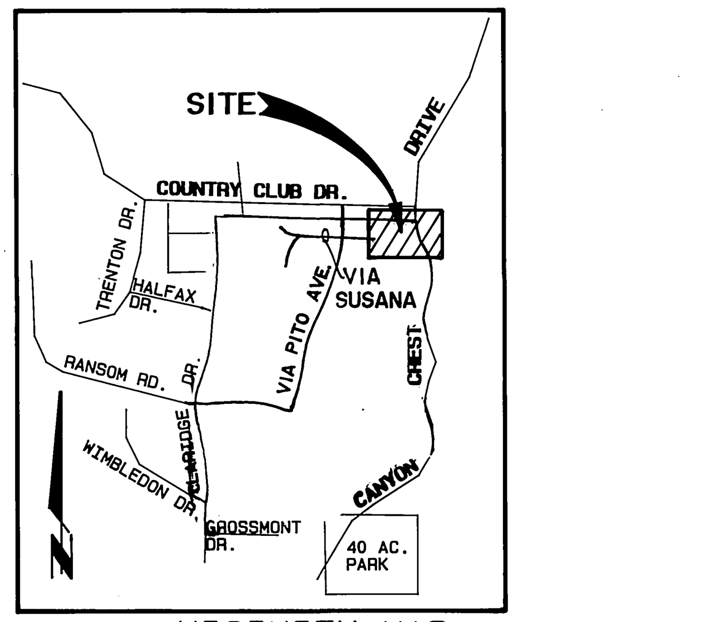
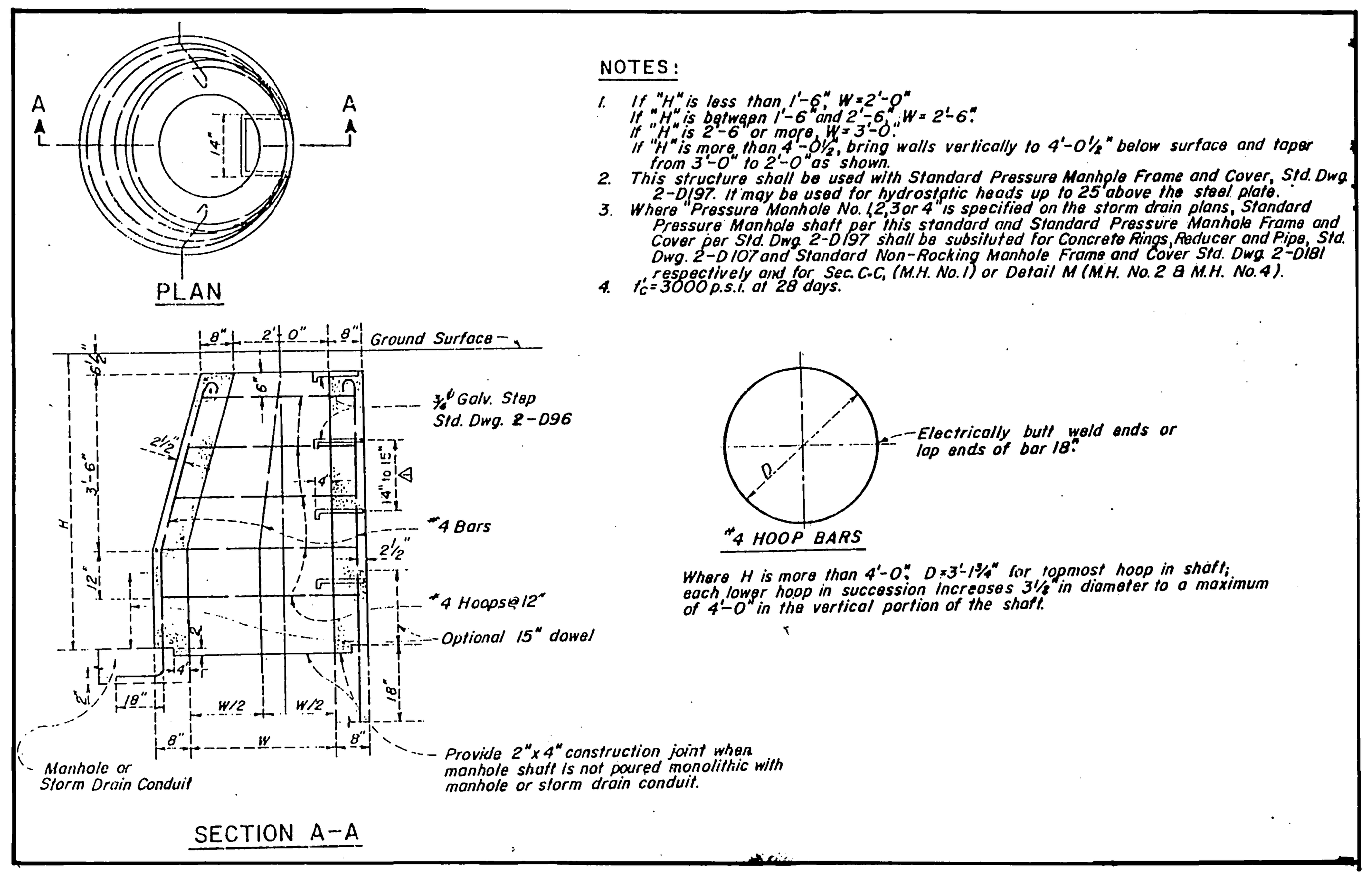
STORM DRAIN IMPROVEMENT PLANS



