

30681552

VOLUME V
DIRECTIVE DRAWINGS
TRACKWORK

MTA BASELINE DOCUMENT
NO. R92-DE305.01

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BASELINE STATUS REPORT: DIRECTIVE/STANDARD DRAWINGS

DRAWING NO.	REV.	DATE MODIFIED	DRAWING TITLE / Change Title	REMARKS
<u>R92-DE305-01</u> DIRECTIVE DRAWINGS: TRACKWORK				
TD-000	0	05/18/94	INDEX OF DRAWINGS Baseline issue	
TD-002	0	05/18/94	TURNOUT DATA Baseline issue	
TD-003	0	05/18/94	DOUBLE CROSSOVER DATA TANGENT TRACK BETWEEN TURNOUTS AND CROSSINGS Baseline issue	
TD-004	0	05/18/94	DOUBLE CROSSOVER DATA CURVED TRACK BETWEEN TURNOUTS AND CROSSINGS Baseline issue	
TD-005	0	05/18/94	CENTER POCKET TRACK DATA Baseline issue	

DWG
NO TITLE

GENERAL

- COVER SHEET
- TITLE SHEET
- TD-000 INDEX OF DRAWINGS
- TD-002 TURNOUT DATA
- TD-003 DOUBLE CROSSOVER DATA
TANGENT TRACK BETWEEN
TURNOUTS AND CROSSINGS
- TD-004 DOUBLE CROSSOVER DATA
CURVED TRACK BETWEEN
TURNOUTS AND CROSSINGS
- TD-005 CENTER POCKET TRACK DATA

REV	DATE	BY	SUB	APP	DESCRIPTION
0	5.18.94	BY	JBV	GMC	BASELINE ISSUE

DESIGNED BY
B. YU
DRAWN BY
A. MEGERDOOMIAN
CHECKED BY
S. JOHNSON
IN CHARGE
J. VALENCIA
DATE
18 MAY 94

M LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

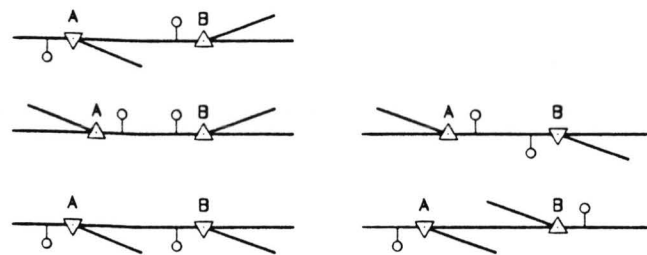
EDM/JM ENGINEERING MANAGEMENT CONSULTANT
Parsons Brinckerhoff Quade & Douglas, Inc.
 Daniel Mann, Johnson & Mendenhall
 K2-Raiser Engineers (Gulf) Corp.
 Engman-Friberg Architects
 Jerome Cole Martin, Inc.
 The Hillier Group, Inc.

