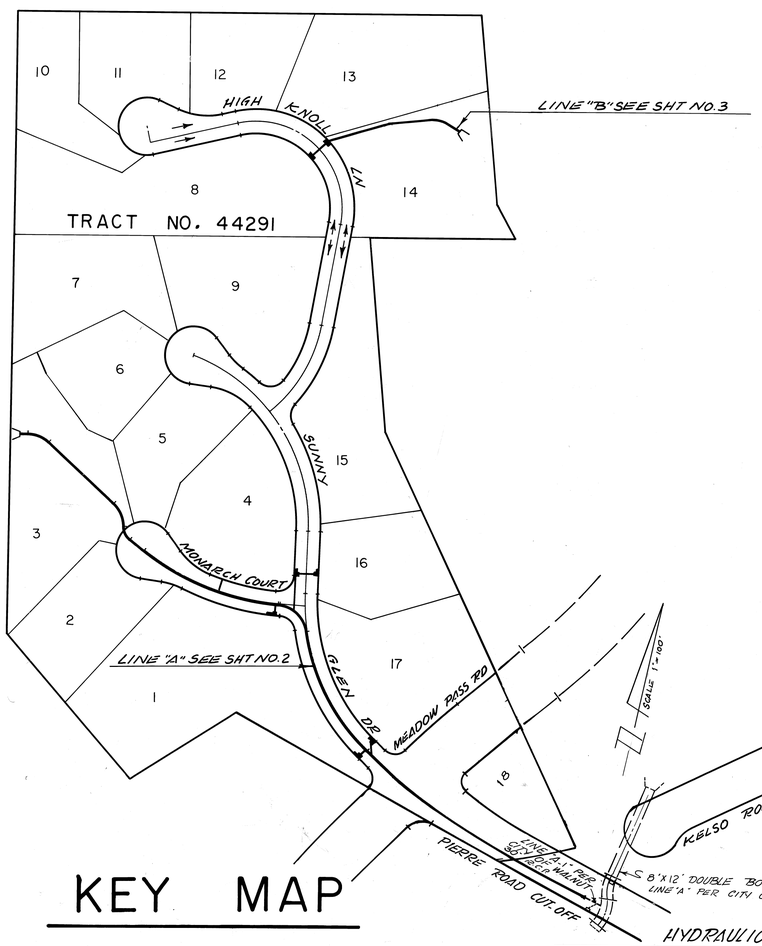
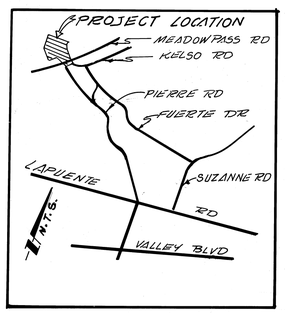
STORM DRAIN PLANS IN TRACT NO. 44291 M.T.D.



KEY MAP



LOCATION MAP

HYDRAULIC TABLE

LINE	STATION	STATION	PIPE SIZE	Q (C.F.S.)	V (FPS)	Dn (FT)
"A"	HEAD WALL	1+61.00	30"	43.2	8.8	2.5
	1+61.00	3+57.47	30"	43.2	20.0	1.1
	3+57.47	5+54.03	30"	43.2	13.0	1.6
	5+54.03	5+63.48	24"	38.8	20.4	1.16
	5+63.48	6+00.00	24"	35.8	20.4	1.10
	6+00.00	7+00.00	24"	35.8	23.6	0.97
	7+00.00	7+83.68	24"	35.8	24.9	0.93
	7+83.68	8+10.18	24"	28.8	21.4	0.88
	8+10.18	8+95.00	24"	24.8	20.5	0.81
	8+95.00	9+00.00	24"	24.8	20.4	0.80
	9+00.00	10+33.66	24"	24.3	20.6	0.80
	10+33.66	12+68.44	24"	24.3	14.7	1.0
"B"	1+00.00	1+10.00	24"	20.0	6.4	2.0
	1+10.00	1+30.00	24"	20.0	30.6	0.6
	1+30.00	2+15.83	24"	20.0	31.8	0.5
	2+15.83	2+94.28	24"	20.0	11.4	1.1