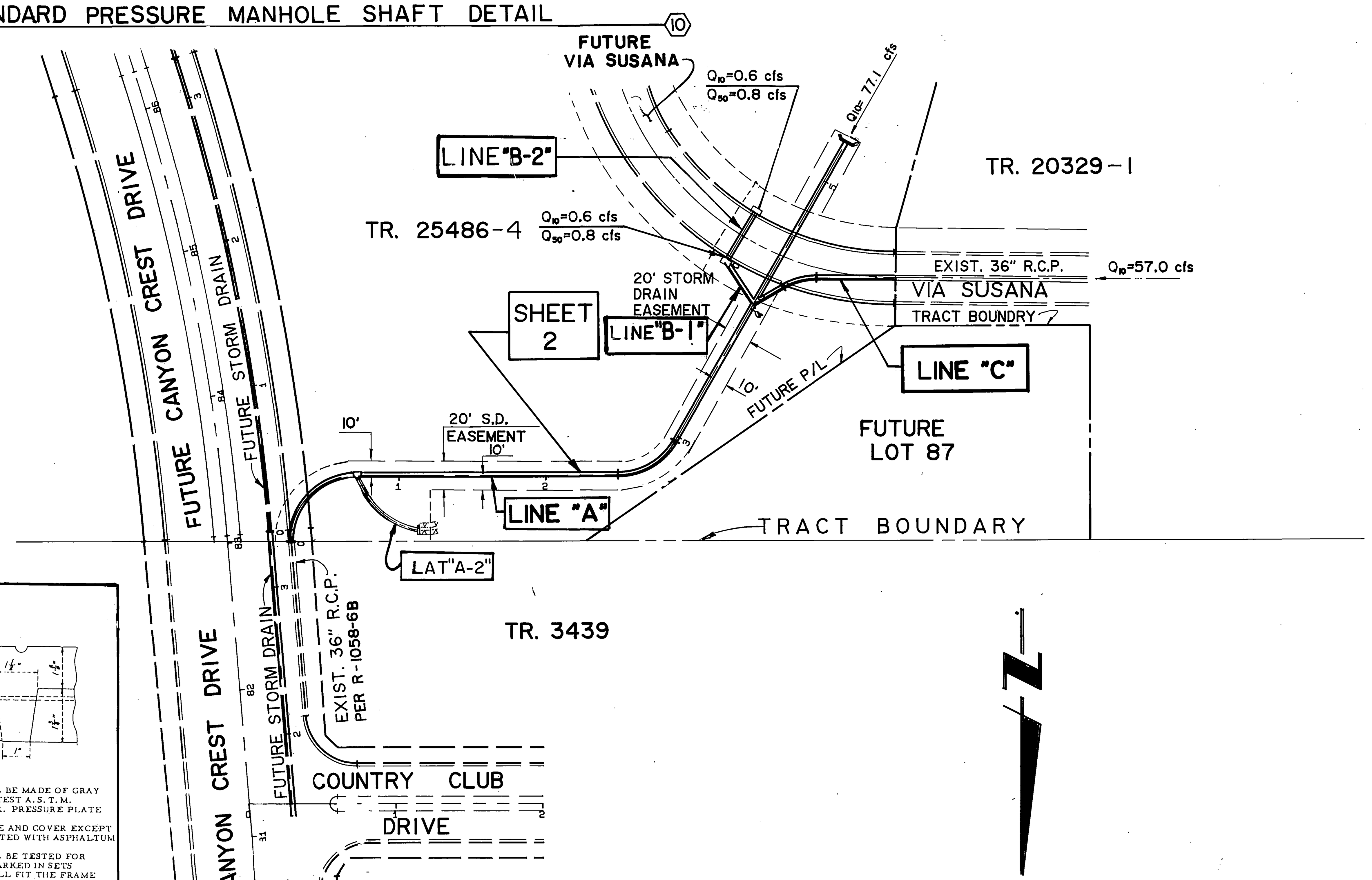
VICINITY MAP
N.T.S.



