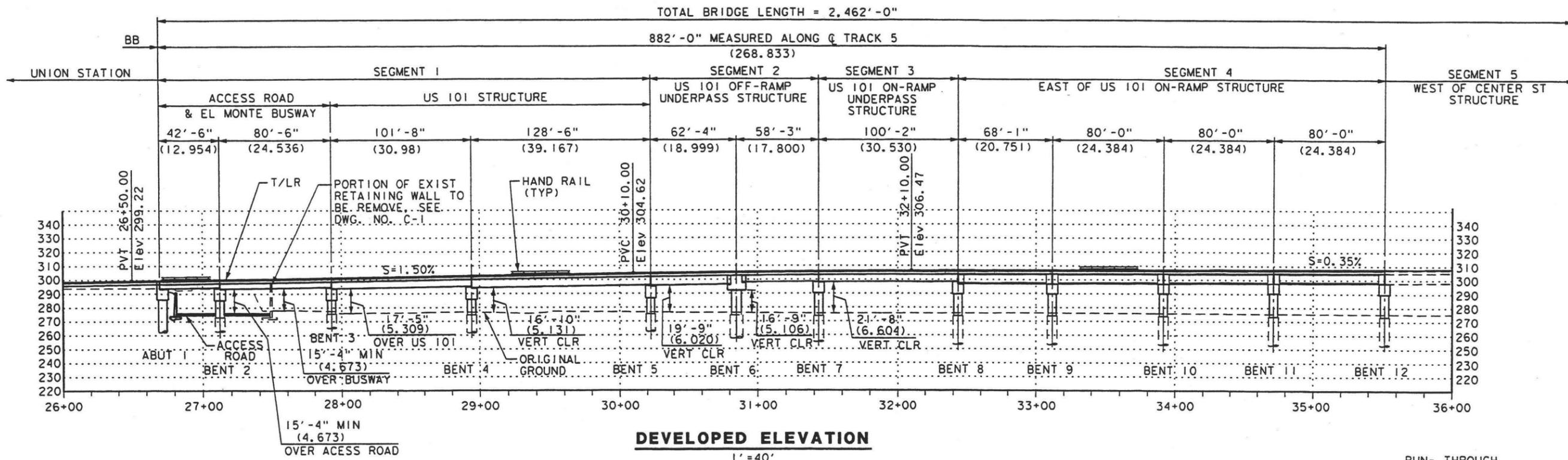
DESIGNED BY  
S. CHOU  
 DRAWN BY  
J. MAY  
 CHECKED BY  
K. WANG  
 IN CHARGE  
S. CHOU  
 DATE  
MAR 10, 2003

SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

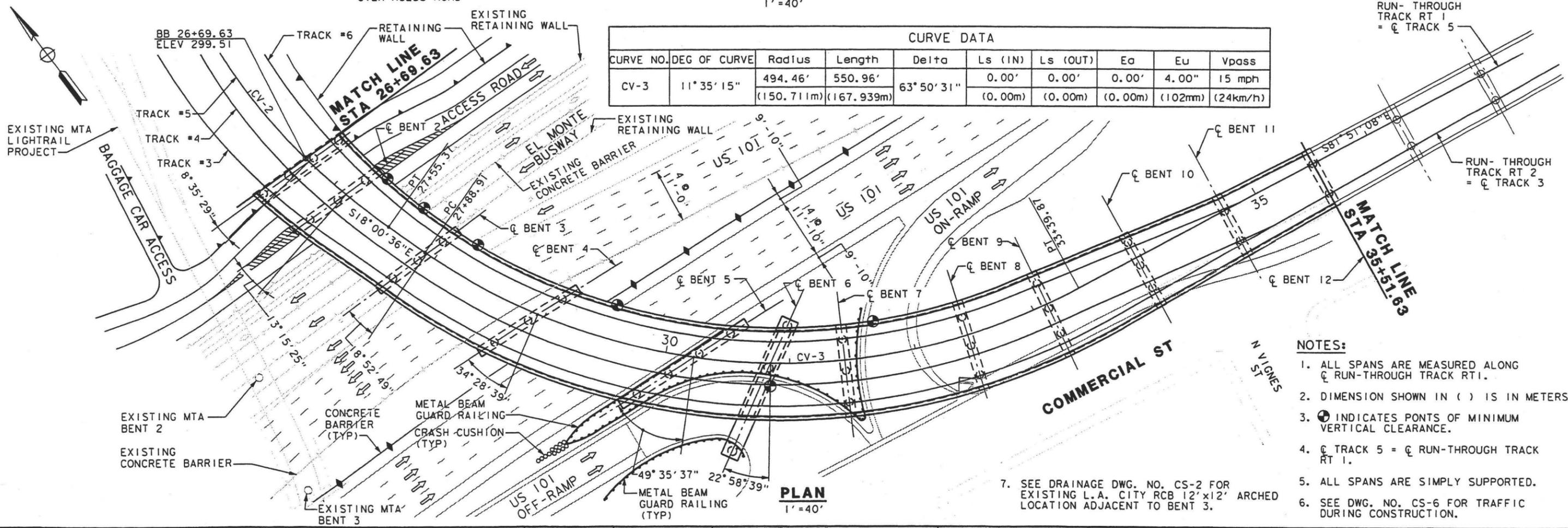
**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
  
**STRUCTURAL KEY MAP**

CONTRACT NO.	
DRAWING NO.	K-3
SCALE	NTS
SHEET NO.	135





CURVE NO.	DEG OF CURVE	Radius	Length	Delta	Ls (IN)	Ls (OUT)	Ea	Eu	Vpass
CV-3	11° 35' 15"	494.46'	550.96'	63° 50' 31"	0.00'	0.00'	0.00'	4.00"	15 mph
		(150.711m)	(167.939m)		(0.00m)	(0.00m)	(0.00m)	(102mm)	(24km/h)



- NOTES:**
- ALL SPANS ARE MEASURED ALONG  $\phi$  RUN-THROUGH TRACK RT1.
  - DIMENSION SHOWN IN ( ) IS IN METERS.
  - $\ominus$  INDICATES POINTS OF MINIMUM VERTICAL CLEARANCE.
  - $\phi$  TRACK 5 =  $\phi$  RUN-THROUGH TRACK RT 1.
  - ALL SPANS ARE SIMPLY SUPPORTED.
  - SEE DWG. NO. CS-2 FOR EXISTING L.A. CITY RCB 12'x12' ARCHED LOCATION ADJACENT TO BENT 3.
  - SEE DWG. NO. CS-6 FOR TRAFFIC DURING CONSTRUCTION.

REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					352 DESIGN SUBMITTAL

DESIGNED BY DD  
DRAWN BY EL  
CHECKED BY FM  
IN CHARGE PM  
DATE MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD PASSENGER CORPORATION

**DMJM HARRIS**  
3800 Kilroy Airport Way, Suite 350  
Long Beach, CA 90806

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

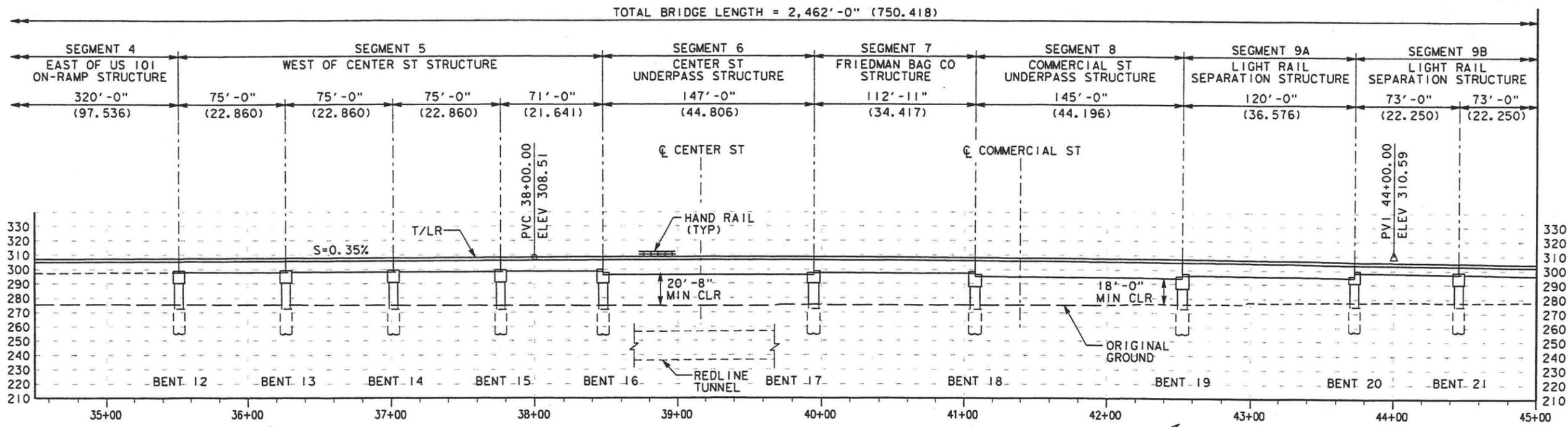
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APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

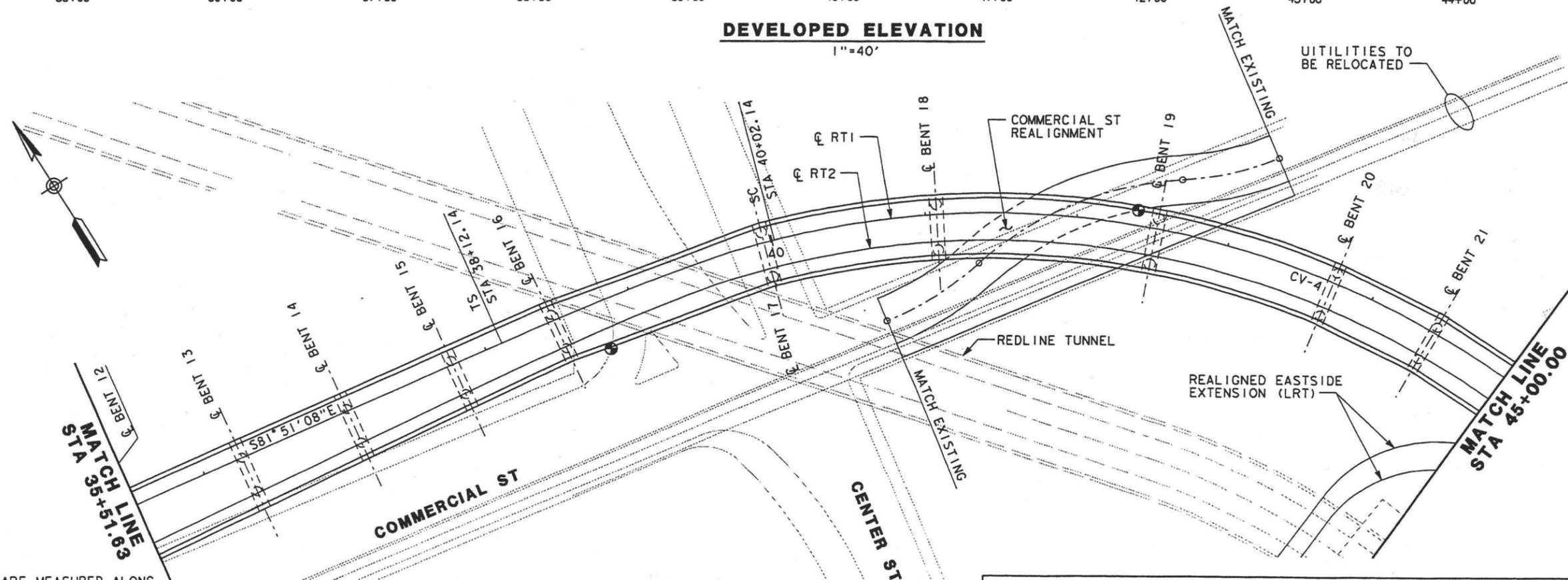
**GENERAL PLAN NO. 1**  
**SEGMENT 1 TO SEGMENT 4**

