

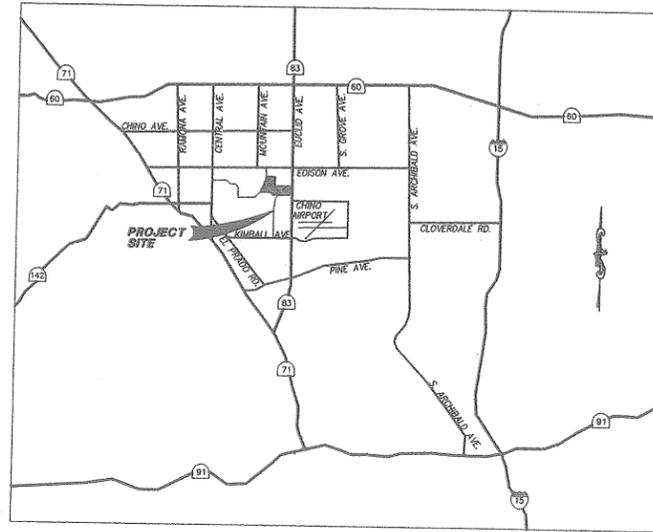
GENERAL NOTES FOR SEWER IMPROVEMENT PLANS - CITY OF CHINO

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF CHINO STANDARD DRAWINGS, STANDARD SPECIAL PROVISIONS AND THE LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, WITH SUPPLEMENTS. ANY VARIATION FROM, OR EXCEPTION TO, THE STANDARDS OR THESE NOTES SHALL BE APPROVED BY THE CITY ENGINEER.
- NO WORK SHALL BE UNDERTAKEN WITHOUT OBTAINING NECESSARY PERMITS FROM THE CITY.
- HOURS OF OPERATION SHALL BE FROM 7:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY. ROAD/LANE CLOSURES SHALL BE LIMITED TO THE HOURS OF 8:30 A.M. TO 3:30 P.M. WEEKDAYS UNLESS OTHERWISE APPROVED BY THE TRANSPORTATION MANAGER. OTHER HOURS SHALL REQUIRE WRITTEN AUTHORIZATION FROM THE CITY ENGINEER OR CITY BUILDING OFFICIAL.
- SANITARY SEWER LINES SHALL BE VITRIFIED CLAY PIPE (VCP) OR AS APPROVED BY THE CITY ENGINEER. VCP AND FITTINGS, WHERE BACKFILL COVER EXCEEDS 8 FEET, SHALL BE EXTRA STRENGTH, ASTM C-700, CLASS D. TRENCH WIDTHS SHALL NOT EXCEED 30 INCHES AND BACKFILL COVER SHALL NOT EXCEED 18 FEET.
- FOR SEWER MAINS, COVER, FROM THE TOP OF THE SEWER TO THE FINISHED SURFACE, SHALL BE A MINIMUM OF 3 FEET AND A MAXIMUM OF 18 FEET.
- SEWER AND WATER LINES SHOULD BE SEPARATED AS FAR AS REASONABLE IN BOTH THE HORIZONTAL AND VERTICAL DIRECTIONS WITH SEWERS ALWAYS LOWER THAN WATER LINES. THE MINIMUM HORIZONTAL SEPARATION SHALL BE 10 FEET. FOR PERPENDICULAR CONSTRUCTION, WATER LINES SHALL BE 3 FEET ABOVE SANITARY SEWERS AND SHALL CROSS AT A 90° ANGLE. A LENGTH OF SEWER PIPE SHOULD BE CENTERED AT THE CROSSING SO THAT SEWER JOINTS ARE AT THE MAXIMUM DISTANCE FROM WATER LINE. WHERE THIS CRITERIA IS NOT POSSIBLE, MORE RIGID CONSTRUCTION REQUIREMENTS SPECIFIED IN STANDARD DRAWING 400A AND 400B SHALL BE MET.
- DRIVE APPROACHES AND SEWER LINES SHALL BE STAKED AT THE SAME TIME. NO SEWER LATERALS SHALL PASS UNDER A DRIVE APPROACH OR DRIVEWAY.
- A 4" VCP SEWER LATERAL SHALL BE CONSTRUCTED TO EACH LOT WITH A MINIMUM OF FOUR FEET OF COVER FROM TOP OF CURB ELEVATION UNLESS NOTED OTHERWISE.
- AN "L" 3 INCHES WIDE AND 3 INCHES BELOW THE TOP OF THE CURB SHALL BE STAMPED AT SEWER LATERAL LOCATIONS.
- WYES SHALL BE CONSTRUCTED WITHIN ONE PIPE LENGTH OF THE STATION SHOWN ON THE PLANS AND ALL LATERALS LAID 90° OR 45° TO THE MAIN LINE.
- THE CONTRACTOR SHALL FURNISH THE CITY WITH AS-BUILT RECORD DRAWINGS FOR THE LOCATION OF LATERALS WHERE THEY INTERSECT THE CURB.
- THE CONTRACTOR SHALL KEEP A RECORD OF THE LOCATION OF WYES, TEES AND SEWER LATERAL STUBS. SUCH RECORDS SHALL BECOME PROPERTY OF THE CITY UPON COMPLETION OF THE CONTRACT.
- NO TRENCH BACKFILL SHALL TAKE PLACE PRIOR TO APPROVAL FROM THE CITY INSPECTOR.
- TRENCH BACKFILL SHALL BE DONE IN ACCORDANCE WITH CITY STANDARD 109.
- MANHOLE FRAMES AND COVERS SHALL BE TEMPORARILY SET 4 INCHES BELOW THE FINISH GRADE UNLESS NOTED OTHERWISE.
- NO SEWAGE OR WATER FROM TESTING AND FLUSHING OPERATIONS SHALL BE DISCHARGED INTO THE CITY SEWER SYSTEM UNLESS AUTHORIZED BY THE CITY INSPECTOR.
- STRAIGHT PIPE ON CURVES, IN ACCORDANCE WITH SECTION 306-1.2.3D OF THE STANDARD SPECIFICATION FOR PUBLIC WORKS MAY BE USED WHERE APPROVED BY THE CITY ENGINEER. INSPECTION OF CURVED SECTIONS OF SEWER LINES SHALL BE MADE BY THE CONTRACTOR USING TELEVISION CAMERAS DESIGNED FOR THAT PURPOSE. VHS VIDEO RECORDINGS SHALL BE MADE OF THE SECTIONS DESIGNATED BY THE ENGINEER FROM MANHOLE TO MANHOLE TO CLEAN OUT AND WHERE INDICATED ON THE PLANS. RECORDINGS SHALL BECOME PROPERTY OF THE CITY.
- FOR NEW STREET CONSTRUCTION, THE LOCATION OF SEWER MAINS SHALL BE 6 FEET SOUTH OR WEST OF STREET CENTERLINE AND A MINIMUM OF 10 FEET FROM EXISTING WATER LINES, UNLESS NOTED OTHERWISE.
- APPROVAL OF THESE PLANS BY THE CITY OF ITS AGENTS DOES NOT RELIEVE THE CONTRACTOR OR THE APPLICANT FROM THE RESPONSIBILITY FOR THE CORRECTION OF ERRORS OR OMISSIONS DISCOVERED DURING CONSTRUCTION. UPON REQUEST, THE APPROPRIATE REVISIONS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL.

GENERAL NOTES FOR SEWER IMPROVEMENT PLANS - IEUA

- ALL WORK SHALL BE DONE IN STRICT CONFORMANCE WITH THE PROJECT SPECIFICATIONS AS APPROVED BY THE INLAND EMPIRE UTILITIES AGENCY (IEUA), THE CITY OF CHINO AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION) AND THE IEUA STANDARD DETAIL SHEET OF THIS PLAN SET (SHEETS NO. 12 AND 13) AS APPROPRIATE.
- ANY CONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE HIMSELF WITH THE SITE AND SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY OR INDIRECTLY FROM HIS OPERATIONS, WHETHER OR NOT SHOWN ON THESE PLANS.
- ALL OBSTRUCTIONS WITHIN THE AREA TO BE IMPROVED ARE TO BE REMOVED OR RELOCATED AT THE DIRECTION OF THE ENGINEER. UTILITIES ARE TO BE RELOCATED BY THEIR RESPECTIVE OWNERS. THE CONTRACTOR IS REFERRED TO SECTION 5 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- UTILITY LINE LOCATIONS WERE TAKEN FROM RECORD AND WERE NOT LOCATED IN THE FIELD UNLESS OTHERWISE NOTED ON THE PLAN. THE CONTRACTOR IS REFERRED TO SECTION 5 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- IN CASE OF ANY ACCIDENTS INVOLVING SAFETY MATTERS COVERED BY SECTION 6424 OF THE CALIFORNIA LABOR CODE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE STATE DIVISION OF INDUSTRIAL SAFETY.
- CALL UNDERGROUND SERVICE ALERT (800-422-4133) FOR UNDERGROUND LOCATIONS 48 HOURS BEFORE DIG.
- THE CONTRACTOR SHALL OBTAIN A TRAFFIC CONTROL PERMIT 48-HRS PRIOR TO THE TIME OF CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR IS REFERRED TO SECTION 7-10.3 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- THE CONTRACTOR SHALL RENEW OR REPLACE ANY EXISTING TRAFFIC STRIPING AND/OR PAVEMENT MARKINGS WHICH DURING HIS OPERATIONS HAVE BEEN EITHER REMOVED OR THE EFFECTIVENESS OF WHICH HAS BEEN REDUCED. RENEWAL OF PAVEMENT STRIPING & MARKING SHALL BE DONE IN CONFORMANCE WITH SECTION 310-5.6 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- ALL SEWER MAINS SHALL BE BELL AND SPIGOT EXTRA STRENGTH VITRIFIED CLAY PIPE (VCP) SEWER PIPE UNLESS OTHERWISE NOTED ON THE PLANS.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING SEWER MAIN(S) AND NOTIFY AND OBTAIN APPROVAL OF THE DESIGN ENGINEER AND IEUA OF ANY VARIATION FROM DESIGN.
- CONSTRUCTION SHALL NOT BEGIN ON FACILITIES TO BE OWNED BY IEUA UNTIL AFTER THE ISSUANCE OF A PERMIT BY IEUA TO ALLOW THE CONSTRUCTION AND ALSO AFTER A PRE-CONSTRUCTION CONFERENCE TO BE HELD AT LEAST 1 WEEK PRIOR TO BEGINNING CONSTRUCTION.
- IN ADDITION, IEUA AND THE CITY OF CHINO SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF THE TRUNK SEWER OR ANY FACILITIES OWNED AND OPERATED BY IEUA AND/OR CITY OF CHINO.
- ALL TRENCHING AND/OR SHROING SHALL MEET REQUIREMENTS OF CAL-OSHA.
- THE CONTRACTOR SHALL SUBMIT COPIES OF HIS DEPARTMENT OF INDUSTRIAL SAFETY PERMIT TO IEUA AND TO THE CITY OF CHINO.
- SHOP DRAWINGS AS REQUIRED BY THE PERMIT SHALL BE APPROVED BY IEUA PRIOR TO BEGINNING THE CONSTRUCTION.
- UNLESS OTHERWISE APPROVED, LOW PRESSURE WATER TEST FOR THE GRAVITY SEWER LINES AND PRESSURE WATER TEST FOR THE PRESSURIZED PIPELINES SHALL BE PERFORMED IN CONFORMANCE WITH SECTION 306-1.4 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

OFFSITE AND RELOCATED SEWER IMPROVEMENT PLANS FOR TRACT NO. 16837 - PHASE 1 - OFFSITE IN THE CITY OF CHINO



VICINITY MAP
NO SCALE

SHEET INDEX

- | NO. | SHEET TITLE |
|-------|----------------------------------|
| 1 | TITLE SHEET |
| 2 | INDEX MAP & TYPICAL SECTIONS |
| 3-11 | SEWER IMPROVEMENT PLAN & PROFILE |
| 12-13 | IEUA STANDARD SHEETS |

SEWER NOTES		UNIT	QUANTITY
50	INSTALL 8" VCP SEWER	LF	---
51	INSTALL 12" VCP SEWER	LF	6741
52	CONSTRUCT SEWER MANHOLE PER CITY STD. 515	EA	34
53	INSTALL 4" SEWER LATERAL PER CITY STD. 500A	LF	---
54	INSTALL CLAY STOPPER	EA	---
55	CONSTRUCT TRENCH REPAIR AND ROAD REPAIR PER CITY STD. 109	SF	1500
56	INSTALL 15" VCP SEWER	LF	1823
57	CONSTRUCT 84" SEWER MANHOLE PER IEUA STANDARD	EA	1
58	CONSTRUCT PRECAST MONITORING MANHOLE PER IEUA STD.	EA	1
59	BREAK INTO EXISTING MANHOLE PER APWA STD. 208	EA	3
60	INSTALL 24" VCP SEWER	LF	40
61	INSTALL 18" VCP SEWER	LF	---
62	CONSTRUCT 15' WIDE ACCESS ROAD, COMPACTED SOIL ON NATIVE (MIN RELATIVE COMPACTION 90%)	SF	---
63	CONSTRUCT COMMERCIAL-DTW APPROACH PER CITY STD. 255	SF	900
64	INSTALL DROP SEWER MANHOLE (D ₂ & D ₁ = 12") PER APWA STD. PLAN 202-0	EA	1

LEGEND

	STREET NAME SIGN
	STOP SIGN
	NO PARKING SIGN
	RIGHT-OF-WAY LINE
	LOT LINE
	TOP OF SLOPE
	TOE OF SLOPE
	STREET LIGHT
	FIRE HYDRANT
	EXIST. FIRE HYDRANT
	SEWER LINE
	WATER METER & SERVICE
	DOMESTIC WATER LINE
	WATER VALVE
	STORM DRAIN LINE
	LOT NUMBER
	SEWER STATIONING
	STREET STATIONING

