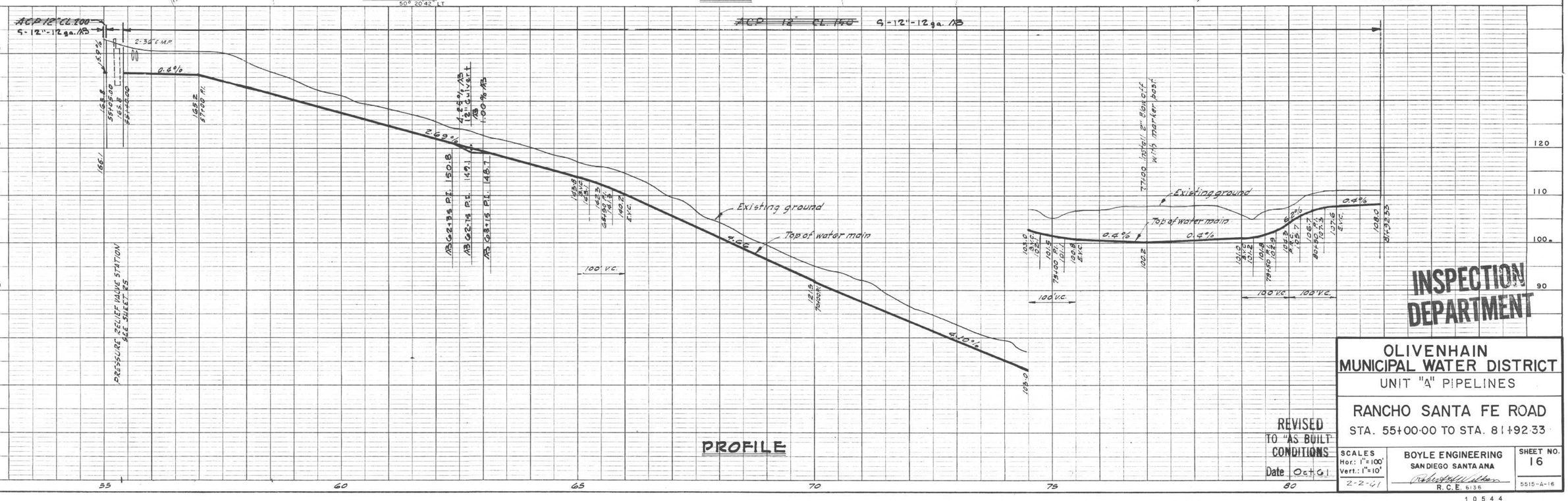


PLAN



PROFILE

REVISED TO "AS BUILT" CONDITIONS
Date Oct. 61

INSPECTION DEPARTMENT

OLIVENHAIN MUNICIPAL WATER DISTRICT

UNIT "A" PIPELINES

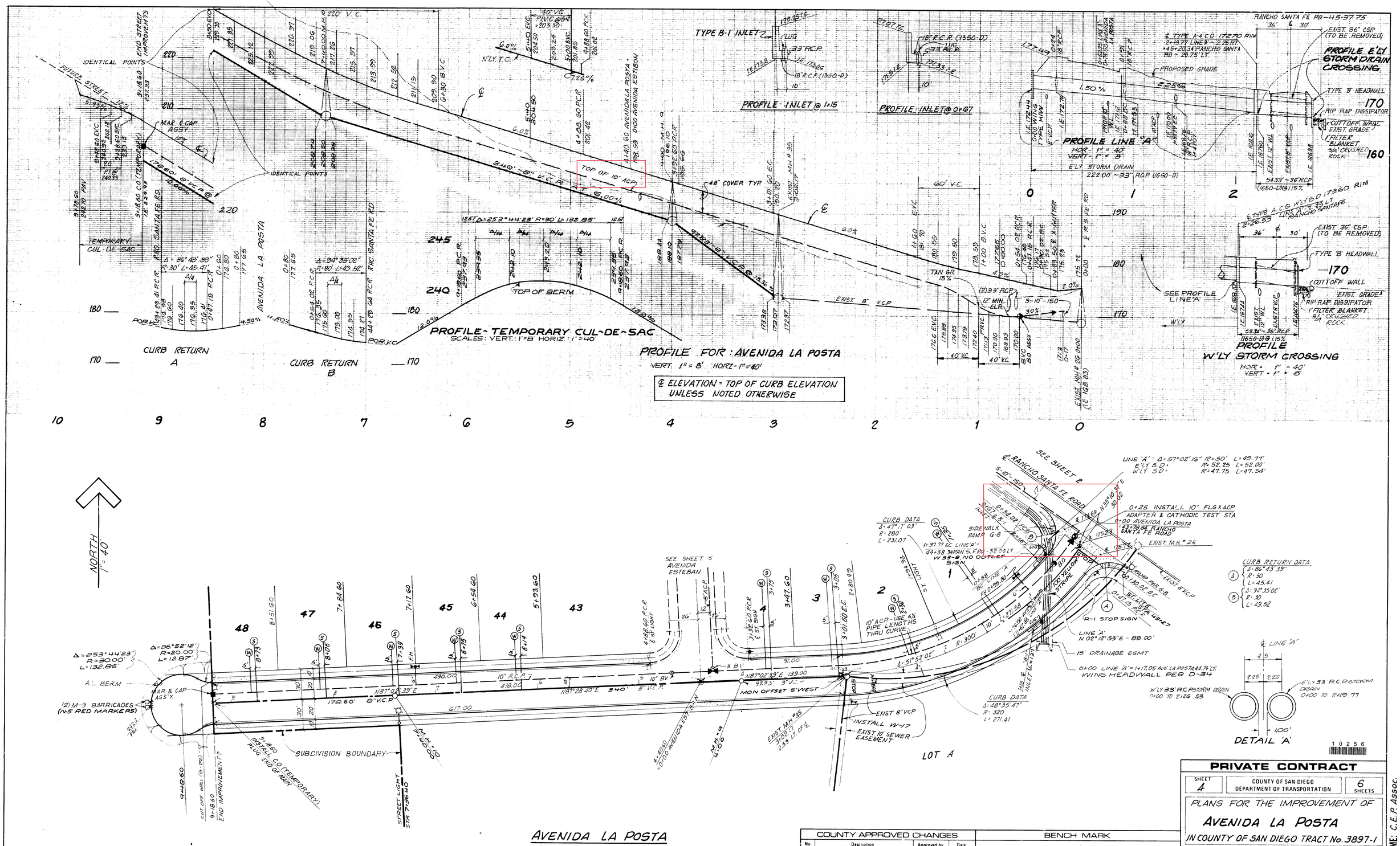
RANCHO SANTA FE ROAD

STA. 55+00.00 TO STA. 81+92.33

SCALES	BOYLE ENGINEERING	SHEET NO.
Hor.: 1"=100' Vert.: 1"=10'	SAN DIEGO SANTA ANA	16
2-2-61	R.C.E. 6136	5515-A-16

10544

5-1



COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date

BENCH MARK

DESCRIPTION: SEE SHEET 1

LOCATION:

RECORD FROM:

ELEVATION: DATUM:

PRIVATE CONTRACT

SHEET 4 | COUNTY OF SAN DIEGO DEPARTMENT OF TRANSPORTATION | 6 SHEETS

PLANS FOR THE IMPROVEMENT OF

AVENIDA LA POSTA

IN COUNTY OF SAN DIEGO TRACT No. 3897-1

Recommended for approval: Gary W. Cone, SUBDIVISION ENGINEER

Approved: FOR R. J. MASSMAN, DIRECTOR OF TRANSPORTATION

Engineer of work: Richard L. Cruzan, R.C.E. 22938

Checked by: RSD

Approval date: 12-12-1980

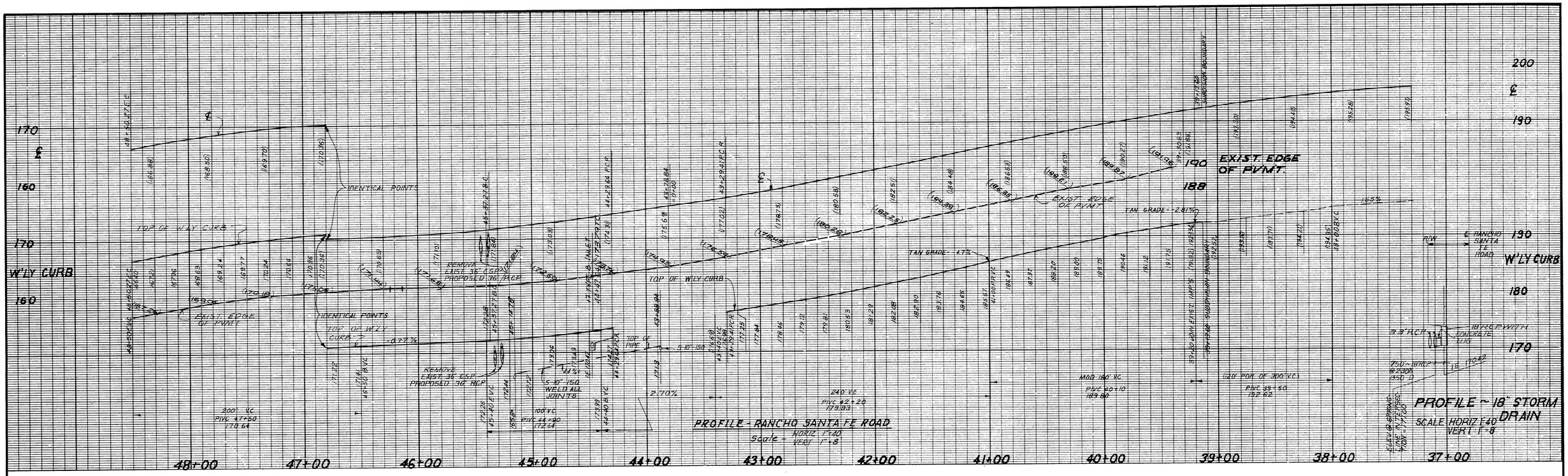
3897-1

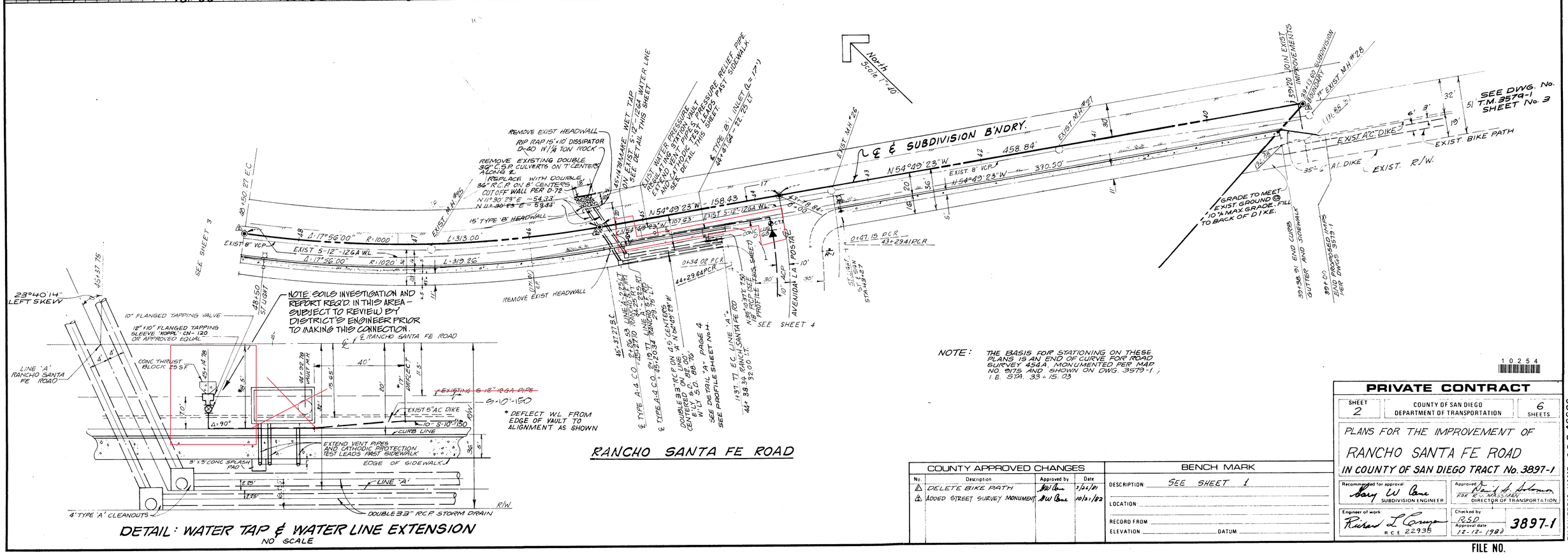
FILE NO.

ENGINEER'S NAME: C.E.P. Assoc.
PHONE NO. 292-1353

155-03

"PERFECT" PROFILE
PLATE A
RODNEY STOKES CO.





NOTE: THE BASIS FOR STATIONING ON THESE PLANS IS AN END OF CURVE FOR ROAD SURVEY 454A. MONUMENTED PER MAP NO. 9175 AND SHOWN ON DWG. 3579-1, I.E. STA. 33+15.03

COUNTY APPROVED CHANGES			
No.	Description	Approved by	Date
1	DELETE BIKE PATH	M.W. Cone	7/24/81
2	ADDED STREET SURVEY MONUMENT	M.W. Cone	10/21/82

BENCH MARK
DESCRIPTION SEE SHEET 1
LOCATION
RECORD FROM
ELEVATION DATUM

PRIVATE CONTRACT

SHEET 2 | COUNTY OF SAN DIEGO DEPARTMENT OF TRANSPORTATION | 6 SHEETS

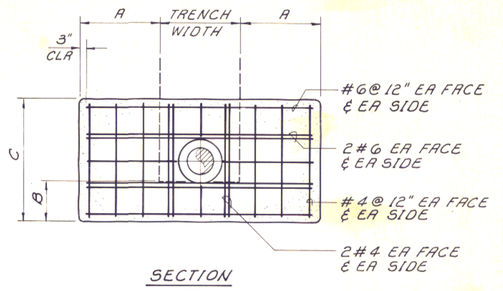
PLANS FOR THE IMPROVEMENT OF
RANCHO SANTA FE ROAD
IN COUNTY OF SAN DIEGO TRACT No. 3897-1

Recommended for approval: Mary W Cone, SUBDIVISION ENGINEER
Approved: Daryl G. Solomon, FOR R.C. WOLSKINSKY, DIRECTOR OF TRANSPORTATION
Engineer of work: Richard L Campo, R.C.E. 22935
Checked by: RSD
Approval date: 12-12-1983
3897-1
FILE NO.

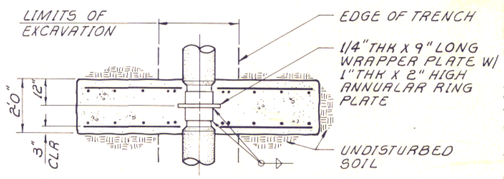
ENGINEER'S NAME: C.E.P. ASSOC.
PHONE NO. 292-1353

155-03

PIPE SIZE	A	B	C
6"	18"	12"	30"
8"	28"	12"	36"
10"	36"	12"	42"
12"	36"	18"	48"

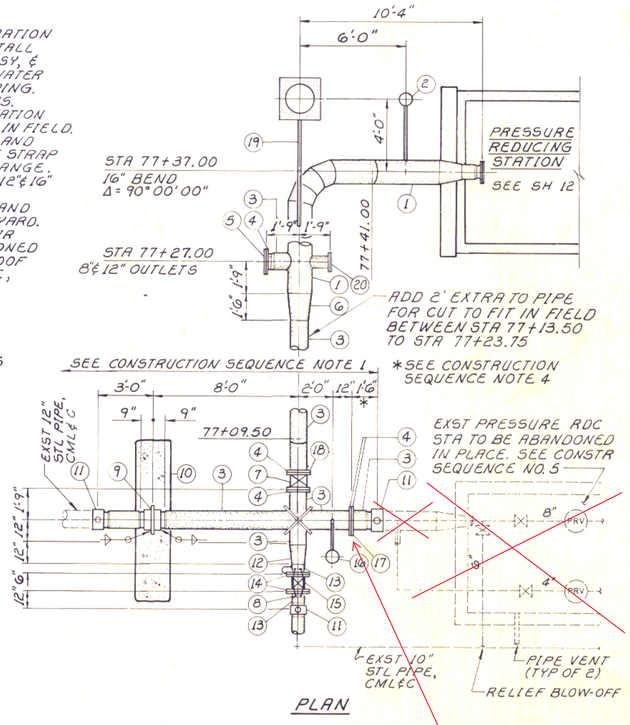


SECTION



PLAN

ANCHOR BLOCK DETAIL 1 — 3/8"=1'-0"



PLAN

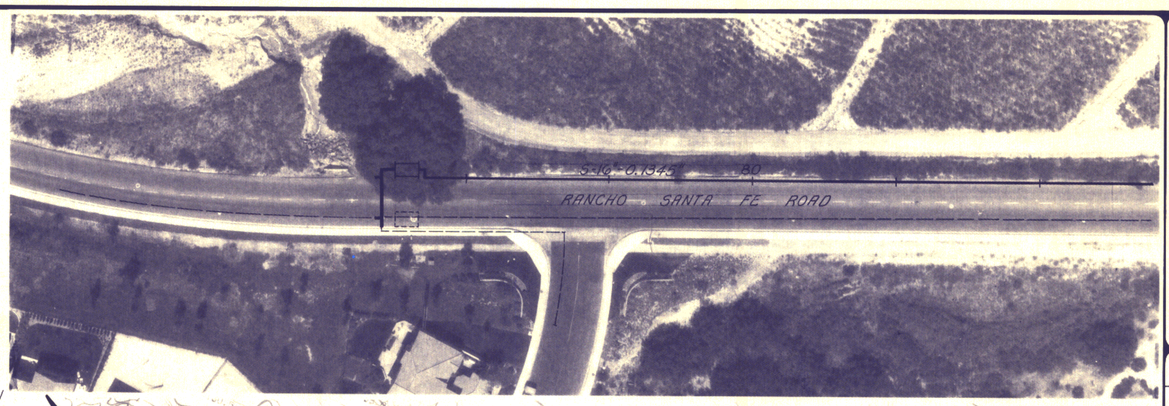
CONNECTION DETAIL 2 — 1/4"=1'-0"

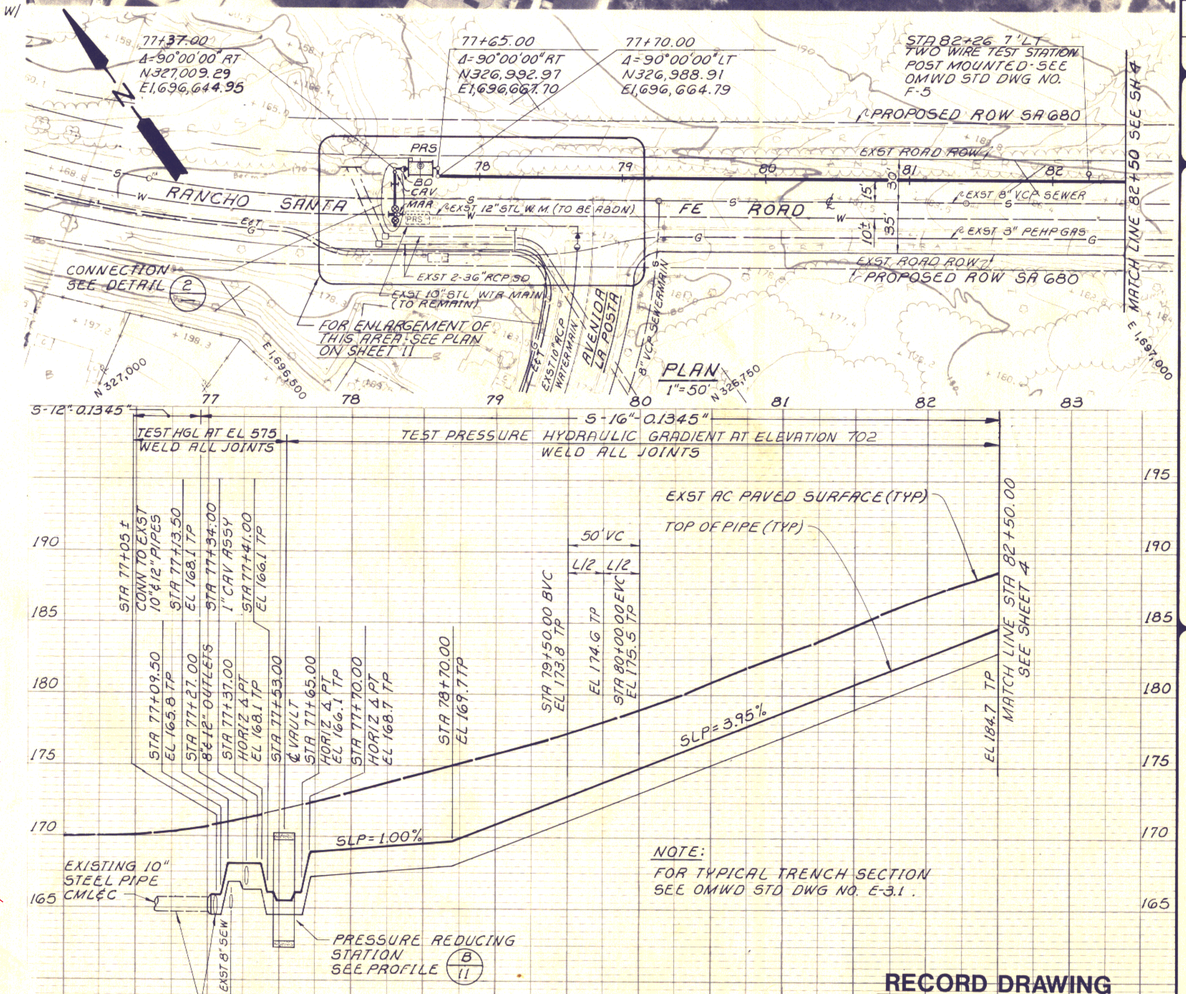
CONSTRUCTION SEQUENCE

1. ISOLATE EXST 10" & 12" STL WATER MAINS FROM OPERATION AND REMOVE INDICATED SECTION OF EXST PIPING. INSTALL NEW 12" PIPE CROSS, 10" & 12" GATE VALVES, 2" MAR ASSY, & 3 BUTT STRAP CLOSURES. PLACE EXST 10" & 12" STEEL WATER MAINS BACK IN SERVICE. FIELD VERIFY OD OF EXST PIPING.
2. POUR CONCRETE ANCHOR BLOCK AND CURE FOR 7 DAYS.
3. CONSTRUCT, DISINFECT, & TEST NEW PIPELINE & PR STATION FROM STA 77+08± TO STA 88+03±. CUT PIPING TO FIT IN FIELD.
4. ISOLATE EXST 10" & 12" WATER MAINS FROM OPERATION AND REMOVE INDICATED SECTION OF NEW 12" PIPE & BUTT STRAP CLOSURE. PROVIDE MATL ITEM NO. 17 ON 12" CL 150 FLANGE. PLACE EXST 10" & 12" STEEL WATER MAINS AND NEW 12" & 16" STEEL WATER MAINS INTO SERVICE.
5. REMOVE FROM EXST PR STATION ALL PIPING, VALVES AND EQUIPMENT AND DELIVER TO DISTRICT'S EQUIPMENT YARD. REMOVE PIPE VENTS & RELIEF BLOW-OFF PIPE IN THEIR ENTIRETY. PLUG OPEN ENDS OF PIPES TO BE ABANDONED IN PLACE WITH CONCRETE. DEMOLISH AND REMOVE ROOF OF VAULT, BREAK UP BOTTOM OF VAULT FOR DRAINAGE, FILL VAULT WITH SAND AND COMPACT.

MATERIAL SCHEDULE

1. 5-16"-0.1875" STEEL PIPE, CMLEC FOR SPECIALS
2. 2" BLOW-OFF ASSY - SEE OMWD STD DWG NO. A-1.2
3. 5-12"-0.1345" STEEL PIPE, CMLEC
4. 12" CL 150 FLANGE
5. 12" CL 150 BLIND FLANGE
6. 16"x12" ECCENTRIC REDUCER, CMLEC
7. 12" FLG CL 125 GATE VALVE W/OPR NUT & VALVE BOX - SEE OMWD STD DWG NO. E-1.2
8. BOND WIRES - SEE OMWD STD DWG NO. F-3 & F-4
9. 1/4" THK x 9" LONG WRAPPER PLATE W/ 1" THK x 2" HIGH ANNULAR RING PLATE
10. ANCHOR BLOCK - SEE DETAIL 1/—
11. BUTT STRAP CLOSURE
12. 12"x10" CONCENTRIC REDUCER, CMLEC
13. 5-10"-0.1345" STEEL PIPE, CMLEC
14. 10" CL 150 FLANGE
15. 10" FLG CL 125 GATE VALVE W/ OPR NUT & VALVE BOX - SEE OMWD STD DWG NO. E-1.2
16. 2" MANUAL AIR RELEASE ASSEMBLY - SEE OMWD STD DWG NO. A-2.3
17. 12" CL 150 BLIND FLANGE
18. INSULATOR TEST STA AT GRADE - SEE OMWD STD DWG NO F-7 & F-18
19. 1" COMBINATION AIR VALVE ASSEMBLY SEE OMWD STD DWG NO A-3.1 OPERATING PRESSURE - 125 PSI
20. 5-8"-0.1345" STEEL PIPE, CMLEC W/ 8" CL 150 FLANGE & BLIND FLANGE





NOTE:
FOR TYPICAL TRENCH SECTION SEE OMWD STD DWG NO. E-3.1.

PROFILE
HORIZ: 1"=50'
VERT: 1"=5'

RECORD DRAWING

Changes were made in accordance with information supplied by District or others.

Date of changes: 4-30-90 By: NJS

REVISIONS	BY	DATE	MARK

DESIGNED BY NJS
DRAWN BY RAW
CHECKED BY Joe

Boulie Engineering Corporation
consulting engineers / architects
GERALD E. CAMPBELL, RCE 15325
11-7-88
DATE

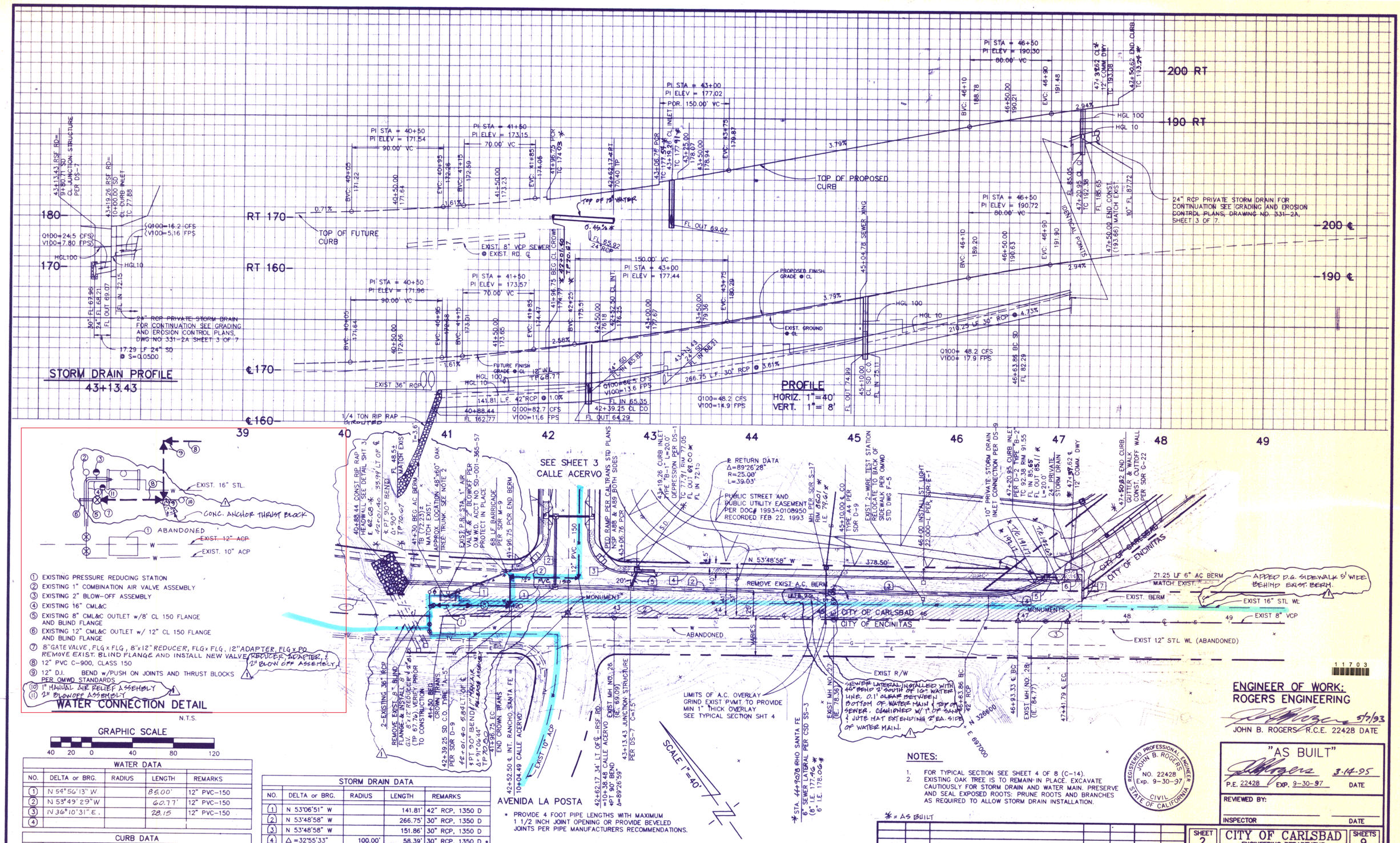
OLIVENHAIN MUNICIPAL WATER DISTRICT
RANCHO SANTA FE ROAD PIPELINE 4 - REPLACEMENT
PLAN AND PROFILE STA 77+05 TO STA 82+50

SHEET 3 OF
ACCOUNT NO. SD-001-365-57

PHOTO GEODETIC CORPORATION

14756

98-3



WATER CONNECTION DETAIL

N.T.S.

① EXISTING PRESSURE REDUCING STATION
② EXISTING 1" COMBINATION AIR VALVE ASSEMBLY
③ EXISTING 2" BLOW-OFF ASSEMBLY
④ EXISTING 16" CML&C
⑤ EXISTING 8" CML&C OUTLET w/8' CL 150 FLANGE AND BLIND FLANGE
⑥ EXISTING 12" CML&C OUTLET w/ 12" CL 150 FLANGE AND BLIND FLANGE
⑦ 8"GATE VALVE, FLG x FLG, 8"x12" REDUCER, FLG x FLG, 12" ADAPTER FLG x PD REMOVE EXIST. BLIND FLANGE AND INSTALL NEW VALVE, REDUCER, ADAPTER, & 2" BLOW OFF ASSEMBLY
⑧ 12" PVC C-900, CLASS 150
⑨ 12" D.I. BEND w/PUSH ON JOINTS AND THRUST BLOCKS PER OMWD STANDARDS
⑩ 1" MANUAL AIR RELIEF ASSEMBLY
⑪ 2" BLOWOFF ASSEMBLY

GRAPHIC SCALE
40 20 0 40 80 120

WATER DATA				
NO.	DELTA or BRG.	RADIUS	LENGTH	REMARKS
①	N 54°56'13" W		85.00'	12" PVC-150
②	N 53°49'29"W		60.77'	12" PVC-150
③	N 36°10'31"E.		28.15	12" PVC-150
④				

CURB DATA				
NO.	DELTA or BRG.	RADIUS	LENGTH	REMARKS
①	N 76°42'26" W		71.60'	6" AC BERM
②	Δ =90°33'32"	35.00'	55.32'	6" TYPE G-2 C&G
③	Δ =89°26'28"	35.00'	54.64'	6" TYPE G-2 C&G
④	N 53°48'58" W		386.57'	6" TYPE G-2 C&G
⑤	Δ =00°33'19"	4959.00'	48.07'	6" TYPE G-2 C&G
⑥	N 54°22'18" W		13.83'	6" TYPE G-2 C&G
⑦	N 34°37'42" E		21.25'	6" AC BERM

STORM DRAIN DATA				
NO.	DELTA or BRG.	RADIUS	LENGTH	REMARKS
①	N 53°06'51" W		141.81'	42" RCP, 1350 D
②	N 53°48'58" W		266.75'	30" RCP, 1350 D
③	N 53°48'58" W		151.86'	30" RCP, 1350 D
④	Δ =32°55'33"	100.00'	58.39'	30" RCP, 1350 D *
⑤	N 56°11'03" E		17.29'	24" RCP, 1350 D

CENTERLINE DATA				
NO.	DELTA or BRG.	RADIUS	LENGTH	REMARKS
①	Δ =17°48'01"	1400.00'	424.35'	
②	N 53°48'58" W		496.57'	
③	Δ =00°33'19"	5000.00'	48.46'	

NOTES:
1. FOR TYPICAL SECTION SEE SHEET 4 OF 8 (C-14).
2. EXISTING OAK TREE IS TO REMAIN IN PLACE. EXCAVATE CAUTIOUSLY FOR STORM DRAIN AND WATER MAIN. PRESERVE AND SEAL EXPOSED ROOTS: PRUNE ROOTS AND BRANCHES AS REQUIRED TO ALLOW STORM DRAIN INSTALLATION.

ROGERS ENGINEERING
27393 Ynez Rd. Ste. 154
Temecula, CA 92591-4605
(714) 676-2529

BENCH MARK
DESCRIPTION: 1/2" STEEL PIN SET IN CONC. & STEEL FENCE POST.
LOCATION: TRAFFIC ISLAND AT THE INTERSECTION OF RANCHO SANTA FE ROAD & OLIVENHAIN ROAD.
RECORDED: COUNTY OF SAN DIEGO #OC 0076
ELEVATION: 122.612 DATUM: M.S.L.

ENGINEER OF WORK:
ROGERS ENGINEERING
JOHN B. ROGERS R.C.E. 22428 DATE 5/1/93

REGISTERED PROFESSIONAL ENGINEER JOHN B. ROGERS NO. 22428 Exp. 9-30-97 CIVIL STATE OF CALIFORNIA

"AS BUILT"
Rogers 3.14.95
P.E. 22428 EXP. 9-30-97 DATE
REVIEWED BY:
INSPECTOR DATE

* = AS BUILT

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
3.14.95	JBR	⚠ AS BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 2 | CITY OF CARLSBAD ENGINEERING DEPARTMENT | SHEETS 9

IMPROVEMENT PLANS FOR:
RANCHO SANTA FE RD.
STA. 40+00 TO STA. 48+00

APPROVED LLOYD HUBBS Lloyd Hubbs 5.19.93
PE 23889 EXPIRES 12-31-93 CITY ENGINEER DATE

DWN BY: JRV
CHKD BY: JBR
RVWD BY: RHA

PROJECT NO. PD-412
DRAWING NO. 331-2

11703

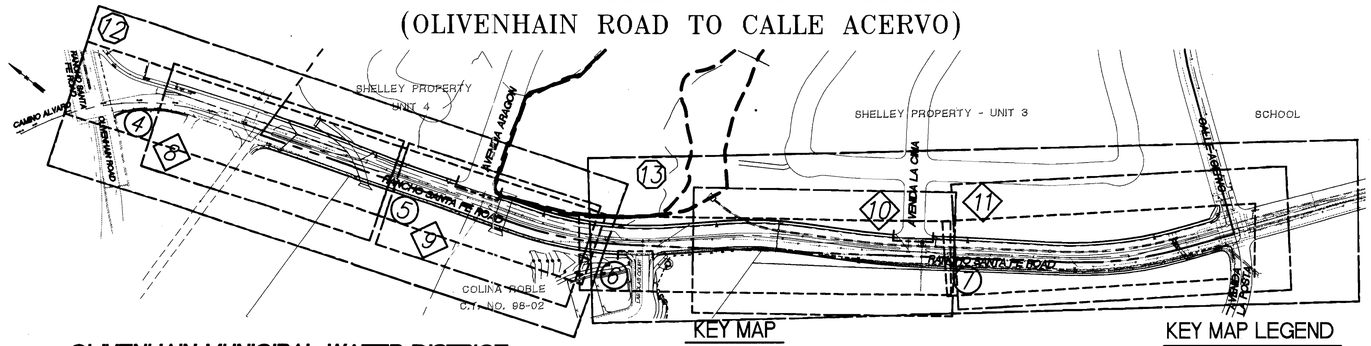
C-12

6B-4

922.08

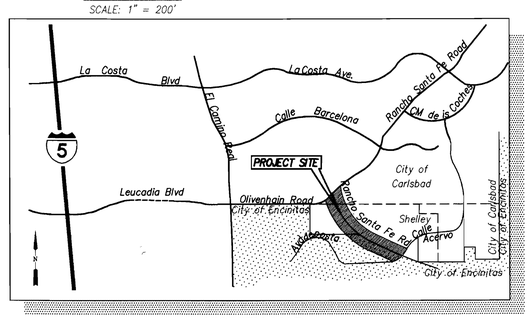
FILE: 2089HT12
DATE: 04-14-93

IMPROVEMENT PLANS FOR:
RANCHO SANTA FE ROAD
(OLIVENHAIN ROAD TO CALLE ACERVO)



KEY MAP
SCALE: 1" = 200'

KEY MAP LEGEND
- INDICATES PROJECT BOUNDARY
- INDICATES SHEET LIMITS
- (3) INDICATES STREET IMPROVEMENT SHEET NUMBER
- (8) INDICATES STORM DRAIN SHEET NUMBER
- (12) INDICATES TRAFFIC CONTROL SHEET NUMBER



VICINITY MAP
NOT TO SCALE

STREET NOTES

1. ACTUAL STRUCTURAL SECTIONS WILL BE DETERMINED AFTER "R" VALUE TESTS HAVE BEEN CONDUCTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOIL MECHANICS, ON THE PREPARED BASEMENT SOIL. THE "R" VALUE TESTS AND THE ENGINEERED STRUCTURAL SECTION MUST BE SUBMITTED TO THE ENGINEERING INSPECTOR FOR REVIEW AND APPROVAL A MINIMUM OF TWO (2) CITY WORKING DAYS BEFORE THE WORK BEGINS.
2. STREET LIGHTS SHALL BE INSTALLED AS SHOWN ON THESE PLANS, UNDERGROUND CONDUIT RUNS, SERVICE POINTS AND HAND-HOLES SHALL BE SHOWN ON THE "AS-BUILT" PLANS. NO DIRECT BURIAL STREET LIGHT FOUNDATIONS WILL BE ALLOWED. ALL LUMINAIRES SHALL BE "CUT OFF" TYPE.
3. ALL UNDERGROUND UTILITIES AND LATERALS SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF CURBS, CROSS GUTTERS OR SURFACING OF STREETS.
4. STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE WITH A MINIMUM D-LOAD OF 1,350 OR ASBESTOS CEMENT PIPE WITH A MINIMUM D-LOAD OF 2000. FOR PRIVATE STORM DRAIN PIPES UP TO 15", PVC MAY BE UTILIZED PROVIDED DEPTH IS LESS THAN 15 FEET AND BACKFILLED WITH 3/4" ROCK PER SDRSD S-4 TYPE "C" AND PIPE MEETS ASTM STANDARD 3034 FOR SDR 35 SOLID WALL PIPE.
5. WHERE AN EXISTING PIPE LINE IS TO BE ABANDONED IT SHALL BE REMOVED WITHIN TWENTY FEET OF BUILDING OR STREET AREAS AND REPLACED WITH PROPERLY COMPACTED SOILS. IN OTHER AREAS THE PIPE WILL BE PLUGGED WITH CONCRETE OR REMOVED AS APPROVED BY THE CITY ENGINEER.
6. WHEELCHAIR RAMPS SHALL BE INSTALLED PER REQUIREMENTS OF TITLE 24, CALIFORNIA ADMINISTRATIVE CODE.
7. STREET TREES SHALL BE INSTALLED PER SECTION IV D.3 OF THE CITY OF CARLSBAD LANDSCAPE MANUAL.
8. FIRE HYDRANT MARKERS SHALL BE PLACED IN THE STREET WITHIN THE LIMITS OF WORK OF THIS PLAN PER SDRS DWG M19.
9. ALL SURVEY MONUMENTS AND POINTS THAT ARE DISTURBED BY THIS WORK SHALL BE RE-ESTABLISHED, PERPETUATED, AND DOCUMENTED PER THE PROFESSIONAL LAND SURVEYORS ACT.
10. TWO (2) SETS OF SURVEY (CUT) SHEETS SHALL BE PROVIDED TO THE CITY ENGINEERING INSPECTOR.

EROSION CONTROL NOTES

1. IN CASE EMERGENCY WORK IS REQUIRED, CONTACT DAVE JONES AT (760) 603-8576.
2. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ON SITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY EROSION CONTROL DEVICES WHEN RAIN IS IMMINENT.
3. EROSION CONTROL DEVICES SHOWN ON PLANS SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE PUBLIC WORKS INSPECTOR.
4. THE CONTRACTOR SHALL RESTORE ALL EROSION CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE PUBLIC WORKS INSPECTOR AFTER EACH RUN-OFF PRODUCING RAINFALL.
5. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES AS MAY BE REQUIRED BY THE PUBLIC WORKS INSPECTOR DUE TO UNCOMPLETED GRADING OPERATIONS OR UNFORESEEN CIRCUMSTANCES WHICH MAY ARISE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
7. ALL EROSION CONTROL MEASURES PROVIDED PER THE APPROVED GRADING PLAN SHALL BE INCORPORATED HEREON.
8. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
9. ALL REMOVABLE PROTECTIVE EROSION CONTROL DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE FIVE-DAY RAIN PROBABILITY FORECAST EXCEEDS 40%
10. ALL GRAVEL BAGS SHALL BE BURLAP TYPE WITH 3/4 INCH MINIMUM AGGREGATE.
11. SHOULD GERMINATION OF HYDROSEEDED SLOPES FAIL TO PROVIDE EFFECTIVE COVERAGE OF GRADED SLOPES (90% COVERAGE) PRIOR TO NOVEMBER 15, THE SLOPES SHALL BE STABILIZED BY PUNCHED STRAW INSTALLED IN ACCORDANCE WITH SECTION 35.023 OF THE EROSION AND SEDIMENT CONTROL HANDBOOK OF THE DEPARTMENT OF CONSERVATION, STATE OF CALIFORNIA.

IMPORTANT NOTICE

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIG ALERT I.D. NUMBER, CALL UNDERGROUND SERVICE ALERT: TOLL FREE 1-800-422-4133; TWO WORKING DAYS BEFORE YOU DIG.

"DECLARATION OF RESPONSIBLE CHARGE"

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

FIRM: PROJECT DESIGN CONSULTANTS
ADDRESS: 701 B STREET, SUITE 800
CITY, STATE: SAN DIEGO, CALIFORNIA
TELEPHONE: (619) 235-6471
BY: DAVID B. RAGLAND
R.C.E. NO. 35985
REGISTRATION EXPIRATION DATE: 6-30-04 DATE: 10-12-00

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

BENCH MARK

DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD
RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

OLIVENHAIN MUNICIPAL WATER DISTRICT

RECLAIMED WATER NOTES

1. WATER SYSTEM SHALL CONFORM TO THE RULES AND REGULATIONS FOR RECLAIMED AND NON-POTABLE WATER SERVICE OF THE OLIVENHAIN MUNICIPAL WATER DISTRICT, ORDINANCE NO. 175, DATED MARCH 1989.
2. WATER WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND MATERIALS AS SPECIFIED IN THE OLIVENHAIN MUNICIPAL WATER DISTRICT STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF WATER MAINS AND FACILITIES, DATED MARCH 1997 WITH REVISIONS AND MODIFIED HEREWITH. CONTRACTOR SHALL HAVE A COPY OF THE STANDARD SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
3. THE SUBMISSION AND REVIEW OF ALL SUBMITTALS AS REQUIRED BY THE STANDARD SPECIFICATIONS ARE TO BE ACCOMPLISHED PRIOR TO THE PRE-CONSTRUCTION MEETING WITH THE DISTRICT'S INSPECTOR.
4. NO WORK MAY BEGIN OR PROCEED WITHOUT DIRECTION OF DISTRICT'S INSPECTOR. INSPECTOR'S SCHEDULING MUST BE 24-48 HOURS IN ADVANCE OF WORK.
5. WHERE ELEVATIONS AND GRADES ARE NOT SHOWN ON THE WATER MAIN PROFILE, TOP OF PIPE PROFILE IS 66-INCHES BELOW CENTERLINE OF FINISH GRADE OF STREET.
6. LOCATIONS OF RECLAIMED WATER METERS ARE SUBJECT TO APPROVAL BY DISTRICT'S INSPECTOR. 3/4-INCH HIGH LETTERS "RW" SHALL BE CHISELED IN TOP OF EXISTING CURB OR IMPRINTED IN NEW CURB AT ALL RECLAIMED WATER SERVICE CROSSINGS.
7. MANUAL AIR RELEASES SHALL BE INSTALLED AT ALL HIGH POINTS AND BLOW-OFFS AT ALL LOW POINTS IN THE WATER MAIN PROFILE.
8. UNLESS OTHERWISE NOTED, CONNECTIONS TO EXISTING MAINS SHALL BE MADE DRY. THE TIME AND DURATION OF ANY SHUTDOWNS OF EXISTING MAINS SHALL BE SUBJECT TO APPROVAL BY THE DISTRICT. DISTRICT SHALL BE NOTIFIED TWO WEEKS MINIMUM IN ADVANCE OF ANY SHUTDOWN.
9. LINE VALVES, WHERE REQUIRED AT STREET INTERSECTIONS SHALL BE LOCATED ON THE PROLONGATION OF THE STREET RIGHT-OF-WAY WHENEVER POSSIBLE.
10. CONTRACTOR SHALL REVIEW ALL PROPOSED TRENCH WORK WITH CAL/OSHA. A COPY OF EXEMPTION LETTER OR TRENCHING PERMIT, IF REQUIRED, SHALL BE SUBMITTED TO THE DISTRICT PRIOR TO CONSTRUCTION.
11. ALL EXISTING FACILITIES WHICH MAY AFFECT FINAL DESIGN, I.E., LINE CROSSINGS, LINE PARALLELING, OR PROPOSED CONNECTIONS SHALL BE FIELD VERIFIED. ALL EXISTING OR PROPOSED UTILITY CROSSINGS, OR UTILITIES WITHIN 10 FEET OF PROPOSED WATER MAINS, SHALL BE SHOWN ON IMPROVEMENT PLANS.
12. THE WATER SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE PROCEDURES IN THE STANDARD SPECIFICATIONS. THE CLASS OF PIPE SHALL BE USED AS THE DESIGNATED WORKING PRESSURE FOR TESTING ALL PIPE, VALVES (CLOSED) AND APPURTENANCES.
13. CONTRACTOR TO TIE OFF ALL VALVE LOCATIONS AND PROVIDE WRITTEN DIMENSIONS TO INSPECTOR IMMEDIATELY UPON INSTALLATION OF VALVES.
14. RECLAIMED WATER MAIN SHALL BE PURPLE PVC PIPE AWWA C 900, WITH 2 CONTINUOUS METALLIC TAPE STRIPS, STAMPED "RECLAIMED WATER." STRIPS SHALL BE SET AT TOP OF PIPE AND AT 12" BELOW FINISH GRADE.
15. ALL DEFLECTIONS (HORIZONTAL AND VERTICAL) SHALL BE MADE BY USE OF JOINT COUPLINGS WITH 4° MAXIMUM DEFLECTION PER COUPLING (2° PER JOINT). NO BENDING (CURVING) OF PIPE SHALL BE PERMITTED.

OMWD APPROVED CHANGES			
⚠	REVISE RECYCLED WATER SHT. 6 & 7	AXS	11/8/01

AIR QUALITY NOTES

1. ALL GRADING SHALL BE DONE IN COMPLIANCE WITH SDAPCD AND CARB STANDARDS AND REQUIREMENTS AND DUST CONTROL STANDARDS IN TITLE 24 OF THE CALIFORNIA ADMINISTRATION CODE.
2. WATERING OF THE GRADING SITE SHALL TAKE PLACE BEFORE AND DURING GRADING OPERATION TO MINIMIZE DUST GENERATION. A WATER TRUCK SHALL BE REQUIRED TO BE ON SITE AT ALL TIMES TO THE SATISFACTION OF THE CITY ENGINEER.

SHEET INDEX

SHEET 1 .....TITLE SHEET, KEY MAP & NOTES
SHEET 2.....SPECIAL NOTES & LEGEND
SHEET 3.....TYPICAL STREET SECTIONS
SHEETS 4-7.....IMPROVEMENT PLANS
SHEETS 8-11.....STORM DRAIN PLAN/PROFILE
SHEETS 12-13.....STRIPING & SIGNING PLANS
SHEETS 14-17.....PHASING & TRAFFIC CONTROL PLANS
SHEETS 18-19.....STREET CROSS SECTIONS
SHEET 20.....TRAFFIC SIGNAL MODIFICATION PLAN
SHEETS 21-39.....LANDSCAPE IMPROVEMENTS PLANS
SHEETS 40-41.....PRESSURE REDUCING STATION MODIFICATION PLANS

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. 046697 Exp. 6-30-02 — CIVIL — STATE OF CALIFORNIA

SOILS ENGINEER'S CERTIFICATE:

I, SEAN COLORADO, A REGISTERED CIVIL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOIL MECHANICS, HEREBY CERTIFY THAT A SAMPLING AND STUDY OF THE SOIL CONDITIONS PREVALENT WITHIN THIS SITE WAS REVIEWED AND MADE BY ME OR UNDER MY DIRECTION BETWEEN THE DATES OF SEPTEMBER 6, 1938, AND JULY 13, 2000 TWO (2) COMPLETE COPIES OF THE SOILS REPORT COMPILED FROM THIS STUDY, WITH MY RECOMMENDATIONS, HAS BEEN SUBMITTED TO THE OFFICE OF THE CITY ENGINEER.

SIGNED:
R.C.E. NO.: 54033
DATE: OCTOBER 16, 2000
LICENSE EXPIRATION DATE: 12/31/2003

REGISTERED PROFESSIONAL ENGINEER — SEAN COLORADO — No. 54033 — CIVIL — STATE OF CALIFORNIA

SOURCE OF TOPOGRAPHY

TOPOGRAPHY SHOWN ON THESE PLANS WAS GENERATED BY: PHOTOGRAMMETRY METHODS FROM INFORMATION GATHERED ON, MAY 11, 1998 BY: SAN-LO AERIAL SURVEYS

TOPOGRAPHY SHOWN HEREON CONFORMS TO NATIONAL MAP ACCURACY STANDARDS.

PROJECT LOCATION

THIS PROJECT IS LOCATED WITHIN ASSESSORS PARCEL NUMBER(S) 255-040-19 & 264-010-32

THE CALIFORNIA COORDINATE INDEX OF THIS PROJECT IS: N 196 E 6252 (NAD 83)

HYDROLOGY REPORT

A COPY OF THE APPROVED HYDROLOGY/HYDRAULIC STUDY FOR THIS PROJECT IS ON FILE WITH THE CITY OF CARLSBAD ENGINEERING DIVISION. THE REPORT IS TITLED "DRAINAGE STUDY FOR RANCHO SANTA FE ROAD; OLIVENHAIN ROAD TO CALLE ACERVO", DATED 1/2000, JOB FILE NO. 1602.00 PREPARED BY: PROJECT DESIGN CONSULTANTS.

OWNERS CERTIFICATE

I (WE) HEREBY CERTIFY THAT A REGISTERED SOILS ENGINEER OR GEOLOGIST HAS BEEN OR WILL BE RETAINED TO SUPERVISE OVER-ALL GRADING ACTIVITY AND ADVISE ON THE COMPACTION AND STABILITY OF THIS SITE.

NAME: David L. Miller TITLE: VICE PRES. DATE: 11/20/00

EARTHWORK

FILL: 1,660 C.Y.
CUT: 1,760 C.Y.
REMEDIAL: 41,000 C.Y.