CONTRACT NO. \_\_\_\_\_  
DRAWING NO. S-1  
SCALE 1" = 40'  
SHEET NO. 136





**DEVELOPED ELEVATION**  
1"=40'



**PLAN**  
1"=40'

**NOTES:**

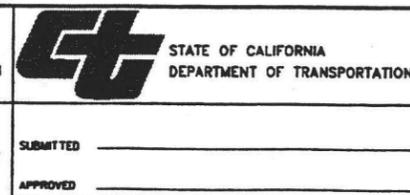
1. ALL SPANS ARE MEASURED ALONG  $\bar{C}$  RUN-THROUGH TRACK RT1.
2. DIMENSION SHOWN IN ( ) IS METRIC.
3.  $\odot$  INDICATES POINTS OF MINIMUM VERTICAL CLEARANCE.
4. ALL SPANS ARE SIMPLY SUPPORTED.

CURVE DATA										
CURVE NO	DEG OF CURVE	Radius	Length	Tangent	Delta	Ls (IN)	Ls (OUT)	Ea	Eu	V Pass
CV-4	10°00'00"	572.96'	757.24'	445.43'	94°43'28"	190.00'	190.00'	2.50"	4.00"	30 mph
		(174.64m)	(230.81m)	(135.77m)		(57.91m)	(57.91m)	(64mm)	(102mm)	(48km/h)

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REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL
1/10/03					25% DESIGN SUBMITTAL

DESIGNED BY J. SCHRÖDERLUCKE
DRAWN BY J. MAY
CHECKED BY K. WANG
IN CHARGE S. CHOU
DATE MAR 10, 2003

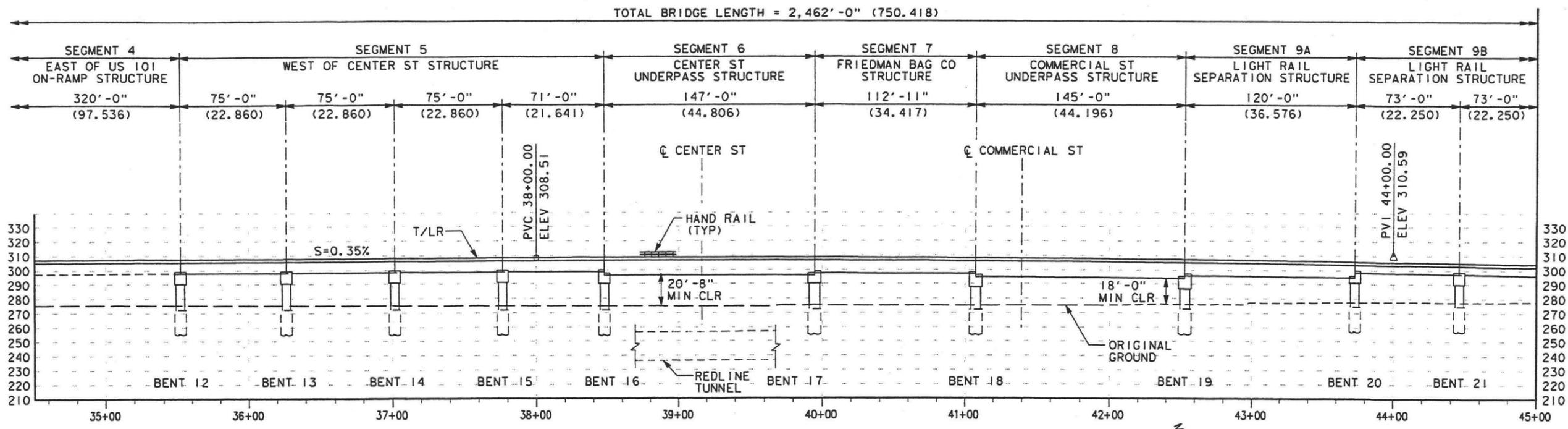


**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

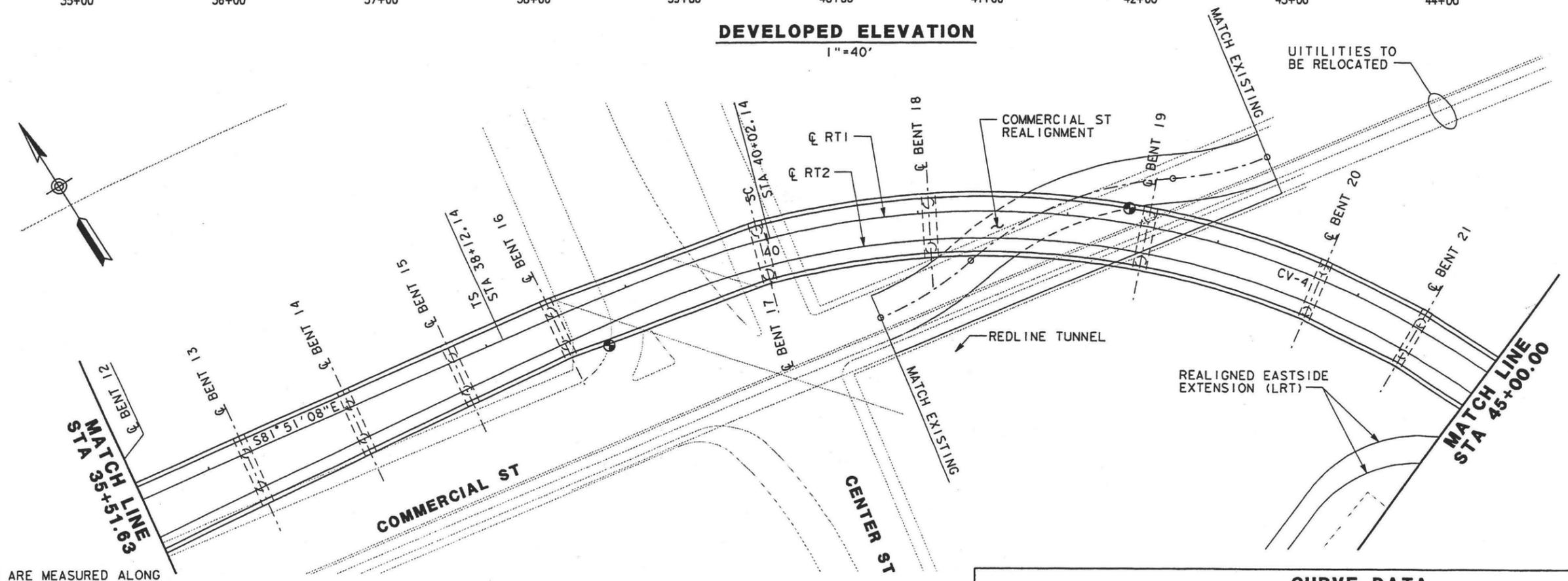
**GENERAL PLAN NO. 2  
SEGMENT 5 TO SEGMENT 9**

CONTRACT NO.	
DRAWING NO.	S-2
SCALE	1"=40'
SHEET NO.	137





**DEVELOPED ELEVATION**  
1" = 40'



**PLAN**  
1" = 40'

- NOTES:**
1. ALL SPANS ARE MEASURED ALONG  $\bar{C}$  RUN-THROUGH TRACK RT1.
  2. DIMENSION SHOWN IN ( ) IS METRIC.
  3.  $\odot$  INDICATES POINTS OF MINIMUM VERTICAL CLEARANCE.
  4. ALL SPANS ARE SIMPLY SUPPORTED.

CURVE DATA										
CURVE NO	DEG OF CURVE	Radius	Length	Tangent	Delta	Ls (IN)	Ls (OUT)	Ea	Eu	V Pass
CV-4	10°00'00"	572.96'	757.24'	445.43'	94°43'28"	190.00'	190.00'	2.50"	4.00"	30 mph
		(174.64m)	(230.81m)	(135.77m)		(57.91m)	(57.91m)	(64mm)	(102mm)	(48km/h)

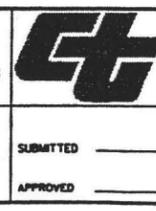
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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY  
J. SCHROERLUCKE  
 DRAWN BY  
J. MAY  
 CHECKED BY  
K. WANG  
 IN CHARGE  
S. CHOU  
 DATE  
MAR 10, 2003



NATIONAL RAILROAD  
PASSENGER CORPORATION



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION



HDR Engineering, Inc.

SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**GENERAL PLAN NO. 2**  
**SEGMENT 5 TO SEGMENT 9**

CONTRACT NO.	
DRAWING NO.	REV
S-2	
SCALE	1" = 40'
SHEET NO.	137









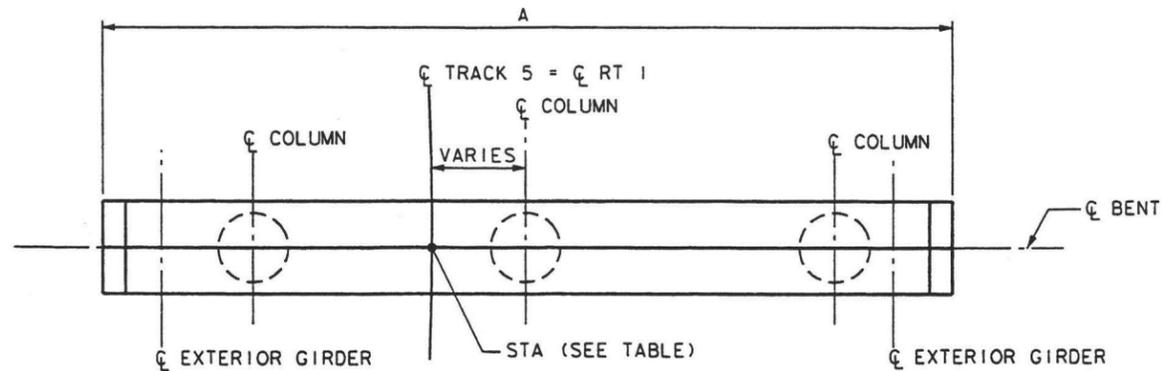








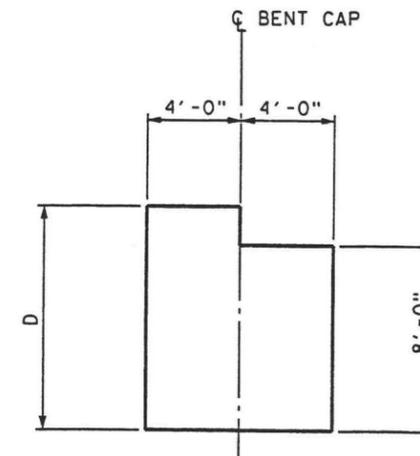




**PLAN**

1/8" = 1'-0"

(BENT 7 SHOWN, BENTS 2 TO 5 & BENTS 8 TO 12 SIMILAR)

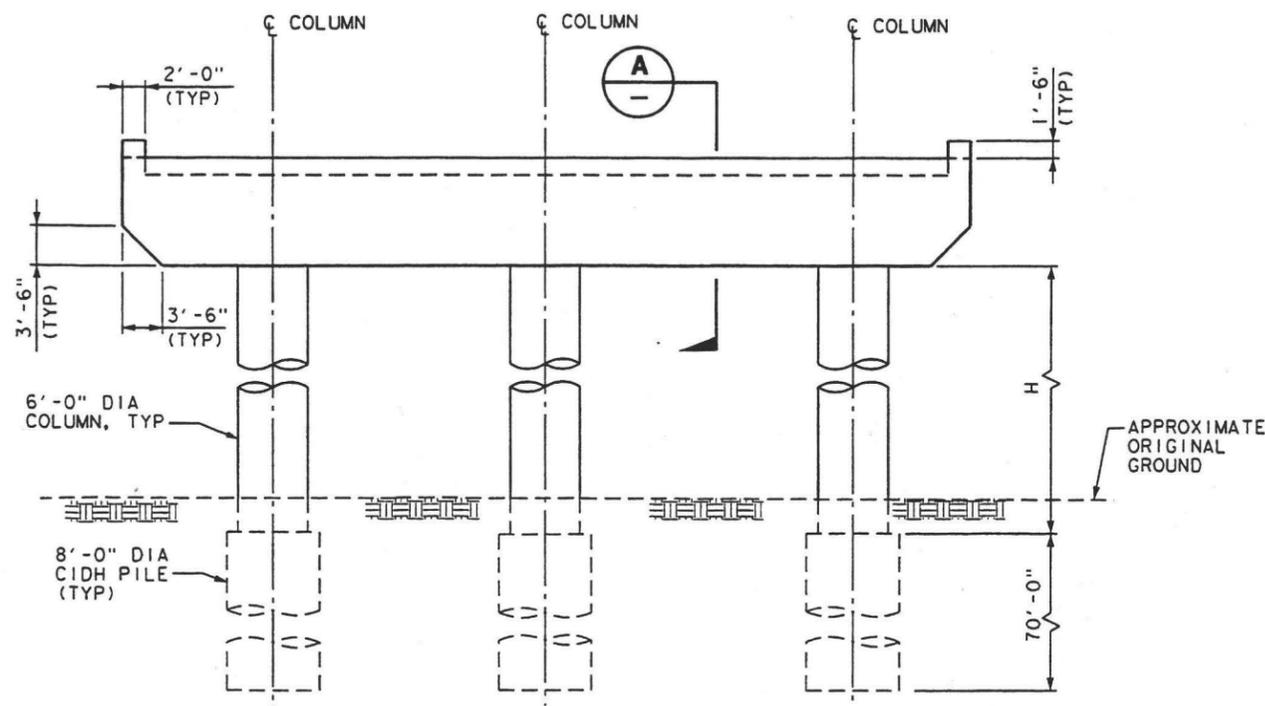


**SECTION**



1/4" = 1'-0"

NOTE: BENT 5 MIRROR IMAGE



**ELEVATION**

1/8" = 1'-0"

(BENT 7 SHOWN, BENTS 2 TO 5 & BENTS 8 TO 12 SIMILAR)

DIMENSIONS					
BENT NO.	STATION	NO. OF COLUMNS	A	D	H
2	27+12.13	3	81'-6"	9'-1"	10'-0"
3	27+92.63	3	77'-6"	9'-0"	11'-6"
4	28+94.30	3	88'-0"	9'-8"	11'-6"
5	30+22.80	4	121'-0"	8'-7"	13'-3"
7	31+43.38	3	73'-4"	8'-6"	15'-9"
8	32+43.55	3	73'-4"	9'-10"	14'-6"
9	33+11.63	3	73'-0"	8'-0"	15'-0"
10	33+91.63	3	65'-0"	8'-0"	15'-0"
11	34+71.63	2	54'-8"	8'-0"	15'-3"
12	35+51.63	2	51'-0"	8'-0"	16'-6"

DATESS STIMES

FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					352 DESIGN SUBMITTAL						

DESIGNED BY DD
DRAWN BY LR
CHECKED BY FM
IN CHARGE PM
DATE MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD  
PASSENGER CORPORATION

**DMJM HARRIS**  
3800 Kilroy Airport Way, Suite 350  
Long Beach, CA 90806

**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_

APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**BENT PLAN & ELEVATION NO. 1  
(BENTS 2 TO 5, 7 AND 8 TO 12)**

CONTRACT NO.	
DRAWING NO.	S-7
SCALE	AS SHOWN
SHEET NO.	142

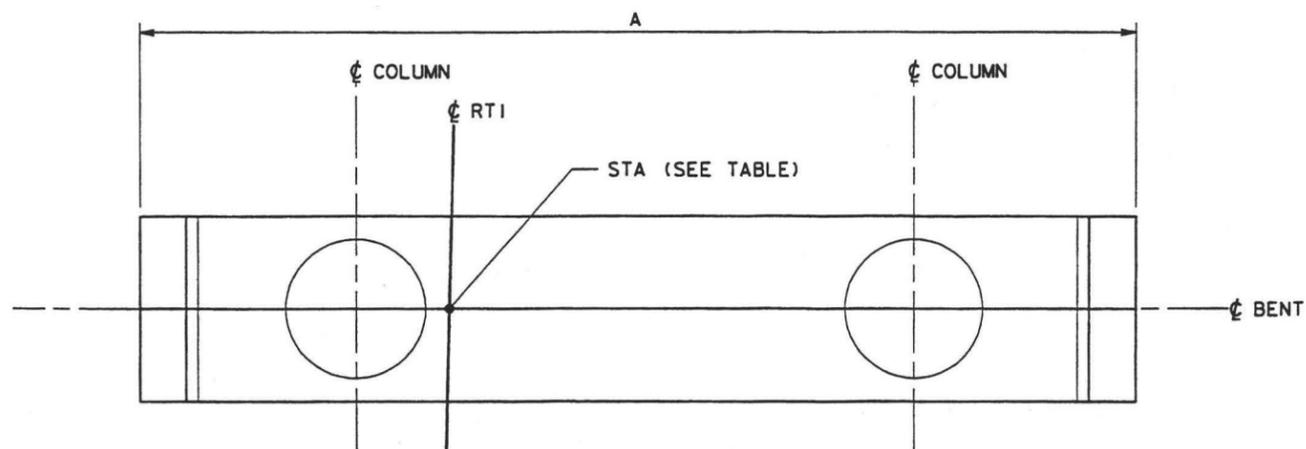




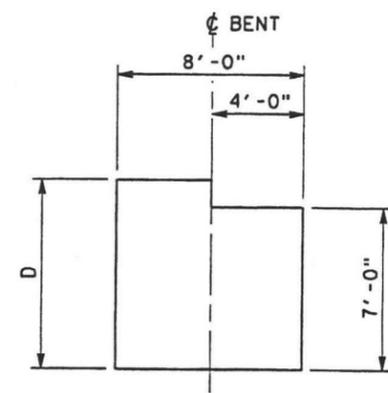




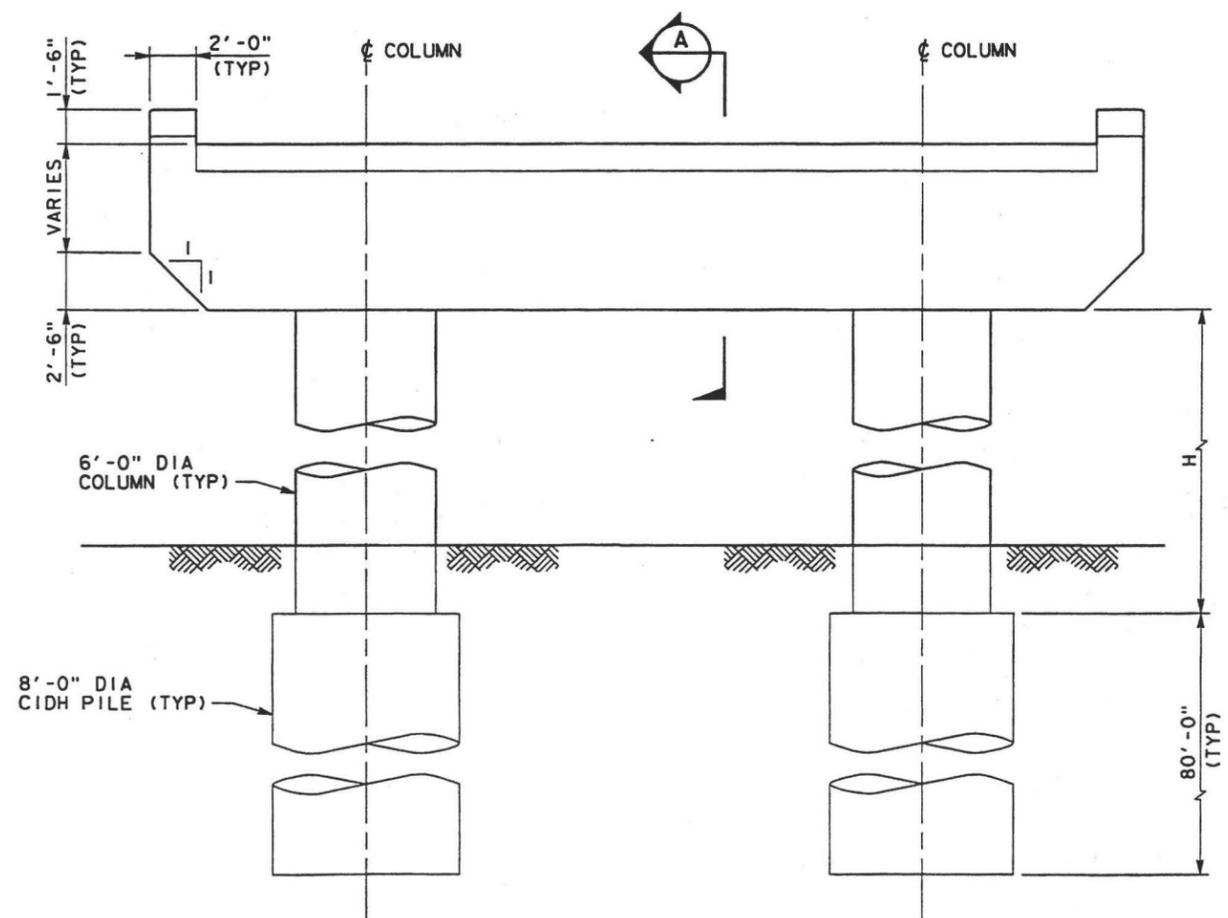




**PLAN**  
 $\frac{1}{4}'' = 1'-0''$   
 (BENT 16 SHOWN, BENT 20 MIRROR)



**SECTION A-A**  
 $\frac{1}{4}'' = 1'-0''$



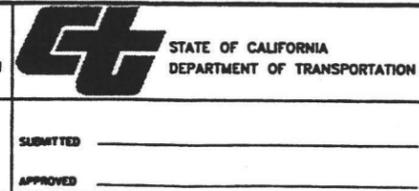
**ELEVATION**  
 $\frac{1}{4}'' = 1'-0''$