STANDARD PRESSURE MANHOLE SHAFT DETAIL ⟨10⟩

CONSTRUCTION NOTES — QUANTITY

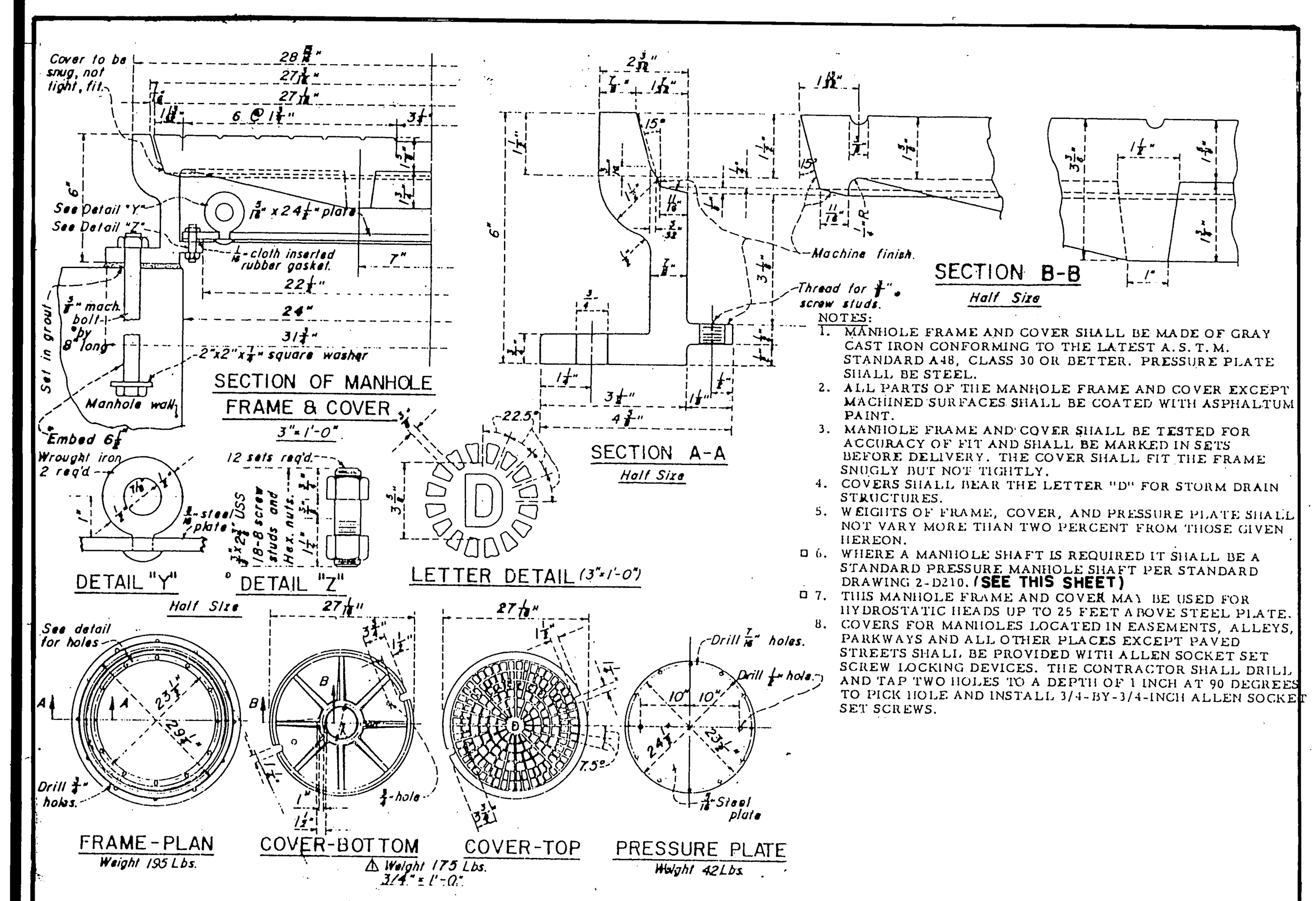
⟨1⟩	CONSTRUCT 18" R.C.P. (D-2000)	113 LF.
⟨2⟩	CONSTRUCT 36" R.C.P. (D-1750)	578 LF.
⟨3⟩	CONSTRUCT CATCH BASIN PER CITY RIVERSIDE STD. DWG. NO. 405	2 EA.
⟨4⟩	CONSTRUCT JUNCTION STRUCTURE "C" PER CITY OF RIVERSIDE STD. DWG. NO. 422	1 EA.
⟨5⟩	CONSTRUCT MANHOLE "EZ" PER CITY OF RIVERSIDE STD. DWG. NO. 431	1 EA.
⟨6⟩	CONSTRUCT CALTRANS HEADWALL PER DETAIL ON SHEET 2	2 EA.
⟨7⟩	CONSTRUCT CALTRANS WINGWALL PER DETAIL ON SHEET 2	1 EA.
⟨8⟩	CONSTRUCT 10'x10'x3.3' 1/4 TON GROUTED RIP-RAP	20 CY.
⟨9⟩	CONSTRUCT JUNCTION STRUCTURE "B" PER CITY OF RIVERSIDE STD. DWG. NO. 421	1 EA.
⟨10⟩	INSTALL L.A.C.F.C.D MANHOLE FRAME & COVER COVER PRESSURE TYPE & STANDARD PRESSURE MANHOLE SHAFT PER DETAIL ON THIS SHEET.	1 EA.



INDEX MAP
SCALE: 1"=60'