ABBREVIATIONS

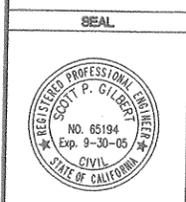
Δ	CURVE DELTA	HH	HANDHOLE	R/W	RIGHT OF WAY
AC	ASPHALTIC CONCRETE	INV	INVERT	SCE	SOUTHERN CALIF. EDISON
ARHM	ASPHALTIC RUBBER HOT MIX	JS	JUNCTION STRUCTURE	SD	STORM DRAIN
BC	BEGIN CURVE	L	CURVE LENGTH	SL	STREET LIGHT/CONDUIT
BCR	BEGIN CURB RETURN	LD	LOCAL DEPRESSION	SS	SEWER
BOP	BOTTOM OF PIPE	LT	LEFT	SW	SIDEWALK
BVC	BEGIN VERTICAL CURVE	MBGR	METAL BEAM GUARD RAIL	T	TELEPHONE
BW	BOTTOM OF WALL	MH	MANHOLE	TAN	SEMI TANGENT LENGTH
C&G	CURB AND GUTTER	MOC	MIDDLE OF CURVE	TB	TOP OF BERM
CB	CATCH BASIN	NB	NORTHBOUND	TC	TOP OF CURB
CF	CURB FACE	NC	NORMAL CROWN	TCE	TEMPORARY CONSTRUCTION
CL	CENTERLINE	NIC	NOT IN CONTRACT	TF	TOP OF FOOTING
CMB	CLASSIFIED MISC. BASE	OG	ORIGINAL GROUND	TG	TOP OF GRATE
DLC	DETECTOR LEAD IN CABLE	OH	OVERHEAD	TMW	TOP OF MASONRY WALL
DW	DOMESTIC WATER	PACBELL	PACIFIC BELL	TOP	TOP OF PIPE
E	ELECTRIC	PB	PULL BOX	TS	TRAFFIC SIGNAL/CONDUIT
ESMT	EASEMENT	PCC	PORTLAND CEMENT CONCRETE	TSME	TRAFFIC SIGNAL
EC	END CURVE	PCC	POINT OF COMPOUND CURVE	TW	TOP OF WALL
ECR	END CURB RETURN	PI	POINT OF INTERSECTION	UNK	UNKNOWN
EP	EDGE OF PAVEMENT	PL	PROPERTY/LOT LINE	USO	UNDER SUPERVISION OF
ES	EDGE OF SHOULDER	PT	POINT ON TANGENT	V	VALVE
ETW	EDGE OF TRAVELED WAY	PRC	POINT OF REVERSE CURVE	VCP	VITRIFIED CLAY PIPE
EVC	END VERTICAL CURVE	PVC	POLYVINYL CHLORIDE	VLT	VAULT
FG	FINISH GRADE	PVI	POINT OF VERTICAL INFLECTION	VNT	VENT
FH	FIRE HYDRANT	INT	INTERSECTION	W	WATER
FL	FLOW LINE	R	RADIUS	WL0L	WALL LAYOUT LINE
FS	FINISH SURFACE	RPM	RAISED PAVEMENT MARKER	WM	WATER METER/SERVICE
G	GAS	RW	RECLAIMED WATER		
GB	GRADE BREAK	RCP	REINFORCED CONCRETE PIPE		
GM	GAS METER/SERVICE	RT	RIGHT		
GV	GAS VALVE				
HGL	HYDRAULIC GRADE LINE				

APPROVED

CITY OF CHINO ENGINEERING
DATE 8.25.05 BY HW

APPROVED BY:
CIVIL ENGINEER FOR IEUA
DATE:

APPROVED BY:
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER
DATE:

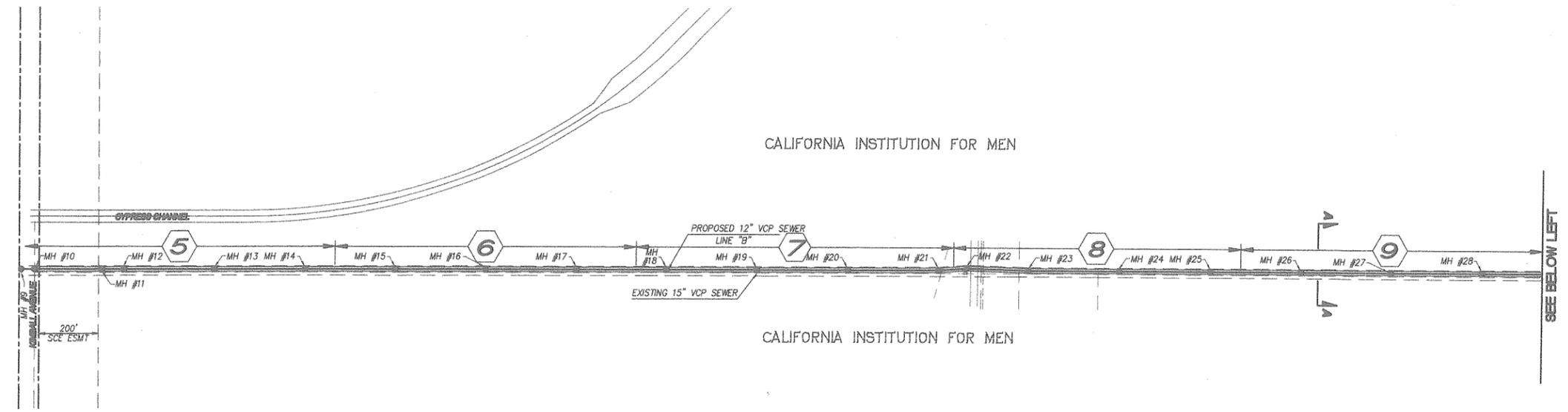


PREPARED BY	REVISIONS	MADE DATE	APPROVED DATE	BENCH MARK DATA	REFERENCE DRAWINGS	REVIEWED BY STAFF	BY	DATE	CITY ENGINEER'S STAFF	BY	DATE	PROJECT NO.	
FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 472-3505 FAX: (949) 472-8122 SCOTT P. GILBERT RCE 65194	REV SEWER PLAN/PROF ON SHTS 9,10	S.P.G. 8/24/05		NO. 141/53 ELEV. 656.90 LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE EOR OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.		WATER: SEWER: FIRE: PLANNING: TRAFFIC: SERVICES:				DRAWN: DESIGNED: CHECKED: RECOMMENDED:			TR 16837 SHEET 1 of 13 DRAWING NO.

CITY OF CHINO ENGINEERING DIVISION
SEWER IMPROVEMENT PLANS
TITLE SHEET

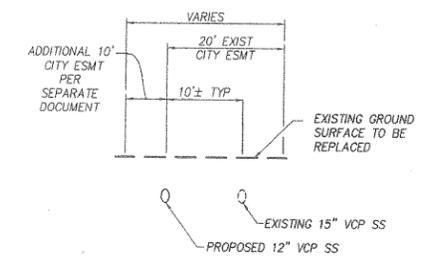
SAFECO PRODUCTS - NEW HOPKINS, MINNESOTA
REGISTERED BY PAINT MANAGER 6552
REVISIONS OF PAINT MANAGER

SAFECO PRODUCTS - NEW HOPKINS, MINNESOTA
REGISTERED BY PAINT MANAGER 6552
REVISIONS OF PAINT MANAGER

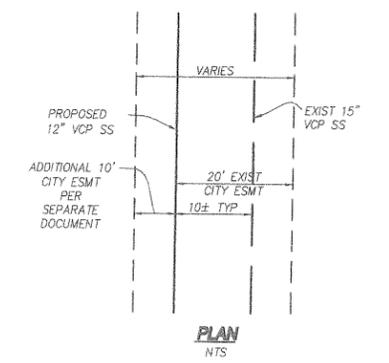


SHEET INDEX

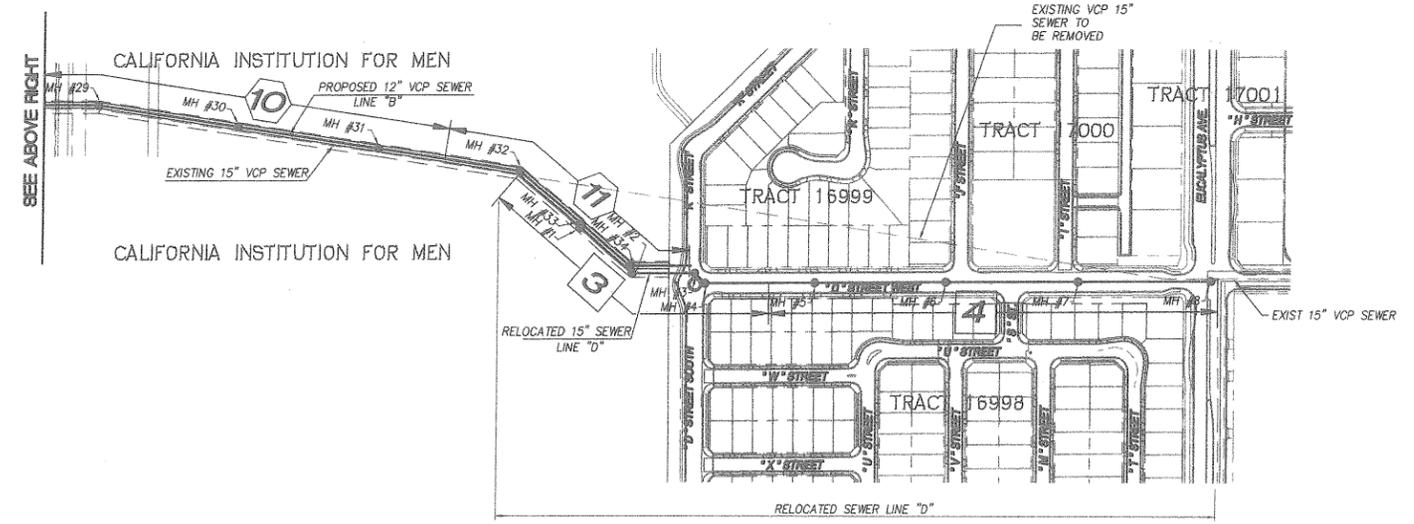
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SECTION A-A
NTS



PLAN
NTS

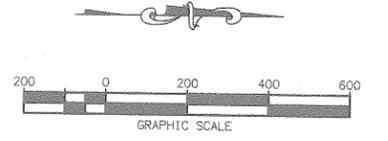


INDEX MAP

- RELOCATED SEWER LINE "D" 3-4
- OFF SITE SEWER LINE "B" 5-11

APPROVED BY:
M. T. Montano
CIVIL ENGINEER FOR IEUA
DATE: 7/7/05

APPROVED BY:
James A. Wadd
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER
DATE: 7/8/05



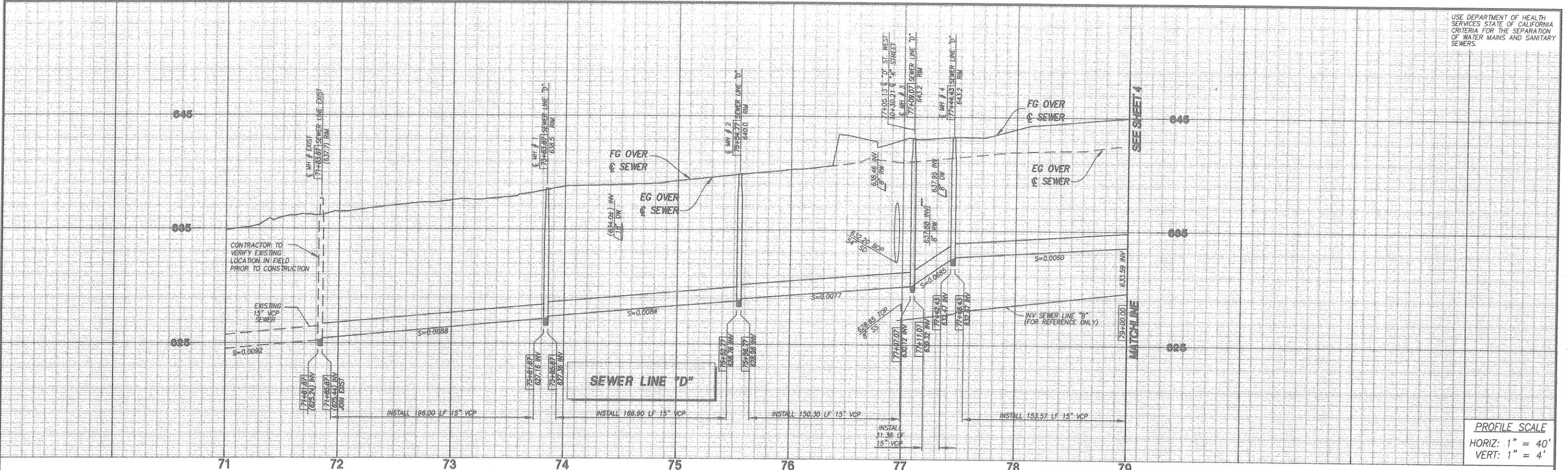
PREPARED BY	REVISIONS	MADE BY	DATE	APPROVED BY	DATE	BENCH MARK DATA	REFERENCE DRAWINGS	REVIEWED BY STAFF	BY	DATE	CITY ENGINEER'S STAFF	BY	DATE	APPROVED BY	CITY OF CHINO ENGINEERING DIVISION	PROJECT NO.
FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 472-3505 FAX: (949) 472-8122 SCOTT P. GILBERT RCE 65194	▲ ▲ ▲ ▲ ▲					NO. 141/53 ELEV. 656.90 LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE ECR OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDSON AVENUE.		WATER: <i>See 2/11/05</i> SEWER: <i>See 2/11/05</i> FIRE: PLANNING: TRAFFIC: SERVICES:					CM JY 6.30.05		CITY OF CHINO ENGINEERING DIVISION SEWER IMPROVEMENT PLAN AND PROFILE OFFSITE AND RELOCATED SEWER INDEX MAP	TR 16837 SHEET 2 OF 13 DRAWING NO. BA 1451

SACCO PRODUCTS - MINNAPACE, MINNESOTA
REPRODUCED BY PART NUMBER 8835

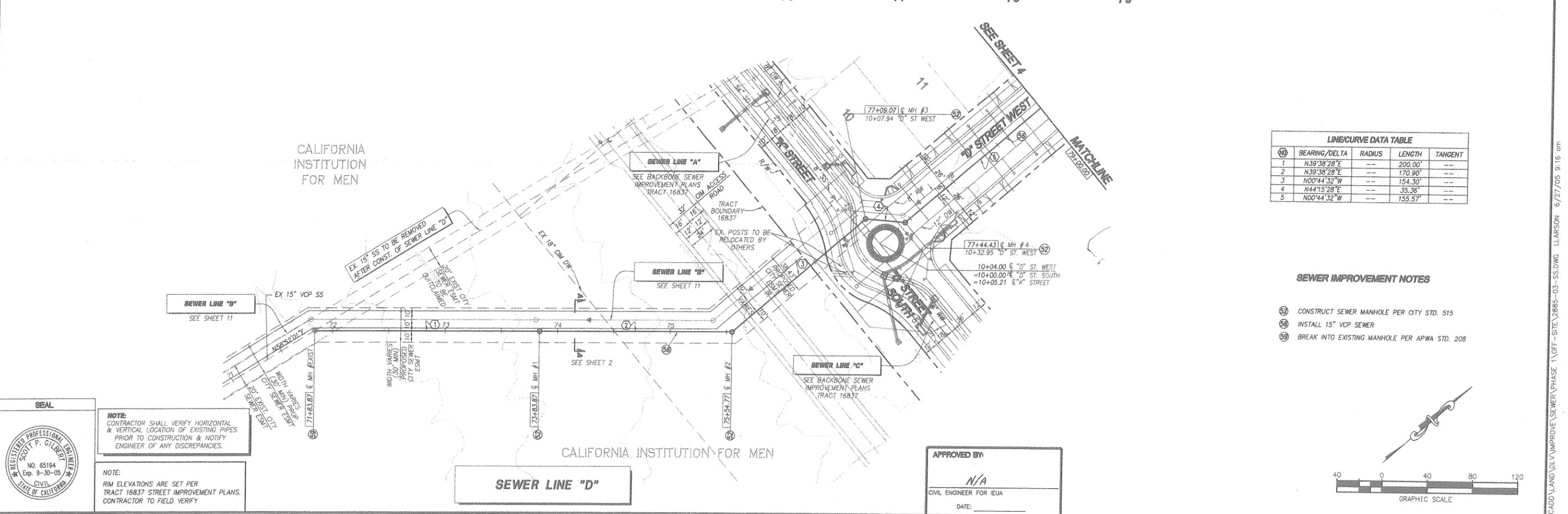
SACCO PRODUCTS - MINNAPACE, MINNESOTA
REPRODUCED BY PART NUMBER 8835

SACCO PRODUCTS - MINNAPACE, MINNESOTA
REPRODUCED BY PART NUMBER 8835

USE DEPARTMENT OF HEALTH SERVICES STATE OF CALIFORNIA CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS.