SUBMITTED *J. Valencia*
 APPROVED *J. Valencia*

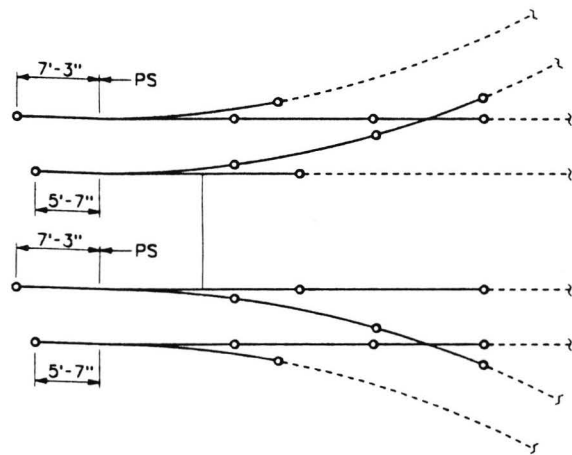
TRACKWORK DIRECTIVE

INDEX OF DRAWINGS

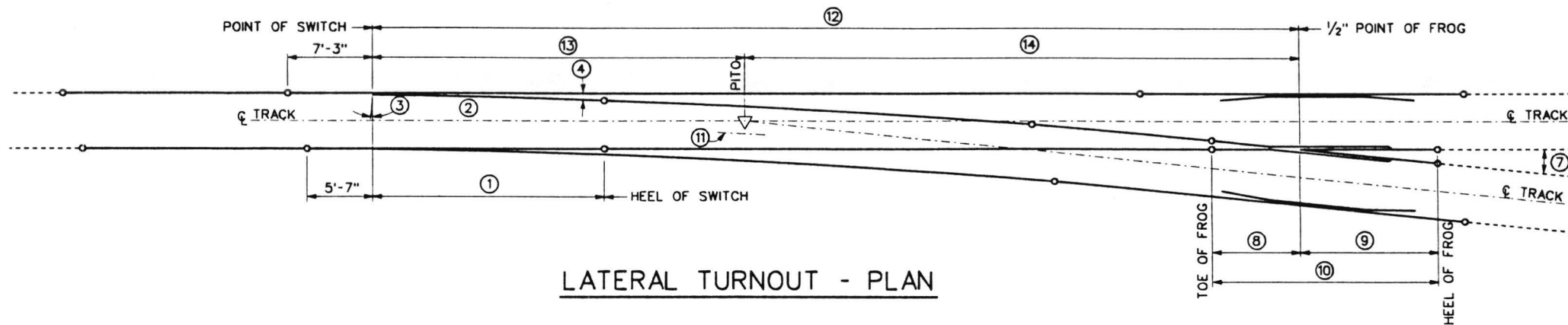
CONTRACT NO	
DRAWING NO	REV
TD-000	0
SCALE	
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SHEET NO	



