RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

GENERAL NOTES

1. THE CONTRACTOR SHALL CONSTRUCT THE FLOOD CONTROL IMPROVEMENTS SHOWN ON THE DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT'S MEMORANDUM OF UNDERSTANDING STANDARD SPECIFICATIONS DATED JUNE 24 2008, AND DESIGN MANUAL STANDARD DRAWINGS DATED APRIL 2004.
2. IF AN ENCROACHMENT PERMIT IS REQUIRED FROM RIVERSIDE COUNTY FLOOD CONTROL, THEN CONTACT ED LOTZ AT 951-955-1266. AFTER THE PERMIT IS ISSUED THE DISTRICT MUST BE NOTIFIED ONE WEEK PRIOR TO CONSTRUCTION.
3. CONSTRUCTION INSPECTION WILL BE PERFORMED BY RIVERSIDE COUNTY FLOOD CONTROL. CONTACT HENRY OLIVO AT 951-955-1288. THE DISTRICT MUST BE NOTIFIED TWENTY DAYS PRIOR TO CONSTRUCTION.
4. ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.
5. STATIONING FOR LATERALS AND CONNECTOR PIPE REFER TO THE CENTERLINE-CENTERLINE INTERSECTION STATION.
6. FORTY-EIGHT HOURS BEFORE EXCAVATION, CALL UNDERGROUND SERVICE ALERT 1-800-227-2600.
7. ALL ELEVATIONS SHOWN ARE IN FEET AND DECIMALS THEREOF BASED ON U.S.C. & G.S. DATUM.
8. ALL CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
9. ELEVATIONS AND LOCATIONS OF UTILITIES SHOWN ARE APPROXIMATE UNLESS OTHERWISE NOTED. ALL UTILITIES ARE TO BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
10. OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES TO BE ABANDONED SHALL BE SEALED WITH 6" OF CLASS "B" CONCRETE.
11. PIPE CONNECTED TO THE MAINLINE PIPE SHALL CONFORM TO JUNCTION STRUCTURE NO. 4 (JS 229) UNLESS OTHERWISE NOTED.
12. BEDDING PIPE SHALL CONFORM TO RFC&WCD STD. M 815, EXCEPT FOR COVER LESS THAN 2 FEET. FOR COVER LESS THAN 2 FEET, CONCRETE SLURRY (2,000 PSI - 2 SACK) SHALL BE USED. THE ENTIRE TRENCH SHALL BE SLURRY EXTENDING 4" MINIMUM AND 12" MAXIMUM ABOVE THE TOP OF PIPE.
13. "V" IS THE DEPTH OF INLET OF CATCH BASINS MEASURED FROM THE TOP OF THE CURB TO INVERT OF CONNECTOR PIPE.
14. CATCH BASINS SHALL BE LOCATED SO THAT LOCAL DEPRESSION SHALL BEGIN AT EXISTING CURB RETURN JOINT, UNLESS OTHERWISE SPECIFIED.
15. ALL CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE REMOVED SHALL BE REPLACED IN KIND AND AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS UNLESS OTHERWISE NOTED.
16. HYDRAULIC GRADE LINE SHOWN IN PROFILES ARE FOR 10 YEAR FREQUENCY FLOWS, UNLESS OTHERWISE NOTED.
17. THE CONCRETE COVER ON THE INSIDE OF ALL REINFORCED CONCRETE PIPES MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2" OVER THE REINFORCING WHEN THE DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE f'c=5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND, AND f'c=6,000 PSI FOR VELOCITIES EXCEEDING 30 FEET PER SECOND.
18. THE CONTRACTOR SHALL COMPLY WITH THE STATE AND LOCAL SAFETY CODES DURING THE PROGRESS OF WORK.
19. THE CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, SAFE, CLEAN AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE COUNTY'S OR DISTRICT'S INSPECTOR. THE ADJACENT STREETS SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CLEAN-UP. CLEAN-UP SHALL BE BY DRY SWEEPING OF ALL PAVED AREAS.
20. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE 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 TO BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, R.C.F.C.D., COUNTY ROAD DEPARTMENT, AND THE DESIGN 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 OWNERS, OR THE DESIGN ENGINEER.
21. ADJUST ALL STORM DRAIN, SEWER MANHOLES, AND WATER VALVES TO GRADE.
22. ALL PIPE LENGTHS ARE HORIZONTAL PROJECTIONS (NOT TRUE LENGTHS OF PIPES) AND ARE THE BASIS OF THE ESTIMATES OF QUANTITIES. THE CONTRACTOR SHALL DETERMINE THE TRUE QUANTITY OF PIPE REQUIRED FOR THIS PROJECT PRIOR TO PLACING THE ORDER.
23. ALL ELEVATIONS SHOWN ARE TO THE INVERT OF PIPE, EXCEPT WHERE OTHERWISE NOTED.
24. AT THE DISCRETION OF THE ENGINEER, THE CONTRACTOR MAY BE REQUIRED TO VERIFY BY POTHOLING THE LOCATION OF POTENTIALLY AFFECTED UTILITIES.
25. CONTRACTOR SHALL DISPOSE OF ALL EXCESS EXCAVATED MATERIAL AT MANDATORY DISPOSAL SITE. MUST BE NOTIFIED ONE WEEK PRIOR TO CONSTRUCTION.
26. ALL BACKFILL AND BEDDING AROUND STRUCTURES AND PIPES SHALL BE COMPACTED TO NOT LESS THAN 90 PERCENT RELATIVE COMPACTION EXCEPT WHERE SUCH MATERIAL IS PLACED UNDER EXISTING PAVED ROADWAYS. THE TOP 3 FEET MEASURED FROM THE FINISHED PAVING, SHALL BE COMPACTED TO 95 PERCENT RELATIVE COMPACTION.
27. STANDARD DRAWINGS CALLED FOR ON THE PLANS AND PROFILE SHALL CONFORM TO DISTRICT STANDARD DRAWINGS UNLESS NOTED OTHERWISE.
28. THE CONTRACTOR IS REQUIRED TO CALL ALL UTILITY AGENCIES REGARDING TEMPORARY SHORING AND SUPPORT REQUIREMENTS FOR THE VARIOUS UTILITY LINES SHOWN ON THESE PLANS.
29. DURING ROUGH GRADING OPERATIONS AND PRIOR TO CONSTRUCTION OF PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE CONTROL SHOULD BE PROVIDED TO PREVENT PONDING WATER AND DRAINAGE TO ADJACENT PROPERTIES.
29. APPROVAL OF THESE PLANS BY THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT DOES NOT RELIEVE THE DESIGN ENGINEER OF RESPONSIBILITY FOR THE ENGINEERING DESIGN. IF FIELD CHANGES ARE REQUIRED , IT WILL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO MAKE THE NECESSARY CORRECTIONS.
30. THE CONTRACTOR SHALL SECURE ALL REQUIRED ENCROACHMENT AND/OR STATE AND FEDERAL REGULATORY PERMITS PRIOR TO THE COMMENCEMENT OF ANY WORK.

SOILS ENGINEER:

EARTH MECHANICS, Inc.

