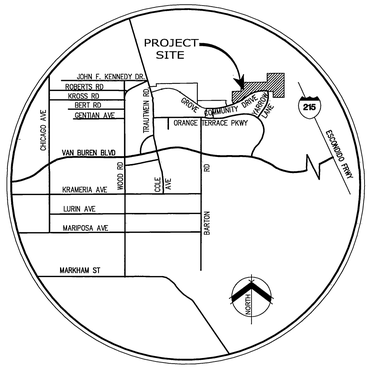
STORM DRAIN IMPROVEMENT PLANS

TRACT NO. 30717, IN THE CITY OF RIVERSIDE

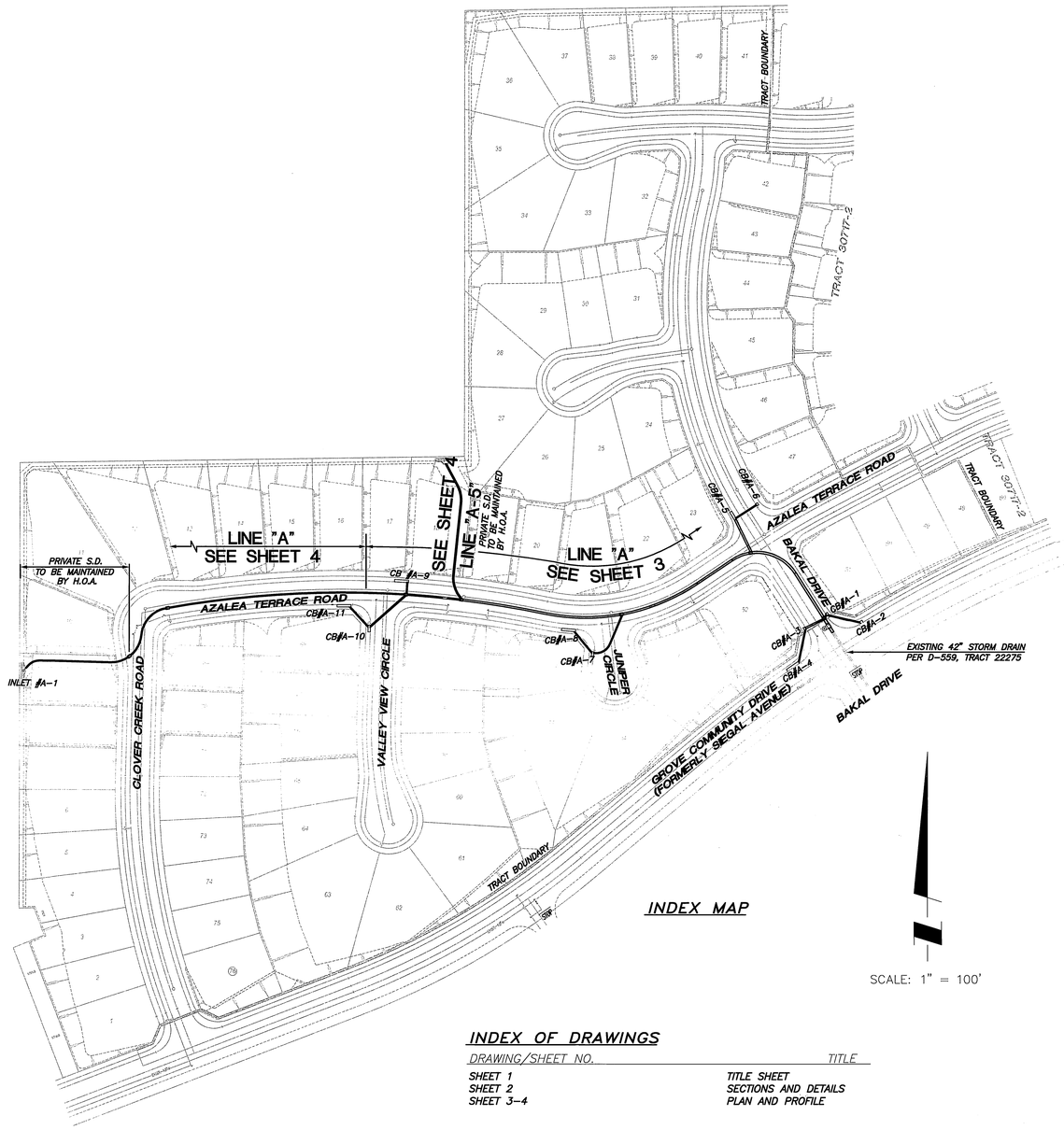


VICINITY MAP
NOT TO SCALE

CONSTRUCTION NOTES & QUANTITY ESTIMATE

QUANTITY ESTIMATE IS FOR BONDING PREPOSSESS ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO CONSTRUCTION

1	CONSTRUCT 18" RCP STORM DRAIN (D-LOAD PER PLAN)	989	LF
2	CONSTRUCT 24" RCP STORM DRAIN (D-LOAD PER PLAN)	316	LF
3	CONSTRUCT 30" C.I.P.P. STORM DRAIN	290	LF
4	CONSTRUCT 36" C.I.P.P. STORM DRAIN	371	LF
5	CONSTRUCT 42" C.I.P.P. STORM DRAIN	8	LF
6	CONSTRUCT CONCRETE COLLAR PER CITY STD. 424	2	EA
8	CONSTRUCT MANHOLE EZ PER CITY STD. 431	6	EA
9	CONSTRUCT CATCH BASIN PER CITY STD. 405	11	EA
10	CONSTRUCT MANHOLE AX PER CITY STD. 430	1	EA
11	CONSTRUCT C.S.P. INLET PER CITY STD. 412 AND DETAIL ON SHEET 2	1	EA
12	CONSTRUCT STORM WATER STRUCTURE PER DETAIL ON SHEET 2	1	EA
13	CONSTRUCT HEADWALL PER DETAIL ON SHEET 2	1	EA
14	REMOVE AND DISPOSE EXISITING HEADWALL	1	EA
16	CONSTRUCT 18" C.S.P.(12 GAGE) STORM DRAIN	4	LF