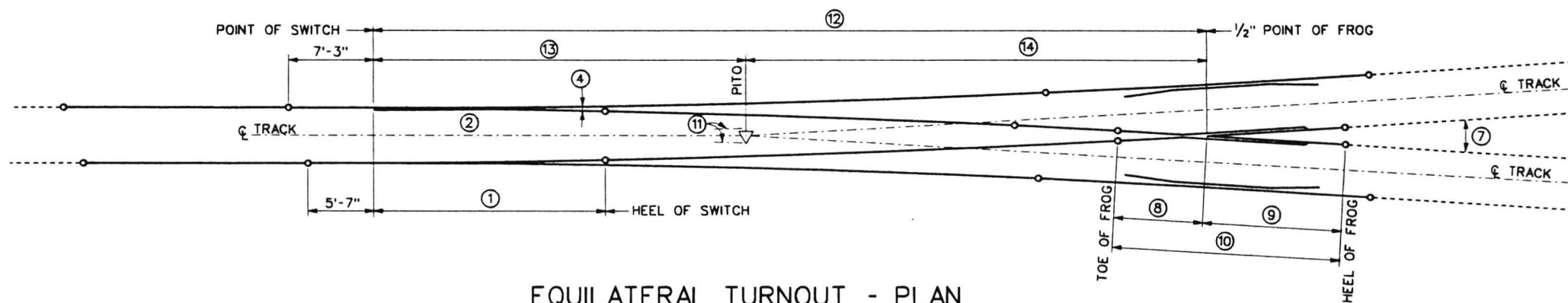
POSSIBLE SPECIAL TRACKWORK COMBINATIONS DETAIL ① TD-002



STOCK RAIL ARRANGEMENT DETAIL ② TD-002



LATERAL TURNOUT - PLAN



EQUILATERAL TURNOUT - PLAN

TURNOUT DATA															
TURNOUT NUMBER	TURNOUT TYPE	SWITCH				FROG				CURVED RADIUS	ACTUAL LEAD		PS TO PITO DISTANCE	PITO 1/2" POINT OF FROG DISTANCE	MAXIMUM SPEED THROUGH TURNOUT (NOTE 2)
		LENGTH	RADIUS	ANGLE AT POINT	HEEL ANGLE	ANGLE	LENGTH				FEET	FT IN			
		①	②	③	④	⑦	TOE	HEEL	TOTAL		⑫	⑬			
		FT IN	FEET	DEG MIN SEC	DEG MIN SEC	DEG MIN SEC	FT IN	FT IN	FT IN	FEET	FEET	FT IN	FEET	FEET	MPH
190' R	LATERAL	CURVED 11'-0"	192.40'	01° 11' 33"	04° 28' 06"	14° 15' 00"	5'-4 1/8"	5'-10 3/8"	11'-3"	190'	38.67'	38'-8"	19'-8 1/8"	18'-11 1/16"	12
5Y	EQUILATERAL	STRAIGHT 11'-0"	—	—	02° 42' 50"	11° 25' 16"	5'-1/2"	6'-3"	11'-4 1/2"	323.86'	41.60'	41'-7 1/4"	17'-8 1/8"	23'-10 3/8"	16
6	LATERAL	STRAIGHT 11'-0"	—	—	02° 42' 50"	09° 31' 38"	3'-9"	7'-3"	11'-0"	262.78'	47.50'	47'-6"	19'-0"	28'-6"	14
8	LATERAL	CURVED 19'-6"	1222.17'	01° 04' 24"	01° 59' 15"	07° 09' 10"	5'-1"	7'-11"	13'-0"	497.25'	69.67'	69'-8"	31'-8"	38'-0"	19
8Y	EQUILATERAL	CURVED 19'-6"	2444.34'	01° 04' 24"	01° 59' 15"	07° 09' 10"	5'-1"	7'-11"	13'-0"	883.14'	67.75'	67'-9"	29'-8 1/8"	38'-0 7/8"	26
645' R	LATERAL	CURVED 21'-0"	647.35'	00° 30' 00"	02° 21' 56"	06° 55' 57"	6'-5"	10'-1"	16'-6"	645'	95.00'	95'-0"	33'-7 3/4"	39'-2 1/2"	22
10	LATERAL	CURVED 19'-6"	1222.17'	01° 04' 24"	01° 59' 15"	05° 43' 29"	6'-5"	10'-1"	16'-6"	806.09'	78.92'	78'-11"	31'-5"	47'-6"	25
10Y	EQUILATERAL	CURVED 19'-6"	2444.34'	01° 04' 24"	01° 59' 15"	05° 43' 29"	6'-5"	10'-1"	16'-6"	1632.84'	79.21'	79'-2 1/2"	31'-7 1/8"	47'-6 1/8"	35
12Y	EQUILATERAL	CURVED 19'-6"	2444.34'	01° 04' 24"	01° 59' 15"	04° 46' 19"	7'-9 1/2"	12'-6 1/2"	20'-4"	2493.88'	88.00'	88'-0"	30'-11 1/8"	57'-0 3/8"	43
15	LATERAL	CURVED 26'-0"	2464.55'	00° 50' 44"	01° 27' 00"	03° 49' 06"	9'-5"	14'-11 1/2"	24'-4 1/2"	1872.90'	113.42'	113'-5"	42'-2"	71'-3"	37
20	LATERAL	CURVED 39'-0"	3605.70'	00° 27' 19"	01° 04' 30"	02° 51' 51"	11'-0 1/2"	19'-10"	30'-10 1/2"	3329.91'	156.04'	156'-0 1/2"	61'-0 1/2"	95'-0"	50

NOTES:

- TURNOUTS CAN BE ARRANGED AS INDICATED IN DETAIL "1". THE LAYOUT AND REQUIRED DISTANCES FROM "A" TO "B" ARE GIVEN IN THE "SYSTEM DESIGN CRITERIA". ALL PROPOSED INSTALLATIONS MUST BE APPROVED BY THE ENGINEERING MANAGEMENT CONSULTANT.
- THE DATA SHOWN ARE SPEEDS THROUGH LEVEL TURNOUTS GIVING RIDE CONDITIONS EQUIVALENT TO THOSE OBTAINED IN TRAVERSING A CURVE WITH 3 INCHES OF UNBALANCED SUPERELEVATION. THE SPEEDS ARE CALCULATED BASED ON THE AREA FORMULA $E_a = 0.0007V^2D^{-3}$, WHERE "D" EQUALS THE DEGREE OF CURVATURE, AND "E_a"-ACTUAL SUPERELEVATION, (FOR TURNOUTS, E_a=0).

DESIGNED BY B. YU	IN CHARGE J. VALENCIA
DRAWN BY A. MEGERDOOMIAN	DATE 18 MAY 94
CHECKED BY S. JOHNSON	
REVISIONS	
0 5.18.94 BY JBV GMC BASELINE ISSUE	