17660 NEWHOPE STREET, SUITE E
FOUNTAIN VALLEY, CA 92708
(714) 751-3826

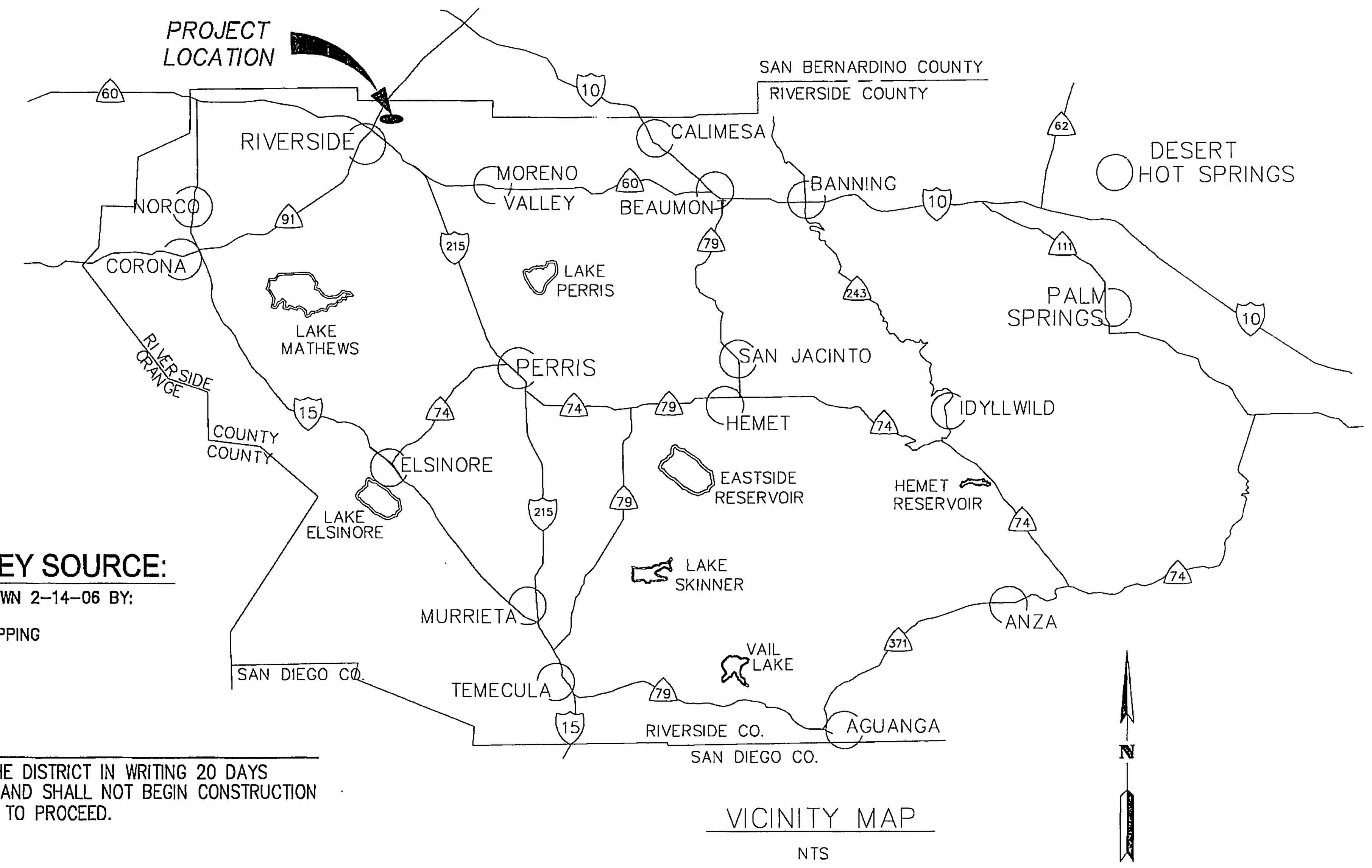
TOPOGRAPHIC SURVEY SOURCE:

AERIAL PHOTOGRAPHIC METHODS, FLOWN 2-14-06 BY:

SUN MAPS LAND SURVEYING AND MAPPING
3185 AIRWAY AVENUE SUITE D-1
COSTA MESA, CALIFORNIA 92626
(714) 540-7669

NOTICE:

THE CONTRACTOR SHALL NOTIFY THE DISTRICT IN WRITING 20 DAYS BEFORE BEGINNING CONSTRUCTION AND SHALL NOT BEGIN CONSTRUCTION BEFORE OBTAINING AUTHORIZATION TO PROCEED.



VICINITY MAP

NTS

MAINTENANCE NOTES

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT WILL INSPECT AND MAINTAIN STORM DRAIN LINE THORNTON AND STRUCTURES, EXCLUDING CATCH BASINS AND STORM DRAIN LATERALS.

LINE "THORNTON" - PROJECT No. D-820 - AT BNSF
66" R.C.P. FROM STATION 109+17.75 TO STATION 119+37.48 AS SHOWN ON SHEETS 2-4

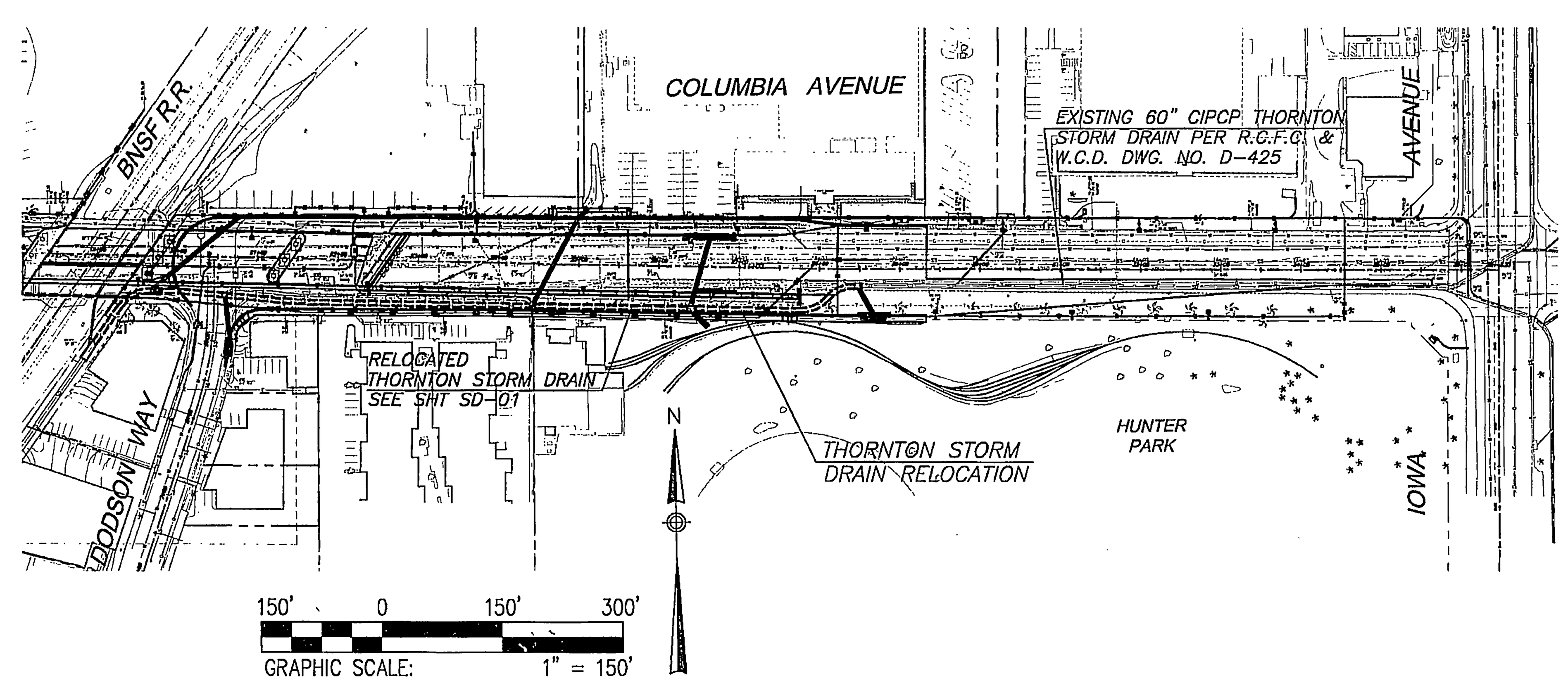
ALL STORM DRAIN LATERALS, STRUCTURES, AND CATCH BASINS ON "THORNTON" LINES WILL BE MAINTAINED BY CITY OF RIVERSIDE.

INDEX

	SHEET NO.
TITLE SHEET & QUANTITY ESTIMATES	1
THORNTON STORM DRAIN RELOCATION & LATERALS PLAN AND PROFILE	2-4

R.C.F.C.D. STD. DRAWINGS

JS 227	JUNCTION STRUCTURE NO. 2	MH 251	MANHOLE NO. 1
JS 229	JUNCTION STRUCTURE NO. 4	MH 252	MANHOLE NO. 2
TS 303	TRANSITION STRUCTURE NO. 3	MH 254	MANHOLE NO. 4
M 803	CONCRETE COLLAR	CB 100	CATCH BASIN No. 1
M 816	CONCRETE BULKHEAD	CB 102	CATCH BASIN No. 6



ADDITIONAL NOTES TO CONTRACTOR

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN, AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS AND IS RESPONSIBLE FOR THE PROTECTION OF OR ANY DAMAGE TO THESE LINES OR STRUCTURES.
2. ALL RETAINING WALLS SHOWN ON THESE PLANS ARE SHOWN FOR REFERENCE ONLY AND ARE TO BE CONSTRUCTED PER SEPARATE PERMIT.
3. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES

ESTIMATE OF STORM DRAIN QUANTITIES

NO	DESCRIPTION	CITY QUANTITY	R.C.F.C.&W.C.D. QUANTITY	TOTAL QUANTITY
1	INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)	409 L.F.		409 L.F.
2	INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)	56 L.F.		56 L.F.
3	INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)	23 L.F.		23 L.F.
4	INSTALL 66" R.C.P. (SEE PROFILE FOR D-LOAD)	965 L.F.		965 L.F.
5	CONSTRUCT M.H. NO. 2 PER R.C.F.C. & W.C.D. STD. DWG. NO. MH 252		2 EA.	2 EA.
6	CONSTRUCT M.H. NO. 4 PER R.C.F.C. & W.C.D. STD. DWG. NO. MH 254		3 EA.	3 EA.
8	CONSTRUCT J.S. NO. 4 PER R.C.F.C. & W.C.D. STD. DWG. NO. JS 229		1 EA.	1 EA.
9	CONSTRUCT CATCH BASIN NO. 1 PER R.C.F.C. & W.C.D. STD. DWG. NO. CB. 100	2 EA.		2 EA.
10	CONSTRUCT CURBSIDE GRATING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 303	5 EA.		5 EA.
12	CONSTRUCT CATCH BASIN NO. 6 PER R.C.F.C. & W.C.D. STD. DWG. NO. CB. 102	1 EA.		1 EA.
19	CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C. & W.C.D. STD. DWG. NO. M816		1 EA.	1 EA.
21	CONSTRUCT T.S. NO. 3 PER R.C.F.C. & W.C.D. STD. DWG. NO. TS 303		1 EA.	1 EA.
25	CONSTRUCT BLANKET PROTECTION PER S.P.P.W.C. STD. PLAN No. 225-1	1 LS.		1 LS.