INDEX MAP

SCALE: 1" = 100'

INDEX OF DRAWINGS

DRAWING/SHEET NO.	TITLE
SHEET 1	TITLE SHEET
SHEET 2	SECTIONS AND DETAILS
SHEET 3-4	PLAN AND PROFILE

GENERAL NOTES

1. 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.
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE DEPT. OF PUBLIC WORKS STANDARD DRAWINGS, IT'S SUPPLEMENTAL NOTES, AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION.
3. 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.
4. QUANTITIES SHOWN ARE FOR INFORMATION ONLY AND THE CITY OF RIVERSIDE IS NOT RESPONSIBLE FOR THEIR ACCURACY.
5. 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.
6. ALL FLAGGED ELEVATIONS SHALL BE STAKED IN THE FIELD BY THE PRIVATE ENGINEER.
7. ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED. STATIONING FOR LATERALS AND CONNECTOR PIPES REFER TO THE CENTERLINE-CENTERLINE INTERSECTION.
8. HOURS OF OPERATION ARE 7 A.M. TO 6 P.M. MONDAY THROUGH FRIDAY. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
9. NO PERSON SHALL PERFORM ANY CONSTRUCTION ACTIVITY OR INSTALL ANY OBJECTS WITHIN THE PUBLIC RIGHTS-OF-WAY OR EASEMENTS OF THE CITY OF RIVERSIDE WITHOUT A VALID CONSTRUCTION PERMIT OR A STREET OPENING PERMIT OR AN ENCROACHMENT PERMIT ISSUED BY THE CITY'S PUBLIC WORKS DEPARTMENT.
10. ANY TRAFFIC CONTROL STRIPING OBLITERATED AND OR BADLY WORN DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITHIN FIVE DAYS AFTER NOTIFICATION FROM THE CITY INSPECTORS.
11. THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (U.S.A.), PHONE No. 1-800-227-2600, 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.
12. ALL CROSS SECTIONS ARE TAKEN LOOKING UPSTREAM.
13. CONTRACTOR TO VERIFY EXISTING STORM DRAIN ELEVATIONS PRIOR TO CONSTRUCTION.
14. PIPE BEDDING SHALL BE PER CITY OF RIVERSIDE STD. DWG. No. 452, CASE 1 UNLESS OTHERWISE NOTED.
15. THE STORM DRAIN CONTRACTOR SHALL ADJUST STORM DRAIN MANHOLES TO FINAL GRADE AFTER PAVING IS COMPLETED.
16. PIPE SECTIONS TO BE BEVELED AT ONE OR BOTH ENDS AS NEEDED TO MEET SYSTEM DESIGN PARAMETERS. SECTIONS BEVELED IN THIS MANNER NORMALY FIT TOGETHER ON A 90-, 45-, OR 22.5 FOOT RADIUS CURVE.

HOLD HARMLESS INDEMNIFICATION CLAUSE

THE CONTRACTOR AGREES THAT HE SHALL 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 APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY OF RIVERSIDE, THE OWNER, AND THE PRIVATE ENGINEERS HARMLESS FOR 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.

EXISTING UNDERGROUND STRUCTURES

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPE STRUCTURES OR CONDUITS 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 THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE PLANS.

NOTICE TO CONTRACTOR

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

C.I.P.P. NOTES

1. *CAST-IN-PLACE CONCRETE PIPE CONSTRUCTION SHALL BE IN ACCORDANCE WITH 306-4 OF THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION.*
2. *FULL-TIME INSPECTION SHALL BE PROVIDED AT NO COST TO THE CITY BY A CITY APPROVED INSPECTOR. TWO WEEKS PRIOR TO CONSTRUCTION THE RESUME OF THE PROPOSED INSPECTOR SHALL BE SUBMITTED TO THE CITY FOR APPROVAL.*
3. *TRENCHING SHALL BE COMPLETED WITH A CURVED BUCKET TO CREATE A SEMI-CIRCULAR TRENCH.*
4. *MATERIAL TESTING IN ACCORDANCE WITH SECTION 306-4.7 OF THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION SHALL BE AT NO COST TO THE CITY.*
5. *REINFORCED CONCRETE PIPE SHALL BE USED 10-FEET ON EACH SIDE OF ALL CUT-FILL TRANSITION.*
6. *UPON COMPLETION OF CONSTRUCTION, A REPORT COVERING CONSTRUCTION OF THE PIPE SHALL BE PREPARED AND SUBMITTED TO THE CITY. THE REPORT SHALL INCLUDE A STANDARD VHS VIDEO INSPECTION OF THE PIPE, DAILY LOGS COVERING THE METHOD OF PIPE CONSTRUCTION, A SUMMARY OF THE MATERIAL TESTS, PROBLEMS ENCOUNTERED AND DOCUMENTATION OF ALL REPAIRS. APPROVAL OF THE REPORT AND RELEASE OF THE IMPROVEMENT BOND IS CONTINGENT UPON RECEIPT AND APPROVAL OF THE REPORT BY THE CITY.*

REVIEWED BY:
APPROVED BY: WESTERN MUNICIPAL WATER DISTRICT
FOR NON-INTERFERENCE COMPLIANCE
SHEET 1 THROUGH 4
CIVIL ENGINEER RCE 46212
DATE: 8-25-03

CITY BUSINESS TAX CERTIFICATION NO. 104442 EXP. DATE: 5/25/2004

CALL BEFORE YOU DIG — Underground Service Alert — Call: TOLL FREE 1-800 227-2600 — 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.