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

ENGINEERING MANAGEMENT CONSULTANT

Submitted: *Joseph B. Valencia*

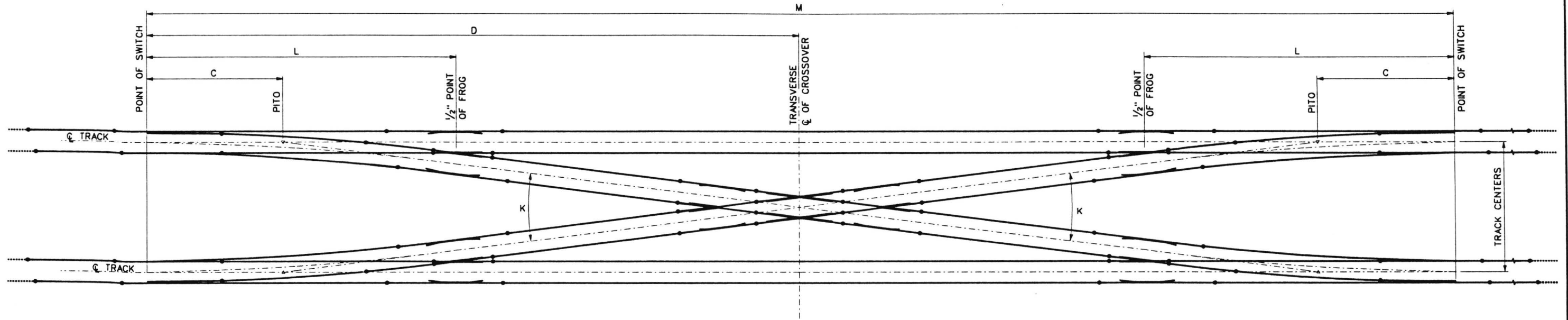
Approved: *[Signature]*

TRACKWORK DIRECTIVE

TURNOUT DATA

CONTRACT NO.	
DRAWING NO.	TD-002
REV.	0
SCALE	NO SCALE
SHEET NO.	

02-JUN-1994 09:43 e:\mcm\tdr\dwg\Track\18002.plt PLOTTED BY: ps4659



DOUBLE CROSSOVER - PLAN

DATA TABLE									
ITEM NO	TRACK CTRS	TURNOUT NO	TURNOUT ALIGNMENT	MANGANESE STEEL INSERT CROSSING	C	D	K	M	L
1	14.00'	6	AREA PLAN 910 (SIMILAR)	AREA PLAN 761	19.00'	60.71'	19° -03' -16"	121.42'	47.50'
2	14.00'	8	AREA PLAN 910 (SIMILAR)	AREA PLAN 761	30.00'	85.78'	14° -18' -20"	171.55'	68.00'
3	16.00'	8	AREA PLAN 910 (SIMILAR)	AREA PLAN 761	30.00'	93.75'	14° -18' -20"	187.50'	68.00'
4	18.00'	8	AREA PLAN 910 (SIMILAR)	AREA PLAN 761	30.00'	101.72'	14° -18' -20"	203.44'	68.00'
5	14.00'	10	AREA PLAN 920 (SIMILAR)	AREA PLAN 769	31.42'	101.23'	11° -26' -58"	202.49'	78.92'

NOTES:

1. ALL DIMENSIONS EXCEPT "K" AND "D" SHALL APPLY EQUALLY TO SINGLE CROSSOVERS.
2. ALL DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE.
3. FOR TURNOUT DATA REFER TO DRAWING NO TD-002.
4. NO SUPERELEVATION WILL BE APPLIED TO ANY CROSSOVER.
5. DRAWING IS SYMMETRICAL ABOUT CENTERLINE.