OWNER/DEVELOPER

NAME: CONTINENTAL HOMES
ADDRESS: 2237 FARADAY AVENUE, SUITE 100 CARLSBAD, CA 92008
PHONE: (760) 931-1980

GENERAL NOTES

1. THIS PLAN SUPERSEDES ALL OTHER PLANS PREVIOUSLY APPROVED BY THE CITY OF CARLSBAD REGARDING IMPROVEMENTS SHOWN ON THIS SET OF PLANS.
2. APPROVAL OF THIS PLAN DOES NOT LESSEN OR WAIVE ANY PORTION OF THE CARLSBAD MUNICIPAL CODE, RESOLUTION OF CONDITIONAL APPROVAL, CITY STANDARDS OR OTHER ADDITIONAL DOCUMENTS LISTED HEREON AS THEY MAY PERTAIN TO THIS PROJECT. THE ENGINEER IN RESPONSIBLE CHARGE SHALL REVISE THESE PLANS WHEN NON-CONFORMANCE IS DISCOVERED.
3. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER OR ENGINEER-OF-WORK FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING CONSTRUCTION. ALL PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.
4. A RIGHT-OF-WAY PERMIT FROM THE CITY ENGINEER WILL BE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT OF WAY. PRIOR TO PERMIT ISSUANCE, A CERTIFICATE OF INSURANCE MUST BE FILED NAMING THE CITY OF CARLSBAD AS AN ADDITIONAL INSURED ON THE PERMITTEE'S POLICY IN THE MINIMUM AMOUNT OF $1,000,000.00 FOR EACH OCCURRENCE OF LIABILITY. THE INSURANCE COMPANY WRITING THE POLICY MUST HAVE A RATING OF "A" AND A SIZE CATEGORY OF CLASS V AS ESTABLISHED BY "BESTS" KEY RATING GUIDE.
5. NO WORK SHALL BE COMMENCED UNTIL ALL PERMITS HAVE BEEN OBTAINED FROM THE CITY AND OTHER APPROPRIATE AGENCIES.
6. REVISION OF THESE PLANS MAY BE REQUIRED IF THE PROPOSED IMPROVEMENTS ARE NOT CONSTRUCTED PRIOR TO THE DEADLINE DATE OF THE IMPROVEMENT AGREEMENT.

GENERAL NOTES - CONTINUED

7. NO REVISIONS WILL BE MADE TO THESE PLANS WITHOUT THE WRITTEN APPROVAL OF THE CITY ENGINEER, NOTED WITHIN THE REVISION BLOCK, ON THE APPROPRIATE SHEET OF THE PLANS AND TITLE SHEET.
8. ORIGINAL DRAWINGS SHALL BECOME THE PROPERTY OF THE CITY UPON BEING SIGNED BY THE CITY ENGINEER.
9. THE ORIGINAL DRAWING SHALL BE REVISED TO REFLECT AS-BUILT CONDITIONS BY THE ENGINEER-OF-WORK PRIOR TO FINAL ACCEPTANCE OF THE WORK BY THE CITY.
10. ACCESS FOR FIRE AND OTHER EMERGENCY VEHICLES SHALL BE MAINTAINED TO THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
11. WHERE TRENCHES ARE WITHIN CITY EASEMENTS, A SOILS REPORT COMPRISED OF: (A) SUMMARY SHEET, (B) LABORATORY WORK SHEETS AND (C) COMPACTION CURVES, SHALL BE SUBMITTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS. THE SOILS REPORT WILL BE SUBMITTED TO THE CITY ENGINEERING INSPECTOR WITHIN TWO WORKING DAYS OF COMPLETION OF FIELD TESTS. THE WRITTEN FIELD COMPACTION REPORT(S) SHALL BE IMMEDIATELY SUBMITTED TO THE CITY ENGINEERING INSPECTOR UPON COMPLETION OF THE FIELD TESTS.
12. A PRE-CONSTRUCTION MEETING SHALL BE HELD AT THE SITE PRIOR TO THE BEGINNING OF WORK AND SHALL BE ATTENDED BY ALL REPRESENTATIVES RESPONSIBLE FOR CONSTRUCTION, INSPECTION, SUPERVISION, TESTING AND ALL OTHER ASPECTS OF THE WORK. THE CONTRACTOR SHALL SCHEDULE THE MEETING THROUGH THE PERMIT CLERK (760-602-2740) AT LEAST FIVE(5) WORKING DAYS PRIOR TO STARTING CONSTRUCTION. APPROVED DRAWINGS MUST BE AVAILABLE PRIOR TO SCHEDULING.
13. ALL INSPECTION REQUESTS OTHER THAN FOR PRE-CONSTRUCTION MEETING WILL BE MADE BY CALLING THE ENGINEERING 24-HOUR INSPECTION REQUEST LINE AT (760) 438-3891. INSPECTION REQUESTS MUST BE RECEIVED PRIOR TO 2:00 P.M. ON THE DAY BEFORE THE INSPECTION IS NEEDED. INSPECTIONS WILL BE MADE THE NEXT WORK DAY UNLESS YOU REQUEST OTHERWISE. REQUESTS MADE AFTER 2:00 P.M. WILL BE SCHEDULED FOR TWO FULL WORK DAYS LATER.
14. THE OWNER AND/OR APPLICANT THROUGH THE DEVELOPER AND/OR CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
15. THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE CITY ENGINEER AND/OR CONCERNED AGENCY SHOWING THE DESIGN OF SHORING, BRACING SLOPING OR OTHER PROVISIONS TO BE MADE OF WORKER PROTECTION FROM THE HAZARD OF CAVING GROUND DURING THE EXCAVATION OF SUCH TRENCH OR TRENCHES OR DURING THE PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET (5') OR MORE IN DEPTH AND APPROVED BY THE CITY ENGINEER AND/OR CONCERNED AGENCY PRIOR TO EXCAVATION. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8 CALIFORNIA ADMINISTRATIVE CODE, THE PLAN SHALL BE PREPARED BY A REGISTERED ENGINEER AT THE CONTRACTORS EXPENSE. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO EXCAVATION.
16. IF ANY ARCHAEOLOGICAL RESOURCES ARE DISCOVERED WITHIN ANY WORK ZONE DURING CONSTRUCTION, OPERATIONS WILL CEASE IMMEDIATELY AND THE PERMITTEE WILL NOTIFY THE CITY ENGINEER. OPERATIONS WILL NOT RESTART UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE CITY ENGINEER TO DO SO.
17. ALL OPERATIONS CONDUCTED ON THE SITE OR ADJACENT THERETO, INCLUDING WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR OPERATION OF TRUCKS, EARTHMOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 A.M. AND SUNSET EACH DAY, MONDAY through FRIDAY AND NO EARTH MOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON WEEKENDS OR HOLIDAYS. (A LIST OF CITY HOLIDAYS IS AVAILABLE AT THE ENGINEERING DEPARTMENT COUNTER.)
18. ALL OFF-SITE HAUL ROUTES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL TWO FULL WORKING DAYS PRIOR TO BEGINNING OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTE OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
19. NO BLASTING SHALL BE COMMENCED WITHOUT A CITY ENGINEER APPROVED BLASTING PROGRAM.
20. THE EXISTENCE AND LOCATION OF UTILITY STRUCTURES AND FACILITIES SHOWN ON THE CONSTRUCTION PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITY FACILITIES OR STRUCTURES NOT SHOWN OR IN A LOCATION DIFFERENT FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND ANY OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN.
21. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (ABOVEGROUND AND UNDERGROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF THE CONSTRUCTION TO PERMIT THE REVISIONS OF THE CONSTRUCTION PLANS IF IT IS FOUND THAT THE ACTUAL LOCATIONS ARE IN CONFLICT WITH THE PROPOSED WORK.
22. THE CONTRACTOR SHALL NOTIFY AFFECTED UTILITY COMPANIES (SEE BELOW) AT LEAST TWO FULL WORKING DAYS PRIOR TO STARTING CONSTRUCTION NEAR THEIR FACILITIES AND SHALL COORDINATE WORK WITH A COMPANY REPRESENTATIVE.

UNDERGROUND SERVICE ALERT	1-800-422-4133
SDG&E	(760) 438-6200
PACIFIC BELL	(760) 489-3913
DANIELS CABLEVISION	(760) 438-5241
CITY OF CARLSBAD(STREETS AND STORM DRAIN)	(760) 602-2720
*CITY OF CARLSBAD(SEWER,WATER & RECLAIMED WATER)	(760) 438-2722
OLIVENHAIN WATER COMPANY	(760) 753-6466
COX CABLE	(760) 599-6060
BUENA SANITATION DISTRICT	(619) 565-5657
LEUCADIA COUNTY WATER DISTRICT	(760) 753-0155

*AS APPROPRIATE

NOTE: THE CONSTRUCTION OF UNDERGROUND FACILITIES SHALL NOT BEGIN UNTIL A LETTER HAS BEEN SUBMITTED TO THE CITY ENGINEER FROM THE SOILS ENGINEER STATING THE SETTLEMENT FROM ROUGH GRADING IS COMPLETE.

CITY OF ENCINITAS
ENGINEERING SERVICES
ALAN D. ARCHIBALD, DIRECTOR 1-23-01 DATE

CITY OF CARLSBAD FIRE DEPARTMENT
REQUIREMENTS
NO. OF F.H.(S) 6 F.FLOW 1500 G.P.M. OUT OF 1 F.H.(S).
BLDG. SPRINKLED YES, (NO) F.FLOW ____ G.P.M.
FIRE MARSHAL 11-7-00 DATE

"AS BUILT"
RCE 46692 EXP. 6/30/07 DATE 9.21.04
REVIEWED BY: INSPECTOR 11/03/04 DATE

LEUCADIA COUNTY WATER DISTRICT
PUBLIC SEWER SYSTEM APPROVAL
APPROVED BY: DUDEK AND ASSOCIATES
RCE 26514 11/17/00 DATE 1228-96 JOB NUMBER

OLIVENHAIN MUNICIPAL WATER DISTRICT
POTABLE & RECLAIMED WATER SYSTEMS APPROVAL (W.O. 120016)
APPROVED BY: BOYLE ENGINEERING CORP. DISTRICT'S CONSULTING ENGINEER
R.C.E. 46540 DATE 12/5/00 JOB NO. SD-001-243-07
NOTE: SIGNATURE EXPIRES 2 YEARS AFTER DATE

1-22-04	PDC	⚠ AS-BUILT	11/8/01	GP	
3-19-03	PDC	⚠ REVISE TRAFFIC CONTROL SHT. 16 AND 17			3.21.03 JTK
11-7-02	PDC	⚠ REVISE TRAFFIC CONTROL SHT 16 AND 17			3.31.03 JTK
12-21-01	PDC	⚠ REVISE SEWER ON SHT. 4 AND 5	11/30/02	RLD	12/19/02 RLD
12-10-01	PDC	⚠ REVISE SEWER LINE ON SHTS. 5 AND 6	(LCWD) A'S		12/18/01 RLD
9-28-01	PDC	⚠ REVISE STORM DRAIN ON SHTS. 10 & 11, 6&7			12/5/01 RLD
5-8-01	PDC	⚠ REVISED STORM DRAIN ON SHEETS 10 & 11			5-24-01 CH
DATE	INITIAL		DATE	INITIAL	DATE INITIAL
ENGINEER OF WORK		REVISION DESCRIPTION	OTHER APPROVAL		CITY APPROVAL

SHEET 1 — CITY OF CARLSBAD ENGINEERING DEPARTMENT — SHEETS 41
IMPROVEMENT AND GRADING PLANS FOR:
RANCHO SANTA FE ROAD
CT 90-03 COVER SHEET
APPROVED: LLOYD B. HUBBS
RE: 23889 EXPIRES 12-31-01 CITY ENGINEER 3/29/01 DATE
DWN BY: CHKD BY: RVWD BY: JDE
PROJECT NO. CT 90-03
DRAWING NO. 380-1K

1424ip01.dwg 10/10/00 3:43:56 pm PST

CMWD J.N. 1802.50

SPECIAL NOTES

THE FOLLOWING NOTES ARE PROVIDED TO GIVE DIRECTIONS TO THE CONTRACTOR BY THE ENGINEER OF WORK. THE CITY ENGINEERS SIGNATURE ON THESE PLANS DOES NOT CONSTITUTE APPROVAL OF ANY OF THESE NOTES AND THE CITY WILL NOT BE RESPONSIBLE FOR THEIR ENFORCEMENT.

1. THE LOCATION OF EXISTING UTILITIES ARE BASED ON AVAILABLE RECORD INFORMATION. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING FACILITIES (ABOVEGROUND AND UNDERGROUND) WITHIN THE PROJECT SITE. THIS WORK SHALL BE PERFORMED SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT CITY APPROVAL REVISIONS TO THE CONSTRUCTION PLANS IF ACTUAL LOCATIONS ARE FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK. CONTRACTOR SHALL NOTIFY ENGINEER OF WORK OF ANY CONFLICTS OR ANY OTHER UTILITIES ENCOUNTERED PRIOR TO PROCEEDING WITH CONSTRUCTION.
2. CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. ANY PAVEMENT OR OTHER EXISTING SURFACE IMPROVEMENTS DAMAGED BY CONTRACTOR SHALL BE REPLACED AS REQUIRED BY THE CITY OF CARLSBAD ENGINEERING DEPARTMENT.
3. SAFETY PRECAUTIONS AND ADEQUATE BARRICADING TO BE IN FORCE BY THE CONTRACTOR AT ALL TIMES. NEITHER THE OWNER NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
4. ALL LENGTHS AND DISTANCES FOR IMPROVEMENTS SHOWN ON THESE PLANS ARE MEASURED IN A HORIZONTAL PLANE.
5. THE DISPOSAL OF ANY ASBESTOS CEMENT PIPE SHALL BE IN COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.
6. THE "WORK TO BE DONE" SECTION ON THIS SHEET LISTS THE STANDARD SPECIFICATIONS AND DRAWINGS USED DURING THE IMPROVEMENT PLAN / GRADING PLAN DESIGN. THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE STANDARD SPECIFICATIONS AND DRAWINGS IN EFFECT ON THE DATE OF THE SIGNATURE BY THE ENGINEER OF WORK.
7. IF THE IMPROVEMENTS SHOWN ON THIS PLAN HAVE NOT BEEN CONSTRUCTED AND ACCEPTED BY THE CITY WITHIN TWO (2) YEARS OF THE DATE OF PLAN APPROVAL BY THE CITY ENGINEER, THESE PLANS WILL BE SUBJECT TO REVIEW BY THE CITY'S ENGINEERING DIVISION FOR CONFORMANCE WITH CURRENT CITY STANDARDS, POLICIES AND/OR ADDITIONAL REQUIREMENTS.
8. AN AS-BUILT DRAWING SHALL BE SUBMITTED FOR ALL PROJECT IMPROVEMENTS PRIOR TO ACCEPTANCE OF SAID IMPROVEMENTS.
9. THE ENGINEER-OF-WORK SHALL BE NOTIFIED WHEN CONSTRUCTION COMMENCES.
10. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE DIVISION OF INDUSTRIAL SAFETY BEFORE ANY EXCAVATION AND PROVIDE PROOF OF OSHA NOTIFICATIONS AND SHALL ADHERE TO ALL PROVISIONS OF THE STATE OF CALIFORNIA CONSTRUCTION SAFETY ORDERS.
11. IMPORTED FILL MATERIAL SHALL BE OBTAINED FROM A LEGAL SITE.
12. ALL CUT AND FILL SLOPES SHALL BE PLANTED WITH A MIXTURE OF TREES, SHRUBS, AND GROUND COVER TO CONTROL EROSION. SLOPE LANDSCAPING SHALL BE INSTALLED FOR PERPETUAL MAINTENANCE OF THE PLANT LIFE USED FOR SLOPE STABILIZATION.
13. DUST CONTROL MEASURES, SUCH AS THE PERIODIC WETTING DOWN OF THE BARE AND EXPOSED AREAS, SHALL BE UTILIZED AT ALL TIMES DURING CONSTRUCTION TO THE SATISFACTION OF THE PUBLIC WORKS AND/OR BUILDING INSPECTORS.
14. ALL MAJORS SLOPES SHALL BE ROUNDED INTO EXISTING SLOPES TO PRODUCE A CONTOURED TRANSITION FROM CUT OR FILL FACES TO NATURAL GROUND AND ABUTTING CUT OR FILL SLOPES.
15. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUALLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNITY AND HOLD THE OWNER, THE ENGINEER AND THE CITY 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 OWNER, ENGINEER OR CITY.
16. ALL EXISTING FEATURES AND STRUCTURES IN CONFLICT WITH THESE PLANS SHALL BE RELOCATED OR REMOVED AT THE CONTRACTOR'S EXPENSE. MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE.
17. MINIMUM 90% COMPACTION IS REQUIRED IN ALL ON-SITE FILL AREAS WITH A MINIMUM OF 95% COMPACTION SIX INCHES (6") BELOW SUBGRADE.
18. ALL PROJECT IMPROVEMENTS SHOWN ON THESE IMPROVEMENT PLANS SHALL BE CONSTRUCTED TO THE SATISFACTION OF THE PUBLIC WORKS DIRECTOR PRIOR TO ACCEPTANCE.
19. NO PRIVATE IRRIGATION MAINS OR CONTROL VALVES SHALL BE ALLOWED WITHIN THE PUBLIC RIGHT-OF-WAY.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION, RELOCATION OR REPLACEMENT OF ALL STRIPING, SIGNING OR TRAFFIC DETECTOR LOOPS AS REQUIRED BY THE PUBLIC WORKS DIRECTOR.
21. A TRAFFIC CONTROL PLAN, INCLUDING THE LAYOUT OF CONSTRUCTION WARNING AND DETOUR SIGNS, SHALL BE SUBMITTED TO THE PUBLIC WORKS DEPARTMENT FOR APPROVAL A MINIMUM OF 72 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
22. FOR STREET TREES, IRRIGATION AND LANDSCAPING IN PUBLIC RIGHT-OF-WAY ALONG CT-90-03 PROPERTY FRONTAGE, SEE THE APPROPRIATE LANDSCAPE AND IRRIGATION PLANS DWG. NO. 380-1K.

WORK TO BE DONE:

THE IMPROVEMENT WORK SHALL CONSIST OF THE CONSTRUCTION OF ALL CUTS AND FILLS, REMEDIAL GRADING, DRAINAGE FACILITIES, EROSION CONTROL FACILITIES, AND PREPARATION OF AS-BUILT PLANS, AS-BUILT GEOLOGIC MAPS AND REPORTS, ALL AS SHOWN OR REQUIRED ON THIS SET OF PLANS AND THE CITY STANDARDS, SPECIFICATIONS, REQUIREMENTS, RESOLUTIONS AND ORDINANCES CITED ON THESE PLANS.

THE IMPROVEMENT WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS, CURRENT AT THE TIME OF CONSTRUCTION, AS DIRECTED BY THE CITY ENGINEER.

1. CARLSBAD MUNICIPAL CODE
2. CITY OF CARLSBAD STANDARDS
3. THIS SET OF PLANS
4. RESOLUTIONS NO. 4349, 4350, 4351, 4352 & 4353 DATED OCTOBER 7, 1998.
5. THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK)
6. THE SOILS REPORT AND RECOMMENDATIONS BY LEIGHTON & ASSOCIATES DATED SEPTEMBER 8, 1998; & THE PROPOSED WICK DRAIN INSTALLATIONS & SETTLEMENT MONITORING REPORT BY LEIGHTON & ASSOCIATES DATED FEB. 8, 1999.
7. THE SAN DIEGO AREA REGIONAL STANDARD DRAWINGS AND AS MAY BE MODIFIED BY THE CITY OF CARLSBAD STANDARDS, DOCUMENT NO. 769332.
8. ENVIRONMENTAL APPROVAL DOCUMENTS DATED 12/15/98.
9. THE CARLSBAD MUNICIPAL WATER DISTRICT'S STANDARDS AND SPECIFICATIONS FOR RECLAIMED WATER.
10. THE LECADIA COUNTY WATER DISTRICT'S STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION OF WASTEWATER FACILITIES.
11. OLIVENHAIN MUNICIPAL WATER DISTRICT'S STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF WATER MAIN FACILITES.
12. THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, "MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES".
13. THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DOCUMENT NO. 769692.
14. THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLAN, DOCUMENT NO. 769691.

GRADING NOTES:

(IN ADDITION TO THE REQUIREMENTS OF CHAPTER 15.16 OF THE CARLSBAD MUNICIPAL CODE.)

1. THIS PLAN SUPERSEDES ALL OTHER PLANS PREVIOUSLY APPROVED BY THE CITY OF CARLSBAD REGARDING GRADING SHOWN ON THIS SET OF PLANS.
2. APPROVAL OF THIS PLAN DOES NOT LESSEN OR WAIVE ANY PORTION OF THE CARLSBAD MUNICIPAL CODE, RESOLUTION OF CONDITIONAL APPROVAL, CITY STANDARDS OR OTHER ADDITIONAL DOCUMENTS LISTED HEREON AS THEY MAY PERTAIN TO THIS PROJECT. THE ENGINEER IN RESPONSIBLE CHARGE SHALL REVISE THESE PLANS WHEN NON-CONFORMANCE IS DISCOVERED.
3. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER OR ENGINEER-OF-WORK FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING CONSTRUCTION. ALL PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.
4. A RIGHT-OF-WAY PERMIT FROM THE CITY ENGINEER WILL BE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT OF WAY, PRIOR TO PERMIT ISSUANCE, A CERTIFICATE OF INSURANCE MUST BE FILED NAMING THE CITY OF CARLSBAD AS AN ADDITIONAL INSURED ON THE PERMITTEE'S POLICY IN THE MINIMUM AMOUNT OF $1,000,000.00 FOR EACH OCCURRENCE OR LIABILITY. THE INSURANCE COMPANY WRITING THE POLICY MUST HAVE A RATING OF "A" AND A SIZE CATEGORY OF CLASS V AS ESTABLISHED BY "BESTS' KEY RATING GUIDE.
5. UNLESS EXEMPTED BY SECTION 301.(b)5 OF THE UNIFORM BUILDING CODE, RETAINING WALLS OUTSIDE OF PUBLIC RIGHT OF WAY REQUIRE SEPARATE PERMITS FROM THE BUILDING DEPARTMENT.
6. NO WORK SHALL COMMENCE UNTIL ALL PERMITS HAVE BEEN OBTAINED FROM THE CITY AND OTHER APPROPRIATE AGENCIES.
7. APPROVAL OF THESE PLANS BY THE CITY ENGINEER DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL THE PROPERTY OWNER'S PERMISSION HAS BEEN OBTAINED AND A VALID GRADING PERMIT HAS BEEN ISSUED.
8. NO REVISIONS WILL BE MADE TO THESE PLANS WITHOUT THE WRITTEN APPROVAL OF THE CITY ENGINEER, NOTED WITHIN THE REVISION BLOCK, ON THE APPROPRIATE SHEET OF THE PLANS AND THE TITLE SHEET.
9. ORIGINAL DRAWINGS SHALL BECOME THE PROPERTY OF THE CITY UPON BEING SIGNED BY THE CITY ENGINEER.
10. THE ORIGINAL DRAWING SHALL BE REVISED TO REFLECT AS-BUILT CONDITIONS BY THE ENGINEER-OF-WORK PRIOR TO FINAL ACCEPTANCE OF THE WORK BY THE CITY.
11. ACCESS FOR FIRE AND OTHER EMERGENCY VEHICLES SHALL BE MAINTAINED TO THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
12. WHERE TRENCHES ARE WITHIN CITY EASEMENTS, A SOILS REPORT COMPRISED OF: (A) SUMMARY SHEET, (B) LABORATORY WORK SHEETS AND (C) COMPACTION CURVES, SHALL BE SUBMITTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS. THE SOILS REPORT WILL BE SUBMITTED TO THE CITY ENGINEERING INSPECTOR WITHIN TWO (2) WORKING DAYS OF THE COMPLETION OF FIELD TESTS.
13. A SOILS COMPACTION REPORT AND COMPLIANCE VERIFICATION REGARDING ADHERENCE TO RECOMMENDATIONS OUTLINED IN THE SOILS REPORT IS REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. ALL CONTROLLED GRADING SHALL BE DONE UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS. ALL FILL OR FUTURE FILL AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF CARLSBAD STANDARD SPECIFICATIONS AND THE " EARTHWORK SPECIFICATIONS " ATTACHED TO THE PRELIMINARY SOILS INVESTIGATION. DAILY FIELD COMPACTION REPORTS WILL BE SUBMITTED TO THE PROJECT INSPECTOR.
14. A PRECONSTRUCTION MEETING SHALL BE HELD AT THE SITE PRIOR TO THE BEGINNING OF WORK AND SHALL BE ATTENDED BY ALL REPRESENTATIVES RESPONSIBLE FOR CONSTRUCTION, INSPECTION, SUPERVISION, TESTING AND ALL OTHER ASPECTS OF THE WORK. THE CONTRACTOR SHALL SCHEDULE THE MEETING THROUGH THE PERMIT CLERK (760-602-2740) AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING CONSTRUCTION. APPROVED DRAWINGS MUST BE AVAILABLE PRIOR TO SCHEDULING. THE GRADING PERMIT WILL BE PROVIDED BY THE PROJECT INSPECTOR AT THE MEETING.
15. ALL INSPECTION REQUESTS OTHER THAN FOR PRECONSTRUCTION MEETING WILL BE MADE BY CALLING THE ENGINEERING 24-HOUR INSPECTION REQUEST LINE AT (760) 438-3891. INSPECTION REQUESTS MUST BE RECEIVED PRIOR TO 2:00 P.M. ON THE DAY BEFORE THE INSPECTION IS NEEDED. INSPECTIONS WILL BE MADE THE NEXT WORK DAY UNLESS YOU REQUEST OTHERWISE. REQUESTS MADE AFTER 2:00 P.M. WILL BE SCHEDULED FOR TWO (2) FULL WORK DAYS LATER.
16. THE OWNER AND/OR APPLICANT THROUGH THE DEVELOPER AND/OR CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
17. THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE CITY ENGINEER AND/OR CONCERNED AGENCY SHOWING THE DESIGN OF SHORING, BRACING, SLOPING OR OTHER PROVISIONS TO BE MADE OF WORKER PROTECTION FROM THE HAZARD OF CAVING GROUND DURING THE EXCAVATION OF SUCH TRENCH OR TRENCHES OR DURING THE PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET (5') OR MORE IN DEPTH AND APPROVED BY THE CITY ENGINEER AND/OR CONCERNED AGENCY PRIOR TO EXCAVATION. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8 CALIFORNIA ADMINISTRATIVE CODE, THE PLAN SHALL BE PREPARED BY A REGISTERED ENGINEER AT THE CONTRACTORS EXPENSE. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO EXCAVATION.
18. NO BLASTING SHALL BE PERFORMED UNTIL A VALID BLASTING PERMIT HAS BEEN OBTAINED FROM THE CITY OF CARLSBAD. SUBMIT APPLICATION FOR BLASTING PERMIT WELL IN ADVANCE OF THE SCHEDULING OF BLASTING OPERATIONS.
19. IF ANY ARCHAEOLOGICAL RESOURCES ARE DISCOVERED WITHIN ANY WORK AREA DURING CONSTRUCTION, OPERATIONS WILL CEASE IMMEDIATELY, AND THE PERMITTEE WILL NOTIFY THE CITY ENGINEER. OPERATIONS WILL NOT RESTART UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE CITY ENGINEER TO DO SO.
20. ALL OPERATIONS CONDUCTED ON THE SITE OR ADJACENT THERETO, INCLUDING WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR OPERATION OF TRUCKS, EARTHMOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 A.M. AND SUNSET EACH DAY, MONDAY THRU FRIDAY AND NO EARTHMOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON WEEKENDS OR HOLIDAYS. (A LIST OF CITY HOLIDAYS IS AVAILABLE AT THE ENGINEERING DEPARTMENT COUNTER.)
21. ALL OFF-SITE HAUL ROUTES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL TWO (2) FULL WORKING DAYS PRIOR TO BEGINNING OF WORK.
22. IMPORT MATERIAL SHALL BE OBTAINED FROM, AND WASTE MATERIAL SHALL BE DEPOSITED AT, A SITE APPROVED BY THE CITY ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTES OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
23. BRUSH SHALL BE REMOVED ONLY WITHIN THE AREA TO BE GRADED. NO TREES ARE TO BE REMOVED UNLESS SPECIFICALLY NOTED ON THE PLAN.
24. ALL AREAS SHALL BE GRADED TO DRAIN. GRADING RESULTING IN THE PONDING OF WATER IS NOT PERMITTED. ALL EARTHEN SWALES AND DITCHES SHALL HAVE A MINIMUM ONE PERCENT SLOPE.
25. THESE PLANS ARE SUBJECT TO A SIGNED AND APPROVED SET OF EROSION CONTROL PLANS. EROSION CONTROL SHALL BE AS SHOWN AND AS APPROVED BY THE CITY ENGINEER OR AS DIRECTED BY THE PROJECT INSPECTOR.
26. ALL SLOPES SHALL BE TRIMMED TO A FINISH GRADE TO PRODUCE A UNIFORM SURFACE AND CROSS SECTION. THE SITE SHALL BE LEFT IN A NEAT AND ORDERLY CONDITION. ALL STONES, ROOTS OR OTHER DEBRIS SHALL BE REMOVED AND DISPOSED OF AT A SITE APPROVED OF BY THE CITY ENGINEER.
27. ALL SLOPES SHALL BE IRRIGATED, STABILIZED, PLANTED AND/OR HYDROSEEDED WITHIN TEN (10) DAYS OF THE TIME WHEN EACH SLOPE IS BROUGHT TO GRADE AS SHOWN ON THE APPROVED GRADING PLANS.
28. LANDSCAPING SHALL BE ACCOMPLISHED ON ALL SLOPES AND PADS AS REQUIRED BY THE CITY OF CARLSBAD LANDSCAPE MANUAL, THE LANDSCAPING PLANS FOR THIS PROJECT, DRAWING NO. 380-1K , AND/OR AS DIRECTED BY THE CITY ENGINEER OR PLANNING DIRECTOR.
29. THE OWNER/APPLICANT SHALL INSURE THAT ALL CONTRACTORS SHALL COORDINATE THE WORK OF THESE GRADING PLANS WITH THAT SHOWN ON BOTH THE LANDSCAPE AND IRRIGATION PLANS AND THE IMPROVEMENT PLANS AS REQUIRED FOR THIS WORK IN ACCORDANCE WITH THE LANDSCAPE MANUAL TIME REQUIREMENTS.
30. STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE WITH A MINIMUM D-LOAD OF 1,350 OR ASBESTOS CEMENT PIPE WITH A MINIMUM D-LOAD OF 2,000. FOR PRIVATE STORM DRAINS, PIPES UP TO 15" PVC MAY BE UTILIZED PROVIDED DEPTH IS LESS THAN 15 FEET AND BACKFILLED WHT 3/4" ROCK PER SDRSD S-4 TYPE "C" AND PIPE MEETS ASTM STANDARD 3034 FOR SDR 35 SOLID WALL PIPE.
31. WHERE AN EXISTING PIPE LINE IS TO BE ABANDONED AS A RESULT OF THE GRADING OPERATION, IT SHALL BE REMOVED WITHIN TWENTY FEET OF BUILDING OR STREET AREAS AND REPLACED WITH PROPERLY COMPACTED SOILS. IN OTHER AREAS, THE PIPE WILL BE PLUGGED WITH CONCRETE OR REMOVED AS APPROVED BY THE CITY ENGINEER.
32. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (ABOVE GROUND AND UNDER GROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF GRADING TO PERMIT THE REVISION OF THE GRADING PLANS IF IT IS FOUND THAT THE ACTUAL LOCATIONS ARE IN CONFLICT WITH THE PROPOSED WORK.
33. THE CONTRACTOR SHALL NOTIFY AFFECTED UTILITY COMPANIES (SEE BELOW) AT LEAST TWO (2) FULL WORKING DAYS PRIOR TO STARTING GRADING NEAR THEIR FACILITIES AND SHALL COORDINATE THE WORK WITH A COMPANY REPRESENTATIVE.

UNDERGROUND SERVICE ALERT	1-800-422-4133	CITY OF CARLSBAD (STREETS & STORM DRAIN)	(760) 602-2720
SDG&E	(760) 438-6200	CITY OF CARLSBAD (SEWER,WATER & RECLAIMED WATER)	(760) 438-2722
PACIFIC BELL	1-800-422-4133	LEUCADIA COUNTY WATER DISTRICT	(760) 753-0155
DANIELS CABLEVISION	(760) 438-5241	OLIVENHAIN MUNICIPAL WATER DISTRICT	(760) 753-6466

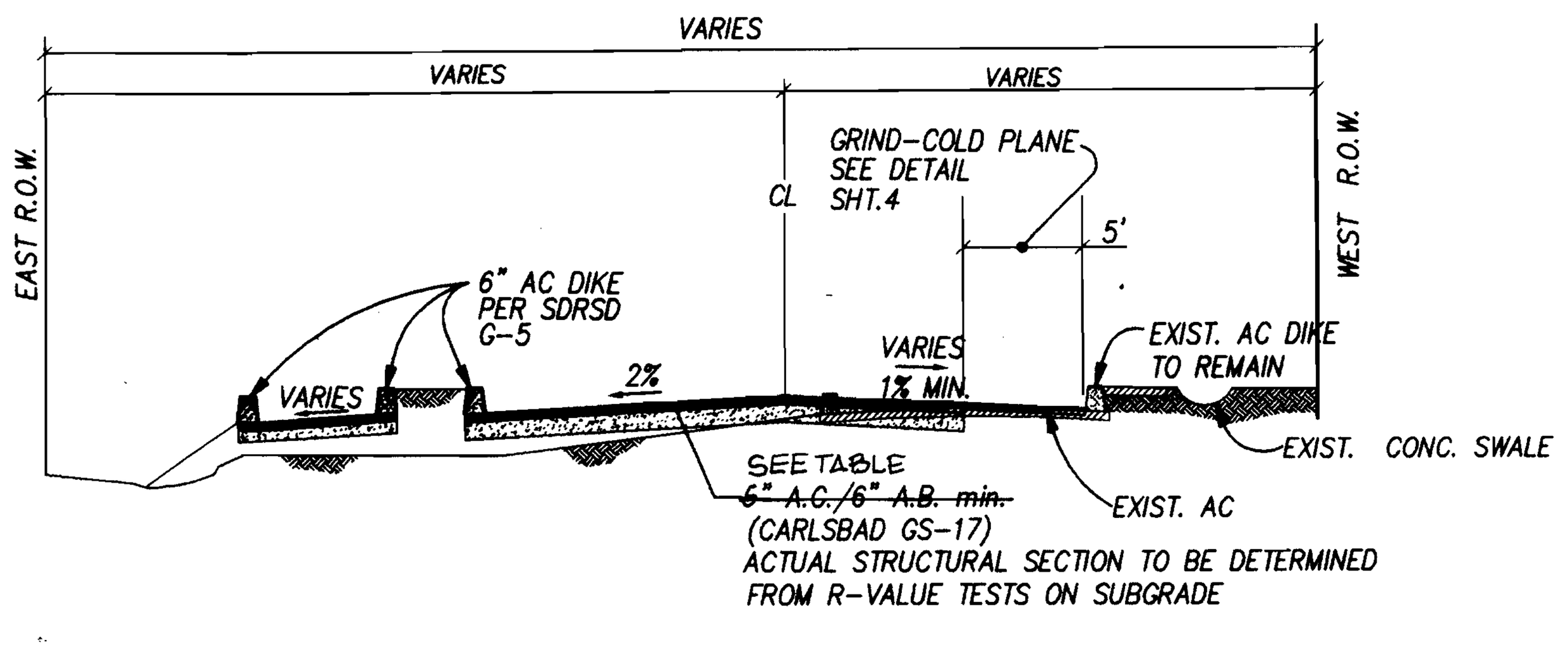
34. PERMIT COMPLIANCE REQUIREMENTS:
    A. FOR CONTROLLED GRADING-THE APPLICANT HIRES A CIVIL ENGINEER, SOILS ENGINEER, AND/OR GEOLOGIST TO GIVE TECHNICAL ADVICE, OBSERVE AND CONTROL THE WORK IN PROGRESS [15.16.120A.8.] CARLSBAD MUNICIPAL CODE.
    B. PRIOR TO FINAL APPROVAL OF A GRADING PERMIT-THE FOLLOWING REPORTS MUST BE SUBMITTED TO THE CITY ENGINEER VIA THE PROJECT INSPECTOR [15.16.120A.10] CARLSBAD MUNICIPAL CODE:
        (1) FINAL REPORT BY SUPERVISING GRADING ENGINEER STATING ALL GRADING IS COMPLETE. ALL EROSION CONTROL, SLOPE PLANTING AND IRRIGATION ARE INSTALLED IN CONFORMANCE WITH CITY CODE AND THE APPROVED PLANS (OBTAIN SAMPLE OF COMPLIANCE LETTER FROM CITY ENGINEER DEPARTMENT).
        (2) AS-BUILT GRADING PLAN.
        (3) REPORT FROM THE SOILS ENGINEER, WHICH INCLUDES RECOMMENDED SOIL BEARING CAPACITIES, A STATEMENT AS TO TTHE EXPANSIVE QUALITY OF THE SOIL, AND SUMMARIES OF FIELD AND LABORATORY TESTS. THE REPORT SHALL ALSO INCLUDE A STATEMENT BY THE SOILS ENGINEER THAT THE GRADING WAS DONE IN ACCORDANCE WITH THE REQUIREMENTS AND RECOMMENDATIONS OUTLINED IN THE PRELIMINARY SOILS REPORT AND ANY SUPPLEMENTS THERETO.
        (4) REPORT WITH AS-BUILT GEOLOGIC PLAN, IF REQUIRED BY THE CITY.
35. UNLESS A GRADING PERMIT FOR THIS PROJECT IS ISSUED WITHIN ONE (1) YEAR AFTER THE CITY ENGINEER'S APPROVAL, THESE PLANS MAY BE REQUIRED TO BE RESUBMITTED FOR PLANCHECK. PLANCHECK FEES WILL BE REQUIRED FOR ANY SUCH RECHECK.
36. THE SOILS REPORT TITLED 'UPDATE GEOTECHNICAL INVESTIGATION, SHELLEY PROPERTY, CARLSBAD, CA' PREPARED BY: LEIGHTON & ASSOCIATES, INC. DATED: SEPTEMBER 8, 1998; AND THE 'PROPOSED WICK DRAIN INSTALLATIONS & SETTLEMENT MONITORING' REPORT BY: LEIGHTON & ASSOCIATES, INC. DATED FEB. 8, 1999 SHALL BE CONSIDERED AS A PART OF THIS GRADING PLAN. ALL GRADING SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS AND SPECIFICATIONS CONTAINED IN SAID SOILS AND WICK DRAIN REPORTS.

OLIVENHAIN MUNICIPAL WATER DISTRICT NOTES (POTABLE)

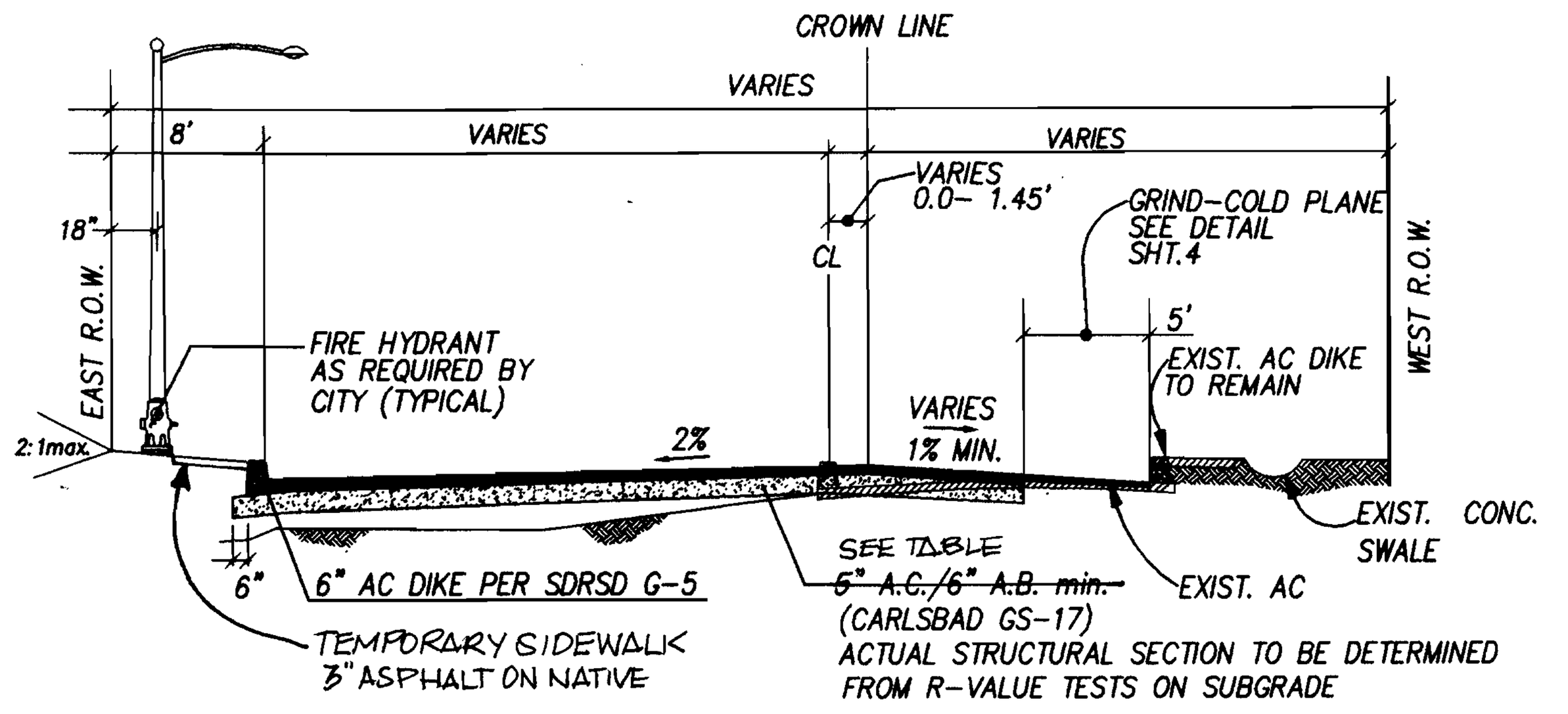
1. WATER WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND MATERIALS AS SPECIFIED IN THE OLIVENHAIN MUNICIPAL WATER DISTRICT STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF WATER MAINS AND FACILITIES, DATED MARCH 1997 WITH REVISIONS. CONTRACTOR SHALL HAVE A CURRENT COPY OF THE STANDARD SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
2. THE SUBMISSION AND REVIEW OF ALL SUBMITTALS (SHOP DRAWINGS, SIX SETS) AS REQUIRED BY THE STANDARD SPECIFICATIONS ARE TO BE ACCOMPLISHED PRIOR TO THE PRE-CONSTRUCTION MEETING WITH THE DISTRICT'S INSPECTOR.
3. NO WORK MAY BEGIN OR PROCEED WITHOUT DIRECTION OF DISTRICT'S INSPECTOR. INSPECTOR'S SCHEDULING MUST BE 24-48 HOURS IN ADVANCE OF WORK.
4. WHERE ELEVATIONS AND GRADES ARE NOT SHOWN ON THE WATER MAIN PROFILE, TOP OF PIPE PROFILE IS 48-INCHES BELOW CENTERLINE OF FINISH GRADE OF STREET.
5. INSTALL A MINIMUM 1-INCH WATER SERVICE TO EACH LOT. METER TO BE LOCATED 5-FEET FROM A SIDE LOT LINE. A 3/4-INCH HIGH LETTER "W" SHALL BE CHISELED IN TOP OF EXISTING CURB OR IMPRINTED IN NEW CURB AT ALL WATER SERVICE CROSSINGS.
6. MANUAL AIR RELEASES SHALL BE INSTALLED AT ALL HIGH POINTS AND BLOW-OFFS AT ALL LOW POINTS IN THE WATER MAIN PROFILE. PLACE MANUAL AIR RELEASES AND BLOW-OFFS WITHIN METER BOX AND LOCATE BEHIND CURB UNLESS OTHERWISE APPROVED BY DISTRICT'S REPRESENTATIVE. FIRE HYDRANTS MAY BE USED IN LIEU OF A MANUAL AIR RELEASE OR BLOW-OFF WHEN LOCATED AT OR NEAR HIGH OR LOW POINTS, AS APPROVED BY THE DISTRICT'S REPRESENTATIVE.
7. UNLESS OTHERWISE NOTED, CONNECTIONS TO EXISTING MAINS SHALL BE MADE DRY. THE TIME AND DURATION OF ANY SHUTDOWNS OF EXISTING MAINS SHALL BE SUBJECT TO APPROVAL BY THE DISTRICT. DISTRICT SHALL BE NOTIFIED TWO WEEKS MINIMUM IN ADVANCE OF ANY SHUTDOWN.
8. CONTRACTOR SHALL COORDINATE WITH DISTRICT ALL ARRANGEMENTS FOR HIGH-LINING TEMPORARY SERVICES, ETC., PRIOR TO SHUTDOWNS. NO SHUTDOWNS WILL BE SCHEDULED ON A FRIDAY.
9. LINE VALVES, WHERE REQUIRED AT STREET INTERSECTIONS SHALL BE LOCATED ON THE PROLONGATION OF THE STREET RIGHT-OF-WAY WHENEVER POSSIBLE.
10. FIRE HYDRANTS, AS APPROVED BY THE APPROPRIATE FIRE DISTRICT AND MEETING THE DISTRICT'S STANDARD SPECIFICATIONS, ARE TO BE INSTALLED AT LOCATIONS SPECIFIED BY THE FIRE DISTRICT.
11. CONTRACTOR SHALL REVIEW ALL PROPOSED TRENCH WORK WITH CAL/OSHA. A COPY OF EXEMPTION LETTER OR TRENCHING PERMIT, IF REQUIRED, SHALL BE SUBMITTED TO THE DISTRICT PRIOR TO CONSTRUCTION.
12. ALL EXISTING FACILITIES WHICH MAY AFFECT FINAL DESIGN, I.E., LINE CROSSINGS, LINE PARALLELING, OR PROPOSED CONNECTIONS SHALL BE FIELD VERIFIED. ALL EXISTING OR PROPOSED UTILITY CROSSINGS, OR UTILITIES WITHIN 10-FEET OF PROPOSED WATER MAINS, SHALL BE SHOWN ON IMPROVEMENT PLANS.
13. ALL WATER SERVICES FOR IRRIGATION, MULTIPLE RESIDENTIAL COMPLEXES AND COMMERCIAL OR INDUSTRIAL DEVELOPMENTS SHALL HAVE AN APPROVED BACKFLOW PREVENTION DEVICE ON CUSTOMER'S SIDE OF WATER METER.
14. THE WATER SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE PROCEDURES IN THE STANDARD SPECIFICATIONS. THE CLASS OF PIPE SHALL BE USED AS THE DESIGNATED WORKING PRESSURE FOR TESTING ALL PIPE, VALVES (CLOSED) AND APPURTENANCES.
15. CONTRACTOR TO TIE OFF ALL VALVE LOCATIONS AND PROVIDE WRITTEN DIMENSIONS TO INSPECTOR IMMEDIATELY UPON INSTALLATION OF VALVES.
16. ALL DEFLECTIONS (HORIZONTAL AND VERTICAL) SHALL BE MADE BY USE OF JOINT COUPLINGS WITH 4° MAXIMUM DEFLECTION PER COUPLING (2° PER JOINT). NO BENDING (CURVING) OF PIPE SHALL BE PERMITTED.
17. PIPELINES AND APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 15041 OF THE STANDARD SPECIFICATIONS PRIOR TO TIE-IN OR CONNECTION TO EXISTING SYSTEM FACILITIES. BACTERIOLOGIC QUALITY TEST RESULTS SHALL CONFORM TO THE CRITERIA SPECIFIED IN PARAGRAPH 3.06 OF THAT SPECIFICATION SECTION.
18. METER BOXES FOR 2-INCH SERVICES OR SMALLER SHALL BE FIBERGLASS REINFORCED POLYMER CONCRETE (RCP) MANUFACTURED BY ARMORCAST PRODUCTS COMPANY, CDR SYSTEMS CORPORATION, OR APPROVED EQUAL. METER BOX SIZE SHALL BE 17"x30". METER BOXES SHALL NOT BE PLACED WITHIN DRIVEWAYS OR SIDEWALKS WITHOUT THE DISTRICT'S PRIOR WRITTEN CONSENT.