BENCHMARK

EB-F3 ELEV. 1665.160 DATE: 1997
P.K. NAIL AND CITY ENGINEER TAG ON THE SIDEWALK OVER W'LY WALL OF A CATCH BASIN ALONG THE S'LY. CURB OF ORANGE TERRACE PKWY., 100 FEET E'LY OF TRAUTWEIN ROAD. THE MARK IS 2 FEET S'LY OF THE FACE OF CURB.

ADJUSTED AND ENTERED: JUNE 1997

REGISTERED PROFESSIONAL ENGINEER — TREVOR S. DODSON — No. 42029 — Exp. 3-31-2004 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED BY:
MDS CONSULTING — PLANNERS ENGINEERS SURVEYORS
MORSE DOKICH SCHULTZ — 17320 Redhill Ave. Suite 350, Irvine, CA 92614 — Voice: 949-251-8821 — FAX: 949-251-0516

PLANS PREPARED UNDER THE SUPERVISION OF:
TREVOR S. DODSON R.C.E. NO.42029 DATE 8-20-03

MARK	REVISIONS:	APPR.	DATE

DESIGNED BY: FE DRAWN BY: WS CHECKED BY: TD

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	9/24/03	
PARK DEPARTMENT	-	-
TRAFFIC DIVISION	-	-
STREET SERVICES	8/7/03	

CITY ENGINEER
DATE 9/25/03

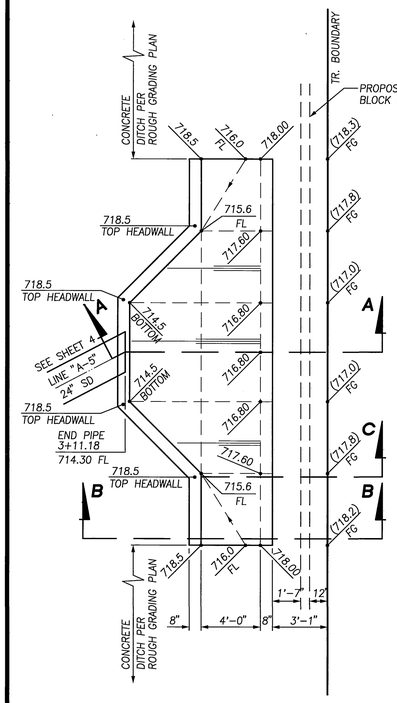
STORM DRAIN IMPROVEMENT PLANS
TRACT 30717
TITLE SHEET

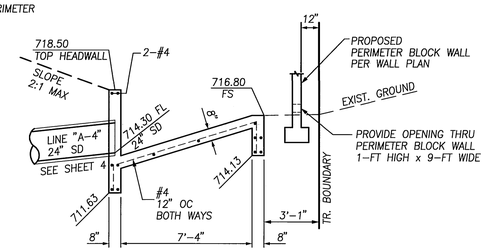
HORIZ. SCALE: AS SHOWN VERT. SCALE:

PW03-0008
ACCOUNT NO.....
D-729
SHEET 1 OF 4

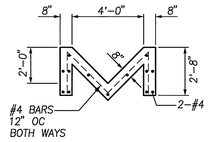
I:\52604\IMPLANS\SD-30717.dwg 8/06/03

INDEXED 10-07-03 LH

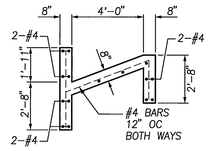




SECTION "A-A"



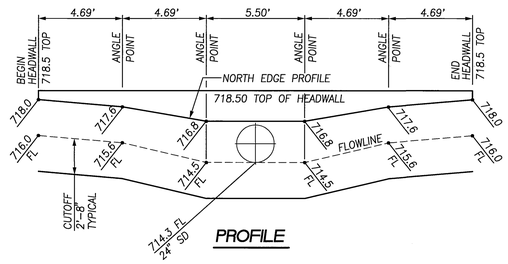
SECTION "B-B"



SECTION "C-C"

NOTES:

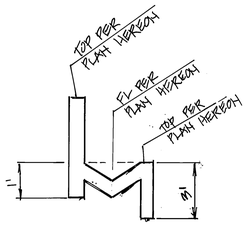
1. CONCRETE SHALL BE CLASS A
2. REINFORCING STEEL SHALL BE #4, 2" MINIMUM CLEARANCE
3. MINIMUM LAP = 16"
4. ALL EXPOSED CORNERS ROUNDED 3/4" RADIUS



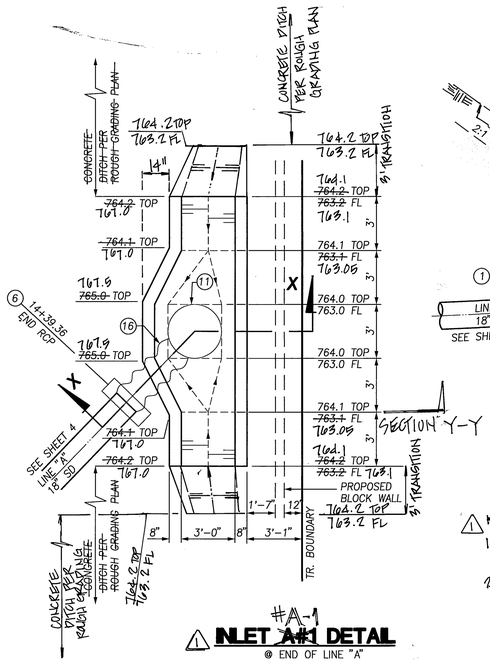
PROFILE

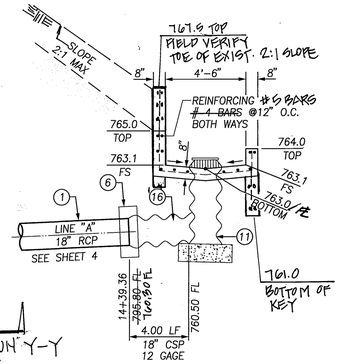
HEADWALL DETAIL

@ END OF LINE "A-5"