DIMENSIONS				
BENT	STATION	A	D	H
16	38+47.70	42'-10 $\frac{1}{4}$ "	10'-4"	16'-6"
20	43+72.60	42'-10 $\frac{3}{8}$ "	8'-4"	13'-0"

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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
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	1/10/03				25% DESIGN SUBMITTAL						

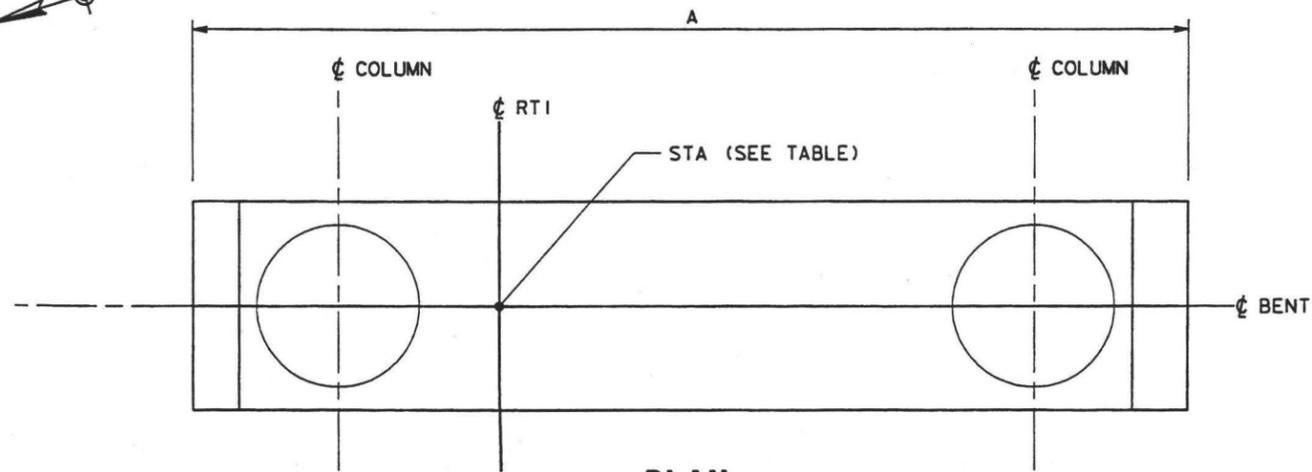
DESIGNED BY  
 E. KIM  
 DRAWN BY  
 J. MAY  
 CHECKED BY  
 J. LEE  
 IN CHARGE  
 S. CHOU  
 DATE  
 MAR 10, 2003



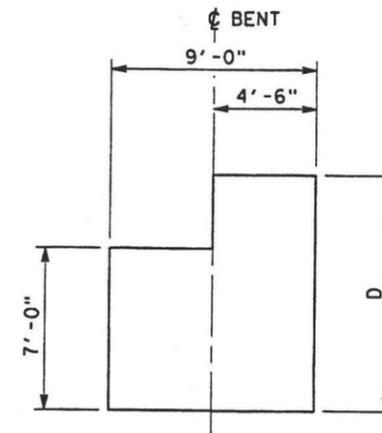
**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**  
**BENT PLAN & ELEVATION NO. 4**  
**(BENTS 16 AND 20)**

CONTRACT NO.	
DRAWING NO.	REV
S-10	
SCALE $\frac{1}{4}'' = 1'-0''$	
SHEET NO. 145	

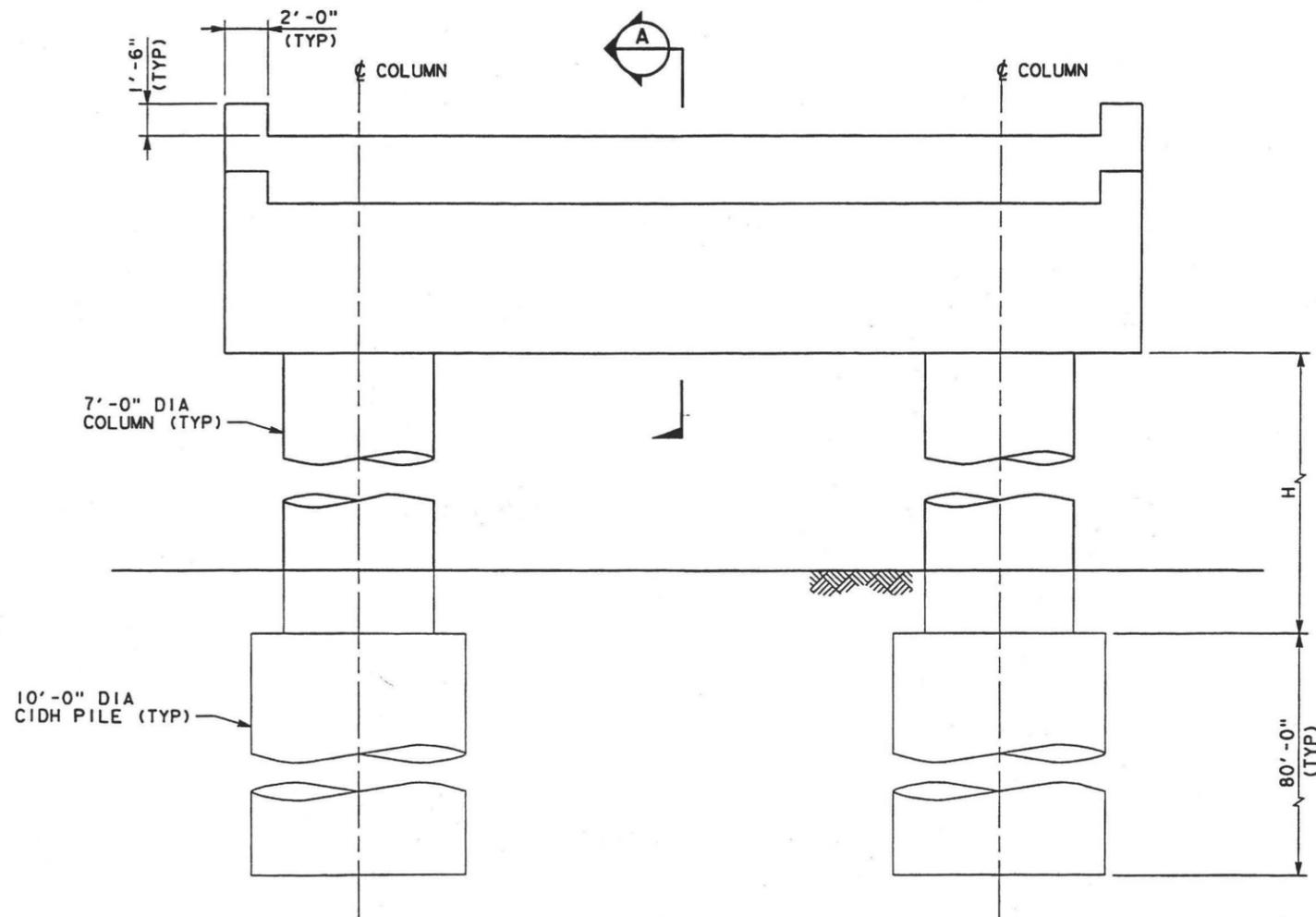




**PLAN**  
 $\frac{1}{4}'' = 1'-0''$   
 (BENT 17 SHOWN, BENT 18 MIRROR)



**SECTION A-A**  
 $\frac{1}{4}'' = 1'-0''$



**ELEVATION**  
 $\frac{1}{4}'' = 1'-0''$

DIMENSIONS				
BENT	STATION	A	D	H
17	39+94.70	42'-11"	9'-0"	15'-9"
18	41+07.60	42'-6"	9'-0"	15'-8"
19	42+52.60	42'-6"	9'-0"	14'-8"

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REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL
1/10/03					25% DESIGN SUBMITTAL

DESIGNED BY E. KIM
DRAWN BY J. MAY
CHECKED BY J. LEE
IN CHARGE S. CHOU
DATE MAR 10, 2003

**AMTRAK**  
 NATIONAL RAILROAD  
 PASSENGER CORPORATION

**HDR**  
 HDR Engineering, Inc.

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION**  
**RUN-THROUGH TRACKS**

