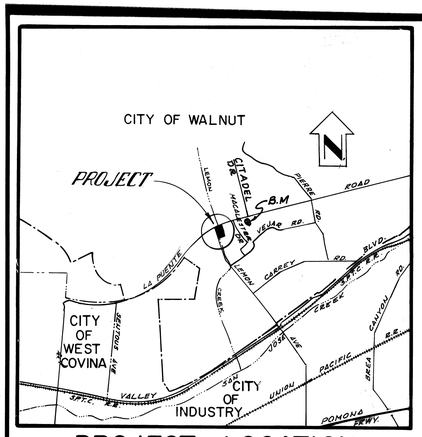


PROJECT LOCATION

STRUCTURAL NOTES.

GENERAL.

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTER OF BAR AND SHALL BE TWO INCHES UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S " BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" SECTION 801.
4. PLACING OF REINFORCEMENT SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE'S " BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" SECTION 805.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENINGS.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRACTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE-HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE ROUNDED OR BEVELED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN ON THE DRAWING WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN TWO SPLICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. LONGITUDINAL AND TRANSVERSE STEEL SHALL BE LAPPED 30 BAR DIAMETERS AT SPLICES.
11. FIELD BENDING OF REINFORCING STEEL IS NOT PERMITTED.

CONSTRUCTION NOTES AND QUANTITY ESTIMATE.

1	CONSTRUCT DOUBLE 8'X7' REINFORCED CONCRETE BOX. SEE DETAILS PER SHT. NO 4.	771.49	L.F.
2	REMOVE EXIST. TKAP CHANNEL B=8', Z=1 H=7.5' AND CONSTRUCT R.C. TRANS. STRUCTURE PER SHT. NO.5	38.10	L.F.
3	CONSTRUCT MANHOLE NO.3 PER L.A. CO. F.C.D., NO.2 D 104	2	L.S.
4	CONSTRUCT FLOW EQUALIZING WINDOW PER L.A.CO. F.C.D, NO.2 D 205	2	L.S.
5	INSTALL PROTECTION BARRIER PER L.A. CO. F.C.D., NO.3 - D 261.1 THRU 261.3	1	L.S.
6	CONSTRUCT JUNCTION STRUCTURE NO.3 PER L.A.CO. F.C.D., NO. 2- D191	1	L.S.
7	INSTALL 30" R.C.P. (1000-D) STUB & PLUG	8	L.F.
8	CONSTRUCT TRANSITION STRUCTURE(SEE DETAIL, SHEET 5 OF 5)	21.05	L.F.

BENCH MARK:
CG. 34/9 RDBM TAG 4' W/O BCR 32' S/O - 57' W/O & INT. LA PUENTE RD. AND CITADEL DR.

ELEV. 568.559 (COVINA 1975)

STORM DRAIN PLANS IN P.M. No. 14987 No.

GENERAL NOTES (Cont'd)

24. A SOILS ENGINEER SHALL CERTIFY THAT ALL FILLS AND BACKFILLS OVER UNDERGROUND STORM DRAINS OUTSIDE OF ST. R/W HAVE BEEN COMPACTED OR CONSOLIDATED TO A 90% DENSITY. THIS CERTIFICATION SHALL BE SUBMITTED TO THE CITY ENGINEER PRIOR TO ACCEPTANCE OF THE WORK BY THE CITY.
25. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10. 4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN REGARD TO SAFETY ORDERS. EVIDENCE OF COMPLIANCE AND A COPY OF PERMIT SHALL BE SUBMITTED TO CITY ENGINEER PRIOR TO ANY TRENCHING 5' OR DEEPER.
26. THE CONTRACTOR SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN ON LOS ANGELES COUNTY ENGINEER STANDARD S-2.
27. ALL PIPE SHALL BE PLACED IN A TRENCH IN NATURAL GROUND AND/OR COMPACTED FILL. THE GROUND LEVEL BEFORE THE TRENCHING SHALL BE AT LEAST 3 FEET ABOVE TOP OF PIPE ELEVATION, OR AT FINISH SURFACE ELEVATION, WHICHEVER IS LESS. ALL BACKFILL IN EASEMENTS SHALL BE COMPACTED TO THE DENSITY REQUIRED BY THE GRADING PLAN.
28. THE INSPECTOR MAY HAVE THE OPTION TO REQUIRE CONCRETE BACKFILL DURING CONSTRUCTION WHEN THE BOX OR PIPE HAS LESS THAN ONE FOOT OF COVER AND IS SUBJECTED TO HEAVY EQUIPMENT TRAFFIC. THE CONCRETE BACKFILL SHALL CONSIST OF 1:3:5 MIX CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM DEPTH OF 4 INCHES OVER TOP OF PIPE.

L.A. CO. FLOOD CONTROL STD. DWGS.

DWG. NO.	DETAIL DESCRIPTION
2-D 104	MANHOLE NO.3 (BOX OR ARCH)
2-D 191	JUNCTION STRUCTURE NO.3 (30"OR SMALLER SIDE INLET TO BOX)
2-D 205	WINDOW DETAILS FOR MULTIPLE BOX STRUCTURES.
2-D 261.1 TO .3	PROJECTION BARRIER
2-D 251	PROTECTION FOR SEWER CROSSING
2-D 260	TRANSITION STRUCTURE

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THESE PLANS IS THE CENTERLINE OF LA PUENTE ROAD BEING NORTH 76°09'40" EAST AS SHOWN ON TRACT NO. 30622, RECORDED IN BOOK 700, PAGES 95 TO 97, INCLUSIVE, OF MAPS IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF LOS ANGELES.