1 SECTION Y-Y





SECTION "X-X"

1 NOTES:

1. EXPOSED CORNERS SHALL BE CHAMFERED 3/4"
2. CONCRETE SHALL BE CLASS 560-C-3250

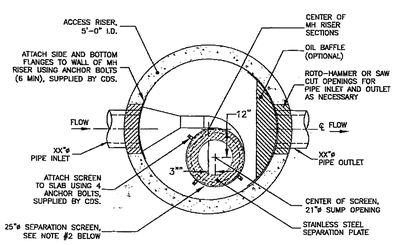
1 INLET #A-1 DETAIL

@ END OF LINE "A"

CONSTRUCTION NOTES

(1) CONSTRUCT 18" RCP (D-LOAD PER PLAN)
(6) CONSTRUCT CONCRETE COLLAR PER CITY STD. 424
(11) CONSTRUCT C.S.P. INLET PER CITY STD. 412 AND DETAIL ON SHEET 2
(16) CONSTRUCT 18" C.S.P.(12 GAGE) STORM DRAIN

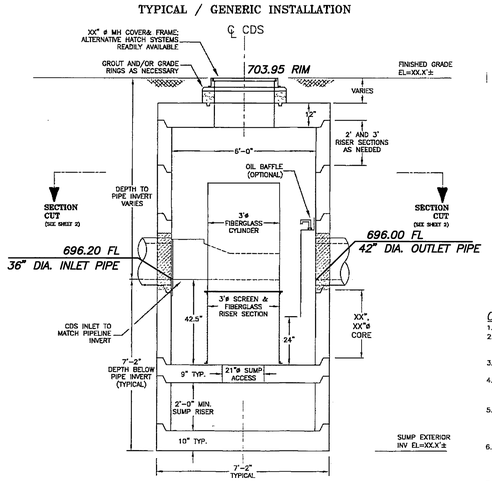
TYPICAL / GENERIC INSTALLATION

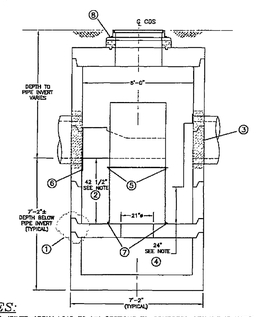


NOTES:

1. THE INTERNAL COMPONENTS ARE SHOWN IN THE RIGHT-HAND CONFIGURATION-THESE COMPONENTS MAY BE FURNISHED IN THE MIRROR IMAGE TO THAT SHOWN (LEFT-HAND CONFIGURATION).
2. FOR PROPER INSTALLATION, GREEN FLANGE ON SCREEN FACES UP FOR RIGHT-HAND INSTALLATION, RED FLANGE FACES UP FOR LEFT-HAND ORIENTED UNITS.

TYPICAL / GENERIC INSTALLATION





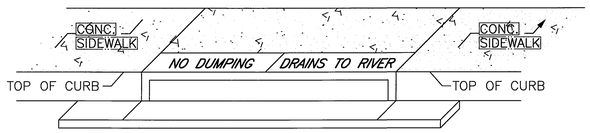
CONSTRUCTION NOTES:

1. APPLY BUTYL MASTIC TO SEAL RISER JOINTS-APPLY LOAD TO MH SECTIONS TO COMPRESS SEALANT IF NECESSARY.
2. IF SEPARATION SLAB IS NON-INTEGRAL TO THE SEPARATION SECTON OF THE UNIT, SET AND VERIFY TOP ELEVATION BEFORE PLACING MORE PRECAST COMPONENTS OR BACKFILLING. ENSURE 42.5" FROM TOP OF SEPARATION SLAB TO PIPE INVERT.
3. ROTO-HAMMER OR SAW-CUT OPENINGS FOR PIPE INLET AND OUTLET AS NECESSARY; GROUT PIPE CONNECTIONS TO SEAL JOINT.
4. SET BOTTOM OF OIL BAFFLE 24" ABOVE SEPARATION SLAB FLOOR; DRILL AND INSERT A MINIMUM OF FOURTEEN(14) 3/8" x 3 3/4" SS EXPANSION BOLTS @ 12 O.C. EQUALLY SPACED TO SECURE BAFFLE FLANGE TO RISER WALL-(HARDWARE SUPPLIED BY CDS TECHNOLOGIES).
5. FASTEN FIBERGLASS CYLINDER/INLET TO SCREEN ASSEMBLY USING FOUR (4) SETS OF 3/4" x 1 3/4" SS HEX HEAD BOLTS W/ NUTS AND WASHERS-(HARDWARE SUPPLIED BY CDS TECHNOLOGIES). IN THE LEFT-HANDED CONFIGURATION THE "RED" COLORED FLANGE ON THE SCREEN CYLINDER SHALL FACE UP. IN THE RIGHT-HANDED CONFIGURATION, THE "GREEN" COLORED FLANGE SHALL FACE UP.
6. MATCH FIBERGLASS INLET TO INLET STORM DRAIN AND VERIFY THAT SCREEN ASSEMBLY IS CENTERED OVER SUMP ACCESS HOLE AND ADJUST IF NECESSARY; DRILL AND INSERT A MINIMUM OF SIX (6) 3/8" x 3 3/4" SS EXPANSION BOLTS EQUALLY SPACED TO SECURE FIBERGLASS INLET FLANGE TO RISER WALL-(HARDWARE SUPPLIED BY CDS TECHNOLOGIES).
7. FASTEN SCREEN TO SEPARATION SLAB USING FOUR (4) 3/8" x 3 3/4" SS EXPANSION BOLTS-(HARDWARE SUPPLIED BY CDS TECHNOLOGIES).
8. BLOCK AND GROUT SEAL TO MATCH GRADE AS REQUIRED.