LEUCADIA COUNTY WATER DISTRICT NOTES (SEWER):

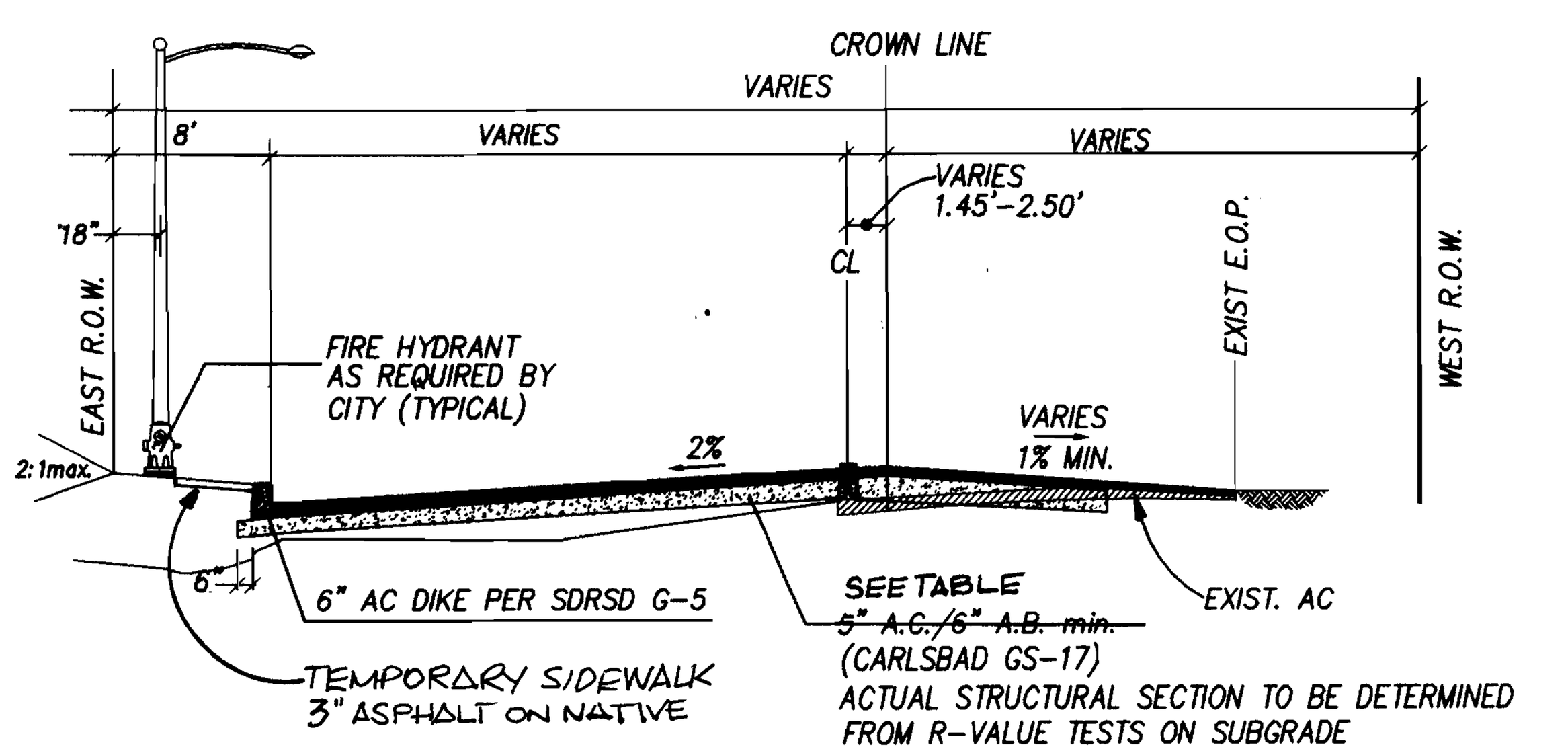
1. LCWD APPROVAL OF THESE PLANS DOES NOT RELIEVE THE APPLICANT, PRIVATE ENGINEER OF WORK, OR CONTRACTOR FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING OR AFTER CONSTRUCTION.
2. ALL DESIGN, MATERIALS, AND CONSTRUCTION WORK SHALL CONFORM TO THE LEUCADIA COUNTY WATER DISTRICT LCWD SEWER STANDARDS AND THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK) AND THE REGIONAL STANDARD DRAWINGS, MOST CURRENT EDITIONS. IN THE EVENT OF CONFLICT THE LCWD SEWER STANDARDS GOVERN.
3. OSHA SAFETY ORDERS AND OSHA CONFINED SPACE ENTRY REQUIREMENTS SHALL BE FOLLOWED AT ALL TIMES WITHOUT EXCEPTION.
4. THE CONTRACTOR SHALL HAVE A COPY OF THE SEWER NOTES 2. AND 3. DOCUMENTS ON THE JOB SITE AT ALL TIMES.
5. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR AFTER THE DATE OF FINAL ACCEPTANCE BY LCWD AND SHALL REPAIR OR REPLACE ANY WORK THAT MAY PROVE DEFECTIVE IN WORKMANSHIP AND/OR MATERIAL WITHIN THE ONE YEAR PERIOD WITHOUT EXPENSE WHATSOEVER TO LCWD.
6. QUANTITIES SHOW HEREON ARE FOR BOND ESTIMATE PURPOSES ONLY. NEITHER THE PRIVATE ENGINEER NOR LCWD GUARANTEE THE ACCURACY OR THE CO



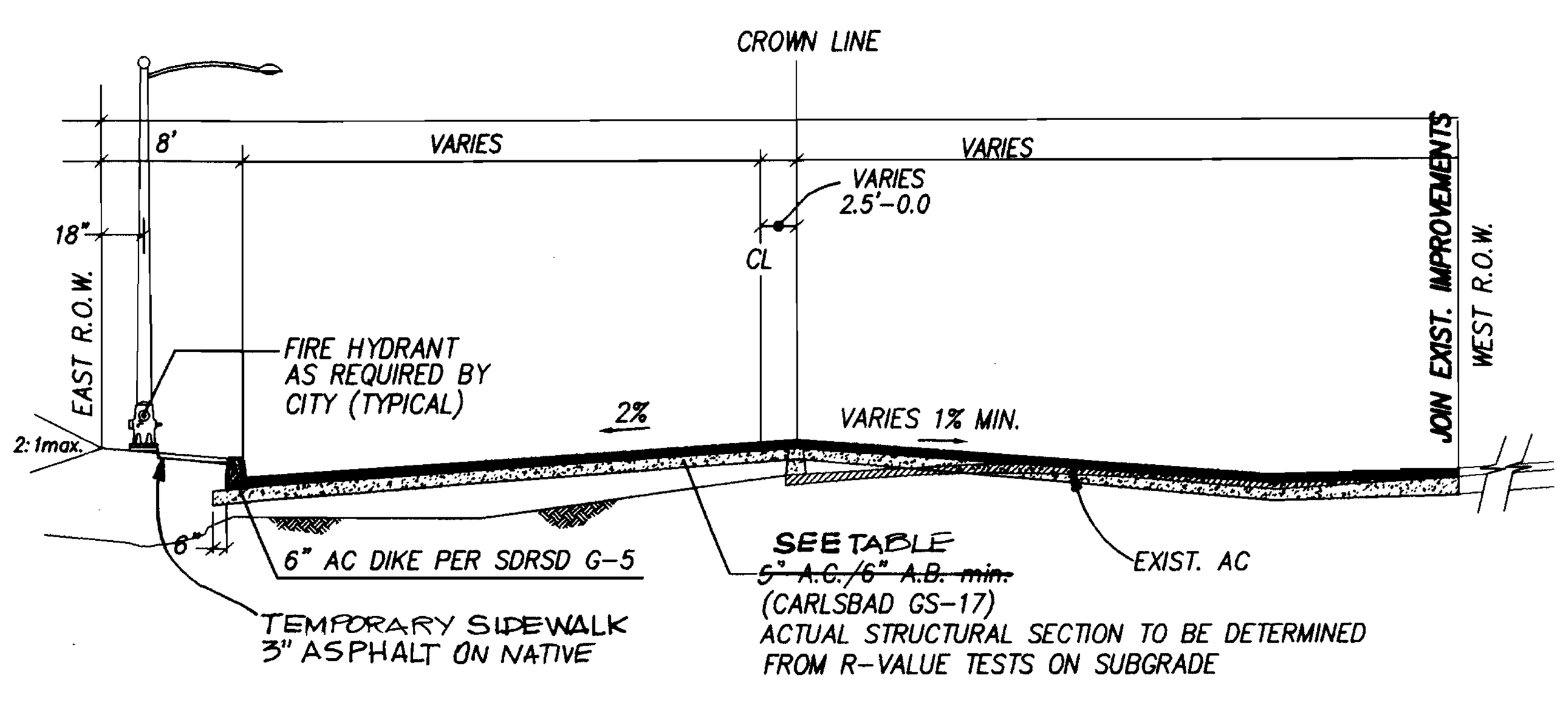
RANCHO SANTA FE ROAD - TYPICAL STREET SECTION *
FROM STA. 12+00.00 TO STA. 12+11.63
NOT TO SCALE



RANCHO SANTA FE ROAD - TYPICAL STREET SECTION *
FROM STA. 12+11.63 TO STA. 12+42.25
NOT TO SCALE



RANCHO SANTA FE ROAD - TYPICAL STREET SECTION *
FROM STA. 12+42.25 TO STA. 13+83.11
NOT TO SCALE

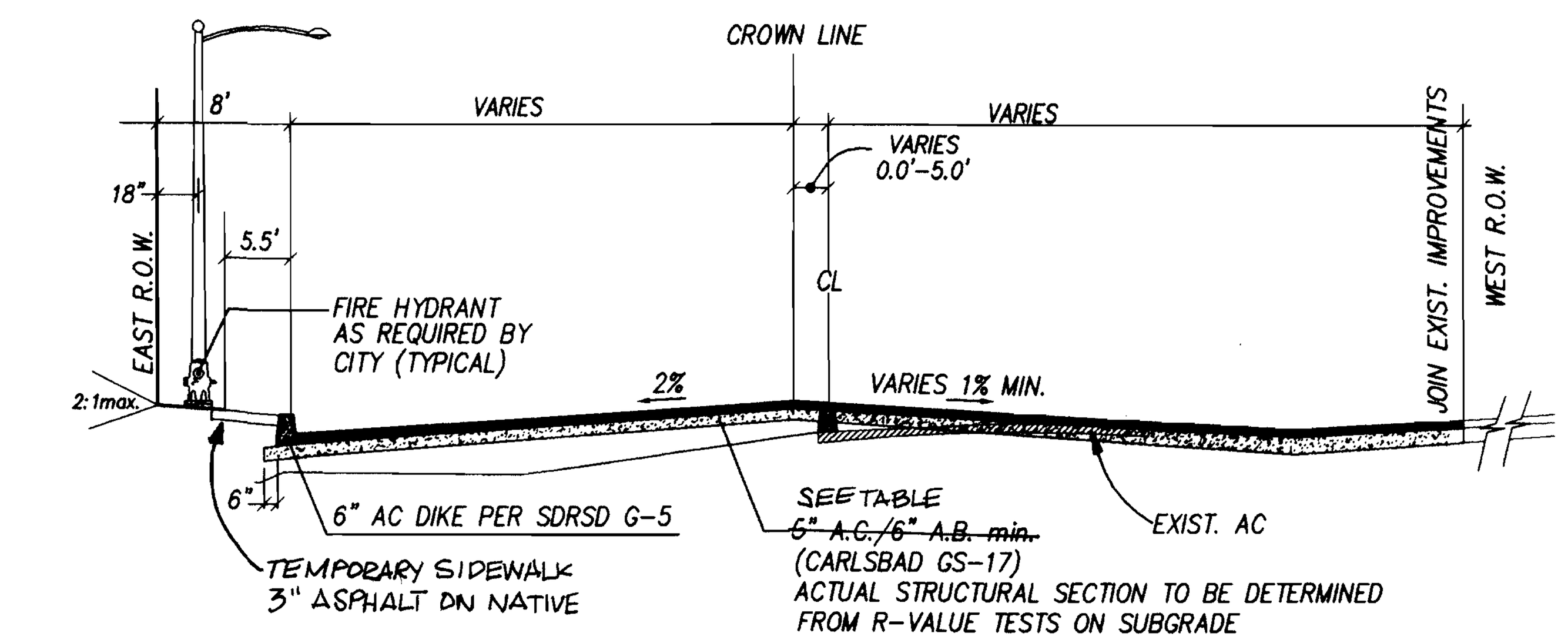


RANCHO SANTA FE ROAD - TYPICAL STREET SECTION *
FROM STA. 13+83.11 TO STA. 14+25.00 NOT TO SCALE

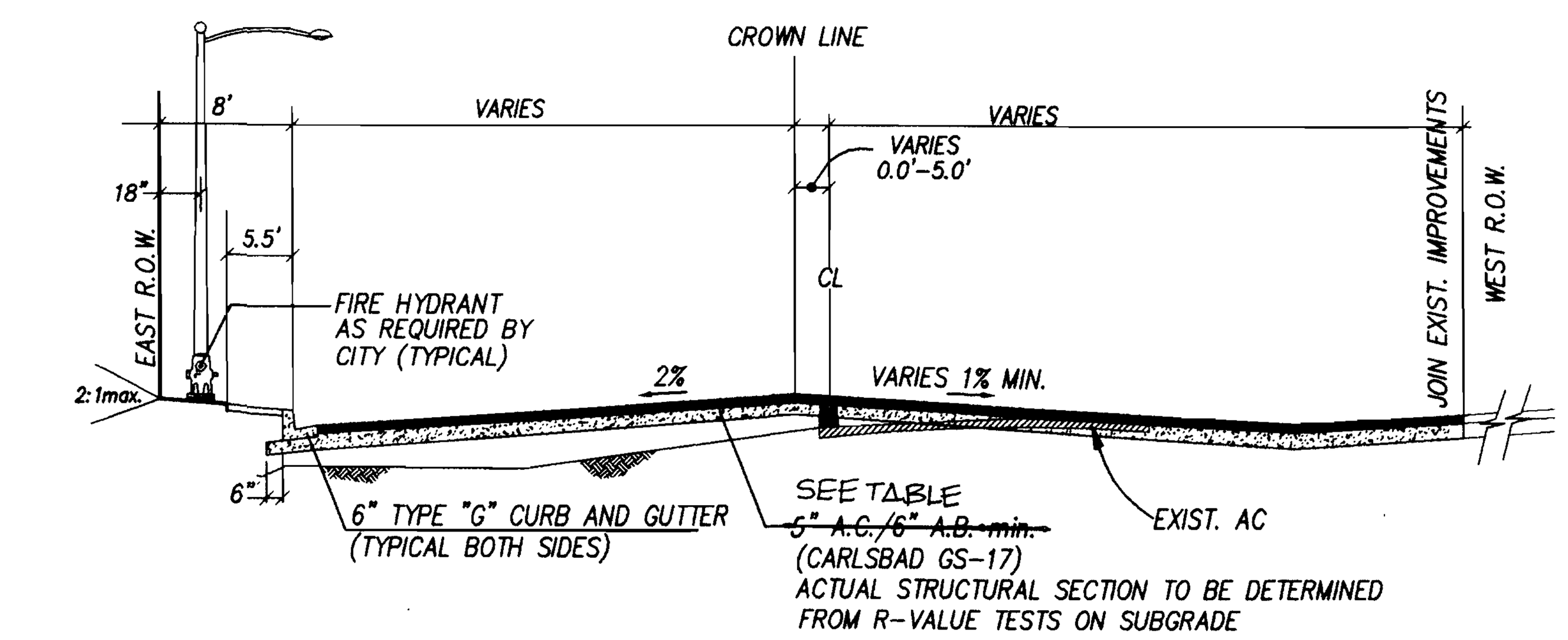
AS-BUILT RANCHO SANTA FE RD. PVMT. SECTIONS

STATION	ASPHALT BASE (IN.)	CLASS II AGGR. BASE (IN.)	RECYCLED BASE (IN.)
10+04 TO 14+30 (NB*)	6	19	Ø
14+30 TO 24+00 (NB*)	6	17	Ø
24+00 TO 42+40 (NB**)	6	18	Ø
12+70 TO 13+90 (SB**)	6	17	Ø
13+90 TO 33+00 (SB**)	6	24	Ø
33+00 TO 35+65 (SB**)	6	18	Ø
35+65 TO 41+00 (SB**)	6	13	4

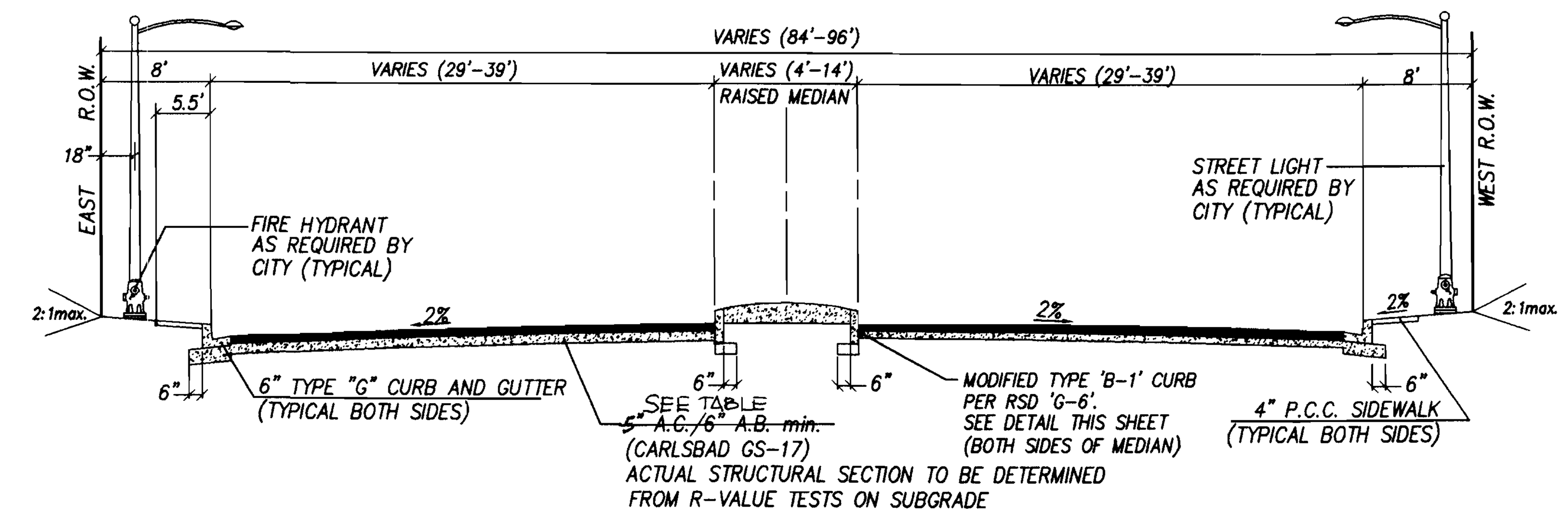
*NB- NORTHBOUND
**SB- SOUTHBOUND



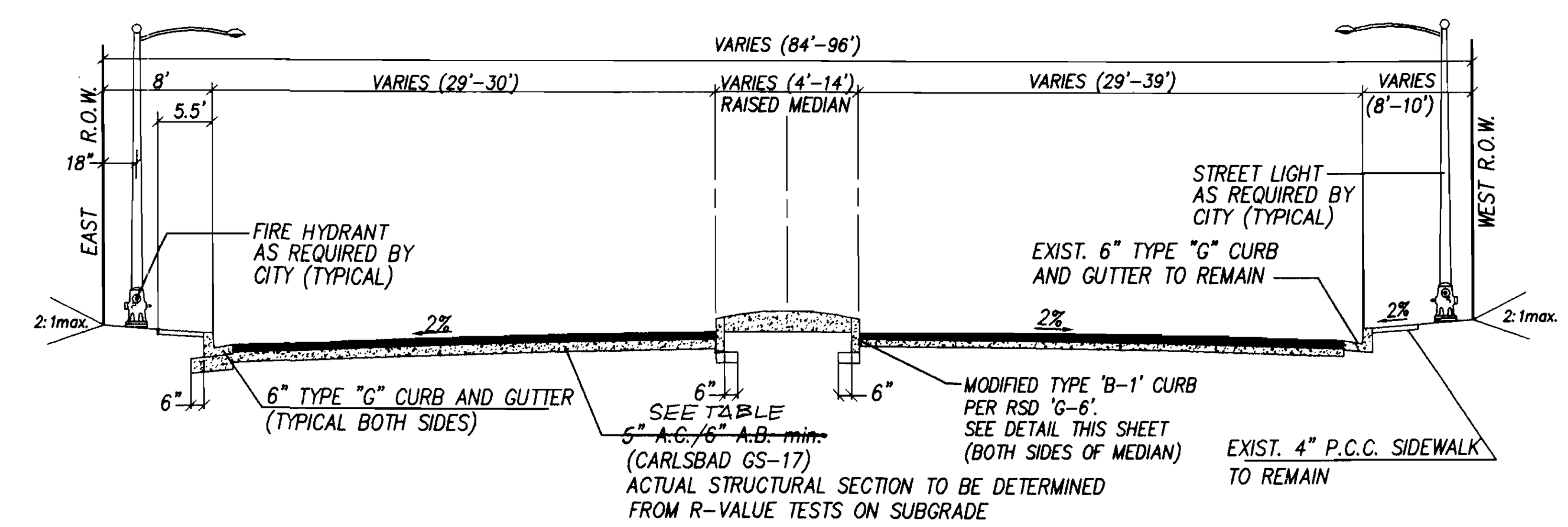
RANCHO SANTA FE ROAD - TYPICAL STREET SECTION *
FROM STA. 14+25.00 TO STA. 14+72.34
NOT TO SCALE



RANCHO SANTA FE ROAD - TYPICAL STREET SECTION *
FROM STA. 14+72.34 TO STA. 14+87.76
NOT TO SCALE

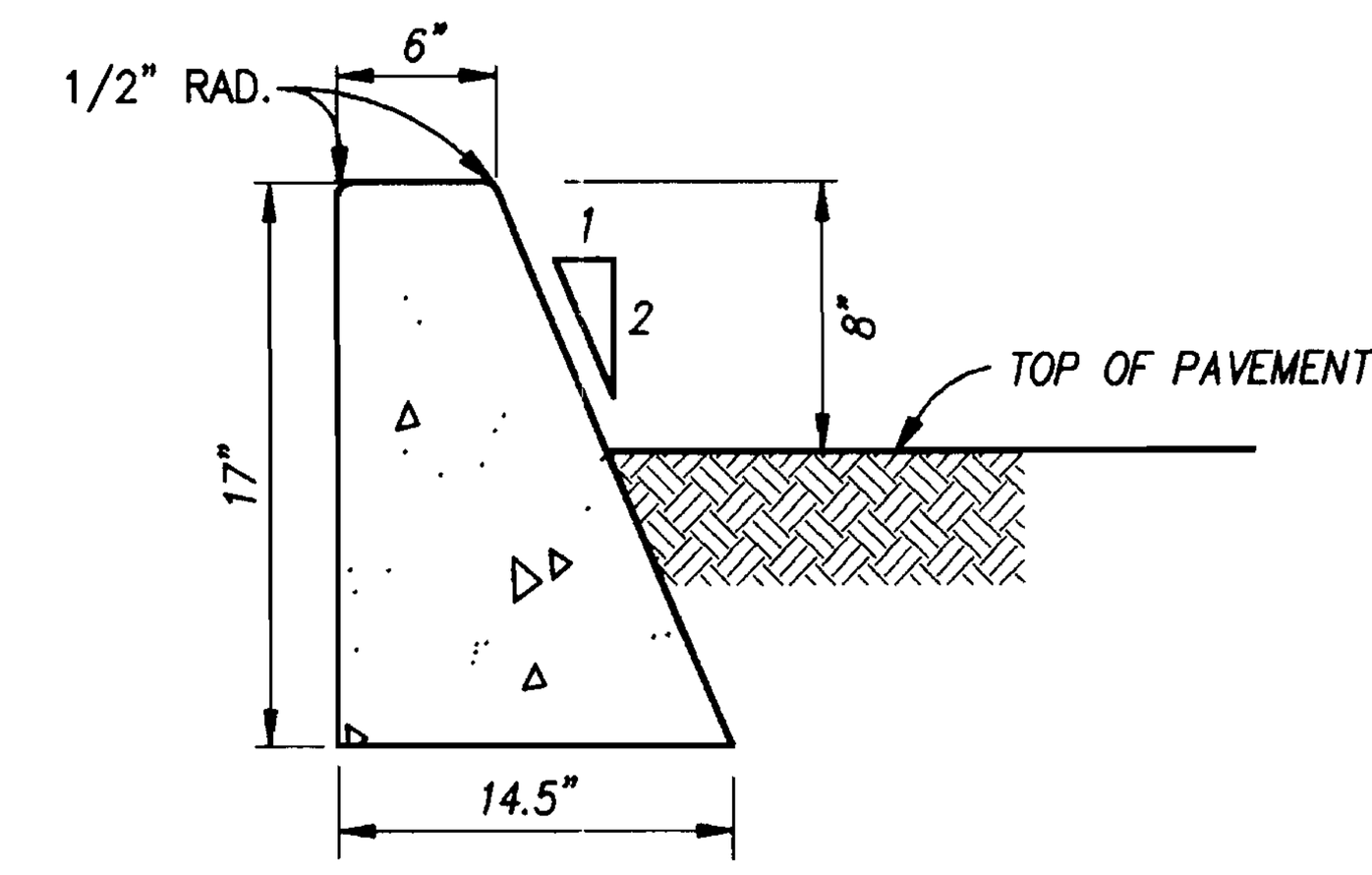


RANCHO SANTA FE ROAD - TYPICAL STREET SECTION *
FROM STA. 14+87.76 TO STA. 29+63.74
NOT TO SCALE

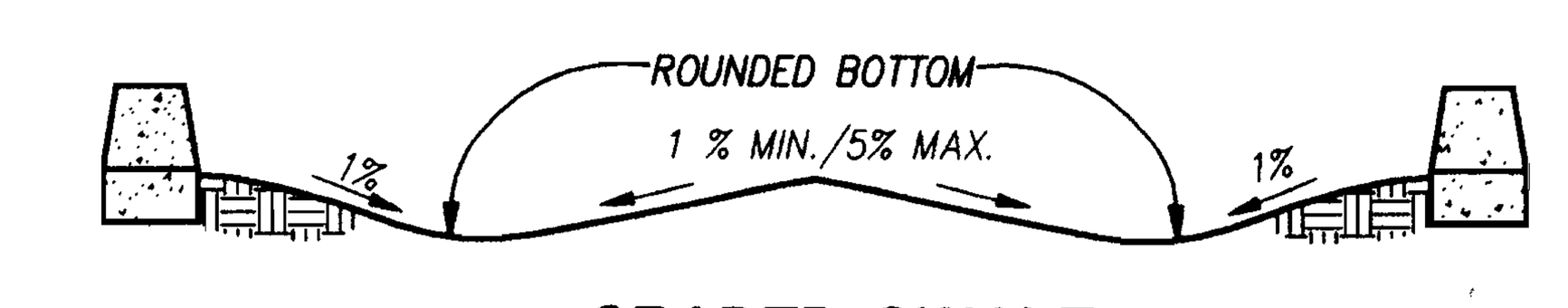


RANCHO SANTA FE ROAD - TYPICAL STREET SECTION *
FROM STA. 29+63.74 TO STA. 41+76.87
NOT TO SCALE

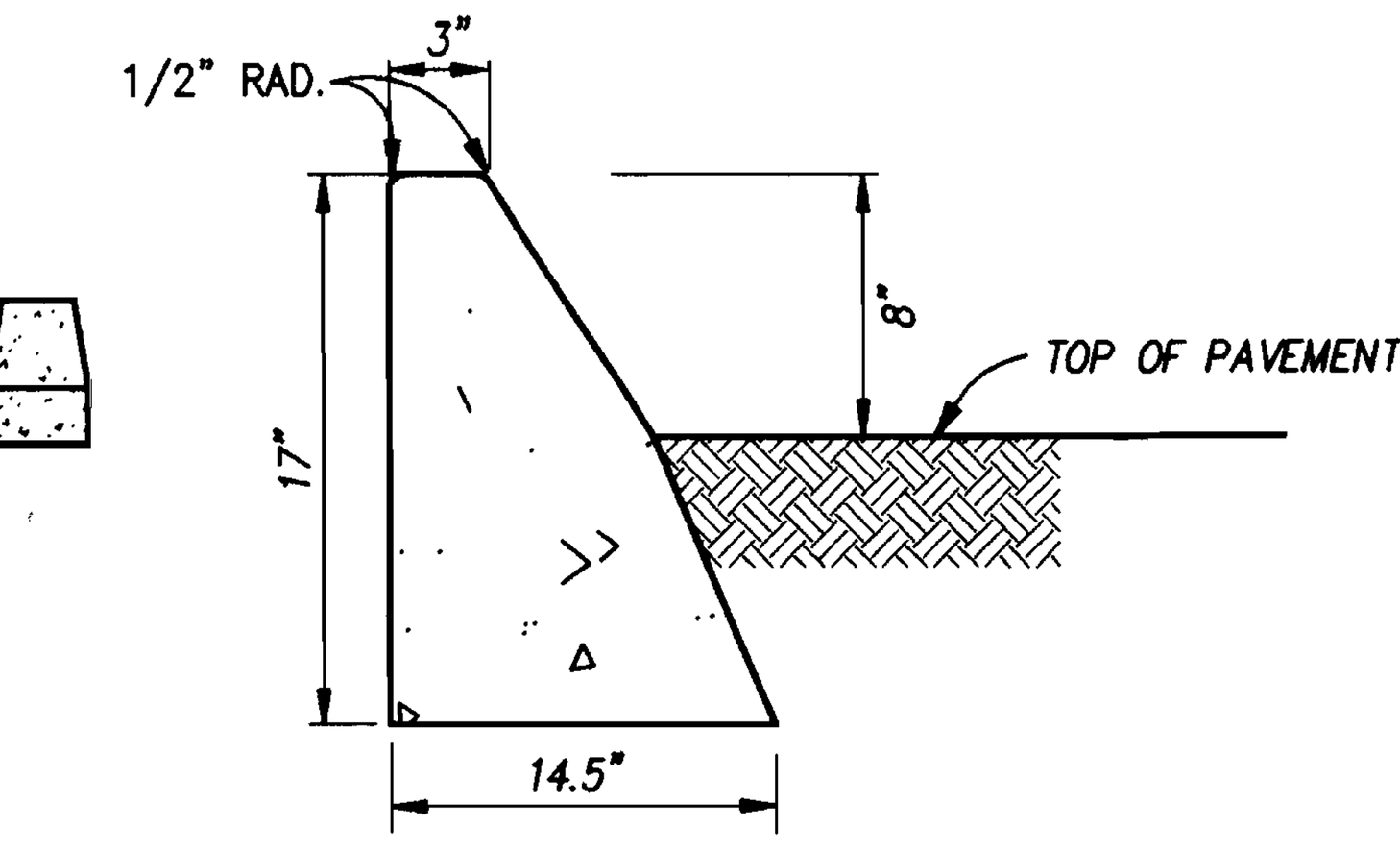
* TRAFFIC INDEX = 8.5



MODIFIED TYPE 'B-1' CURB
(SDRSD 'G-1')
NOT TO SCALE



GRADED SWALE
NOT TO SCALE



MOUNTABLE MEDIAN CURB
NOT TO SCALE

LEUCADIA COUNTY WATER DISTRICT NOTES (SEWER) - CONTINUED

10. NO WORK SHALL COMMENCE UNTIL ALL PERMITS HAVE BEEN OBTAINED FROM THE JURISDICTIONAL CITY, COUNTY, AND/OR OTHER APPROPRIATE AGENCIES.
11. CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE DISTRICT ENGINEER SHOWING THE DESIGN OF SHORING, BRACING SLOPING, OR OTHER PROVISIONS TO BE MADE FOR PROTECTION OF WORKERS FROM THE HAZARD OF CAVING GROUND DURING TRENCH EXCAVATION AND PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET OR MORE IN DEPTH. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8, CALIFORNIA ADMINISTRATIVE CODE, THE PLAN SHALL BE PREPARED BY A REGISTERED ENGINEER. A COPY OF THE OSHA EXCAVATION PERMIT MIST BE SUBMITTED TO THE LCWD INSPECTOR PRIOR TO EXCAVATION.
12. ALL SEWER FACILITIES SHALL BE INSTALLED IN DRY EXCAVATIONS AND TRENCHES. CONTRACTOR SHALL DEWATER AND MAINTAIN DEWATERING CONTINUOUSLY UNTIL THE WORK IS COMPLETED INCLUDING PLACEMENT AND COMPACTION OF BACKFILL MATERIALS IN A DRY STATE. ALL PIPE ZONE MATERIAL LOCATED IN WET OR AREAS SUSPECTED TO BE WET IN THE FUTURE SHALL BE ENCASED IN GEOTEXTILE MATERIAL. SUITABLE GEOTEXTILE MATERIAL SHALL BE SUBMITTED TO THE DISTRICT ENGINEER FOR REVIEW AND APPROVAL. CONTRACTOR SHALL OBTAIN DEWATERING PERMITS AS NECESSARY AND RETURN OF GROUNDWATER TO THE SEWER SHALL NOT BE ALLOWED.
13. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS WAS OBTAINED BY AVAILABLE RECORDS SEARCH BY THE PRIVATE ENGINEER. TO THE BEST OF THE PRIVATE ENGINEER'S KNOWLEDGE, THERE ARE NOT EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITIES OR STRUCTURES NOT SHOW, OR IN A DIFFERENT LOCATION FORM THAT SHOWN ON THE PLANS. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN.
14. APPROVAL OF THIS PLAN BY LCWD DOES NOT CONSTITUTE A REPRESENTATION OF THE ACCURACY OF THE LOCATION OF, OR THE EXISTENCE OR NONEXISTENCE OF, ANY UNDERGROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT.
15. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (800) 422-4133, AS REQUIRED BY STATE LAW. ALL UTILITY CROSSINGS SHALL BE POTHOLED PRIOR TO TRENCHING.
16. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS INCLUDING, BUT NOT LIMITED TO, TRENCH SAFETY AND CONFINED SPACE ENTRY.
17. SOILS REPORTS SHALL BE SUBMITTED TO LCWD BY A QUALIFIED SOILS ENGINEER WHICH CERTIFIES THAT TRENCH BACKFILL WAS COMPACTED AS DIRECTED BY THE SOILS ENGINEER IN ACCORDANCE WITH ON SITE EARTHWORK SPECIFICATIONS AND THE LCWD STANDARD SPECIFICATION.
18. SEWER ELEVATIONS SHOWN ARE INVERT ELEVATION (I.E.), INSIDE BOTTOM OF PIPE. SEWER LENGTHS SHOWN ARE FROM CENTER OF ACCESS HOLE TO CENTER OF ACCESS HOLE.
19. ALL REVISIONS TO DRAWINGS SHALL BE APPROVED BY THE LCWD DISTRICT ENGINEER IN WRITING PRIOR TO CONSTRUCTION.
20. CONTRACTOR IS RESPONSIBLE FOR KEEPING COMPLETE RECORD OF CHANGES AND SHALL MAKE SUCH RECORD AVAILABLE TO THE PRIVATE ENGINEER. THE PRIVATE ENGINEER SHALL PROVIDE AS-BUILT DRAWINGS TO LCWD FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
21. LENGTH OF OPEN TRENCH SHALL BE LIMITED TO 350 FEET, INCLUDING COLLECTORS AND LATERALS, UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT. TRENCH SHALL BE BACKFILLED OR PLATED AT THE CONCLUSION OF EACH DAY OF WORK.
22. THE CONTRACTOR SHALL PROTECT ALL SURVEY MONUMENTATION. IF ANY SURVEY MONUMENTS ARE DISTURBED OR DESTROYED, THE CONTRACTOR SHALL RETAIN A LICENSED SURVEYOR TO REESTABLISH AND RECORD THE MONUMENT CHANGE PER STATE LAW.
23. A MINIMUM OF 12-INCHES VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN THE SEWER PIPE AND ANY OTHER UTILITIES.
24. SEPARATION OF SEWER /WATER AND SEWER/RECLAIMED WATER SHALL COMPLY WITH LCWD STANDARD DWG S-2 AND WILL ALL COUNTY AND STATE HEALTH DEPARTMENT REGULATIONS.
25. CONNECTIONS TO EXISTING SEWER PIPE OR ACCESS HOLES SHALL ONLY BE DONE IN THE DIRECT PRESENCE OF THE LCWD INSPECTOR. NEW SEWER SHALL NOT BE CONNECTED OR ALLOWED TO FLOW TO EXISTING SEWER UNTIL AFTER FINAL ACCEPTANCE OF ALL UPSTREAM WORK BY THE LCWD INSPECTOR, OR AS APPROVED BY DISTRICT ENGINEER.
26. ALL SERVICE LATERALS SHALL BE LOCATED AT RIGHT ANGLES TO THE SEWER MAIN UNLESS OTHERWISE SHOWN AS APPROVED BY LCWD ON THE PLANS.
27. A 2-INCH HIGH "S" SHALL BE INSCRIBED ON THE CURB FACE AT EACH LATERAL LOCATION BY THE CONTRACTOR.
28. A 10 GAGE SHIELDED COPPER WIRE SHALL BE BURIED OVER EACH LATERAL THE WIRE SHALL EXTEND UP TO A 2-INCH COPPER TAG TIED AND SOLDERED TO THE WIRE. THE TAG OVER THE SEWER MAIN SHALL TERMINATE 6-INCHES ABOVE PAVING SUBGRADE WITH FINAL LOCATION JUST BELOW PAVING. THE TAG OVER THE CUSTOMER END OF THE LATERAL SHALL EXTEND ABOVE GRADE UNTIL CONNECTED AND SHALL THEREAFTER BE BURIED AT THE POINT OF CONNECTION.
29. ALL PIPE SHALL BE HANDLED AND INSTALLED SO AS TO PROTECT PIPE, JOINTS, LINING, AND COATING THE PIPE SHALL BE CAREFULLY BEDDED TO PROVIDE CONTINUOUS BEARING AND PREVENT UNEVEN SETTLEMENT. PIPE SHALL BE PROTECTED AGAINST FLOTATION AT ALL TIMES. OPEN ENDS OF PIPE SHALL BE SEALED AT ALL TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.
30. PIPE JOINTS SHALL NOT BE DEFLECTED UNLESS SO DESIGNED AND SHALL THEN BE LIMITED TO LESS THAN ONE-HALF OF THE ANGLE RECOMMENDED BY THE PIPE MANUFACTURER.
31. SEWER PIPE ZONE AND TRENCH BACKFILL SHALL BE PER THE LCWD SEWER STANDARDS. WATER JETTING SHALL NOT BE ALLOWED.
32. ALL LATERALS SHALL BE CONSTRUCTED CLEAR OF DRIVEWAYS.
33. JOB MIXING OF CONCRETE IS NOT ALLOWED WITHOUT EXCEPTION. CONCRETE TESTING BY LCWD WILL BE AT CONTRACTOR EXPENSE.
34. ACCESS HOLE BASES SHALL BE MONOLITHICALLY PLACED, FINISHED, AND COMPLETED AT TIME OF PLACEMENT. GPK PRODUCTS, INC., OR APPROVED EQUAL, ACCESS HOLE ADAPTERS SHALL BE SET IN THE BASE FOR EACH PIPE CONNECTION. SETTING OF ACCESS HOLE RINGS SHALL NOT BA ALLOWED FOR 48 HOURS AFTER CONCRETE PLACEMENT. PRECAST MANHOLE BASES ARE ACCEPTABLE FOR USE WITH 8-INCH SEWERS WITH DISTRICT ENGINEER APPROVAL.
35. JOINTS BETWEEN ACCESS HOLE BASE, SHAFTING, CONE SECTIONS, AND RING SHALL HAVE A 2"x2" BUTYL RUBBER GASKET PLACED WITHIN THE FULL CIRCUMFERENCE. GASKET SHALL BE CPS-210 BY PRESS-SEAL GASKET CORP. OR APPROVED EQUAL.
36. ALL ACCESS HOLES SHALL BE VACUUM TESTED BEFORE BACKFILL, AFTER BACKFILL, AND SUBSEQUENT TO ANY SUSPECTED MOVEMENT OR DAMAGE AFTER BACKFILL.
37. ALL SEWERS AND LATERALS SHALL BE WAYNE BALLED, LOW PRESSURE AIR TESTED, A ND TELEVISED AT THE APPLICANT/CONTRACTOR'S EXPENSE PRIOR TO CONSIDERATION FOR FINAL ACCEPTANCE BY LCWD. AIR TEST SHALL BE DONE AFTER CONSTRUCTION OF ALL OTHER UTILITIES AND UTILITY LATERALS.
38. ALL SEWERS AND LATERALS SHALL BE IN PLACE AND SHALL HAVE FINAL APPROVAL BY THE LCWD INSPECTOR PRIOR TO PAVING.
39. PLANS ARE APPROVED FOR CONSTRUCTION RELATIVE TO TECHNICAL ISSUES ONLY. CITY OR DEVELOPER SHALL ENTER WITH LCWD INTO EITHER AN "AGREEMENT TO IMPROVE SEWERS" OR A "SEWER REIMBURSEMENT AGREEMENT" PRIOR TO CONSTRUCTION OF PROJECT, AS DETERMINED AND APRROVED BY THE LCWD BOARD OF DIRECTORS.

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

REGISTERED PROFESSIONAL ENGINEER DAVID B. RAGLAND REG. NO. 35985 EXP. 6-30-04 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JIM M. KILGORE No. C46692 Exp. 6-30-07 CIVIL STATE OF CALIFORNIA

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
David B Ragland	1/24/01		JG	JG	DM/DR

"AS BUILT"
RCE 46692 EXP. 6/30/07 DATE 9.21.04
REVIEWED BY: INSPECTOR DATE 11/03/04

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1.22.04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

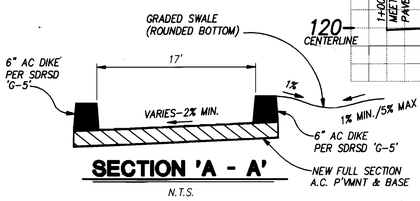
SHEET 3	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS 41

IMPROVEMENT AND GRADING PLANS FOR:
RANCHO SANTA FE ROAD
(OLIVENHAIN ROAD TO CALLE ACERVO)
TYPICAL STREET SECTIONS

APPROVED: LLOYD B. HUBBS
RE: 23889 EXPIRES 12-31-01 CITY ENGINEER DATE 3/29/01

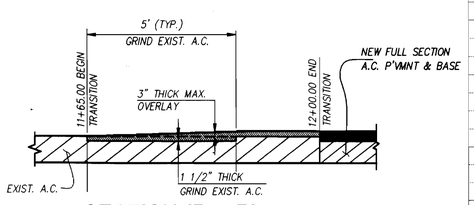
DWN BY: CHKD BY: RVWD BY:
PROJECT NO. CT 90-03
DRAWING NO. 380-1K

J.N. 1602.50



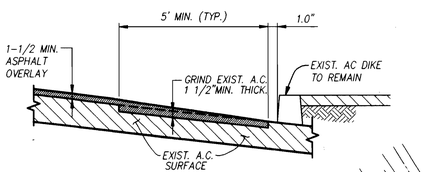
SECTION 'A - A'

N.T.S.



SECTION 'B - B'

N.T.S. - SEE SECTION BELOW



TYPICAL JOIN SECTION

N.T.S.

GRIND - (COLD PLANE) EXIST. A.C. 1 1/2" MIN. THK.

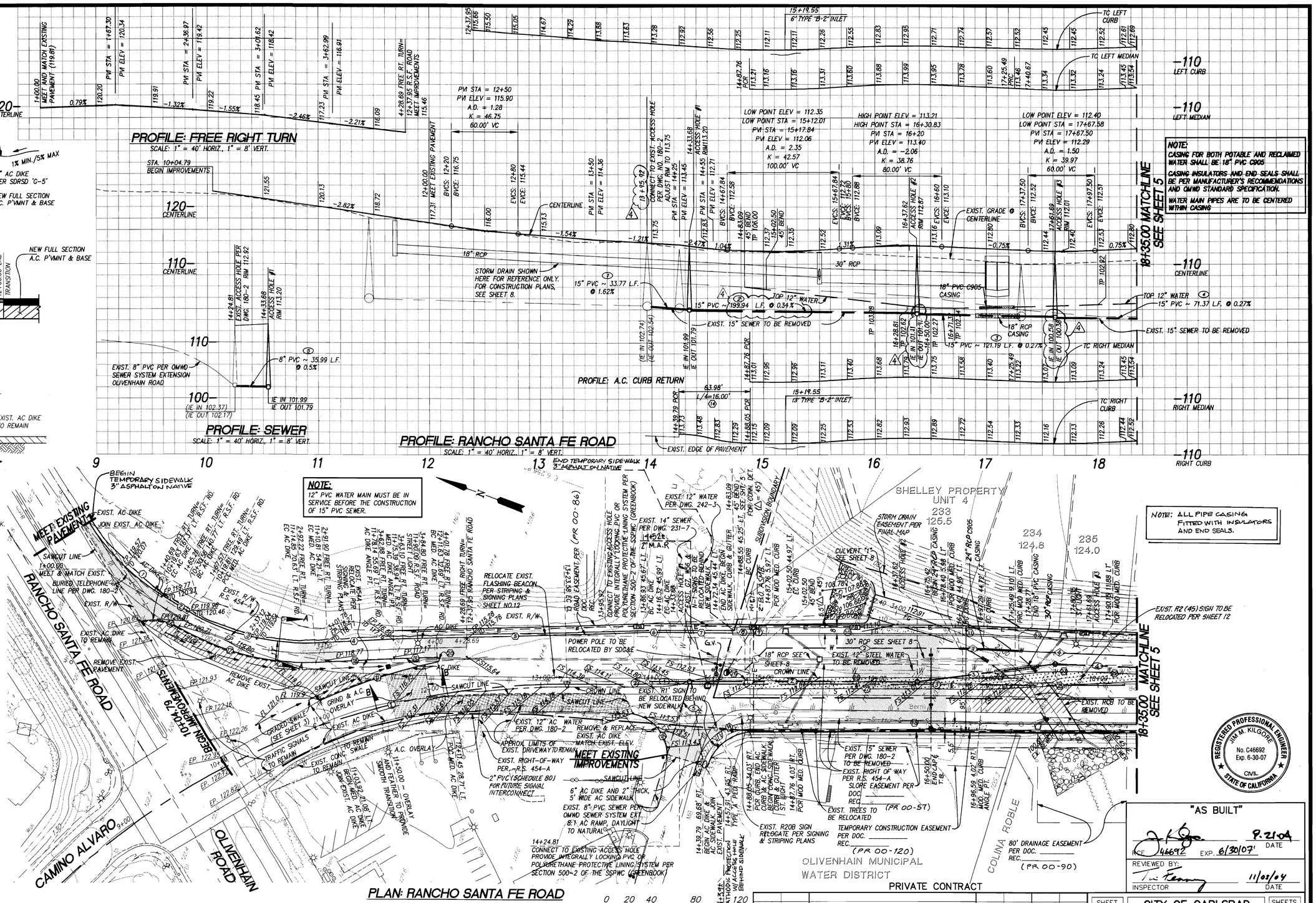
CENTER LINE DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	27°15'42"	670.00'	318.79'	RANCHO SANTA FE RD.
(2)	N19°42'08"W	------	131.42'	"
(3)	N19°42'36"W	------	379.99'	RANCHO SANTA FE RD.

WATER DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	N64°35'47"W	------	27.40'	12" PVC - 150
(2)	N19°42'53"W	------	175.90'	"
(3)	1°31'59"	686.00'	18.36'	"
(4)	N17°19'53"W	------	138.36'	12" PVC - 150

SEWER DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	N19°42'36"W	------	37.77'	15" PVC
(2)	N19°42'36"W	------	203.94'	"
(3)	N27°22'31"W	------	125.19'	"
(4)	N17°19'53"W	------	73.37'	15" PVC
(5)	N87°30'15"E	------	29.99'	8" PVC

CURB DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	26°29'56"	203.00'	93.89'	6" AC DIKE
(2)	N58°34'19"W	------	24.57'	"
(3)	34°23'41"	203.00'	121.86'	"
(4)	N87°02'00"E	------	70.82'	"
(5)	N88°10'54"E	------	219.76'	"
(6)	2°24'34"	699.00'	29.40'	"
(7)	N89°24'32"W	------	56.01'	6" AC DIKE
(8)	N89°24'32"W	------	16.21'	6" TYPE 'G' CRB & GTR
(9)	1°08'37"	699.00	13.95'	"
(10)	N89°59'51"E	------	175.90'	"
(11)	1°32'56"	699.00	18.90'	"
(12)	N87°37'09"W	------	137.77'	"
(13)	N90°00'00"W	------	346.94'	6" TYPE 'G' CRB & GTR
(14)	73°19'16"	50.00'	63.98'	6" AC DIKE
(15)	79°00'28"	36.97'	50.99'	6" AC DIKE
(16)	43°27'09"	46.50'	35.27'	6" MED. AC DIKE
(17)	33°46'03"	220.00'	129.66'	"
(18)	N87°01'56"E	------	70.71'	"
(19)	N88°11'02"E	------	38.68'	"
(20)	169°58'09"	2.00'	5.93'	"
(21)	130°3'40"	491.94'	112.14'	6" MED. AC DIKE
(22)	N87°35'53"W	------	44.88'	MOD. TYPE 'B-1' MED CRB*
(23)	9°43'09"	382.00'	64.80'	"
(24)	7°04'57"	382.00'	47.22'	"
(25)	N89°59'56"E	------	190.64'	"
(26)	180°57'17"	5.00'	15.79'	"
(27)	N90°00'00"E	------	208.91'	"
(28)	N86°50'18"E	------	138.62'	MOD. TYPE 'B-1' MED CRB*

*SEE DETAIL SHEET 3 FOR MODIFIED TYPE 'B-1' MEDIAN CURB



PLAN: RANCHO SANTA FE ROAD

SCALE: 1" = 40'

0 20 40 80 120

GRAPHICAL SCALE

REGISTERED PROFESSIONAL ENGINEER JIM M. KILGORE No. C46692 Exp. 6-30-07 CIVIL STATE OF CALIFORNIA

"AS BUILT"

RCE 46692 EXP. 6/30/07 — 9.21.04 DATE

REVIEWED BY: _____ INSPECTOR — 11/03/04 DATE

REGISTERED PROFESSIONAL ENGINEER DAVID B. RAGLAND REG. NO. 35985 EXP. 6-30-04 CIVIL STATE OF CALIFORNIA

PROJECT DESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
DavidBRagland	11/24/01		JG	JG	DM/DR

BENCH MARK

DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD
RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

DATE	INITIAL	ENGINEER OF WORK
1-27-04	PDC	A AS-BUILT
12-21-01	PDC	1 SWR TXT CORRECTIONS / CHANGES

REVISION DESCRIPTION

DATE	INITIAL	OTHER APPROVAL
1/30/02	JCD	

DATE	INITIAL	CITY APPROVAL
2/12/02	[illegible]	

PRIVATE CONTRACT

SHEET 4	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS 41

IMPROVEMENT AND GRADING PLANS FOR:
RANCHO SANTA FE ROAD
FROM STA. 10+04.79 TO STA. 18+35.00
CT 90-03

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RE 23889 — CITY ENGINEER — 4/4/01 DATE

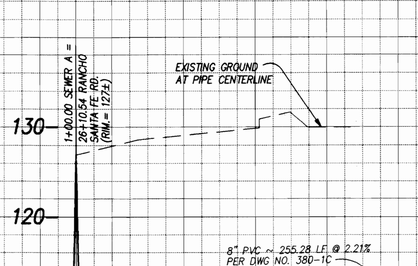
DWN BY: _____
CHKD BY: _____
RVWD BY: _____

PROJECT NO. CT 90-03

DRAWING NO. 380-1K

PATH: T:\ENGR\1424\mp\imp-rev
DWG NAME: 1424p03
DATE: 1/16/2000
TIME: 3:10 p.m.

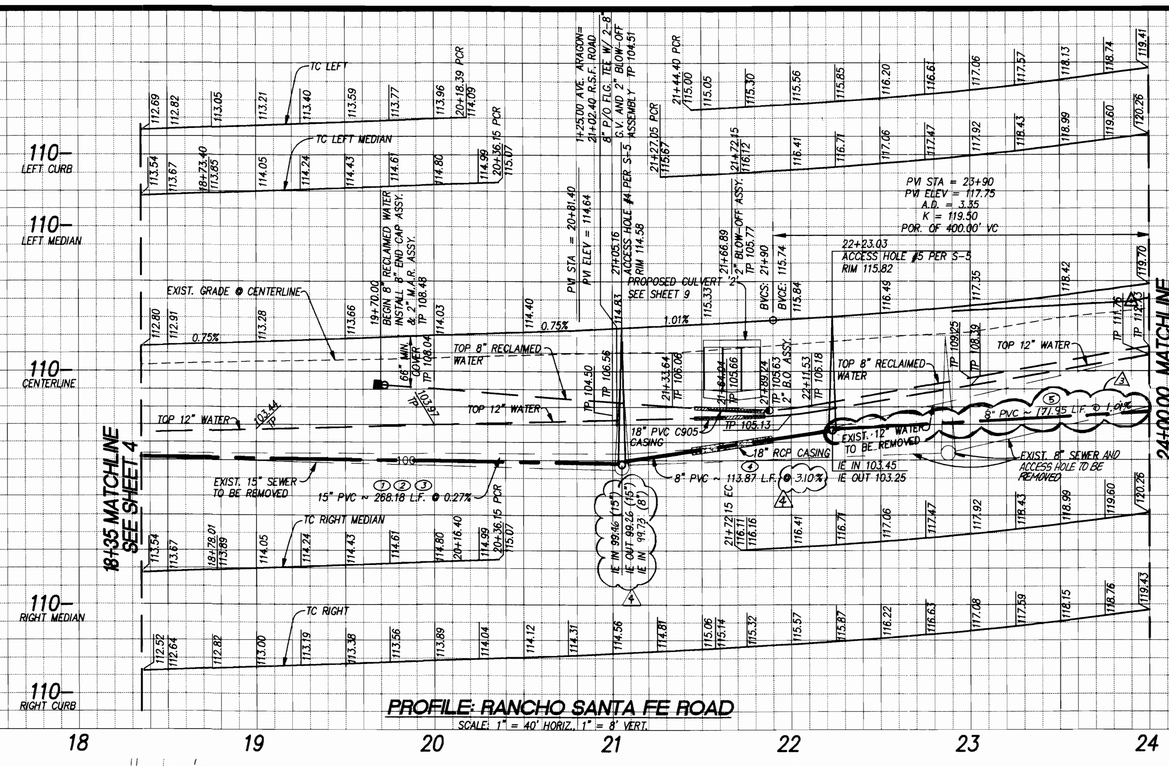
J.N. 1602.50



PROFILE: SEWER

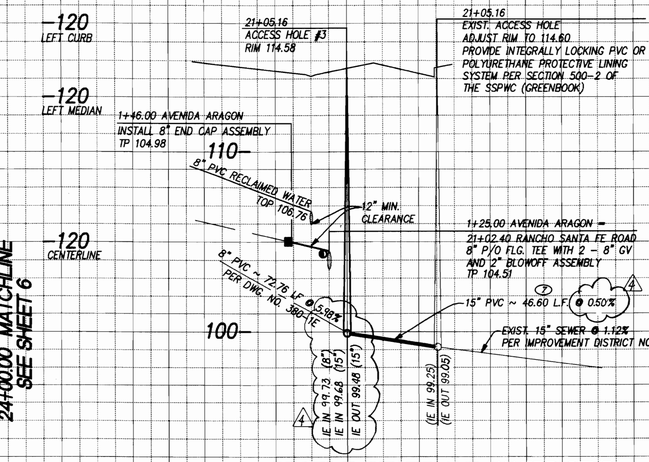
SCALE: 1" = 40' HORIZ., 1" = 8' VERT.

(SEE PLAN ON SHEET 6)



PROFILE: RANCHO SANTA FE ROAD

SCALE: 1" = 40' HORIZ., 1" = 8' VERT.



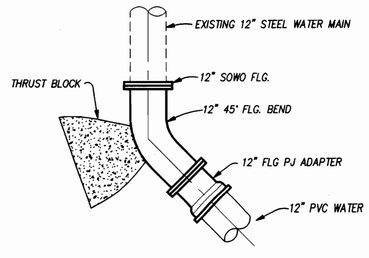
PROFILE: SEWER AND WATER STUB

SCALE: 1" = 40' HORIZ., 1" = 4' VERT.

NOTE:
CASING FOR BOTH POTABLE AND RECLAIMED WATER SHALL BE 18" PVC C905

CASING INSULATORS AND END SEALS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS AND CMWD STANDARD SPECIFICATION.