GENERAL NOTES:

1. ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL DATUM OF 1929. ALL WORK SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 1979 EDITION WITH 1980 & 1981 SUPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESSENCE OF THE CITY ENGINEER.
2. APPROVAL OF THIS PLAN BY THE CITY OF WALNUT DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION, OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL SHEETS.
3. THE CONTRATOR SHALL NOTIFY THE CONSTRUCTION SECTION OF THE CITY ENGR BY TELEPHONE, 595-2275 AT LEAST 48 HOURS BEFORE STARTING ANY WORK UNDER THIS CONTRACT.
4. ALL CONSTRUCTION JOINTS IN THE FOOTING OF SLABS AND WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
5. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAS BEEN PLACED, INSPECTED AND APPROVED.
6. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
7. ALL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAYS COMPRESSIVE STRENGTH OF 4000 p.s.i. UNLESS OTHERWISE NOTED. COMPRESSION TEST CYLINDERS ARE REQUIRED.
8. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4" CHAMFER.
9. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE 2" CLEARANCE UNLESS OTHERWISE SPECIFIED.
10. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL AS PER A.S.T.M. A-615- GRADE 60.
11. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE".
12. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTERLINE OF STEEL UNLESS OTHERWISE NOTED.
13. ALL BACKFILLS AND FILLS TO BE USED AS SUBGRADE SHALL BE COMPACTED TO A RELATIVE DENSITY OF 90% UNLESS OTHERWISE SPECIFIED.
14. ALL STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 30 BAR DIAMETERS OR 18", WHICHEVER IS GREATER.
15. ALL CATCH BASINS AND CONNECTOR PIPES BETWEEN CATCH BASINS TO BE INSPECTED BY THE CITY
16. PIPE SHALL BE EMBEDDED 6 INCHES INTO ALL STRUCTURES INCLUDING INLET & HEADWALLS, UNLESS OTHERWISE SPECIFIED.
17. WHERE PIPE IS TO BE PLACED IN FILL, THE FILL SHALL BE COMPACTED TO A MINIMUM DEPTH OF 3 FEET ABOVE THE TOP OF PIPE PRIOR TO TRENCHING.
18. ALL BACKFILL AND FILL AROUND CLOSED CONDUIT IN STREET RIGHTS OF WAY SHALL BE BROUGHT UP TO SUBGRADE OF THE ROAD OR TO 2 FEET ABOVE THE TOP OF THE CONDUIT, WHICHEVER IS LESS. THE CITY ENGINEER SHALL INSPECT ALL BACKFILL AND FILL ABOVE AFOREMENTIONED LIMITS.
19. ALL REINFORCED CONCRETE PIPE SHALL BE BEDDED IN ACCORDANCE WITH LOS ANGELES COUNTY ENGINEER CASE Ad BEDDING PER STANDARD DRAWING D-54, UNLESS OTHERWISE NOTED.
20. UNLESS OTHERWISE SHOWN, CONCRETE DIMENSIONS SHALL BE MEASURED VERTICALLY OR HORIZONTALLY AND PARALLEL OR AT RIGHT ANGLES (OR RADIAL) TO THE CENTER LINE OF CONSTRUCTION.
21. THIS STORM DRAIN WILL NOT BE ACCEPTED FOR MAINTENANCE UNTIL THE STREETS HAVE BEEN PAVED, MANHOLES BROUGHT TO GRADE, AND THE SYSTEM IS CLEANED TO THE SATISFACTION OF THE CITY ENGINEER.

PRIVATE ENGINEERS NOTICE TO CONTRACTORS

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THIS MAP.
THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THIS DRAWING.

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

IF CONSTRUCTION OF IMPROVEMENTS SHOWN HEREON ARE NOT COMMENCED WITHIN 18 MONTHS OF APPROVAL DATE, THESE PLANS ARE SUBJECT TO REVIEW BY THE CITY.