AS BUILT
DATE 9-14-10

ACCT. NO.
D-820
SD-00
SHEET ___ OF ___

Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
BURIED CABLE
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
CITY OF RIVERSIDE BENCHMARK NO. J8-A3 BRASS DISK STAMPED " J8-A3" IN A MONUMENT WELL AT THE CENTERLINE INTERSECTION OF IOWA AVENUE AND MARLBOROUGH AVENUE.
ELEVATION = 929.110

REF.	REVISIONS DESCRIPTION	ENGINEER APPR.	ENGINEER DATE	RCFC/ APPR.	RCFC/ DATE
1 (triangle)	ENCROACHMENT PERMIT # 3174	CHB	8-12-08		

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT
APPROVED BY:
[signature] 7/9/08
CITY ENGINEER DATE

DMJM HARRIS | AECOM
800 N. HAVEN AVENUE, SUITE 410
ONTARIO, CA 91764
T (909)291-8150 F (909)291-8166

REGISTERED PROFESSIONAL ENGINEER JAMES A. ENRIQUEZ No. C55520 Exp. 12-31-08 CIVIL STATE OF CALIFORNIA

DESIGNED BY: J.K.
DRAWN BY: J.K.
DATE DRAWN:
CHECKED BY: J.E.

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [signature] PLANNING ENGINEER DATE: 7-22-2008
APPROVED BY: [signature] CHIEF ENGINEER DATE: 7/24/08

CITY OF RIVERSIDE
COLUMBIA AVENUE OVERPASS AT BNSF RAILROAD
THORNTON STORM DRAIN RELOCATION
TITLE SHEET

PROJECT NO.'s 1-0-122
DRAWING NO. 1-364
SHEET NO. 1 (triangle) 1A OF ~~4~~ 62

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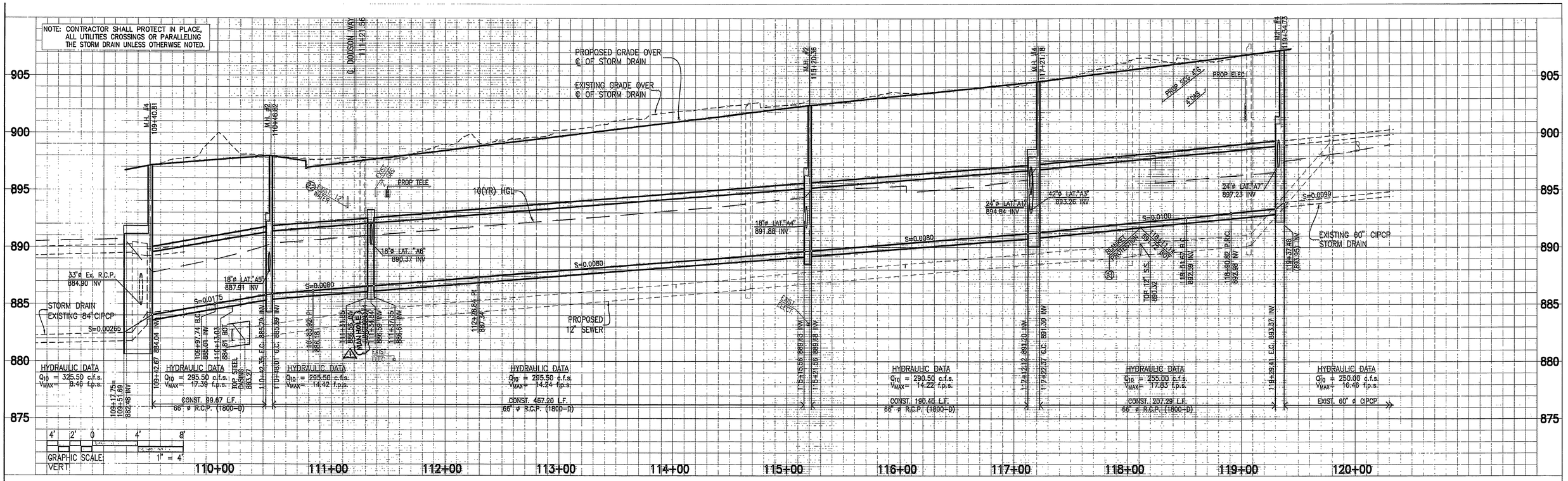

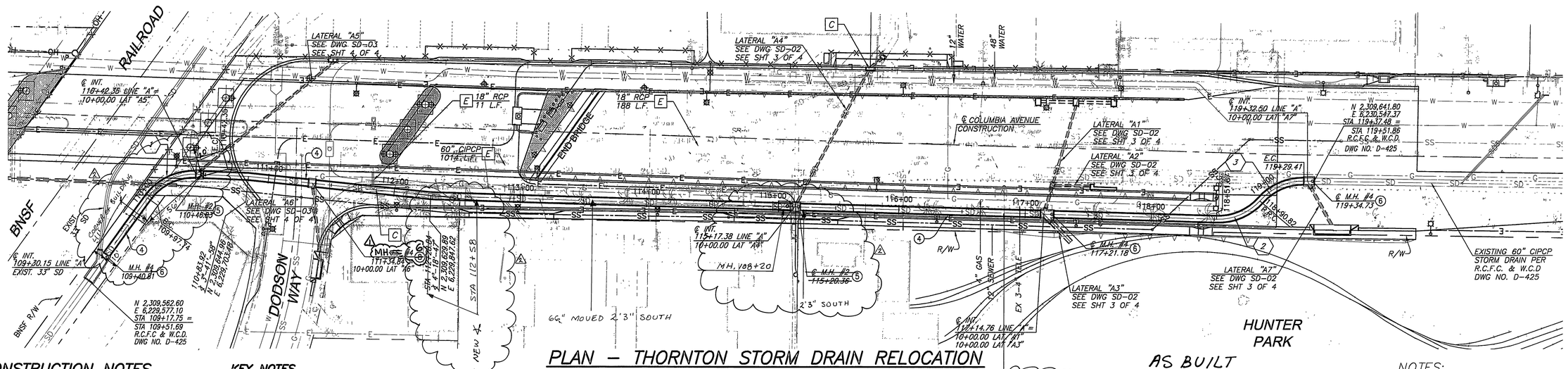

PLAN – THORNTON STORM DRAIN RELOCATION

SCALE: 1"=40'

COLUMBIA AVENUE

CONSTRUCTION NOTES

- (4) INSTALL 66" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
- (5) CONSTRUCT M.H. No. 2 PER R.C.F.C. & W.C.D. STD. PLAN No. MH 252
- (6) CONSTRUCT M.H. No. 4 PER R.C.F.C. & W.C.D. STD. PLAN No. MH 254
- (8) CONSTRUCT J.S. No. 4 PER R.C.F.C. & W.C.D. STD. PLAN No. JS 229
- (22) CONSTRUCT CONDUIT SUPPORT PER S.P.P.W.C. STD. PLAN 224-1
- (25) CONSTRUCT BLANKET PROTECTION PER S.P.P.W.C. STD. PLAN No. 225-1

KEY NOTES

- [C] REMOVE EXISTING DRAINAGE INLET
- [D] ABANDON EXISTING STORM DRAIN CONDUIT
- [E] REMOVE EXISTING STORM DRAIN CONDUIT

GRAPHIC SCALE: 1" = 40' HORIZ

STRUCTURE DATA

STRUCTURE	STATION	A	B	C'	D1	D2	L'	EL. S	EL. R
M.H. #4	109+30.15	27°55'	33"	~~14.65'~~ 14.8'	66"	84"	25.43'	884.90	884.95
M.H. #4 (NO SHAFT)	111+34.84	78°	18"	4.50'	66"	66"	6.34'	890.42	890.45
M.H. #4	117+14.76	44°19'	42"	8.77'	66"	66"	10.25'	893.26	893.31
M.H. #4	119+32.50	60°	24"	5.8'	60°	60"	8.1'	897.23	—

CURVE DATA

CURVE NO.	R	D	L	T	BC	EC	N (PI)	E (PI)
1	45'	56°47'58"	44.61'	24.33'	109+97.74	110+42.35	2,309,647.56	6,229,637.63
2	45'	49°51'21"	39.16'	20.92'	118+51.67	118+90.82	2,309,611.33	6,230,491.09
3	45'	49°07'25"	38.58'	20.57'	118+90.82	119+29.41	2,309,642.26	6,230,518.74

NOTES:

1. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS AND LOCATION OF EXISTING 60" & 84" CIPCP AT JOIN LOCATIONS PRIOR TO COMMENCING CONSTRUCTION.