**BENT PLAN & ELEVATION NO. 5**  
 (BENTS 17 TO 19)

CONTRACT NO.	
DRAWING NO.	S-11
SCALE	$\frac{1}{4}'' = 1'-0''$
SHEET NO.	146

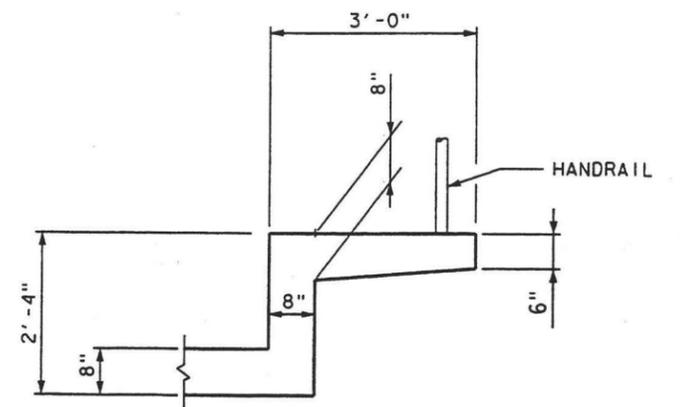
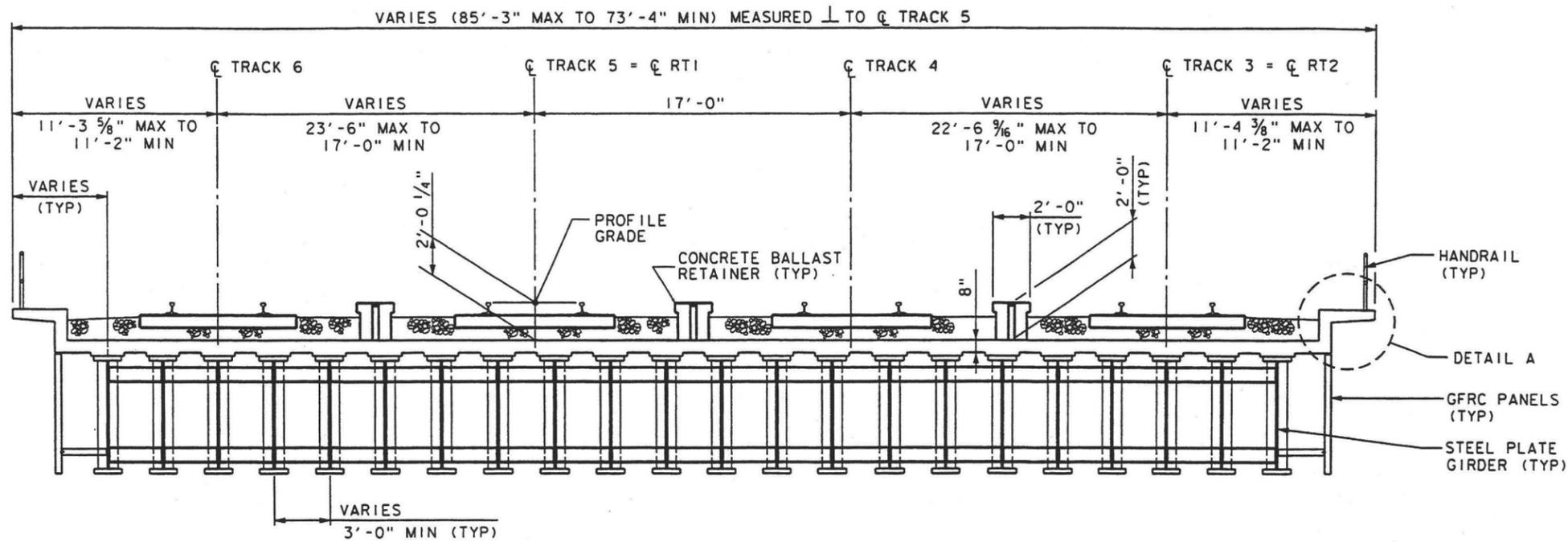






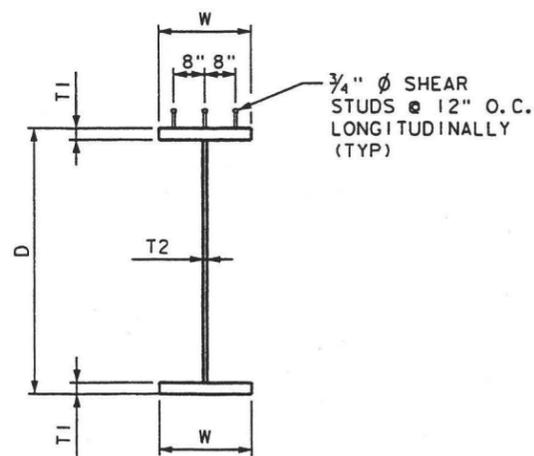






**DETAIL A**  
3/4" = 1'-0"

**TYPICAL SECTION**  
1/4" = 1'-0"  
(SEGMENTS 1 TO 3)



**PLATE GIRDER SECTION**  
1/2" = 1'-0"

DIMENSIONS					
LOCATION	NO. OF GIRDER	D	T1	T2	W
ABUT 1 - BENT 2	24	3'-0"	3"	3/4"	1'-6"
BENT 2 - BENT 3	23	4'-1"	3"	3/4"	2'-0"
BENT 3 - BENT 4	22	5'-1"	3"	1"	2'-0"
BENT 4 - BENT 5	22	6'-9"	3"	1 1/2"	2'-0"
BENT 5 - BENT 6	22	6'-2"	3"	3/4"	1'-6"
BENT 6 - BENT 7	22	5'-0"	3"	3/4"	1'-6"
BENT 7 - BENT 8	22	5'-6"	3"	1"	2'-0"

DATESS STIMES

FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITAL						

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MAR 10, 2003

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NATIONAL RAILROAD  
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**DMJM HARRIS**  
3800 Kilroy Airport Way, Suite 350  
Long Beach, CA 90806

**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

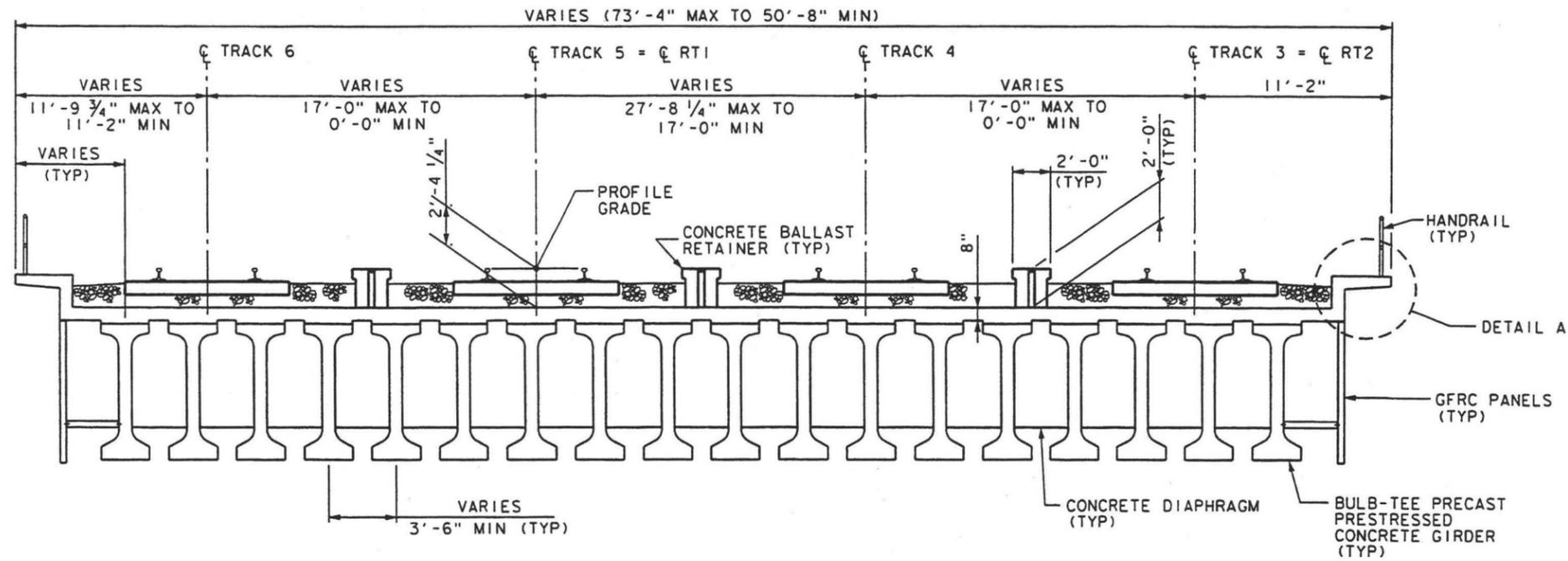
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**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TYPICAL SECTION NO. 1  
SEGMENT 1 TO SEGMENT 3**

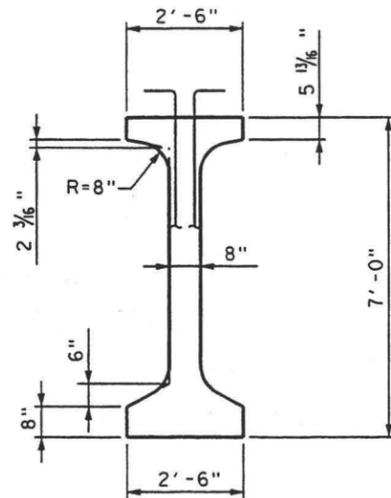
CONTRACT NO.	
DRAWING NO.	S-14
SCALE	1/4" = 1'-0"
SHEET NO.	149





**TYPICAL SECTION**

1/4" = 1'-0"  
(SEGMENT 4)



**BULB TEE GIRDER SECTION**

1/2" = 1'-0"

LOCATION	NO. OF GIRDERS
BENT 8 - BENT 9	17
BENT 9 - BENT 10	17
BENT 10 - BENT 11	14
BENT 11 - BENT 12	13

DATESS STIMES FILE NAMES

REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITAL						

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 3800 Kilroy Airport Way, Suite 350  
 Long Beach, CA 90806

**CT** STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**

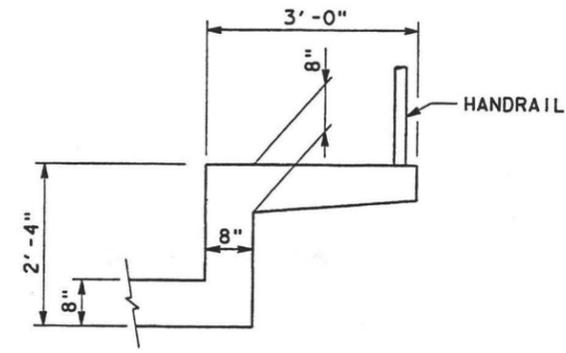
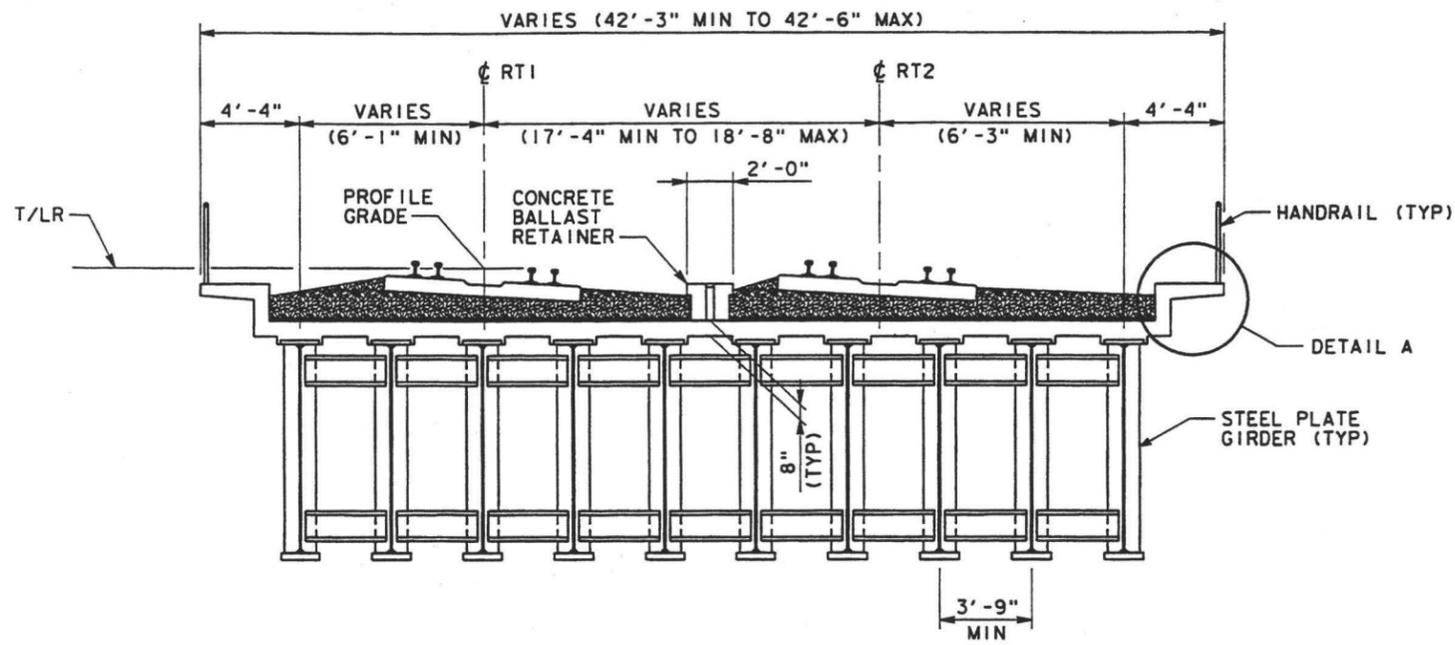
**TYPICAL SECTION NO. 2  
 SEGMENT 4**