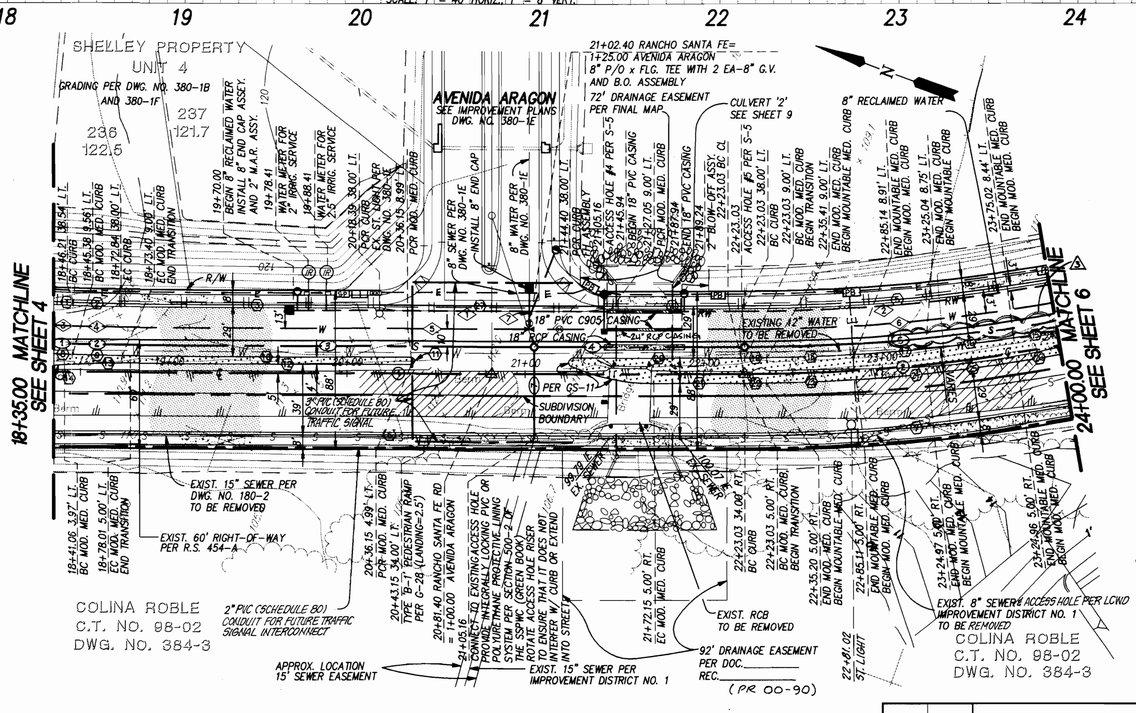
WATER MAIN PIPES ARE TO BE CENTERED WITHIN CASING



CONNECTION DETAIL

NO SCALE

NOTE: CONTRACTOR TO VERIFY OUTSIDE DIAMETER OF STEEL PIPE PRIOR TO SHUTDOWN.



PLAN: RANCHO SANTA FE ROAD

SCALE: 1" = 40'

BENCH MARK

DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD

RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

CENTER LINE DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	N19°42'36"W	------	388.06'	CENTERLINE
(2)	10°15'46"	988.00'	176.97'	CENTERLINE

CURB DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	N17°19'53"W	------	11.22'	6" TYPE 'G' CRB & GTR
(2)	2°22'51"	641.00'	26.63'	"
(3)	N19°42'43"W	------	145.57'	"
(4)	N19°42'43"W	------	78.63'	"
(5)	9°46'13"	1000.06'	170.53'	"
(6)	N19°42'43"W	------	388.03'	"
(7)	10°14'47"	1022.00'	182.77'	6" TYPE 'G' CRB & GTR
(8)	N87°29'15"W	------	10.39'	MOD. TYPE 'B-1' MED CRB*
(9)	2°23'46"	670.00'	28.02'	"
(10)	N89°53'02"W	------	162.75'	"
(11)	180°00'00"	2.00'	6.28'	"
(12)	N89°53'02"W	------	158.14'	"
(13)	3°09'42"	670.00'	36.97'	"
(14)	N86°57'17"E	------	6.07'	"
(15)	1°22'47"	1029.06'	24.78'	MOD. TYPE 'B-1' MED CRB*
(16)	2°50'30"	999.32'	49.56'	MOUNTABLE MED. CRB**
(17)	2°11'57"	1029.06'	39.50'	MOD. TYPE 'B-1' MED CRB*
(18)	2°44'45"	1029.06'	49.32'	MOUNTABLE MED. CRB**
(19)	0°40'59"	1029.06'	12.27'	MOD. TYPE 'B-1' MED CRB*
(20)	N89°53'02"W	------	95.98'	"
(21)	N89°53'02"W	------	50.88'	"
(22)	0°42'20"	993.00'	12.23'	MOD. TYPE 'B-1' MED CRB*
(23)	2°53'40"	993.00'	50.16'	MOUNTABLE MED. CRB**
(24)	2°18'42"	993.00'	40.06'	MOD. TYPE 'B-1' MED CRB*
(25)	2°53'56"	993.00'	50.24'	MOUNTABLE MED. CRB**
(26)	1°26'59"	993.00'	25.12'	MOD. TYPE 'B-1' MED CRB*
(27)	N89°53'02"W	------	126.00'	6" AC DIKE

*FOR MODIFIED TYPE 'B-1' CURB DETAIL SEE SHEET 3
**FOR MOUNTABLE MEDIAN CURB DETAIL SEE SHEET 3

SEWER DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	N17°19'53"W	------	10.27	15" PVC
(2)	2°22'51"	664.00	27.59	"
(3)	N19°42'43"W	------	232.32	15" PVC
(4)	N19°42'43"W	------	117.87	8" PVC
(5)	9°45'57"	1023.53	174.45	"
(6)	N70°17'17"E	------	50.60	15" PVC

RECLAIMED WATER DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	N19°42'43"W	------	253.03'	8" PVC - 150
(2)	9°46'13"	1003.06'	171.05'	8" PVC - 150

WATER DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
(1)	N17°19'53"W	------	10.68'	12" PVC - 150
(2)	2°22'51"	654.00'	27.17'	"
(3)	N19°42'43"W	------	350.19'	"
(4)	9°45'59"	1013.46'	172.75'	12" PVC - 150
(5)	N70°17'12"E	------	21.00'	8" PVC - 200

NOTE: CHANGES TO THIS REVISION ARE AT NO COST INCREASE TO LEUCADIA COUNTY WATER DISTRICT.

"AS BUILT"

RCE 46692 EXP. 6/30/07 — 9.21.04 DATE

REVIEWED BY: INSPECTOR — 11/03/04 DATE

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C46692 Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

PRIVATE CONTRACT

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	(4) AS-BUILT				
12-21-01	PDC	(3) SWR TEXT CORRECTIONS / CHANGES	1/30/02	SLD	2/13/02 (LCWD)	KW BS
12-10-01	PDC	(2) REVISE SEWER LINE ON SHTS. 5 AND 6	12/12/01	SLD		
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
David B Ragland	1/24/01		JG	JG	DM/DR

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

SHEET	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS
5		41

IMPROVEMENT AND GRADING PLANS FOR:
RANCHO SANTA FE ROAD
FROM STA. 18+35.00 TO STA. 24+00.00
CT 90-03

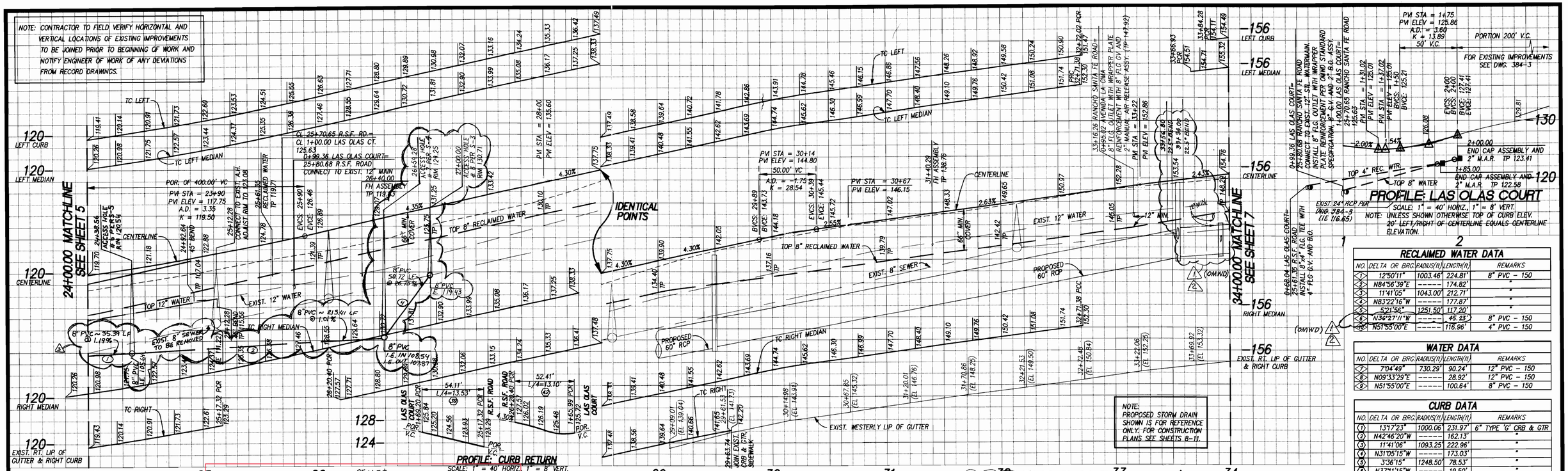
APPROVED: LLOYD B. HUBBS — CITY ENGINEER — DATE — EXPIRES 12-31-01
RE: 23889 — for 3/22/01

DWN BY:	PROJECT NO.	DRAWING NO.
CHKD BY:	CT 90-03	380-1K
RVWD BY:		

T:\ENGR\1424\dgn\MP-REV1424705.dwg 1/19/01 8:19:27 am PST

Job no. 150.10

NOTE: CONTRACTOR TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING IMPROVEMENTS TO BE JOINED PRIOR TO BEGINNING OF WORK AND NOTIFY ENGINEER OF WORK OF ANY DEVIATIONS FROM RECORD DRAWINGS.



RECLAIMED WATER DATA

NO.	DELTA OR BRG	RADIUS(ft)	LENGTH(ft)	REMARKS
1	12°50'11"	1003.46'	224.81'	8" PVC – 150
2	N84°56'39"E	------	174.82'	"
3	11°41'05"	1043.00'	212.71'	"
4	N83°22'16"W	------	177.87'	"
5	5°21'56"	1251.50'	117.20'	"
6	N36°27'11"W	------	45.23'	8" PVC – 150
7	N51°55'00"E	------	116.96'	4" PVC – 150

WATER DATA

NO.	DELTA OR BRG	RADIUS(ft)	LENGTH(ft)	REMARKS
1	7°04'49"	730.29'	90.24'	12" PVC – 150
2	N09°33'29"E	------	28.92'	12" PVC – 150
3	N51°55'00"E	------	100.64'	8" PVC – 150

CURB DATA

NO.	DELTA OR BRG	RADIUS(ft)	LENGTH(ft)	REMARKS
1	13°17'23"	1000.06'	231.97'	6" TYPE 'G' CRB & GTR
2	N42°46'20"W	------	162.13'	"
3	11°41'06"	1093.25'	222.96'	"
4	N31°05'15"W	------	173.03'	"
5	3°36'15"	1248.50'	78.53'	"
6	N37°11'15"W	------	19.50'	"
7	N32°18'08"W	------	12.67'	"
8	10°28'01"	761.37'	139.09'	"
9	N42°46'20"W	------	185.48'	"
10	6°48'52"	1022.00'	121.55'	6" TYPE 'G' CRB & GTR
11	0°51'10"	998.66'	14.86'	MOD. TYPE 'B-1' MED CRB*
12	2°45'23"	1029.06'	49.50'	MOUNTABLE MED. CRB**
13	2°12'13"	1029.06'	39.58'	MOD. TYPE 'B-1' MED CRB*
14	2°12'58"	1029.06'	39.80'	MOUNTABLE MED. CRB**
15	5°17'11"	1029.06'	94.94'	MOD. TYPE 'B-1' MED CRB*
16	N42°46'20"W	------	162.13'	MOUNTABLE MED. CRB**
17	9°29'01"	1064.25'	176.16'	MOD. TYPE 'B-1' MED CRB*
18	2°12'04"	1064.25'	40.89'	MOUNTABLE MED. CRB**
19	N31°05'15"W	------	9.57'	MOUNTABLE MED. CRB**
20	N31°05'15"W	------	163.47'	MOD. TYPE 'B-1' MED CRB*
21	4°27'10"	1277.50'	99.28'	"
22	180°00'00"	2.00'	6.28'	"
23	4°27'13"	1281.50'	99.61'	"
24	N31°05'15"W	------	43.17'	"
25	7°57'47"	433.56'	60.26'	"
26	8°34'19"	402.94'	60.28'	MOD. TYPE 'B-1' MED CRB*
27	N31°33'59"W	------	50.31'	MOUNTABLE MED. CRB**
28	N31°33'59"W	------	14.05'	MOD. TYPE 'B-1' MED CRB*
29	11°12'21"	800.00'	156.46'	"
30	N42°46'20"W	------	185.48'	"
31	4°24'01"	993.00'	76.26'	MOD. TYPE 'B-1' MED CRB*
32	2°19'22"	993.00'	40.28'	MOUNTABLE MED. CRB**
33	2°18'55"	993.00'	40.12'	MOD. TYPE 'B-1' MED CRB*
34	2°53'38"	993.00'	50.15'	MOUNTABLE MED. CRB**
35	0°52'04"	993.00'	15.04'	MOD. TYPE 'B-1' MED CRB*
36	N36°27'11"W	------	33.08'	MOD. TYPE 'B-1' MED CRB*
37	1°45'42"	1248.50'	38.39'	6" AC DIKE
38	N36°27'11"W	------	72.71'	6" AC DIKE
39	88°35'04"	35.00'	54.11'	6" TYPE 'G' CRB & GTR
40	N51°55'00"E	------	30.79'	"
41	N51°55'00"E	------	34.01'	"
42	85°47'26"	35.00'	52.41'	6" TYPE 'G' CRB & GTR

*SEE DETAIL SHEET 3 FOR MODIFIED TYPE 'B-1' MEDIAN CURB
**FOR MOUNTABLE MEDIAN CURB DETAIL SEE SHEET 3

CENTER LINE DATA

NO.	DELTA OR BRG.	RADIUS(ft)	LENGTH(ft)	REMARKS
1	12°47'50"	988.00'	220.68'	CENTERLINE
2	N42°46'20"W	------	166.82'	"
3	11°41'05"	1012.00'	206.39'	"
4	N31°05'15"W	------	197.21'	"
5	5°21'56"	1286.50'	120.48'	"
6	N36°27'11"W	------	88.44'	CENTERLINE

SEWER DATA

NO.	DELTA OR BRG.	RADIUS(ft)	LENGTH(ft)	REMARKS
1	2°07'16"	1023.53'	37.89'	8" PVC
2	12°13'39"	1023.49'	218.41'	"

SEWER DATA (CONT'D)

NO.	DELTA OR BRG.	RADIUS(ft)	LENGTH(ft)	REMARKS
3	N72°52'07"W	------	61.54'	8" PVC
C	N00°16'51"E	------	55.72'	"

RECLAIMED WATER DATA (CONT'D)

NO.	DELTA OR BRG.	RADIUS(ft)	LENGTH (ft)	REMARKS
1	N15°49'38"W	------	39.74'	8" PVC – 150
2	N36°27'11"W	------	6.00'	"

0+68.04 LAS OLAS COURT= 25+61.35 RANCHO SANTA FE ROAD INSTALL 8"x4" TEE W/ 4" FLG. G.V. AND 2" B.O. ASSY.

0+99.36 LAS OLAS COURT= 25+80.68 RANCHO SANTA FE ROAD CONNECT TO EXIST. 12" SIL. WATER MAIN INSTALL 8" FLG. OUTLET WITH WRAPPER PLATE REINFORCEMENT PER OMWD STANDARD SPECIFICATION 8" G.V. AND 2" B.O. ASSEMBLY

1+85.00 INSTALL END CAP AND M.A.R. INSTALL 1 1/2" IRRIG. SERVICE. CONNECT TO EXIST IRRIG. METER

2+00.00 INSTALL END CAP ASSEMBLY 2" M.A.R.

1+44.76 29.95° RT. TYPE 'A' PED. RAMP 15R60 PER DWG. NO. 384-3

1+20 PCR ST. LIGHT

1+00.00 LAS OLAS COURT

25+70.65 RANCHO SANTA FE RD. = 1+00.00 LAS OLAS COURT

25+ 65± 2" M.A.R.

END IMPROVEMENTS

20' SEWER EASEMENT PER DOC. 2000-0575071 REC. 10-25-2000

40' DRAINAGE EASEMENT PER BOOK, FINAL MAP REC.

ROADWAY EASEMENT TO THE COUNTY OF SAN DIEGO PER F/P 80-363495, G.R. DATED 10/10/1980.

PROPOSED 60" STORM DRAIN SEE SHEETS 9 & 10.

8" SEWER PER DWG. NO. 380-1G

EXIST. TRAFFIC DELINEATORS PER DWG. 384-3 TO BE REMOVED

27+00 ACESS HOLE TO EXIST. S-9 CONNECT EXIST. SEWER

EAST 66' RIGHT OF WAY PER DOC. NO. 6023 DATED 12/19/1930

26+40.00 FH ASSEMBLY INSTALL 2" FLG. OUTLET W/ WRAPPER PLATE REINFORCEMENT PER OMWD STD. SPECIFICATIONS AND 6" FLG. G.V.

EXIST. BASIN PER DWG 384-3

25+80 2" B.O. ASSEMBLY

3" PVC (SCHEDULE 80) CONDUIT FOR FUTURE TRAFFIC SIGNAL

2" PVC (SCHEDULE 80) CONDUIT FOR FUTURE TRAFFIC SIGNAL INTERCONNECT

SAWCUT LINE SEE PLAN

VARIES – SEE PLAN

1–1/2 MIN. ASPHALT OVERLAY

5' MIN. (TYP.)

*GRIND EXIST. A.C. 1 1/2" MIN. THICK.

NEW FULL SECTION A.C. P'VMNT & BASE

EXIST. A.C. SURFACE & BASE

EXIST. CURB TO REMAIN

ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985 DATE 1-18-01 REGISTRATION EXPIRES 6-30-04

DESIGNED BY: JG DRAWN BY: JG CHECKED BY: DM/DR

REGISTERED PROFESSIONAL ENGINEER DAVID B. RAGLAND REG. NO. 35985 EXP. 6-30-04 CIVIL STATE OF CALIFORNIA

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

CITY OF ENCINITAS
ENGINEERING SERVICES
ALAN D. ARCHIBALD, DIRECTOR — DATE 1-23-01

BENCH MARK
DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD
RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	AS-BUILT				
12-10-01	PDC	REVISE SEWER LINE ON SHTS. 5 AND 6	12/3/01	LLD	(LCWD) D's	
9-28-01	PDC	REV. RECLAIMED WATER (OMWD)	11/8/01	AKB	12/3/01	AJM
9-28-01	PDC	REV. RECLAIMED WATER & GO" S.D. ALIGNMENT.			12/5/01	AJM
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

"AS BUILT"
RCE 46692 EXP. 6/30/07 — DATE 9.21.04
REVIEWED BY: INSPECTOR — DATE 11/03/04

REGISTERED PROFESSIONAL ENGINEER JIM M. KILGORE No. C46692 Exp. 6-30-07 CIVIL STATE OF CALIFORNIA

PRIVATE CONTRACT

SHEET 6 | CITY OF CARLSBAD ENGINEERING DEPARTMENT | SHEETS 41

IMPROVEMENT AND GRADING PLANS FOR:
RANCHO SANTA FE ROAD
FROM STA. 24+00.00 TO STA. 34+00.00
CT 90-03

APPROVED: LLOYD B. HUBBS — CITY ENGINEER — DATE 3/29/01 — EXPIRES 12-31-01
RE: 23889

DWN BY: CHKD BY: RVWD BY: | PROJECT NO. CT 90-03 | DRAWING NO. 380-1K

Job no. 1602.50

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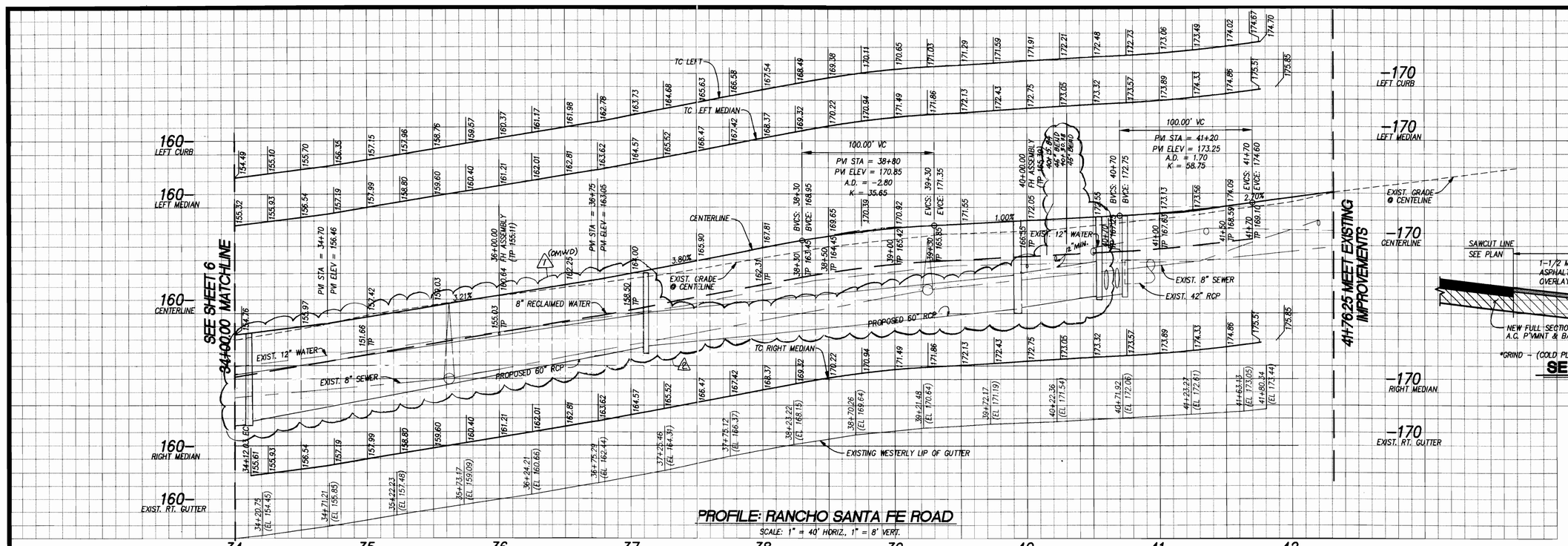
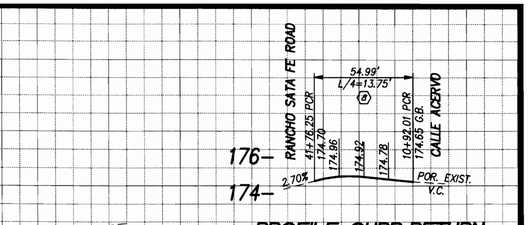
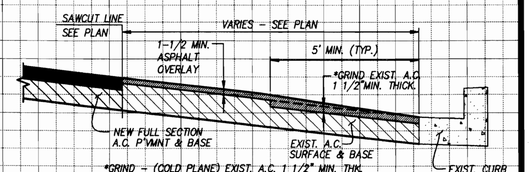




PROFILE: CURB RETURN

SCALE: 1" = 40' HORIZ., 1" = 4' VERT.



SECTION A-A

N.T.S.

*GRIND = (COLD PLANE) EXIST. A.C. 1 1/2" MIN. THK.

CURB DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N36°38'30"W	------	75.97'	6" TYPE "G" CRB & GTR
2	0°57'18"	1015.00'	16.92'	"
3	N35°29'53"W	------	231.39'	"
4	10°32'58"	952.00'	175.28'	"
5	N46°02'51"W	------	24.44'	"
6	8°18'52"	948.00'	137.57'	"
7	N54°21'43"W	------	103.13'	"
8	90°00'58"	35.00'	54.99'	6" TYPE "G" CRB & GTR
9	N36°27'11"W	------	59.32'	MOD. TYPE "B-1" MED CRB*
10	N36°27'11"W	------	16.60'	MOUNTABLE MED. CRB**
11	0°57'18"	986.00'	16.43'	"
12	N35°29'53"W	------	56.08'	MOUNTABLE MED. CRB**
13	N35°29'53"W	------	175.31'	MOD. TYPE "B-1" MED CRB*
14	9°54'33"	981.00'	169.66'	MOD. TYPE "B-1" MED CRB*
15	0°38'25"	981.00'	10.96	MOUNTABLE MED. CRB**
16	N46°02'51"W	------	24.44'	MOD. TYPE "B-1" MED CRB*
17	0°32'24"	977.00'	9.21'	"
18	7°46'28"	977.00'	132.57'	"
19	N54°21'43"W	------	34.35'	"
20	180°44'12"	2.00'	6.31'	"
21	N54°21'43"W	------	114.57'	"
22	1°21'31"	981.00'	23.26'	"
23	4°45'29"	721.56'	59.92'	"
24	9°58'07"	290.52'	50.55'	MOD. TYPE "B-1" MED CRB*
25	1°54'03"	290.52'	9.64'	MOUNTABLE MED. CRB**
26	2°03'50"	991.00'	35.70'	MOUNTABLE MED. CRB**
27	7°32'15"	991.00'	130.37'	MOD. TYPE "B-1" MED CRB*
28	N36°27'11"W	------	216.70'	MOD. TYPE "B-1" MED CRB*
29	N36°28'02"W	------	88.70'	MOUNTABLE MED. CRB**
30	N36°25'36"W	------	47.50'	MOD. TYPE "B-1" MED CRB*
31	5°45'37"	120.00'	12.06'	MOD. TYPE "B-1" MED CRB*
32	141°22'02"	2.50'	6.17'	MOD. TYPE "B-1" MED CRB*
33	N54°21'43"W	------	75.50'	MOD. TYPE "B-1" MED CRB*

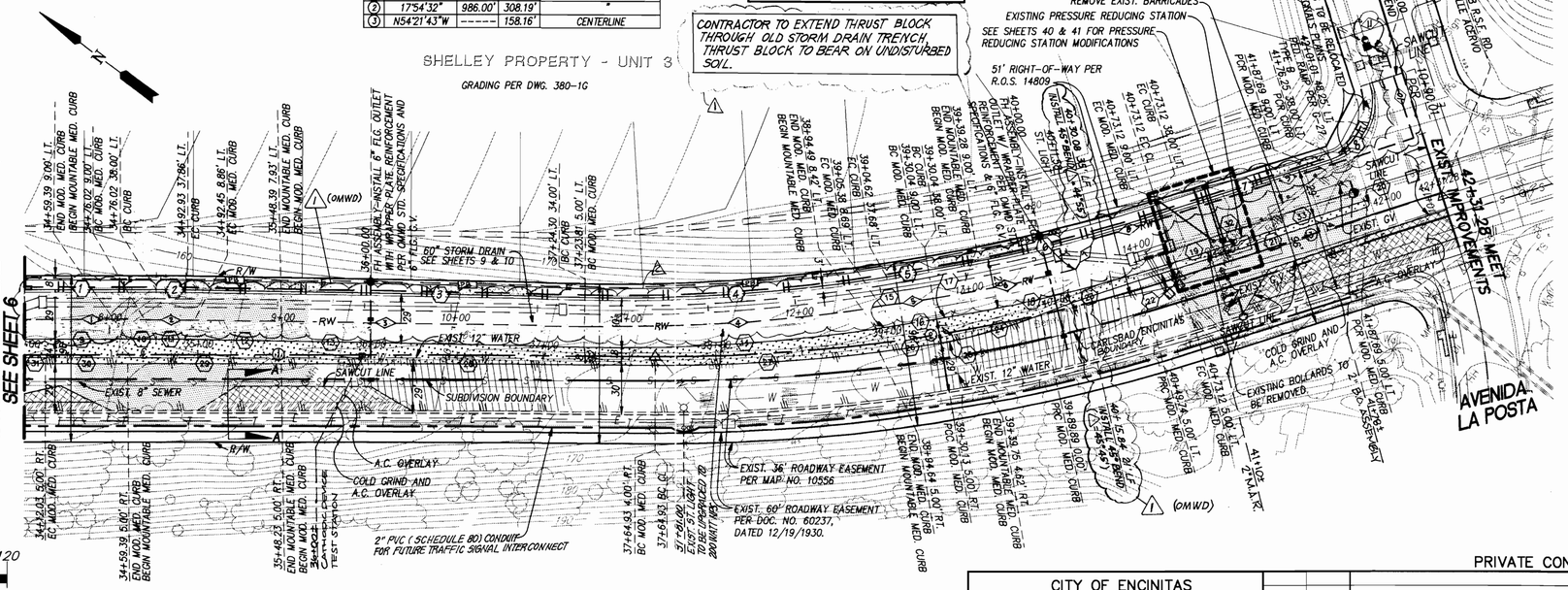
*SEE DETAIL SHEET 3 FOR MODIFIED TYPE "B-1" MEDIAN CURB
**FOR MOUNTABLE MEDIAN CURB DETAIL SEE SHEET 3

CENTER LINE DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N36°27'11"W	------	364.93'	CENTERLINE
2	17°54'32"	986.00'	308.19'	"
3	N54°21'43"W	------	158.16'	CENTERLINE

NOTE:
STORM DRAIN SHOWN IS FOR REFERENCE ONLY. FOR CONSTRUCTION PLANS SEE SHEETS 8-11.

CONTRACTOR TO EXTEND THRUST BLOCK THROUGH OLD STORM DRAIN TRENCH. THRUST BLOCK TO BEAR ON UNDISTURBED SOIL.



RECLAIMED WATER DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N36°27'11"W	------	76.02	8" PVC - 150
2	0°57'18"	998.00	16.63	"
3	N35°29'53"W	------	231.39	"
4	10°32'58"	969.00	178.41	"
5	N46°02'51"W	------	24.44	"
6	4°59'10"	965.00	83.98	"
7	N83°12'51"E	------	19.68	"
8	2°30'04"	951.00	41.51	"
9	N54°21'43"W	------	152.65	"
10	N35°37'19"E	------	51.00	"
11	N09°22'41"W	------	13.45	8" PVC - 150

PLAN: RANCHO SANTA FE ROAD

SCALE: 1" = 40'

NOTE:
EXIST. CURB & GUTTER AND SIDEWALK FROM STA. 29+08.94 TO STA. 29+63.74 (WESTERLY SIDE) ARE TO BE REMOVED AND REPLACED.
EXIST. CURB & GUTTER AND SIDEWALK FROM STA. 29+63.74 TO STA 41+76.25 ARE TO REMAIN.

BENCH MARK

DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD
RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

CITY OF ENCINITAS
ENGINEERING SERVICES
ALAN D. ARCHIBALD, DIRECTOR — DATE 1-23-01

PRIVATE CONTRACT

1-22-04	PDC	A	AS-BUILT			
9-28-01	PDC	A	REV. RECLAIMED WATER (OMWD)	11/8/01	DAKE	
9-28-01	PDC	A	REV. RECLAIMED WATER & 60" S.D. ALIGNMENT			
DATE	INITIAL			DATE	INITIAL	DATE INITIAL
ENGINEER OF WORK			REVISION DESCRIPTION	OTHER APPROVAL		CITY APPROVAL

"AS BUILT"
RCE 46692 EXP. 6/30/07 — DATE 9.21.04
REVIEWED BY:
INSPECTOR — DATE 11/03/04

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C46692 Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEYING
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
DavidBRagland	1-18-01		JG	JG	DM/DR

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

SHEET 7	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS 41

IMPROVEMENT AND GRADING PLANS FOR:
RANCHO SANTA FE ROAD
FROM STA. 34+00.00 TO STA. 42+31.28
CT 90-03

APPROVED: LLOYD B. HUBBS — CITY ENGINEER — DATE 3/29/01 — EXPIRES 12-31-01
RE: 23889

DWN BY:	PROJECT NO.	DRAWING NO.
CHKD BY: CMT	CT 90-03	380-1K
RVWD BY: JLR		

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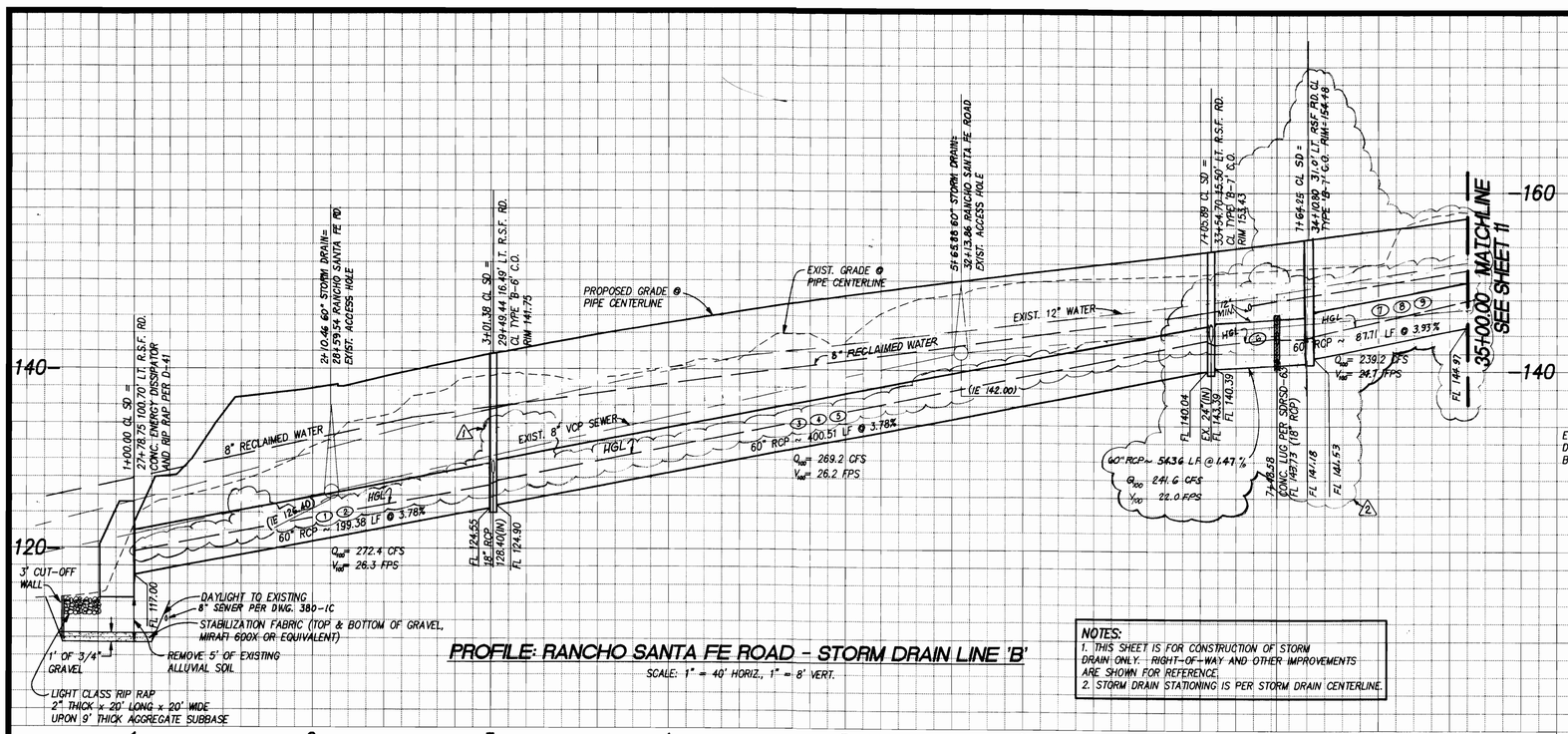
Job no. 1602.50



PLAN: RANCHO SANTA FE ROAD - STORM DRAIN LINE 'B'

SCALE: 1" = 40'

STORM DRAIN DATA

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N03°20'16"E	------	6.11'	60" RCP (1350-D)**
2	34°04'22"	325.00'	193.27'	60" RCP (1350-D)**
3	N31°05'15"W	------	240.38'	60" RCP (1350-D)**
4	5°21'56"	1271.00'	119.03'	60" RCP (1350-D)**
5	N36°27'11"W	------	41.12'	60" RCP (1350-D)**
6	N53°01'06"W	------	54.36'	60" RCP (1350-D)**
7	N36°27'11"W	------	63.21'	18" RCP (1350-D)*
8	0°57'18"	1008.00'	16.80'	18" RCP (1350-D)
9	N35°29'53"W	------	7.70'	18" RCP (1350-D)*

*USE WATER TIGHT JOINTS. (GASKETED RCP).
**USE TYPE C RCP.

STORM DRAIN DATA (CONT'D)

NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
10	N53°32'48"E	------	9.75'	18" RCP (350-D)

BENCH MARK

DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD
RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

NOTE: FOR MASS GRADING OF THIS SITE, SEE DWG. NO. 380-1B.

NOTE: THIS SHEET IS FOR CONSTRUCTION OF STORM DRAIN ONLY. RIGHT-OF-WAY AND OTHER IMPROVEMENTS ARE SHOWN FOR REFERENCE.

PLAN: RANCHO SANTA FE ROAD - STORM DRAIN LINE 'B'

SCALE: 1" = 40'

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

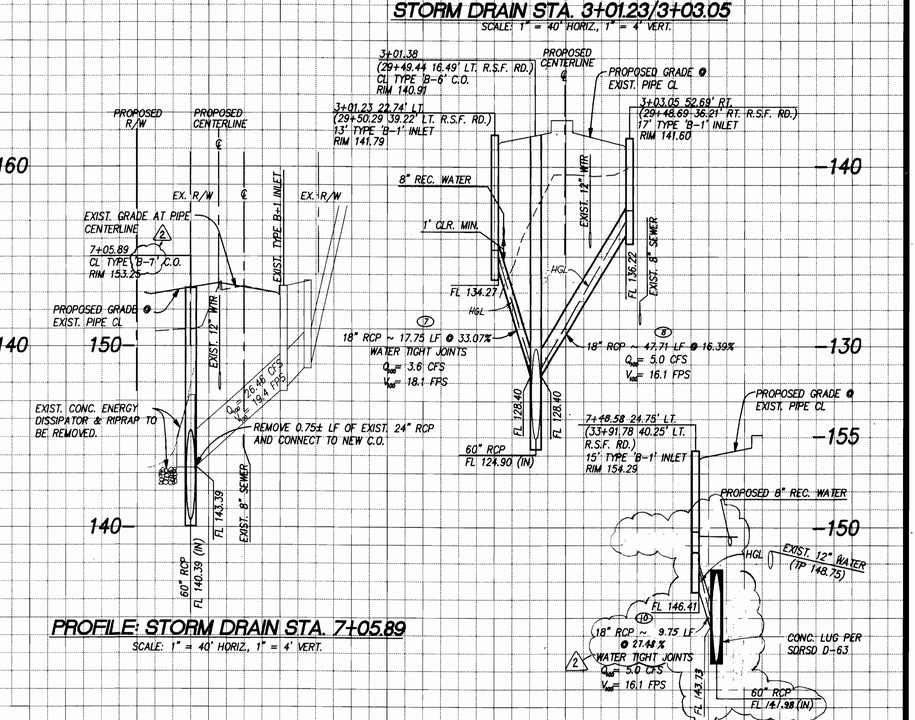
ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
DavidBRagland 1/24/01			JG	JG	DM/DR

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

STORM DRAIN STA. 3+01.23/3+03.05

SCALE: 1" = 40' HORIZ., 1" = 4' VERT.

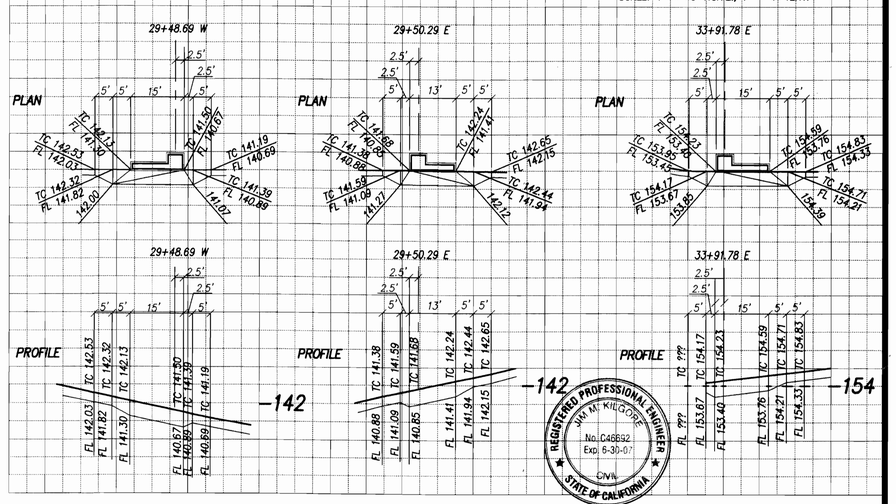


PROFILE: STORM DRAIN STA. 7+05.89

SCALE: 1" = 40' HORIZ., 1" = 4' VERT.

STORM DRAIN STA. 7+48.58

SCALE: 1" = 40' HORIZ., 1" = 4' VERT.



REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C46892 Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

PROFILE: CURB INLETS • RANCHO SANTA FE ROAD

SCALE: 1" = 20' HORIZ., 1" = 4' VERT.

(2) CONTRACTOR TO VERIFY BEARING CAPACITY IN OLD STORM DRAIN TRENCH ≥ 1500 PSF.

"AS BUILT"

RCE 46692 EXP. 6/30/07 — 9.21.04 DATE

REVIEWED BY: INSPECTOR — 11/03/04 DATE

PRIVATE CONTRACT

1-22-04	PDC	(3) AS-BUILT					
9-28-01	PDC	(2) REVISED ALIGNMENT & HYDRAULICS			12/5/01	JAN	
5-08-01	PDC	(1) REVISED HGL. REVISED 60" RCP FROM WATER TIGHT JOINTS (GASKETED) TO NON-WATER TIGHT JOINTS.			5-24-01	CH	
DATE	INITIAL		DATE	INITIAL	DATE	INITIAL	
ENGINEER OF WORK		REVISION DESCRIPTION	OTHER APPROVAL		CITY APPROVAL		

SHEET 10	CITY OF CARLSBAD ENGINEERING DEPARTMENT — SHEETS 41
IMPROVEMENT AND GRADING PLANS FOR:	RANCHO SANTA FE ROAD 60" DIA. STORM DRAIN - LINE 'B' CT 90-03
APPROVED: LLOYD B. HUBBS CITY ENGINEER	EXPIRES 12-31-01 — 3/29/01 DATE
DWN BY: CHKD BY: RVWD BY:	PROJECT NO. CT 90-03 — DRAWING NO. 380-1K

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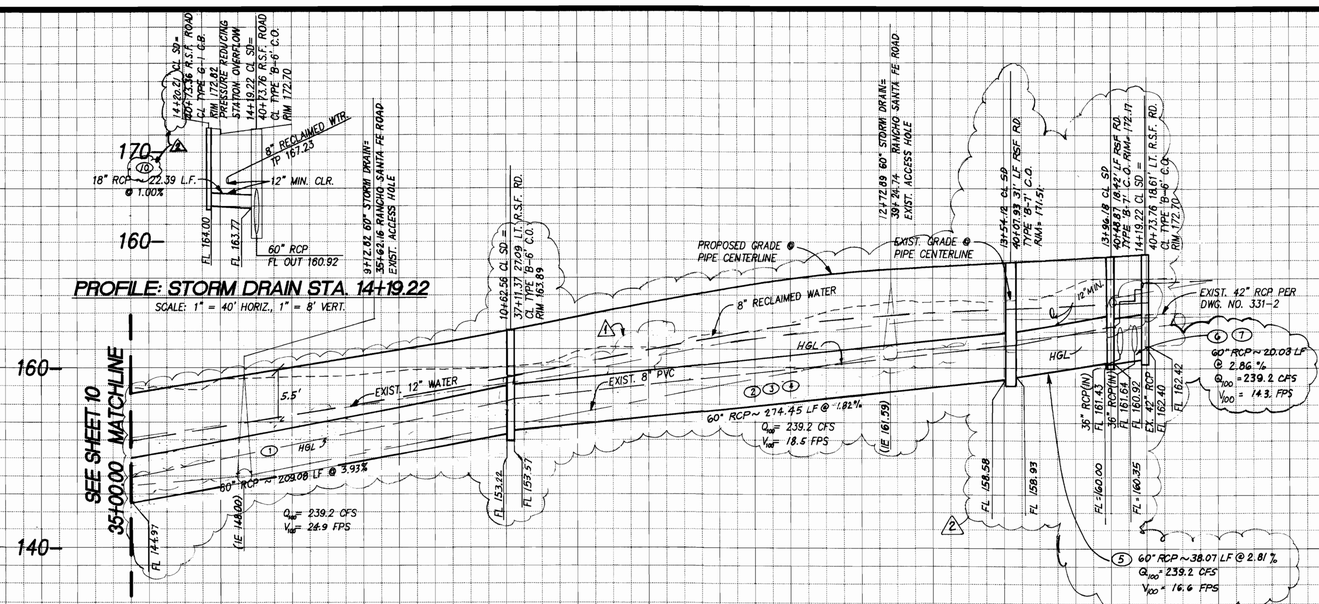
Job no. 1602.50

PROFILE: STORM DRAIN STA. 14+19.22

SCALE: 1" = 40' HORIZ., 1" = 8' VERT.

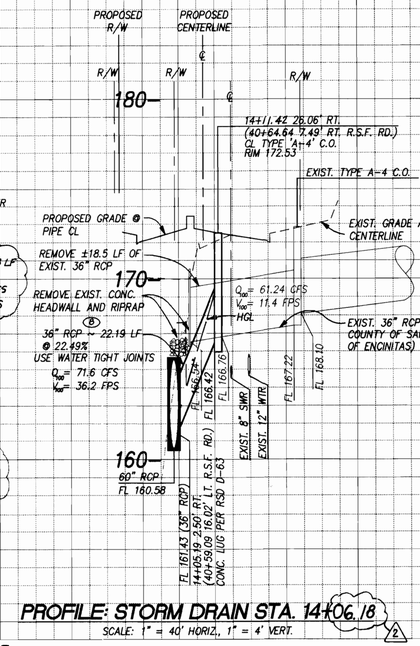


PROFILE: RANCHO SANTA FE ROAD - STORM DRAIN LINE 'B'

SCALE: 1" = 40' HORIZ., 1" = 8' VERT.

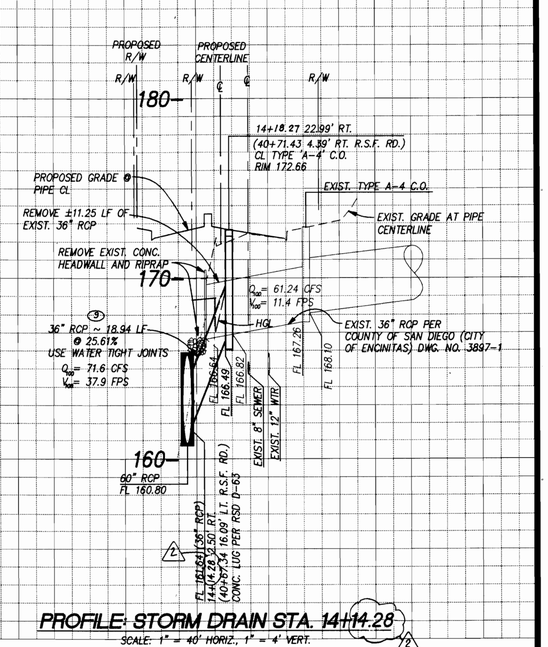
PROFILE: STORM DRAIN STA. 14+06.18

SCALE: 1" = 40' HORIZ., 1" = 4' VERT.



PROFILE: STORM DRAIN STA. 14+14.28

SCALE: 1" = 40' HORIZ., 1" = 4' VERT.



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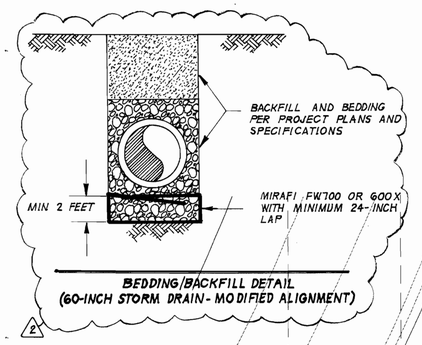


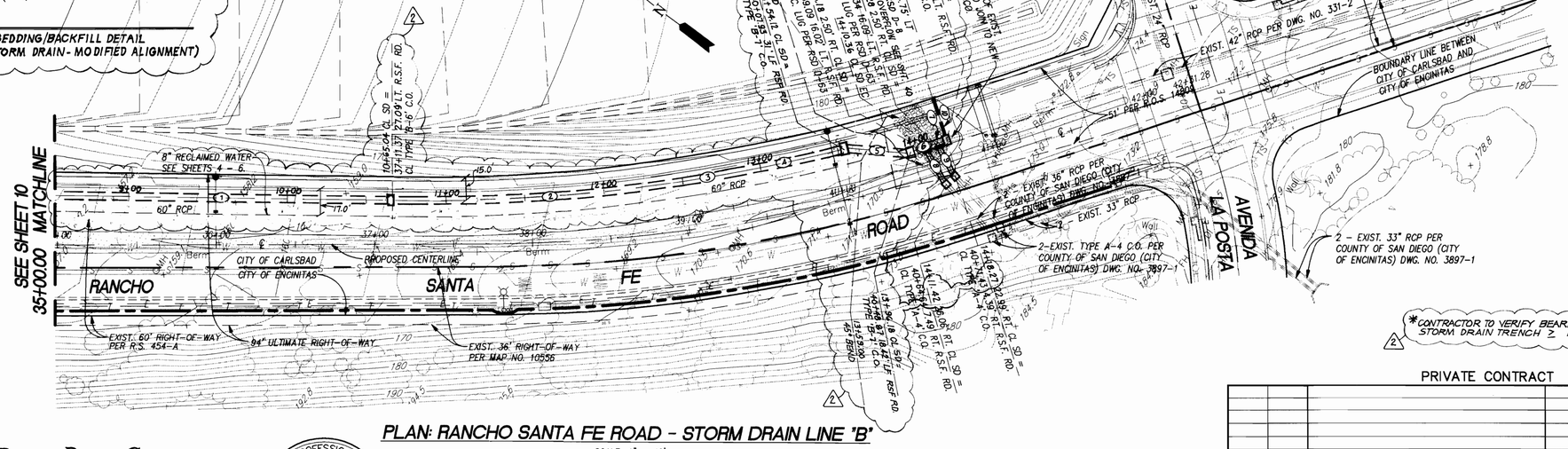
BEDDING/BACKFILL DETAIL
(60-INCH STORM DRAIN - MODIFIED ALIGNMENT)

NOTES:
1. THIS SHEET IS FOR CONSTRUCTION OF STORM DRAIN ONLY. RIGHT-OF-WAY AND OTHER IMPROVEMENTS ARE SHOWN FOR REFERENCE.
2. STORM DRAIN STATIONING IS PER STORM DRAIN CENTERLINE.

NOTE: FOR MASS GRADING OF THIS SITE, SEE DWG. NO. 380-1B.