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services.

TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK

CITY OF RIVERSIDE BENCHMARK NO. J8-A3 BRASS DISK STAMPED " J8-A3" IN A MONUMENT WELL AT THE CENTERLINE INTERSECTION OF IOWA AVENUE AND MARLBOROUGH AVENUE. ELEVATION = 929.110

REVISIONS		ENGINEER		RCFC/	
2 AS BUILT		F.R.	9/14/10		
1 ENCROACHMENT PERMIT #3174		CHB	8-12-08		
REF	DESCRIPTION	APPR	DATE	APPR	DATE

CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT APPROVED BY: 2/1/08 CITY ENGINEER DATE

DMJM HARRIS | AECOM
800 N. HAVEN AVENUE, SUITE 410
ONTARIO, CA 91764
T (909)291-8150 F (909)291-8166

REGISTERED PROFESSIONAL ENGINEER JAMES A. ENRIQUEZ No. C 055520 Exp. 12-31-08 CIVIL STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: J.K.
DRAWN BY: J.K.
DATE DRAWN
CHECKED BY: J.E.
RECOMMENDED FOR APPROVAL BY: DATE 07/21/08
APPROVED BY: Stuart E. Tipton DATE 7-22-2008

CITY OF RIVERSIDE
COLUMBIA AVENUE OVERPASS AT BNSF RAILROAD
PLAN AND PROFILE
THORNTON STORM DRAIN RELOCATION
STA 109+17.75 TO STA 119+37.48

ACCT NO D-820
SD-01
SHEET ___ OF ___
PROJECT NO's 1-0-122
DRAWING NO 1-364
SHEET NO 2A OF 62

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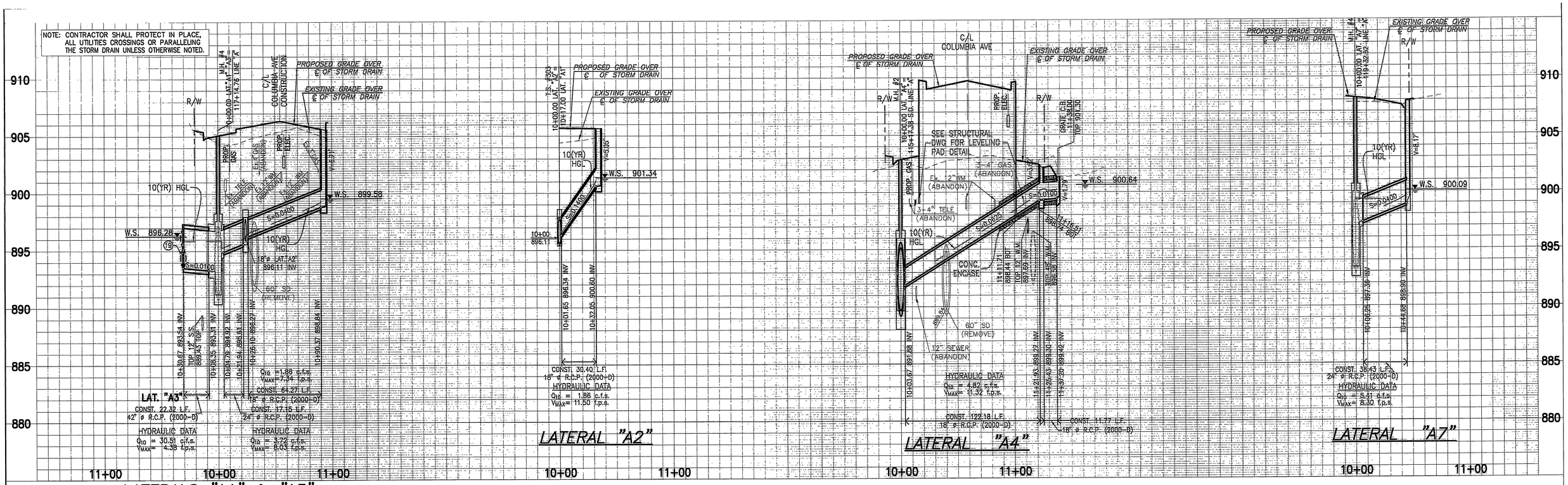
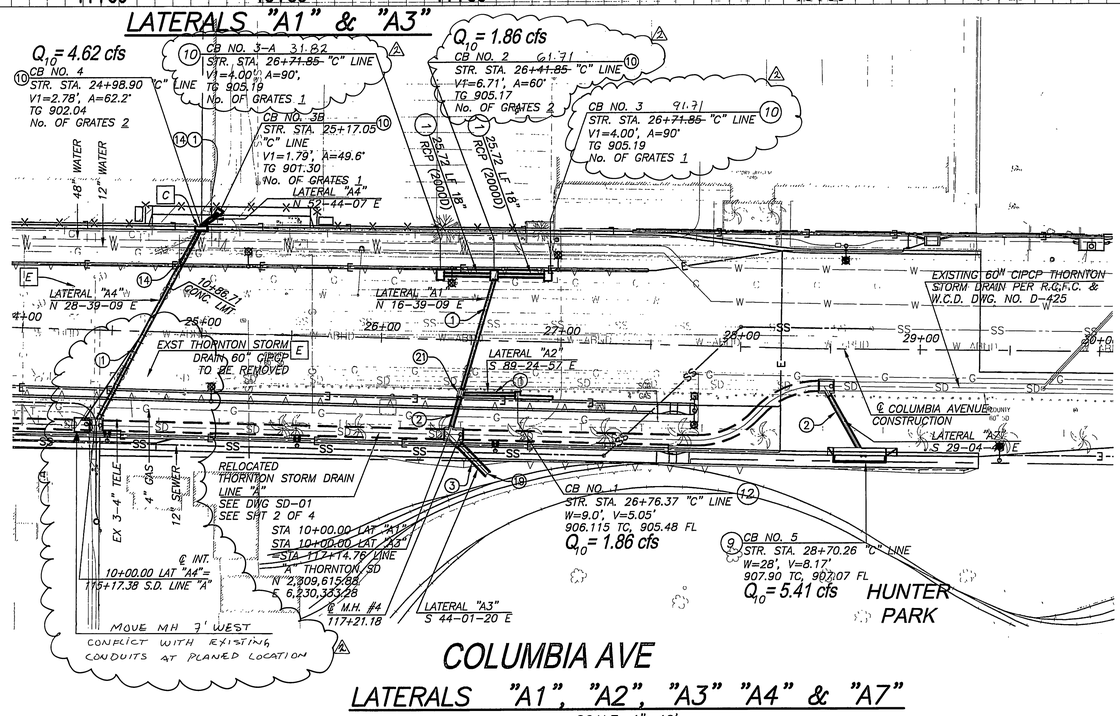
NOTE: CONTRACTOR SHALL PROTECT IN PLACE, ALL UTILITIES CROSSINGS OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.