CDS MODEL PSWC56-40

STORM WATER STRUCTURE DETAILS

TO BE MAINTAINED BY H.O.A.
NOT TO SCALE



CATCH BASIN STENCILING DETAIL

N.T.S

(A) STENCILS TO HAVE 2" LETTERS AS FOLLOWS: NO DUMPING / DRAINS TO RIVER

(B) PLACE BOTH STENCILS CENTERED WITHIN THE CATCHBASIN OPENING AND WITHIN THE TOP OF CURB.

(C) SPRAY BOTH STENCILS WITH WHITE PAINT.

(D) REMOVE STENCILS WHEN PAINT IS DRY.

PW03-0008

Underground Service Alert
Call: TOLL FREE
1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

PRIVATE ENGINEERING NOTE

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BENCHMARK

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ADJUSTED AND ENTERED: JUNE 1997

REGISTERED PROFESSIONAL ENGINEER TREVOR S. DODSON No. 42029 Exp. 3-31-2004 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY:
MDS CONSULTING
MORSE DOKICH SCHULTZ
17320 Redhill Ave. Suite 350 Irvine, CA 92614 Voice: 949-251-8821 FAX: 949-251-0516
PLANNERS ENGINEERS SURVEYORS

PLANS PREPARED UNDER THE SUPERVISION OF:
TREVOR S. DODSON R.C.E. NO.42029 — 8-20-03 DATE

MARK	REVISIONS	APPR.	DATE
1	REVISED INLET #A-1 DETAIL	RVC	3-25-04

DESIGNED BY FE DRAWN BY WS CHECKED BY TD

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

	DATE	BY
APPROVED BY		
PRINCIPAL ENGINEER	9/24/03	DH
PARK DEPARTMENT	-	-
TRAFFIC DIVISION	-	-
STREET SERVICES	8/7/03	

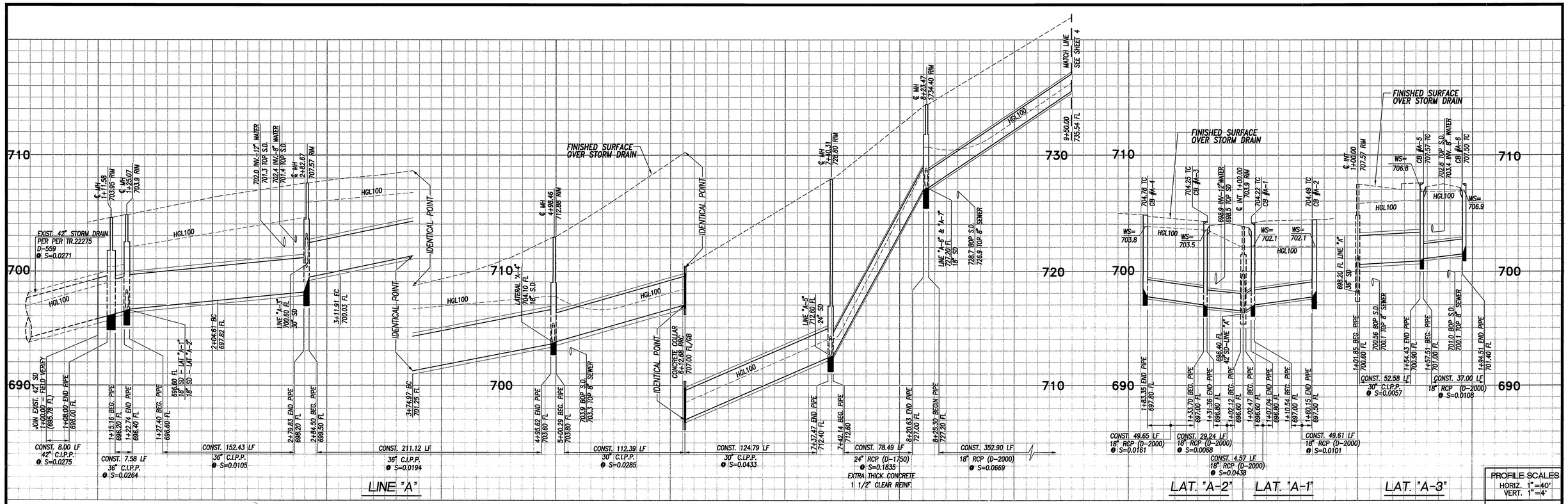
CITY ENGINEER
DATE 9/25/03

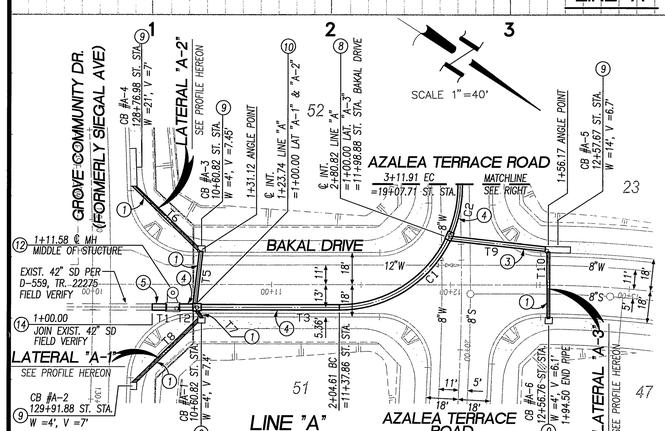
STORM DRAIN IMPROVEMENT PLANS
TRACT 30717
SECTIONS AND DETAILS

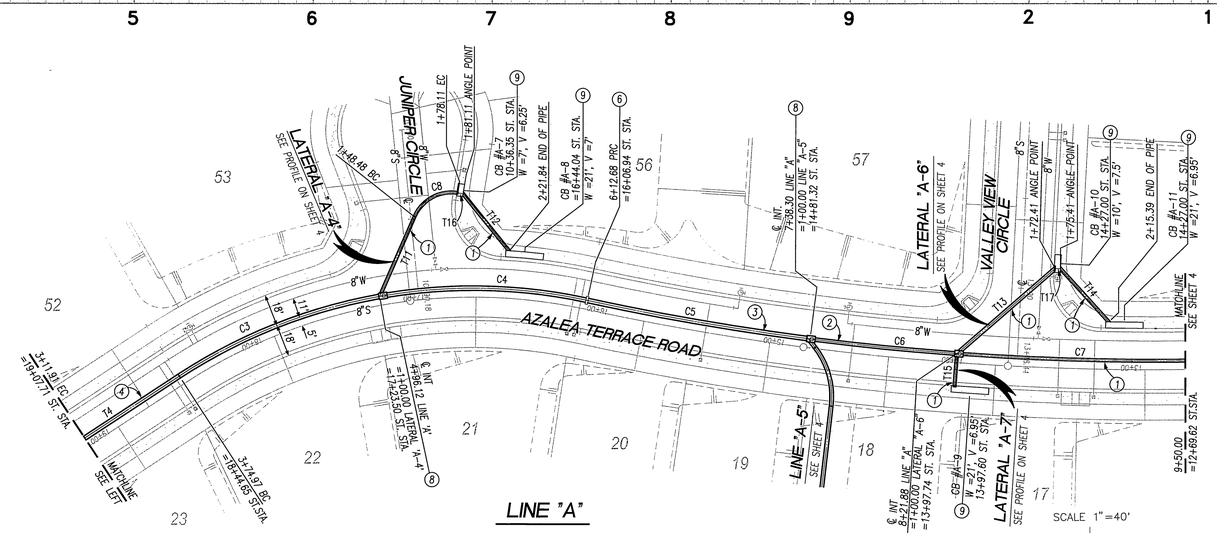
HORIZ. SCALE: AS SHOWN VERT. SCALE: AS SHOWN

ACCOUNT NO.
D-729
SHEET 2 OF 4

INDEXED 10-07-03







CURVE DATA				
#	Δ	R	L	T
C1	64°41'35"	67.50'	76.21'	42.75'
C2	26°23'25"	67.50'	31.09'	15.83'
C3	23°08'14"	300.00'	121.15'	61.41'