NO.	REVISION	REVISED BY	APPROVED BY	DATE

BENCH MARK:

L.A.C.R.D. B.M. NO. BG 1774
(COVINA 1970) L&T IN CONC.
HEADWALL @ N.W. CORNER
LA PUENTE RD. & PIERRE RD.
25'N. 30'W OF ℄ INTERSECTION ELEV= 577.919

GENERAL NOTES (Cont'd)

22. WHERE PIPE IS TO BE PLACED IN FILL, THE FILL SHALL BE COMPACTED TO A MINIMUM DEPTH OF 3 FEET ABOVE THE TOP OF THE PIPE PRIOR TO TRENCHING.
23. 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 DEPARTMENT SHALL INSPECT ALL BACKFILL AND FILL ABOVE AFOREMENTIONED LIMITS. APPLICATION FOR AN ENGINEER OR INSPECTOR IN CONNECTION WITH THE WORK, SHALL BE MADE BY THE CONTRACTOR AT LEAST 24 HOURS BEFORE HIS SERVICE IS REQUIRED. CALL (213) 226-8188.
24. 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. THE BEDDING MATERIAL PLACED FROM THE BOTTOM OF THE PIPE TO 1 FOOT OVER THE TOP OF THE PIPE SHALL BE SAND, CRUSHED AGGREGATE, OR NATIVE FREE-DRAINING GRANULAR MATERIAL AND SHALL HAVE A SAND EQUIVALENT OF 20 OR GREATER.
25. 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 BACK FILLS IN EASEMENTS SHALL BE COMPACTED TO THE DENSITY REQUIRED BY THE GRADING PLAN.
26. PIPE SHALL BE EMBEDDED 5 INCHES INTO ALL STRUCTURES INCLUDING INLET & HEADWALLS, UNLESS OTHERWISE SPECIFIED.
27. THE PIPE IS TO BE MANUFACTURED WITH AN ADDITIONAL CONCRETE THICKNESS OVER THE INVERT REINFORCEMENT AS SPECIFIED IN PROFILE ON THESE PLANS.
28. ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL DATUM OF 1929.
29. ALL CATCH BASINS WITHIN THE DEDICATED STREET RIGHTS-OF-WAY SHALL BE CONSTRUCTED PER THE STREET PLANS.
30. THE CONTRACTOR SHALL PROVIDE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES UNTIL THIS STORM DRAIN SYSTEM IS OPERABLE.
31. ALL REFERENCES ON THIS PLAN TO THE COUNTY ENGINEER, ROAD DEPARTMENT, OR FLOOD CONTROL DISTRICT SHALL APPLY TO THE APPROPRIATE SECTIONS OF THE DEPARTMENT OF PUBLIC WORKS.

LIST OF STANDARD PLANS

LOS ANGELES COUNTY FLOOD CONTROL DIST.

MANHOLE NO. 1 ..... 2 - D102
CONC. RINGS, REDUCER & PIPE FOR M.H. SHAFT... 2 - D107
JUNCTION STRUCTURE NO. 2 ..... 2 - D112
~~MANHOLE NO. 4~~ ..... 2 - D113
~~STANDARD A-615 REINFORCING BARS~~ ..... 2 - D171
~~MANHOLE NO. 2~~ ..... 2 - D184
~~TRANSITION STRUCTURE NO. 3~~ ..... 2 - D188
~~JUNCTION STRUCTURE NO. 4~~ ..... 2 - D193
~~TRANSITION STRUCTURE NO. 1~~ ..... 2 - D235
~~STANDARD DOUBLE PIPE & WIRE REVETMENT~~ ..... 2 - D253
~~PROTECTION BARRIER~~ ..... 2 - D261.1-.3
STANDARD 24" M.H. FRAME & COVER ..... 2 - D472
TRASH RACK ..... 2 - DTR1.1-.2