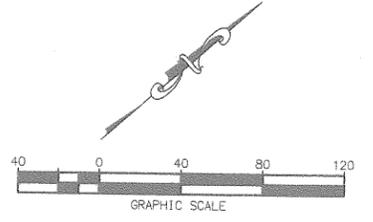
PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'



LINE/CURVE DATA TABLE				
NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	N39°38'28"E	---	200.00'	---
2	N39°38'28"E	---	170.90'	---
3	N00°44'32"W	---	154.30'	---
4	N44°15'28"E	---	35.36'	---
5	N00°44'32"W	---	153.57'	---

SEWER IMPROVEMENT NOTES

- 52 CONSTRUCT SEWER MANHOLE PER CITY STD. 515
- 58 INSTALL 15" VCP SEWER
- 59 BREAK INTO EXISTING MANHOLE PER APWA STD. 208



SEAL

REGISTERED PROFESSIONAL ENGINEER
SCOTT P. GILBERT
NO. 65194
Exp. 9-30-05
CIVIL
STATE OF CALIFORNIA

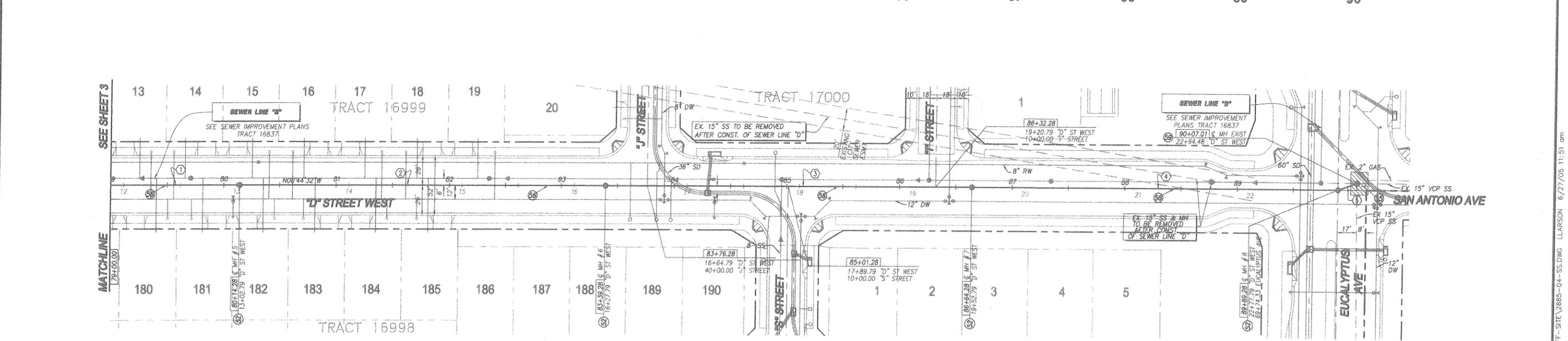
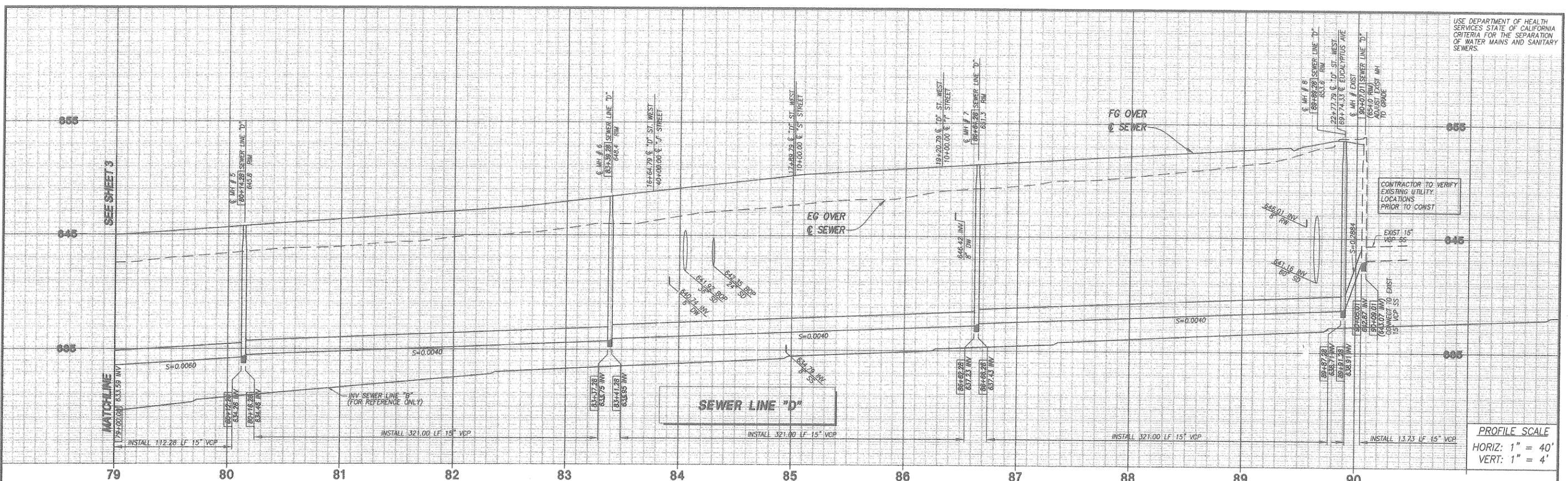
NOTE:
CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

NOTE:
RIM ELEVATIONS ARE SET PER TRACT 16837 STREET IMPROVEMENT PLANS. CONTRACTOR TO FIELD VERIFY

APPROVED BY:
N/A
CIVIL ENGINEER FOR IEUA
DATE:

PREPARED BY	REVISIONS	MADE BY	APPROVED BY	BENCH MARK DATA	REFERENCE DRAWINGS	REVIEWED BY STAFF	BY	DATE	CITY ENGINEER'S STAFF	BY	DATE	APPROVED BY	CITY OF CHINO ENGINEERING DIVISION	PROJECT NO.
FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 472-3505 FAX: (949) 472-8122 SCOTT P. GILBERT				NO. 141/53 ELEV. 656.90 LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 6' EAST OF THE EOR OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.		WATER/EOR 7/9/05 SEWER: FIRE: PLANNING: TRAFFIC: SERVICES:			CM JY 6.30.05			James A. Wood for DIRECTOR OF PUBLIC WORKS/CITY ENGINEER DATE: 7/8/05	CITY OF CHINO ENGINEERING DIVISION SEWER IMPROVEMENT PLAN AND PROFILE RELOCATED SEWER LINE "D" FROM 200' N/O 'K'/D' STREETS TO 500' S/O 'K'/D' STREETS	TR 16837 SHEET 3 OF 13 DRAWING NO. BA 1452

USE DEPARTMENT OF HEALTH SERVICES STATE OF CALIFORNIA CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS.



LINE/CURVE DATA TABLE

NO	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	N00°44'32"W	---	114.28'	---
2	N00°44'32"W	---	325.00'	---
3	N00°44'32"W	---	325.00'	---
4	N00°44'32"W	---	325.00'	---
5	N20°23'34"W	---	17.73'	---

- SEWER IMPROVEMENT NOTES**
- 52 CONSTRUCT SEWER MANHOLE PER CITY STD. 515
 - 53 CONSTRUCT TRENCH REPAIR AND ROAD REPAIR PER CITY STD. 109
 - 54 INSTALL 15" VCP SEWER
 - 55 BREAK INTO EXISTING MANHOLE PER APWA STD. 208

SEAL

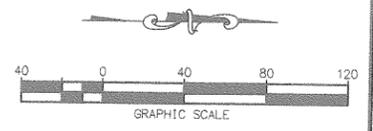
REGISTERED PROFESSIONAL ENGINEER
 SCOTT P. GILBERT
 No. 65194
 Exp. 9-30-05
 CIVIL
 STATE OF CALIFORNIA

NOTE:
 CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

NOTE:
 RIM ELEVATIONS ARE SET PER TRACT 16837 STREET IMPROVEMENT PLANS. CONTRACTOR TO FIELD VERIFY

APPROVED BY:
 N/A
 CIVIL ENGINEER FOR IEUA
 DATE:

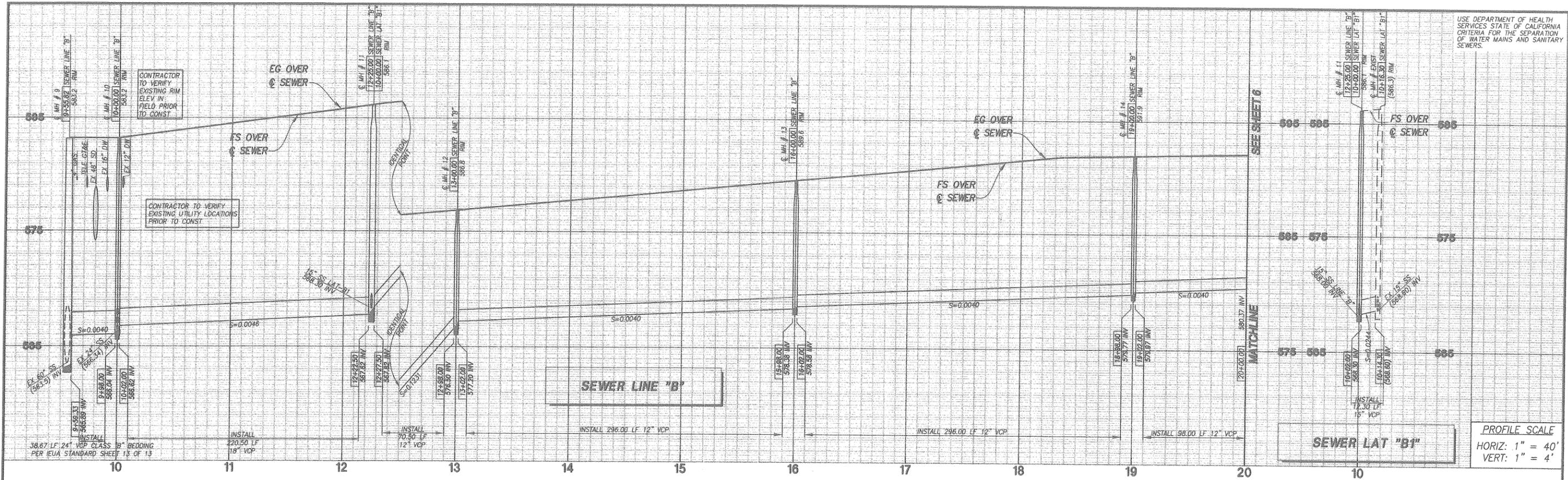
PREPARED BY FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 472-3505 FAX: (949) 472-8122 SCOTT P. GILBERT RCE 65194 DATE: 6/21/05	REVISIONS (Empty table for revisions)	BENCH MARK DATA NO. 141/53 ELEV. 856.90 LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE COR OF THE NORTHWEST CURB RETURN AND BEING 84.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.	REFERENCE DRAWINGS (Empty table for reference drawings)	REVIEWED BY STAFF WATER: [Signature] SEWER: [Signature] FIRE: [Signature] PLANNING: [Signature] TRAFFIC: [Signature] SERVICES: [Signature]	BY (Empty table for staff)	DATE (Empty table for dates)	CITY ENGINEERS STAFF DRAWN: DESIGNED: CHECKED: CM JY 6.30.05 RECOMMENDED:	APPROVED BY: James A. Hood, Jr. DIRECTOR OF PUBLIC WORKS/CITY ENGINEER DATE: 7/8/05	CITY OF CHINO ENGINEERING DIVISION SEWER IMPROVEMENT PLAN AND PROFILE RELOCATED SEWER LINE "D" FROM 200' N/O 'K'/D' STREETS TO 1800' N/O 'K'/D' STREETS	PROJECT NO. TR 16837 SHEET 4 OF 13 DRAWING NO. BA 1453
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SAECO PRODUCTS - NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 0502

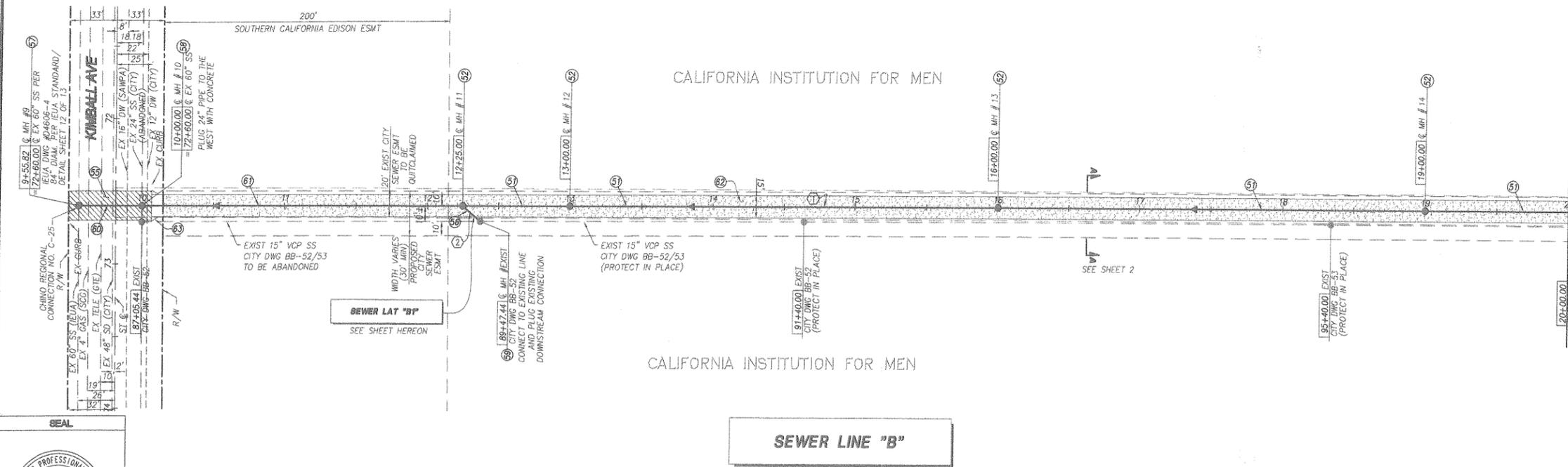
SAECO PRODUCTS - NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 0502

SAECO PRODUCTS - NEW HOPE, MINNESOTA
REORDER BY PART NUMBER 0502



USE DEPARTMENT OF HEALTH SERVICES STATE OF CALIFORNIA CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS.

PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

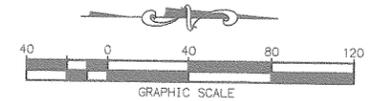


LINE / CURVE DATA TABLE				
NO	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	N00°24'01"W	--	1044.18'	--
2	N40°30'35"E	--	16.29'	--

- SEWER IMPROVEMENT NOTES**
- ⑤ INSTALL 12" VCP SEWER
 - ⑥ CONSTRUCT SEWER MANHOLE PER CITY STD. 515
 - ⑦ INSTALL CLAY STOPPER
 - ⑧ CONSTRUCT TRENCH REPAIR AND ROAD REPAIR PER CITY STD. 109
 - ⑨ INSTALL 15" VCP SEWER
 - ⑩ CONSTRUCT 84" SEWER MANHOLE PER IEUA STANDARD
 - ⑪ CONSTRUCT PRECAST MONITORING MANHOLE PER IEUA STD.
 - ⑫ BREAK INTO EXISTING MANHOLE PER APWA STD. 208
 - ⑬ INSTALL 24" VCP SEWER
 - ⑭ INSTALL 18" VCP SEWER
 - ⑮ CONSTRUCT 15' WIDE ACCESS ROAD, COMPACTED SOIL ON NATIVE (MIN RELATIVE COMPACTION 90%)
 - ⑯ CONSTRUCT COMMERCIAL DWY APPROACH PER CITY STD. 255

APPROVED BY:
M. T. Anderson
CIVIL ENGINEER FOR IEUA
DATE: 4/7/05

APPROVED BY:
James A. Hill
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER
DATE: 7/8/05

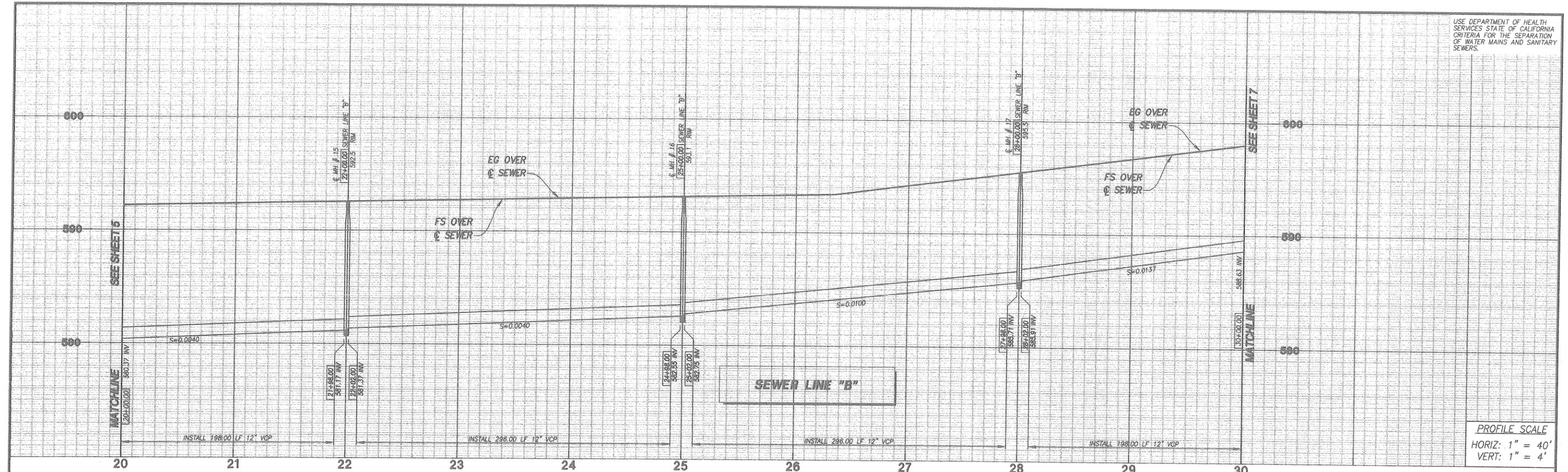


NOTE:
CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

PREPARED BY	REVISIONS	MADE BY	APPROVED BY	BENCH MARK DATA	REFERENCE DRAWINGS	REVIEWED BY STAFF	BY	DATE	CITY ENGINEER'S STAFF	BY	DATE	APPROVED BY	CITY OF CHINO ENGINEERING DIVISION	PROJECT NO.
FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 472-3505 FAX: (949) 472-8122 SCOTT R. GILBERT RCE 65194 DATE: 4/27/05				NO. 141/53 ELEV. 656.90 LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE EOR OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.	WATER: <i>East of Kimball Ave</i> SEWER: FIRE: PLANNING: TRAFFIC: SERVICES:				DESIGNED: CHECKED: CM JY 6.30.05 RECOMMENDED: -- --			<i>James A. Hill</i> DIRECTOR OF PUBLIC WORKS/CITY ENGINEER DATE: 7/8/05	CITY OF CHINO ENGINEERING DIVISION SEWER IMPROVEMENT PLAN AND PROFILE OFFSITE SEWER LINE "B" AND LAT "B1" FROM 5700' S/O 'K'/D' STREETS TO KIMBALL AVENUE	TR 16837 SHEET 5 OF 13 DRAWING NO. BA 1454

USE DEPARTMENT OF HEALTH SERVICES STATE OF CALIFORNIA CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS.

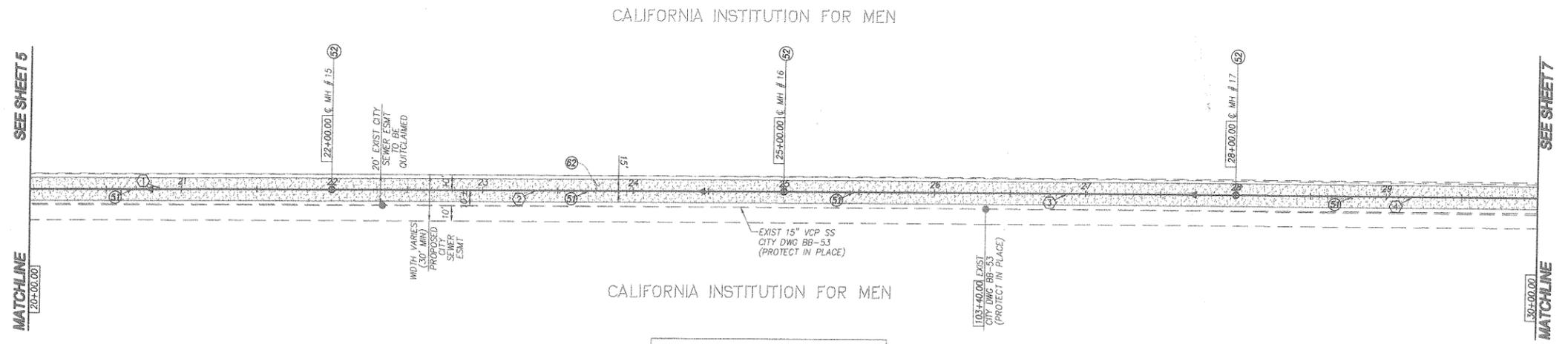
6 of 13



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

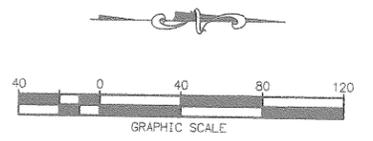
College Park - TR 16837
Ph. 1 - Offsite & Relocated
Sewer Im

JN 10-102885



LINE/CURVE DATA TABLE				
NO	BEARING/Delta	RADIUS	LENGTH	TANGENT
1	N 00°24'01" W	---	200.00'	---
2	N 00°24'01" W	---	300.00'	---
3	N 00°24'01" W	---	300.00'	---
4	N 00°24'01" W	---	200.00'	---

- SEWER IMPROVEMENT NOTES**
- 51) INSTALL 12" VCP SEWER
 - 52) CONSTRUCT SEWER MANHOLE PER CITY STD. 515
 - 53) CONSTRUCT 15' WIDE ACCESS ROAD, COMPACTED SOIL ON NATIVE (MIN RELATIVE COMPACTION 90%)



SEAL
REGISTERED PROFESSIONAL ENGINEER
SCOTT P. GILBERT
No. 65194
Exp. 9-30-05
CIVIL
STATE OF CALIFORNIA

NOTE:
CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES TO BE JOINED PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

APPROVED BY:
N/A
CIVIL ENGINEER FOR IEUA
DATE:

APPROVED BY:
James A. Hill for
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER
DATE: 7/8/05

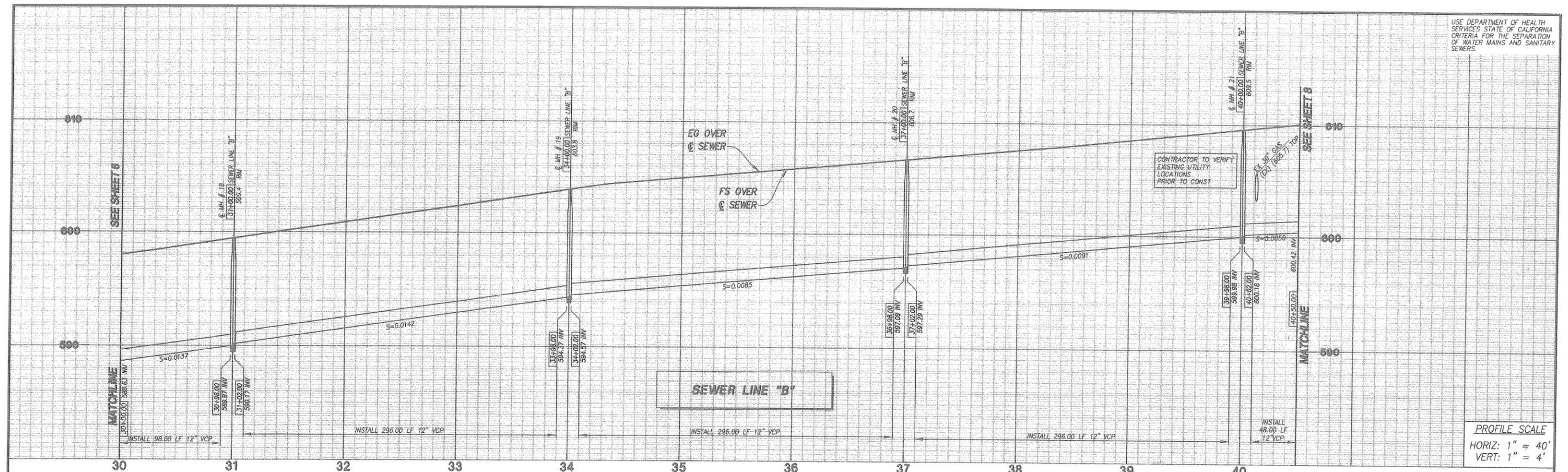
PREPARED BY	REVISIONS	MADE BY	DATE	APPROVED BY	DATE	BENCH MARK DATA	REFERENCE DRAWINGS	REVIEWED BY STAFF	BY	DATE	CITY ENGINEER'S STAFF	BY	DATE	APPROVED BY	CITY OF CHINO ENGINEERING DIVISION	PROJECT NO.
FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 478-3505 FAX: (949) 472-8122 SCOTT P. GILBERT RCE 65194 DATE						NO. 141/53 ELEV. 656.90 LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE EOR OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.		WATER: [Signature] SEWER: FIRE: PLANNING: TRAFFIC: SERVICES:						James A. Hill for DIRECTOR OF PUBLIC WORKS/CITY ENGINEER DATE: 7/8/05	SEWER IMPROVEMENT PLAN AND PROFILE OFFSITE SEWER LINE "B" FROM 4700' 8/0 'K'/D' STREETS TO 5700' 8/0 'K'/D' STREETS	TR 16837 SHEET 6 of 13 DRAWING NO. BA 1455

SAECO PRODUCTS • NEW YORK, MINNESOTA
REORDER BY PART NUMBER 8832

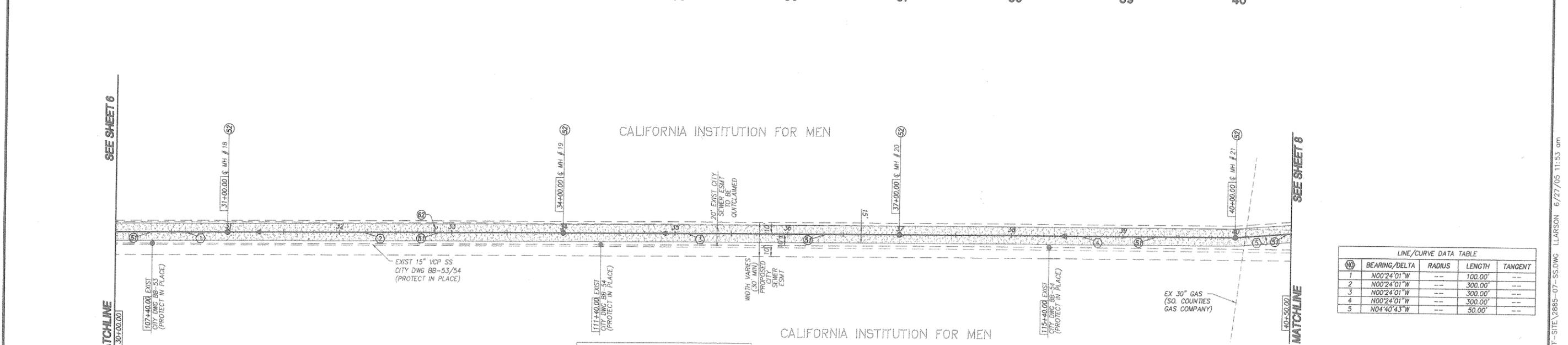
SAECO PRODUCTS • NEW YORK, MINNESOTA
REORDER BY PART NUMBER 8832

SAECO PRODUCTS • NEW YORK, MINNESOTA
REORDER BY PART NUMBER 8832

USE DEPARTMENT OF HEALTH
SERVICES STATE OF CALIFORNIA
CRITERIA FOR THE SEPARATION
OF WATER MAINS AND SANITARY
SEWERS.