NO.	REVISION	REVISED BY	APPROVED BY	DATE

APPROVED
CITY OF WALNUT

Ronald L Kranzer
CITY ENGINEER - RON KRANZER
R.C.E. 18603 DATE 10-4-82

ANACAL ENGINEERING CO.
1900 E. LA PALMA AVE.
ANAHEIM, CALIF 92803-3668
PHONE: (714) 774-1763

DATE 8/31/82
SIGNATURE: Lamar H Stewart R.C.E. NO. 29726
LAMAR H. STEWART

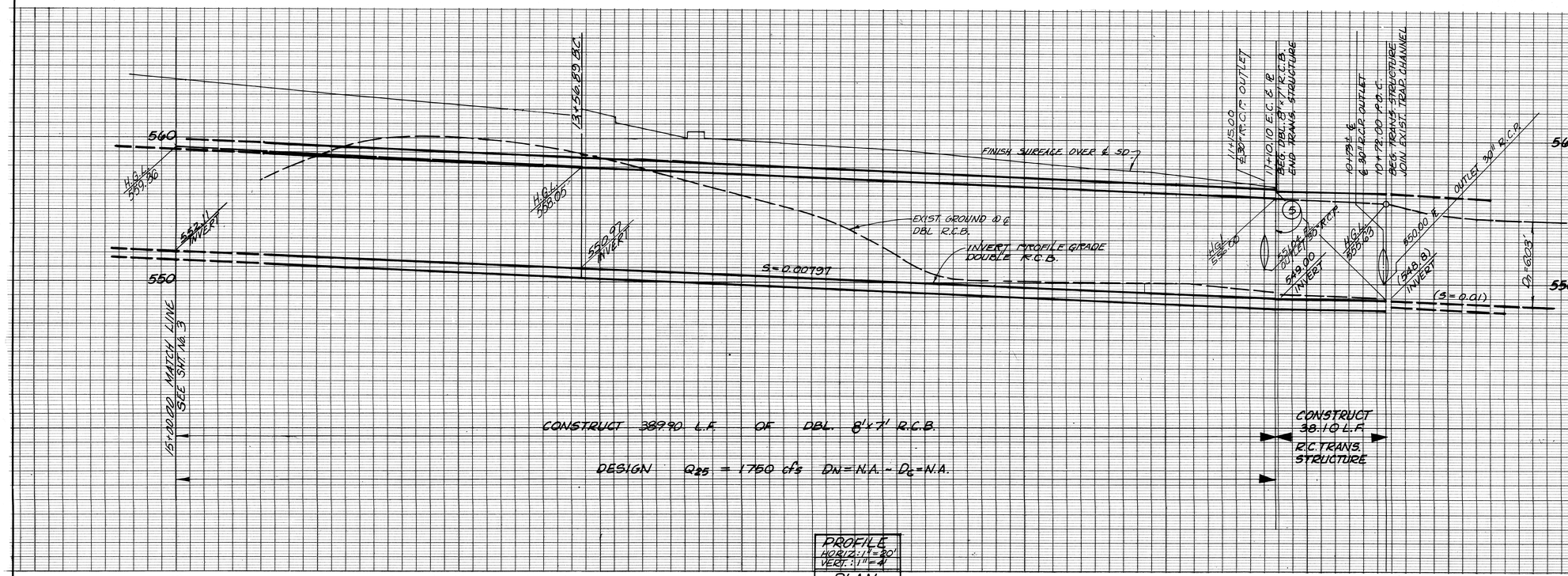
CITY OF WALNUT

STORM DRAIN
for
P.M. 14987

SHT 1 OF 5 SHTS

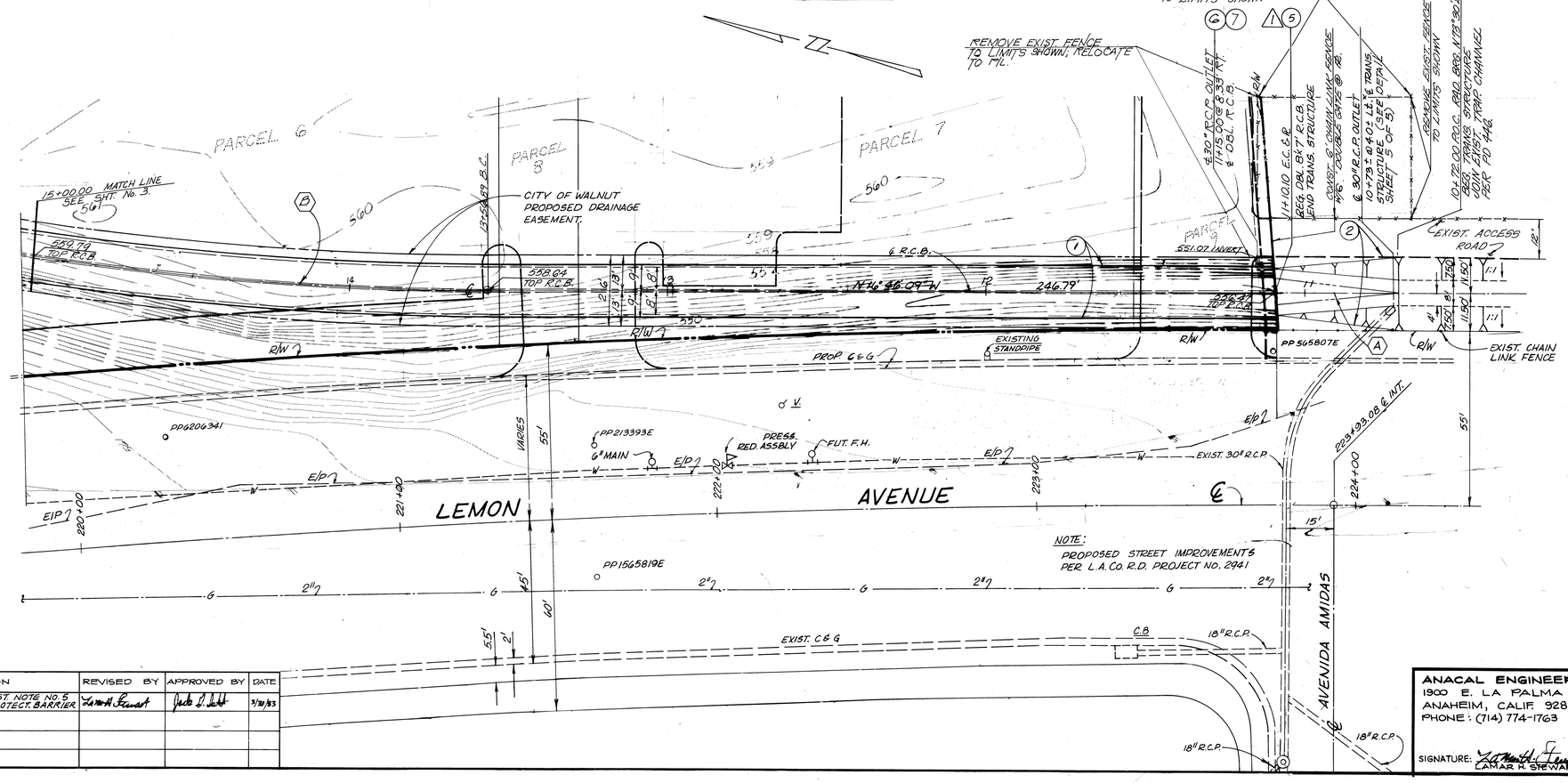
SOUTHERN CALIFORNIA BLUEPRINT CO. P.D. SHEET NO. 1 DATE 10/76

TW 09-709-04
122A



PROFILE
HORIZ: 1"=20'
VERT: 1"=4'