AMERICAN PUBLIC WORKS ASSOCIATION

CURB OPENING C.B. ..... 300 - 0
CURB OPENING C.B. W/GRATINGS & DEBRIS SKIMMER ..... 301 - 0
MONOLITHIC C.B. CONNECTION ..... 308 - 0
C.B. REINFORCEMENT ..... 309 - 0
C.B. FACE PLATE ASSEMBLY & PROTECTION BAR ..... 310 - 0
FRAME & GRATING FOR C.B. ..... 311 - 0
C.B. M.H. FRAME & COVER ..... 312 - 0
LOCAL DEPRESSION AT C.B. ..... 313 - 0
CHAIN LINK FENCE & GATES ..... 600 - 0
STANDARD DROP STEP ..... 635 - 0

LOS ANGELES COUNTY ENGINEER

PIPE BEDDING ..... D - 54
CONCRETE PIPE ANCHORS ..... D - 72
MINIMUM PUBLIC SAFETY REQUIREMENTS ..... S - 2

GENERAL NOTES

1. A PERMIT SHALL BE OBTAINED FROM THE LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO COMMENCING ANY CONSTRUCTION WORK UNDER THIS CONTRACT. CONTACT THE DEPARTMENT BY TELEPHONE AT (818) 458-3129 TO OBTAIN AN INSPECTION AND CONNECTION PERMIT AND TO MAKE DEPOSIT FOR CONSTRUCTION INSPECTION.
2. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER BY TELEPHONE, (714) 594-9702 AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS CONTRACT. THE CONTRACTOR SHALL SUBMIT A DEPOSIT FOR CONSTRUCTION INSPECTION TO THE CITY ENGINEER, CITY OF WALNUT, AT LEAST 24 HOURS BEFORE STARTING WORK UNDER THIS CONTRACT.
3. 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 DIRECTOR OF CITY ENGINEER.
4. APPROVAL OF THIS PLAN BY THE CITY ENGINEER DOES NOT CONSTITUTE A REPRESENTATION 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.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 1985 EDITION", INCLUDING SUPPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DIRECTOR OF PUBLIC WORKS.
6. 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.
7. THE CONTRACTOR SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN ON LOS ANGELES COUNTY ENGINEER STANDARD S-2.
8. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO THE CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
9. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE 2 1/2" CLEARANCE UNLESS OTHERWISE SPECIFIED.
10. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL. 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 STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 30 BAR DIAMETERS OR 18", WHICHEVER IS GREATER.
14. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED.
15. ALL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAY COMPRESSIVE STRENGHT OF 3250 p.s.i. UNLESS OTHERWISE NOTED.
16. ALL CONSTRUCTION JOINTS IN THE FOOTING OF SLABS AND WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
17. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4" CHAMFER.
18. 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.
19. THE INSPECTOR MAY HAVE THE OPTION TO REQUIRE CONCRETE BACKFILL DURING CONSTRUCTION WHEN THE 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. PORTLAND CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM OF 4 INCHES OVER THE TOP OF THE PIPE.
20. ALL BACKFILLS AND FILLS TO BE USED AS SUBGRADE SHALL BE COMPACTED TO A RELATIVE DENSITY OF 90% UNLESS OTHERWISE SPECIFIED.
21. 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 DIRECTOR OF THE PUBLIC WORKS PRIOR TO THE ACCEPTANCE OF THE WORK BY THE COUNTY.

RIPRAP NOTES

1. ROCKS FOR GROUTED RIPRAP SHALL BE GOOD QUALITY BROKEN CONCRETE AND/OR RIVER RUN ROCK. THE SMALLEST DIMENSION SHALL EXCEED 3 INCHES AND THE LARGEST DIMENSION SHALL NOT EXCEED 18 INCHES. THE LARGEST DIMENSION SHALL NOT EXCEED 4 TIMES THE SMALLEST DIMENSION.
2. THERE SHALL BE A GROUT BED OF AT LEAST 2 INCHES BENEATH THE FIRST LAYER OF ROCK. ALL THE VOIDS BETWEEN THE ROCKS SHALL BE FILLED WITH GROUT. MAXIMUM SPACING BETWEEN ROCKS SHALL BE 2 INCHES.
3. SURFACE ROCKS SHALL BE IMBEDDED FROM 1/2 TO 2/3 OF THEIR MAXIMUM DIMENSION.

NOTE: CONCRETE MAY BE SUBSTITUTED FOR THE GROUT.

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 NOT OF RECORD OR NOT SHOWN ON THIS DRAWING.