LATERALS "A1" & "A3"



COLUMBIA AVE

LATERALS "A1", "A2", "A3" "A4" & "A7"

SCALE: 1"=40'

N

40' 20' 0 40' 80' HORIZ
GRAPHIC SCALE: 1" = 40'

4' 2' 0 4' 8' VERT
GRAPHIC SCALE: 1" = 4'

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
3. INSTALL 42" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
9. CONSTRUCT CATCH BASIN No. 1 PER R.C.F.C. & W.C.D. STD. PLAN No. CB 100
10. CONSTRUCT CURBSIDE GRATING CATCH BASIN PER S.P.P.W.C. STD. PLAN No. 303
12. CONSTRUCT CATCH BASIN No. 6 PER R.C.F.C. & W.C.D. STD. PLAN No. CB 102
14. CONSTRUCT 4" CONCRETE ENCASE R.C.P. PIPE
19. CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C. & W.C.D. STD. PLAN No. M816
21. CONSTRUCT TRANSITION STRUCTURE PER R.C.F.C. & W.C.D. STD. PLAN No. T.S. 303

AS BUILT
DATE 9-14-10

STRUCTURE DATA

STRUCTURE	STATION	A	B	C'	D1	D2	L'	EL. S	EL. R
T.S. #3	10+23.35 (LAT-"A1")	74'	18"	2.30'	18"	24"	4.5'	896.28	896.34

KEY NOTES

- C — REMOVE EXISTING DRAINAGE INLET
- D — ABANDON EXISTING STORM DRAIN CONDUIT
- E — REMOVE EXISTING STORM DRAIN CONDUIT

ACCT. NO.
D-820
SD-02
SHEET ___ OF ___

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
CITY OF RIVERSIDE BENCHMARK NO. J8-A3 BRASS DISK STAMPED " J8-A3" IN A MONUMENT WELL AT THE CENTERLINE INTERSECTION OF IOWA AVENUE AND MARLBOROUGH AVENUE. ELEVATION = 929.110

REF.	REVISIONS	APPR.	DATE	APPR	DATE
2	AS BUILT	F.R.	9/14/10		
1	ENCROACHMENT PERMIT # 3174	CHB	8-12-08		

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT
APPROVED BY:
CITY ENGINEER — DATE 7/28/08

DMJM HARRIS | AECOM
800 N. HAVEN AVENUE, SUITE 410
ONTARIO, CA 91764
T (909)291-8150 F (909)291-8166

REGISTERED PROFESSIONAL ENGINEER — JAMES A. ENRIQUEZ — No. C055020 — Exp. 12-31-08 — CIVIL — STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: J.K.	RECOMMENDED FOR APPROVAL BY	APPROVED BY:
DRAWN BY J.K.		
DATE DRAWN:		
CHECKED BY. J.E.	DATE 07/21/08	DATE 7-22-2008

CITY OF RIVERSIDE
COLUMBIA AVENUE OVERPASS AT BNSF RAILROAD
PLAN AND PROFILE
THORNTON STORM DRAIN RELOCATION
LATERALS "A1", "A2", "A3","A4" & "A7"

PROJECT NO.'s 1-0-122
DRAWING NO 1-364
SHEET NO 3A OF 62

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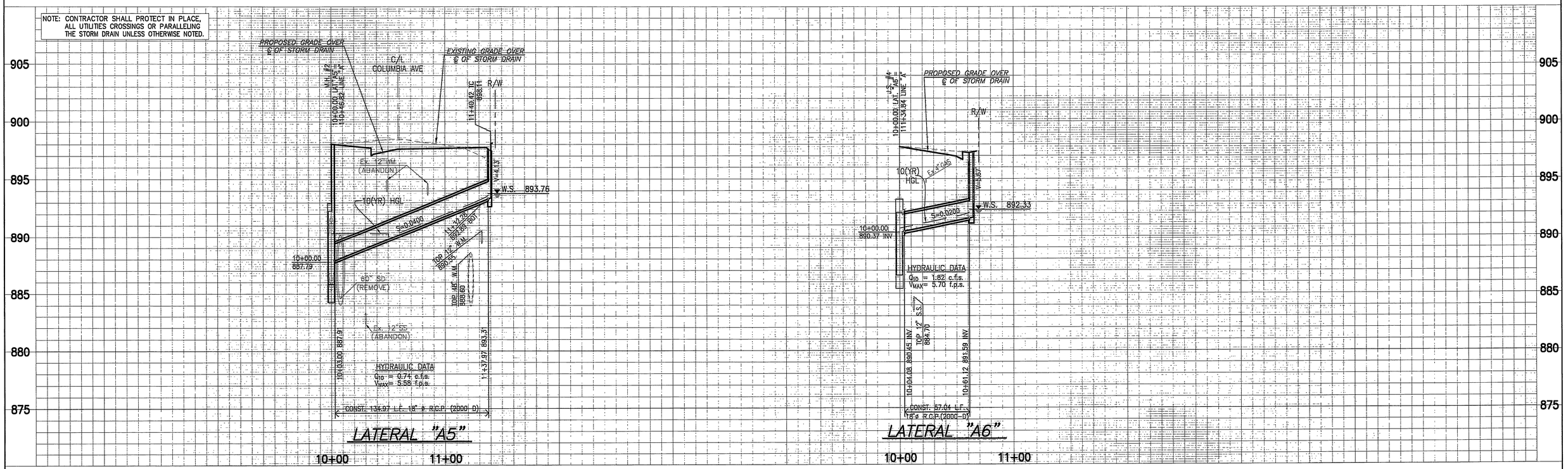
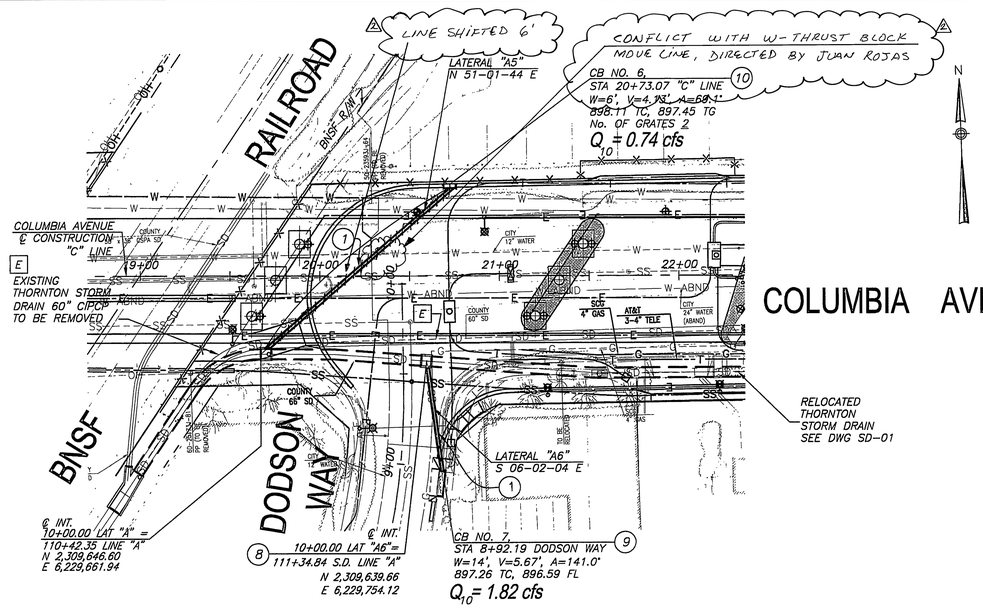
NOTE: CONTRACTOR SHALL PROTECT IN PLACE, ALL UTILITIES CROSSINGS OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.





N

40' 20' 0 40' 80' HORIZ
GRAPHIC SCALE: 1" = 40'

4' 2' 0 4' 8' VERT
GRAPHIC SCALE: 1" = 4'

LATERALS "A5" & A6

SCALE: 1"=40'

CONSTRUCTION NOTES

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2. INSTALL 24" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
8. CONSTRUCT J.S. No. 4 PER R.C.F.C. & W.C.D. STD. PLAN No. JS 229
9. CONSTRUCT CATCH BASIN No. 1 PER R.C.F.C. & W.C.D. STD. PLAN No. CB 100
10. CONSTRUCT CURBSIDE GRATING CATCH BASIN PER A.P.W.A. STD. PLAN No. 303

KEY NOTES

E REMOVE EXISTING STORM DRAIN CONDUIT

AS BUILT
DATE 9-14-10

ACCT. NO.
D-820
SD-03
SHEET ___ OF ___

Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
CITY OF RIVERSIDE BENCHMARK NO. J8-A3 BRASS DISK STAMPED " J8-A3" IN A MONUMENT WELL AT THE CENTERLINE INTERSECTION OF IOWA AVENUE AND MARLBOROUGH AVENUE. ELEVATION = 929.110

REF	DESCRIPTION	APPR	DATE	APPR.	DATE
2	AS BUILT	F.E.	9/14/10		
1	ENCROACHMENT PERMIT #3174	CHB	8-12-08		

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT
APPROVED BY:
CITY ENGINEER — DATE 7/8/08