PLAN
SCALE: 1"=20'



CONSTRUCTION NOTES

1. CONSTRUCT DOUBLE 8'x7' REINFORCED CONCRETE BOX. SEE DETAILS PER SHEET 4.
1 5. INSTALL PROTECTION BARRIER PER L.A. Co F.C.D. NO. 3 PER DRG. I.I THRU 2G13. SUBSTITUTE INLET BARRIER FOR OUTLET BARRIER. INSTALL NORMAL TO R.C.B. WALL. RECESS AS REQ'D TO OPEN DOWNSTREAM.
2. REMOVE EXIST. TRAP CHANNEL B=8', Z=1, H=7.5' AND CONSTRUCT R.C. TRANSITION STRUCTURE PER SHT. 5.
6. CONSTRUCT JUNCTION STRUCTURE NO. 3 PER L.A. CO. F.C.D., N2 2-D191.
7. INSTALL 8' L.F. OF 30" R.C.P. (1000 D) STUB & PLUG

CURVE DATA				
⬡	Δ	R	L	T
A	0°26'59" LT.	4851.50	38.10'	19.05'
B	19°33'06"	1000.00	341.24'	172.30'

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED CONST. NOTE NO. 5 SUBSTITUTE PROTECT. BARRIER	Lamar H. Stewart	Jack D. Hoist	3/28/83

ANACAL ENGINEERING CO.
1900 E. LA PALMA AVE.
ANAHEIM, CALIF. 92803-3668
PHONE: (714) 774-1763
DATE 8/30/82
SIGNATURE: Lamar H. Stewart R.C.E. NO. 29726
LAMAR H. STEWART

CITY OF WALNUT

STORM DRAIN

for

P.M. 14987

133B

EXIST. FINISH SURFACE @ ℄ DBL. R.C.B.

EXIST. 24" CML & C WATER

EXIST. 27" WATER

EXIST. MASONRY WALLS

EXIST. HEADWALL

EXIST. DBL. 10'x5' R.C.B.

EXIST. DBL. 11'x5' R.C.B.

RAD. TO ST. ℄

EXIST. GROUND LINE AT ℄ DBL. R.C.B.

INVERT PROFILE GRADE DBL. R.C.B.

S = 0.00797

S = 0.010

S = 0.0085

S = 0.00225

CONSTRUCT 381.57 L.F. OF DBL. 8'x 7' R.C.B.

DESIGN Q_{25} = 1750 cfs DN. = N.A. D_C = N.A.

CONSTRUCT 21.05 L.F. OF TRANSITION STRUCTURE (SEE DETAIL, SHEET 5 OF 5)

18+84.69 B.C.

18+57 BEG. TRANSITION STRUCTURE AND DBL. 8'x 7' R.C.B.

18+77.57 ℄ M.H. STA'S & EQUALIZING WINDOW

18+84.54 LEMON CREEK = 102+58.88 LA PUENTE RD ℄

19+02.64 E.C.℄ END TRANSITION STRUCTURE

19+02.64 END CONST.

19+00.23 ℄ W. LINE

15+90 ℄ MANHOLE NO. 3

15+50.00 ℄ M.H. STA'S & EQUALIZING WINDOW

15+00.00 MATCH LINE - SEE SHT. No. 2

15+00.00 ℄ DBL. R.C.B.

15+00.00 MATCH LINE - SEE SHT. No. 2

19+02.64 E.C.℄ END TRANSITION STRUCTURE

JOIN EX. DOUBLE 10'x 5' R.C.B. PER SECTION B-113 CAL. TRANS. STD. SPECS. 1961

CITY OF WALNUT PROPOSED DRAINAGE EASEMENT.

N02°50'57"E 186.56'

COMPACTED PAD AREA

PARCEL 2

PARCEL 3

PARCEL 4

PP6206341

PP213894E

LA PUENTE ROAD

LEMON AVENUE

SURVEY ℄

PROFILE
HORIZ: 1" = 20'
VERT: 1" = 4'

PLAN
SCALE: 1" = 20'

CURVE DATA				
⬡	Δ	R	L	T
A	25°43'04"	40.00'	17.95'	9.13'
B	19°33'06"	1000.00'	341.24'	172.30'
C	25°43'04"	* 30.14'	13.53'	6.88'
D	25°43'04"	* 25.00'	11.22'	5.71'

* INSIDE FACE OF R.C.B.

CONSTRUCTION NOTES

1. CONSTRUCT DOUBLE 8'x7' REINFORCED CONCRETE BOX. SEE DETAILS PER SHEET 4.
3. CONSTRUCT MANHOLE №3 PER LA. CO. F.C.D. №2 D104
4. CONSTRUCT FLOW EQUALIZING WINDOW PER L.A. CO. F.C.D. №2 D205.
5. CONSTRUCT TRANSITION STRUCTURE (SEE DETAIL SHEET 5 OF 5)

Existing Double Box

New Double Box

12" 2'-0"

3/4" chamfers

5'x 3'-0" long @ 12" O.C. Drill 1½" ø x 12" holes into all existing walls, top slab, and bottom slab. Fill holes with Grout