REGISTERED CIVIL ENGINEER NO. 16362 — DATE 10/25/88

REGISTERED PROFESSIONAL ENGINEER — WESLEY R. LIND — No. 16362 — Exp. 6-30-89 — CIVIL — STATE OF CALIFORNIA

W. R. LIND
44 SO. CHESTER AVE
PASADENA, CA. 91106
(818) 577-4300

WESLEY R. LIND
SIGNATURE: [signature] RCE NO. 16362

MTD

CITY OF WALNUT
RONALD L KRANZER CITY ENGINEER

APPROVED BY [signature] DATE 12-27-88
RONALD L KRANZER RCE 8503

SHT 1 OF 4 SHTS

STORM DRAIN PLANS IN TRACT No. 44291 M.T.D. No.

Q_{25} = 24.3 C.F.S. | Q_{25} = 24.8 C.F.S. | Q_{25} = 28.8 C.F.S. | Q_{25} = 35.8 C.F.S. | Q_{25} = 38.8 C.F.S. | Q_{25} = 43.2 C.F.S.

DOUBLE VERTICAL SCALE

PROFILE SCALE
HORIZ 1" = 40'
VERT 1" = 8'

LINE "A"

INSTALL 234 L.F. OF 24" R.C.P. 2000D | INSTALL 244 L.F. OF 24" R.C.P. 1600D | INSTALL 220 L.F. OF 24" R.C.P. 1600D | INSTALL 134 L.F. OF 30" R.C.P. 1600D | INSTALL 135 L.F. OF 30" R.C.P. 2000D

12+00 | 11+00 | 10+00 | 9+00 | 8+00 | 7+00 | 6+00 | 5+00 | 4+00 | 3+00 | 2+00 | 1+00

1 10' WIDE & VARIABLE WIDTH EASEMENT TO THE CITY OF WALNUT FOR STORM DRAIN & STORM DRAIN INGRESS & EGRESS PURPOSES.

2 5' WIDE EASEMENT TO THE CITY OF WALNUT FOR STORM DRAIN AND STORM DRAIN INGRESS AND EGRESS PURPOSES.

	Δ	R	L	T
1	6°30'14"	337.72'	38.33'	19.19'
2	8°12'53"	312.28'	44.77'	22.42'
3	45°48'39"	295.00'	235.86'	124.65'
4	79°0'54"	22.50'	31.03'	18.55'
5	33°49'12"	360.00'	212.49'	109.44'
6	61°40'23"	22.50'	24.22'	13.43'
7	57°1'36"	45.00'	44.78'	24.45'
8	42°7'37"	45.00'	33.08'	17.33'

CONST. INLET STRUCTURE PER DETAIL ON SHT 4

INLET PER GRADING PLAN NOT TO BE MAINT. AND BY THE CITY OF WALNUT

SUNNY GLEN DR | MONARCH COURT | MEADOW PASS ROAD | PIERRE ROAD | KELSO ROAD | TRACT BDRY | CUT-OFF | ADOBE TRAIL

SCALE 1"=40'