DMJM HARRIS | AECOM
800 N. HAVEN AVENUE, SUITE 410
ONTARIO, CA 91764
T (909)291-8150 F (909)291-8166

REGISTERED PROFESSIONAL ENGINEER ALFREDO A. ENRIQUEZ No. 42360 Exp. 12-31-08 CIVIL STATE OF CALIFORNIA

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
DESIGNED BY: J.K.
DRAWN BY: J.K.
DATE DRAWN
CHECKED BY: J.E.
RECOMMENDED FOR APPROVAL BY — DATE 07/21/08
APPROVED BY: — DATE 7-22-2008

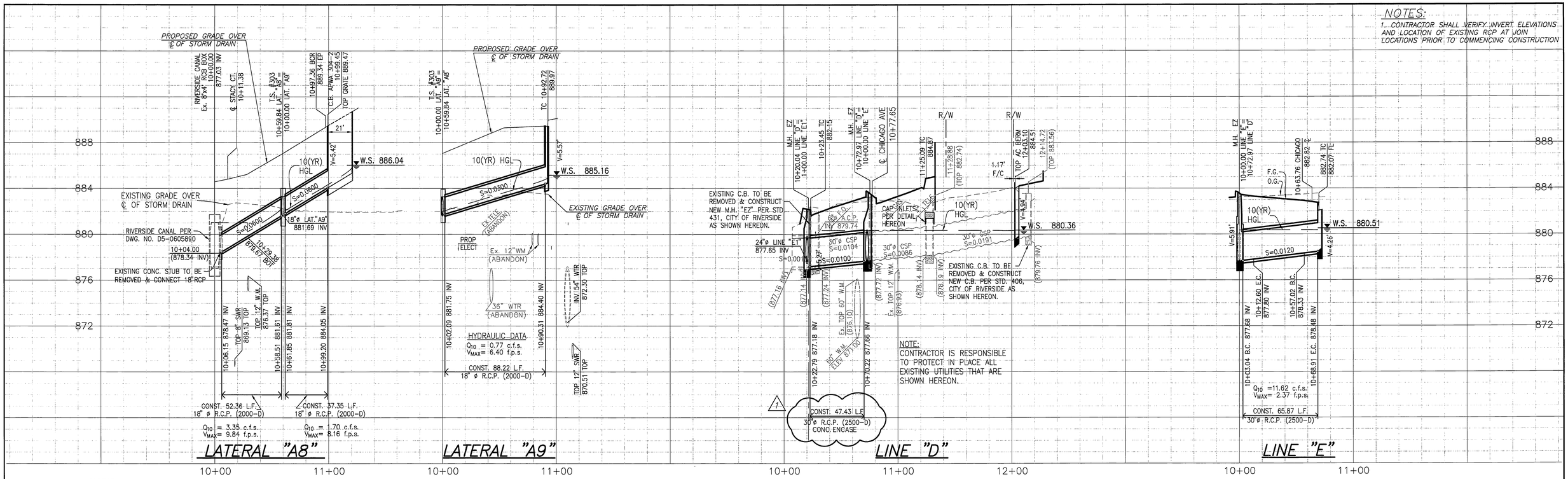
CITY OF RIVERSIDE
COLUMBIA AVENUE OVERPASS AT BNSF RAILROAD
PLAN AND PROFILE
THORNTON STORM DRAIN RELOCATION
LATERALS "A5", "A6"

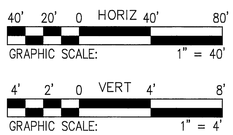
PROJECT NO's 1-0-122
DRAWING NO 1-364
SHEET NO 4A OF 62

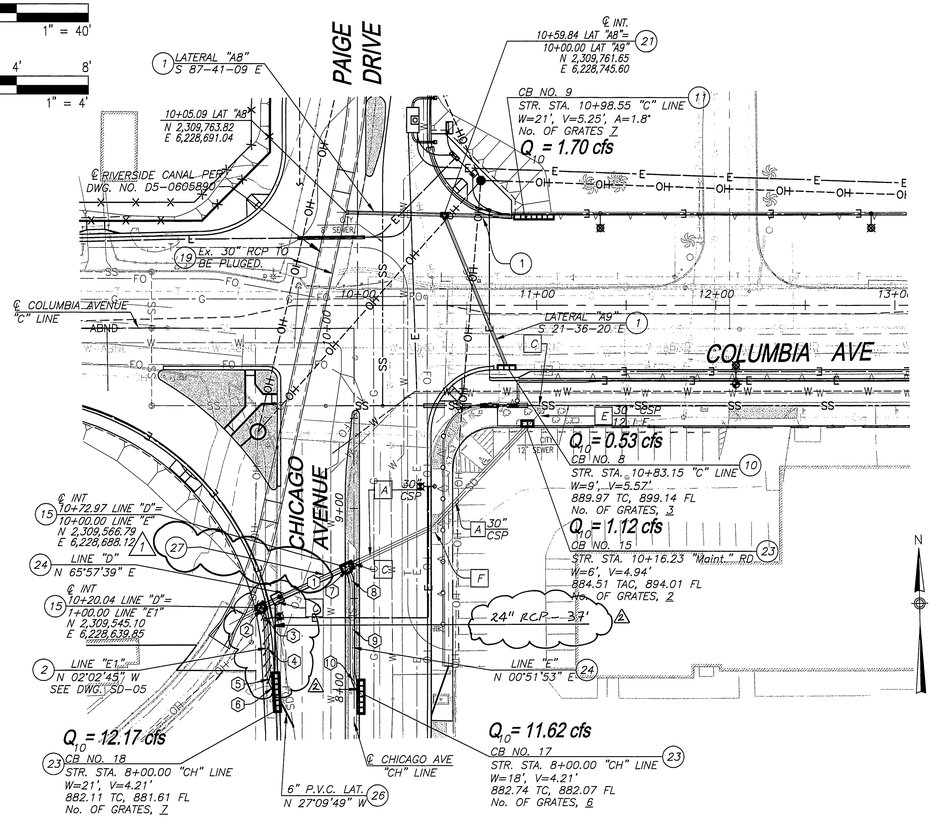
FILE INFO:P:\60024223 Columbia Grade Sep\CAD3\Civil\Sheet\SD-03.dwg PLOTTED: Jul 08, 2008 2:15pm BY khorazmij PLOT SCALE: 1=40
XREFS: xrow_ex; xtopo, xutil_ex; xutl_pro; xpro-calu; xrd-calu; xrow_find; xsd-prof; xsd-CO MODIFIED: Jul 02, 2008 2:30pm

NOTES:

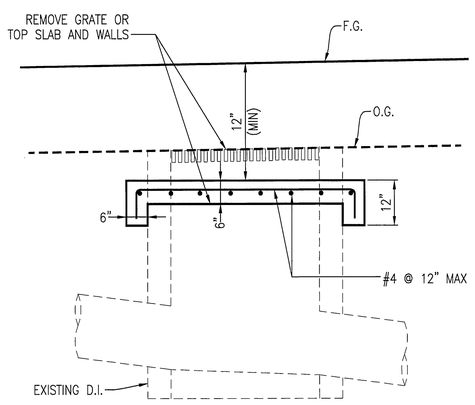
1. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS AND LOCATION OF EXISTING RCP AT JOIN LOCATIONS PRIOR TO COMMENCING CONSTRUCTION







LATERALS "A8", "A9" AND LINES "D", "E" & "E1"



EXISTING DRAINAGE CAP INLET DETAIL

SCALE: N.T.S.

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
10. CONSTRUCT GRATING CATCH BASIN PER A.P.W.A. STD. PLAN No. 303
11. CONSTRUCT GRATING CATCH BASIN PER A.P.W.A. STD. PLAN No. 304
15. CONSTRUCT M.H. EZ PER CITY OF RIVERSIDE STD. PLAN No. 431
19. CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C. & W.C.D. STD. PLAN No. M816
21. CONSTRUCT TRANSITION STRUCTURE PER R.C.F.C. & W.C.D. STD. PLAN No. T.S. 303
23. CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. PLAN No. 406
24. INSTALL 30" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
26. CONSTRUCT 6" P.V.C. PER PLAN WITH RUBBER TRANSITION COUPLING
1 27. CONSTRUCT 6" CONCRETE ENCASEMENT PER CITY OF RIVERSIDE STD. PLAN No. 452, CASE IV

KEY NOTES

- A PROTECT IN PLACE EXISTING STORM DRAIN CONDUIT
- C REMOVE EXISTING DRAINAGE INLET
- E REMOVE EXISTING DRAINAGE CONDUIT
- F CAP DRAINAGE INLET PER DETAIL, HEREON