STORM DRAIN NOTES

1. QUANTITIES SHOWN ARE FOR INFORMATION ONLY AND THE CITY OF RIVERSIDE IS NOT RESPONSIBLE FOR THEIR ACCURACY.
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE DEPT. OF PUBLIC WORKS STD. DWGS., STD. DWG. NO. 10 & THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR THE RIGHT OF WAY IN ACCORDANCE WITH THE PROVISIONS OF LAW AS IT AFFECTS EACH UTILITY INCLUDING IRRIGATION LINES AND APPURTENANCES AND AT NO COST TO THE CITY.
4. NOTICE TO CONTRACTOR. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
5. THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE WORK HEREON. IN THE EVENT OF DISCREPANCIES ARISING DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY.
6. THE CONTRACTOR SHALL CALL IN A LOCATIONS REQUEST TO UNDERGROUND SERVICE ALERT (USA), PHONE NO. 1-800-422-4133, TWO WORKING DAYS BEFORE DIGGING. NO CONSTRUCTION PERMIT WILL BE ISSUED BY THE PUBLIC WORKS DEPARTMENT INVOLVING EXCAVATION FOR UNDERGROUND FACILITIES UNLESS THE APPLICANT HAS BEEN PROVIDED AN INQUIRY IDENTIFICATION NUMBER BY U.S.A.
7. THE DEVELOPER SHALL BE RESPONSIBLE FOR PRESERVING OR RE-ESTABLISHING AND REFERENCING SURVEY MONUMENTS DESTROYED, DISTURBED OR BURIED AS A RESULT OF CONSTRUCTION SHOWN HEREON.
8. ALL EMBANKMENT FILL SHALL BE COMPACTED TO MINIMUM OF 90% MAXIMUM DRY DENSITY AND SHALL BE OF AN APPROVED QUALITY.
9. BEFORE THE RIP-RAP IS ACCEPTED, AS PLACED, AT THE OUTLET OF ANY DRAINAGE STRUCTURE, IT SHALL BE TESTED UNDER FLOWS AS CLOSE AS POSSIBLE TO DESIGN CONDITIONS WITH WATER OBTAINED FROM FIRE HYDRANTS IN THE IMMEDIATE AREA.
10. ALL FLAGGED ELEVATIONS SHALL BE STAKED IN THE FIELD BY THE PRIVATE ENGINEER.
11. 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 PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
12. THE CONCRETE COVER ON THE INSIDE OF ALL CONCRETE PIPE MUST BE INCREASED TO PROVIDE A MIN. OF 1.5" OVER THE REINFORCING WHEN THE DESIGN VELOCITIES EXCEED 20 FPS. THE ACONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE:
FC = 5000 PSI. FOR VELOCITIES EXCEEDING 20 FPS. AND
FC = 6000 PSI. FOR VELOCITIES EXCEEDING 30 FPS.
13. ALL RIP-RAP WILL BE NATURAL RIVER-ROCK, NOT BLASTED ROCK.
14. GROUT WILL BE COLOR TREATED TO BLEND INTO NATURAL SURROUNDING TERRAIN.
15. ALL DRAINAGE FEATURES INCLUDING GRATES, TRASH RACKS, HEADWALL ETC. WILL BE COLOR TREATED TO BLEND IN WITH SURROUNDING NATURAL TERRAIN.



MANHOLE FRAME & COVER PRESSURE TYPE DETAIL ⟨10⟩

PACIFIC TELEPHONE CO.	CITY OF RIVERSIDE OVERHEAD & UNDERGROUND	CITY OF RIVERSIDE WATER SYSTEM	CITY OF RIVERSIDE PLANNING DEPARTMENT
APPROVED (signed) — DATE 6-19-91	ENGINEERING MANAGER, ELECTRICAL (signed for Wm Whitten) — DATE 6/17/91	APPROVED (signed Richard L. Drolek) — DATE 6-18-91	APPROVED BY (signed) — DATE 6/19/91

Underground Service Alert
CALL BEFORE YOU DIG
Call: TOLL FREE 1-800 422-4133
TWO WORKING DAYS BEFORE YOU DIG

PRIVATE ENGINEERING NOTE
CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

REGISTERED PROFESSIONAL ENGINEER JEFFREY D. SIMS No. 46212 12/31/94 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF: (signed)
REGISTERED CIVIL ENGINEER NO. 46212
EXPIRATION DATE: 12/31/90 DATE: 6/7/91