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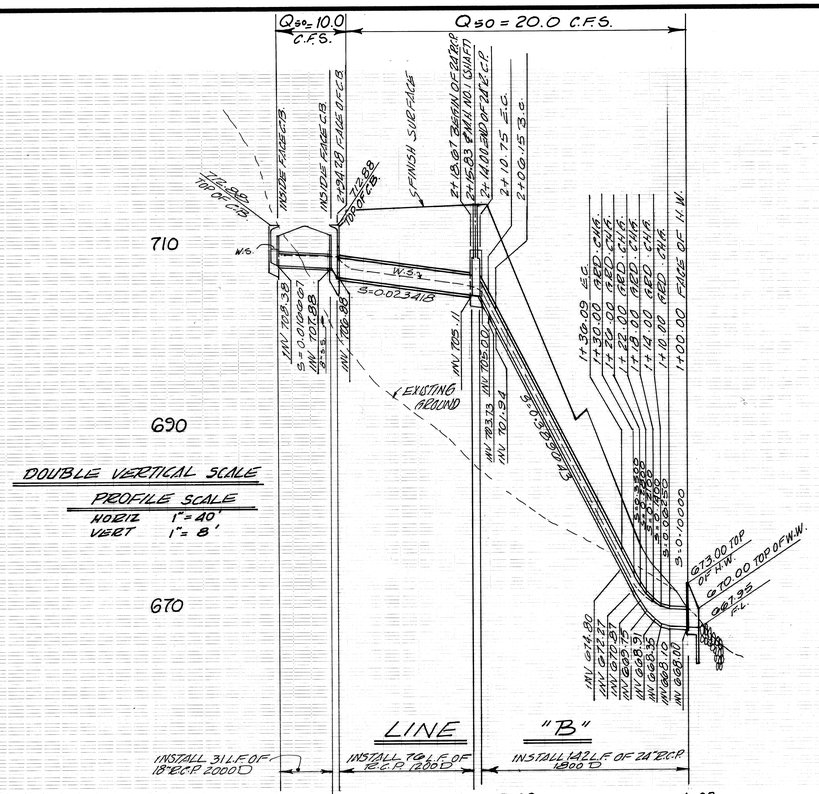
(818) 577-4300
WESLEY R. LIND
SIGNATURE: R.C.E. NO. 16362

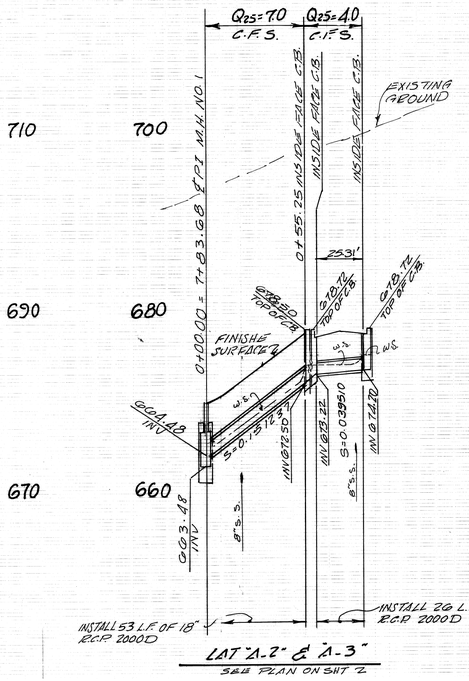
M.T.D. NO.

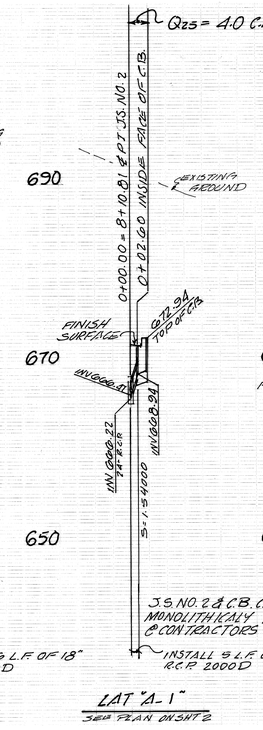
CITY OF WALNUT
RONALD L. KRANZER CITY ENGINEER

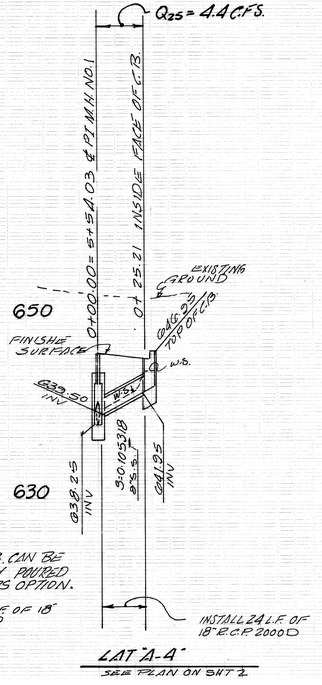
APPROVED BY: DATE 7-3-88
RONALD L. KRANZER R.C.E. 18503

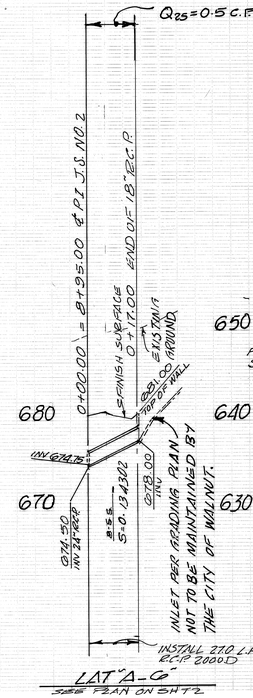
STORM DRAIN PLANS IN TRACT No. 44291 M.T.D. No.