STORM DRAIN DATA				
NO	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N35°29'53"W	------	209.08	60" RCP (1350-D)
2	10°32'58"	959.00	176.57	"
3	N46°02'51"W	------	24.44	"
4	4°24'23"	355.00	73.46	60" RCP (1350-D)*
5	N32°26'08"W	------	38.07	60" RCP (1350-D)*
6	0°43'08"	970.50	12.18	60" RCP (1350-D)*
7	N54°21'43"W	------	7.85	60" RCP (1350-D)*
8	N24°05'59"E	------	22.19'	36" RCP (1350-D)
9	N26°03'13"E	------	18.94'	36" RCP (1350-D)
10	N35°38'17"E	------	22.39'	18" RCP (1350-D)

*USE TYPE "C" RCP



*CONTRACTOR TO VERIFY BEARING CAPACITY IN OLD STORM DRAIN TRENCH ≥ 1500 PSF

PLAN: RANCHO SANTA FE ROAD - STORM DRAIN LINE 'B'

SCALE: 1" = 40'

0 20 40 80 120
GRAPHICAL SCALE

BENCH MARK

DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD

RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

REGISTERED PROFESSIONAL ENGINEER
JIM M. KILGORE
No. C46692
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

"AS BUILT"
RCE 46692 EXP. 6/30/07 4-21-04 DATE
REVIEWED BY:
INSPECTOR 11/03/04 DATE

PRIVATE CONTRACT

1-22-04	PDC	3	AS-BUILT					
9-28-01	PDC	2	REVISED ALIGNMENT & HYDRAULICS			12/5/01	JJW	
5-08-01	PDC	1	REVISED HGL. REVISED 60" RCP FROM WATER TIGHT JOINTS (GASKETED) TO NON-WATER TIGHT JOINTS.			5-24-01	CH	
DATE	INITIAL		REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL	
ENGINEER OF WORK				OTHER APPROVAL		CITY APPROVAL		

SHEET	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS
11		41

IMPROVEMENT AND GRADING PLANS FOR:
RANCHO SANTA FE ROAD
60" DIA. STORM DRAIN - LINE 'B'
CT 90-03

APPROVED: LLOYD B. HUBBS for 3/29/01
RE: 23889 CITY ENGINEER DATE
EXPIRES 12-31-01

DWN BY: CHKD BY: RVWD BY: | PROJECT NO. CT 90-03 | DRAWING NO. 380-1K

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

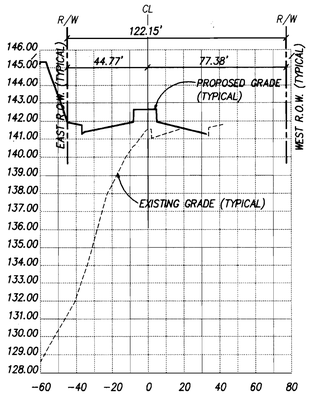
ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
Dwd B Ryland	11/24/01		JG	JG	DM/DR

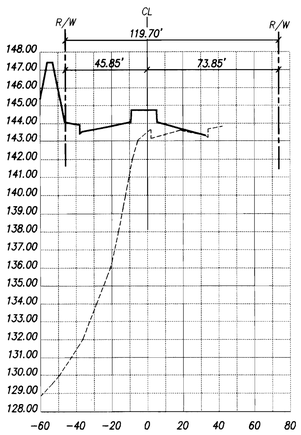
REGISTERED PROFESSIONAL ENGINEER
DAVID B. RAGLAND
REG. NO. 35985
EXP. 6-30-04
CIVIL
STATE OF CALIFORNIA

RANCHO SANTA FE ROAD CROSS SECTIONS

29+50



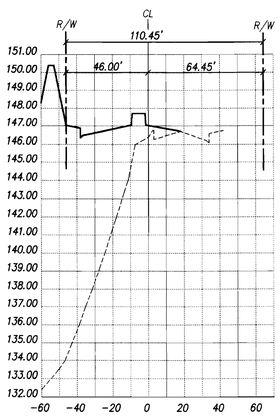
30+00



30+50



31+00



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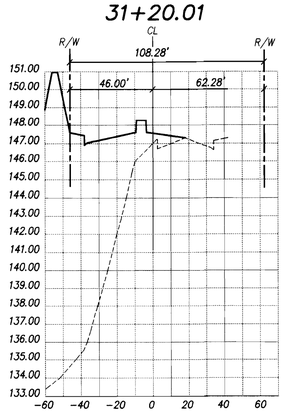

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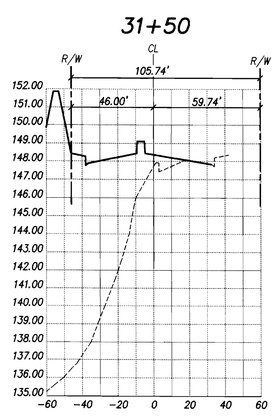

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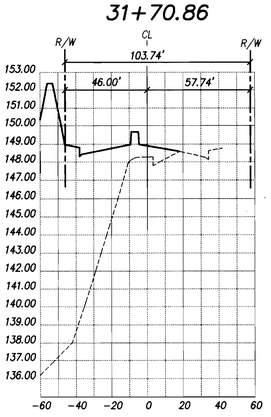

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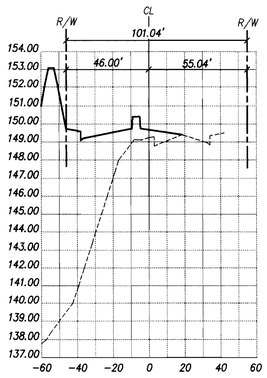

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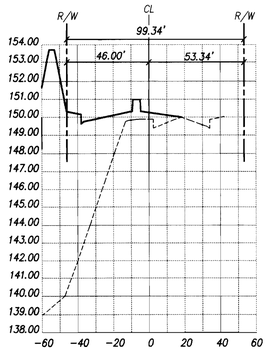

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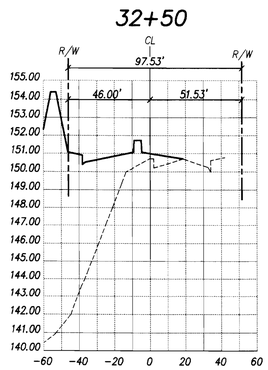

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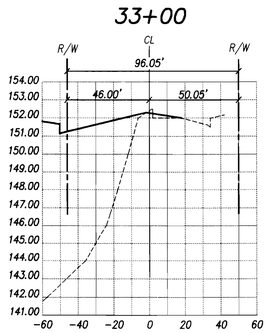

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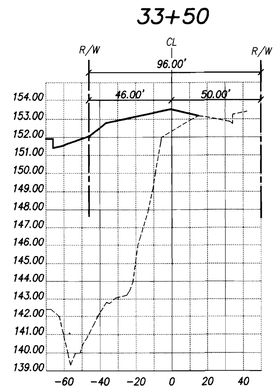
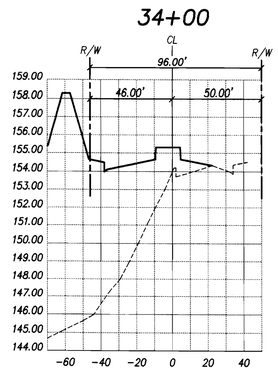
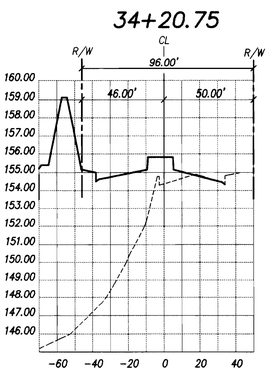


34+00



34+20.75



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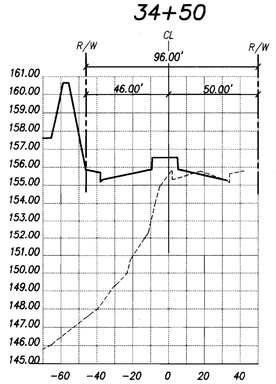
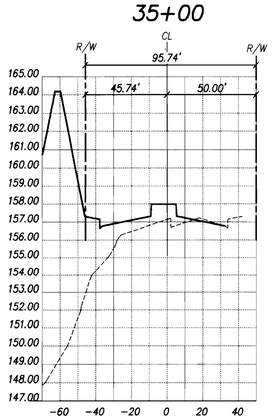


35+00



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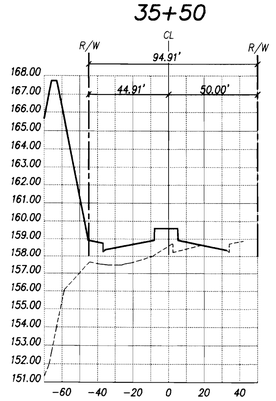
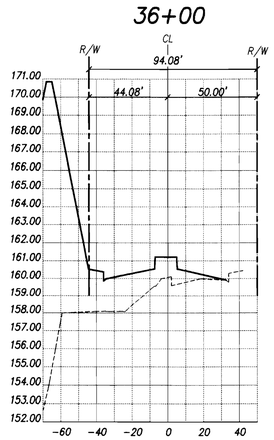


36+00



SCALE: HOR. 1" = 40'
VER. 1" = 4'

PROJECT DESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEYING
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
DavidBRagland	11/24/01		JFD	JFD	DM/DR

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C46692 Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

"AS BUILT"

RCE 46692 EXP. 6/30/07' — 9.27.04 DATE

REVIEWED BY:
INSPECTOR — 11/03/04 DATE

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 18 — CITY OF CARLSBAD, ENGINEERING DEPARTMENT — SHEETS 41

PLANS FOR THE IMPROVEMENTS AND GRADING OF:
RANCHO SANTA FE ROAD
STREET CROSS SECTIONS FROM STA. 29+50.00
CT 90-03 TO STA. 36+00.00

APPROVED: LLOYD B. HUBBS
RE 23889 EXPIRES 12-31-01 CITY ENGINEER — 3/29/01 DATE

DWN BY: KVD
CHKD BY: JWE
RVWD BY: JWE

PROJECT NO. CT 90-03

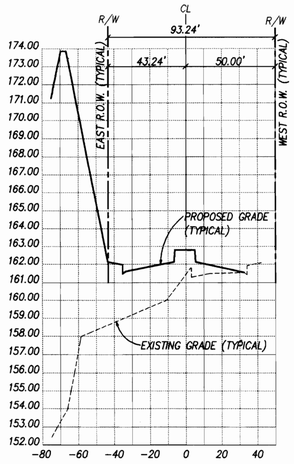
DRAWING NO. 380-1K

J.N. 1602.50

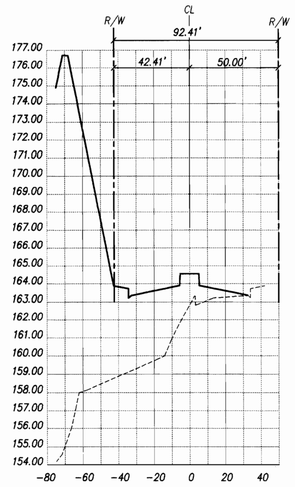
1424ip18.dwg 12/8/00 8:53:17 am PST

RANCHO SANTA FE ROAD CROSS SECTIONS

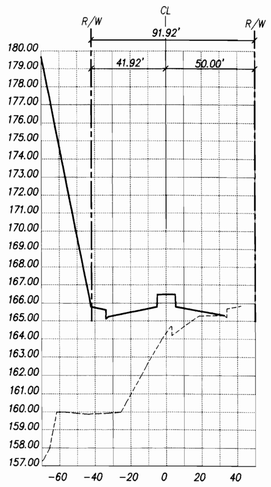
36+50



37+00



37+50



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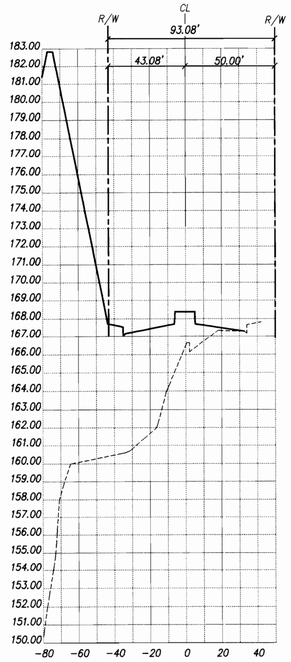

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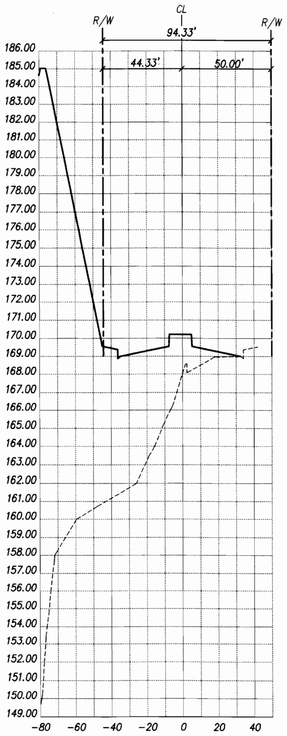

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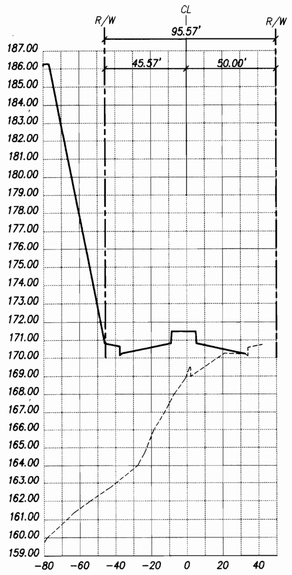

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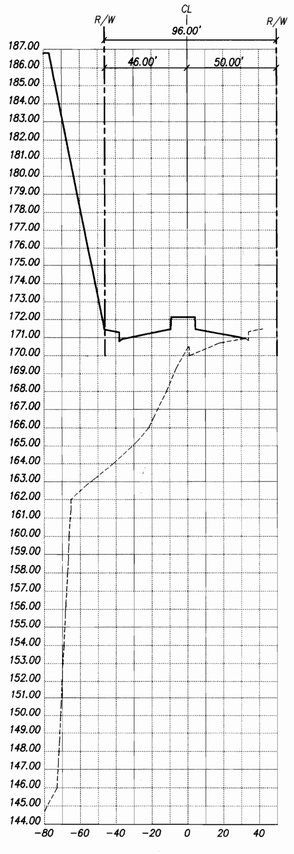

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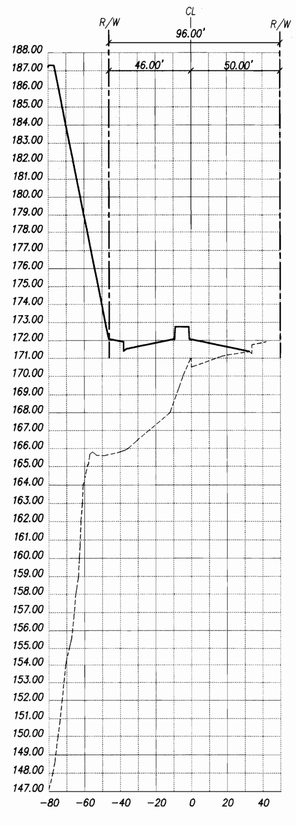

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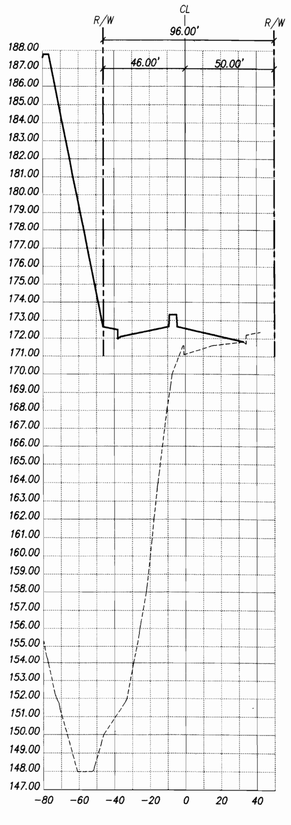
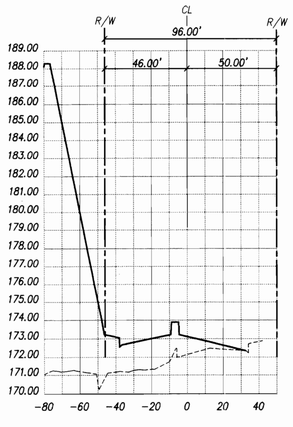
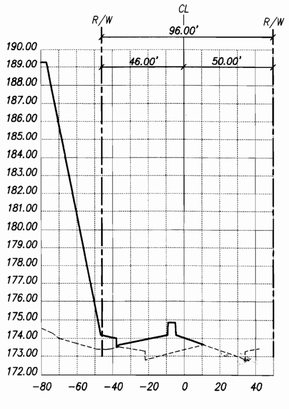


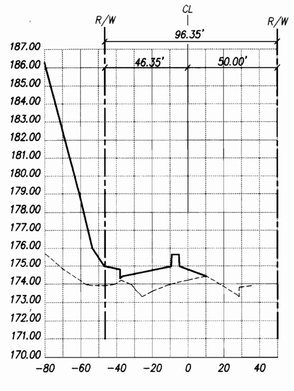
41+00



41+50



41+80.34



SCALE: HOR. 1" = 40'
VER. 1" = 4'

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C46692 Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
David B Ragland	1/24/01		JFD	JFD	DM/DR

"AS BUILT"

RCE 46692 EXP. 6/30/07 — DATE 9.20.04

REVIEWED BY:

INSPECTOR — DATE 11/03/04

DATE	INITIAL		DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK		REVISION DESCRIPTION	OTHER APPROVAL		CITY APPROVAL	

SHEET 19 — CITY OF CARLSBAD, ENGINEERING DEPARTMENT — SHEETS 41

PLANS FOR THE IMPROVEMENTS AND GRADING OF:
RANCHO SANTA FE ROAD
STREET CROSS SECTIONS FROM STA. 36+00.00
CT 90-03 TO STA. 42+31.28

APPROVED: LLOYD B. HUBBS
RE 23889 EXPIRES 12-31-01 CITY ENGINEER — DATE 3/29/01

DWN BY:
CHKD BY:
RVWD BY:

PROJECT NO. CT 90-03

DRAWING NO. 380-1K

J.N. 1602.50

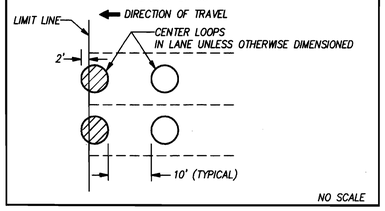
CONDUCTOR SCHEDULE

AWG	CIRCUIT	1	2	3	4
#14	ø1	–	3	–	3
	ø2	–	–	3	3
	ø4	–	–	3	3
	ø5	3	3	3	6
	ø6	–	3	–	3
	ø8	3	3	–	3
	ø2PED	–	–	2	2
	ø4PED	–	2	–	2
	ø6PED	2	2	–	2
	ø8PED	2	2	2	4
	ø2P.P.B.	–	–	1	1
	ø4P.P.B.	–	1	–	1
	ø6P.P.B.	1	1	–	1
	ø8P.P.B.	1	1	1	2
	P.P.B. COMMON	1	1	1	2
	ISNS	1	1	1	2
	SPARES	3	3	3	6
	TOTAL	17	26	20	46
#10	SIGNALS & ISNS COMMON	1	1	1	2
	LUMINAIRES	2	2	2	–
	TOTAL	3	3	3	2
LOOP DET. CABLE 4#16	ø1	1	1	–	1
	ø2	–	–	–	2+3
	ø4	–	–	2	2
	ø5	–	–	–	1
	ø6	3+2	3+2	–	3+2
	ø8	–	–	2	2
	TOTAL	4+2	4+2	4	11+5
3# 20 WITH GROUND EVP		1	2	1	4
CONDUIT SIZE		3"	3"	3"	3"

3 = EXISTING CONDUCTORS
3 = ADDED CONDUCTORS

DETAIL "C"

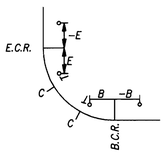
TYPICAL LOOP LAYOUT



NO SCALE

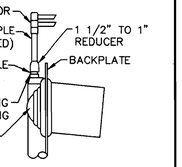
DETAIL "A"

POLE LOCATION CODE



EXACT LOCATION BY ENGINEER IN THE FIELD

DETAIL "B"



TRAFFIC SIGNAL INSTALLATION NOTE

IF SIGNAL IS NOT INSTALLED WITHIN ONE YEAR OF CITY APPROVAL, PLANS MUST BE RESUBMITTED FOR PLAN CHECK 90 DAYS IN ADVANCE OF BEGIN CONSTRUCTION DATE. (BEGIN CONSTRUCTION DATE REQUIRES PRIOR APPROVAL BY CITY ENGINEER).

CONSTRUCTION NOTES

1. ALL EXISTING SIGNAL EQUIPMENT TO REMAIN OPERATIONAL DURING CONSTRUCTION AND PLACEMENT OF NEW SIGNAL EQUIPMENT.
2. REMOVE AND SALVAGE EXISTING SIGNAL ~~DOES AND~~ EQUIPMENT AT LOCATIONS (1), (2) AND (5) AND ABANDON THE FOUNDATION.
3. TRANSFER EXISTING INTERNALLY ILLUMINATED STREET NAME SIGNS FROM EXISING POLE (1) TO POLE (9) AND FROM EXISTING POLE (5) TO POLE (11).
4. SHIFT, ROTATE AND ADJUST EXISTING PULL BOX TO NEW ALIGNMENT AND GRADE BEHIND NEW CURB. REMOVE EXISTING CONDUCTORS, ADJUST CONDUIT LENGHTS AND INSTALL NEW CONDUCTORS AS NECESSARY.
5. EXTEND CONDUIT RUN (A) TO NEW PULLBOX LOCATION, REMOVE EXISTING CONDUCTORS AND INSTALL NEW CONDUCTORS.
6. CONTRACTOR SHALL TRANSPORT AND PLACE ALL SALVAGED MATERIALS IN THE CITY OF ENCINITAS YARD DESIGNATED BY THE INSPECTOR.
7. AT POLE LOCATIONS (9) & (11) INSTALL EMERGENCY VEHICLE PRE-EMPTION SENSOR UNIT (OPTIONAL MODEL 711 OR EQUAL) ON TOP OF VEHICLE INDICATION (SEE SPECIAL PROVISIONS AND DETAIL "B")
8. AT POLE LOCATIONS (3) & (7) REMOVE AND SALVAGE EXIST. MAS 3-BALL VEHICLE SIGNAL HEADS AND REPLACE WITH 4-SECTION MAS VEHICLE SIGNAL HEADS AS SHOWN IN DETAIL "C".

GENERAL NOTES

1. TRAFFIC SIGNAL AND HIGHWAY LIGHTING CONSTRUCTION SHALL CONFORM TO STATE OF CALIFORNIA STANDARD SPECIFICATIONS AND STANDARD PLANS (DATED JULY, 1999) AND THE SPECIAL PROVISIONS.
2. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
3. UNLESS SHOWN OTHERWISE, INDUCTIVE LOOPS SHALL BE TYPE "E". NECESSARY STRIPING SHALL BE LOCATED PRIOR TO POSITIONING DETECTORS.
4. ALL CONDUIT BETWEEN ADJOINING PULLBOXES SHALL BE 3" UNLESS SHOWN OTHERWISE.
5. PEDESTRIAN INDICATORS SHALLL BE TYPE "A" (SEE SPECIAL PROVISIONS).
6. CONTRACTOR TO EXERCISE EXTREME CARE TO AVOID DAMAGING EXISTING UTILITIES.
7. UNDERGROUND SIGNAL CONDUCTORS SHALL NOT BE SPLICED.
8. ALL VEHICLE INDICATORS SHALL BE 12" WITH GLASS LENSES AND BACKPLATES. RED INDICATIONS SHALL BE LED. GREEN INDICATIONS SHALL BE LED.
9. ALL PULLBOXES SHALL BE #5 UNLESS SHOWN OTHERWISE.
10. EXISTING CALTRANS MODEL 170 CONTROLLER ASSEMBLY COMPLETE WITH MODEL 332 ALUMINUM CABINET, DETECTION AS SHOWN, POWER SUPPLIES, ISOLATERS, CONFLICT MONITOR, AND ALL OTHE MISCELLANEOUS AUXILLARY EQUIPMENT REQUIRED TO PROVIDE THE INTENDED OPERATION. THE CONTROLLER ASSEMBLY SHALL INCLUDE EMERGENCY PRE-EMPT EQUIPMENT AND TYPE 200SA INTERSECTION CONTROL PROGRAM.
11. EXISTING TYPE III-BF SERVICE WITH THE FOLLOWING CIRCUIT BREAKERS: 50A-1P (METERED SIGNAL), 30A-1P (UNMETERED LIGHTING), AND 15A-1P (METERED ILLUMINATED SIGNS).
12. MAST ARM SIGNS MOUNTED PER DETAIL "U", ES-7N.
13. LUMINARES SHALL HAVE INTEGRAL BALLASTS AND PHOTO-ELECTRIC SWITCHES (TYPE IV).
14. COORDINATE ALL WORK NEAR EXISTING APPURTENANCES WITH THE CARLSBAD UTILITIES AND MAINTENANCE DEPARTMENT AT (619) 438-7753 AND CITY OF ENCINITAS-GREGG SHIELDS AT 633-2778 48 HOURS PRIOR TO BEGINNING OF WORK
15. SEE SHEET 13 FOR SIGNING AND STRIPING PLAN.
16. PROVIDE PHONE DROP AND 1-1/2" MINIMUM CONDUIT IN TYPE 332 SIGNAL CABINET FROM NEAREST TELEPHONE SERVICE POINT.

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR TRAFFIC SIGNAL PLANS FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARD.

I UNDERSTAND THAT THE CHECK OF THE PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD AND CITY OF ENCINITAS IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ENGINEER OF WORK AND OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

DAVID B. RAGLAND — R.C.E. 35985 — DATE 1-18-01

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 — EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

CITY OF ENCINITAS
ENGINEERING SERVICES
ALAN D. ARCHIBALD, DIRECTOR — DATE 1-23-01

BENCH MARK

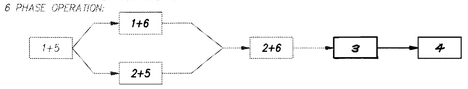
DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD
RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

PHASE-FUNCTION-SEQUENCE DIAGRAM

VEHICLE & PEDESTRIAN MOVEMENTS PER FUNCTION						
NEMA PHASE DESIGNATION	5	1	2	6	3 *	4
FUNCTION TYPE	S	S	DP	DP	SP	SP
COORDINATED FUNCTION	*	*	*	*	*	*

* DETERMINED BY MATER COMPUTER DURING COORDINATED OPERATION

6 PHASE OPERATION:



DETAIL "C"

DET. ASSIGNMENT SCHEDULE

DETECTOR	PHASE	SLOT	FIELD TERMINATION
1	2	I-2U	T2 - 5 & 6
2	2	I-2L	T2 - 7 & 8
3	5	J-1U	T3 - 1 & 2
4 *	4	I-7L	T6 - 3 & 4
5	4	I-6U	T4 - 9 & 10
6	6	J-2U	T3 - 5 & 6
7 *	6	J-3L	T3 - 11 & 12
8	6	J-2L	T3 - 7 & 8
9	1	I-1U	T2 - 1 & 2
10 *	3	I-5-U	T4 - 5 & 6
11	3	I-5-L	T4 - 7 & 8
12	2	I-3-U	T2-9 & 10
13	2	I-3-L	T2-11 & 12
14	6	J-2-L	T3-7 & 8
15	5	J-1-L	T3-3 & 4
16	1	I-1-L	T2-3 & 4
17	4	I-6-L	T4-11 & 12
18	3	I-9-L	T6-11 & 12
2P	2P	I-12U	T8 - 4 & COM. 6
4P	4P	I-12L	T8 - 5 & COM. 6
6P	6P	I-13U	T8 - 7 & COM. 9
3P**	3P	I-13L	T8 - 8 & COM. 9
EVA	2+5	J-12U	T9 - 4 & COM. 6
EVB	4	J-13U	T9 - 7 & COM. 9
EVC	1+6	J-12L	T9 - 5 & COM. 6
EVD	3	J-13L	T9 - 8 & COM. 9
FLASH	–	I-14U	T8 - 10 & COM. 12

* CALL DELAY
** #8 PED SHALL OPERATE AS #3 PED

POLE SCHEDULE

NO.	POLE DATA TYPE	HEIGHT	SIGNAL M.A.	H.P. SOD VAP M.A.	WATTS	SIGNAL MOUNTING VEH.	M.A.	PED.	PED. PUSH BUTTON PHASE	POLE QUAD.	* POLE LOCATION E	B	C	N	ILLUMINATED SIGN MESSAGE (DBL. FACE)	REMARKS
(1)	29-5-70	30'	50'	15'	250	SV-1-T	2-MAS	SP-1-CS	4	SE	12'	–	2.5'	–	Calle Acervo → ← Avenida La Posta	Transfer signs Removed and salvage
(2)	1A	10'	–	–	–	TV-1-T	–	SP-1-CS	6	SW	–	15'	2.5'	–	–	Removed and salvage
(3)	17B-2-70	30'	15'	12'	250	SV-1-T	MAS	SP-1-CS	6	SW	14'	–	2.5'	–	Rancho Santa Fe Road	EXIST. mas veh. head
(4)	1A	10'	–	–	–	TV-1-T	–	SP-1-CS	8	NW	–	14'	2.5'	–	–	
(5)	24-4-70	30'	25'	15'	250	SV-1-T	2-MAS	SP-1-CS	8	NW	5'	–	7'	–	Calle Acervo → ← Avenida La Posta	Transfer signs Removed and salvage
(6)	1A	10'	–	–	–	TV-1-T	–	SP-1-CS	2	NE	–	8'	2.5'	–	–	EXIST. mas veh. head, install new 3-arrow veh. head
(7)	17E-2-70	30'	15'	12'	250	SV-1-T	MAS	SP-1-CS	2	NE	12'	–	2.5'	–	Rancho Santa Fe Road	
(8)	1A	10'	–	–	–	TV-1-T	–	SP-1-CS	4	SE	–	12'	2.5'	–	–	EXIST. mas veh. head
(9)	26-4-80	30'	45'	15'	250	SV-1-T	2-MAS	SP-1-CS	4	SE	13'	–	8'	–	Transfered from pole (1)	NEW POLE
(10)	1A	10'	–	–	–	TV-1-T	–	SP-1-CS	6	SW	–	15'	3'	–		RELOCATE
(11)	26-4-80	30'	40'	15'	250	SV-1-T	2-MAS	SP-1-CS	8	NW	2'	–	7'	–	Transfered from pole (5)	RELOCATE

(1) EXISTING
(9) NEW

* SEE DETAIL "A", THIS SHEET

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C46692 — Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

"AS BUILT"
RCE 46692 — EXP. 6/30/07 — DATE 9.21.04
REVIEWED BY:
INSPECTOR — DATE 11/03/04

PRIVATE CONTRACT

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	(A) AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 20 — CITY OF CARLSBAD, ENGINEERING DEPARTMENT — SHEETS 41

TRAFFIC SIGNAL MODIFICATION PLAN FOR:
RANCHO SANTA FE ROAD AND CALLE ACERVO/AVE. LA POSTA
CT 90-03

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RCE 23889 — CITY ENGINEER — DATE 3/29/01

DWN BY: JDR — CHKD BY: DBR — RVWD BY: JDR, JMK
PROJECT NO. CT 90-03
DRAWING NO. 380-1K

LANDSCAPE CONSTRUCTION PLANS FOR
RANCHO SANTA FE ROAD
CARLSBAD TRACT No. 90-03

R.W. # 1151

GENERAL NOTES
RECYCLED WATER NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE OLIVENHAIN MUNICIPAL WATER DISTRICTS "CARLSBAD RECYCLED RULES & REGULATIONS FOR CONSTRUCTION OF RECYCLED WATER MAINS" DATED OCTOBER 1993.
2. DRINKING FOUNTAINS AND DESIGNATED EATING AREAS SHALL BE PROTECTED FROM SPRAY OF RECYCLED WATER. BEST MANAGEMENT PRACTICES SHALL BE USED TO MINIMIZE RECYCLED WATER ENCRACHMENT ON PUBLIC FACILITIES SUCH AS PICNIC TABLES, BBQ'S, PLAYGROUNDS, SAND TOT LOTS, ETC.
3. BEST MANAGEMENT PRACTICES SHALL BE USED TO ELIMINATE OR CONTROL TO THE BEST EXTENT POSSIBLE PONDING, RUN-OFF, OVER SPRAY AND MISTING.
4. HOSE BIBS ARE STRICTLY PROHIBITED.
5. ON-SITE CROSS-CONNECTIONS BETWEEN RECYCLED WATER LINES AND POTABLE WATER LINES IS STRICTLY PROHIBITED.
6. NO SUBSTITUTION OF PIPE MATERIALS WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE OLIVENHAIN MUNICIPAL WATER DISTRICT.
7. ALL ON SITE PIPES SHALL HAVE WARNING TAPE PER CARLSBAD MUNICIPAL WATER DISTRICT RULES AND REGULATIONS.
8.* THE IRRIGATION SYSTEM SHALL RUN BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM THE FOLLOWNG MORNING (SPOT IRRIGATION COULD BE DONE AT A DIFFERENT TIME WITH QUALIFIED SUPERVISION PERSONNEL ON SITE).
9. PROVIDE A MINIMUM OF AT LEAST 18 INCHES OF COVER OVER ALL WIRING AND PIPING.
10. NON-DESIGNATED USE AREAS SHALL BE PROTECTED FROM CONTACT FROM RECYCLED WATER, WHETHER BY WINDBLOWN SPRAY OR BY DIRECT APPLICATION, THROUGH IRRIGATION OR OTHER APPROVED USE. LACK OF PROTECTION, WHETHER BY DESIGN, CONSTRUCTION PRACTICE OR SYSTEM OPERATION, IS STRICTLY PROHIBITED.
11. IRRIGATION HEADS SHALL BE RELOCATED OR ADJUSTED TO PREVENT OVER-SPRAYING ON SIDEWALKS, STREETS AND NON-DESIGNATED USE AREAS.
12. RECYCLED WATER QUICK COUPLING VALVES SHALL BE OF A TYPE DESIGNED FOR THE USE ON RECYCLED WATER DISTRIBUTION SYSTEMS (SPIKES NOT INTERCHANGEABLE WITH POTABLE WATER QUICK COUPLER SPIKES) PER OLIVENHAIN MUNICIPAL WATER DISTRICT RULES AND REGULATIONS.
13. METERS SHALL BE SIZED BY THE OLIVENHAIN MUNICIPAL WATER DISTRICT.
14. ALL IRRIGATION PIPES SHALL BE STENCILED WITH THE WARNING, "NON-POTABLE OR RECYCLED WATER, COLOR-CODED (PURPLE) AND LAID WITH WARNING TAPE AND STENCILING ORIENTED TOWARD THE TOP OF THE TRENCH PER THE CARLSBAD MUNICIPAL WATER DISTRICT RULES AND REGULATIONS.
15. ALL POTABLE WATER AND RECYCLED WATER PIPING SHALL BE INSTALLED WITH THE STENCILING ORIENTED TOWARD THE TOP OF THE TRENCH.
16. WHEN POTABLE WATER LINE AND RECYCLED WATER LINE CROSS, THE RECYCLED LINE SHALL BE INSTALLED WITHIN A PROTECTIVE SLEEVE. THE SLEEVE SHALL EXTEND 10 FEET FROM EACH SIDE, FROM THE CENTER LINE OF POTABLE LINE, FOR A TOTAL OF 20 FEET.
17. A 10 FOOT HORIZONTAL SEPARATION BETWEEN POTABLE WATER AND RECYCLED WATER MAINS MUST BE MAINTAINED AT ALL TIMES. THE POTABLE LINES MUST BE INSTALLED ABOVE THE RECYCLED LINE.
18. A MINIMUM OF 12 INCHES OF VERTICAL SEPARATION BETWEEN UTILITIES MUST BE MAINTAINED AT ALL TIMES.
19.* DEVELOPER / CONTRACTOR SHALL CONDUCT A CROSS-CONNECTION TEST AND COVERAGE TEST AS DIRECTED BY THE OLIVENHAIN MUNICIPAL WATER DISTRICT ENGINEER OR THE SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES PRIOR TO ANY USE OF RECYCLED WATER.
20. QUICK COUPLING VALVES USED IN RECYCLED WATER SYSTEMS SHALL CONFORM TO THE FOLLOWING.

    RECYCLED WATER: QUICK COUPLING VALVES USED IN RECYCLED WATER SYSTEMS SHALL HAVE ACME TYPE THREADS (SPIKES NOT INTERCHANGEABLE WITH POTABLE WATER QUICK COUPLER SPIKES) AND PURPLE COLORED LOCKING COVERS PERMANENTLY ATTACHED TO THE VALVE. QUICK COUPLING VALVES SHALL BE NELSON NO. 7645, HUNTER NO. HV100A-RL-NP OR APPROVED EQUAL.
21. AN ANNUAL CROSS CONNECTION INSPECTION WILL BE DONE BY EITHER OLIVENHAIN MUNICIPAL WATER DISTRICT OR SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES. COPIES OF INSPECTION REPORTS WILL BE FORWARDED TO THE NONINSPECTING PARTY.
22.* DEVELOPER SHALL SHOW THE LOCATION OF RECYCLED SIGNS "DO NOT DRINK" ON THESE PLANS.
23.* AN ON-SITE USER / SUPERVISOR SHALL BE DESIGNATED IN WRITING, THIS INDIVIDUAL SHALL BE FAMILIAR WITH PLUMBING SYSTEMS WITHIN THE PROPERTY, WITH THE BASIC CONCEPTS OF BACKFLOW / CROSS CONNECTION PROTECTION, AND THE SPECIFIC REQUIREMENTS OF A RECYCLED WATER SYSTEM. COPIES OF THE DESIGNATION, WITH CONTACT PHONE NUMBERS SHALL BE PROVIDED TO THE SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES AND OLIVENHAIN MUNICIPAL WATER DISTRICT.

    IN CASE OF EMERGENCY CONTACT
    MAINTENANCE SUPERVISOR — DAVID JONES @ 619-843-9911

    OR AFTER HOURS CONTACT
    MAINTENANCE SUPERVISOR — DAVID JONES @ 619-843-9911
24. SHOW ALL PUBLIC AND PRIVATE POTABLE WATER MAINS ON IMPROVEMENT PLANS.

    * ITEMS 8, 19 & 23 SHALL BE REQUIRED JUST PRIOR TO THE ACTUAL USE OF RECYCLED WATER.

    * ITEM 22 THE SIGNAGE SHALL BE A PART OF THIS I.P. BUT THE ACTUAL SIGNS AND TAGS WILL BE INSTALLED JUST PRIOR TO ACTUAL USE OF RECYCLED WATER.
25. ON RECYCLED WATER SYSTEMS, ALL APPURTENANCES (SPRINKLER HEADS, VALVE HEADS, VALVE BOXES, ETC.) SHALL BE COLOR CODED PURPLE PER AWWA GUIDELINES AND SECTION 404954 OF THE CALIFORNIA HEALTH AND SAFETY CODE.
26. A PHYSICAL SEPARATION SHALL BE PROVIDED BETWEEN ADJACENT AREAS IRRIGATED WITH RECYCLED WATER AND POTABLE WATER. SEPARATION SHALL BE PROVIDED BY DISTANCE, CONCRETE MOW STRIPS OR OTHER APPROVED METHODS.

SIGNAGE NOTES:

THE FOLLOWING GUIDELINES FOR THE USE OF RECYCLED WATER ARE TO BE PERMANENTLY POSTED INSIDE THE DOOR OF EACH CONTROLLER WHERE THEY ARE EASILY VISIBLE. PLACE ON 8 1/2" X 11" SIZED SIGN. COLOR: PURPLE BACKGROUND WITH BLACK LETTERING.

I. GUIDELINES FOR RECYCLED WATER USE

1. IRRIGATE BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM ONLY. WATERING OUTSIDE THE TIME FRAME MUST BE DONE MANUALLY WITH QUALIFIED SUPERVISORY PERSONNEL ON-SITE. NO SYSTEM SHALL AT ANY TIME BE LEFT UNATTENDED DURING USE OUTSIDE THE NORMAL SCHEDULE.
2. IRRIGATE IN A MANNER THAT WILL MINIMIZE RUN-OFF, POOLING, AND PONDING. THE APPLICATION RATE SHALL NOT EXCEED THE INFILTRATION RATE OF THE SOIL. TIMERS MUST BE ADJUSTED SO AS TO BE COMPATIBLE WITH THE LOWEST SOIL INFILTRATION RATE PRESENT. THIS PROCEDURE MAY BE FACILITATED BY THE EFFICIENT SCHEDULING OF THE AUTOMATIC CONTROL CLOCKS, (I.E. EMPLOYING THE REPEAT FUNCTION TO BREAK UP THE TOTAL IRRIGATION TIME INTO CYCLES THAT WILL PROMOTE MAXIMUM SOIL ABSORPTION.
3. ADJUST SPRAY HEADS TO ELIMINATE OVERSPRAY ONTO AREAS NOT UNDER THE CONTROL OF THE CUSTOMER. FOR EXAMPLE, POOL DECKS, PRIVATE PATIOS AND LOTS, AND STREETS AND SIDEWALKS.
4. MONITOR AND MAINTAIN THE SYSTEM TO MINIMIZE EQUIPMENT AND MATERIAL FAILURE. BROKEN SPRINKLER HEADS, LEAKS, UNRELIABLE VALVES, ETC. SHOULD BE REPAIRED AS SOON AS THEY BECOME APPARENT.
5. EDUCATE ALL MAINTENANCE PERSONNEL ON A CONTINUOS BASIS OF THE PRESENCE OF RECYCLED WATER. PERSONNEL MUST BE INFORMED THAT RECYCLED WATER IS MEANT FOR IRRIGATION PURPOSES ONLY, AND IS NOT APPROVED FOR DRINKING PURPOSES, HAND WASHING, CLEANING OF TOOLS, ETC. GIVEN THE HIGH TURNOVER RATE OF EMPLOYEES IN THE LANDSCAPE INDUSTRY, IT IS IMPORTANT THIS INFORMATION BE DISSEMINATED ON AN ALMOST DAILY BASIS. IT IS YOU, THE LANDSCAPE CONTRACTOR WHO IS RESPONSIBLE FOR EDUCATING EACH AND EVERY ONE OF YOUR EMPLOYEES.
6. OBTAIN PRIOR APPROVAL OF ALL PROPOSED CHANGES AND MODIFICATIONS TO ANY PRIVATE ON-SITE FACILITIES. SUCH CHANGES MUST BE SUBMITTED TO, AND APPROVED BY, THE DISTRICT ENGINEERING OFFICE AND DESIGNED IN ACCORDANCE WITH DISTRICT STANDARDS.
7. ALL RECYCLED WATER SPRINKLER CONTROL VALVES SHALL BE TAGGED WITH IDENTIFICATION TAGS.
   A. TAGS SHALL BE WEATHERPROOF PLASTIC 3" X 4" PURPLE IN COLOR WITH THE WORDS "WARNING RECYCLED WATER - DO NOT DRINK" IMPRINTED ON ONE SIDE, AND "AVISO - AGUA IMPURA - NO TOMAR" ON THE OTHER SIDE. IMPRINTING SHALL BE PERMANENT AND BLACK IN COLOR, USE TAG AS MANUFACTURED BY T. CHRISTY ENTERPRISES OR APPROVED EQUAL.
   B. ONE TAG SHALL BE ATTACHED TO EACH VALVE AS FOLLOWS.
      1. ATTACH TO VALVE STEM DIRECTLY OR WITH PLASTIC TIE-WRAP OR
      2. ATTACH TO SOLENOID WIRE DIRECTLY OR WITH PLASTIC TIE-WRAP OR
      3. ATTACH TO VALVE COVER WITH EXISTING VALVE COVER BOLT.
8. ALL SPRINKLER HEADS SHALL BE IDENTIFIED AS RECYCLED WATER SPRINKLER HEADS

II. EACH AUTOMATIC CONTROLLER AND ITS ASSOCIATED EQUIPMENT SHALL BE IDENTIFIED WITH A SIGN BEARING THE WORDS "RECYCLED WATER USED FOR IRRIGATION" IN ENGLISH AND SPANISH, WITH BLACK LETTERS 1" HIGH ON A PURPLE BACKGROUND. THE SIGN SHALL BE PLACED SO THAT IT CAN BE READILY SEEN BY ANY OPERATIONS PERSONNEL UTILIZING THE EQUIPMENT.

NOTE:
IRRIGATION SYSTEMS ARE TO BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE CRITERIA AND STANDARDS OF THE LANDSCAPE TECHNICAL MANUAL AND OTHER APPLICABLE STANDARDS AS OF THE APPROVED DATE OF THESE PLANS,

GENERAL NOTES:

THE CONTRACTOR MUST NOTIFY THE CITY PLAN CHECK CONSULTANT (619-438-1661) 72 HOURS (THREE WORKING DAYS) PRIOR TO STARTING CONSTRUCTION. (EXTENSION 4221)

THE LANDSCAPE OR IRRIGATION CONTRACTOR IS TO VERIFY EXISTING P.S.I. AT JOB SITE PRIOR TO INSTALLING LANDSCAPE IRRIGATION SYSTEM. VERIFICATION SHALL BE MADE WITH THE APPROPRIATE WATER DISTRICT.

ALL REDUCED PRESSURE BACKFLOW PREVENTERS SHALL BE TESTED AFTER INSTALLATION, RELOCATION, OR REPAIRS BY A CITY APPROVED CERTIFIED TESTER. CALL 760-438-2722 xt 7152 FOR A LIST OF CITY APPROVED CERTIFIED TESTERS. DEVELOPER/OWNER IS RESPONSIBLE FOR SUPPLYING A COPY OF THE TEST RESULTS TO CWWD AT 5950 EL CAMINO REAL.

OWNER SHALL PROVIDE A 6" CONCRETE MOW STRIP BETWEEN MOWED TURF AND GROUND COVER, AND 8" CONCRETE MOW STRIP BETWEEN MOWED TURF AND WALLS.

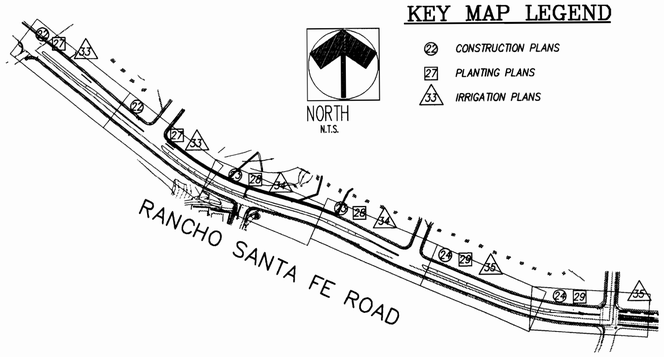
THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING BUILDING AND PLUMBING PERMITS PRIOR TO COMMENCING WALL CONSTRUCTION AND IRRIGATION INSTALLATION, RESPECTIVELY.

IRRIGATION SYSTEMS FOR INDIVIDUAL PARCELS SHALL HAVE POINTS OF CONNECTION FOR THE SYSTEM BETWEEN THE WATER METER AND WATER SERVICE RISER INTO BUILDING AND AHEAD OF ANY WATER REGULATING DEVICE INSTALLED FOR BUILDING.

INSPECTION PROCEDURES

1. CITY CONSTRUCTION INSPECTION SHALL INCLUDE:
   A. LOCATION OF PIPE LINES.
   B. TRENCH DEPTHS
   C. REQUIRED SEPARATION (HORIZONTALLY AND VERTICALLY)
   D. PIPE IDENTIFICATION
   E. POINTS-OF-CONNECTION (POC'S)
   F. LOCATION AND IDENTIFICATION OF SPRINKLER HEADS
   G. WARNING SIGNS AT THE SITE AND ON THE TRUCKS HAULING RECYCLED WATER (IF RECYCLED WATER IS USED FOR CONSTRUCTION).

   AN APPROVAL LETTER REGARDING THE INSPECTION OF THE PROJECT SHALL BE OBTAINED FROM THE CITY AND THE DISTRICT, AND BE FORWARDED TO THE COUNTY HEALTH DEPARTMENT PRIOR TO FINAL INSPECTION APPROVAL.

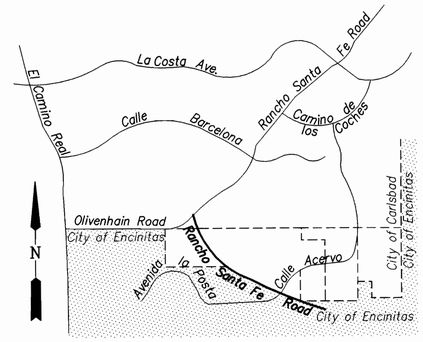


KEY MAP LEGEND

- (22) CONSTRUCTION PLANS
- (27) PLANTING PLANS
- (33) IRRIGATION PLANS

SHEET INDEX

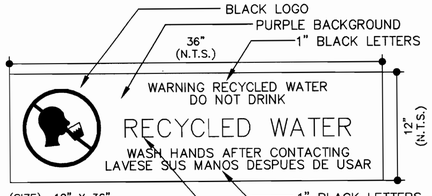
COVER SHEET . . . . . SHT. 21
CONSTRUCTION PLANS . . . . . SHT. 22 – 24
CONSTRUCTION DETAILS . . . . . SHT. 25
CONSTRUCTION SPECS . . . . . SHT. 26
PLANTING PLANS . . . . . SHT. 27 – 29
PLANTING SPECS . . . . . SHT. 30,31
PLANTING DETAILS . . . . . SHT. 32
IRRIGATION PLANS . . . . . SHT. 33 – 35
IRRIGATION SPECS . . . . . SHT. 36, 37
IRRIGATION DETAILS . . . . . SHT. 38, 39



VICINITY MAP
NOT TO SCALE



18" X 18" SIZE
.032 ALUMINUM, .060 ABS PLASTIC
OR STICK-ON VINYL SIGNS.



(SIZE) 12" X 36"
.032 ALUMINUM, .060 ABS PLASTIC
OR STICK-ON VINYL SIGNS

INSPECTION PROCEDURES (cont.)

2. DISTRICT FINAL INSPECTION SHALL INCLUDE:
   A. COVERAGE TESTS, AFTER COMPLETION OF THE SPRINKLER SYSTEM, TO DETERMINE THE ADEQUACY OF COVERAGE ON THE APPROVED USE AREA AND PROTECTION OF AREAS NOT APPROVED FOR RECEIVING RECYCLED WATER.
   B. WARNING SIGNS AND LABELS.
   C. QUICK COUPLING VALVES.
   D. ALL ASPECTS OF THE IRRIGATION CONDITIONS INCLUDING WINDBLOWN SPRAY, RUNOFF AND PONDING.
   E. REQUIRED PROTECTION OF ALL RESIDENTIAL AREAS.
   F. REQUIRED PROTECTION OF WELLS, STREAMS, RESERVOIRS, ETC.
   G. CROSS-CONNECTION.
3. ANNUAL INSPECTION SHALL INCLUDE:

   A COMPLETE INSPECTION WHICH SHOULD COVER PARTS "A", "B" AND "G" OF THE DISTRICT FINAL INSPECTION.

DECLARATION OF RESPONSIBLE CHARGE:

I HEREBY DECLARE THAT I AM THE LICENSED DESIGNER OF WORK FOR THIS PROJECT. THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE. AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE PLAN CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD AND SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH IS CONFINED TO REVIEW ONLY AND DOES NOT RELIEVE ME AS THE LICENSED DESIGNER OF WORK OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

THESE PLANS HAVE BEEN PREPARED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED LANDSCAPE CONCEPT PLAN, WATER CONSERVATION PLAN, FIRE PROTECTION PLAN, AND ALL CONDITIONS OF APPROVAL RELATING TO LANDSCAPING.