CONTRACT NO.	
DRAWING NO. S-15	REV
SCALE AS SHOWN	
SHEET NO. 150	



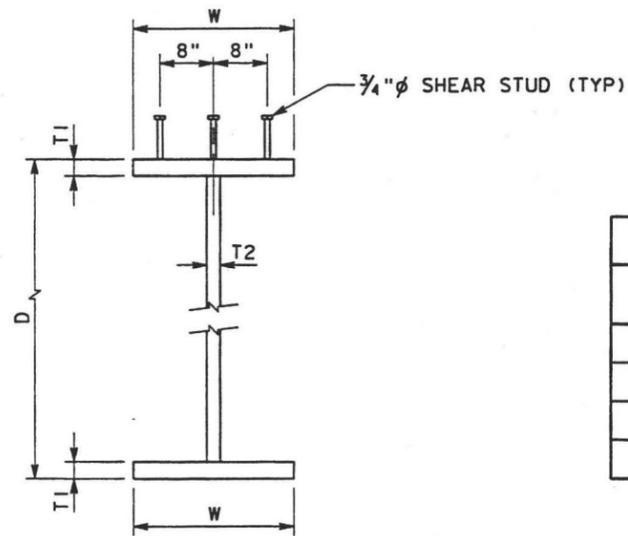






**DETAIL A**  
3/4" = 1'-0"

**TYPICAL SECTION**  
1/4" = 1'-0"



**PLATE GIRDER SECTION**  
NOT TO SCALE

DIMENSIONS					
LOCATION	NO. OF GIRDERS	D	T1	T2	W
BENT 16 - BENT 17	10	10'-4"	1 1/2"	1"	2'-6"
BENT 17 - BENT 18	10	8'-4"	1 1/2"	1"	2'-6"
BENT 18 - BENT 19	10	10'-4"	1 1/2"	1"	2'-6"
BENT 19 - BENT 20	10	8'-4"	1 1/2"	1"	2'-6"

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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY  
J. LEE  
 DRAWN BY  
J. MAY  
 CHECKED BY  
J. BANNASH  
 IN CHARGE  
S. CHOU  
 DATE  
MAR 10, 2003

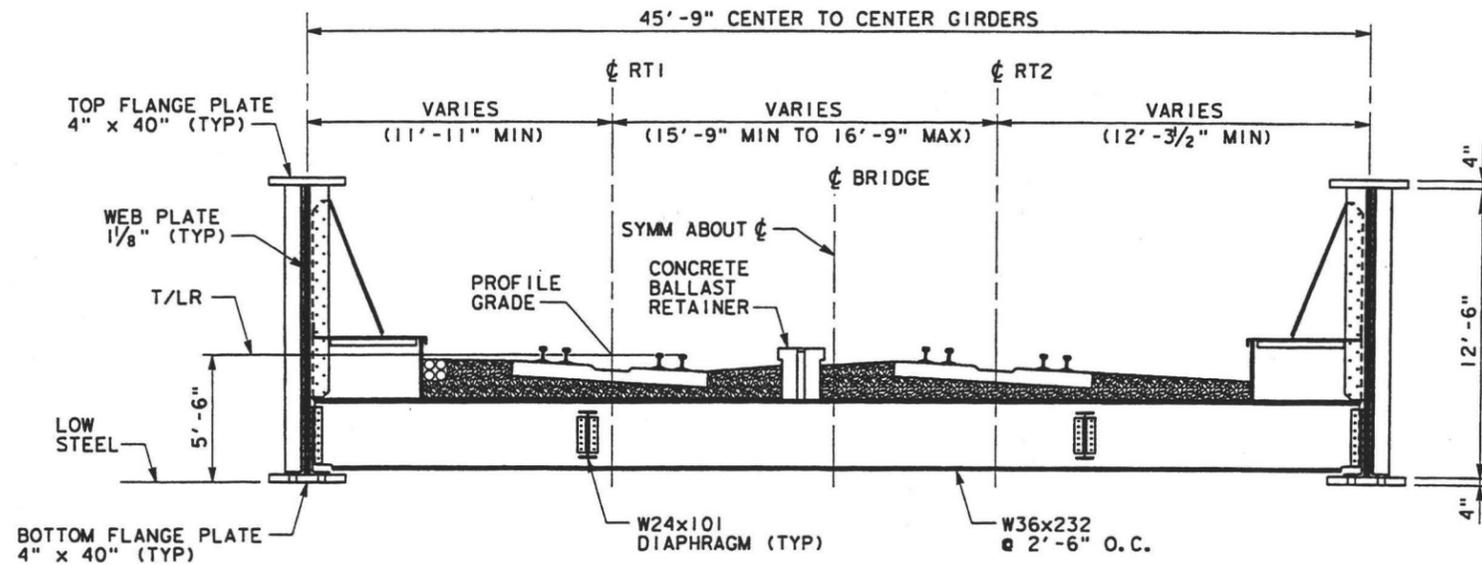
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 HDR Engineering, Inc.

 STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**TYPICAL SECTION NO. 4  
 SEGMENTS 6, 7, 8 AND 9A**

CONTRACT NO.	
DRAWING NO.	REV
S-17	
SCALE	
AS SHOWN	
SHEET NO.	
152	





**TYPICAL SECTION**

1/4" = 1'-0"

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REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL
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DRAWN BY J. MAY
CHECKED BY K. WANG
IN CHARGE S. CHOU
DATE MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD  
PASSENGER CORPORATION

**HDR** HDR Engineering, Inc.

**CT** STATE OF CALIFORNIA  
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SUBMITTED \_\_\_\_\_

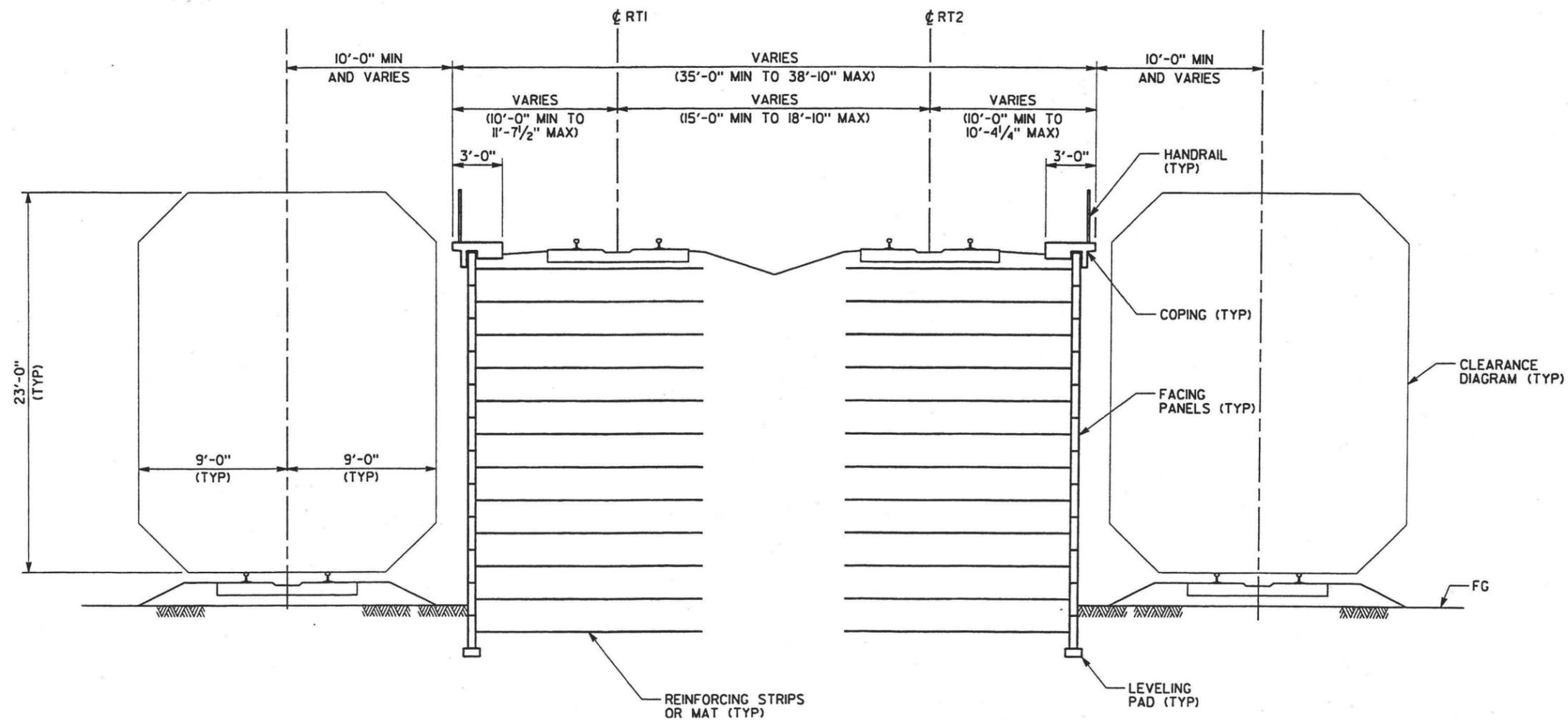
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**