JFD
CITY BUSINESS TAX CERT. NO.: 4994 EXP. DATE: 12/31/91
J.F. Davidson Associates, Inc.
ENGINEERING PLANNING SURVEYING ARCHITECTURE LANDSCAPE ARCHITECTURE
3880 Lemon Street, Suite 300, P.O. Box 493, Riverside, CA 92502, (714) 686-0844, FAX 714-686-5954
11200 S. Mt. Vernon Ave., Suite "D", Colton, CA 92324, (714) 825-1082
73-080 El Paseo, Suite 106, Palm Desert, CA 92260, (619) 346-5691, FAX 619-340-0529

SCALE: 1"=40'
DATE: MAY 1991
BENCH MARK: P.K. NAIL AT TAG IN BASE OF LIGHT STANDARD IN MEDIAN STRIP OF COUNTRY CLUB DRIVE 60' WEST OF C/L CANYON CREST DRIVE. ELEV. = 1068.06

MARK	REVISIONS	APPR.	DATE

DESIGNED BY T.C.L. DRAWN BY C.M.F. CHECKED BY J.D.S.

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

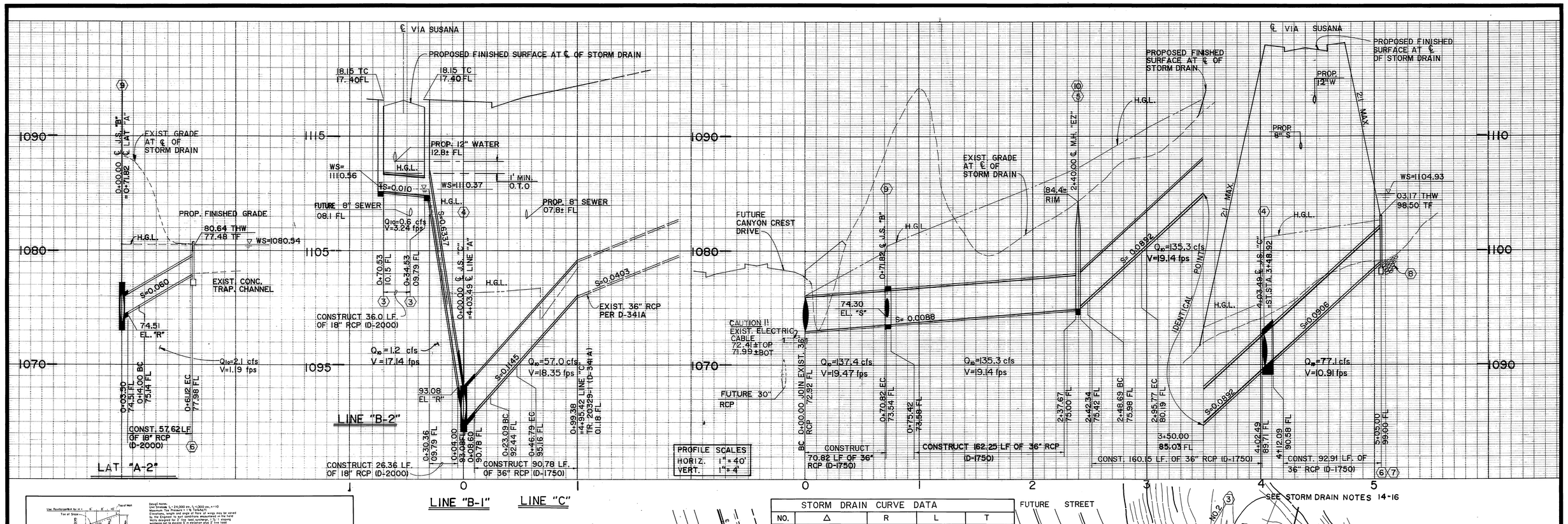
APPROVED BY	BY	DATE
PRINCIPAL ENGINEER	(initials)	7/1/91
PARK DEPARTMENT	—	—
TRAFFIC DIVISION	—	—
CHIEF P. W. ENGR.	(initials)	7/2/91