Project Design Consultants
701 B Street, Suite 800
San Diego, CA 92101
PH. 619-235-6471

STEPHEN R. COPLEY SENIOR LANDSCAPE ARCHITECT — 02-28-01 DATE
REGISTRATION No. 4033
EXPIRATION DATE: 10-31-01

LICENSED LANDSCAPE ARCHITECT — STEPHEN R. COPLEY — 4033 — 10-31-01 Expiration Date — 02-28-01 Date — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — 02-28-01 — 10-31-01 — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
TITLE ASSOCIATE — DATE 7/21/04
REVIEWED BY: INSPECTOR — DATE 11/03/04

SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH
APPROVED BY: Glenn Leeks — DATE 3-5-01
DISTRICT APPROVED CHANGES

NO.	DESCRIPTION	APPROVED	DATE

DEVELOPER'S NAME: CONTINENTAL HOMES
ADDRESS: 2237 FARADAY AVE. STE. 100, CARLSBAD, CA 92008
TELEPHONE: 1-750-931-1980
BENCH MARK
DESCRIPTION
LOCATION
RECORD FORM
ELEVATION — DATUM

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 21 — CITY OF CARLSBAD, PARK & RECREATION DEPARTMENT — SHEETS 41

COVER SHEET AND NOTES FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS

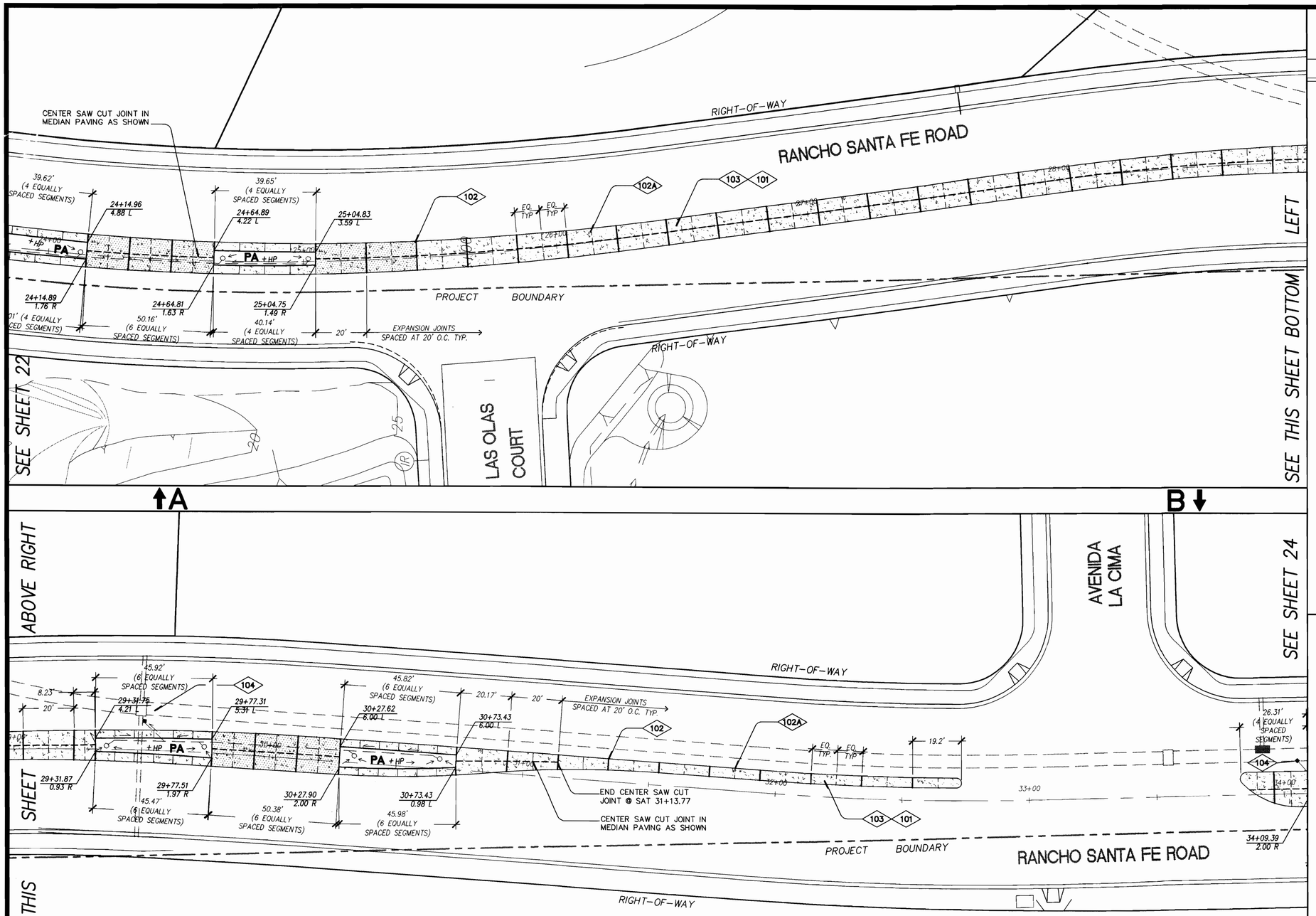
APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RE: 23889 — CITY ENGINEER — DATE 3/29/01

DWN BY:
CHKD BY: DLS
RVWD BY: WE
PROJECT NO. CT 90 - 03
DRAWING NO. 380-1K

1-15-01

PDC JOB No. 1607.20

T:\Engr\1607-20\Dwgs\
Date, NAME: 10/24/00 12:01:53 pm PST



NOTES AND LEGENDS

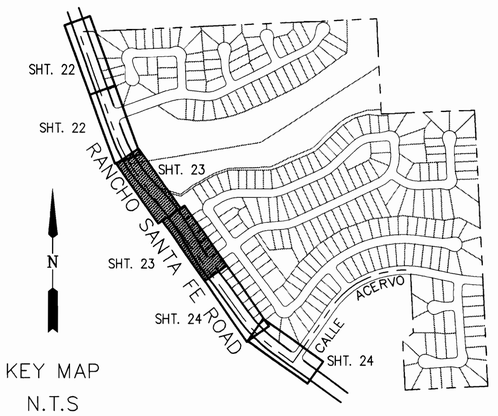
CONSTRUCTION KEYNOTES

SYMBOL	KEYNOTE	DESCRIPTION	DETAIL / SHEET
	101	'RANDOM PATTERN' STAMPED CONCRETE COLOR AND FINISH TO MACH EXISTING RANCHO SANTA FE ROAD PER CITY OF CARLSBAD STANDARDS. 6" THICK / 4" THICK	1/25
———	102	EXPANSION JOINT	3 / 25
— — —	102A	SAW CUT JOINT	2 / 25
	103	PAVING SECTION	1 / 25
■— — —	104	LANDSCAPE DRAIN LINE INDIRECT CONNECTION TO CIVIL STORM DRAINS, CONNECTION PER SDRSD #D-63, REF., CIVIL DWGS. SHEETS 8,9,10 & 11	
	PA	PLANTER AREA	
	⬡	6" ATRIUM TYPE DRAIN PER NDS, NDS 90, BLACK. FLAT TOP STRUCTURAL FOAM POLYETHYLENE ATRIUM GRATE AND UV INHIBITOR. OPEN SURFACE AREA 25.5 SQ. IN.	
— — —		6" DIA. DRAINAGE PIPE, SLOPE 2% MIN. AT STORM DRAIN CONNECTION SLOPE TO 3%	
—<— —		DIRECTION OF FLOW THROUGH 6" DIA. DRAIN PIPE	
	+ HP	HIGH POINT	
	→	SURFACE DRAINAGE DIRECTION	

25+04.83 / 3.59 L = STATION POINT / = OFF SET FROM CENTERLINE OF ROAD RIGHT OR LEFT

NOTE:

1. SEE CIVIL PLANS SHTS 1-11 FOR STREET IMPROVEMENTS. CURB, GUTTER, WALKWAYS TYPICAL.
2. MEDIAN OUTLINE SHOWN REPRESENTS INSIDE CURB EDGE
3. REF. CIVIL DRAWINGS FOR LOCATION OF STORM DRAINS.
4. FOR MOUNTABLE CURB DETAIL SEE SHEET #4.



KEY MAP
N.T.S

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
Keith A. French 9/21/04
TITLE Associate DATE

REVIEWED BY:
T. Fenney 11/03/04
INSPECTOR DATE

LICENSED LANDSCAPE ARCHITECT — KEITH A. FRENCH No. 3789 — STATE OF CALIFORNIA — 09.28.05

LICENSED LANDSCAPE ARCHITECT — STEPHEN R. COPLEY — No. 2499 — STATE OF CALIFORNIA — 10-31-01 — 02-28-01

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET	CITY OF CARLSBAD	SHEETS
23	PARK & RECREATION DEPARTMENT	41

LANDSCAPE CONSTRUCTION PLANS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

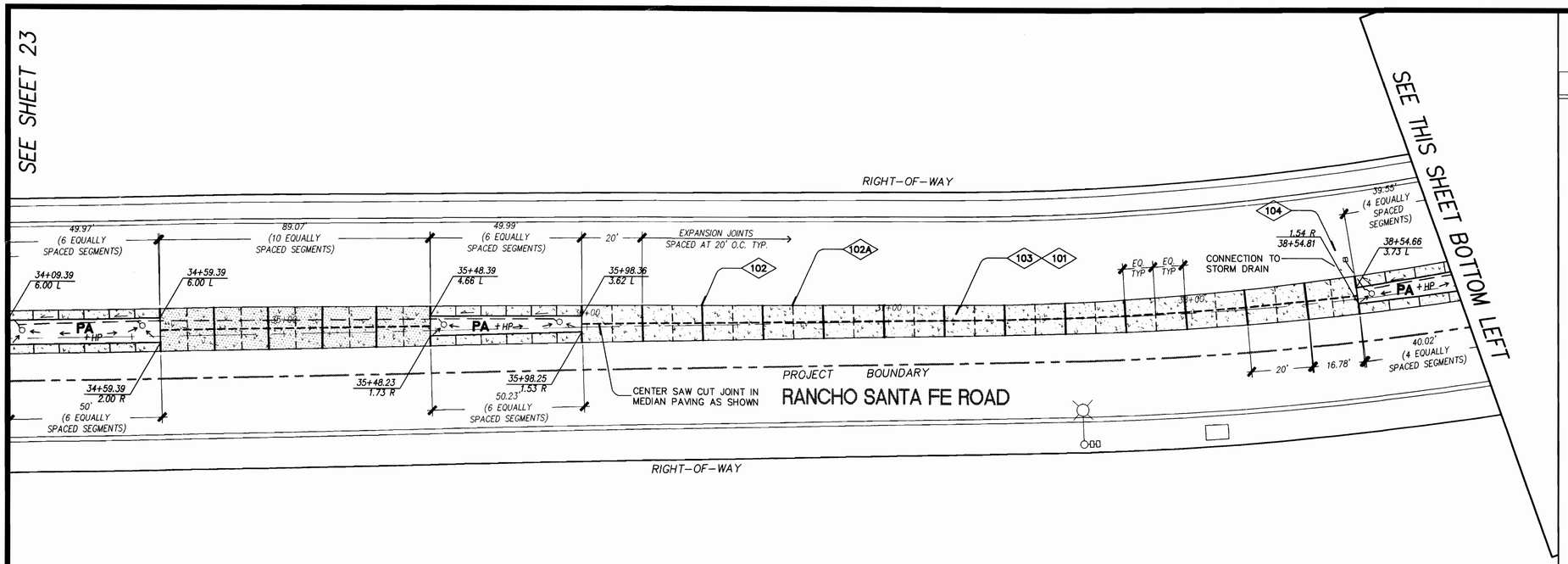
APPROVED: LLOYD B. HUBBS EXPIRES 12-31-01
RE: 23889 CITY ENGINEER DATE 3/29/01

DWN BY:	PROJECT NO.	DRAWING NO.
CHKD BY: DLH	CT 90 - 03	380-1K
RVWD BY: JVE		

T:\Eng\1607-20\Dwgs\Construction\
DWG NAME: 1607-ph03-02.dwg 61200 35826

1-15-01

PDC JOB No. 1607.20



NOTES AND LEGENDS

CONSTRUCTION KEYNOTES

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⬡	6" ATRIUM TYPE DRAIN PER NDS, NDS 90, BLACK. FLAT TOP STRUCTURAL FOAM POLYETHYLENE ATRIUM GRATE AND UV INHIBITOR. OPEN SURFACE AREA 25.5 SQ. IN.
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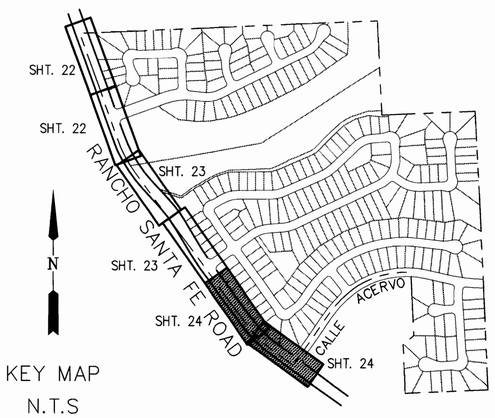
—<— —	DIRECTION OF FLOW THROUGH 6" DIA. DRAIN PIPE
+ HP	HIGH POINT
→	SURFACE DRAINAGE DIRECTION

25+04.83 / 3.59 L = STATION POINT / = OFF SET FROM CENTERLINE OF ROAD RIGHT OR LEFT

NOTE:

1. SEE CIVIL PLANS SHTS 1-11 FOR STREET IMPROVEMENTS. CURB, GUTTER, WALKWAYS TYPICAL.
2. MEDIAN OUTLINE SHOWN REPRESENTS INSIDE CURB EDGE
3. REF. CIVIL DRAWINGS FOR LOCATION OF STORM DRAINS.
4. FOR MOUNTABLE CURB DETAIL SEE SHEET #4.



KEY MAP
N.T.S

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
TITLE ASSOCIATE 9/21/04 DATE
REVIEWED BY
INSPECTOR 11/03/04 DATE

VIEW A: NORTH 0 10 20 40 FT. SCALE

VIEW B: NORTH 0 10 20 40 FT. SCALE

LICENSED LANDSCAPE ARCHITECT — STEPHANIE R. COPLEY — No. 4053 — Signature — Renewal 08-31-01 — Expiration Date 08-28-04 — Date — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — KEITH A. FRENCH — No. 2497 — Renewal 08-31-05 — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 24 | CITY OF CARLSBAD PARK & RECREATION DEPARTMENT | SHEETS 41

LANDSCAPE CONSTRUCTION PLANS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS EXPIRES 12-31-01
RE: 23889 CITY ENGINEER DATE 3/29/01

DWN BY:
CHKD BY: DJH
RVWD BY: JVE

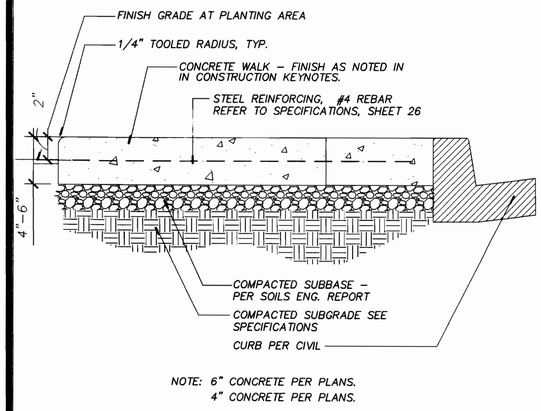
PROJECT NO. CT 90 - 03

DRAWING NO. 380-1K

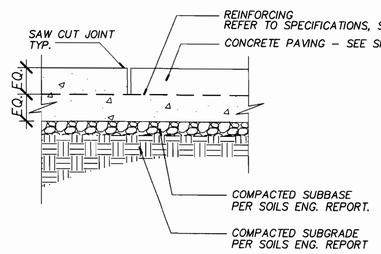
1-15-01

PDC JOB No. 1607.20

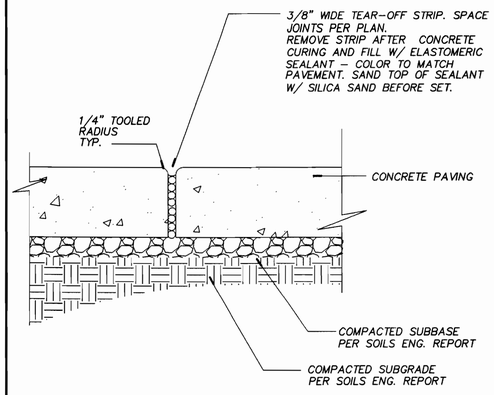
T:\Engr\1607-20\Dwgs\Construction\
DWG NAME: 1607-ap104-s03.dwg 1/15/01 9:35:36 am PST



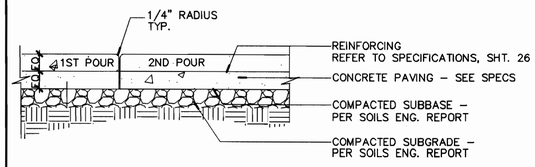
1 MEDIAN PAVING SECTION N.T.S.



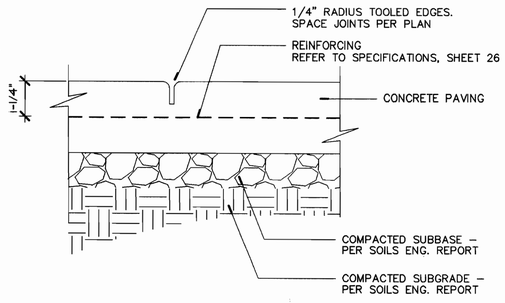
2 SAW CUT JOINT N.T.S.



3 EXPANSION JOINT N.T.S.



4 COLD JOINTS N.T.S.



5 WEAKENED JOINT N.T.S.

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
Keith O'Farrell — TITLE Associate — 9/21/04 DATE
REVIEWED BY: Tim Feeney — INSPECTOR — 11/03/04 DATE

LICENSED LANDSCAPE ARCHITECT — KEITH O'FARRELL — No. 2889 — Exp. 12-31-04 — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — STEPHEN R. GOREK — No. 2889 — Expiration Date 12-31-01 — 02-22-01 Date — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 25 — CITY OF CARLSBAD, PARK & RECREATION DEPARTMENT — SHEETS 41

LANDSCAPE CONSTRUCTION DETAILS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RE 23889 — CITY ENGINEER — DATE 3/29/01

DWN BY: JLR DWN
CHKD BY: JLR
RVWD BY:
PROJECT NO. CT 90 – 03
DRAWING NO. 380–1K

1-15-01

PDC JOB No. 1607.20

T:\DWGS\1607-20\Dwgs\Construction\Details\
Date Saved: Mon Jan 07 10:08:49 2002 Date Plotted: Mon Jan 07 10:27:46 2002 PST

SECTION 02520 PORTLAND CEMENT CONCRETE PAVING PART

1 - GENERAL

1.1 SECTION INCLUDES

1.1.1 CONCRETE PAVING

1.2 RELATED SECTIONS

1.2.1 SECTION 02223 - FILLING AND BACKFILL.

1.2.2 SECTION 02510 - ASPHALT CONCRETE PAVING.

1.2.3 SECTION 03310 - CAST-IN-PLACE CONCRETE.

1.3 REFERENCES

1.3.1 ORGANIZATION AND TRADE STANDARDS

1.3.1.1 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION, AS ADOPTED BY LOCAL JURISDICTIONAL AUTHORITY, INCLUDING AMENDMENTS.

1.3.1.2 CALIFORNIA DEPARTMENT OF TRANSPORTATION, "MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES" CURRENT EDITION.

1.3.1.3 LOCAL JURISDICTIONAL AND AGENCY ENGINEERING AND PUBLIC WORKS REGULATIONS AND STANDARDS.

1.3.1.4 REGIONAL STANDARD DRAWINGS, CURRENT EDITION, WITH ALL LOCAL AGENCY AMENDMENTS.

1.4 SUBMITTALS

1.4.1 MIX DESIGN/MATERIALS LIST:

1.4.1.1 SUBMIT CONCRETE MIX DESIGN PREPARED BY A CERTIFIED BATCH PLANT OR LABORATORY, SELECTED BY CONTRACTOR AND ACCEPTABLE TO OWNER, FOR REVIEW AND APPROVAL.

1.4.1.2 ACCOMPANYING MIX DESIGN, SUBMIT MATERIALS CERTIFICATES SIGNED BY MATERIAL PRODUCER AND CONTRACTOR, CERTIFYING THAT EACH MATERIAL ITEM COMPLIES WITH, OR EXCEEDS, SPECIFIED REQUIREMENTS.

1.4.2 MOCK-UP

1.4.2.1 PRIOR TO INSTALLING ANY CONCRETE PAVING, CONSTRUCT, AT AN APPROVED LOCATION ON-SITE, AN INDIVIDUAL MOCK-UP SHOWING EACH CONCRETE PAVING FINISH SPECIFIED AND SHOWN ON DRAWINGS. MOCK-UP SHALL INCLUDE SEALANT JOINT PREPARATION. EACH FINISH SHALL BE 4' X 4' MINIMUM. OBTAIN LANDSCAPE ARCHITECT'S APPROVAL OF MOCK-UP.

1.4.2.2 ALL CONCRETE PAVING SHALL MATCH APPROVED MOCK-UP.

1.4.2.3 REMOVE MOCK-UP AFTER COMPLETION OF WORK AND PROPERLY DISPOSE OFF-SITE.

1.5 PUBLIC AGENCY STANDARDS

1.5.1 PERFORM ALL PAVING AND RELATED STRUCTURES AND DEVICES INDICATED AS PUBLIC AGENCY STANDARDS IN ACCORDANCE WITH THE STANDARD PLANS AND SPECIFICATIONS OF THAT AGENCY.

1.5.2 WHERE PAVING IS CONSTRUCTED IN PUBLIC STREETS OR RIGHTS OF WAY, CONSTRUCT IN ACCORDANCE WITH THE STANDARD PLANS AND SPECIFICATIONS OF THE AUTHORITY HAVING JURISDICTIONS AND IN THE PRESENCE OF A REPRESENTATIVE OF THAT AGENCY.

1.5.3 SECURE AND PAY FOR ALL NECESSARY PERMITS FOR WORK PERFORMED UNDER CONDITIONS WHICH EXIST IN 1.5.2 ABOVE. THE OWNER WILL PAY FOR ASSOCIATED INSPECTION FEES.

1.5.4 UPON COMPLETION OF THE WORK, PROVIDE THE ARCHITECT WITH WRITTEN CERTIFICATION OF ACCEPTANCE OF WORK BY THE GOVERNING AGENCY HAVING JURISDICTION.

PART 2 - PRODUCTS 2.1 DESIGN CRITERIA

2.1.1 GENERAL

2.1.1.1 ALL IMPROVEMENTS SHALL BE CONSTRUCTED PER THE REFERENCED STANDARDS, THE CONTRACT DOCUMENTS, AND AS SPECIFIED IN THIS SECTION.

2.1.1.2 WHERE CRITERIA SHOWN ON DRAWINGS OR SPECIFIED IN THIS SPECIFICATION EXCEED THAT OF THE REFERENCED STANDARDS, THE MORE STRINGENT CRITERIA SHALL APPLY.

2.2 CAST-IN-PLACE CONCRETE

2.2.1 GENERAL

2.2.1.1 ALL CONCRETE SHALL BE TRANSIT MIXED, COMPLYING WITH ATSM C94.

2.2.1.2 ALL CONCRETE SHALL BE SUPPLIED FROM A SINGLE SOURCE, USING A SINGLE CEMENT SUPPLIER.

2.2.1.3 ALL CEMENT SHALL BE PORTLAND CEMENT, TYPE II, LOW ALKALI PER ASTM C150, AND PRODUCED WITHIN THE UNITED STATES.

2.2.2 PRODUCT CHARACTERISTICS: PAVING/FLATWORK:

2.2.2.1 COMPRESSIVE STRENGTH: 3250 PSI. STRENGTH SELECTED FOR DURABILITY. CONCRETE IS NON-STRUCTURAL, AND DOES NOT REQUIRE SPECIAL INSPECTION.

2.2.2.2 COMBINED AGGREGATE GRADING:

2.2.2.2.1 CLASS C PER STANDARD SPECIFICATION SECTION 201-1.3.2

2.2.2.2.2 AGGREGATE SHALL BE NON-REACTIVE PER ASTM C 289, AND SHALL COMPLY WITH ASTM C33, TABLE 3, CLASS 4M.

2.2.2.3 CEMENT CONTENT: 560 POUNDS PER CUBIC YARD CONCRETE

2.2.2.4 SLUMP: 4 INCH MAXIMUM

2.2.2.5 FINISH: SEE 3.2 BELOW

2.2.2.6 WATER-CEMENT RATIO: .58 - .60 MAXIMUM RANGE FOR INTEGRAL COLORED CONCRETE/INCLUDING BOMANITE/BOMACHRON

2.2.2.7 FINISH: PER SECTION 303-5.5.2 OF "STANDARD SPECIFICATIONS," AND WITH FLATWORK FINISHES AS DEFINED IN THIS SECTION AND PER DRAWINGS.

2.3 PAVING BASE

2.3.1 WHERE SHOWN ON DRAWINGS, PROVIDE CRUSHED AGGREGATE BASE PER SECTION 200-2.2.1 OF THE "STANDARD SPECIFICATION".

2.4 REINFORCING STEEL

2.4.1 DEFORMED BAR: COMPLY WITH SECTION 03200 AND PER DRAWINGS.

2.4.2 WHERE DEFORMED BAR REINFORCING NOT SHOWN, PROVIDE WELDED WIRE FABRIC, FLAT SHEET STOCK, 12X12-W2.8X2.8 OR APPROVED EQUIVALENT, PER ASTM A-185, AT ALL CONCRETE PAVING CONDITIONS.

2.4.3 PROVIDE POLYETHELENE CLOSED END SLEEVE OR APPROVED ALTERNATE AT EXPANSION JOINT DOWELS. PAVEMENTS.

2.5 EXPANSION JOINT MATERIAL

2.5.1 EXPANSION JOINT MATERIAL: W. R. MEADOWS OR EQUIVALENT, CERAMAR FLEXIBLE FOAM RESILIENT FILLER, FULL DEPTH OF SLAB, 3/8 INCH THICKNESS OR AS SHOWN ON DRAWINGS.

2.5.2 JOINT CAP: W. R. MEADOWS OR EQUAL, SEALTIGHT SNAP CAP, SIZE REQUIRED FOR EXPANSION MATERIAL.

2.6 WEAKENED

PLANE JOINTS AND SCORELINES

2.6.1 SAW- CUT, SOF-CUT, OR TOOLED JOINT TECHNIQUE, WITH MAXIMUM TOOLED RADIUS EDGE OF 1/8".

2.6.2 NO "ZIP-STRIP JOINT" PRODUCTS AND TECHNIQUE PERMITTED. 2.7 CURING AND SEALING COMPOUNDS

2.7.1 CURING COMPOUND

2.7.1.1 PROVIDE SCOFIELD LITHOCHROME COLORWAX CURING COMPOUND, VOC COMPLIANT FORMULATION, AT ALL INTEGRAL COLORED AND IMPRINTED COLOR HARDENED CONCRETE PAVING. 2.7.2 CURE AND SEALING COMPOUND

2.7.2.1 PROVIDE BURKE SPARTAN-COTE WB, COMPLYING WITH ASTM C309, TYPE 1-A AND B, AT NATURAL COLOR EXTERIOR CONCRETE PAVING DESIGNATED AS CS-1.

2.8 SEALANTS

2.8.1 PROVIDE SEALANTS COMPLYING WITH SECTION 07900, AT LOCATIONS SPECIFIED OR AS SHOWN ON DRAWINGS.

2.9 OTHER MATERIALS

2.9.1 PROVIDE ALL OTHER MATERIALS, NOT SPECIFICALLY DESCRIBED BUT REQUIRED FOR COMPLETE AND PROPER INSTALLATION OF THIS WORK, AS SELECTED BY THE CONTRACTOR AND SUBJECT TO THE APPROVAL OF THE ARCHITECT.

PART 3 - EXECUTION 3.1 SURFACE CONDITIONS

3.1.1 INSPECTION

3.1.1.1 PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE.

3.1.1.2 VERIFY THAT CONCRETE PAVEMENT MAY BE INSTALLED IN STRICT ACCORDANCE WITH THE ORIGINAL DESIGN, ALL PERTINENT CODES AND REGULATIONS, AND ALL PERTINENT PORTIONS OF THE REFERENCED STANDARDS.

3.1.1.3 IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE ARCHITECT.

3.1.1.4 DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED.

3.2 CONCRETE PAVING INSTALLATION

3.2.1 PREPARATION

3.2.1.1 VERIFY SUB-GRADE, BASE MATERIAL, CONDUIT, AND ALL OTHER EMBEDDED ITEMS ARE PROPERLY LOCATED IN RELATION TO CONCRETE PAVING. SECURE ALL EMBEDDED ITEMS AGAINST DISPLACEMENT DURING POUR.

3.2.1.2 VERIFY ALL GRADES FOR PITCH AND FALL PRIOR TO POURING PAVEMENTS. 3.2.1.3 VERIFY COMPACTION OF EXISTING SUBGRADE COMPLIES WITH CRITERIA SPECIFIED IN SECTION 02211 AND 02223.

3.2.1.4 NOTIFY INSPECTOR 48 HOURS PRIOR TO PLACING CONCRETE. OBTAIN INSPECTORS APPROVAL OF SUBGRADE, FORMING AND EMBEDDED ITEMS PRIOR TO PLACING.

3.2.2 FORMING

3.2.2.1 INSTALL FORMS IN ACCORDANCE WITH SPECIFIED TOLERANCES.

3.2.2.2 STAKE RIGIDLY IN PLACE AT MAXIMUM INTERVALS OF 4 FEET ON CENTER. SECURE SO AS TO PREVENT DISPLACEMENT DURING POURING AND FINISHING PROCESS.

3.2.2.3 INSTALL STRETCHED WIRES OR OTHER DEVICE TO PROVIDE FORM DISPLACEMENT INDICATION.

3.2.2.4 THOROUGHLY CLEAN FORMS, REMOVING DEBRIS, COATINGS AND FOREIGN MATTER. COAT FORMS WITH APPROVED BOND BREAKER, SUITABLE FOR USE ON INTEGRAL COLORED CONCRETE WITHOUT STAINING OR DISCOLORATION. PLACE SAND BED OVER EXISTING PAVING RECEIVING NEW CONCRETE PAVING.

3.2.3 PLACEMENT

3.2.3.1 PROOF ROLL EXISTING SUB-GRADE PRIOR TO INSTALLING BASE. WHERE SHOWN ON DRAWINGS, PLACE SPECIFIED BASE MATERIAL OVER COMPACTED SUB-GRADE. COMPACT WITH HAND ROLLER OR SUITABLE ALTERNATE TO MINIMUM 95 %.

3.2.3.1.1 DAMPEN SUB-GRADE 24 HOURS PRIOR TO PLACING CONCRETE. 3.2.3.1.2 DAMPEN FORMS AS REQUIRED TO TIGHTEN JOINTS AND CRACKS IN FORMING MATERIAL.

3.2.3.2 INSTALL CONCRETE PAVING PER SECTION 303-5 OF THE "STANDARD SPECIFICATIONS", AS SPECIFIED, AND AS SHOWN ON DRAWINGS.

3.2.3.2.1 INSTALL NATURAL COLOR CONCRETE IN SEPARATE POUR FROM IMPRINTED COLOR HARDENED CONCRETE.

3.2.3.2.1 INSTALL INTEGRAL COLOR CONCRETE PER SCOFIELD RECOMMENDATIONS.

3.2.3.2.2 INSTALL IMPRINTED COLOR HARDENED CONCRETE PER BOMANITE RECOMMENDATIONS.

3.2.3.3 PROVIDE REINFORCING IN ACCORDANCE WITH SECTION 03200 AND 03310.

3.2.3.3.1 INSTALL DEFORMED BAR REINFORCING ON APPROVED CONCRETE OR PLASTIC SUPPORTS. INSTALL IN ACCORDANCE WITH SECTION 03200.

3.2.3.3.2 DRILL EXISTING CONCRETE AS SHOWN ON DRAWINGS FOR DOWEL EMBEDS.

3.2.3.3.3 EXTEND REINFORCING BAR AT EXPANSION JOINTS ON EACH SIDE OF JOINT. SLEEVE ONE SIDE.

3.2.3.3.4 WHERE DEFORMED BAR REINFORCING NOT SHOWN, PROVIDE WIRE MESH REINFORCING ON APPROVED CONCRETE OR PLASTIC SUPPORTS. USE OF "HOOK AND PULL" METHOD OF REINFORCING PLACEMENT NOT ACCEPTABLE. LAP ALL MESH MINIMUM 12" AT EDGES.

3.2.3.5 IMPRINTED COLOR HARDENED CONCRETE:

3.2.3.5.1 FLOAT AND WOOD FLOAT SURFACE TO REQUIRED SLOPES AND PLANES.

3.2.3.5.2 APPLY BOMANITE COLOR HARDENER EVENLY TO PLASTIC SURFACE AT RATE RECOMMENDED BY MANUFACTURER. APPLY IN MINIMUM OF TWO PASSES OR SHAKES. FLOAT AFTER EACH PASS, AND STEEL TROWEL ONLY AFTER FINAL FLOATING.

3.2.3.5.3 APPLY BOMACHRON RELEASE AGENT TO STEEL TROWELED SURFACE.

3.2.3.5.4 IMPRINT CONCRETE SURFACE IN . ALIGN ALL CONTINUOUS JOINTS AT PATTERN POINTS. LIMIT IMPRINT DEPTH TO 1/4 INCH MAXIMUM AMPLITUDE. WHERE SPACE LIMITATIONS AND ABUTTING CONSTRUCTION PRECLUDE USE OF PATTERN TOOL, HAND TOOL AND TEXTURE SURFACE TO MATCH.

3.2.3.5.5 APPLY SPECIFIED CURING COMPOUND AS RECOMMENDED BY MANUFACTURER.

3.2.3.5.6 SURFACES SHALL PROVIDE A COEFFICIENT OF FRICTION IN EXCESS OF 0.60 PER ASTM C 1028.

3.2.3.6 BROOM FINISH:

3.2.3.6.1 FLOAT AND STEEL TROWEL SURFACE TO REQUIRED SLOPES AND PLANES.

3.2.3.6.2 APPLY BROOM TEXTURE, TRANSVERSE TO DIRECTION OF PEDESTRIAN TRAVEL, AND USING A STIFF WIRE OR NYLON BRISTLE BROOM.

3.2.3.6.3 PROVIDE MEDIUM BROOM TEXTURE.

3.2.3.6.4 OBTAIN APPROVAL OF FINISH TEXTURE BY ARCHITECT FOR VARIOUS APPLICATIONS.

3.2.3.7 MISCELLANEOUS FINISH:

3.2.3.7.1 FLOAT AND STEEL TROWEL SURFACE TO REQUIRED SLOPES AND PLANES.

3.2.3.7.2 AT AREAS WITHIN PEDESTRIAN TRAFFIC PATHS, APPLY VERY LIGHT UNIFORM SACK OR FLOAT FINISH TEXTURE, SUFFICIENT TO REMOVE SURFACE PASTE. DO NOT EXPOSE AGGREGATE.

3.2.3.7.3 OBTAIN APPROVAL OF FINISH TEXTURE BY ARCHITECT.

3.2.3.7.4 SURFACE SHALL PROVIDE A COEFFICIENT OF FRICTION IN EXCESS OF 0.60 PER ASTM C 1028.

3.3 JOINT TREATMENT

3.3.1 PROVIDE EXPANSION JOINTS AT LOCATIONS SHOWN ON DRAWINGS, AND AS FOLLOWS:

3.3.1.1 BEGINNING AND END OF CURVES IN CURBS AND CURBS AND GUTTER ASSEMBLIES.

3.3.1.2 WHERE PAVING IS ADJACENT TO WALLS, BOLLARD OR COLUMN PENETRATIONS, OR FOOTINGS.

3.3.1.3 TOOL ALL EDGES ADJACENT TO EXPANSION MATERIAL WITH MAXIMUM 1/8 INCH RADIUS TOOL.

3.3.1.4 REMOVE JOINT CAP. PROVIDE BONDBREAKER TAPE AT SURFACE OF JOINT MATERIAL COVER CAP.

3.3.1.5 PROVIDE SEALANT AND BACKER ROD ASSEMBLY PER SECTION 07900 AND AS SHOWN ON DRAWINGS.

3.3.1.6 PROVIDE CONSTRUCTION JOINTS ONLY AT EXPANSION JOINTS.

3.3.2 PROVIDE CONTROL (WEAKENED PLANE) JOINTS AT LOCATIONS SHOWN ON DRAWINGS, AND AS FOLLOWS:

3.3.2.1 AT CURBS, CURB AND GUTTER ASSEMBLIES, AND CROSS GUTTERS AT 20 FEET ON CENTER MAXIMUM. WHERE CONCRETE PAVEMENT OCCURS ADJACENT TO CURB, ALIGN CURB AND PAVEMENT JOINTS.

3.3.2.2 AT PAVEMENT AREAS AT ALL RE-ENTRANT CORNERS AND AT CHANGES IN DIRECTION.

3.3.2.3 PROVIDE CONTROL (WEAKENED PLANE) JOINTS BY SAW CUTTING METHOD, HAND HELD JOINTING TOOLS, OR BY USE OF SOF-CUT EQUIPMENT. USE OF ZIP-STRIP NOT ACCEPTABLE.

3.3.2.4 PROVIDE MAXIMUM 1/8 INCH EDGE RADIUS AT ALL JOINTS. WHERE SAW-CUT JOINT TECHNIQUE SELECTED, GRIND CUT EDGE TO CREATE 1/8 INCH BEVELED EDGE.

3.3.2.5 EXTEND CONTROL JOINTS A MINIMUM OF 1-1/4 INCH BELOW SURFACE, OR 1/4 THE THICKNESS OF THE CURB OR PAVEMENT, WHICHEVER IS GREATEST. PROVIDE HAND-CUTTERS, TOOLED JOINTS OR OTHER APPROVED TOOLS FOR CONDITIONS WHERE EQUIPMENT CANNOT CONTINUE CUTTING TO OUTSIDE EDGE.

3.3.2.6 SCHEDULE CUTTING CONTROL JOINTS AS NECESSARY TO AVOID RAVELING EDGE, BUT AS NECESSARY TO AVOID SHRINKAGE CRACKING OF PAVEMENT.

3.4 CONCRETE CURING AND SEALING

3.4.1 GENERAL

3.4.1.1. CURE NATURAL COLORED CONCRETE WITH SPECIFIED COMPOUND. DO NOT PERMIT OVERSPRAY ONTO COLOR HARDENED CONCRETE.

3.4.1.2 PROVIDE WIND BARRIERS AND OTHER SCREENING AS NECESSARY TO AVOID RAPID DRYING.

3.4.1.3 CURE ALL INTEGRAL COLOR AND IMPRINTED COLOR HARDENED CONCRETE WITH LITHOCHROME CURING WAX, APPLIED AS DIRECTED BY SCOFIELD.

3.4.2. ALTERNATE METHOD

3.4.2.1 ALL NATURAL COLORED SLABS MAY BE WATER CURED BY MEANS OF FINE MIST SPRAY. MAINTAIN IN DAMP CONDITION FOR A PERIOD OF SEVEN (7) DAYS AFTER POURING.

3.5.1 TOLERANCES

3.5.1.1 LEVEL: 3/16 INCH PLUS OR MINUS, AT ANY POINT, MEASURED ALONG A 10 FOOT STRAIGHT EDGE.

3.5.1.2 ADJACENT SURFACES: 1/8 INCH MAXIMUM DIFFERENCE AT ANY POINT BETWEEN ADJACENT CONCRETE POURS OR BETWEEN PAVING AND ADJACENT PAVING MATERIALS.

3.5.1.3 JOINT ALIGNMENT: 1/16 INCH DEVIATION FROM ADJACENT JOINT.

3.5.1.4 LINE: 1/4 INCH, PLUS OR MINUS, DEVIATION FROM A STRAIGHT LINE IN ANY 10 FOOT LENGTH, NON-CUMULATIVE.

3.5.2.5 FINAL ELEVATIONS SHALL COMPLY WITH GRADES AS SHOWN ON DRAWINGS, TO A TOLERANCE OF PLUS OR MINUS 0.25 INCH.

3.5.2.6 TOLERANCES DO NOT PERMIT VIOLATION OF DIMENSIONS OR GRADE AND SLOPES RELATIONSHIPS REQUIRED BY CODE OR JURISDICTIONAL AUTHORITY. ADJUST WORK AS REQUIRED TO COMPLY WITH SUCH REQUIREMENTS.

3.5.3 APPEARANCE

3.5.3.1 REMOVE AND REPLACE CONCRETE NOT MATCHING APPROVED MOCK-UP, CONCRETE NOT COMPLYING WITH SPECIFIED TOLERANCES, AND CONCRETE WITH THE FOLLOWING DEFECTS.

3.5.2.4 LINE: 1/4 INCH, PLUS OR MINUS, DEVIATION FROM A STRAIGHT LINE IN ANY 10 FOOT LENGTH, NON-CUMULATIVE.

3.5.2.5 FINAL ELEVATIONS SHALL COMPLY WITH GRADES AS SHOWN ON DRAWINGS, TO A TOLERANCE OF PLUS OR MINUS 0.25 INCH.

3.5.2.6 TOLERANCES DO NOT PERMIT VIOLATION OF DIMENSIONS OR GRADE AND SLOPES RELATIONSHIPS REQUIRED BY CODE OR JURISDICTIONAL AUTHORITY. ADJUST WORK AS REQUIRED TO COMPLY WITH SUCH REQUIREMENTS.

3.5.3.1.1 INCONSISTENT TEXTURE.

3.5.3.1.2 IRREGULAR OR MISALIGNED DIRECTION OF TEXTURE.

3.5.3.1.3 CONCRETE WITH SPALLED OR RAVELED CONTROL OR EXPANSION JOINTS.

3.5.3.1.4 CONCRETE EXHIBITING SPLOTCHING OR DISCOLORATION IN SURFACE INCLUDING DISCOLORATION DUE TO "CARBONATION".

3.5.3.1.5 CONCRETE EXHIBITING CRACKING, INCLUDING SHRINKAGE CRACKING, WHERE CRACKS ARE LOCATED BETWEEN JOINT PATTERN.

3.5.3.2 USE OF PATCHING MORTAR FOR REPAIR OF EDGE DEFECTS IS SUBJECT TO ACCEPTANCE OF FINAL COLOR AND TEXTURE BY ARCHITECT. USE OF PATCHING MORTAR NOT ACCEPTABLE FOR REPAIR OF DEFECTIVE EXPOSED AGGREGATE FINISHED CONCRETE.

PART 4 PAYMENT

4.1 PAYMENT FOR THE WORK OF THIS SECTION SHALL BE INCLUDED IN THE PRICE BID FOR "PORTLAND CEMENT CONCRETE - COMPLETE," AND NO ADDITIONAL COMPENSATION WILL BE CONSIDERED.

END OF SECTION

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
[signature] 9/21/04
TITLE ASSOCIATE DATE

REVIEWED BY: [signature] 11/03/04
INSPECTOR DATE

LICENSED LANDSCAPE ARCHITECT — STEPHEN COPLEY No. 4033 — Signature — 10-31-01 Expiration Date — 02-28-01 Date — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — KEITH A. FRENCH No. — Signature — 02-28-05 Expiration Date — 9-21-04 Date — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 26 | CITY OF CARLSBAD — PARK & RECREATION DEPARTMENT | SHEETS 41

LANDSCAPE CONSTRUCTION SPECS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS EXPIRES 12-31-01
RE: 23889 [signature] FOR CITY ENGINEER 3/29/01 DATE

DWN BY:
CHKD BY: DLH
RVWD BY: JLK

PROJECT NO. CT 90 - 03

DRAWING NO. 380-1K

1-15-01

PDC JOB No. 1607.20

T:\Engr\1607-20\Dwgs\Construction\
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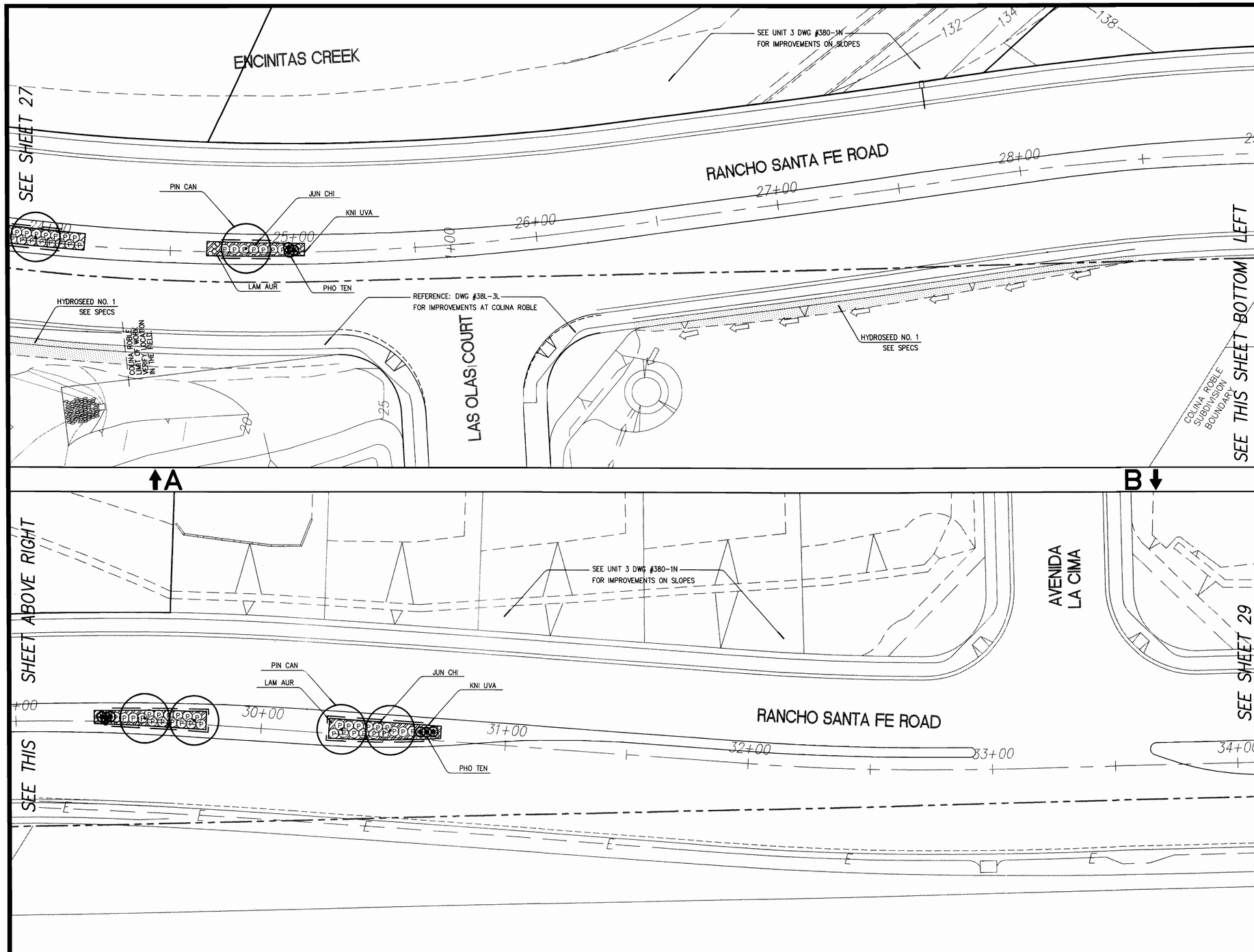
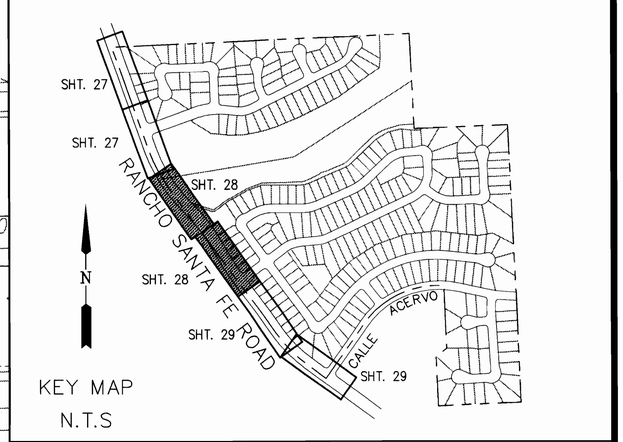


PLANTING LEGEND

SYMBOL	Botanical Name	Common Name	Typical Size	Project Total
	TREES			
	PINUS CANARIENSIS	CANARY ISLAND PINE	24" BOX	13
	SHRUBS			
	KNIPHOFIA UVARIA	RED-HOT POKER	1 GAL.	99
	JUNIPERUS C. 'PFITZERANA COMPACTA'	NICKS COMPACT PFITZER JUNIPER	5 GAL.	148
	PHORMIUM TENAX	PHORMIUM	5 GAL.	36
	GROUND COVERS			
	LAMPRANTHUS AURANTIACUS 'SUNMAN'	ICE PLANT	FLATS @ 12" O.C.	
	HYDRO MIX #1			
	TREE ROOT BARRIER TYPICAL.			

NOTE:
1. PLANT SIZES PER LEGEND UNLESS NOTED OTHERWISE ON PLAN
2. REMOVE ALL PAMPAS GRASS FROM SITE.
3. LOCATE ALL TREES 5' FROM PAVING.
4. INSTALL ROOT BARRIES 10' O.C. BOTH WAYS AT ALL TREE LOCATIONS ADJACENT TO CURB OR PAVING. - SEE SPECS
5. QUANTITIES SHOWN ARE FOR REFERNECE ONLY. LANDSCAPE CONTRACTOR SHALL PROVIDE SUFFICIENT PLANT MATERIAL TO COVER AREAS.

SEE SHEETS 30 & 31 FOR PLANTING SPECIFICATION
SEE SHEET 32 FOR PLANTING DETAILS



KEY MAP
N.T.S

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
TITLE ASSOCIATE — DATE 9/21/04
REVIEWED BY: INSPECTOR — DATE 11/03/04

VIEW A: NORTH — SCALE 0 10 20 40 FT.
VIEW B: NORTH — SCALE 0 10 20 40 FT.

LICENSED LANDSCAPE ARCHITECT — STEPHEN A. COPLEY — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — KEITH A. FRENCH — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 28 — CITY OF CARLSBAD PARK & RECREATION DEPARTMENT — SHEETS 41

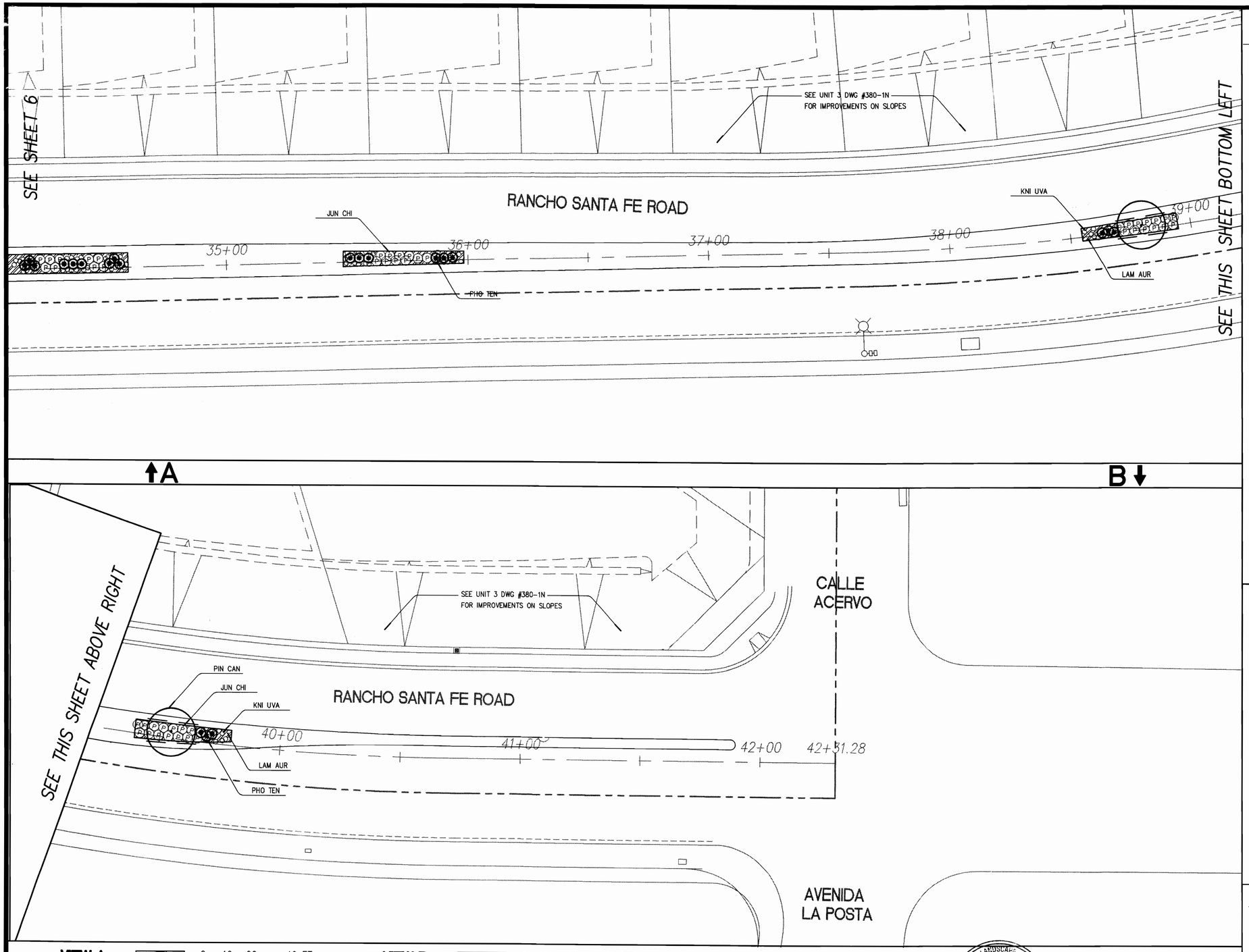
PLANTING PLANS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 4+55 THRU STA. 42+00

APPROVED: LLOYD B HUBBS — EXPIRES 12-31-01
RE: 23889 — CITY ENGINEER — DATE 3/29/01

DWN BY: CHKD BY: RVWD BY:
PROJECT NO. CT 90 - 03
DRAWING NO. 380-1K

1-15-01

PDC JOB No. 1607.20



PLANTING LEGEND

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	PHORMIUM TENAX	PHORMIUM	5 GAL.	36
	GROUND COVERS			
	LAMPRANTHUS AURANTIACUS 'SUNMAN'	ICE PLANT	FLATS @ 12" O.C.	
	HYDRO MIX #1			
	TREE ROOT BARRIER TYPICAL.			