STORM DRAIN DATA

	BEARING/DELTA	RADIUS	LENGTH	TANGENT	B.C.	E.C.	N (PI)	E (PI)
1	N 65°55'44" E	–	47.42'	–				
2	N 27°09'49" W	–	0.58'	–				
3	25°07'04"	22.50'	9.86'	5.01'	1+00.58	1+10.45	2,309,540.12	6,228,642.40
4	N 02°02'45" W	–	24.79'	–				
5	25°07'04"	22.50'	9.86'	5.01'	1+35.23	1+45.10	2,309,505.33	6,228,643.65
6	N 27°09'49" W	–	0.48'	–				
7	N 23°19'17" W	–	7.89'	–				
8	24°21'09"	22.50'	9.56'	4.85'	10+03.04	10+12.60	2,309,559.55	6,228,691.26
9	N 00°51'53" E	–	44.42'	–				
10	30°16'30"	22.50'	11.89'	6.09'	10+57.02	10+68.91	2,309,504.19	6,228,690.43

STRUCTURE DATA

STRUCTURE	STATION	A	B	C'	D1	D2	L'	EL. S	EL. R
T.S. 303	10+59.84 (LAT "A8")	65°46'25"	18"	2.17'	18"	18"	4.45'	881.69	881.75

AS BUILT
DATE 9-14-10

DMJM HARRIS | AECOM
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REGISTERED PROFESSIONAL ENGINEER JAMES A. ENRIQUEZ No. C 46655 Exp. 12-31-08 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE
2	AS BUILT	F.R.	9/14/10
1	ADDED CONSTRUCTION NOTE	J.A.E.	8-18-08

DESIGNED BY J.K. DRAWN BY J.K. CHECKED BY J.E.

COLUMBIA AVENUE OVERPASS AT BNSF RAILROAD
PLAN AND PROFILE
COLUMBIA AVENUE & CHICAGO AVENUE
LATERALS "A8","A9" & LINES "D","E"&"E1"

SCALE: 1" = 40'

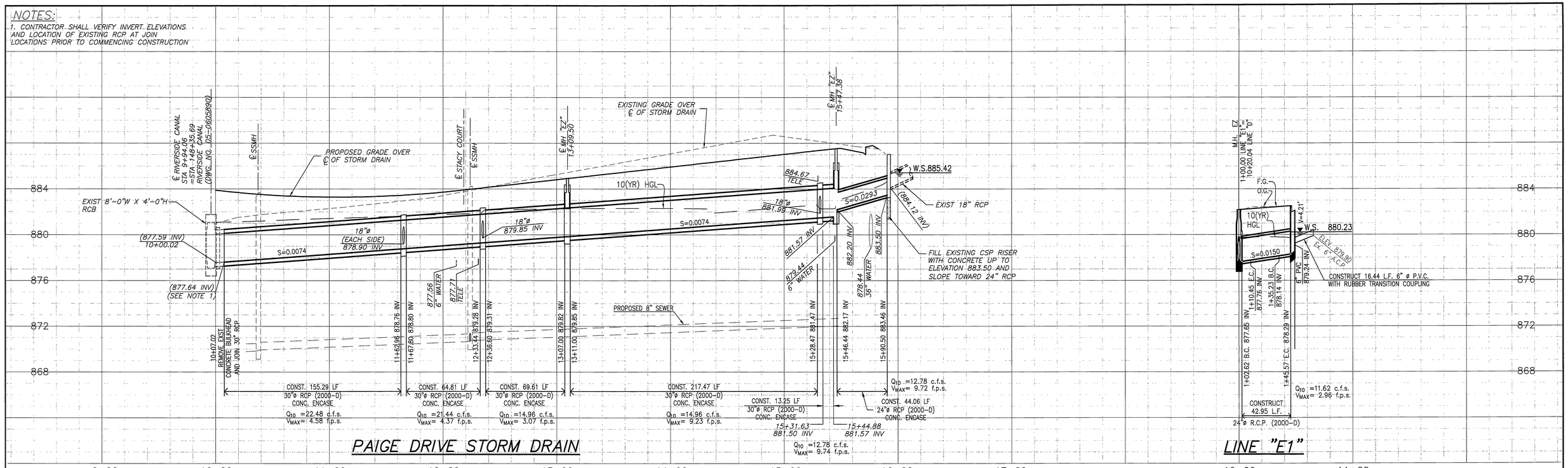
ACCT. NO. –

D-820
SD-04

SHEET 35 OF 103

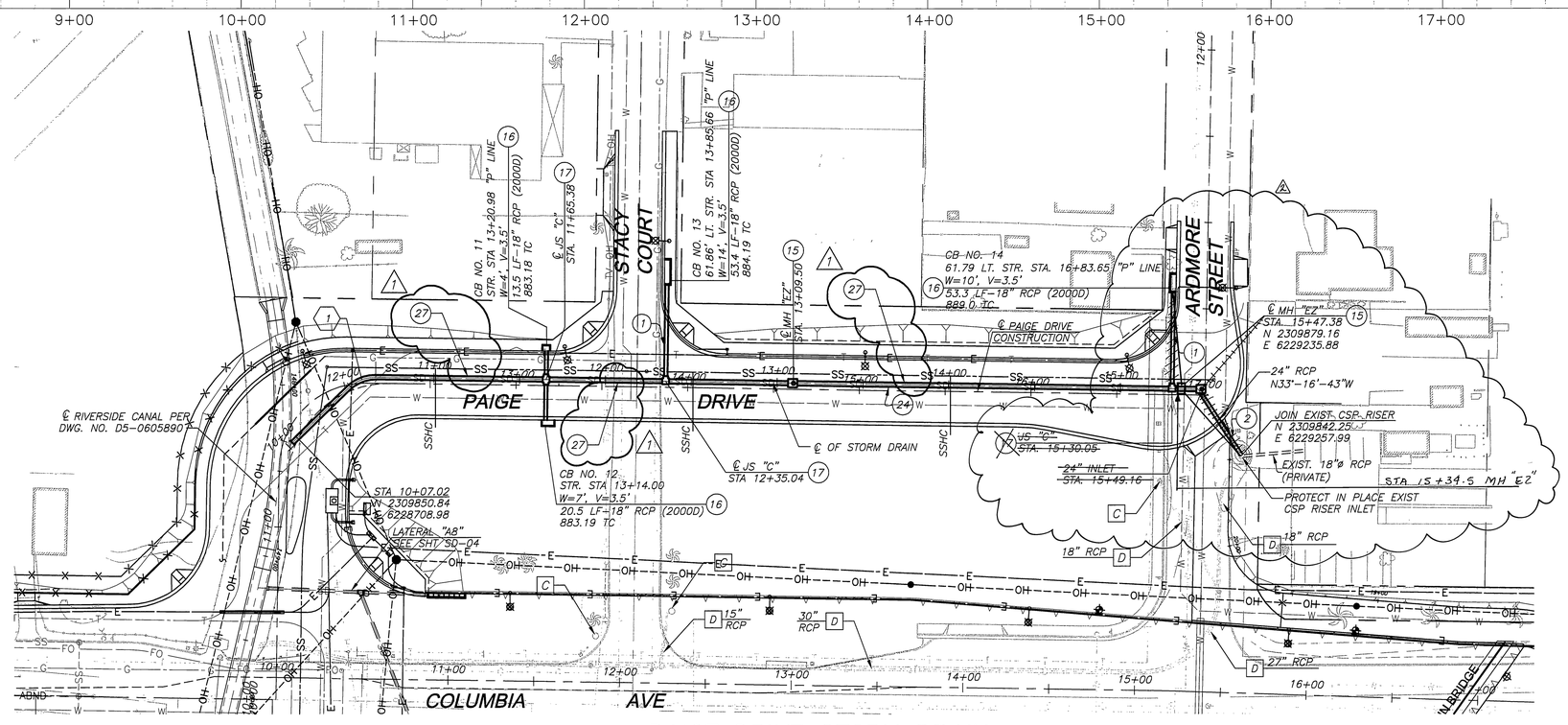
FILE INFO:P:\60004223 Columbia Grade Sep\CADD\Civil\Sheet\SD-04.dwg PLOTTED: Sep 29, 2008 2:10pm BY:amparos PLOT SCALE: 1=40
XREFS:xbdr; xtopo; xrow_ex; xutl_pro; x-canal; xutl_ex; xrd-colu; xrow_find; xsd-prof MODIFIED: Aug 26, 2008 4:48pm

NOTES:
1. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS AND LOCATION OF EXISTING RCP AT JOIN LOCATIONS PRIOR TO COMMENCING CONSTRUCTION



PAIGE DRIVE STORM DRAIN

LINE "E1"



PAIGE DRIVE STORM DRAIN

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
15. CONSTRUCT M.H. EZ PER CITY OF RIVERSIDE STD. PLAN No. 431
16. CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. PLAN No. 405
17. CONSTRUCT JUNCTION STRUCTURE "C" PER CITY OF RIVERSIDE STD. PLAN No. 422
18. CONSTRUCT R.C.B. INLET ABANDONMENT SEAL PER A.P.W.A. STD. PLAN No. 381
24. INSTALL 30" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
27. CONSTRUCT 6" CONCRETE ENCASEMENT PER CITY OF RIVERSIDE STD. PLAN No. 452, CASE IV