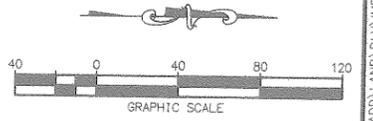


PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'



LINE/CURVE DATA TABLE				
NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	N00°24'01"W	---	100.00'	---
2	N00°24'01"W	---	300.00'	---
3	N00°24'01"W	---	300.00'	---
4	N00°24'01"W	---	300.00'	---
5	N04°40'43"W	---	50.00'	---

- SEWER IMPROVEMENT NOTES**
- ① INSTALL 12" VCP SEWER
 - ② CONSTRUCT SEWER MANHOLE PER CITY STD. 515
 - ③ CONSTRUCT 15' WIDE ACCESS ROAD, COMPACTED SOIL ON NATIVE (MIN RELATIVE COMPACTION 90%)



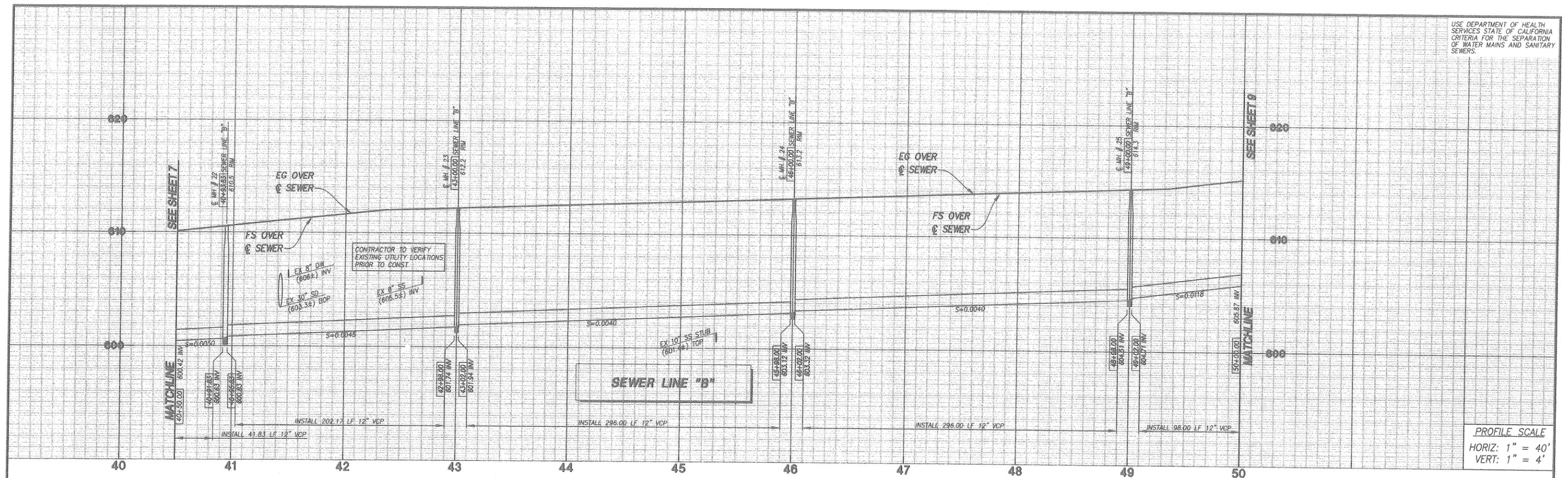
SEAL

NOTE:
CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES TO BE JOINED PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

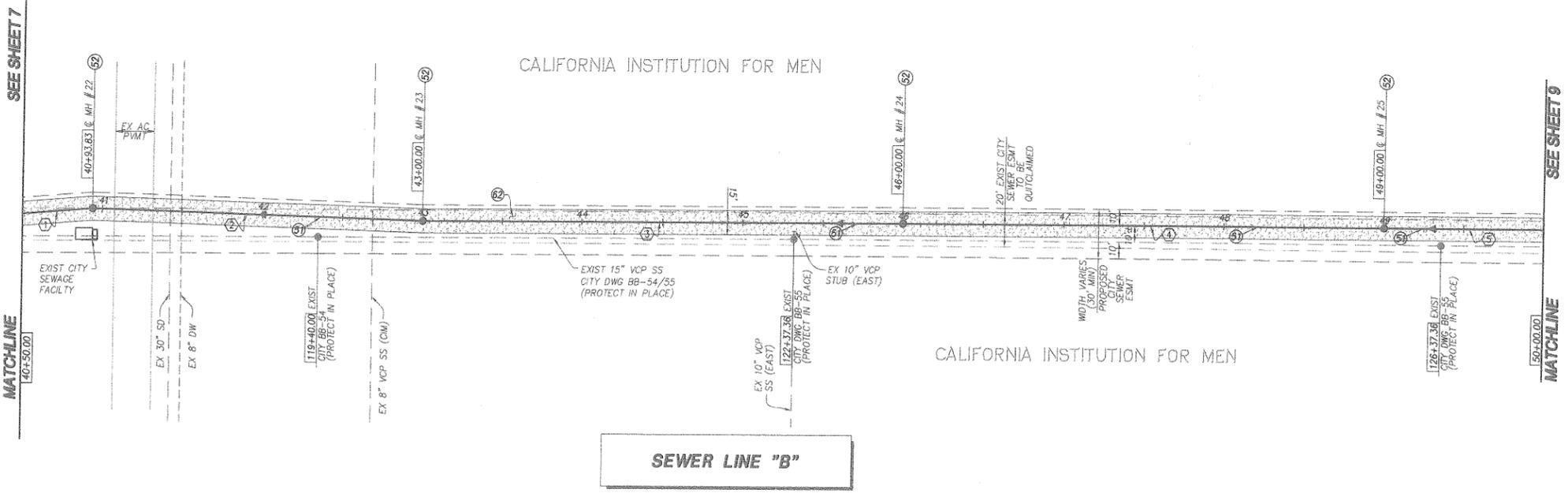
APPROVED BY:
N/A
CIVIL ENGINEER FOR IEUA
DATE: _____

PREPARED BY FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 472-3505 FAX: (949) 472-8122 SCOTT P. GILBERT RCE 65194 DATE: 4/8/05	REVISIONS <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>							MADE BY DATE: _____	APPROVED BY DATE: _____	BENCH MARK DATA NO. 141/53 ELEV. 656.90 LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE EOR OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.	REFERENCE DRAWINGS <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>					REVIEWED BY STAFF <table border="1"> <tr><td> </td><td> </td><td> </td></tr> </table>																			CITY ENGINEER'S STAFF <table border="1"> <tr><td> </td><td> </td><td> </td></tr> </table>																APPROVED BY: James A. Hall for DIRECTOR OF PUBLIC WORKS/CITY ENGINEER DATE: 7/8/05	CITY OF CHINO ENGINEERING DIVISION SEWER IMPROVEMENT PLAN AND PROFILE OFFSITE SEWER LINE "B" FROM 3850' S/O 'K'/D' STREETS TO 4700' S/O 'K'/D' STREETS	PROJECT NO. TR 16837 SHEET 7 OF 13 DRAWING NO. BA 1456

USE DEPARTMENT OF HEALTH SERVICES STATE OF CALIFORNIA CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS.



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'



LINE/CURVE DATA TABLE

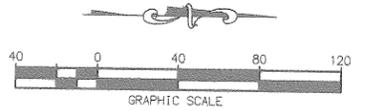
NO	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	N04°40'43"W	---	43.83'	---
2	N01°32'44"E	---	206.17'	---
3	N00°24'01"W	---	300.00'	---
4	N00°24'01"W	---	300.00'	---
5	N00°24'01"W	---	100.00'	---

- SEWER IMPROVEMENT NOTES**
- 51 INSTALL 12" VCP SEWER
 - 52 CONSTRUCT SEWER MANHOLE PER CITY STD. 515
 - 53 CONSTRUCT 15' WIDE ACCESS ROAD, COMPACTED SOIL ON NATIVE (MIN RELATIVE COMPACTION 90%)

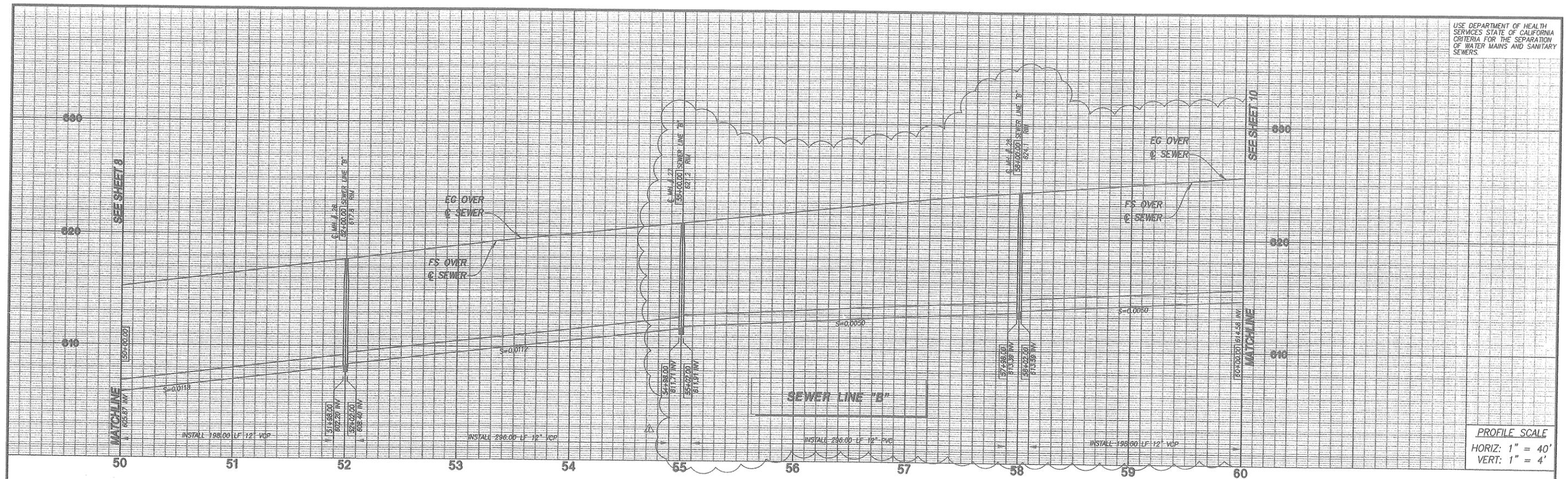
SEAL

NOTE:
CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

APPROVED BY:
N/A
CIVIL ENGINEER FOR IEUA
DATE:



PREPARED BY FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 872-3505 FAX: (949) 472-8122 SCOTT P. GILBERT RCE 65194 DATE: 6/21/05		REVISIONS <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>														MADE BY DATE:		APPROVED BY DATE:		BENCH MARK DATA NO. 141/53 ELEV. 656.90 LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE CORNER OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.		REFERENCE DRAWINGS WATER: <i>Handwritten</i> SEWER: <i>Handwritten</i> PLANNING: TRAFFIC: SERVICES:		REVIEWED BY STAFF BY: <i>Handwritten</i> DATE:		CITY ENGINEER'S STAFF DRAWN: DESIGNED: CHECKED: CM JY 6.30.05 RECOMMENDED:		APPROVED BY: <i>James A. Hill for</i> DIRECTOR OF PUBLIC WORKS/CITY ENGINEER DATE: 7/3/05		CITY OF CHINO ENGINEERING DIVISION SEWER IMPROVEMENT PLAN AND PROFILE OFFSITE SEWER LINE "B" FROM 2700' 8/0 "K/D" STREETS TO 3850' 8/0 "K/D" STREETS		PROJECT NO. TR 16837 SHEET 8 OF 13 DRAWING NO. BA 1457	



PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'

SEE SHEET 8

SEE SHEET 8

SEE SHEET 10

SEE SHEET 10

CALIFORNIA INSTITUTION FOR MEN

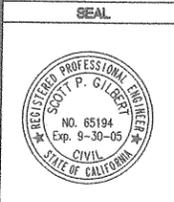
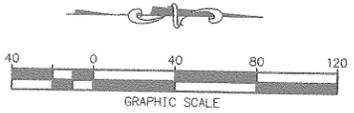
CALIFORNIA INSTITUTION FOR MEN

SEWER LINE "B"

LINE/CURVE DATA TABLE			
NO	BEARING/DELTA	RADIUS	LENGTH
1	N 00°24'01" W	---	200.00'
2	N 00°24'01" W	---	300.00'
3	N 00°24'01" W	---	300.00'
4	N 00°24'01" W	---	200.00'

SEWER IMPROVEMENT NOTES

- ① INSTALL 12" VCP SEWER
- ② CONSTRUCT SEWER MANHOLE PER CITY STD. 515
- ③ CONSTRUCT 15' WIDE ACCESS ROAD, COMPACTED SOIL ON NATIVE (MIN RELATIVE COMPACTION 90%)



NOTE:
CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

APPROVED

CITY OF CHINO ENGINEERING
DATE 8.25.05 BY hw

APPROVED BY:
CIVIL ENGINEER FOR IEUA
DATE:

APPROVED BY:
DIRECTOR OF PUBLIC WORKS/CITY ENGINEER
DATE:

PREPARED BY	REVISIONS	MADE BY	DATE	APPROVED BY	DATE
FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 472-3505 FAX: (949) 472-8122 SCOTT P. GILBERT RCE 65194 DATE	▲ REV SEWER PROFILE		8/24/05		