NOTE:
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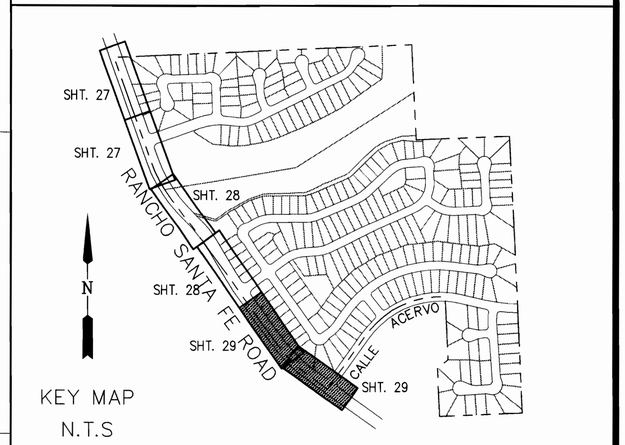
SEE SHEETS 30 & 31 FOR PLANTING SPECIFICATION
SEE SHEET 32 FOR PLANTING DETAILS



KEY MAP
N.T.S

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
TITLE ASSOCIATE — DATE 9/21/04
REVIEWED BY: INSPECTOR — DATE 11/03/04

LICENSED LANDSCAPE ARCHITECT — STEPHEN R. COPLEY — 4033 — STATE OF CALIFORNIA — Signature — Date 02-28-01

LICENSED LANDSCAPE ARCHITECT — BERTHA FRENCH — STATE OF CALIFORNIA — Signature — Date 02-28-05

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	1 AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 29 — CITY OF CARLSBAD — PARK & RECREATION DEPARTMENT — SHEETS 41

PLANTING PLANS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RE: 23889 — CITY ENGINEER — DATE 3/29/01

DWN BY: — CHKD BY: DLH — RVWD BY: JLK
PROJECT NO. CT 90 - 03
DRAWING NO. 380-1K

1-15-01

PDC JOB No. 1607.20

T:\Engr\1607-20\Dwgs\Planting\
DWG NAME: 1607-sht10-p03.dwg 1/16/01 9:44:06 am PST

SECTION 02900

LANDSCAPE FINISH GRADING, PLANTING, AND ESTABLISHMENT PERIOD

PART 1 GENERAL

1.1 DESCRIPTION

1.1.1 THE GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT APPLY TO THE WORK OF THIS SECTION THE SAME AS THOUGH WRITTEN HEREIN.

1.2 SCOPE OF WORK

1.2.1 FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT TO PROVIDE, INSTALL, AND MAINTAIN ALL SOIL PREPARATION, HEADERS, FINISH GRADING, PLANTING, AND ESTABLISHMENT PERIOD AS DESCRIBED HEREIN AND UPON THE DRAWINGS.

1.2.2 THE CONTRACTOR SHALL ADEQUATELY PROTECT THE WORK, ADJACENT PROPERTY, AND THE PUBLIC, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE, INJURY, AND LOSS DUE TO HIS ACTS OR NEGLECT. CONTRACTOR SHALL CONTINUOUSLY PROTECT AND MAINTAIN ALL AREAS INCLUDED IN THE CONTRACT DURING THE PROGRESS OF THE WORK, THROUGH THE ESTABLISHMENT PERIOD, AND UNTIL FINAL ACCEPTANCE OF THE WORK. CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OR REPLACEMENTS CAUSED BY ACTS OF VANDALISM, INCLUDING REMOVAL OF GRAFFITI, AND/OR REFINISHING, AS REQUIRED.

1.2.3 WORK NOT INCLUDED: ROUGH GRADING AND DRAINAGE.

1.2.4 THE CONTRACTOR SHALL EMPLOY ONLY CERTIFIED LANDSCAPE TECHNICIANS (CLT'S) REGISTERED WITH THE CALIFORNIA LANDSCAPE CONTRACTORS ASSOCIATION (CLCA), AS FOREMEN FOR ALL PLANTING INSTALLATION WORK.

1.3 RELATED WORK

1.3.1 SECTION 02811 - IRRIGATION SYSTEM

1.3.2 SECTION 02902 - ONE-YEAR MAINTENANCE PERIOD

1.4 SUBMITTALS, TESTS, AND INSPECTIONS

1.4.1 SUBMIT SAMPLES AND/OR DESCRIPTIVE LITERATURE AND SPECIFICATIONS FOR THE FOLLOWING:

1.4.1.1 ORGANIC SOIL AMENDMENTS.

1.4.1.2 PRE-EMERGENT HERBICIDE(S).

1.4.1.3 ALL INORGANIC SOIL AMENDMENTS, FERTILIZERS, AND CHEMICALS..

1.4.1.4 ALL PLANT MATERIALS: TREES, SHRUBS, SOD, AND GROUNDCOVERS (SEE SECTION 1.4.4 BELOW).

1.4.1.5 ORGANIC AND INORGANIC MULCH MATERIALS.

1.4.1.6 HYDROSEEDING MATERIALS AND SEEDS.

1.4.1.7 ANY MATERIALS WHICH DIFFER FROM THAT SPECIFIED, WHEN A BRAND NAME IS CALLED FOR ON THE DRAWINGS OR IN THESE SPECIFICATIONS.

1.4.1 CONTRACTOR SHALL SUBMIT TO THE ARCHITECT PHOTOCOPIES OF CURRENT CLT REGISTRATION FOR ALL FOREMEN PERFORMING WORK ON THIS PROJECT.

1.4.2 ANY SAMPLING, TESTING, OR INSPECTION COSTS OF MATERIAL ARE TO BE BORNE BY THE CONTRACTOR, AND COPIES OF INSPECTION CERTIFICATES, REQUIRED BY LAW, SHALL BE FURNISHED WITHOUT ADDITIONAL CHARGE.

1.4.3 SUBMIT, TO THE ARCHITECT, ORIGINAL (NOT PHOTOCOPIED) DELIVERY TICKETS FOR ALL MATERIALS DELIVERED TO THE JOBSITE. THIS REQUIREMENT MUST BE SATISFIED PRIOR TO COMMENCEMENT OF THE ESTABLISHMENT PERIOD.

1.4.4 ALL PLANT MATERIAL 15 GALLON AND LARGER SHALL BE APPROVED AND TAGGED AT THE SOURCE PRIOR TO DELIVERY. WHEN THIS IS NOT PRACTICAL AND APPROVED BY THE ARCHITECT, PHOTOS SHALL BE SUBMITTED FOR APPROVAL. SUBMIT SOURCE FOR ALL 5 GALLON AND SMALLER PLANT MATERIALS. REGARDLESS OF WHICH METHOD IS USED, FINAL APPROVAL OF PLANT MATERIAL SHALL OCCUR AT THE SITE. ANY PLANT MATERIAL WHICH IS NOT ACCEPTED SHALL BE IMMEDIATELY REMOVED FROM THE SITE AT CONTRACTOR'S EXPENSE.

PART 2 PRODUCTS

2.1 BOXED TREES, CONTAINER TREES, AND OTHER PLANT MATERIAL

2.1.1 NOMENCLATURE: SEE LIST OF PLANT MATERIALS ON LANDSCAPE PLANTING PLAN. PLANT SPECIES' NAMES SHALL BE PER 1996 EDITION OF SUNSET WESTERN GARDEN BOOK. BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES.

2.1.2 CONDITIONS: PLANTS SHALL BE SYMMETRICAL, TYPICAL FOR VARIETY AND SPECIES, SOUND, HEALTHY, VIGOROUS, FREE FROM PLANT DISEASE, INSECT PESTS OR THEIR EGGS, EXCESSIVE ABRASIONS OR OTHER OBJECTIONABLE DISFIGUREMENTS, AND SHALL HAVE HEALTHY, NORMAL ROOT SYSTEMS, WELL-FILLING THEIR CONTAINERS, BUT NOT TO THE POINT OF BEING ROOT BOUND. TREE TRUNKS SHALL BE STURDY AND WELL HARDENED-OFF. PLANTS SHALL NOT BE PRUNED PRIOR TO DELIVERY EXCEPT AS AUTHORIZED BY THE ARCHITECT.

2.1.3 GROUND COVER PLANTS (ROOTED CUTTINGS) SHALL HAVE BEEN GROWN IN FLATS AND SHALL REMAIN IN THOSE FLATS UNTIL TIME FOR TRANSPLANTING. AT TIME OF TRANSPLANTING, THE FLAT SOIL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT THE SOIL DOES NOT FALL APART WHEN LIFTING PLANTS FROM FLAT. EACH PLANT SHALL BE PLANTED WITH ITS PROPORTIONATE AMOUNT OF THE FLAT SOIL IN A MANNER THAT WILL ENSURE A MINIMUM OF DISTURBANCE TO THE ROOT SYSTEM. PLANTS SHALL BE FULLY DEVELOPED AND HARDENED OFF AND SHALL BE FILLING THE FLAT.

2.1.4 IN NO CASE SHALL TREES OR SHRUBS BE TOPPED OR PRUNED WITHIN 6 MONTHS PRIOR TO DELIVERY. PLANTS SHALL BE GROWN IN NURSERIES WHICH HAVE BEEN INSPECTED BY THE STATE DEPARTMENT OF AGRICULTURE AND HAVE COMPLIED WITH ITS REGULATIONS.

2.1.5 IDENTIFICATION: PLANTS SHALL BE OF THE VARIETY AND SIZE SHOWN ON THE DRAWINGS, AND SHALL CONFORM TO THE REQUIREMENTS HEREIN. ONE OF EACH BUNDLE OR LOT SHALL BE TAGGED WITH PLANT NAME IN ACCORDANCE WITH RECOMMENDATIONS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.

2.1.6 SUBSTITUTIONS: SUBSTITUTIONS FOR THE INDICATED PLANT MATERIALS WILL BE PERMITTED, PROVIDED THE SUBSTITUTE MATERIALS ARE REVIEWED IN ADVANCE BY THE ARCHITECT, AND THE SUBSTITUTIONS ARE MADE AT NO ADDITIONAL COST TO THE OWNER, EXCEPT FOR THE VARIATIONS SO AUTHORIZED, ALL SUBSTITUTE PLANT MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THESE SPECIFICATIONS. IF ACCEPTED SUBSTITUTE MATERIALS ARE LESS VALUE THAN THOSE INDICATED OR SPECIFIED, THE CONTRACT PRICE WILL BE ADJUSTED IN ACCORDANCE WITH THE PROVISIONS OF THE CONTRACT.

2.1.7 CONTAINER PLANT INSPECTION AND REJECTION: ROOT CONDITION OF CONTAINER PLANTS WILL BE DETERMINED BY THE ARCHITECT THROUGH THE REMOVAL OF PLANT FROM THE CONTAINER OF AT LEAST TWO PLANTS BUT NOT MORE THAN 2% OF THE TOTAL NUMBER EACH SPECIES FROM EACH SOURCE.

2.1.8 ARCHITECT WILL INSPECT TREES UPON DELIVERY. TREES AND/OR SHRUBS WILL BE REJECTED IF ANY ONE OF THE FOLLOWING CHARACTERISTICS ARE PRESENT:

A. ENLARGED CANKERS OR GALLS AT THE BASE OF THE TRUNK, JUST ABOVE THE SOIL LEVEL.
B. CROOKED TRUNKS.
C. SCARS OR TRUNK DAMAGE, BROKEN BRANCHES, ETC.
D. ASYMMETRICAL BRANCHING.
E. ROOTBOUND CONDITION.
F. ANY TREES THAT HAVE BEEN RECENTLY PRUNED BACK.

2.1.8.1 ALL TREES SHALL BE MATCHING IN SIZE AND SHAPE, IF CALLED FOR ON THE DRAWINGS OR IN THESE SPECIFICATIONS.

2.1.9 QUANTITIES: IN ALL CASES, QUANTITIES OF PLANT MATERIAL SHALL BE FURNISHED AS NEEDED TO COMPLETE WORK AS INDICATED ON THE DRAWINGS, INCLUDING RESEEDING, REPLANTING, AND MAINTENANCE (REPLACEMENTS) DURING THE CONTRACT PERIOD.

2.1.10 WHERE PALMS ARE SPECIFIED BY HEIGHT, CTH (CLEAR TRUNK HEIGHT) SHALL BE AS MEASURED FROM THE SOIL LEVEL TO THE BASE OF THE PETIOLE OF THE LOWEST FROND WITH AN ANGLE OF LESS THAN 90 DEGREES TO THE TRUNK.

2.2 SOIL AMENDMENTS

2.2.1 ALL AREAS TO BE PLANTED AND IRRIGATED SHALL RECEIVE SOIL AMENDMENTS, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.

2.2.2 THE FOLLOWING SOIL AMENDMENTS ARE TO BE USED AS THE BASIS FOR BIDS. ONCE ALL SITE IMPROVEMENTS ARE IN PLACE AND APPROXIMATE FINISH GRADES ESTABLISHED, THE CONTRACTOR SHALL FURNISH TO THE ARCHITECT A SOILS REPORT MADE FROM THE SURFACE AND SUBSURFACE (18" BELOW GRADE) SOIL BY AN APPROVED AGRICULTURAL LAB. THE REPORT SHALL INCLUDE PH, N-P-K, SAR, ECE, BORON LEVELS, AND SOIL PARTICLE SIZE AND TEXTURAL EVALUATION. ARCHITECT SHALL REVIEW THIS REPORT PRIOR TO COMMENCEMENT OF SOIL PREPARATION OR PLANTING, AND RECOMMEND ADJUSTMENTS TO THE CONTRACTOR, IF REQUIRED.

2.2.2.1 SOIL PREPARATION FOR TURF AREAS, AMOUNT PER 1000 SQUARE FEET: 3 CU. YDS. SEA-SOIL, COMPOSTED KELP ORGANIC AMENDMENT (AVAILABLE FROM TRI-C ENTERPRISES, CHINO, CA, (800) 927-3311) 50 LBS. HUMATE PLUS 25 LBS. 16-6-8 GRANULAR FERTILIZER 200 LBS. AGRICULTURAL GYPSUM 10 LBS. SOIL SULFUR

2.2.2.2 GENERAL SOIL PREPARATION FOR AREAS WHICH ARE LESS THAN 2:1 IN SLOPE ASPECT RATIO, AMOUNT PER 1000 SQUARE FEET: 4 CU. YDS. COMPOSTED ORGANIC SOIL AMENDMENT (PER SECTION 2.2.3). 50 LBS. HUMATE PLUS, (AVAILABLE FROM TRI-C ENTERPRISES, CHINO, CA, (800) 927-3311) 50 LBS. HUMATE PLUS 25 LBS. 16-6-8 GRANULAR FERTILIZER 200 LBS. AGRICULTURAL GYPSUM 10 LBS. SOIL SULFUR

2.2.2.3 TOP DRESS ALL SLOPE AREAS 2:1 OR STEEPER IN SLOPE ASPECT RATIO WITH THE FOLLOWING AMENDMENTS, LIGHTLY RAKED INTO THE SOIL (1/4 INCH DEPTH), AMOUNT PER 1000 SQUARE FEET: 9 CU. FT. COMPOSTED ORGANIC SOIL AMENDMENT (PER SECTION 2.2.3) 200 LBS. AGRICULTURAL GYPSUM 10 LBS. SOIL SULFUR 1 PINT SARVON SOIL PENETRANT (SPRAYER-APPLIED).

2.2.3 COMPOSTED ORGANIC SOIL AMENDMENT

2.2.3.1 SHALL BE RECYC COMPOST SOIL CONDITIONER, AVAILABLE FROM RECYC, INC. 114 BUSINESS CENTER DRIVE, CORONA, CA 91720-1724, (919) 371-3929, OR EQUIVALENT. OR

2.2.3.1 SHALL BE EARTHWISE ECO-HUMUS SOIL AMENDMENT, AVAILABLE FROM A.J. ECOLOGY INDUSTRIES, INC., RANCHO SANTA FE, CA, (619) 744-0942, OR EQUIVALENT.

2.2.3.2 PRODUCT SHALL CONSIST OF A BLEND OF SEWAGE SLUDGE, RECYCLED GARDEN WASTE, AND WOOD BY-PRODUCTS. IT SHALL BE PROPERLY CURED FOR A MINIMUM OF 150 DAYS, AND BE FREE FROM ANY TRASH, DELETERIOUS MATERIALS, AND/OR TOXIC CHEMICALS. PRODUCT SHALL BE NON-HAZARDOUS, AND CONFORM WITH US ENVIRONMENTAL PROTECTION AGENCY 40 CFR 503 CRITERIA FOR "CLASS A" PRODUCT. IT SHALL EXCEED STANDARDS AND SPECIFICATIONS FOR UNRESTRICTED APPLICATION AS A LANDSCAPING AND AGRICULTURAL SOIL AMENDMENT.

2.2.3.3 PRODUCT SHALL BE RICH FULLY COMPOSTED 100% RECYCLED ORGANIC PRODUCT CONSISTING OF 35% DIGESTED, CENTRIFUGED, COMPOSTED BIO-SOLIDS AND 65% AGED WOOD FIBERS.

2.2.3.4. FOR EACH PRODUCT TO BE USED, CONTRACTOR SHALL SUBMIT A SAMPLE AND SPECIFICATION SHEET, INCLUDING PARTICLE SIZE EVALUATION, TOTAL N (NITROGEN), NH4-N (AMMONIA), NO3-N (NITRATE), ECE, PH, MICRO NUTRIENTS, AND METALS. GUARANTEED ANALYSIS SHALL CONFORM TO THE FOLLOWING, VARIANCE ALLOWABLE: WITH A ±10

TOTAL NITROGEN	0.50 %
(1) ORGANIC N	0.40 %
(2) AMMONIUM/N	0.09 %
(3) NITRATE N	0.01 %
PHOSPHORUS (AS P2O5)	8,684
POTASSIUM (AS K2O)	5,485
CALCIUM	25,783
COPPER	195
IRON	17,562
MAGNESIUM	4,413
MANGANESE	283
SULFUR	4,927
ZINC	362
BORON	<100 PPM
CARBON:NITROGEN RATIO	20:1
ORGANIC MATTER (DRY WT BASIS)	40 %
ECE	<10.50 MMHOS/CM
PH RANGE	7.2-7.8
MOISTURE CONTENT	45-50 %
BULK DENSITY	1,100 LBS. PER CU. YD

2.2.3.5 PARTICLE SIZE SHALL BE 100% PASSING A 1/2" SCREEN.

2.2.4 THE CONTRACTOR IS RESPONSIBLE FOR CORRECTION OF SOIL PH, NUTRIENT LEVELS, AND CHEMICAL BALANCE UNTIL FINAL ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL TAKE SOIL SAMPLES FROM THREE SEPARATE LOCATIONS AS DIRECTED BY THE LANDSCAPE ARCHITECT, AND PREPARE SOILS REPORTS BY A TESTING SERVICE APPROVED BY THE LANDSCAPE ARCHITECT. PREPARE SOILS REPORTS BEFORE PREPARING SOIL, AT THE START OF THE ESTABLISHMENT PERIOD, ON THE 45TH DAY OF ESTABLISHMENT PERIOD, AND ON THE 80TH DAY OF ESTABLISHMENT PERIOD. CORRECT ANY DEFICIENCIES IDENTIFIED AT TESTING INTERVALS BY AMENDING OR TOP DRESSING AS REQUIRED, AT NO ADDITIONAL COST TO THE OWNER.

2.3 HYDROSEEDING MATERIALS

2.3.1 HYDROSEED SLURRY COMPOSITION SHALL BE AS FOLLOWS:

HYDROSEED MIX 1

SPECIES	LBS / ACRE	MIN. % PURITY / GERMINATION
CAMISSONIA BISTORTA	1.0	30/60
DICHELOSTEMMA CAPITATUM	2.0	90/60
ESCHSCHOLZIA CALIFORNICA	0.5	98/80
LUPINUS BICOLOR SSP. UMBELLARUS	2.0	98/85
MIMULUS AURANTIACUS	1.0	2/60
NASELLA CERNUA	6.0	90/60
NASELLA LEPIDA	4.0	90/60
NASELLA PULCHRA	10.0	90/60
SISYRINCHIUM BELLUM	2.0	95/75
	29.5	

CELLULOSE WOOD FIBER; 2,200 LBS
GRO-POWER CONTROLLED RELEASE; 12-8-8; 12 LBS.
GRO-POWER PLUS; 5-3-1; 18 LBS.
GRANULAR FERTILIZER; 16-8-8; 5 LBS.
FREEZE DRIED MICORIZZA ON BRAN; 4 OUNCES (SOAK 24 HOURS IN LUKEWARM WATER)
SARVON SOIL PENETRANT; 1 PINT

2.4.2 ALL SEED SHALL BE NEW CROP SEED LABELED IN ACCORDANCE WITH US. DEPARTMENT OF AGRICULTURE RULES AND SHALL BE FURNISHED IN SEALED, STANDARD CONTAINERS. SEED WHICH HAS BECOME WET, MOLDY, OR OTHERWISE DAMAGED, WILL NOT BE ACCEPTABLE.

2.4.3 SEED AND/OR STOLON TYPES SHALL BE AS SPECIFIED AND SHALL BE APPLIED AT THE RATES INDICATED ABOVE.

2.4.4 MULCH MATERIAL SHALL BE CLEAN, NATURAL WOOD CELLULOSE FIBER. NATURAL WOOD CELLULOSE FIBER SHALL BE PROCESSED IN SUCH A MANNER THAT IT WILL CONTAIN NO GROWTH OR GERMINATION INHIBITING FACTORS AND SHALL BE DYED GREEN TO FACILITATE METERING OF MATERIALS. IT SHALL BE MANUFACTURED IN SUCH A MANNER THAT AFTER EACH ADDITION AND AGITATION IN SLURRY TANKS WITH FERTILIZER, SEED, WATER, AND OTHER APPROVED ADDITIVES, THE FIBERS IN THE MATERIAL WILL BECOME UNIFORMLY SUSPENDED TO FORM A HOMOGENEOUS SLURRY; AND THAT WHEN HYDRAULICALLY SPRAYED, WILL UNIFORMLY COVER THE GROUND WITH SEED AND MULCH, AND WHICH AFTER APPLICATION, WILL ALLOW THE ABSORPTION OF MOISTURE AND WILL ALLOW RAINFALL TO PERCOLATE TO THE UNDERLYING SOIL. MATERIALS WHICH INHIBIT GERMINATION OR GROWTH SHALL NOT BE PRESENT IN THE MIXTURE.

2.4.5 STABILIZATION AND WATER RETAINING AGENTS SHALL BE ECOLOGY CONTROLS "M" BINDER, OR APPROVED EQUAL.

2.4.6 FERTILIZER SHALL BE AN APPROVED STANDARD BRAND CONFORMING WITH PERTINENT STATE FERTILIZER LAWS, UNIFORM IN COMPOSITION, DRY, AND FREE FLOWING.

2.4.7 FERTILIZER SHALL BE A COMMERCIAL GRADE, UNIFORM IN COMPOSITION, DRY, AND FREE FLOWING, OF ANALYSIS AS NOTED ON DRAWINGS, AND PARTICLE SIZE OF NOT LESS THAN 2% THROUGH A NUMBER 48 MESH.

2.4.8 FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINER, BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS. ANY FERTILIZER THAT BECOMES CAKED OR DAMAGED WILL NOT BE ACCEPTABLE.

2.5 EROSION CONTROL MATTING

2.5.1 SLOPES STEEPER THAN 2:1 SHALL BE PROTECTED WITH JUTE EROSION CONTROL MATTING, PROPERLY STAKED AND TIED AT 4' OC, MAXIMUM.

2.6 TREE STAKES

2.6.1 TREE STAKES SHALL BE 2" IN DIAMETER BY 8' OR 10' LONG NEW PINE LODGE POLES TREATED WITH COPPER NAPTHENATE, PER DETAILS.

2.6.2 TREE STAKES FOR 30" BOX OR LARGER TREES SHALL BE 3" IN DIAMETER.

2.6.3 TREE STAKES FOR TREEWELLS SHALL BE 2" IN DIAMETER BY 10' LONG GALVANIZED STEEL PIPE WITH THREADED GALVANIZED CAP ON TOP END.

2.7 TIES

2.7.1 TREE TIES SHALL BE "CINCH-TIE" AS MANUFACTURED BY V.I.T. PRODUCTS, ESCONDIDO, CA (619) 480-6702, OR EQUIVALENT.

2.7.2 USE 30" LONG TIES FOR 5 ¢ 15 GALLON TREES, 36" LONG FOR 24" BOX AND LARGER.

2.7.3 USE 1-1/4" OR 1-1/2" LONG GALVANIZED ROOFING NAILS TO SECURE TIES.

2.8 IMPORT SOIL OR TOPSOIL

2.8.1 IMPORT SOIL SHALL BE CLASS A TOPSOIL NATURAL, FRIABLE, WELL-DRAINING SOIL. PROVIDE SOIL FREE FROM SUBSOIL, BRUSH, OBJECTIONABLE WEEDS, SEEDS, ROCKS, ORGANIC OR INORGANIC DEBRIS, SILT, AND CLAY. THE SOIL SHALL BE FREE OF ANY TOXIC SUBSTANCE, ORGANIC OR INORGANIC; SOIL STERILANTS; SALTS; AND NO SOIL REMOVED FROM ROAD BED EXCAVATIONS.

2.8.2 THE CONTRACTOR SHALL FURNISH UPON THE REQUEST OF THE ARCHITECT A SOILS REPORT MADE FORM THE INTENDED IMPORT BY AN APPROVED AGRICULTURAL LAB. THE REPORT SHALL INCLUDE PH, N-P-K, SAR, MINERALS, MICRO- NUTRIENTS, ECE, BORON LEVELS, SOIL PARTICLE SIZE, AND TEXTURAL ELEVATION. SOIL IMPORTED TO SITE AND FOUND TO BE UNSUITABLE BY THE ARCHITECT SHALL BE REMOVED FROM THE SITE AND REPLACED WITH AN APPROVED SOIL AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PAY ALL EXPENSES FOR SOIL TESTING OF IMPORT MATERIALS.

2.9 ORGANIC MULCH MATERIAL

2.12.1 SHALL BE EARTHWISE "ECO-MULCH", AS MANUFACTURED BY A.J. ECOLOGY INDUSTRIES, INC., SAN MARCOS, CA, (619) 744-0942, OR EQUIVALENT.

2.12.2 MULCH SHALL CONSIST OF 100% RECYCLED ABOVE GROUND TREE PRODUCTS. MULCH SHALL CONTAIN NO DEMOLITION WOOD WASTE, GRASS, WEED SEED, YUCCA, PALM, BAMBOO, OR OTHER SUCCULENTS OR CONTAMINANTS. MULCH SHALL BE NITROGEN STABILIZED AND SHALL CONTAIN NO TRASH, HAZARDOUS WASTE, OR TOXIC MATERIALS.

2.12.3 MULCH SHALL BE GROUND AND SCREENED TO PRODUCE A 3" TO 3/8" PARTICLE SIZE.

2.13 PRE-EMERGENT HERBICIDE (SHRUB AND PLANTED GROUNDCOVER AREAS ONLY)

2.13.1 PRE-EMERGENT HERBICIDES SHALL BE WETTABLE POWDER OR GRANULAR TYPE.

2.13.2 SELECT PRE-EMERGENT HERBICIDE APPROPRIATE TO SITE AREA, SOIL TYPE, INDIGENOUS WEEDS TO BE CONTROLLED, AND TYPE OF GROUND COVER TO BE PLANTED.

2.13.3 DO NOT USE PRE-EMERGENT HERBICIDES IN AREAS TO BE HYDROSEEDED OR STOLONIZED.

2.13.4 FOLLOW ALL MANUFACTURERS PRECAUTIONS AND LABEL INSTRUCTIONS. COMPLY WITH ALL LOCAL JURISDICTIONAL RESTRICTIONS AND ORDINANCES.

2.14 FERTILIZER TABLETS

2.14.1 TABLETS SHALL BE "AGRIFORM" AS MANUFACTURED BY SIERRA INDUSTRIES

2.14.2 AGRIFORM 21 GRAM TABLETS.

2.14.3 AGRIFORM 5 GRAM TABLETS.

PART 3 EXECUTION

3.1 SCHEDULING

3.1.1 OBSERVATION

3.1.1.1 PRIOR TO WORK OF THIS SECTION, CAREFULLY INSPECT PREVIOUSLY INSTALLED WORK. VERIFY ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE.

3.1.1.2 VERIFY THAT WORK OF THIS SECTION MAY BE INSTALLED IN STRICT ACCORDANCE WITH THE ORIGINAL DESIGN, ALL PERTINENT CODES AND REGULATIONS, AND ALL PERTINENT PORTIONS OF THE REFERENCED STANDARDS.

3.1.1.3 IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE ARCHITECT.

3.1.1.4 DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED.

3.1.2 PLANTING OPERATIONS SHALL NOT COMMENCE UNTIL COMPLETION OF ALL CONSTRUCTION WORK, GRADING, SOIL PREPARATION, WEED CONTROL, AND SPRINKLER INSTALLATION.

3.1.3 IRRIGATION SYSTEM SHALL BE FULLY OPERATIONAL INCLUDING AUTOMATIC CONTROLLER, BEFORE COMMENCING PLANTING OPERATIONS.

3.2 SOIL PREPARATION

3.2.1 FOR AREAS TO RECEIVE HYDROSEEDING, SOD, STOLONS, OR FLATTED GROUNDCOVERS ONLY: IRRIGATE SITE NORMALLY FOR TWO WEEKS TO GERMINATE WEEDS. APPLY CONTACT HERBICIDE PER MANUFACTURER. REPEAT PROCESS IF REQUIRED BY ARCHITECT.

3.2.2 RIP IN TWO DIRECTIONS, ALL AREAS TO RECEIVE SOIL AMENDMENTS TO A MINIMUM DEPTH OF 12 INCHES.

3.2.3 REMOVE ALL STONES AND HARD CLODS 3" IN DIAMETER AND LARGER FROM THE TOP 6" OF SOIL.

3.2.4 APPLY SOIL AMENDMENTS AS SPECIFIED, EVENLY AND AT THE SPECIFIED APPLICATION RATES.

3.2.5 ROTOTILL TOP 6" OF SOIL TO A LOOSE AND FRIABLE CONSISTENCY.

3.2.6 FINISH GRADE TO CONTOURS AND SPOT ELEVATIONS SHOWN ON DRAWINGS.

3.2.7 AT TIME OF PLANTING, TOP 3" OF SOIL IN ALL AREAS TO BE PLANTED OR SEEDED SHALL BE FREE OF STONES, STUMPS, ROOTS, OR OTHER DELETERIOUS MATTER 1" IN DIAMETER OR LARGER AND SHALL BE FREE FROM ALL WIRE, PLASTER, OR SIMILAR OBJECTS THAT WOULD BE A POTENTIAL HAZARD OR HINDRANCE TO PLANTING OR MAINTENANCE.

3.2.8 SLOPES STEEPER THAN 2:1 SHALL BE RAKED SMOOTH, BUT SHALL NOT RECEIVE SOIL AMENDMENTS (EXCEPT IN PLANT PITS, IF ANY); UNLESS SPECIFIED ON THE DRAWINGS.

3.3 LANDSCAPE FINISH GRADING

3.3.1 FINISH GRADING AFTER SOIL PREPARATION SHALL ESTABLISH FINAL FLOW LINES AND GRADIENTS FOR UNIFORM WATER DRAINAGE. FLOW LINES AND GRADIENTS SHALL BE ESTABLISHED FROM THE HIGH POINT TO THE DRAINAGE OUTLET OR AN INLET STRUCTURE.

3.3.2 FINISH GRADE FOR ALL LAWN AREAS SHALL BE 1" BELOW SIDEWALKS AND CURBS, EXCEPT AT LOCATIONS WHERE DRAINAGE WATER WILL FLOW ONTO OR ACROSS HARDSCAPE, CURBS, OR PAVING. AT THESE CONDITIONS THE GRADE SHALL BE FLUSH OR NO MORE THAN 1/2" BELOW HARDSCAPING. FINISHED GRADES SHALL BE OF UNIFORM SLOPE AND GRADE BETWEEN POINTS OF FIXED ELEVATIONS OR ELEVATION CONTROLS. FINISH GRADES SHALL BE ESTABLISHED FROM SUCH POINTS.

3.3.3 ALL FINISH GRADES SHALL BE FLOATED TO ASSURE A UNIFORM SURFACE WITHOUT IRREGULAR DIPS OR RIDGES. ALL TURF AREAS SHALL BE FLOATED WITH A MINIMUM 4' WIDE FLOAT AND GRADED AWAY FROM THE ESTABLISHED FLOWLINE. ROLL ALL TURF AREAS AND REFLOAT TO ELIMINATE DEPRESSIONS.

3.3.4 CONTRACTOR SHALL BE RESPONSIBLE FOR BRINGING ALL SHRUB PLANTING AREAS TO FINISH GRADE AFTER SOIL PREPARATION WHICH SHALL BE 2" BELOW PAVING AND CURBS OR AS NOTED BY SPOT ELEVATIONS. SPECIAL ATTENTION SHALL BE GIVEN TO MAINTAINING CONTINUOUS AND EVEN FLOW LINES, AND DRAINAGE AWAY FROM STRUCTURES, TO DRAIN INLET OR OUTLET. GRADES SHALL BE ESTABLISHED TO DRAIN ALL WATER AWAY FROM STRUCTURES BEHIND WALLS. WHEN DRAINAGE IS DIFFICULT TO ACHIEVE, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND REQUEST A SOLUTION BEFORE CONTINUING. GRADES IN SHRUB AREAS SHALL BE ESTABLISHED PRIOR TO PLANTING TO ENSURE PROPER FINAL PLANTING HEIGHTS.

3.3.5 ALL FILL AREAS AND CONSTRUCTED BERMS OR MOUNDS SHALL BE COMPACTED IN EVEN LEVELS TO COMPACTION AS SPECIFIED IN THE GEOTECHNICAL REPORT.

3.4 SPACING / LOCATION OF PLANT MATERIALS

3.4.1 WHEN PLANT MATERIAL IS SPACED IN ROWS, THE TOTAL DIMENSION SHALL BE VERIFIED AND THE PLANTS EQUALLY SPACED WITHIN THE DESIGNATED AREA. WHEN PLANT MATERIAL IS SHOWN IN A LOOSE PATTERN, THE CONTRACTOR SHALL SPACE THE MATERIAL AS SHOWN ON DRAWINGS AND AS DIRECTED BY ARCHITECT. GROUND COVER MATERIAL SHALL BE TRIANGULARLY SPACED PER DIMENSION INDICATED ON DRAWINGS (WHERE APPLICABLE.)

3.4.2 ALL BOXED AND CONTAINER STOCK SHALL BE SPOTTED ON-SITE BY THE CONTRACTOR PER DRAWINGS PRIOR TO PLANTING. PLANT PITS SHALL NOT BE EXCAVATED UNTIL THE REVIEW OF PLANT LOCATIONS BY THE ARCHITECT.

3.4.3 THE WORK SHOWN ON PLANTING PLANS IS SCHEMATIC. ALL ITEMS, I.E. TREES, SHRUBS, GROUNDCOVERS, ETC., ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. DETAIL DRAWINGS MAY PROVIDE ADDITIONAL CLARIFICATION OR LOCATION OF SOME ITEMS. CONTRACTOR SHALL NOT LOCATE ANY ITEMS WHERE IT IS OBVIOUS THAT THEY ARE IN DIRECT PERMANENT IMPROVEMENTS, OR PEDESTRIAN AND VEHICULAR SAFETY CONSIDERATIONS. CONTRACTOR SHALL NOT INSTALL ANY PLANT MATERIALS IN LOCATIONS WHERE THE ULTIMATE GROWTH OF THE PLANT MATERIALS WILL DAMAGE OR AFFECT STRUCTURES OR IMPEDE PEDESTRIAN OR VEHICULAR CIRCULATION. DO NOT LOCATE TREES OR TALLER SHRUBS IN LOCATIONS WHERE THEY WILL BLOCK IRRIGATION HEADS AND PREVENT ADEQUATE COVERAGE. WHERE CALLED FOR, OBTAIN APPROVAL OF THE LANDSCAPE ARCHITECT FOR PLACEMENT OF TREES, SHRUBS, AND OTHER ITEMS OF WORK.

3.4.4 LOCATE TREES AND TALLER SHRUBS 10' MINIMUM AWAY FROM ROTOR IRRIGATION HEADS, 5' MINIMUM FROM SPRAY HEADS.

3.5 PLANT PITS AND PLANTING TECHNIQUE

3.5.1 PLANT PITS SHALL BE DUG WITH LEVEL BOTTOMS WITH WIDTHS AND DEPTHS AS SHOWN IN DETAIL DRAWINGS. PITS FOR TREES SHALL BE DUG SQUARE. FILL PITS WITH WATER AND ALLOW TO DRAIN OUT.

3.5.2 PLANT HOLES DUG BY AUGER METHOD WILL BE ACCEPTABLE, BUT SHALL HAVE SIDE WALLS ROUGHENED OR SQUARED WITH A SHOVEL. SLICK PIT WALLS CAUSED BY AUGURING IN TOO WET SOIL WILL NOT BE ACCEPTED FOR PLANTING.

3.5.3 REMOVAL FROM METAL CONTAINERS: ALL CANNED STOCK 7 GALLON SIZE AND UNDER SHALL BE VERTICALLY CUT ON TWO OPPOSITE SIDES WITH APPROVED INSTRUMENTS FOR THAT PURPOSE; 15 GALLON SIZE CONTAINERS SHALL BE CUT ON FOUR OPPOSITE SIDES. CUTTING WITH AN AXE OR SPADE WILL NOT BE PERMITTED.

3.5.4 HANDLING: NO CANNED PLANT MATERIAL SHALL BE PLANTED IF THE BALL IS BROKEN OR CRACKED EITHER BEFORE OR DURING THE PROCESS OF PLANTING.

3.5.5 SETTING: PLANTS SHALL BE SET WITH TOP OF ROOT BALL 1" ABOVE FINISH GRADE. EACH PLANT SHALL BE PLACED IN CENTER OF PLANT PIT.

3.5.6 PIT BACKFILLING

3.5.6.1 BACKFILL MATERIAL FOR PLANT PITS SHALL BE A MIXTURE AS NOTED BELOW OR AS INDICATED ON DRAWINGS. THE MATERIALS SHALL BE THOROUGHLY BATCH-MIXED PRIOR TO PLACEMENT SO THAT THEY ARE EVENLY DISTRIBUTED AND WITHOUT CLODS OR LUMPS. BACKFILL SHALL BE SO PLACED IN THE PITS THAT THE PLANT WILL BE AT ITS NATURAL GROWING HEIGHT AFTER SETTLEMENT.

90 % BY VOLUME - EXCAVATED SOIL, FREE FROM ROCKS, ETC. (PER SECTION 3.2.6)
10 % BY VOLUME - COMPOSTED ORGANIC SOIL AMENDMENT (PER SECTION 2

3.5.8 INSTALL TREE ROOT BARRIERS, IF CALLED FOR ON THE PLANS PER DETAILS.

3.6 TREE STAKING

3.6.1 STAKE ALL TREES AS SHOWN IN DETAILS.

3.6.2 TREE AND STAKES SHALL BE VERTICAL IN ALL CASES.

3.6.3 ONE GALLON TREES SHALL BE PLANTED WITH NURSERY STAKES REMOVED.

3.7 FLATTED GROUND COVER

3.8.1 ROOTED CUTTINGS SHALL BE PLANTED SUFFICIENTLY DEEP TO COVER ALL ROOTS AND SPACED AS SPECIFIED IN GROUND COVER LIST ON LANDSCAPE PLAN.

3.8.2 ROOTED CUTTINGS SHALL NOT BE ALLOWED TO DRY OUT BEFORE OR WHILE BEING PLANTED. WILTED PLANTS SHALL NOT BE ACCEPTED.

3.8.3 AT TIME OF PLANTING ALL GROUND COVER PLANTS, THE EARTH AROUND EACH PLANT SHALL BE FIRMED SUFFICIENTLY TO FORCE OUT ALL AIR POCKETS.

3.8.4 EACH GROUND COVER PLANT SHALL BE PLANTED WITH A MINIMUM OF ONE (1) 5 GRAM 20-15-5 PLANT TABLET ADJACENT TO ROOT ZONE.

3.9 APPLICATION OF PRE-EMERGENT HERBICIDE(S)

3.9.1 APPLY PRE-EMERGENT HERBICIDE(S) TO SHRUB AND PLANTED GROUNDCOVER AREAS ONLY. DO NOT APPLY TO HYDROSEEDED AREAS. STRICTLY ADHERE TO MANUFACTURER'S SPECIFICATIONS FOR APPLICATION RATES AND METHODS.

3.9.2 APPLY PRE-EMERGENT(S) ONLY AFTER ALL PLANTING OPERATIONS HAVE BEEN COMPLETED SO AS TO MINIMIZE DISTURBANCE OF THE CHEMICAL "BARRIER". REAPPLY WHERE NECESSARY TO ANY AREAS DISTURBED BY PLANTING OR REPAIR OPERATIONS AFTER INITIAL APPLICATION.

3.9.3 PAY CAREFUL ATTENTION TO ACTIVATION REQUIREMENTS, "WATERING-IN", ETC., PER MANUFACTURER'S SPECIFICATIONS AND LABEL INSTRUCTIONS. AVOID EXCESSIVE IRRIGATION RUN-OFF THAT WOULD MOVE OR WASH AWAY THE PRE- EMERGENT "BARRIER" -- USE REPEAT WATERING CYCLES AND SPLIT WATERING TIMES.

3.10 HYDROSEEDING / HYDROSTOLONIZING

3.10.1 AFTER PREPARATION OF SOIL HAS BE COMPLETED, THE AREAS TO BE SEEDED SHALL BE BROUGHT TO A FINISH GRADE, WITH THE FINISH SURFACE BEING SMOOTH AND EVEN, AND REASONABLY WELL-FIRMED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE THE ENTIRE AREA SMOOTH AND EVEN, TO ENSURE THAT FINISH GRADES SHALL BE GENERALLY 1/2 INCH BELOW THE SURFACE OF WALKS, CURBS, PAVED AREAS, AND YARD BOXES IN ALL CASES WITHOUT ABRUPT CHANGES IN GRADIENT (YARD BOXES SHALL BE LEVEL).

3.10.2 THE GROUND SURFACE SHALL BE INSPECTED BY THE ARCHITECT PRIOR TO SEEDING TO DETERMINE SUITABILITY FOR PLANTING. THE CONTRACTOR SHALL OBTAIN SUCH APPROVAL BEFORE SEEDING.

3.10.3 EQUIPMENT AND APPLICATION: HYDRAULIC EQUIPMENT USED FOR THE APPLICATION OF SLURRY SHALL HAVE A BUILT-IN AGITATION SYSTEM WITH AN OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND, AND HOMOGENEOUSLY MIX ENOUGH TO PREVENT STOPPAGE AND TO PROVIDE EVEN DISTRIBUTION OF THE SLURRY OVER AND GROUND. THE PUMP SHALL BE CAPABLE OF EXERTING AT LEAST 150 PSI AT THE NOZZLE OR SUFFICIENT ADDITIONAL PRESSURE FOR PROPER COVERAGE. THE SLURRY TANK SHALL HAVE A MINIMUM CAPACITY OF 1,500 GALLON AND SHALL BE MOUNTED ON A TRAVELING UNIT WHICH WILL PLACE THE SLURRY TANK AND SPRAY NOZZLES WITHIN SUFFICIENT PROXIMITY TO THE AREAS TO BE SEEDED SO AS TO PROVIDE UNIFORM DISTRIBUTION WITHOUT WASTE AND SHALL BE THOROUGHLY CLEAN AND FREE OF SEED SPECIES THAT ARE NOT SPECIFIED.

3.10.4 WITH THE ENGINE AT HALF THROTTLE, WATER SHALL BE ADDED TO THE TANK. WHEN THE WATER LEVEL HAS REACHED THE HEIGHT OF THE AGITATOR SHAFT, GOOD RECIRCULATION SHALL BE ESTABLISHED AND AT THIS TIME THE SEED SHALL BE ADDED. FERTILIZER SHALL THEN BE ADDED TO THE MIXTURE FOLLOWED BY WOOD PULP. MULCH SHALL ONLY BE ADDED TO THE MIXTURE AFTER THE SEED AND WHEN THE TANK IS AT LEAST ONE-THIRD FILLED WITH WATER. THE ENGINE THROTTLE SHALL BE OPENED TO FULL SPEED WHEN THE TANK IS HALF-FILLED WITH WATER. ALL THE WOOD PULP MULCH SHALL BE ADDED BY THE TIME THE TANK IS TWO-THIRDS TO THREE-FOURTHS FULL. SPRAYING SHALL COMMENCE WHEN THE TANK IS FULL.

3.10.5 APPLICATION: THE OPERATOR SHALL SPRAY THE AREAS TO BE HYDROSEEDED WITH A UNIFORM, VISIBLE COAT USING THE GREEN COLOR OF THE WOOD PULP AS A GUIDE. THE SLURRY SHALL BE APPLIED IN A SWEEPING MOTION, IN AN ARCHED STREAM SO AS TO FALL LIKE RAIN, ALLOWING THE WOOD FIBERS TO BUILD ON EACH OTHER UNTIL A GOOD COAT IS ACHIEVED AND THE MATERIAL IS SPREAD AT THE REQUIRED RATE PER ACRE.

3.10.6 TIME LIMIT: ALL SLURRY MIXTURE WHICH HAS NOT BEEN APPLIED TO THE SLOPES WITHIN FOUR HOURS AFTER MIXING WILL BE REJECTED AND REMOVED FROM THE PROJECT AT THE CONTRACTOR'S EXPENSE.

3.10.7 WATERING SHALL BE AS FOLLOWS:

3.10.7.1 PRIOR TO HYDROSEEDING, THE AREAS SHALL BE IRRIGATED IN ORDER TO PROVIDE A MOIST SEED BED FOR THE HYDROSEED APPLICATION. SOIL SHALL BE AT OPTIMUM MOISTURE LEVELS TO A MINIMUM DEPTH OF 4" BELOW FINISH GRADE. TEST WITH SOIL PROBE TO CONFIRM WATER PENETRATION. HYDROSEEDING SHALL NOT TAKE PLACE UNTIL THIS REQUIREMENT IS MET.

3.10.7.2 HYDROSEEDED AREAS SHALL RECEIVE SEVERAL CONSECUTIVE WATERINGS THE DAY OF THE HYDROSEEDING TO THOROUGHLY MOISTEN THE SOIL IN THE ROOT ZONE.

3.10.7.3 AFTER INITIAL IRRIGATION, WATER SHALL BE APPLIED AS OFTEN AND IN SUFFICIENT AMOUNTS AS CONDITIONS MAY REQUIRE, TO KEEP THE SOIL AT OPTIMUM MOISTURE LEVELS ABOVE, AROUND, AND BELOW THE DEVELOPING ROOT SYSTEMS OF THE PLANTS (UNTIL GERMINATION IS COMPLETE).

3.10.8 RESEEDING: ALL BARE SPOTS SHALL BE RESEEDED BY THE CONTRACTOR PER SPECIFICATIONS WITHIN THIRTY (30) DAYS OF INSTALLATION. RESEEDED AREAS THAT DO NOT SHOW PROMPT GERMINATION SHALL BE AGAIN RESEEDED AT TEN DAY INTERVALS.

3.11 MULCHING

3.11.1 AFTER, PLANTING OPERATIONS ARE COMPLETE AND SHRUBS AREAS HAVE BEEN RAKED AND DRESSED, MULCH ALL SHRUBS AND GROUND COVER AREAS WITH A 2" LAYER OF ORGANIC MULCH MATERIAL.

3.11.2 MULCH LAYER SHOULD TAPER TO ZERO AT PLANT STEM OR TREE TRUNK. DO NOT PLACE MULCH MATERIALS UP AGAINST PLANT CROWN OR TRUNK.

3.11.3 MULCH FLATTED GROUND COVER AREAS PRIOR TO PLANTING GROUND COVER, IF CALLED FOR ON THE DRAWINGS.

3.12 PROTECTION

3.12.1 THE CONTRACTOR SHALL CAREFULLY AND CONTINUOUSLY PROTECT ALL AREAS INCLUDED IN THE CONTRACT, INCLUDING LAWN AREAS, PLANT MATERIAL, SUPPORTS, ETC. UNTIL FINAL ACCEPTANCE OF THE WORK BY THE OWNER OR HIS REPRESENTATIVE.

3.13 CLEAN-UP

3.13.1 AFTER ALL PLANTING OPERATIONS ARE COMPLETED, CONTRACTOR SHALL REMOVE ALL TRASH, EXCESS SOIL, EMPTY PLANT CONTAINERS, OR OTHER ACCUMULATED DEBRIS FROM THE SITE AT NO EXTRA COST TO OWNER. CONTRACTOR SHALL REPAIR ALL SCARS, RUTS, OR MARS IN AREA CAUSED BY WORK OPERATIONS. AREAS SHALL BE LEFT IN A NEAT AND ORDERLY CONDITION.

3.14 OBSERVATIONS (PLANTING PHASE)

3.14.1 CONTRACTOR SHALL GIVE FORTY-EIGHT (48) HOURS NOTICE AND SET APPOINTMENT FOR ALL REVIEWS BY THE ARCHITECT.

3.14.2 REVIEW BY ARCHITECT SHALL BE SCHEDULED FOR THE FOLLOWING OPERATIONS:

3.14.2.1 REVIEW OF FINISH GRADING.

3.14.2.2 REVIEW OF ALL PLANT MATERIAL AFTER DELIVERY TO THE SITE.

3.14.2.3 TREE AND SHRUBS PLACEMENT PRIOR TO DIGGING HOLES.

3.14.2.4 REVIEW OF GROUND COVER LINES AND HEADERBOARD PRIOR TO PLANTING.

3.14.2.5 START OF ESTABLISHMENT PERIOD/ACCEPTANCE OF INSTALLATION.

3.14.2.6 FINAL ACCEPTANCE AT END OF ESTABLISHMENT PERIOD.

3.14.3 REVIEWS SHALL BE CALLED FOR AT THE END OF ALL PLANTING OPERATIONS FOR THE PURPOSE OF DETERMINING COMPLIANCE WITH DRAWINGS AND SPECIFICATIONS, INTENT, WORKMANSHIP, AND CLEAN-UP. CONTRACTOR SHALL SECURE WRITTEN VERIFICATION OF REVIEW DATA, ANY CORRECTIONS REQUIRED TO WORK, AND LIMITS OF REVIEWED AREA BEFORE BEGINNING THE DESCRIBED ESTABLISHMENT WORK.

3.14.4 IN THE EVENT THE CONTRACTOR REQUESTS INSPECTION OF WORK, AND SAID WORK IS SUBSTANTIALLY INCOMPLETE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARCHITECT'S HOURLY CHARGES AND PER DIEM COSTS.

3.15 GUARANTEE

3.15.1 ALL SHRUBS, GROUND COVERS, LAWN AREAS, AND 15 GALLON SIZE TREES OR LESS SHALL BE GUARANTEED AS TO GROWTH AND HEALTH FOR A PERIOD OF NINETY (90) DAYS AFTER FINAL ACCEPTANCE BY THE OWNER OR HIS REPRESENTATIVE; BOX SIZED TREES SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF SUBSTANTIAL COMPLETION.

3.15.2 PLANTS WHICH DIE OR LOSE MORE THAN THIRTY PERCENT (30 %)LEAVES SHALL BE REPLACED UNDER THIS SECTION.

3.15.3 THE CONTRACTOR, WITHIN FOURTEEN (14) DAYS OF WRITTEN NOTIFICATION BY THE OWNER, SHALL REMOVE AND REPLACE ALL GUARANTEED PLANT MATERIALS WHICH FOR ANY REASON FAIL TO MEET THE REQUIREMENTS OF THE GUARANTEE. ALL PLANTS MATERIAL REPLACED SHALL BE GUARANTEED FOR THE ORIGINAL PERIOD, STARTING FROM THE DATE OF REPLACEMENT.