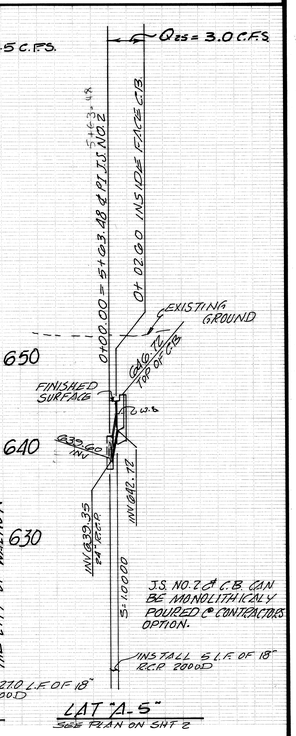


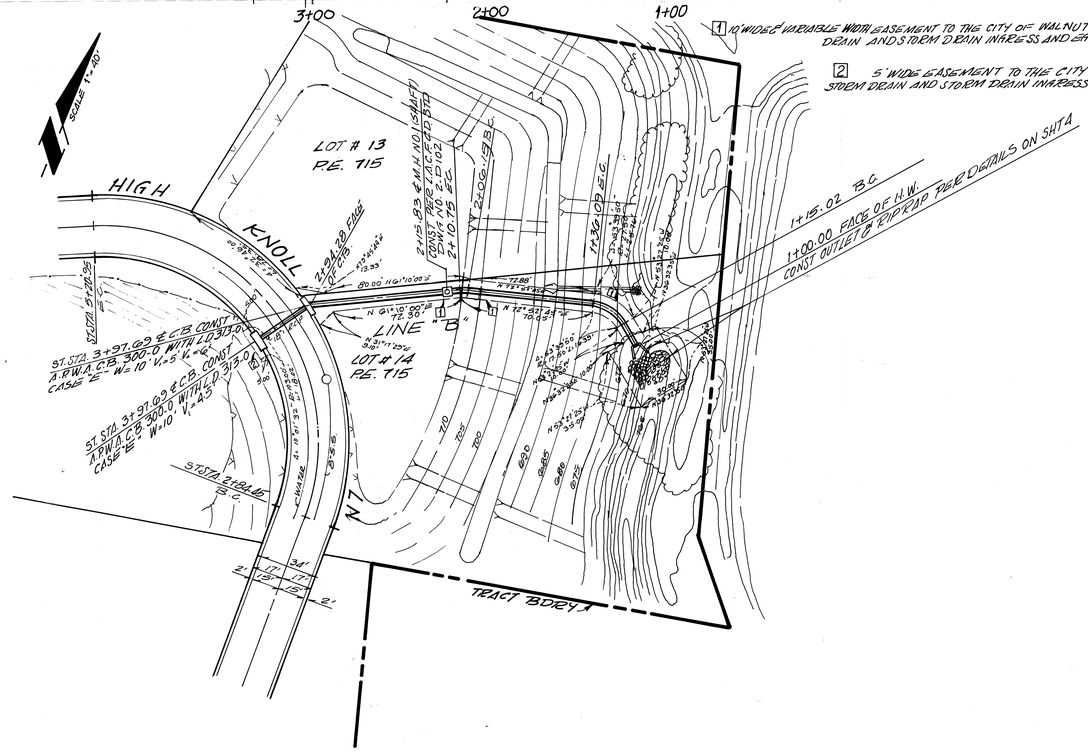












1 10' WIDE VARIABLE WIDTH EASEMENT TO THE CITY OF WALNUT FOR STORM DRAIN AND STORM DRAIN INGRESS AND EGRESS PURPOSES.

2 5' WIDE EASEMENT TO THE CITY OF WALNUT FOR STORM DRAIN AND STORM DRAIN INGRESS AND EGRESS PURPOSES.