REV	DATE	BY	SUB	APP	DESCRIPTION
0	5.18.94	JBV	GMC		BASELINE ISSUE

DESIGNED BY
B. YU

DRAWN BY
L. DECHVORAKIJ

CHECKED BY
S. JOHNSON

IN CHARGE
J. VALENCIA

DATE
18 MAY 94

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

ENGINEERING MANAGEMENT CONSULTANT

Submitted by: *Joseph P. Valencia*

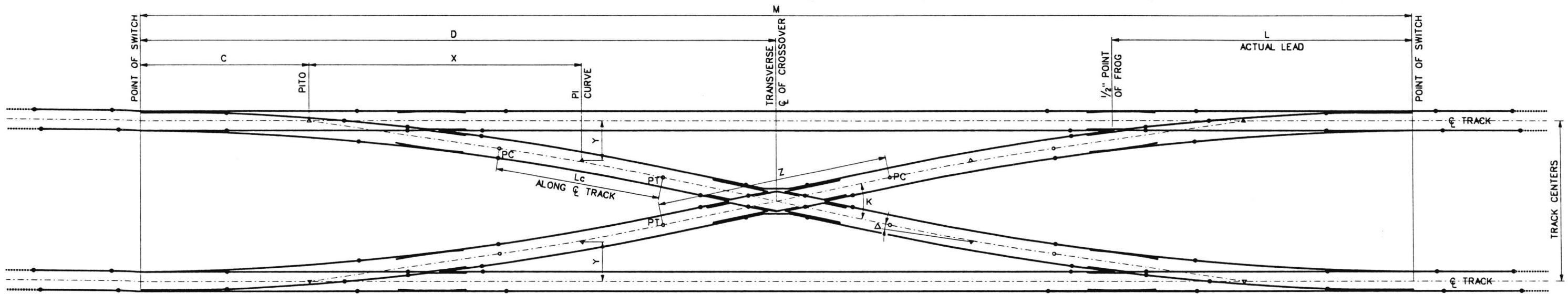
Approved by: *[Signature]*

TRACKWORK DIRECTIVE

**DOUBLE CROSSOVER DATA
TANGENT TRACK BETWEEN
TURNOUTS AND CROSSINGS**

CONTRACT NO	
DRAWING NO	REV
TD-003	0
SCALE	
NO SCALE	
SHEET NO	

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DOUBLE CROSSOVER - PLAN

DATA TABLE

ITEM NO	TRACK CTRS	TURNOUT NO	TURNOUT ALIGNMENT	MANGANESE STEEL INSERT CROSSING	L	C	D	K	X	Y	M	Δ	R	T	Lc	Z
1	38'-10"	10	AREA 920 (SIMILAR)	AREA 761	78.92'	31.42'	180.64'	19° 11' 00"	84.37'	8.46'	361.27'	3° 52' 01"	806.09'	27.21'	54.40'	77.11'
2	42'-10"	10	AREA 920 (SIMILAR)	AREA 761	78.92'	31.42'	192.47'	19° 11' 00"	84.37'	8.46'	384.94'	3° 52' 01"	806.09'	27.21'	54.40'	101.12'
3	38'-6"	10	AREA 920 (SIMILAR)	AREA 761	78.92'	31.42'	179.65'	19° 11' 00"	84.37'	8.46'	359.30'	3° 52' 01"	806.09'	27.21'	54.40'	75.11'
4	38'-10"	645' R			72.85'	33.65'	154.01'	23° 40' 00"	66.18'	8.05'	308.01'	4° 54' 03"	645.00'	27.60'	55.17'	55.92'

NOTES:

1. ALL SINGLE AND DOUBLE CROSSOVER CONNECTING TRACKS WITH CENTERS EQUAL TO OR GREATER THAN 38'-6" SHALL BE DESIGNED WITH A MINIMUM 75' TANGENT CONNECTING THE TWO CURVES BETWEEN THE TURNOUT UNITS. FOR DOUBLE CROSSOVERS CONNECTING TRACKS WITH CENTERS LESS THAN 38'-6" REFER TO DRAWING NO TD-003.
2. ALL DIMENSIONS EXCEPT "K" SHALL APPLY EQUALLY TO SINGLE CROSSOVERS.
3. FOR TURNOUT DATA REFER TO DRAWING NO TD-002.
4. NO SUPERELEVATION WILL BE APPLIED TO ANY CROSSOVER.
5. DRAWING IS SYMMETRICAL ABOUT CENTERLINE.