TYPICAL NEW TO EXISTING BOX CONNECTION

NOT TO SCALE

NO.	REVISION	REVISED BY	APPROVED BY	DATE

ANACAL ENGINEERING CO.
1900 E. LA PALMA AVE.
ANAHEIM, CALIF. 92803-3668
PHONE: (714) 774-1763

SIGNATURE: LAMAR H. STEWART R.C.E. NO. 29726 DATE 8/30/82

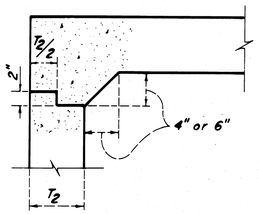
CITY OF WALNUT

STORM DRAIN

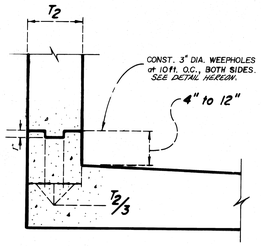
for

P.M. 14987

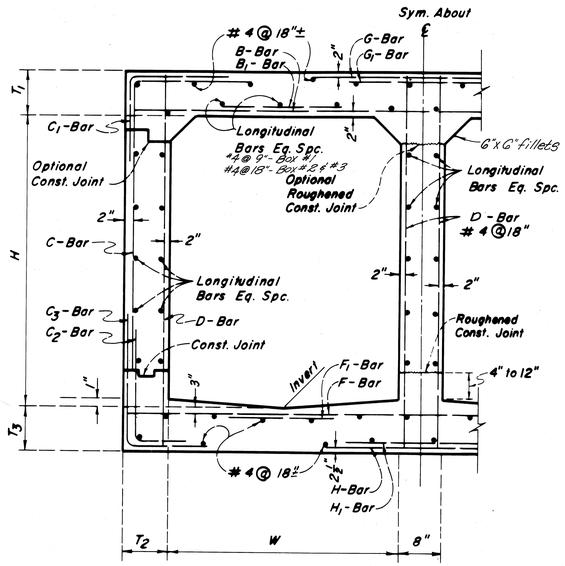
1330



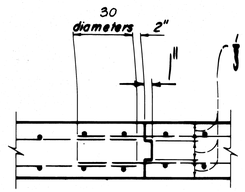
TOP OF WALL



BASE OF WALL

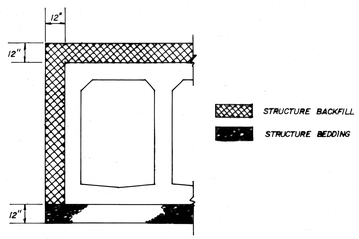


TYPICAL R.C. BOX SECTION
NOT TO SCALE



TRANSVERSE JOINT

CONSTRUCTION JOINT DETAILS
NOT TO SCALE



R.C.B. BACKFILL & BEDDING DETAIL
NOT TO SCALE

DESIGN DATA

LIVE LOAD
H20-S16-44 unless otherwise noted

DEAD LOAD
Earth load per Marston's formula: w= 110 p.c.f.
Ku= Ku'=0.150
Bd= Outside width of box plus 3 feet
Side earth 37 p.s.f. per foot of depth
Internal water pressure: 62.4 p.s.f. per foot of depth
Weight of concrete: 150 p.c.f.

ALLOWABLE STRESSES
f_c'= 4000 p.s.i. at 28 days
f_c= 1800 p.s.i.
f_s= 24000 p.s.i.
n= 8
Shear and bond stresses per A.C.I. 318-63

BOX SECTION NO.		1	2	3
Design Cover		0'-0"	6'-0"	7'-0"
Width	W	8'-0"	8'-0"	8'-0" TO 10'-0"
Height	H	7'-0"	7'-0"	7'-0" TO 5'-0"
Live Load		H-20	H-20	H-20
Top Slab Thickness	T_1	8.00"	8.00"	9.50"
Side Wall Thickness	T_2	8.00"	8.00"	8.00"
Bottom Slab Thickness	T_3	8.00"	8.00"	10.00"
B Bars	Bar No. & Spacing	#6 @ 7"	# 5 @ 16"	# 7 @ 8"
	Length	17'-9"	17'-9"	Varies
B_1 Bars	Bar No. & Spacing	———	# 5 @ 16"	———
	Length	———	7'-7½"	———
C Bars	Bar No. & Spacing	# 4 @ 14"	# 4 @ 14"	# 4 @ 7" O.C.
	Horiz. Length	3'-8½"	3'-5"	4'-2½"
	Vert. Length	7'-1"	7'-1"	Varies
C_1 Bars	Bar No. & Spacing	# 4 @ 14"	# 4 @ 14"	———
	Horiz. Length	2'-1"	2'-1"	———
	Vert. Length	3'-2½"	2'-1"	———
C_2 Bars	Bar No. & Spacing	# 4 @ 14"	# 5 @ 14"	# 4 @ 7" O.C.
	Horiz. Length	3'-3"	4'-0"	4'-3"
	Vert. Length	2'-1"	2'-1"	2'-6"
C_3 Bars	Bar No. & Spacing	———	———	———
	Horiz. Length	———	———	———
	Vert. Length	———	———	———
D Bars	Bar No. & Spacing	# 4 @ 18"	# 4 @ 18"	# 4 @ 18" O.C.
	Length	8'-1"	8'-1"	Varies
F Bars	Bar No. & Spacing	# 4 @ 20"	# 6 @ 10"	# 7 @ 8" O.C.*
	Length	17'-9"	17'-9"	Varies
F_1 Bars	Bar No. & Spacing	# 6 @ 20"	———	———
	Length	7'-10½"	———	———
G Bars	Bar No. & Spacing	# 5 @ 12"	# 4 @ 9"	# 5 @ 10" *
	Length	12'-8"	6'-5½"	15'-8"
G_1 Bars	Bar No. & Spacing	# 5 @ 12"	# 5 @ 9"	# 7 @ 10" *
	Length	4'-8"	4'-8"	5'-0"
H Bars	Bar No. & Spacing	# 4 @ 11"	# 5 @ 11"	# 5 @ 10" *
	Length	7'-7"	13'-0"	15'-8"
H_1 Bars	Bar No. & Spacing	# 5 @ 11"	# 7 @ 11"	# 7 @ 10"
	Length	4'-0"	4'-6½"	5'-0"