REGISTERED PROFESSIONAL ENGINEER
WESLEY R. LIND
No. 16362
Exp. 6-30-89
CIVIL
STATE OF CALIFORNIA

W. R. LIND
AA 50 CHESTER AVE
PASADENA, CA, 91106
(818) 577-4300
WESLEY R. LIND
SIGNATURE: R.C.E. NO. 16362

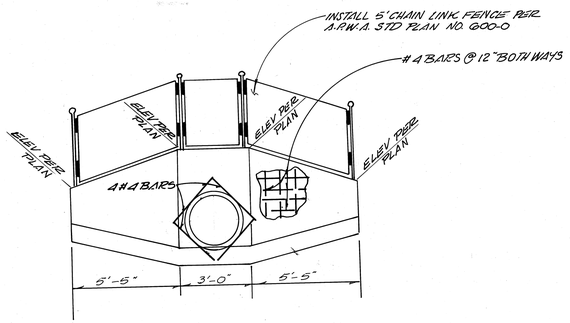
M. T. D. NO.

CITY OF WALNUT
RONALD L KRANZER CITY ENGINEER

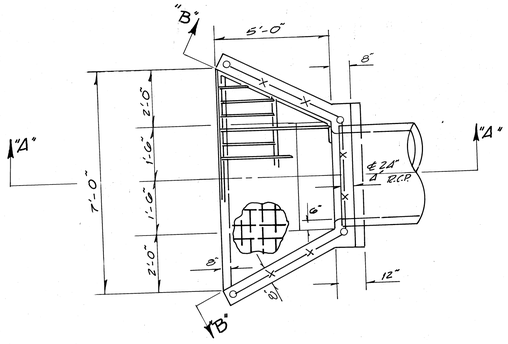
APPROVED BY: Ronald L Kranzer DATE 2-3-89
RONALD L. KRANZER R.C.E. 18503

SHT 3 OF 4 SHTS

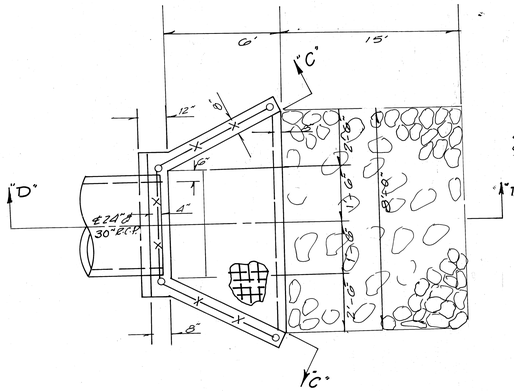
STORM DRAIN PLANS IN
TRACT No. 44291 M.T.D. No.



ELEVATION "B-B"
N.T.S.

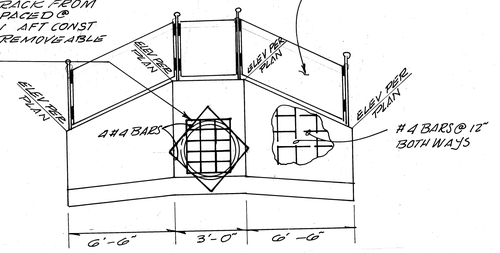


PLAN
N.T.S.



PLAN
N.T.S.

CONST. KID RACK FROM #4 BARS SPACED @ 6" Ø 3" GALV. PIPE CONST. & PROVIDE REMOVEABLE CONNECTION.



ELEVATION "C-C"
N.T.S.

SECTION "A-A"
N.T.S.

INLET STRUCTURE DETAILS LINE "A"
N.T.S.

SECTION "D-D"
N.T.S.

OUTLET STRUCTURE DETAILS LINE "B"
N.T.S.

REGISTERED PROFESSIONAL ENGINEER
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WESLEY R. LIND 1/26/89
SIGNATURE: _____ R.C.E. NO. 16362

M.T.D. NO.

CITY OF WALNUT
RONALD L. KRANZER CITY ENGINEER

APPROVED BY: _____ DATE 7-3-89
RONALD L. KRANZER R.C.E. 18503

SHT 4 OF 4 SHTS

172D