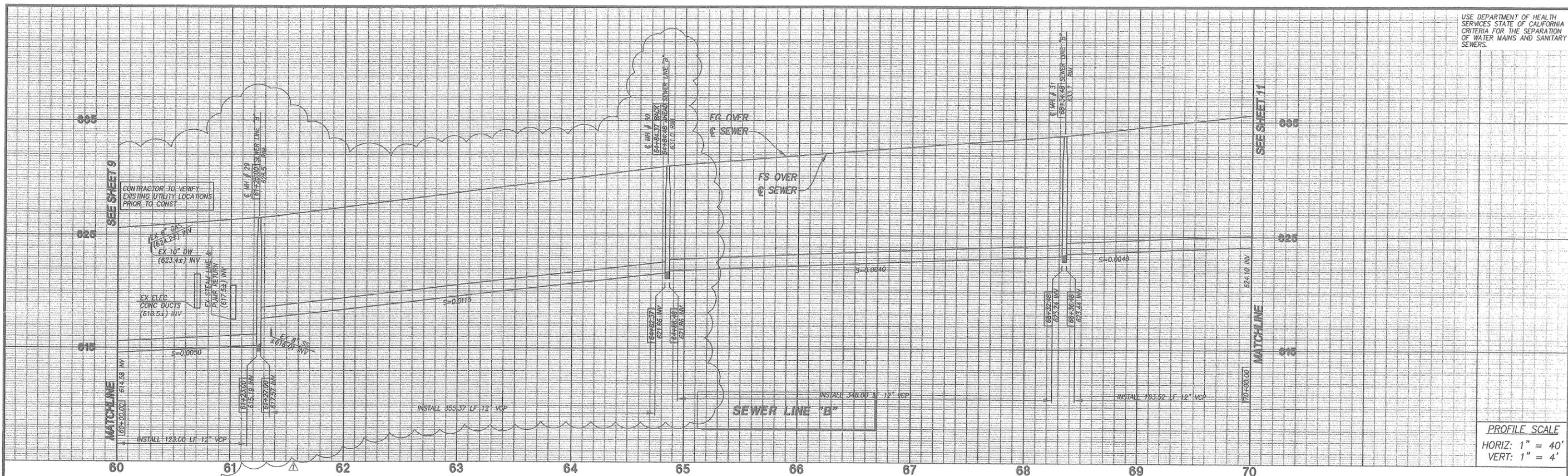
BENCH MARK DATA	
NO. 141/53	ELEV. 656.90
LOCATION: A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE COR OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.	

REFERENCE DRAWINGS	REVIEWED BY STAFF	BY	DATE	CITY ENGINEER'S STAFF	BY	DATE
	WATER:					
	SEWER:					
	FIRE:					
	PLANNING:					
	TRAFFIC:					
	SERVICES:					

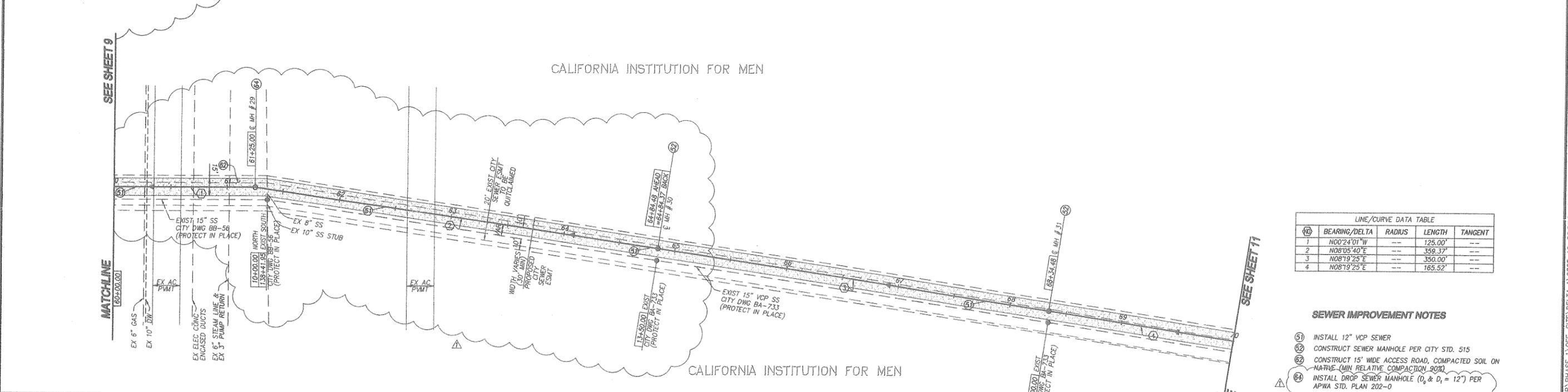
CITY OF CHINO ENGINEERING DIVISION
SEWER IMPROVEMENT PLAN AND PROFILE
OFFSITE SEWER LINE "B"
FROM 1700' S/O 'K'/D' STREETS TO 2700' S/O 'K'/D' STREETS

PROJECT NO.
TR 16837
SHEET 9 OF 13
DRAWING NO.

USE DEPARTMENT OF HEALTH SERVICES STATE OF CALIFORNIA CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS.



PROFILE SCALE
 HORIZ: 1" = 40'
 VERT: 1" = 4'



NO	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	N00°24'01"W	---	125.00'	---
2	N08°05'40"E	---	359.37'	---
3	N08°19'25"E	---	350.00'	---
4	N08°19'25"E	---	165.52'	---

- SEWER IMPROVEMENT NOTES**
- 51 INSTALL 12" VCP SEWER
 - 52 CONSTRUCT SEWER MANHOLE PER CITY STD. 515
 - 53 CONSTRUCT 15' WIDE ACCESS ROAD, COMPACTED SOIL ON NATIVE (MIN RELATIVE COMPACTION 90%)
 - 54 INSTALL DROP SEWER MANHOLE (D₁ & D₂ = 12") PER APWA STD. PLAN 202-0

SEAL
 REGISTERED PROFESSIONAL ENGINEER
 SCOTT P. GILBERT
 NO. 65194
 Exp. 9-30-05
 CIVIL
 STATE OF CALIFORNIA

NOTE:
 CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

SEWER LINE "B"

APPROVED
 CITY OF CHINO ENGINEERING
 DATE 8.25.05 BY *hw*

APPROVED BY:
 CIVIL ENGINEER FOR IEUA
 DATE:

PREPARED BY
 FIRM: RBF CONSULTING
 ADDRESS: 14725 ALTON PKWY
 IRVINE, CA 92618
 TELEPHONE: (949) 472-3505 FAX: (949) 472-8122
 SCOTT P. GILBERT RCE 65194 DATE

REVISIONS	MADE BY	DATE	APPROVED BY	DATE
▲ REV SEWER PLAN & PROFILE				

BENCH MARK DATA
 NO. 141/53 ELEV. 656.90
 LOCATION:
 A 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE CORNER OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.

REFERENCE DRAWINGS

REVIEWED BY STAFF

WATER:	BY	DATE
SEWER:		
FIRE:		
PLANNING:		
TRAFFIC:		
SERVICES:		

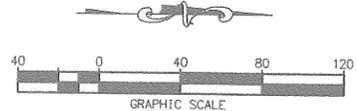
CITY ENGINEERS STAFF

DRAWN:	BY	DATE
DESIGNED:		
CHECKED:		
RECOMMENDED:		

APPROVED BY:
 DIRECTOR OF PUBLIC WORKS/CITY ENGINEER
 DATE:

CITY OF CHINO ENGINEERING DIVISION
 SEWER IMPROVEMENT PLAN AND PROFILE
 OFFSITE SEWER LINE "B"
 FROM 700' S/O 'K'/D' STREETS TO 1200' S/O 'K'/D' STREETS

PROJECT NO. TR 16837
 SHEET 10 OF 13
 DRAWING NO.



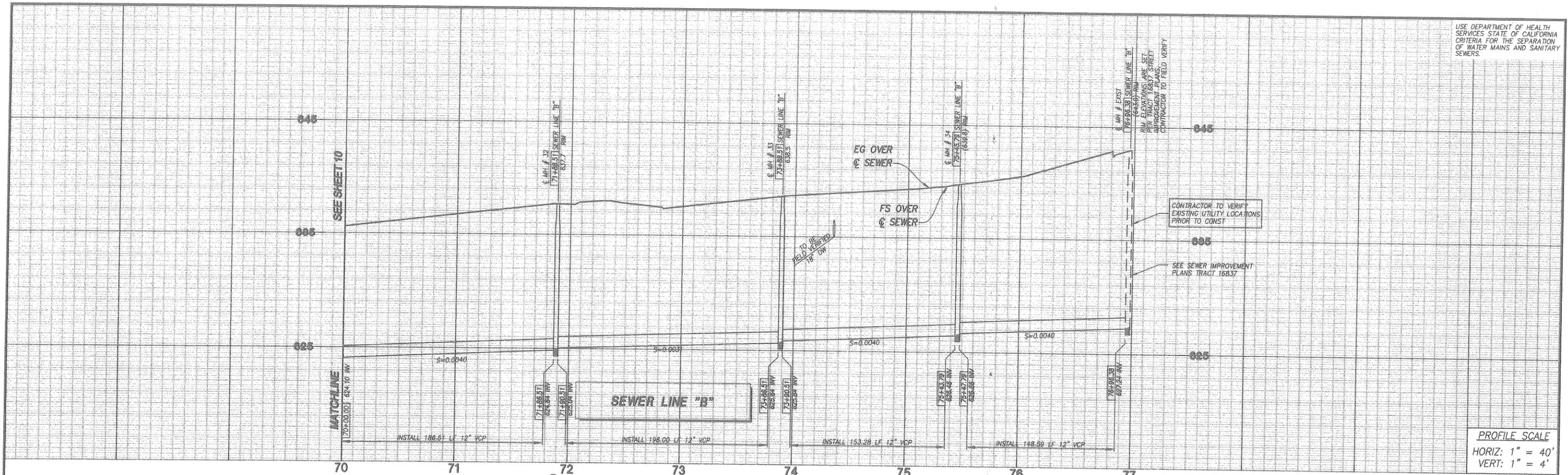
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SACD PRODUCTS - NEW HOPE, MINNESOTA
REGISTERED BY PART NUMBER 0520

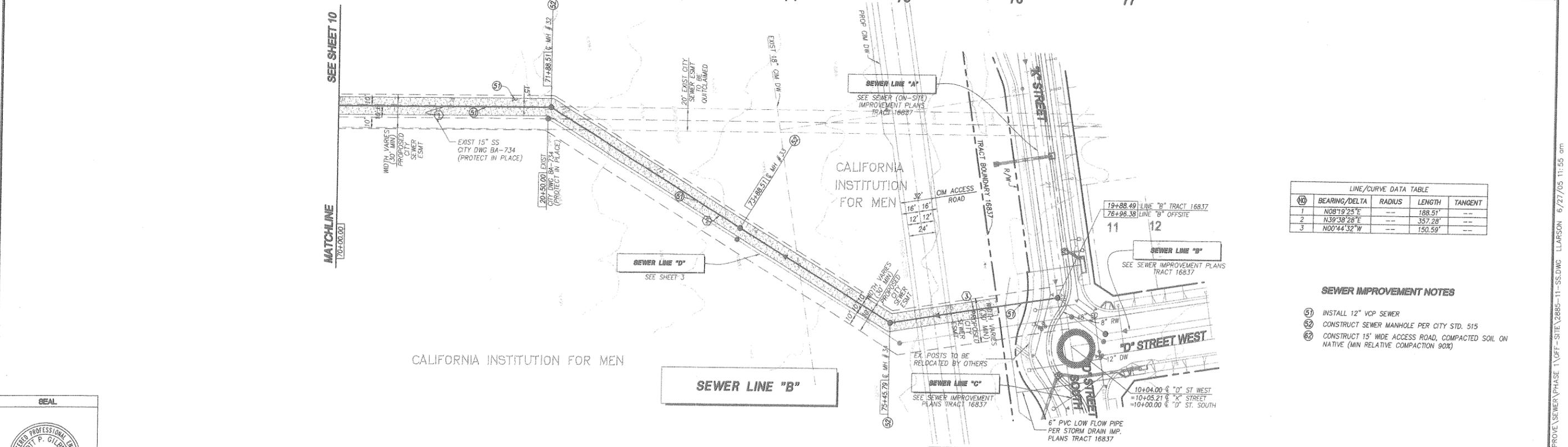
SACD PRODUCTS - NEW HOPE, MINNESOTA
REGISTERED BY PART NUMBER 0520

SACD PRODUCTS - NEW HOPE, MINNESOTA
REGISTERED BY PART NUMBER 0520

USE DEPARTMENT OF HEALTH
SERVICES STATE OF CALIFORNIA
CRITERIA FOR THE SEPARATION
OF WATER MAINS AND SANITARY
SEWERS.

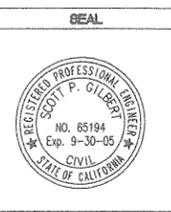
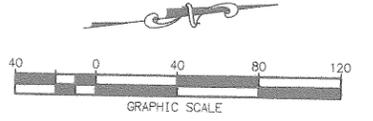


PROFILE SCALE
HORIZ: 1" = 40'
VERT: 1" = 4'



LINE/CURVE DATA TABLE				
NO.	BEARING/DELTA	RADIUS	LENGTH	TANGENT
1	N08°19'25"E	---	188.51'	---
2	N39°38'28"E	---	357.28'	---
3	N00°44'32"W	---	150.59'	---

- SEWER IMPROVEMENT NOTES**
- 51 INSTALL 12" VCP SEWER
 - 52 CONSTRUCT SEWER MANHOLE PER CITY STD. 515
 - 53 CONSTRUCT 15' WIDE ACCESS ROAD, COMPACTED SOIL ON NATIVE (MIN RELATIVE COMPACTION 90%)

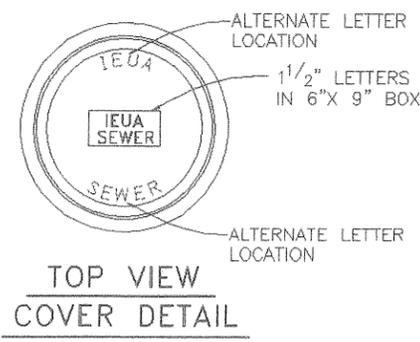


NOTE:
CONTRACTOR SHALL VERIFY HORIZONTAL & VERTICAL LOCATION OF EXISTING PIPES PRIOR TO CONSTRUCTION & NOTIFY ENGINEER OF ANY DISCREPANCIES.