NUMBER LONGITUDINAL REINFORCEMENT # 4 BARS

Top Slab (Includes Distrib.)	44	27	31
Ext. Walls	16	16	16
Int. Walls	8	8	8
Inv. Slab	28	26	31
TOTAL	96	77	86

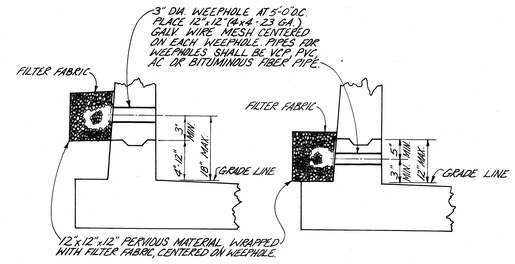
QUANTITIES

Concrete Cu. Yds./Lin. Ft.	1.45	1.45	1.65 Average
Steel Lbs./Lin. Ft.	184±	187±	265±

* Spacing as measured at center wall.

R. C. BOX LOCATION SCHEDULE

Box Sect.	Station From	Station To	Box Sect.	Station From	Station To
1	11+10.10	13+45.00			
2	13+45.00	18+81.59			
3	18+81.59	19+02.64			



ALTERNATE A — **WEEPHOLES** — ALTERNATE B

ADDITIONAL NOTES FOR BOX SECTIONS

1. LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTEND THROUGH ALL CONSTRUCTION JOINTS.
2. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE JOINT KEYWAYS (IN BOTH SLABS AND WALLS), AS DETAILED FOR LONGITUDINAL KEYWAYS AT THE BASE OF THE WALLS, SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 50 FEET OR BE LESS THAN 10 FEET. ALL CONSTRUCTION JOINTS IN BOTTOM SLAB, TOP SLAB, AND SIDE WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
3. UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS TRANSVERSE BARS SHALL BE PLACED RADIALLY, STRAIGHT TRANSVERSE BARS IN TOP AND BOTTOM SLABS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS: SPACING SHALL BE AT THE CENTERLINE OF THE BARREL ON THE OUTSIDE OF THE CURVE FOR DOUBLE BARREL BOXES. STRAIGHT BARS AND L-BARS IN WALLS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS, WITH THE SPACING MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
4. AT THE BEGINNING AND ENDING OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C_2, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
5. THE VERTICAL WALL STEEL IN INTERIOR WALLS AND IN THE INTERIOR FACE OF EXTERIOR WALLS MAY BE SPLICED AT THE CONSTRUCTION JOINT AT THE BASE OF THE WALL. THE SPLICES SHALL BE 30 BAR DIAMETERS IN LENGTH.
6. IN ALL SECTIONS LAP C AND C_2 BARS. THE VERTICAL LENGTH OF C AND C_2 BARS HAS BEEN CALCULATED FOR A FOUR-INCH STARTER WALL. IF THE HEIGHT OF THE STARTER WALL IS VARIED, THE VERTICAL LENGTH OF THE C AND C_2 BARS SHALL BE VARIED CORRESPONDINGLY SO AS TO MAINTAIN A 30 DIAMETER LAP BETWEEN THE TWO BARS. THE LAPS SHALL BE BASED ON THE SMALLER BAR.
7. CONCRETE QUANTITIES ARE BASED ON A SIX-BY-SIX INCH FILLET.
8. THE CONTRACTOR SHALL HAVE THE OPTION OF PLACING THE 3 INCH DIAMETER WEEPHOLES, INDICATED ON THE "BASE OF WALL" DETAIL, ABOVE OR BELOW THE CONSTRUCTION JOINT, IF THE BOTTOM OF THE CONSTRUCTION JOINT IS AT LEAST 6 INCHES ABOVE THE BOTTOM OF THE BOX.
9. THE STRUCTURE BACKFILL AND BEDDING SHALL CONFORM TO THE R.C.B. BACKFILL AND BEDDING DETAIL HEREON: AND SECTIONS 200 AND 300 - 7.4 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

NO.	REVISION	REVISED BY	APPROVED BY	DATE

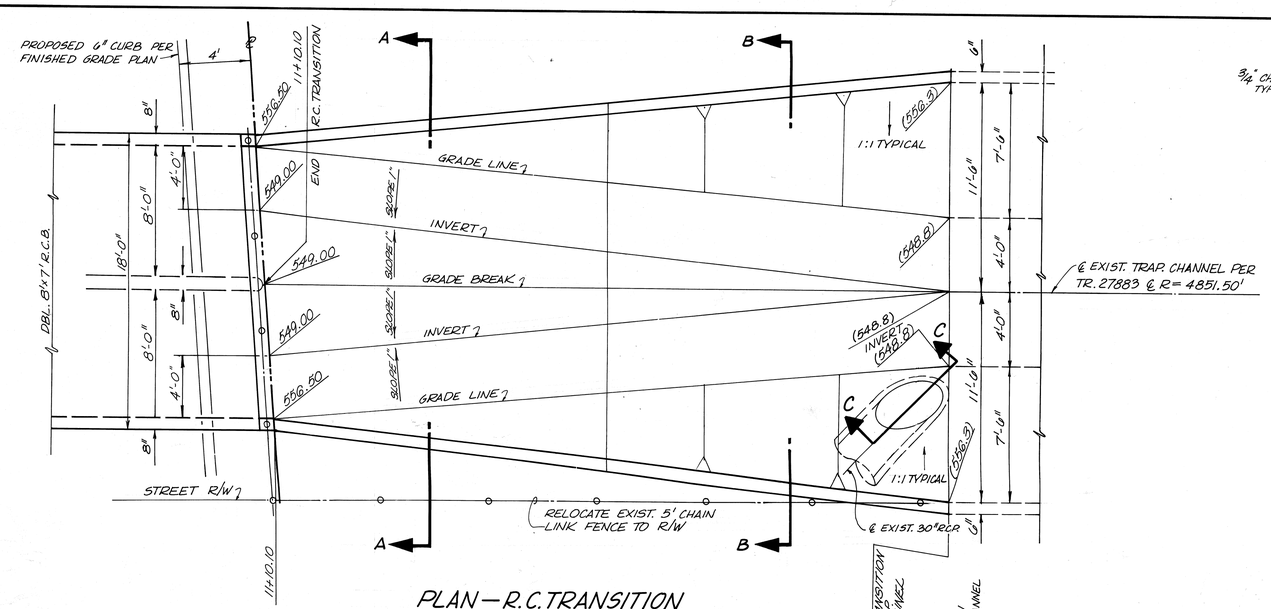
ANACAL ENGINEERING CO.
1900 E. LA PALMA AVE.
ANAHEIM, CALIF. 92803-3668
PHONE: (714) 774-1763
DATE 8/31/82
SIGNATURE: LAMAR H. STEWART R.C.E. NO. 29726