REV	DATE	BY	SUB	APP	DESCRIPTION
0	5.18.94	JBV	GMC		BASELINE ISSUE

DESIGNED BY
B. YU

DRAWN BY
L. DECHVORAKIJ

CHECKED BY
S. JOHNSON

IN CHARGE
J. VALENCIA

DATE
18 MAY 94

M LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

BDMJM ENGINEERING MANAGEMENT CONSULTANT

Submitted by: *Joseph P. Valencia*

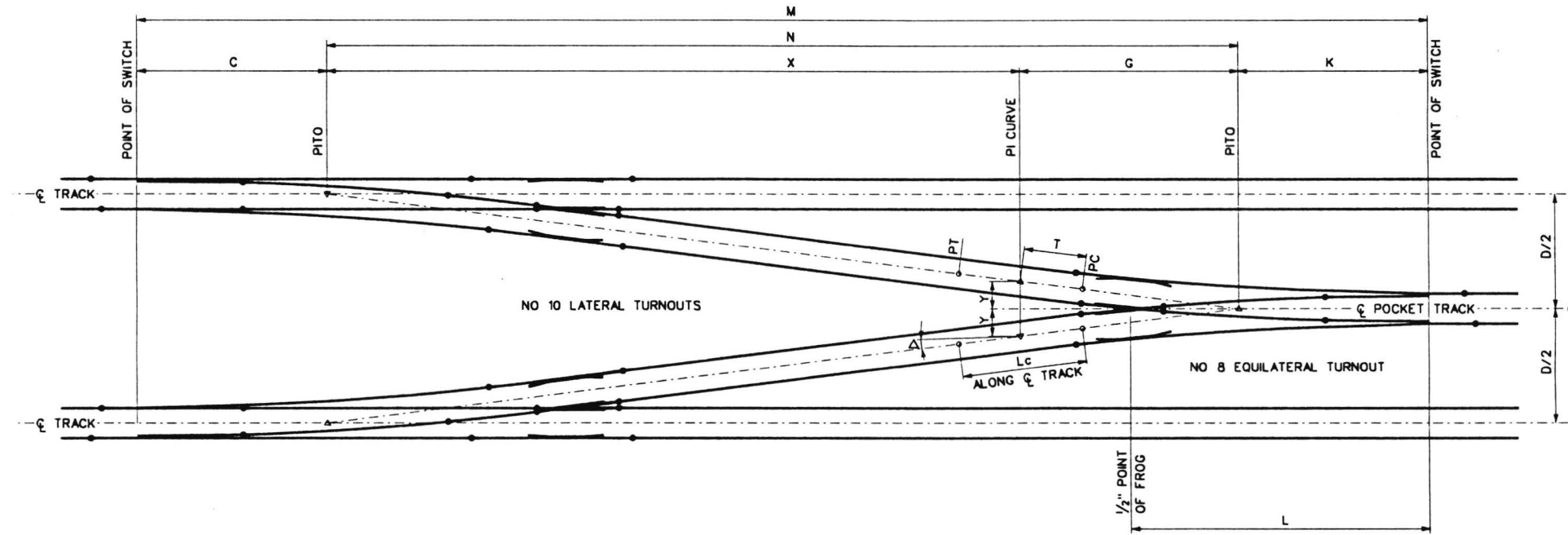
Approved by: *[Signature]*

TRACKWORK DIRECTIVE

DOUBLE CROSSOVER DATA
CURVED TRACK BETWEEN
TURNOUTS AND CROSSINGS

CONTRACT NO	
DRAWING NO	TD-004
REV	0
SCALE	NO SCALE
SHEET NO	

02-JUN-1994 09:45 e:\emc\grdw\Track\td004.dwg PLOTTED BY: P34634



CENTER POCKET TRACK - PLAN

DATA TABLE											CURVE DATA				
ITEM NO	D (TRACK CTRS)	D/2	M	N	X	Y	C	K	L	G	Δ	R	T	Lc	Ea
1	38.83'	19.42'	278.20'	217.15'	154.83'	3.89'	31.42'	29.63'	67.70'	62.30'	2° 08' 54"	880.00'	16.50'	33.00'	0.00"
2	40.00'	20.00'	284.01'	222.96'	160.66'	3.89'	31.42'	29.63'	67.70'	62.30'	2° 08' 54"	880.00'	16.50'	33.00'	0.00"
3	42.83'	21.42'	298.15'	237.10'	174.80'	3.89'	31.42'	29.63'	67.70'	62.30'	2° 08' 54"	880.00'	16.50'	33.00'	0.00"

NOTES:

- FOR TURNOUT DATA REFER TO DRAWING NO TD-002.
- NO SUPERELEVATION WILL BE APPLIED TO THE TURNOUTS OR THE CONNECTING TRACK BETWEEN THEM.

DESIGNED BY	B. YU							
DRAWN BY	A. DARDAN							
CHECKED BY	S. JOHNSON							
IN CHARGE	J. VALENCIA							
DATE	18 MAY 94							
REV	0	DATE	5.18.94	BY	JBV	GMC	DESCRIPTION	BASELINE ISSUE

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

ENGINEERING MANAGEMENT CONSULTANT

Parsons Brinckerhoff Quade & Douglas, Inc.
 Daniel Mann, Johnson & Mendenhall
 CF-Kaiser Engineers (Call) Corp.
 Casella-Fitzberg Architects
 Jenkins Gillette Architects, Inc.
 The Network Group, Inc.

SUBMITTED: *[Signature]*

APPROVED: *[Signature]*

TRACKWORK DIRECTIVE

CENTER POCKET TRACK DATA

CONTRACT NO	
DRAWING NO	TD-005
SCALE	NO SCALE
SHEET NO	