C4	22°15'46"	300.00'	116.56'	59.03'
C5	04°47'53"	1500.00'	125.62'	62.84'
C6	03°11'33"	1500.00'	83.58'	41.80'
C7	13°47'20"	1500.00'	360.99'	61.42'
C8	75°26'36"	22.50'	29.63'	17.40'

COURSE DATA		
LINE	BEARING	DISTANCE
T1	N32°42'00"W	11.58'
T2	N32°42'00"W	12.16'
T3	N32°42'00"W	80.87'
T4	N56°13'00"E	63.06'
T5	N63°57'37"E	31.12'
T6	N11°33'49"E	52.14'
T7	N23°31'22"E	7.04'
T8	N76°55'10"W	49.61'
T9	N26°21'31"W	56.17'
T10	N57°14'23"E	38.33'
T11	N23°04'05"E	48.48'
T12	N39°39'06"W	40.73'
T13	N48°37'35"E	72.41'
T14	N43°04'03"W	39.98'
T15	N03°37'35"E	18.50'
T16	N81°29'20"W	3.00'
T17	N87°40'00"E	3.00'

HYDRAULIC DATA											
LINE	STATION TO STATION	DIA. (in)	Q100 (cfs)	n	SLOPE (ft/ft)	dn (ft)	Vn (fps)	Vcr (fps)	dcr (ft)	sf (ft/ft)	V (fps)
	EXISTING STORM DRAIN	42	84.6	0.015	0.0271	1.8	15.4	9.6	2.8	–	–
"A"	1+00.00 – 1+08.00	42	84.6	0.015	0.0275	1.9	15.6	10.0	2.9	–	–
"A"	1+15.16 – 1+22.74	36	84.6	0.015	0.0264	PRESSURE FLOW				0.021	12.0
"A"	1+27.40 – 2+79.83	36	70.3	0.015	0.0105	PRESSURE FLOW				0.015	9.9
"A"	2+84.50 – 4+95.62	36	52.4	0.015	0.0194	PRESSURE FLOW				0.008	7.4
"A"	5+00.29 – 6+12.68	30	44.7	0.015	0.0285	1.6	13.4	9.7	2.2	–	–
"A"	6+12.68 – 7+37.47	30	44.7	0.015	0.0433	1.4	15.8	9.7	2.2	–	–
"A"	7+42.14 – 8+20.63	24	25.0	0.013	0.1835	0.7	25.9	8.5	1.8	–	–
"A"	8+25.30 – 11+78.20	18	3.4	0.013	0.0669	0.4	10.5	4.2	0.7	–	–
LAT. "A-1"	1+02.47 – 1+07.04	18	3.2	0.013	0.0438	PRESSURE FLOW				0.001	1.8
LAT. "A-1"	1+10.54 – 1+60.15	18	1.6	0.013	0.0101	PRESSURE FLOW				0.001	0.9
LAT. "A-2"	1+02.12 – 1+31.36	18	11.9	0.013	0.0161	PRESSURE FLOW				0.013	6.7
LAT. "A-2"	1+33.70 – 1+83.35	18	9.0	0.013	0.0060	PRESSURE FLOW				0.007	5.1
LAT. "A-3"	1+01.85 – 1+54.43	30	19.1	0.015	0.0057	PRESSURE FLOW				0.003	3.9
LAT. "A-3"	1+57.51 – 1+94.51	18	5.7	0.013	0.0108	PRESSURE FLOW				0.003	3.2