KEY NOTES

C — REMOVE EXISTING DRAINAGE INLET
D — ABANDON EXISTING STORM DRAIN CONDUIT

STRUCTURE DATA

STRUCTURE	STATION	A	B	C'	D1	D2	L'	EL. S	EL. R
JS C	11+65.38	90	18"	3.0'	30"	30"	4.0'	878.90	879.10
JS C	12+35.02	90	18"	3.0'	30"	30"	4.0'	879.85	880.11
JS C	15+30.05	90	18"	3.0'	30"	30"	4.0'	881.99	882.17

CURVE DATA

CURVE NO.	R	D	L	T	BC	EC	N (PI)	E (PI)
1	22.5'	45°00'00"	17.67'	9.32'	10+48.51	10+66.18	2309886.24	6228745.42

N

40' 20' 0 40' 80' HORIZ
GRAPHIC SCALE: 1" = 40'

4' 2' 0 4' 8' VERT
GRAPHIC SCALE: 1" = 4'

AS BUILT
DATE 9-14-10

DMJM HARRIS | AECOM
800 NORTH HAVEN, SUITE 410
ONTARIO, CA 91764
T (909)291-8150 F (909)291-8166

REGISTERED PROFESSIONAL ENGINEER JAMES A. ENRIQUEZ No. C65520 Exp. 12-31-08 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE
2	AS BUILT	F.R.	9/14/10
1	ADDED CONSTRUCTION NOTE	J.A.E.	8-18-08

DESIGNED BY J.E. DRAWN BY J.E. CHECKED BY J.E.

COLUMBIA AVENUE OVERPASS AT BNSF RAILROAD
PLAN AND PROFILE
PAIGE DRIVE STORM DRAIN & LINE "E1"
STA 10+07.02 TO STA 15+90.50

SCALE: 1" = 40'

ACCT. NO. -

D-820
SD-05

SHEET 36 OF 103

FILE INFO:P:\60004223 Columbia Grade Sep\CADD\Civil\Sheet\SD-05.dwg PLOTTED: Sep 29, 2008 2:10pm BY:amparos PLOT SCALE: 1=40
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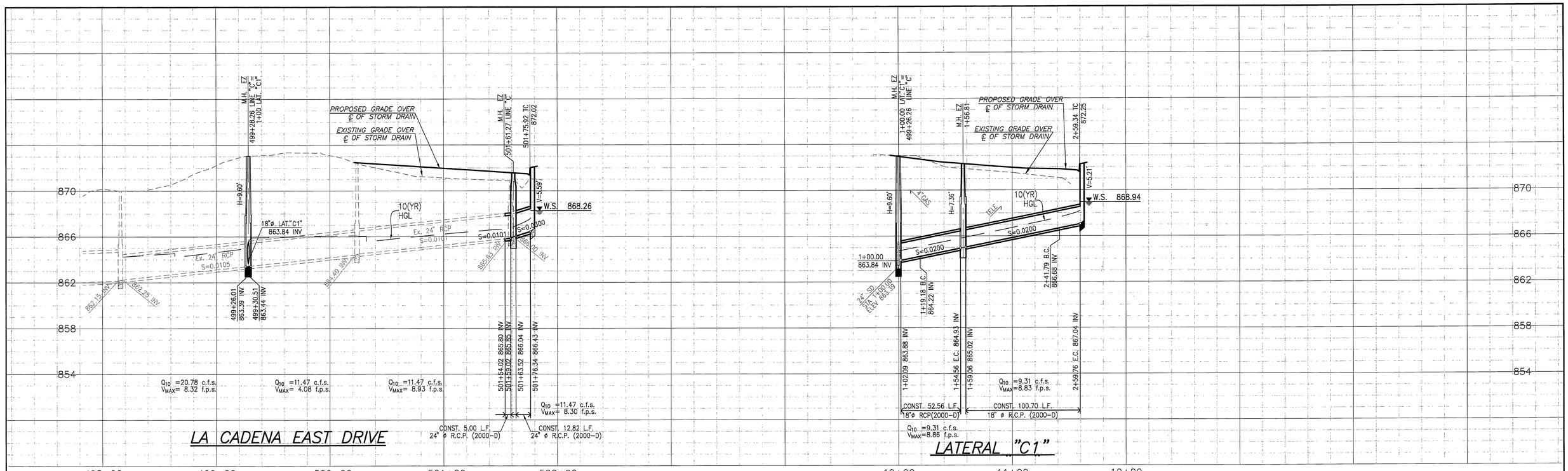

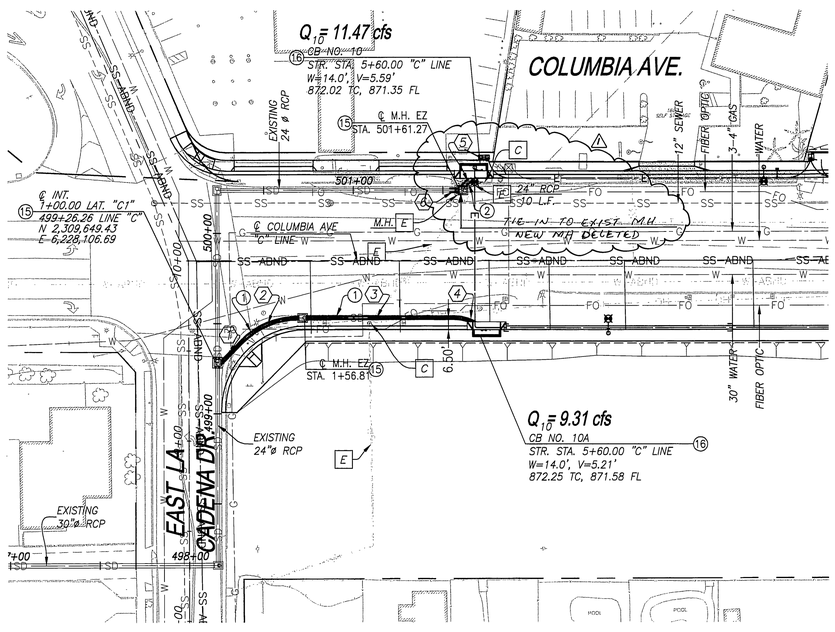

EAST LA CADENA DRIVE & LATERAL "C1"

SCALE: 1"=40'

N

GRAPHIC SCALE: 40' 20' 0 40' 80' — 1" = 40' HORIZ

GRAPHIC SCALE: 4' 2' 0 4' 8' — 1" = 4' VERT

AS BUILT
DATE 9-14-10

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. PER PLAN (SEE PROFILE FOR D-LOAD)
15. CONSTRUCT M.H. EZ PER CITY OF RIVERSIDE STD. PLAN No. 431
16. CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. PLAN No. 405

KEY NOTES

- C — REMOVE EXISTING DRAINAGE INLET
- D — ABANDON EXISTING STORM DRAIN CONDUIT
- E — REMOVE EXISTING STORM DRAIN CONDUIT

STORM DRAIN DATA

	BEARING/DELTA	RADIUS	LENGTH	TANGENT	B.C.	E.C.	N (PI)	E (PI)
1	N 45°47'26" E	–	19.18'	–				
2	45°03'17"	45.00'	35.39'	18.66'	1+19.18	1+54.56	2,309,675.82	6,228,133.81
3	S 89°09'17" E	–	87.23'	–				
4	45°00'00"	22.50'	17.67'	9.32'	2+41.79	2+59.47	2,309,674.12	6,228,249.02
5	N 45°50'43" E	–	15.83'	–				
6	S 89°09'17" E	–	5.00'	–				

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REGISTERED PROFESSIONAL ENGINEER JAMES A. ENRIQUEZ C 65520 Exp. 12-31-08 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE
1	AS BUILT	F.R.	9/14/10

DESIGNED BY J.K. DRAWN BY J.K. CHECKED BY J.E.

COLUMBIA AVENUE OVERPASS AT BNSF RAILROAD

PLAN AND PROFILE
LA CADENA EAST STORM DRAIN
STA. 498+17.80 TO STA. 501+76.34

SCALE: 1" = 40'

ACCT. NO. –

D-820
SD-06

SHEET 37 OF 103

FILE INFO:P:\60004223 Columbia Grade Sep\CADD\Civil\Sheet\SD-06.dwg PLOTTED: Sep 29, 2008 2:11pm BY:amparos PLOT SCALE: 1=40
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