DOUBLE R.C.B. DETAILS

CITY OF WALNUT

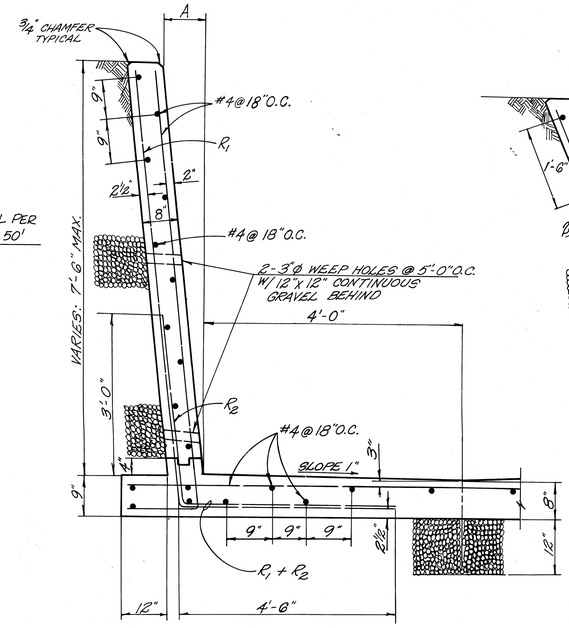
STORM DRAIN for P.M. 14987

133D



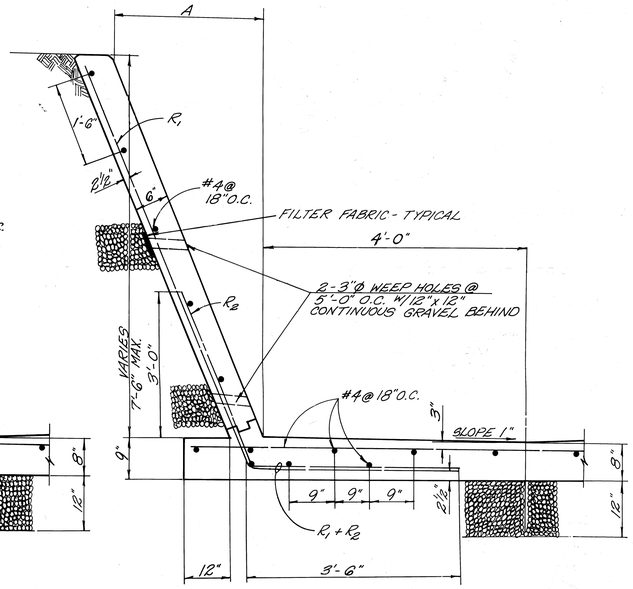
PLAN — R.C. TRANSITION

SCALE : 1/4" = 1'-0"