CONSTRUCTION NOTES

1. CONSTRUCT 18" RCP STORM DRAIN (D-LOAD PER PROFILE)
2. CONSTRUCT 24" RCP STORM DRAIN (D-LOAD PER PROFILE)
3. CONSTRUCT 30" C.I.P.P. STORM DRAIN
4. CONSTRUCT 36" C.I.P.P. STORM DRAIN
5. CONSTRUCT 42" C.I.P.P. STORM DRAIN
6. CONSTRUCT CONCRETE COLLAR PER CITY STD. 424
8. CONSTRUCT MANHOLE EZ PER CITY STD. 431
9. CONSTRUCT CATCH BASIN PER CITY STD. 405
10. CONSTRUCT MANHOLE AX PER CITY STD. 430
12. CONSTRUCT STORM WATER STRUCTURE PER DETAIL ON SHEET 2
14. REMOVE AND DISPOSE EXISTING HEADWALL

PW03-0008

Underground Service Alert Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

PRIVATE ENGINEERING NOTE

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BENCHMARK

EB-F3 ELEV. 1665.160 DATE: 1997
P.K. NAIL AND CITY ENGINEER TAG ON THE SIDEWALK OVER W'LY WALL OF A CATCH BASIN ALONG THE S'LY. CURB OF ORANGE TERRACE PKWY., 100 FEET E'LY OF TRAUTWEIN ROAD. THE MARK IS 2 FEET S'LY OF THE FACE OF CURB.

ADJUSTED AND ENTERED: JUNE 1997

REGISTERED PROFESSIONAL ENGINEER TREVOR S. DODSON No. 42029 Exp. 3-31-2004 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY:
MDS CONSULTING
PLANNERS ENGINEERS SURVEYORS
MORSE DOKICH SCHULTZ
17320 Redhill Ave. Suite 350 Irvine, CA 92614
Voice: 949-251-8823 FAX: 949-251-0516

PLANS PREPARED UNDER THE SUPERVISION OF:
TREVOR S. DODSON R.C.E. NO.42029 DATE 8-20-03

MARK	REVISIONS	APPR.	DATE

DESIGNED BY FE DRAWN BY WS CHECKED BY TD

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	9/25/03	
PARK DEPARTMENT	-	-
TRAFFIC DIVISION	-	-
STREET SERVICES	8/7/03	