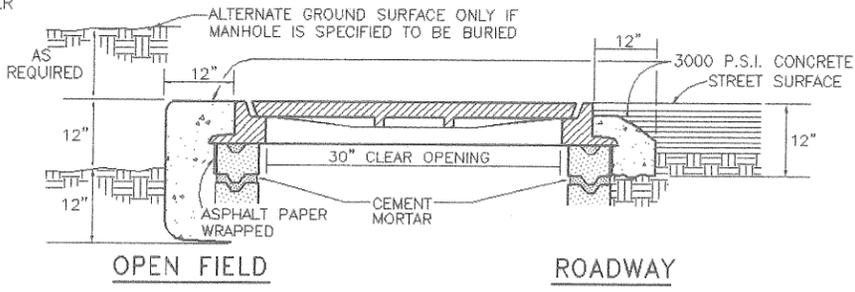
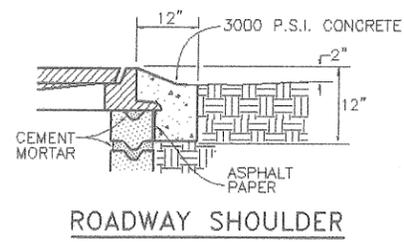
APPROVED BY:
N/A
CIVIL ENGINEER FOR IEUA
DATE:

PREPARED BY FIRM: RBF CONSULTING ADDRESS: 14725 ALTON PKWY IRVINE, CA 92618 TELEPHONE: (949) 472-3505 FAX: (949) 472-3505 SCOTTY P. GILBERT RCE 65194 DATE: 6/21/05		REVISIONS (Empty table for revisions)		MADE BY (Empty table for made by)		APPROVED BY (Empty table for approved by)		BENCH MARK DATA NO. 141/53 ELEV. 656.90 LOCATION: 4" 2 1/2" BRASS DISC LOCATED IN TOP OF CURB, 5' EAST OF THE EOR OF THE NORTHWEST CURB RETURN AND BEING 64.5' WEST AND 32.5' NORTH OF THE CENTERLINE INTERSECTION OF CENTRAL AVENUE AND EDISON AVENUE.		REFERENCE DRAWINGS (Empty table for reference drawings)		REVIEWED BY STAFF WATER: [Signature] SEWER: [Signature] PLANNING: TRAFFIC: SERVICES:		BY (Empty table for by)		DATE (Empty table for date)		CITY ENGINEER'S STAFF DRAWN: DESIGNED: CHECKED: CM JY 6.30.05 RECOMMENDED:		APPROVED BY: James G. Hill, Jr. DIRECTOR OF PUBLIC WORKS/CITY ENGINEER DATE: 7/8/05		CITY OF CHINO ENGINEERING DIVISION SEWER IMPROVEMENT PLAN AND PROFILE OFFSITE SEWER LINE "B" FROM 'K'/'D' STREETS TO 1200' 8/0 'K'/'D' STREETS		PROJECT NO. TR 16837 SHEET 11 OF 13 DRAWING NO. BA 1460	
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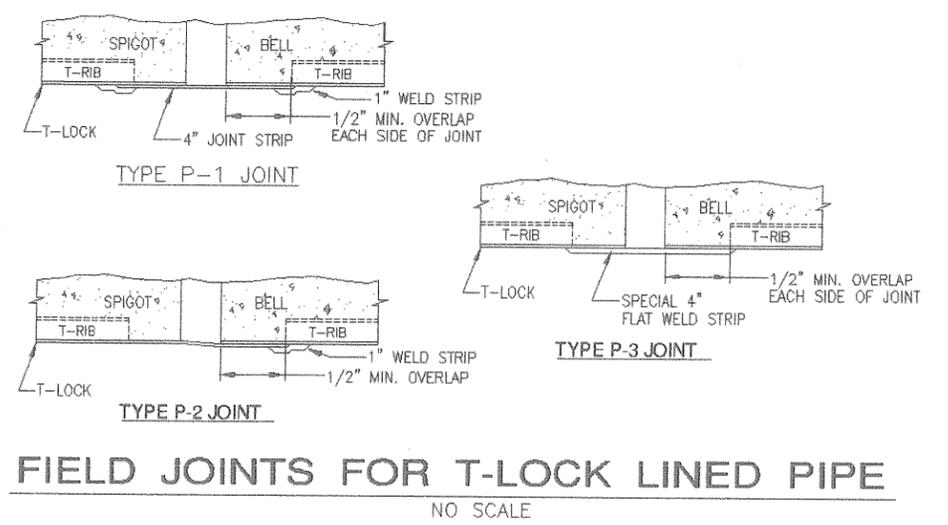
SAFOD PRODUCTS • NEW HOPE, MINNESOTA
REPRODUCED BY PART NUMBER 0052
PERMISSION GRANTED BY STATE OF MINNESOTA



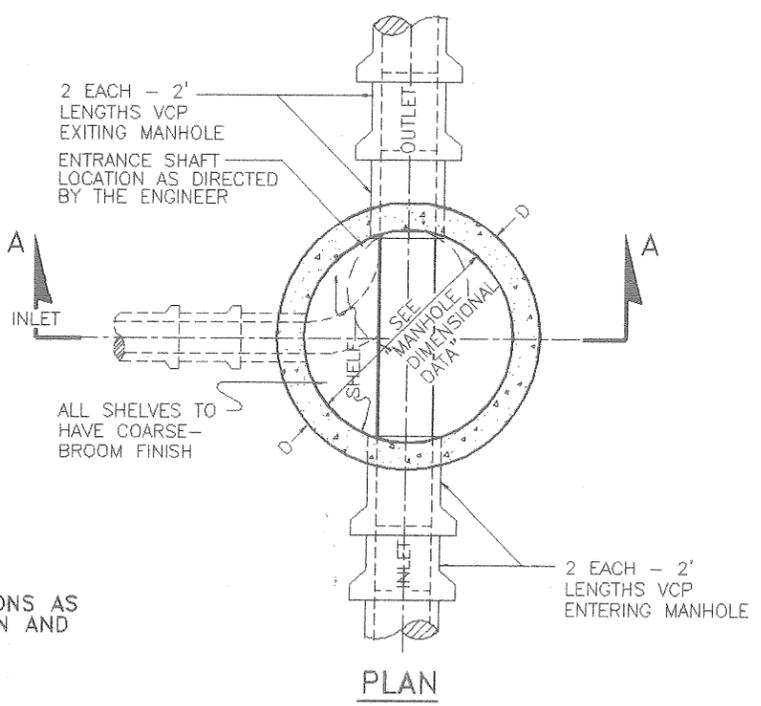
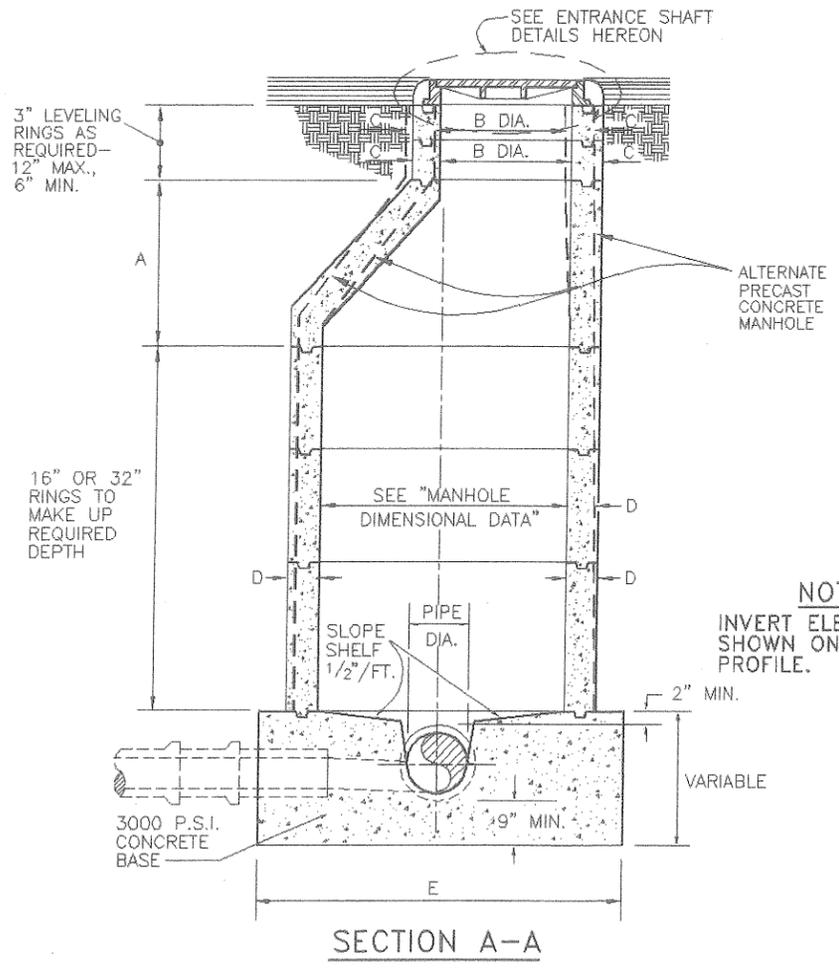
NOTE:
MANHOLE FRAME & COVER SHALL BE ALHAMBRA
FOUNDRY TYPE A-1252 OR LONG BEACH IRON
WORKS TYPE X-106 B OR APPROVED EQUAL.
FRAME & COVER SHALL BE BITUMINOUS COATED
AND WEIGH A MINIMUM OF 430 LBS. THE COVER
SHALL HAVE TWO PICK HOLES.



ENTRANCE SHAFT DETAILS
NO SCALE

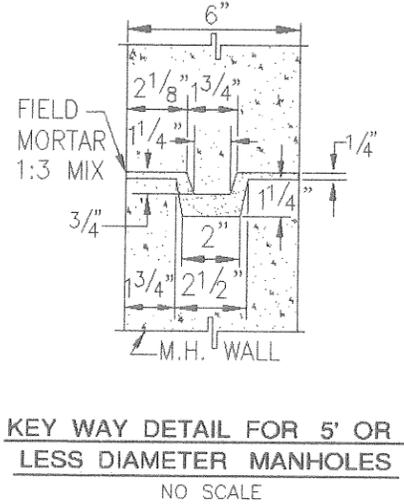


FIELD JOINTS FOR T-LOCK LINED PIPE
NO SCALE

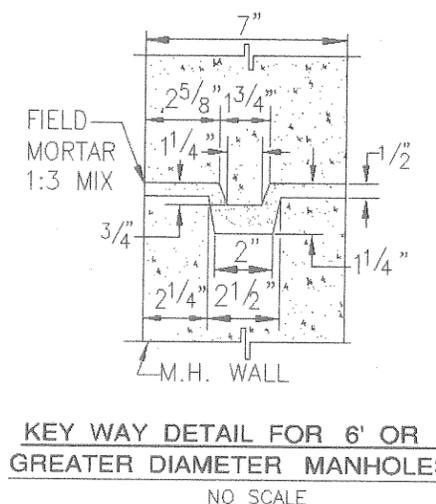


NOTE
INVERT ELEVATIONS AS
SHOWN ON PLAN AND
PROFILE.

- NOTES**
1. PRECAST MANHOLE SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. C478 AND BE DESIGNED FOR AASHTO H20 LOADING.
 2. MATERIALS, EMBEDMENT, PLACEMENT, AND COMPACTION OF GRANULAR EMBEDMENT AND COMPACTED BACKFILL WILL CONFORM TO THE AGENCY'S STANDARD SPECIFICATIONS FOR PIPE BEDDING AND TRENCH BACKFILL.



KEY WAY DETAIL FOR 5' OR LESS DIAMETER MANHOLES
NO SCALE



KEY WAY DETAIL FOR 6' OR GREATER DIAMETER MANHOLES
NO SCALE

MANHOLE DIMENSIONAL DATA							
MANHOLE DIAMETER	TYPE	A	B	C	D	E	PIPE DIAMETER
48"	REINFORCED	36"	30"	5"	4 1/8"	6'-0"+	PIPE DIAMETERS TO 21"
48"	REINFORCED	36"	30"	6"	6"	6'-0"+	* 24"
60"	REINFORCED	36"	30"	6"	6"	7'-0"+	PIPE DIAMETERS 27" TO 39"
60"	REINFORCED	36"	30"	6"	6"	7'-0"+	* 42"
72"	REINFORCED	36"	30"	6"	6"	8'-0"+	PIPE DIAMETERS 45" & GREATER

* IF CONNECTIONS AND TEES ARE REQUIRED, USE NEXT HIGHER DIAMETER MANHOLE.
** WHERE 30" OPENING IS NOT POSSIBLE, USE CONCENTRIC COVER, ALHAMBRA FOUNDRY TYPE A-1325 OR EQUIVALENT.