APPROVED BY (signed) DIRECTOR OF PUBLIC WORKS DATE 7/2/91

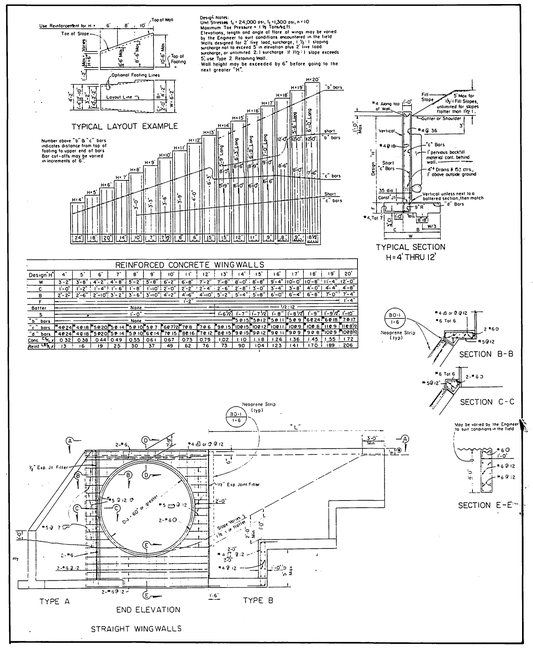
TRACT 20329-1
OFFSITE STORM DRAIN IMPROVEMENT
FOR: CHRISTIAN BERGUM & ASSOCIATES
HORIZ. SCALE: VERT. SCALE:

PROJECT NO. 8911565
D-596
SHEET 1 OF 2
FILE NO.: 8911565

FRED
INDEXED 7-9-91 FH

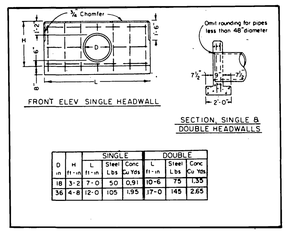


LINE "B-1" LINE "C"



WING - WALL DETAIL — 7

N.T.S.