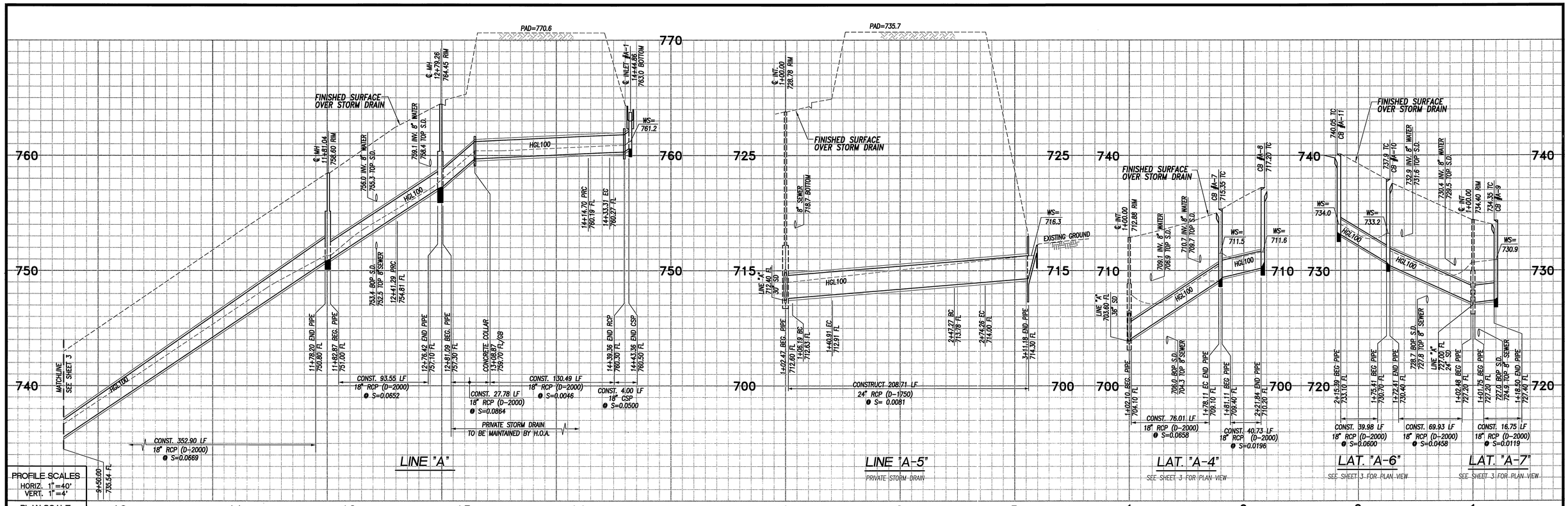
CITY ENGINEER
DATE 9/25/03

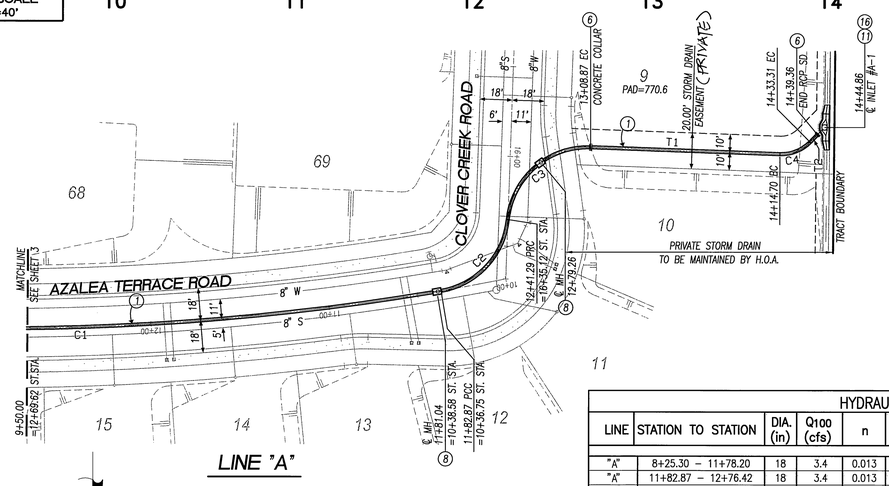
STORM DRAIN IMPROVEMENT PLANS
TRACT 30717
LINE "A"
PLAN & PROFILE

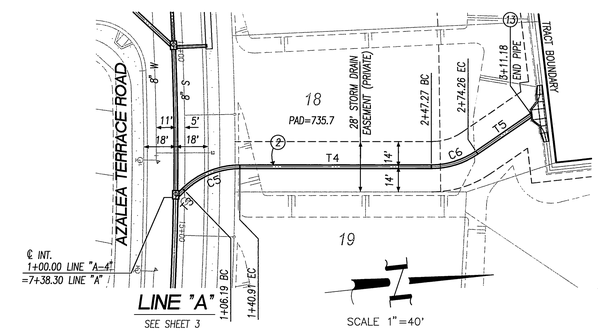
HORIZ. SCALE: AS SHOWN VERT. SCALE: AS SHOWN

ACCOUNT NO.....
D-729
SHEET 3 OF 4

INDEXED 10-07-03







LINE "A-5"
PRIVATE STORM DRAIN

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8. CONSTRUCT MANHOLE EZ PER CITY STD. 431
11. CONSTRUCT C.S.P. INLET PER CITY STD. 412 AND PER DETAIL ON SHEET 2
13. CONSTRUCT HEADWALL PER DETAIL ON SHEET 2
16. CONSTRUCT 18" C.S.P.(12 GAGE) STORM DRAIN

HYDRAULIC DATA

LINE	STATION TO STATION	DIA. (in)	Q100 (cfs)	n	SLOPE (ft/ft)	dn (ft)	Vn (fps)	Vcr (fps)	dcr (ft)	sf (ft/ft)	V (fps)
"A"	8+25.30 – 11+78.20	18	3.4	0.013	0.0669	0.4	10.5	4.2	0.7	–	–
"A"	11+82.87 – 12+76.42	18	3.4	0.013	0.0652	0.4	10.3	4.2	0.7	–	–
"A"	12+81.09 – 13+08.87	18	3.4	0.013	0.0864	1.0	14.1	7.8	1.7	–	–
"A"	13+08.87 – 14+39.36	18	3.4	0.013	0.0046	0.7	4.0	4.2	0.7	–	–
"A"	14+39.36 – 14+43.36	18	3.4	0.024	0.0500	0.5	6.1	4.2	0.7	–	–
LAT. "A-4"	1+02.10 – 1+78.11	18	10.8	0.013	0.0658	0.7	14.4	6.8	1.3	–	–
LAT. "A-4"	1+81.11 – 2+21.84	18	6.4	0.013	0.0196	0.7	8.0	5.2	1.0	–	–
LAT. "A-6"	1+02.48 – 1+72.41	18	11.0	0.013	0.0458	0.7	12.6	6.9	1.3	–	–
LAT. "A-6"	1+75.41 – 2+15.39	18	5.0	0.013	0.0600	0.5	11.3	4.8	0.9	–	–
LAT. "A-7"	1+01.75 – 1+18.50	18	11.0	0.013	0.0119	PRESSURE FLOW				0.011	6.2
"A-5"	1+02.47 – 3+11.18	24	22.6	0.013	0.0081	PRESSURE FLOW				0.011	7.2

COURSE DATA

LINE	BEARING	DISTANCE
T1	N88°30'00"W	105.83'
T2	N44°06'57"E	6.05'
T3	N38°10'53"W	6.19'
T4	N6°01'51"E	107.01'
T5	N28°20'05"W	37.09'

CURVE DATA

#	Δ	R	L	T
C1	9°06'01"	1500.00'	238.24'	119.37'
C2	74°23'04"	45.00'	58.42'	34.15'
C3	86°02'49"	45.00'	67.58'	42.00'
C4	47°23'03"	22.50'	18.61'	9.87'
C5	44°12'43"	45.00'	34.72'	18.28'
C6	34°21'55"	45.00'	26.99'	13.91'

PW03-0008

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DESIGNED BY FE DRAWN BY WS CHECKED BY TD

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
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PARK DEPARTMENT	–	–
TRAFFIC DIVISION	–	–
STREET SERVICES	8/7/03	

CITY ENGINEER
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STORM DRAIN IMPROVEMENT PLANS
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LINE "A" & "A-5"
PLAN & PROFILE
HORIZ. SCALE: AS SHOWN VERT. SCALE: AS SHOWN

ACCOUNT NO.....
D-729
SHEET 4 OF 4

INDEXED 10-07-03 GH