**TYPICAL SECTION NO. 5  
SEGMENT 10**

CONTRACT NO.	
DRAWING NO.	S-18
SCALE	1/4" = 1'-0"
SHEET NO.	153





**TYPICAL SECTION  
APPROACH RETAINING WALLS**  
1/4" = 1'-0"

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03/31/2003 08:33:25 PM

REV	DATE	BY	SUB	APP	DESCRIPTION
3/10/03					35% DESIGN SUBMITTAL
1/10/03					25% DESIGN SUBMITTAL

DESIGNED BY  
J. SCHROERLUCKE  
DRAWN BY  
J. MAY  
CHECKED BY  
K. WANG  
IN CHARGE  
S. CHOU  
DATE  
MAR 10, 2003

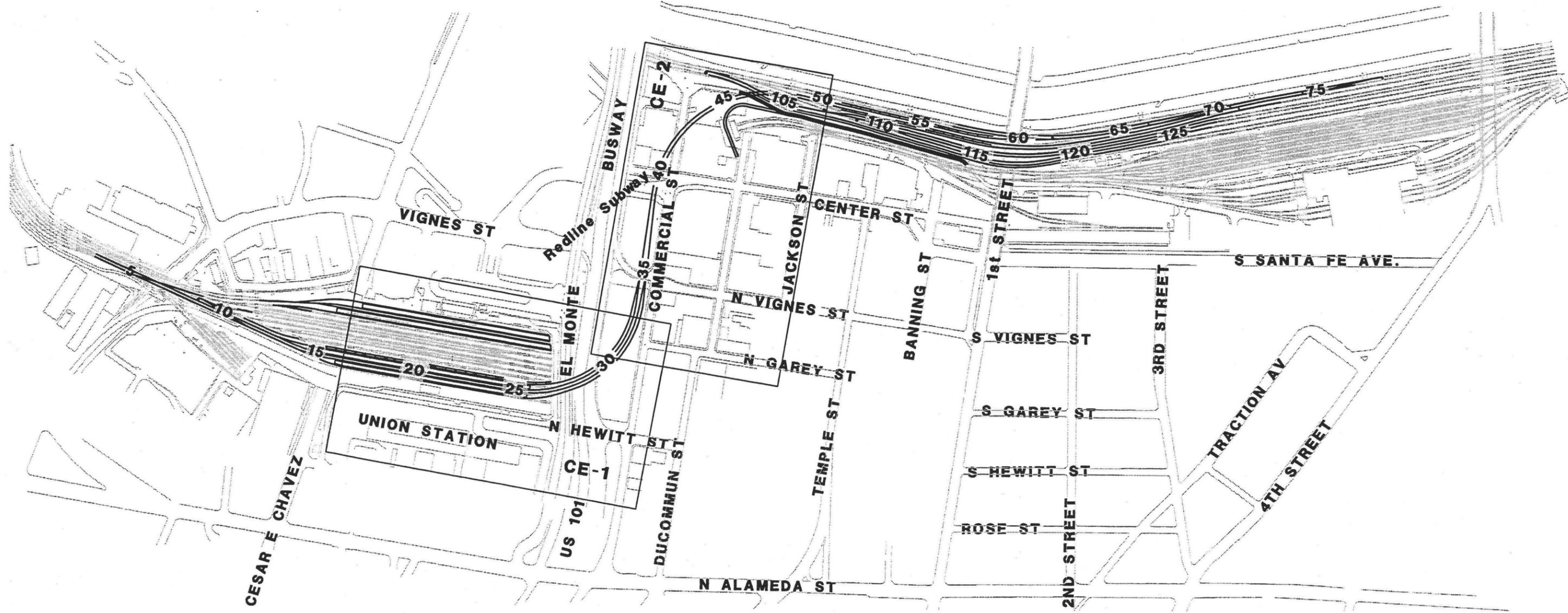


STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
RUN-THROUGH TRACKS**  
**TYPICAL SECTION NO. 6  
SEGMENT 12**

CONTRACT NO.	
DRAWING NO.	REV
S-19	
SCALE 1/4" = 1'-0"	
SHEET NO. 154	





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REV	DATE	BY	SUB	APP	DESCRIPTION	REV	DATE	BY	SUB	APP	DESCRIPTION
	3/10/03				35% DESIGN SUBMITTAL						
	1/10/03				25% DESIGN SUBMITTAL						

DESIGNED BY  
 RW  
 DRAWN BY  
 JM  
 CHECKED BY  
 ME  
 IN CHARGE  
 TTK  
 DATE  
 MAR 10, 2003


 NATIONAL RAILROAD  
 PASSENGER CORPORATION  



 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION  
 RUN-THROUGH TRACKS**  
**RIGHT OF WAY AND  
 EASEMENT KEY MAP**

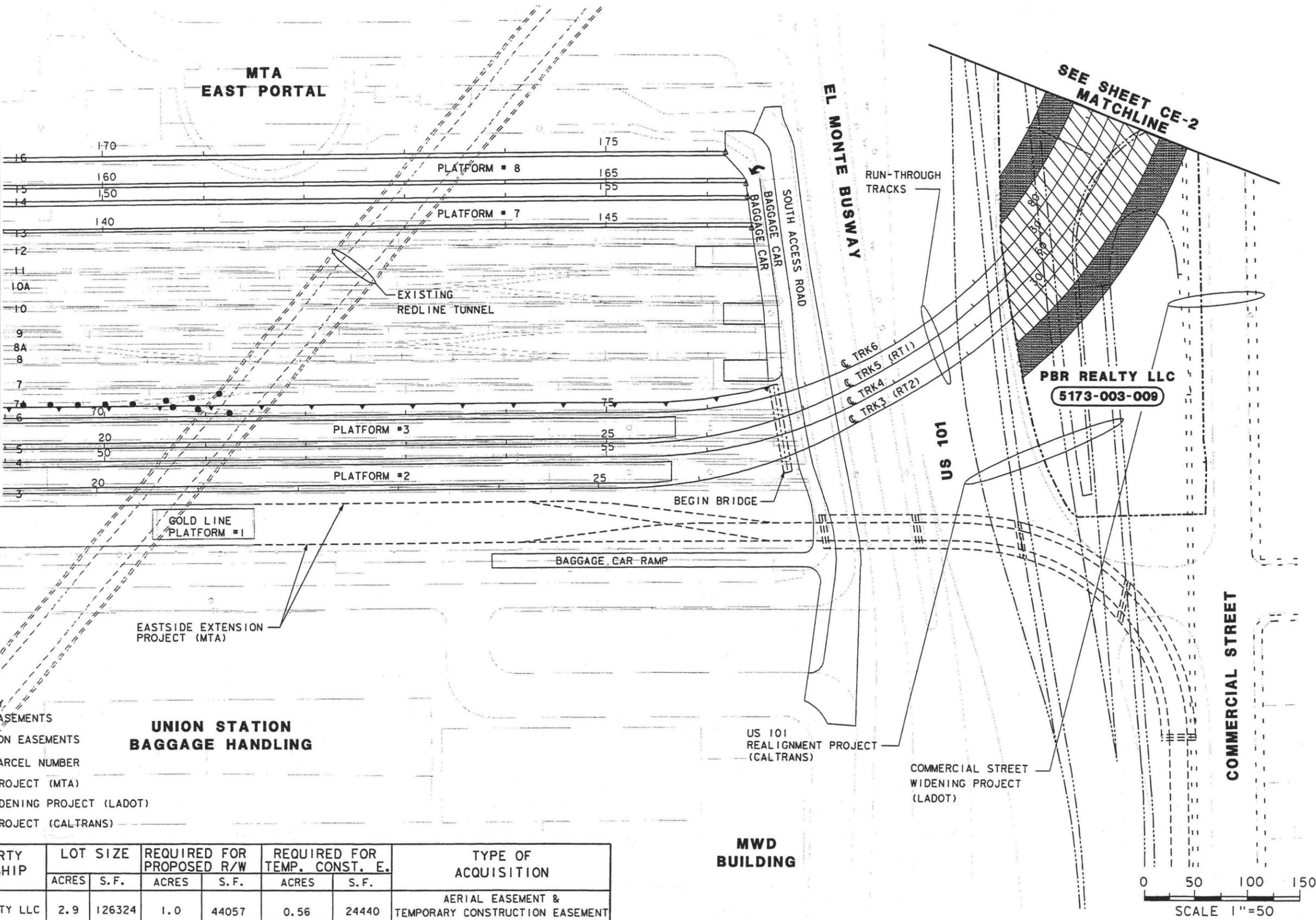
CONTRACT NO.	
DRAWING NO.	K-4
SCALE	N/A
SHEET NO.	155



**GENERAL NOTE**

IT IS ASSUMED THAT FOR THIS PROJECT, AMTRAK AND METROLINK WILL OPERATE ON EXISTING RIGHT OF WAY AND OR OPERATING AGREEMENTS OWNED BY BURLINGTON NORTHERN AND SANTA FE RAILROAD (BNSF) AND LOS ANGELES COUNTY METROPOLITAN TRANSIT AUTHORITY (LACMTA). THE EXISTING AGREEMENTS WILL BE MODIFIED TO PROVIDE FOR RECONSTRUCTION OF THE TRACKS LEADING IN TO UNION STATION FROM THE NORTH AND TERMINATING IN THE BNSF AND LACMTA RIGHT OF WAY ALONG THE LOS ANGELES RIVER ON THE SOUTH.

AN ENCROACHMENT PERMIT WILL BE REQUIRED FROM CALTRANS TO CROSS WITH AN AERIAL STRUCTURE OVER THE ACCESS ROAD, EL MONTE BUS WAY AND 101 FREEWAY WHICH BOUND THE UNION STATION ON THE SOUTH.