DIMENSIONAL TABLE

IEUA STANDARD SEWER MANHOLE WITH ECCENTRIC CONE
NO SCALE

RBF CONSULTING
PLANNING • DESIGN • CONSTRUCTION
14725 ALTON PARKWAY
IRVINE, CALIFORNIA 92618-3027
949.472.8505 • FAX 949.472.8373 • www.RBF.com

Designed					
Drawn	2	1997	T.W.	A.D.	BEDDING MATERIAL CHANGED PER RMA - STD. DET. SHEET CONVERTED TO TWO SHEETS
Checked	1	1995	T.W.	N.C.	GRANULAR MATERIAL CHANGED TO CAREFULLY PLACED UNWASHED SAND - JETTED
	REV. NO.	DATE	BY	APRVD	DESCRIPTION

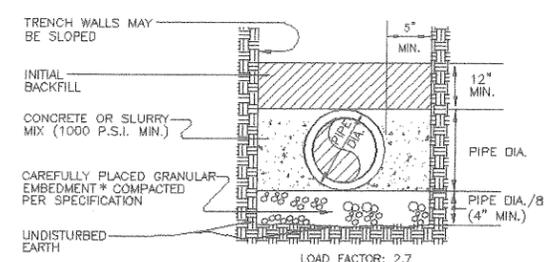
APPROVED BY:
[Signature] Date 3/8/05
Manager of Engineering And Construction Management

SCALE
AS SHOWN
Bar Scale shown below is one inch on original drawing. If NOT one inch on this sheet, adjust scales accordingly.
0" = 1"

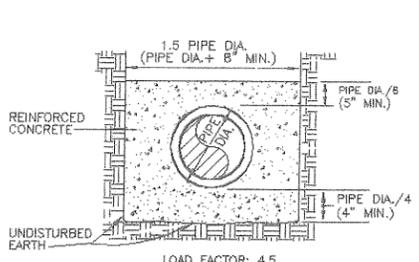
INLAND EMPIRE UTILITIES AGENCY*
*A Municipal Water District
LOCATION: 9400 Cherry Avenue, Building A Fontana, California 92335 Telephone (909) 357-0241
MAILING ADDRESS: Post Office Box 897 Rancho Dominguez, California 91730

TRACT 16837 - COLLEGE PARK
PROJECT NO.
STANDARD DETAILS
SHEET 1 OF 2 - MANHOLE DETAILS

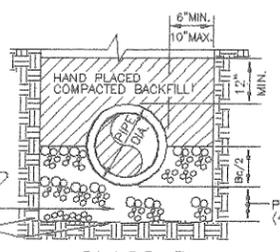
SHEET NO. 12 OF 13
PROJECT NO.
DRAWING NO. BA 1401



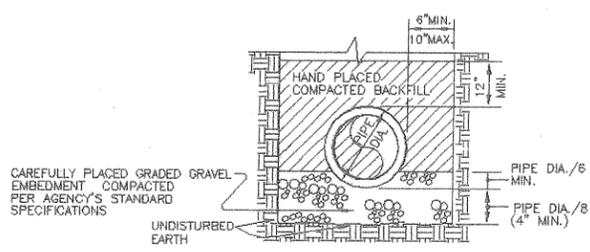
CLASS A-III - SIDECRADLING



CLASS A-IV
CONCRETE ENCASEMENT



CLASS B
LOAD FACTOR 1.9

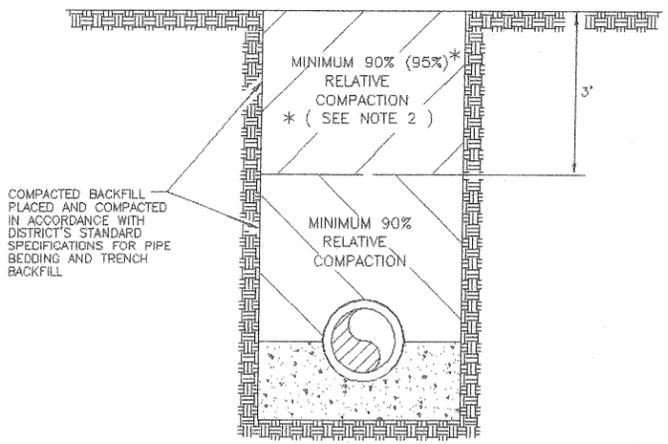


CLASS C
LOAD FACTOR 1.5

***GRANULAR EMBEDMENT:**
COARSE GRAINED NATIVE SOILS OR IMPORTED SAND WITH A MINIMUM SAND EQUIVALENCE OF 30 AND OF SUCH SIZE THAT 90 TO 100 PERCENT WILL PASS A NO. 4 SIEVE AND NO MORE THAN 5 PERCENT WILL PASS A NO. 200 SIEVE.

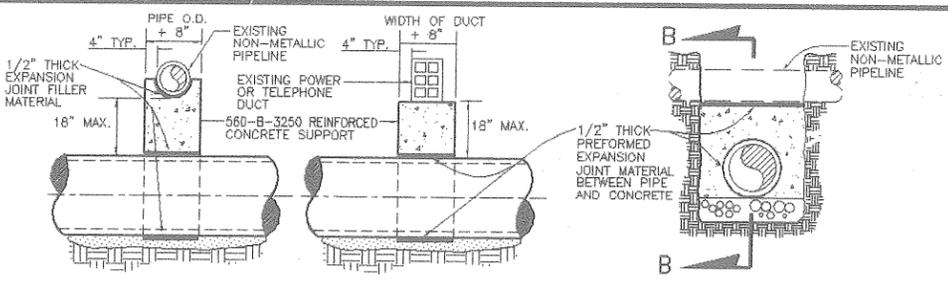
- NOTES**
- SLAG, PEA GRAVEL, OR OTHER ALTERNATIVE MATERIALS WILL NOT BE ACCEPTABLE IN LIEU OF GRANULAR EMBEDMENT.
 - TRENCH SHORING & TRENCH WALL SLOPING SHALL BE IN CONFORMANCE WITH STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY REQUIREMENTS AND THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
 - MATERIALS, EMBEDMENT, PLACEMENT AND COMPACTION OF GRANULAR EMBEDMENT* AND COMPACTED BACKFILL WILL CONFORM TO THE AGENCY'S STANDARD SPECIFICATION FOR PIPE BEDDING AND TRENCH BACKFILL.

BEDDING DETAIL NOTES
BEDDING DETAILS
NO SCALE



- NOTES:**
- MATERIAL FOR COMPACTED BACKFILL WILL CONSIST OF SUITABLE JOB EXCAVATED MATERIALS, IMPORTED SOILS, OR GRADED GRAVEL AS DEFINED IN THE AGENCY'S STANDARD SPECIFICATION FOR PIPE BEDDING AND TRENCH BACKFILL. SLAG, PEA GRAVEL, CRUSHED ROCK, OR OTHER ALTERNATIVE MATERIALS WILL NOT BE ACCEPTABLE.
 - COMPACTION UNDER THE STREET AND STRUCTURES SHALL BE 95%.
 - ALL PIPELINES CARRYING RECLAIMED WATER SHALL BE CLEARLY MARKED BY PIPE COLOR (PURPLE) OR BY PLACING IN BACKFILL PURPLE IDENTIFICATION TAPE. SAID TAPE SHALL BE NOT LESS THAN ONE FOOT OR MORE THAN TWO FEET ABOVE TOP OF PIPE.

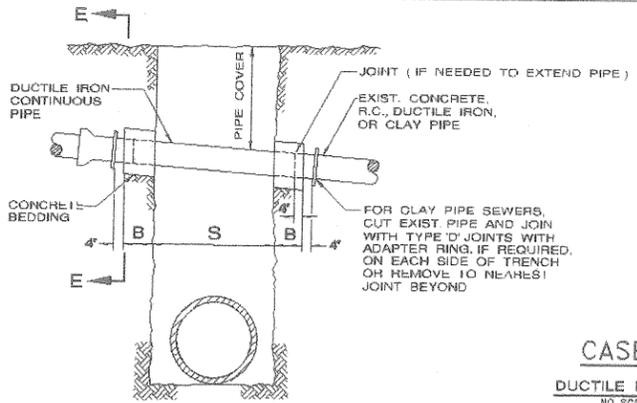
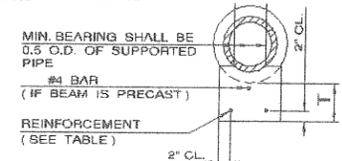
BACKFILL DETAIL
NO SCALE



- NOTES**
- WIDTH OF BEAM SHALL EQUAL O.D. + 8" OF SUPPORTED PIPE.
 - IF SUPPORTED PIPE IS BEDDED IN CONCRETE, BEAM WIDTH SHALL BE EQUAL BEDDING WIDTH.
 - IF BEAM IS PRECAST, ENDS OF BEAM SHALL BE FULLY BEDDED IN 420-C-2000 CONCRETE FOR LENGTH 'B'. THE BEDDING SHALL HAVE A MINIMUM THICKNESS OF 4". CLASS 'C' MORTAR SHALL BE PLACED BETWEEN TOP OF BEAM AND SUPPORTED PIPE TO PROVIDE MINIMUM BEARING SHOWN.
 - THIS CASE IS PERMITTED ONLY IF THE TRENCH WALLS ARE FIRM AND UNYIELDING.
 - MAXIMUM SPACING OF BARS SHALL BE 4" O.C.

REINFORCED CONCRETE BEAM (DIMENSIONS AND REINFORCEMENT)

S	PIPE COVER														
	0" TO 4'-0"		4'-1" TO 8'-0"		8'-1" TO 12'-0"		12'-1" TO 16'-0"		16'-1" TO 20'-0"		20'-1" TO 25'-0"				
	T	BARS	T	BARS	T	BARS	T	BARS	T	BARS	T	BARS			
0'-0" TO 4'-0"	8"	#4	1'-6"	#4	1'-6"	9"	#4	1'-6"	10"	#4	1'-6"	10 1/2"	#4	1'-6"	
4'-1" TO 8'-0"	8"	#4	1'-6"	9 1/2"	#4	1'-6"	11"	#5	1'-6"	12 1/2"	#5	2'-0"	14 1/2"	#5	2'-0"
8'-1" TO 12'-0"	10"	#5	1'-6"	12 1/2"	#5	2'-0"	14 1/2"	#5	2'-0"	15 1/2"	#5	2'-0"	16 1/2"	#6	2'-0"
12'-1" TO 16'-0"	11"	#5	1'-6"	14"	#5	2'-0"	16"	#5	2'-0"	17 1/2"	#6	2'-6"	19"	#6	2'-6"
16'-1" TO 20'-0"	12 1/2"	#5	2'-0"	15 1/2"	#6	2'-6"	17 1/2"	#6	2'-6"	19 1/2"	#6	2'-6"	21"	#6	2'-6"
20'-1" TO 25'-0"	13 1/2"	#6	2'-0"	17"	#6	2'-6"	19 1/2"	#6	3'-0"	21 1/2"	#6	3'-0"	23"	#6	3'-0"
0'-0" TO 4'-0"	14 1/2"	#6	2'-0"	18 1/2"	#6	3'-0"	21"	#6	3'-0"	23 1/2"	#6	3'-0"	25"	#7	3'-0"
4'-1" TO 8'-0"	15 1/2"	#6	2'-6"	20"	#6	3'-0"	23"	#7	3'-6"	25 1/2"	#7	3'-6"	27"	#7	3'-6"
8'-1" TO 12'-0"	17"	#6	3'-0"	21 1/2"	#7	3'-6"	24 1/2"	#7	3'-6"	27 1/2"	#7	4'-0"	29"	#7	4'-0"
12'-1" TO 16'-0"	18"	#7	3'-0"	23"	#7	3'-6"	26 1/2"	#7	4'-0"	29 1/2"	#7	4'-0"	31 1/2"	#7	4'-0"
16'-1" TO 20'-0"	19"	#7	3'-0"	25"	#7	4'-0"	28"	#7	4'-0"	31 1/2"	#7	4'-6"			
20'-1" TO 25'-0"	20 1/2"	#7	3'-6"	26 1/2"	#7	4'-0"	30"	#8	4'-6"						
0'-0" TO 4'-0"	21 1/2"	#8	4'-0"	29 1/2"	#8	4'-6"									
4'-1" TO 8'-0"	22 1/2"	#8	4'-0"	31 1/2"	#8	4'-6"									



ALLOWABLE SPANS AND MIN. REQUIRED BEARING FOR DUCTILE IRON PIPE

DEPTH OF COVER	6" PIPE		8" PIPE		10" PIPE	
	S (MAX.)	B (MIN.)	S (MAX.)	B (MIN.)	S (MAX.)	B (MIN.)
0'-0" TO 2'-0"	11'-0"	1'-6"	13'-6"	1'-6"	16'-6"	2'-0"
2'-1" TO 4'-0"	8'-0"	1'-6"	10'-0"	2'-0"	12'-0"	2'-6"
4'-1" TO 6'-0"	7'-0"	1'-6"	9'-0"	2'-0"	10'-6"	2'-6"

PIPE SUPPORTS - GENERAL NOTES

- ALL CROSSING HOUSE LATERALS 10" AND SMALLER SHALL BE SUPPORTED BY USE OF CASE 3 PIPE SUPPORT DETAIL.
- ALL NON-METALLIC CROSSING PIPELINE AND CONDUITS WITH 18" OR LESS CLEARANCE, EXCEPT THOSE COVERED BY NOTE 1 ABOVE, SHALL BE SUPPORTED BY CASE 1 PIPE SUPPORT DETAIL.
- ALL NON-METALLIC CROSSING PIPELINE AND CONDUITS NOT COVERED BY THE ABOVE NOTES 1 OR 2 SHALL BE SUPPORTED BY THE USE OF CASE 2 PIPE SUPPORT DETAIL.
- BACKFILL SHALL BE BROUGHT UP UNIFORMLY ALONG BOTH SIDES OF PROTECTED PIPE AND SUPPORT SO AS TO INDUCE NO UNBALANCED FORCE.
- CROSSING METALLIC CONDUITS 3 INCHES (NOMINAL SIZE) AND LARGER SHALL BE BACKFILLED TO 2'-0" BELOW THE TRENCH BACKFILL. THE TRENCH SHALL THEN BE BACKFILLED TO 12 INCHES OVER THE CONDUIT WITH CLEAN, MOISTENED SAND (SAND EQUIVALENT OVER 30), BROUGHT UP IN LAYERS OF NOT OVER 6 INCHES AND MECHANICALLY COMPACTED TO A RELATIVE DENSITY OF AT LEAST 90% WITH SPECIAL ATTENTION BEING GIVEN TO THE PIPE BOTTOM AND HAUNCH AREAS OF THE BACKFILL.
- IF BEDDING IS REMOVED FROM THE EXISTING PIPE THAT WILL REMAIN IN PLACE, THE PIPE SHALL BE EMBEDDED WITH CONCRETE AT NO EXTRA COST TO THE AGENCY.
- UNLESS OTHERWISE INDICATED, CONCRETE SHALL BE CLASS 420-C-2000.

PIPE SUPPORT DETAILS

RBF CONSULTING
PLANNING ■ DESIGN ■ CONSTRUCTION
14725 ALTON PARKWAY
RINE, CALIFORNIA 92508-2027
949.472.2505 • FAX 949.472.8370 • WWW.RBF.COM

REV. NO.	DATE	BY	APRVD	DESCRIPTION
4	1999	T.W.	A.D.	CLARIFICATION OF BEDDING CLASS
3	1998	T.W.	T.M.	LOAD FACTORS CHANGED ON CLASS B AND C BEDDING PER IEUA SPECIFICATIONS
2	1997	T.W.	A.D.	BEDDING MATERIAL CHANGED PER RMA - STD. DET. SHI. CONVERTED TO TWO SHEETS
1	1995	T.W.	N.C.	GRANULAR MATERIAL CHANGED TO CAREFULLY PLACED UNWASHED SAND - JETTED

APPROVED BY:
A.T. Morrison
Date 11/13/95
Manager Of Engineering And Construction Management

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INLAND EMPIRE UTILITIES AGENCY
A Municipal Water District
LOCATION: 9400 Cherry Avenue, Building A Fontana, California 92335 Telephone (909) 357-0241
MAILING ADDRESS: Post Office Box 837 Rancho Cucamonga, California 91730

TRACT 16837 - COLLEGE PARK
PROJECT NO.
STANDARD DETAILS - SHEET 2 OF 2
BEDDING AND PIPE SUPPORT DETAILS
SHEET NO. 13 OF 13
PROJECT NO.
DRAWING NO. BA 1462