SECTION A-A

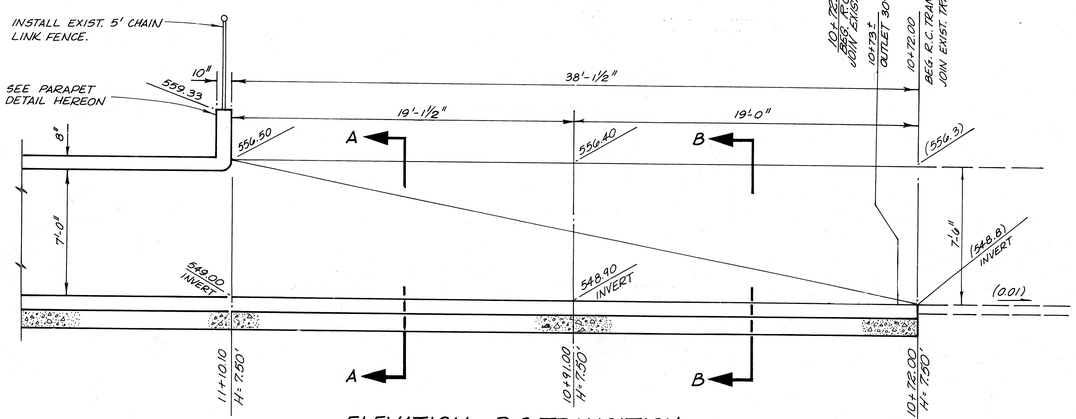
NOT TO SCALE



SECTION B-B

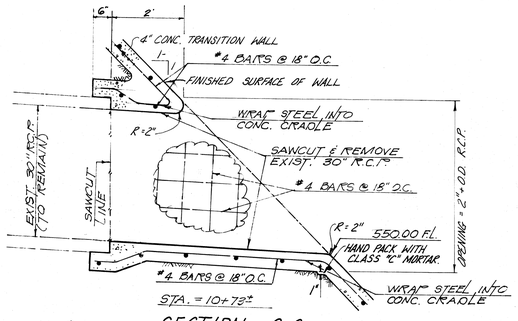
NOT TO SCALE

A		R1	R2
0' TO 3'-0"		#5@18"O.C.	#4@18"O.C.
> 3'-0"		#4@18"O.C.	OMIT



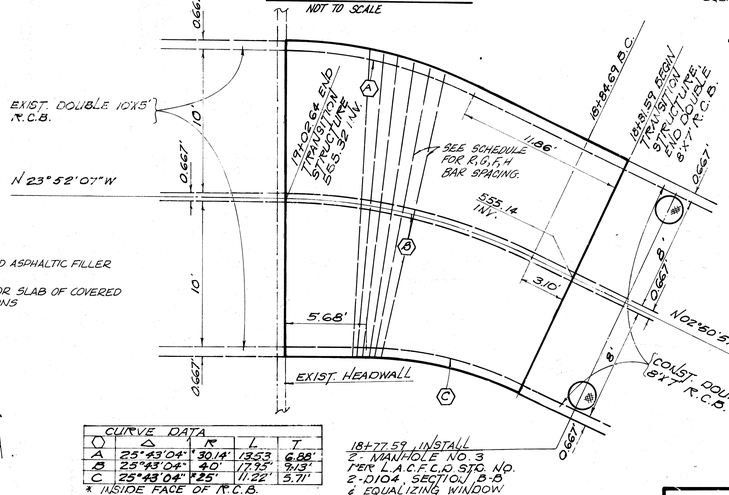
ELEVATION — R.C. TRANSITION

SCALE : 1/4" = 1'-0"



SECTION C-C

NOT TO SCALE



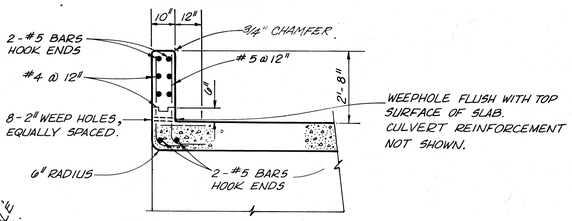
CURVE DATA				
	Δ	R	L	T
A	25°43'04"	30.14'	13.53'	6.88'
B	25°43'04"	40'	17.95'	9.13'
C	25°43'04"	25'	11.22'	5.71'

* INSIDE FACE OF R.C.B.

18+77.59 INSTALL 2' MANHOLE NO. 3 PER L.A.C.F.C.D STD. NO. 2-D104, SECTION B-B & EQUALIZING WINDOW PER L.A.C.F.C.D. NO 2 D-205

TRANSITION STRUCTURE DETAIL

NO SCALE

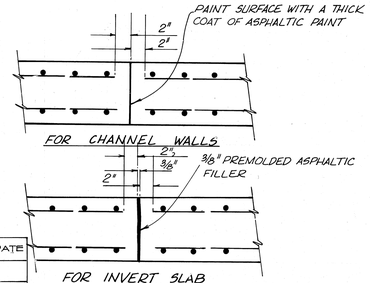


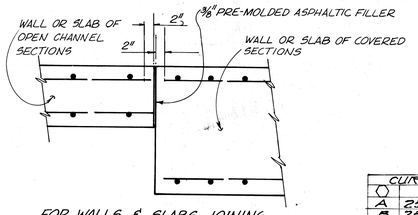
PARAPET DETAIL

SCALE : 3/8" = 1'-0"

DESIGN DATA

LOADS
EXTERNAL 62.5 P.S.F., E.F.P.
INTERNAL 40.0 P.S.F., E.F.P.
f_c' = 4000 p.s.i.
f_c = 1800 p.s.i.
f_s = 24,000 p.s.i.
n = 8





TRANSVERSE CONSTRUCTION JOINT DETAILS

NOT TO SCALE

OPEN CHANNEL STRUCTURAL NOTES

1. LONGITUDINAL STEEL SHALL TERMINATE TWO INCHES FROM TRANSVERSE CONSTRUCTION JOINTS.
2. TRANSVERSE JOINTS SHALL BE SPACED NOT TO EXCEED 50 FEET, NOR BE LESS THAN 10 FEET, MEASURED ALONG THE CENTERLINE OF CONSTRUCTION, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
3. TRANSVERSE JOINTS SHALL BE PLACED AT THE JUNCTION OF RECTANGULAR OPEN CHANNEL SECTIONS WITH CLOSED CONDUIT SECTIONS.
4. ALL RECTANGULAR OPEN CHANNEL WALLS SHALL BE FENCED IN ACCORDANCE WITH STANDARD DRAWING 2-D180, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
5. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, IN CURVED SECTIONS THE MAXIMUM SPACING OF BARS SHALL NOT EXCEED THAT SHOWN ON THE TYPICAL SECTIONS. STEEL SHALL BE PLACED RADIALLY FROM THE MAXIMUM SPACING.
6. AT THE BEGINNING AND ENDING OF ALL POURS, A COMPLETE CURTAIN OF REINFORCEMENT COMPOSED OF B1, B2, AND B3 BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
7. BAR LENGTHS INDICATED ARE MAXIMUM REQUIRED, AND VARY PER VERTICAL WALL HEIGHT.
8. SECTION "B-B" B1 BARS SHALL BE PLACED IN THE MIDDLE OF THE WALL AND SLAB SECTIONS.
9. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A-615 GRADE 60. (NO FIELD BENDING)
10. ALL CONCRETE SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF 4000 PSI @ 28 DAYS. COMPRESSION TEST CYLINDERS ARE REQUIRED.

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R.C. TRANSITION STRUCTURE DETAILS

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