**LEGEND**

- PROPOSED RIGHT OF WAY ACQUISITIONS/SLOPE EASEMENTS
- TEMPORARY CONSTRUCTION EASEMENTS
- INDICATES ASSESSOR PARCEL NUMBER
- EASTSIDE EXTENSION PROJECT (MTA)
- COMMERCIAL STREET WIDENING PROJECT (LADOT)
- US 101 REALIGNMENT PROJECT (CALTRANS)

**UNION STATION BAGGAGE HANDLING**

ASSESSOR PARCEL NO.	PROPERTY OWNERSHIP	LOT SIZE		REQUIRED FOR PROPOSED R/W		REQUIRED FOR TEMP. CONST. E.		TYPE OF ACQUISITION
		ACRES	S. F.	ACRES	S. F.	ACRES	S. F.	
5173-003-009	PBR REALTY LLC	2.9	126324	1.0	44057	0.56	24440	AERIAL EASEMENT & TEMPORARY CONSTRUCTION EASEMENT

REV	DATE	BY	SUB	APP	DESCRIPTION

DESIGNED BY	
DRAWN BY	JYM
CHECKED BY	JR
IN CHARGE	JR
DATE	MAR 10, 2003

**AMTRAK**  
NATIONAL RAILROAD PASSENGER CORPORATION

**CT** STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

Paragon Partners Ltd

SUBMITTED \_\_\_\_\_

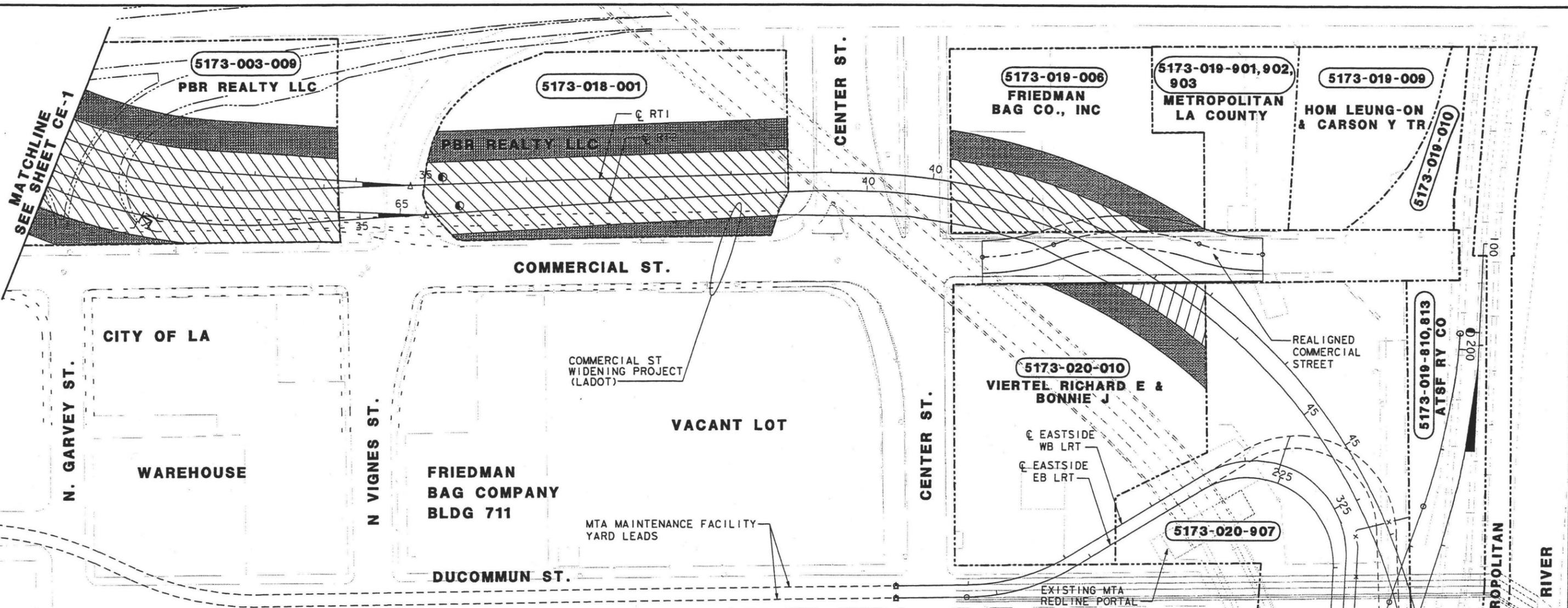
APPROVED \_\_\_\_\_

**LOS ANGELES UNION STATION RUN-THROUGH TRACKS RIGHT OF WAY & CONSTRUCTION EASEMENT PLAN**

CONTRACT NO.	
DRAWING NO.	CE-1
SCALE	1"=50'
SHEET NO.	156

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**LEGEND**

PROPOSED RIGHT OF WAY ACQUISITIONS/SLOPE EASEMENTS

TEMPORARY CONSTRUCTION EASEMENTS

INDICATES ASSESSOR PARCEL NUMBER

EASTSIDE EXTENSION PROJECT (MTA)

COMMERCIAL STREET WIDENING PROJECT (LADOT)

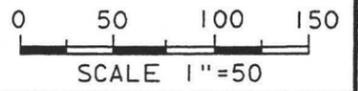
US 101 REALIGNMENT PROJECT (CALTRANS)

**GENERAL NOTE**

IT IS ASSUMED THAT FOR THIS PROJECT, AMTRAK AND METROLINK WILL OPERATE ON EXISTING RIGHT OF WAY AND OR OPERATING AGREEMENTS OWNED BY BURLINGTON NORTHERN AND SANTA FE RAILROAD (BNSF) AND LOS ANGELES COUNTY METROPOLITAN TRANSIT AUTHORITY (LACMTA). THE EXISTING AGREEMENTS WILL BE MODIFIED TO PROVIDE FOR RECONSTRUCTION OF THE TRACKS LEADING IN TO UNION STATION FROM THE NORTH AND TERMINATING IN THE BNSF AND LACMTA RIGHT OF WAY ALONG THE LOS ANGELES RIVER ON THE SOUTH.

AN ENCROACHMENT PERMIT WILL BE REQUIRED FROM THE CITY OF LOS ANGELES TO CROSS OVER COMMERCIAL STREET, VIGNES STREET AND CENTER STREET.

ASSESSOR PARCEL No.	PROPERTY OWNERSHIP	LOT SIZE		REQUIRED FOR PROPOSED R/W		REQUIRED FOR TEMP. CONST. E.		TYPE OF ACQUISITION
		ACRES	S. F.	ACRES	S. F.	ACRES	S. F.	
5173-003-009	PBR REALTY LLC	2.9	126324	1.0	44057	0.56	24440	AERIAL EASEMENT & TEMPORARY CONSTRUCTION EASEMENT
5173-018-001	PBR REALTY LLC	1.34	39920	0.54	23737	0.24	10499	AERIAL EASEMENT & TEMPORARY CONSTRUCTION EASEMENT
5173-019-006	FRIEDMAN BAG CO.	0.949	41338	0.19	8332	0.068	2984	TOTAL TAKE
5173-020-010	VIERTEL & ET UX.	1.41	61419	0.054	2566	0.104	4560	PERMANENT EASEMENT & TEMPORARY CONSTRUCTION EASEMENT
5173-020-901, 905, 903, 902, 906, 907, 908, 909	LA COUNTY METROPOLITAN	2.128	92699	0.58	25308	0.573	24972	PERMANENT EASEMENT & TEMPORARY CONSTRUCTION EASEMENT



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DESIGNED BY	
DRAWN BY	JM
CHECKED BY	JR
IN CHARGE	JR
DATE	MAR 10, 2003

3/10/03	35% DESIGN SUBMITTAL
1/10/03	25% DESIGN SUBMITTAL

NATIONAL RAILROAD PASSENGER CORPORATION

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

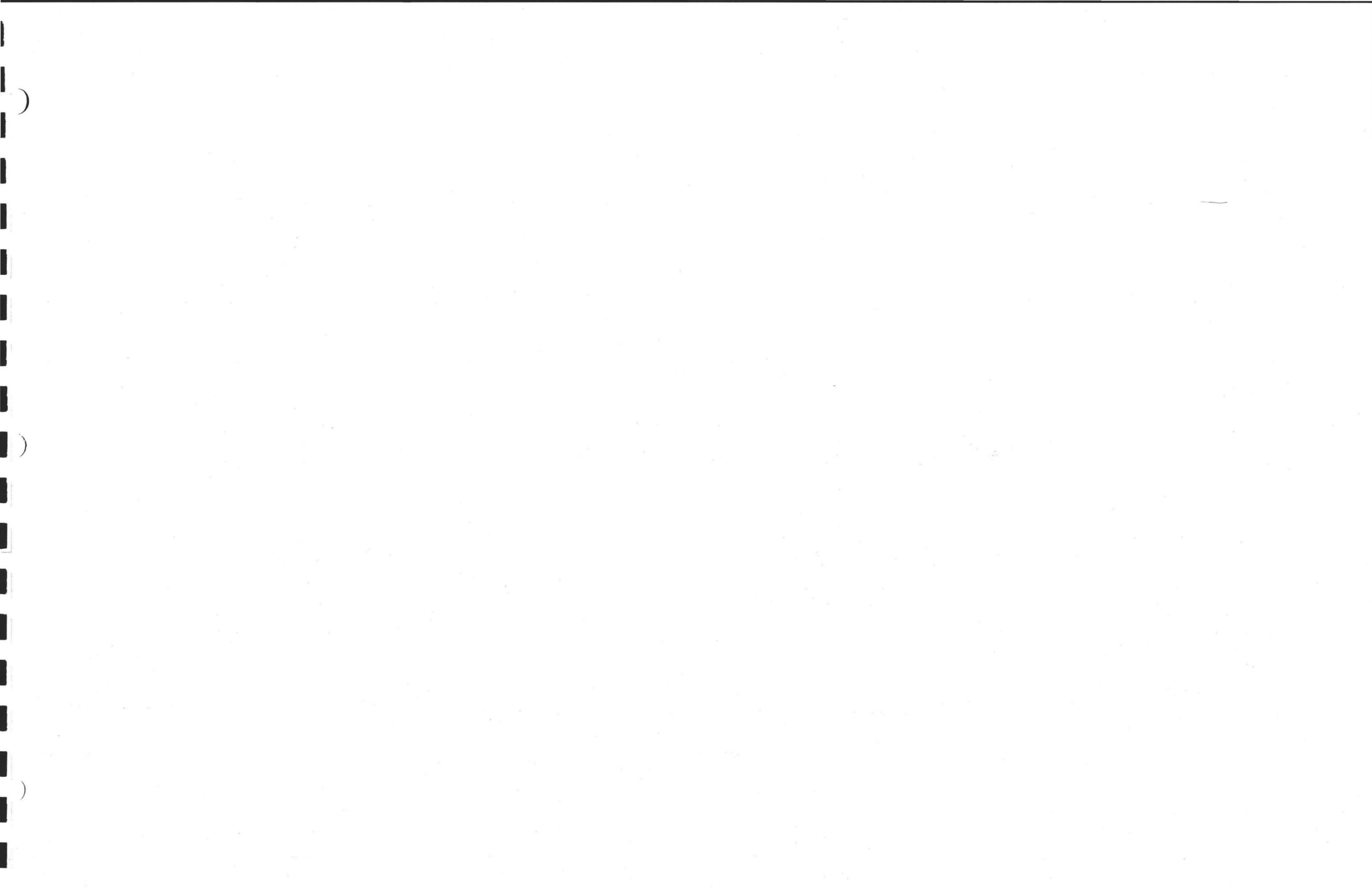
Paragon Partners Ltd.

SUBMITTED \_\_\_\_\_

APPROVED \_\_\_\_\_

<b>LOS ANGELES UNION STATION RUN-THROUGH TRACKS RIGHT OF WAY &amp; CONSTRUCTION EASEMENT PLAN</b>	
CONTRACT NO.	
DRAWING NO.	CE-2
SCALE	1"=50'
SHEET NO.	157







HE 2781 .L67 L675 2003 v.3 App.  
Los Angeles Union Station run-  
through tracks project...

DATE DUE			

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**LOS ANGELES, CA 90012**

**--- 37285**