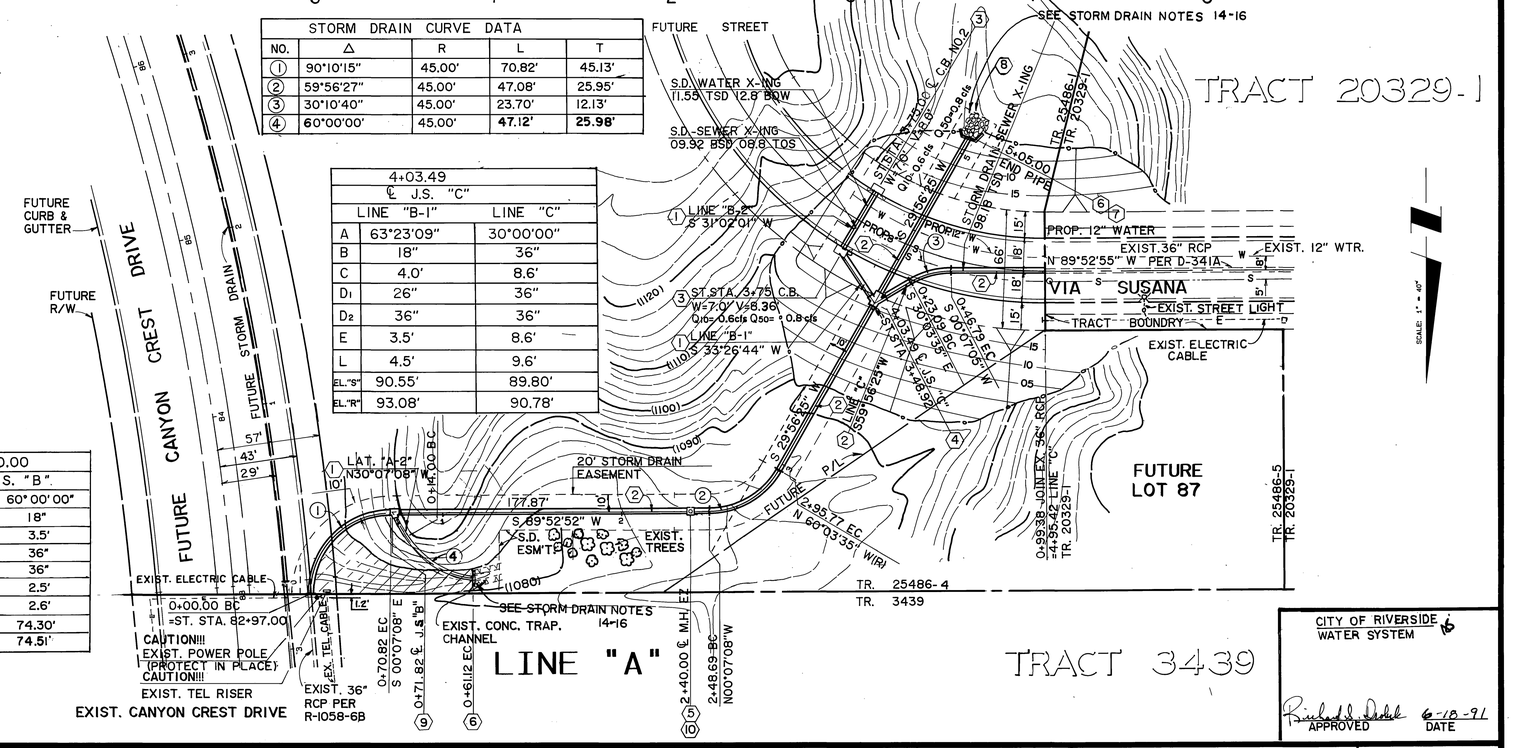
HEADWALL DETAIL — 6

N.T.S.

STORM DRAIN CURVE DATA				
NO.	Δ	R	L	T
1	90°10'15"	45.00'	70.82'	45.13'
2	59°56'27"	45.00'	47.08'	25.95'
3	30°10'40"	45.00'	23.70'	12.13'
4	60°00'00'	45.00'	47.12'	25.98'

4+03.49 ℄ J.S. "C"		
	LINE "B-1"	LINE "C"
A	63°23'09"	30°00'00"
B	18"	36"
C	4.0'	8.6'
D_1	26"	36"
D_2	36"	36"
E	3.5'	8.6'
L	4.5'	9.6'
EL."S"	90.55'	89.80'
EL."R"	93.08'	90.78'

0+00.00 ℄ J.S. "B".	
A	60°00'00"
B	18"
C	3.5'
D_1	36"
D_2	36"
E	2.5'
L	2.6'
ELEV"S"	74.30'
ELEV"R"	74.51'



CITY OF RIVERSIDE WATER SYSTEM

APPROVED 6-18-91 DATE

Underground Service Alert — Call: TOLL FREE 1-800 422-4133 — TWO WORKING DAYS BEFORE YOU DIG

PRIVATE ENGINEERING NOTE

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REGISTERED PROFESSIONAL ENGINEER JEFFREY D. BANKS No. 46212 Exp. 12/31/92 STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF:

REGISTERED CIVIL ENGINEER NO. 46212

EXPIRATION DATE: 12/31/90 DATE: 6/7/91

APPROVED BY:

J.F. Davidson Associates, Inc.
ENGINEERING PLANNING SURVEYING ARCHITECTURE LANDSCAPE ARCHITECTURE

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MARK	REVISIONS	APPR	DATE

DESIGNED BY T.C.L. DRAWN BY J.A.A. CHECKED BY J.D.S.

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		7/1/91
PARK DEPARTMENT	—	—
TRAFFIC DIVISION	—	—
CHIEF P.W. ENGR.		7/1/91

APPROVED BY: DIRECTOR OF PUBLIC WORKS

DATE 7/2/91

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SHEET 2 OF 2

FILE NO.: 8911565

INDEXED 7-9-91 4H