PART 4 ESTABLISHMENT / MAINTENANCE PERIOD

4.1 THE WORK, THROUGH THE ESTABLISHMENT PERIOD, AND UNTIL FINAL ACCEPTANCE OF THE WORK. THE ENTIRE PROJECT SHALL BE CONTINUOUSLY AND SATISFACTORILY MAINTAINED FOR A PERIOD OF NINETY (90) CALENDAR

4.2 DAYS. THE CONTRACTOR SHALL CALL FOR THE START OF ESTABLISHMENT PERIOD INSPECTION ONLY AFTER THE FIRST MOWING OF HYDROSEEDED GRASS AND AFTER AT LEAST 50% OF THEIR ORIGINAL ESTABLISHMENT PERIOD SHALL COMMENCE UPON THE GERMINATION OF SLOPE HYDROSEEDING. DATE OF COMPLETION OF THE WORK, AS AUTHORIZED IN A WRITTEN NOTICE FROM THE ARCHITECT AFTER THE START OF ESTABLISHMENT PERIOD INSPECTION HAS BEEN COMPLETED AND ALL PUNCH LIST ITEMS HAVE BEEN CORRECTED BY THE CONTRACTOR. CONTINUOUS MAINTENANCE AND ESTABLISHMENT WORK INCLUDES ALL MOWING, WATERING, WEEDING, RESEEDING, MULCHING,

4.3 CULTIVATING, SPRAYING AND TRIMMING NECESSARY TO BRING THE PLANTED AREAS TO A HEALTHY GROWING CONDITION, AND ANY ADDITIONAL WORK NEEDED TO KEEP THE AREAS NEAT, EDGED, AND ATTRACTIVE.

4.4 WATERING:

4.4.1 WATER GRASS UNTIL FINAL ACCEPTANCE OF WORK. THE AREAS SHALL BE KEPT MOIST, BUT NOT GLISTENING WET, UNTIL TIME FOR THE FIRST CUTTING OF GRASS. AFTER FIRST CUTTING, WATER LAWN TO MAINTAIN A THRIVING CONDITION. DO NOT OVERWATER.

4.4.2 PAY SPECIAL ATTENTION TO WATERING SLOPED AREAS PLANTED IN LAWN ON THE WINDWARD AND / OR SUNNY SIDE SO THAT LAWN WILL BE ADEQUATELY WATERED AT ALL TIMES.

4.4.3 MONITOR WATERING USE ON A DAILY BASIS, AND MAKE ADJUSTMENTS TO CONTROLLER WATERING SCHEDULE AS NECESSARY TO APPLY ONLY THE PROPER AMOUNT OF WATER AT ALL TIMES. ADJUST WATERING SCHEDULE TO COMPENSATE FOR CHANGES IN ETO, RAINFALL, AND TEMPERATURE.

4.4.4 CONTRACTOR SHALL ONLY APPLY SUFFICIENT WATER TO PROMOTE HEALTHY GROWTH OF THE PLANT MATERIAL. AT NO TIME SHALL THE CONTRACTOR APPLY WATER AT A RATE OR FREQUENCY WHICH CAUSES RUNOFF OR SOIL SATURATION.

4.4.5 CONTRACTOR SHALL MAINTAIN A DAILY LOG OF WATERING TIMES ON THE JOBSITE, AND MAKE IT AVAILABLE FOR INSPECTION BY THE ARCHITECT. DURING THE PLANT ESTABLISHMENT PERIOD, ALL PLANTS AND PLANTED AREAS SHALL BE KEPT WEED FREE AT ALL TIMES.

4.5 WEEDS, NUT GRASS, DALLAS GRASS, JOHNSON GRASS, BERMUDA GRASS, AND ANY OTHER NOXIOUS GRASS SPECIES SHALL BE REMOVED AND DISPOSED OF AS THEY APPEAR. WORKPERSONS SHALL NOT BE ALLOWED TO WALK ON GRASS AREAS UNNECESSARILY BEFORE, DURING, OR AFTER SEEDING

4.6 OPERATION. GRASS AREAS THAT HAVE BEEN DAMAGED OR COMPACTED SHALL BE RE CULTIVATED AND RESEEDED AT THE CONTRACTOR'S EXPENSE. ANY DAY THE CONTRACTOR FAILS TO ADEQUATELY WATER, REPLACE UNSUITABLE PLANTS, WEED, AND OTHER WORK

4.7 DETERMINED TO BE NECESSARY BY THE ARCHITECT, WILL NOT BE CREDITED AS PART OF THE ESTABLISHMENT PERIOD. DURING THE ESTABLISHMENT PERIOD, ANY PLANT INDICATING WEAKNESS OR PROBABILITY OF DYING, SHALL BE REPLACED BY

4.8 THE CONTRACTOR AT HIS OWN EXPENSE. TREE STAKES WHICH FOR ANY REASON ARE DAMAGED OR RENDERED INADEQUATE FOR SUPPORT SHALL BE REPAIRED AND

4.9 RESTORED TO THEIR ORIGINAL CONDITION. CONSTANT DILIGENCE SHALL BE MAINTAINED TO DETECT THE PRESENCE OF DISEASE, INSECTS, AND/OR RODENT

4.10 INFESTATIONS AND PROPER PREVENTATIVE OR CONTROL MEASURES TAKEN. THIS WILL BE DONE AT NO ADDITIONAL COST TO THE OWNER. ALL SHRUBS AND TREES SHALL BE MAINTAINED IN THEIR NATURAL SHAPES. TALL OR SCRAGGLY BRANCHES SHALL BE THINNED

4.11 OUT WHERE NECESSARY. IN NO CASE SHALL TREES OR SHRUBS BE TRIMMED BY HEADING OR SHEARING. ANY PLANTS SEVERELY PRUNED IN THIS MANNER SHALL BE REMOVED AND REPLACED AT CONTRACTOR'S EXPENSE. ON THE 45TH DAY OF THE ESTABLISHMENT PERIOD, ALL LAWNS AREAS SHALL RECEIVE TOP DRESSING OF TEN (10) POUNDS

4.12 OF 16-8-8 COMMERCIAL FERTILIZER PER 1,000 SQUARE FEET. ON THE 80TH DAY OF THE ESTABLISHMENT PERIOD, ALL LAWNS LAWN AND GROUND COVER AREAS SHALL RECEIVE TOP

4.13 DRESSING OF TEN (10) POUNDS OF 16-8-8 COMMERCIAL FERTILIZER PER 1,000 SQUARE FEET. AT COMPLETION OF ESTABLISHMENT PERIOD, ALL AREAS INCLUDED IN THE CONTRACT SHALL BE SUBSTANTIALLY CLEAN AND

4.14 FREE OF DEBRIS AND WEEDS. ALL PLANT MATERIALS SHALL BE LIVE, HEALTHY, AND FREE OF INFESTATIONS. ANY EROSION OR SLIPPAGE OF SOIL CAUSED BY WATERING SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

4.15 ALL WALKS, CURBS, AND GUTTERS SHALL BE KEPT CLEAR OF DEBRIS, MUD, DUST, AND STANDING WATER BY SWEEPING,

4.16 MOPPING OR HOSING DOWN AS REQUIRED TO MAINTAIN CLEANLINESS THROUGHOUT. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE WORK COVERED BY THIS SECTION FROM VANDALISM AND ACCIDENTAL

4.17 DAMAGE. ANY DAMAGE SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OR REPLACEMENTS CAUSED BY ACTS OF VANDALISM, INCLUDING REMOVAL OF GRAFFITI, AND/OR REFINISHING, AS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE WORK COVERED BY THIS SECTION FROM DAMAGE CAUSED BY FROST

4.18 AND/OR TORRENTIAL RAINS. ANY DAMAGE SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. PLANT MATERIALS DAMAGED BY FROST AND/OR TORRENTIAL RAINS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

PART 5 PAYMENT

PAYMENT FOR THE WORK OF THIS SECTION SHALL BE INCLUDED IN THE PRICE BID FOR LANDSCAPE FINISH GRADING, PLANTING,

5.1 AND ESTABLISHMENT PERIOD AND NO ADDITIONAL COSTS WILL BE CONSIDERED.

END OF SECTION

LICENSED LANDSCAPE ARCHITECT — STEPHEN R. COPLEY — 4033 — Signature — 10-31-01 Expiration Date — Date — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — KEITH A. FRENCH No. 1710 — Signature — 02-28-05 Expiration Date — 9-21-04 Date — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
9/21/04
TITLE ASSOCIATE — DATE
REVIEWED BY: — 11/03/04
INSPECTOR — DATE

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 31 — CITY OF CARLSBAD — PARK & RECREATION DEPARTMENT — SHEETS 41

PLANTING SPECIFICATIONS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RE: 23889 — CITY ENGINEER — 3/29/01 DATE

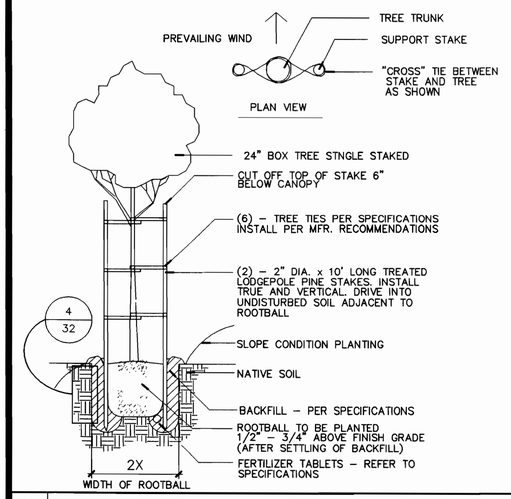
DWN BY:
CHKD BY: DVH
RVWD BY: JVC

PROJECT NO. CT 90 - 03 — DRAWING NO. 380-1K

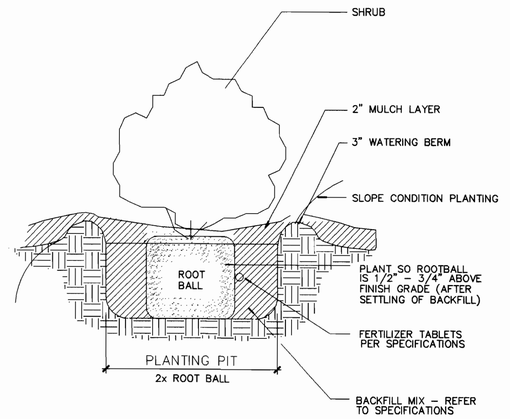
1-15-01

PDC JOB No. 1607.20

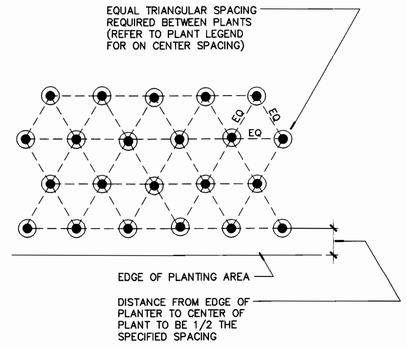
T:\Engr\1607-20\Dwgs\Planting\ DWG NAME: 1607-sht12-p05.dwg 9/6/00 6:05:59 pm PST



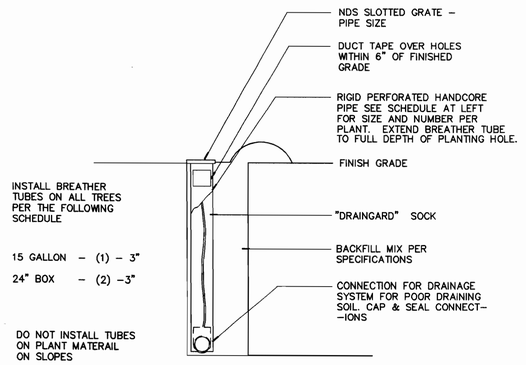
1 TREE PLANTING & STAKING N.T.S.



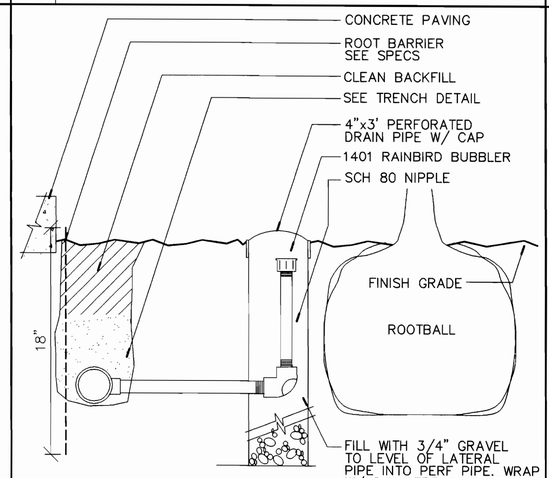
2 SHRUB PLANTING N.T.S.



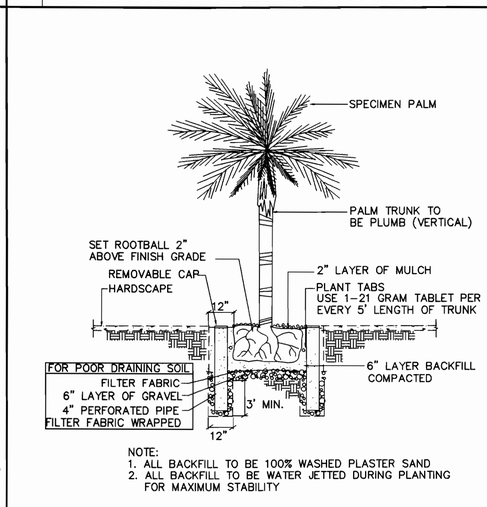
3 GROUNDCOVER SPACING N.T.S.



4 BREATHER TUBE 1"=1'-0"



5 TREE PLANTTING W/ BUBBLER N.T.S.



NOTE:
1. ALL BACKFILL TO BE 100% WASHED PLASTER SAND
2. ALL BACKFILL TO BE WATER JETTED DURING PLANTING FOR MAXIMUM STABILITY

6 PALM N.T.S.

PLANTING LEGEND

SYMBOL	Botanical Name	Common Name	Typical Size	Project Total
	TREES			
•	PINUS CANARIENSIS	CANARY ISLAND PINE	24" BOX	13
	SHRUBS			
○	KNIPHOFIA UVARIA	RED-HOT POKER	1 GAL.	99
Ⓟ	JUNIPERUS C. 'PFITZERANA COMPACTA'	NICKS COMPACT PFITZER JUNIPER	5 GAL.	148
⊛	PHORMIUM TENAX	PHORMIUM	5 GAL.	36
	GROUND COVERS			
	LAMPRANTHUS AURANTIACUS 'SUNMAN'	ICE PLANT	FLATS @ 12" O.C.	
	HYDRO MIX #1			
— — —	TREE ROOT BARRIER TYPICAL.			

NOTE:
1. PLANT SIZES PER LEGEND UNLESS NOTED OTHERWISE ON PLAN
2. REMOVE ALL PAMPAS GRASS FROM SITE.
3. LOCATE ALL TREES 5' FROM PAVING.
4. INSTALL ROOT BARRIES 10' O.C. BOTH WAYS AT ALL TREE LOCATIONS ADJACENT TO CURB OR PAVING. - SEE SPECS
5. QUANTITIES SHOWN ARE FOR REFERNECE ONLY. LANDSCAPE CONTRACTOR SHALL PROVIDE SUFFICIENT PLANT MATERIAL TO COVER AREAS.

SEE SHEETS 30 & 31 FOR PLANTING SPECIFICATION
SEE SHEET 32 FOR PLANTING DETAILS

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
Keith A. French 9/21/04
TITLE Associate DATE
REVIEWED BY:
Tim Fenn 11/03/04
INSPECTOR DATE

LICENSED LANDSCAPE ARCHITECT KEITH A. FRENCH No. 2385 STATE OF CALIFORNIA
02-28-05 Expiration Date
1-15-04 Date

LICENSED LANDSCAPE ARCHITECT STEPHEN ROPLEY HOSS No. 3889 STATE OF CALIFORNIA
10-31-01 Expiration Date
12-28-01 Date

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 32 | CITY OF CARLSBAD PARK & RECREATION DEPARTMENT | SHEETS 41

PLANTING DETAILS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B HUBBS EXPIRES 12-31-01
RE: 23889 CITY ENGINEER DATE 3/29/01

DWN BY:
CHKD BY: DH
RVWD BY: JLR
PROJECT NO. CT 90 – 03
DRAWING NO. 380–1K

1-15-01

PDC JOB No. 1607.20

T:\ENGR\1607-20\DWGS\PLANTING\DETAILS\
DWG NAME: 1607-det3-pdc.dwg 01/20/04 12:18

SEE SHEET 33

SEE THIS SHEET ABOVE RIGHT

SEE THIS SHEET BOTTOM LEFT

ENCINITAS CREEK

RANCHO SANTA FE ROAD

RANCHO SANTA FE ROAD

P.O.C. TO RECYCLED WATER LINE REFERENCE SHT. 6 DWG. NO 384-3L FOR LOCATION.

4" WATER LINE PER STREET IMPROVEMENT DWGS. SHT 6.

EXISTING 1-1/2" RECYCLED WATER METER PER DWG. #384-3L SHT.3 VERIFY LOCATION IN THE FIELD.

P.O.C. TO EXISTING R.P.B.P. & P.R. PER DWG. #384-3L

COLINA ROBLE LIMIT OF WORK PER DRAWING NO. 384-3L

LAS OLAS COURT

NOTE: CONTRACTOR SHALL CONNECT VALVES "A" THROUGH "H" TO EXISTING CONTROLLER "A" 48 STATION CONTROLLER AS INDICATED ON DWG. NO. 384-3L. CONTRACTOR SHALL BID AN ADDITIONAL RAINMASTER CONTROLLER PRE ASSEMBLED BY HYDROSCAPE PRODUCTS (619) 560-9760 FOR AN ADDITIONAL 8 STATIONS ADDED TO COLINA ROBLE MAINTAINED SLOPES.

COLINA ROBLE SUBDIVISION BOUNDARY

SEE UNIT 3 DWG. #380-1N FOR SLOPE IMPROVEMENTS

RANCHO SANTA FE ROAD

AVENIDA LA CIMA

2" SLEEVE

1 1/4" SLEEVE

4" SLEEVE

1" SLEEVE

BOUNDARY

VIEW A: 0 10 20 40 FT. NORTH SCALE

VIEW B: 0 10 20 40 FT. NORTH SCALE

IRRIGATION LEGEND

IRRIGATION HEADS
ALL IRRIGATION HEADS SHALL USE RAINBIRD/800 NP COVER TO INDICATE USE OF RELOCATED WATER

SYMBOL	MAKE	MODEL	NOZZLE	PSI	GPM	R	ARC	DETAIL	DESCRIPTION
	RAINBIRD	1812-SAM	8Q-PCS-020	30	0.2	5	90	8/38	POP-UP SPRAY
	RAINBIRD	1812-SAM	8H-PCS-040	30	0.4	5	180	8/38	POP-UP
	RAINBIRD	1812-SAM	10Q-PCS-030	30	0.3	7	90	8/38	POP-UP
	RAINBIRD	1812-SAM	10H-PCS-040	30	0.4	7	180	8/38	POP-UP
	RAINBIRD	1812-SAM	10VAN-PCS-040	30	1.96*	7	ADJ	8/38	POP-UP
	RAINBIRD	1812-SAM	10Q-PCS-030	30	0.3	8	90	8/38	POP-UP
	RAINBIRD	1812-SAM	10H-PCS-040	30	0.4	8	180	8/38	POP-UP
	RAINBIRD	1812-SAM	10F-PCS-090	30	0.9	8	360	8/38	POP-UP
	RAINBIRD	1812-SAM	10 VAN	30	1.96*	10	ADJ	8/38	POP-UP
	RAINBIRD	1812-SAM	10Q-PCS-040	30	0.4	10	90	8/38	POP-UP
	RAINBIRD	1812-SAM	10H-PCS-060	30	0.6	10	180	8/38	POP-UP
	RAINBIRD	1812-SAM	10F-PCS-125	30	1.25	10	360	8/38	POP-UP
	RAINBIRD	1812-SAM	12VAN	30	2.60*	12	ADJ	8/38	POP-UP
	RAINBIRD	1812-SAM	12Q-PCS-060	30	0.6	12	90	8/38	POP-UP
	RAINBIRD	1812-SAM	12H-PCS-125	30	1.25	12	180	8/38	POP-UP
	RAINBIRD	1812-SAM	12F-PCS-260	30	2.6	12	360	8/38	POP-UP
	RAINBIRD	1812-SAM	15VAN	30	3.70*	15	ADJ	8/38	POP-UP
	RAINBIRD	1812-SAM	15Q-PCS-090	30	0.9	15	90	8/38	POP-UP
	RAINBIRD	1812-SAM	15H-PCS-175	30	1.75	15	180	8/38	POP-UP
	RAINBIRD	1812-SAM	15F-PCS-370	30	3.7	15	360	8/38	POP-UP
	RAINBIRD 1401 BUBBLER		1401 BUBBLER		.25	X	X	4/38	BUBBLER

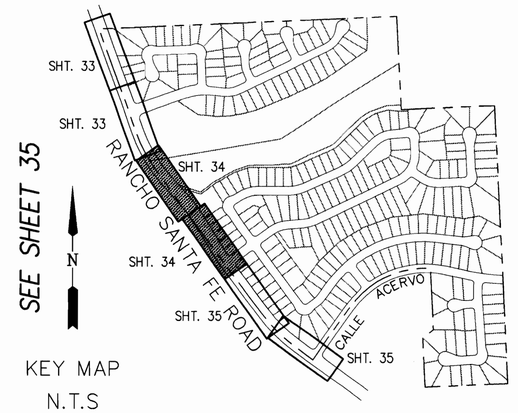
OTHER EQUIPMENT

SYMBOL	MAKE	MODEL	SIZE	DESCRIPTION	DETAIL/SHEET
	CALSENSE	#HS24-ETI 8MS/LA-2/MOD	24 STA.	PEDESTAL MOUNT CONTROLLER W/ AUTOMATIC RAIN SHUT OFF	1,2 / 38
	FEBCO WILKINS	825Y 500 YSBR	1 1/2" 1 1/2"	RP BACKFLOW PREVENTER W/ PRESURE REGULATOR W/ RAINBIRD RBY SCREEN	7 /38
	WEATHERMATIC	8200CR-XPR	PER KEY	CONTROL VALVE	3/38
	WILKINS	850	LINE SIZE	BALL VALVE	6/38
	NELSON	7645 DNP	1"	ACME THREAD	5/38
F	CALSENSE	FM-1.25B	LINE SIZE	FLOW METER	
	(PURPLE)	CL 315		PVC PRESSURE MAINLINE SIZE PER PLAN	
	(PURPLE)	CL 200	3/4" UNLESS NOTED OTHERWISE	PVC LATERAL	
	(PURPLE)	SCH 80	2- 6" SCH. 40 PVC SLEEVE		
M				WATER METER - SEE CIVIL ENGINEERING PLANS 121+ P.S.I. PRESSURE- VERIFY AT METER 120 ELEVATION	
				PROPOSED FIRE HYDRANT AND LATERAL	

SEE IRRIGATION NOTES AND DETAILS ON SHEETS 38 AND 39.

X|X / X — STATION NUMBER, VALVE GPM/GPH, VALVE SIZE — VALVE KEY

NOTES:
1. CONTRACTOR TO CONFIRM LOCATION OF TREES PRIOR TO INSTALLATION OF BUBBLERS.
2. CONTRACTOR TO ADJUST RADIUS OF HEADS IN FIELD TO DELIVER HEAD TO HEAD COVERAGE.



KEY MAP
N.T.S

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
Keith A. French 9/21/04
TITLE ASSOCIATE DATE

REVIEWED BY:
Tim Fennig 11/03/04
INSPECTOR DATE

LICENSED LANDSCAPE ARCHITECT — KEITH A. FRENCH No. 2533 — Expiration Date 02-29-05 — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — STEPHEN COPLEN No. 4033 — Expiration Date 02-28-05 — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET	CITY OF CARLSBAD	SHEETS
34	PARK & RECREATION DEPARTMENT	41

IRRIGATION PLANS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RE: 23889 — CITY ENGINEER — DATE 3/29/01

DWN BY:	CHKD BY: DLH	RVWD BY: JLE	PROJECT NO. CT 90 - 03	DRAWING NO. 380-1K

1-15-01

PDC JOB No. 1607.20

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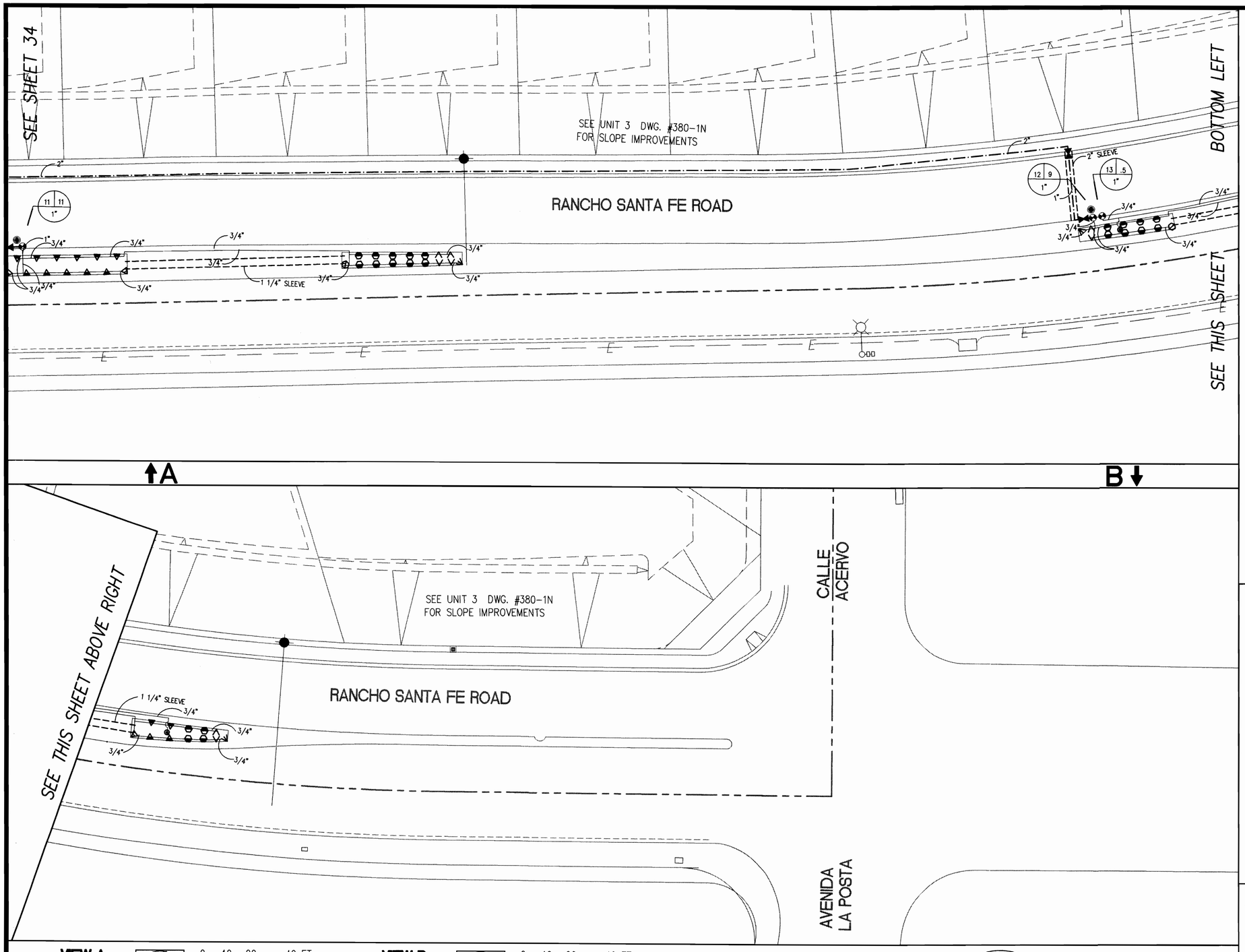

IRRIGATION LEGEND

IRRIGATION HEADS

ALL IRRIGATION HEADS SHALL USE RAINBIRD/800 NP COVER TO INDICATE USE OF RELOCATED WATER.

SYMBOL	MAKE	MODEL	NOZZLE	PSI	GPM	R	ARC	DETAIL	DESCRIPTION
	RAINBIRD	1812-SAM	8Q-PCS-020	30	0.2	5	90	8/38	POP-UP SPRAY
	RAINBIRD	1812-SAM	8H-PCS-040	30	0.4	5	180	8/38	POP-UP
	RAINBIRD	1812-SAM	10Q-PCS-030	30	0.3	7	90	8/38	POP-UP
	RAINBIRD	1812-SAM	10H-PCS-040	30	0.4	7	180	8/38	POP-UP
	RAINBIRD	1812-SAM	10VAN-PCS-040	30	1.96*	7	ADJ	8/38	POP-UP
	RAINBIRD	1812-SAM	10Q-PCS-030	30	0.3	8	90	8/38	POP-UP
	RAINBIRD	1812-SAM	10H-PCS-040	30	0.4	8	180	8/38	POP-UP
	RAINBIRD	1812-SAM	10F-PCS-090	30	0.9	8	360	8/38	POP-UP
	RAINBIRD	1812-SAM	10 VAN	30	1.96*	10	ADJ	8/38	POP-UP
	RAINBIRD	1812-SAM	10Q-PCS-040	30	0.4	10	90	8/38	POP-UP
	RAINBIRD	1812-SAM	10H-PCS-060	30	0.6	10	180	8/38	POP-UP
	RAINBIRD	1812-SAM	10F-PCS-125	30	1.25	10	360	8/38	POP-UP
	RAINBIRD	1812-SAM	12VAN	30	2.60*	12	ADJ	8/38	POP-UP
	RAINBIRD	1812-SAM	12Q-PCS-060	30	0.6	12	90	8/38	POP-UP
	RAINBIRD	1812-SAM	12H-PCS-125	30	1.25	12	180	8/38	POP-UP
	RAINBIRD	1812-SAM	12F-PCS-260	30	2.6	12	360	8/38	POP-UP
	RAINBIRD	1812-SAM	15VAN	30	3.70*	15	ADJ	8/38	POP-UP
	RAINBIRD	1812-SAM	15Q-PCS-090	30	0.9	15	90	8/38	POP-UP
	RAINBIRD	1812-SAM	15H-PCS-175	30	1.75	15	180	8/38	POP-UP
	RAINBIRD	1812-SAM	15F-PCS-370	30	3.7	15	360	8/38	POP-UP
	RAINBIRD 1401 BUBBLER		1401 BUBBLER		.25	X	X	4/38	BUBBLER

OTHER EQUIPMENT

SYMBOL	MAKE	MODEL	SIZE	DESCRIPTION	DETAIL/SHEET
	CALSENSE 8MS/LA-2/MOD	#HS24-ETI	24 STA.	PEDESTAL MOUNT CONTROLLER W/ AUTOMATIC RAIN SHUT OFF	1,2 / 38
	FEBCO WILKINS	825Y 500 YSBR	1 1/2" 1 1/2"	RP BACKFLOW PREVENTER W/ PRESURE REGULATOR W/ RAINBIRD RBY SCREEN	7 /38
	WEATHERMATIC	8200CR-XPR	PER KEY	CONTROL VALVE	3/38
	WILKINS	850	LINE SIZE	BALL VALVE	6/38
	NELSON	7645 DNP	1"	ACME THREAD	5/38
F	CALSENSE	FM-1.25B	LINE SIZE	FLOW METER	
(PURPLE)		CL 315		PVC PRESSURE MAINLINE SIZE PER PLAN	
(PURPLE)		CL 200	3/4" UNLESS NOTED OTHERWISE	PVC LATERAL	
(PURPLE)		SCH 80	2- 6" SCH. 40 PVC	SLEEVE	

M — WATER METER - SEE CIVIL ENGINEERING PLANS
121+ P.S.I. PRESSURE- VERIFY AT METER
120 ELEVATION

PROPOSED FIRE HYDRANT AND LATERAL

SEE IRRIGATION NOTES AND DETAILS ON SHEETS 38 AND 39.

XX / X / X — STATION NUMBER / VALVE GPM/GPH / VALVE SIZE — VALVE KEY

NOTES:

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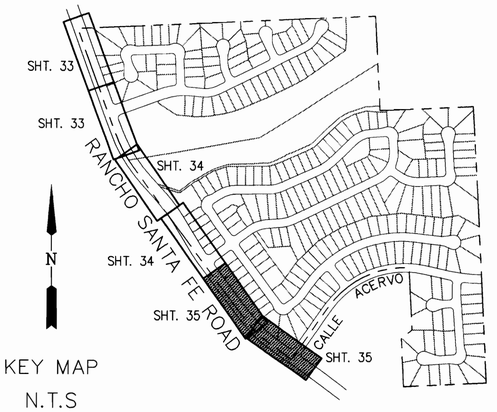

KEY MAP
N.T.S

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
TITLE Associate 9/21/04 DATE

REVIEWED BY:
INSPECTOR 11/03/04 DATE

VIEW A: NORTH — 0 10 20 40 FT. SCALE

VIEW B: NORTH — 0 10 20 40 FT. SCALE

LICENSED LANDSCAPE ARCHITECT — REGINA FRENCH No. 2488 — Expires 06-30-03 — Renewal Date 9-24-03 — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — STEPHEN T. COFFEY No. 4564 — Expires 6-30-01 — Renewal Date 01-10-01 — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 35 | CITY OF CARLSBAD PARK & RECREATION DEPARTMENT | SHEETS 41

IRRIGATION PLANS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS EXPIRES 12-31-01
RE: 23889 CITY ENGINEER 3/29/01 DATE

DWN BY:
CHKD BY: DLH
RVWD BY: JVR

PROJECT NO. CT 90 - 03

DRAWING NO. 380-1K

1-15-01

PDC JOB No. 1607.20

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DWG NAME: 1607-ar15-303.dwg 1/16/01 5:43:09 pm PST

SECTION 02811 IRRIGATION SYSTEM PART 1 GENERAL 1.1 DESCRIPTION

1.1.1 THE GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT APPLY TO THE WORK OF THIS SECTION THE SAME AS THOUGH WRITTEN HEREIN.

1.1.2 COMPLY WITH ALL LOCAL AND STATE CODES, ORDINANCES, SAFETY ORDERS, AND REGULATIONS OF ALL LEGALLY CONSTITUTED AUTHORITIES HAVING JURISDICTION OVER THIS WORK.

1.1.3 OBTAIN AND PAY FOR ALL PLUMBING PERMITS AND ALL INSPECTIONS REQUIRED BY AUTHORITIES STATED ABOVE.

1.1.4 NOTIFY THE LANDSCAPE ARCHITECT IN THE EVENT ANY EQUIPMENT OR METHODS INDICATED ON THE DRAWINGS OR IN SPECIFICATIONS CONFLICTS WITH LOCAL CODES, PRIOR TO INSTALLATION.

1.1.5 THIS SYSTEM WILL BE CONNECTED TO A NON-POTABLE WELL WATER SUPPLY.

1.2 WORK INCLUDED

1.2.1 THE WORK CONSISTS OF FURNISHING LABOR, TOOLS, MACHINERY, MATERIALS, AND PROCESSES REQUIRED TO COMPLETE THE SPRINKLER IRRIGATION SYSTEM DESCRIBED HEREIN AND SHOWN ON THE DRAWINGS.

1.2.2 THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO INDICATE AND SPECIFY A COMPLETE SPRINKLER SYSTEM, INSTALLED READY FOR USE WITHOUT FURTHER COST IN LABOR OR MATERIAL TO THE OWNER.

1.2.3 IN THE EVENT OF CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE LANDSCAPE ARCHITECT SHALL BE CONSULTED.

1.3 RELATED WORK

1.3.1 SECTION 02815 - IRRIGATION CONTROL SYSTEM

1.3.2 SECTION 02900 - LANDSCAPE FINISH GRADING, PLANTING, AND ESTABLISHMENT PERIOD

1.4 RESPONSIBILITY

1.4.1 THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK TO BE PERFORMED UNDER THIS CONTRACT. NO SUBCONTRACTOR SHALL RELIEVE THE LANDSCAPE CONTRACTOR OF HIS LIABILITY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND INDICATED IN THE SPECIFICATIONS.

1.4.2 THE LANDSCAPE CONTRACTOR SHALL AT ALL TIMES PROTECT HIS WORK FROM DAMAGE AND THEFT AND REPLACE ALL DAMAGED OR STOLEN PARTS AT HIS EXPENSE UNTIL THE WORK IS ACCEPTED IN WRITING BY THE OWNER.

1.4.3 THE LANDSCAPE CONTRACTOR SHALL PROTECT THE OWNER'S PROPERTY FROM INJURY OR LOSS. ALL DAMAGE TO EXISTING PROPERTY (BUILDING, UTILITIES, ETC.) OR PLANTING (TREES, SHRUBS, LAWNS, OR GROUND COVERS) CAUSED BY THE LANDSCAPE CONTRACTOR DURING HIS OPERATION OR AS A RESULT OF THE MALFUNCTION OF INSTALLED WORK DURING THE GUARANTEE PERIOD SHALL BE REPAIRED AT HIS EXPENSE.

1.4.4 THE LANDSCAPE CONTRACTOR SHALL CAREFULLY NOTE ALL FINISH GRADES BEFORE COMMENCING WORK. ANY FINISH GRADE CHANGED DURING THE COURSE OF HIS WORK SHALL BE RESTORED TO THE ORIGINAL CONTOURS.

1.4.5 THE OWNER SHALL NOT BE RESPONSIBLE FOR DAMAGE CAUSED BY LABOR OR MATERIAL FURNISHED BY THE LANDSCAPE CONTRACTOR UNDER THIS CONTRACT, WHICH MIGHT HAVE BEEN PREVENTED BY THE LANDSCAPE CONTRACTOR'S PRUDENCE.

1.4.6 THE LANDSCAPE CONTRACTOR SHALL CAUSE MINIMUM INTERFERENCE WITH WORK PERSONS, MATERIALS, EQUIPMENT OF OTHER SUBCONTRACTORS.

1.5 EXAMINATION OF PROJECT DRAWINGS AND SITE

1.5.1 PRIOR TO SUBMISSION OF HIS BID, THE LANDSCAPE CONTRACTOR SHALL EXAMINE THE SITE, THE COMPLETE DRAWINGS OF THE PROJECT, AND THE SPECIFICATIONS FOR SAME, IN ADDITION TO THE DRAWINGS AND SPECIFICATIONS FOR THE SPRINKLER IRRIGATION PORTION OF THE WORK.

1.6 SUBMITTALS / APPROVALS

1.6.1 THE LANDSCAPE CONTRACTOR SHALL FURNISH THE ARTICLES, EQUIPMENT, MATERIALS OR PROCESSES SPECIFIED BY NAME IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT.

1.6.2 THE LANDSCAPE CONTRACTOR SHALL SUBMIT TO THE LANDSCAPE ARCHITECT CATALOG DATA AND FULL DESCRIPTIVE LITERATURE FOR APPROVAL OF ITEMS DIFFERENT THAN THOSE SPECIFIED.

1.6.3 SUBMIT SHOP DRAWINGS AND SPECIFICATIONS FOR CONTROLLER ENCLOSURE ASSEMBLY(S), INCLUDING ELECTRICAL WIRING SCHEMATIC. SUBMIT SHOP DRAWINGS AND SPECIFICATIONS FOR ALL SPECIAL ASSEMBLIES, E.G. BOOSTER PUMP(S), FERTILIZER INJECTION, CONTROLLER ENCLOSURE, CENTRAL CONTROL SYSTEM, MOISTURE-SENSING EQUIPMENT, ETC., IF SHOWN ON THE DRAWINGS.

1.6.4 EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT THE PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT MAY BE REJECTED AND THE LANDSCAPE CONTRACTOR REQUIRED TO REMOVE SUCH MATERIALS FROM THE SITE AT HIS OWN EXPENSE.

1.6.5 APPROVAL OF ANY ITEM, ALTERNATE OR SUBSTITUTE, INDICATES ONLY THAT THE PRODUCT(S) APPARENTLY MEET THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS ON THE BASIS OF THE INFORMATION OR SAMPLES SUBMITTED.

1.6.6 MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE LANDSCAPE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTY SHALL ONLY SUPPLEMENT THE GUARANTEE.

1.6.7 THE LANDSCAPE ARCHITECT CAN, AT HIS OPTION, REQUIRE A MANUFACTURER'S WARRANTY ON ANY PRODUCT OFFERED FOR USE.

1.6.8 MATERIAL SHALL BE OF THE BEST QUALITY OBTAINABLE, OF AMERICAN MANUFACTURE, AND SHALL COMPLY STRICTLY WITH THE DRAWINGS AND SPECIFICATIONS. ALL EQUIPMENT SHALL BE NEW AND UNUSED PRIOR TO INSTALLATION.

1.7 EXPERIENCE AND QUALIFICATIONS

1.7.1 THE LANDSCAPE CONTRACTOR SHALL EMPLOY ONLY CERTIFIED LANDSCAPE TECHNICIANS (CLTS) WITH THE CALIFORNIA LANDSCAPE CONTRACTORS ASSOCIATION (CLCA), AS FOREMEN FOR ALL IRRIGATION INSTALLATION WORK.

1.7.2 LANDSCAPE CONTRACTOR SHALL SUBMIT TO THE LANDSCAPE ARCHITECT PHOTOCOPIES OF CURRENT CLT REGISTRATION FOR ALL FOREMEN PERFORMING WORK ON THIS PROJECT.

PART 2 PRODUCTS

2.1 GALVANIZED PIPE AND FITTINGS

2.1.1 GALVANIZED PIPE WHERE INDICATED ON THE DRAWINGS OR SPECIFIED SHALL BE A.S.A. SCHEDULE 40 GALVANIZED MILD STEEL SCREWED PIPE.

2.1.1 GALVANIZED FITTINGS SHALL BE MEDIUM GALVANIZED SCREWED BEADED MALLEABLE IRON. GALVANIZED COUPLINGS MAY BE MERCHANT COUPLING.

2.2 BRASS PIPE

2.2.1 BRASS PIPE SHALL BE HEAVY WALL TYPE WITH THREADS COMPLYING TO A.S.A. SPECIFICATIONS.

2.2.2 FITTINGS SHALL BE CASE BRASS OR CASE BRONZE THREADED JOINT AND SHALL COMPLY WITH A.S.A. SPECIFICATIONS. THREAD ON PIPE AND FITTINGS SHALL BE TAPER TYPE.

2.3 PLASTIC PIPE AND FITTINGS

2.3.1 PLASTIC PIPE SHALL BE EXTRUDED FROM 100 CHLORIDE (PVC) TYPE 1, GRADE 11 AS MANUFACTURED BY LASCO INDUSTRIES, JOHN-MANVILLE, OR APPROVED EQUAL.

2.3.2 ALL PLASTIC PIPE SHALL BE CONTINUOUSLY AND PERMANENTLY MARKED WITH THE FOLLOWING INFORMATION: MANUFACTURER'S NAME, NOMINAL PIPE SIZE, PVC 1220, SDR (STANDARD DIMENSION RATIO) AND/OR THE PRESSURE RATING IN PSI, NSF (NATIONAL SANITATION FOUNDATION)

2.3.3 ALL PLASTIC PIPE TO BE INSTALLED ON THE NON-PRESSURE SIDE OF THE VALVES SHALL BE PVC 1220, CLASS 200 UNLESS OTHERWISE SHOWN ON THE DRAWINGS, DETAILS, OR LEGEND. ALL PIPE TO BE INSTALLED ON THE PRESSURE SIDE OF VALVES SHALL BE PVC 1220, SCHEDULE 40 FOR SIZES UP TO AND INCLUDING 2", CLASS 315 FOR SIZES LARGER THAN 2".

2.3.4 ALL PRESSURE-SIDE PIPES SHALL BE STENCILED WITH THE WARNING "NON-POTABLE WATER," AND PIPE SHALL BE COLOR-CODED (PURPLE).

2.3.5 PLASTIC FITTINGS SHALL BE PVC 11, IPS, SCHEDULE 40, NSF SLIP FITTINGS AND SCHEDULE 80 THREADED FITTINGS AS SHOWN IN THE DETAILS AS MANUFACTURED BY LASCO, WESTERN, OR EQUIVALENT.

2.3.6 SOLVENT-WELD GLUE SHALL BE LASCO #711 GREY HEAVY BODY, OR APPROVED EQUAL. ALL PRESSURE-SIDE PIPE SHALL BE PRIMED WITH LASCO "PURPLE PRIMER" SOLVENT BEFORE GLUING. FIT AND GLUE PIPE PER MANUFACTURER'S SPECIFICATIONS.

2.3.7 ALL THREADED NIPPLES SHALL BE STANDARD WEIGHT SCHEDULE 80 MOLDED THREADS. ALL THREADED NIPPLES EXPOSED ABOVE GRADE SHALL BE GREY IN COLOR.

2.3.8 PIPE FOR SLEEVING SHALL BE PVC 1220, SCHEDULE 40, SIZED AS INDICATED ON THE DRAWINGS. PROVIDE PULL ROPE 10 FEET LONGER THAN SLEEVE.

2.3.9 ALL ABOVE-GRADE PIPE SHALL BE UVR (ULTRAVIOLET RESISTANT) SCHEDULE 40 PVC PIPE, AS MANUFACTURED BY PACIFIC PLASTICS, OR APPROVED EQUAL. ALL ABOVE-GRADE FITTINGS SHALL BE UVR, AS MANUFACTURED BY SPEARS MANUFACTURING COMPANY, OR APPROVED EQUAL.

2.3.10 ABOVE-GRADE PIPE AND FITTINGS SHALL BE "RECLAIMED PURPLE" COLOR AND SHALL BE STENCILED WITH THE WARNING "NON-POTABLE WATER".

2.4 QUICK COUPLING VALVES

2.4.1 QUICK COUPLING VALVES SHALL BE TWO-PIECE BODY DESIGNED FOR WORKING PRESSURE OF 150 PSI AS INDICATED IN THE LEGEND AND INSTALLED IN ACCORDANCE WITH DETAIL THEREOF. QUICK COUPLING VALVES SHALL BE INSTALLED WITH LOCKING YELLOW (PURPLE) VINYL COVERS.

2.5 AUTOMATIC CONTROLLER(S) AND RELATED EQUIPMENT

2.5.1 CONTROLLER(S) SHALL BE AS INDICATED ON THE DRAWINGS. CONTROLLER(S) SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

2.5.2 CONTROLLER ENCLOSURE(S) SHALL BE STAINLESS STEEL, HEAVY DUTY AS INDICATED ON THE DRAWINGS.

2.5.3 CONTROLLER NUMBER(S) AND REMOTE CONTROL ACCESS NUMBER(S) SHALL BE NEATLY STENCILED ONTO OUTSIDE OF ENCLOSURE DOOR IN 2" HIGH LETTERS, USING PAINT DESIGNED FOR DIRECT APPLICATION ONTO STAINLESS STEEL.

2.6 REMOTE CONTROL VALVES

2.6.1 REMOTE CONTROL VALVES SHALL BE AS INDICATED ON THE DRAWINGS AND INSTALLED IN ACCORDANCE WITH THE DETAILS THEREOF. BRASS VALVES SHALL BE PRIMED AND PAINTED WITH PRO-LINE EPOXY URETHANE PAINT SYSTEM IN COLOR TO MATCH "RECLAIMED PURPLE." PAINT VALVES BEFORE INSTALLATION. IF PLASTIC VALVES ARE SPECIFIED, THEY SHALL BE INTEGRAL COLORED PLASTIC, PAINTING SHALL BE OMITTED.

2.7 SPRINKLER HEADS

2.7.1 SPRINKLER HEADS SHALL BE AS INDICATED ON THE DRAWINGS.

2.7.2 ALL SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS THEREOF.

2.8 CONTROL WIRE

2.8.1 ALL WIRE SHALL BE INSULATED, SOLID COPPER CONDUCTOR OF TYPE APPROVED FOR DIRECT BURIAL. USE COLOR-CODED WIRE FOR PILOT WIRES, A DIFFERENT COLOR FOR ALL VALVES OF EACH CONTROLLER, AND INSTALL PER VALVE MANUFACTURER'S SPECIFICATIONS AND WIRE CHART. COMMON WIRE FOR EACH CONTROLLER SHALL BE WHITE WITH STRIPE OF SAME COLOR AS PILOT WIRES. EXTRA WIRES SHALL BE BLACK. A COLOR DIFFERENT FROM ALL PILOT AND EXTRA WIRES SHALL BE USED FOR MASTER VALVE AND FLOW SENSOR WIRES.

2.8.2 SIZING OF WIRE SHALL BE IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS, IN NO CASE LESS THAN #14 IN SIZE.

2.8.3 CONNECTIONS ON 24 VOLT WIRE SHALL BE MADE BY SCOTCHLOCK CONNECTOR SEALING PACK #3577 AS MANUFACTURED BY THE 3M COMPANY, OR APPROVED EQUAL.

2.8.4 HIGHER VOLTAGE LINE CONNECTIONS OR 110 VOLT SHALL BE MADE BY CLAMP AND WATERPROOFED WITH 3M COMPANY SCOTCHCAST SPLICING KITS OR APPROVED EQUAL.

2.9 VALVE BOXES

2.9.1 REMOTE CONTROL VALVE BOXES SHALL BE GLASS-FILLED PLASTIC TYPE AS MANUFACTURED BY BROOKS, AMETEK, CARSON, OR OTHER AS PER DETAIL. BOX LIDS SHALL HAVE THE LETTERS "RCV" MOLDED INTO THEM. BOXES SHALL HAVE LOCKING LIDS, PROVIDE TWO KEYS MINIMUM. BOX LIDS SHALL BE PURPLE COLOR, GLASS FILLED PLASTIC.

2.9.2 BOX LIDS SHALL BE NEATLY, AND PERMANENTLY MARKED AFTER INSTALLATION WITH THE CONTROLLER STATION NUMBER "HOT-MELTED" WITH PRE-FORMED STEEL LETTERS/NUMERALS AND BRANDING TOOL INTO THE CENTER OF THE LID.

2.9.3 CONTROL WIRES SHALL BE TAGGED WITH PERMANENT IMPRINTED TAGS INSIDE THE BOX WITH THE CONTROLLER DESIGNATION AND STATION NUMBER.

2.9.4 GRAVEL FOR SETTING VALVE BOXES SHALL BE 1/2" - 3/4" CRUSHED GRAVEL.

2.9.5 TOP DRESSING GRAVEL FOR INSIDE VALVE BOXES SHALL BE 3/8" CRUSHED RED BRICKS, WASHED.

2.10 BALL VALVES

2.10.1 BALL VALVES OF SIZE, CAPACITY, AND MANUFACTURER AS INDICATED ON THE DRAWINGS SHALL BE PROVIDED, INSTALLED, AND LOCATED AS SHOWN THEREOF.

2.10.2 EACH BALL VALVE SHALL BE HOUSED IN A ROUND BOX MARKED "IRRIGATION SHUT-OFF", AS MANUFACTURED BY BROOKS, AMETEK, CARSON, OR OTHER AS PER DETAIL.

2.11 CHECK VALVES

2.11.1 SWING CHECK VALVES 2" AND SMALLER: 200 POUND W.O.G. BRONZE CONSTRUCTION WITH REPLACEABLE COMPOSITION, NEOPRENE, OR RUBBER DISC MEETING OR EXCEEDING FEDERAL SPECIFICATION WW-V-51D, CLASS A, TYPE IV.

2.11.2 ANTI-DRAIN VALVES: OF HEAVY DUTY VIRGIN PVC CONSTRUCTION WITH FIP THREADED INLET AND OUTLET. INTERNAL PARTS SHALL BE STAINLESS STEEL AND NEOPRENE. ANTI-DRAIN VALVES SHALL BE FIELD ADJUSTABLE AGAINST DRAWOUT FROM 5 TO 40 FEET OF HEAD. ANTI-DRAIN VALVE SHALL BE SIMILAR TO THE VALCON "ADV" OR EQUIVALENT.

2.12 BACKFLOW PREVENTION UNITS

2.12.1 BACKFLOW PREVENTION UNITS SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS.

2.12.2 WYE STRAINERS AT BACKFLOW PREVENTION UNITS: SHALL BE BRONZE THREADED BODY WITH 60 MESH MONEL SCREEN AND SHALL BE SIMILAR TO BAILEY #100B OR EQUIVALENT.

PART 3 EXECUTION

3.1 SURFACE CONDITIONS

3.1.1 INSPECTION OF EXISTING CONDITIONS

3.1.1.1 PRIOR TO WORK OF THIS SECTION, CAREFULLY INSPECT PREVIOUSLY INSTALLED WORK. VERIFY ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE.

3.1.1.2 VERIFY THAT WORK OF THIS SECTION MAY BE INSTALLED IN STRICT ACCORDANCE WITH THE ORIGINAL DESIGN, ALL PERTINENT CODES AND REGULATIONS, AND ALL PERTINENT PORTIONS OF THE REFERENCED STANDARDS.

3.1.1.3 IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT.

3.1.1.4 DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES HAVE BEEN FULLY RESOLVED.

3.2 SITE CONDITIONS / LAYOUT

3.2.1 ALL SCALED DIMENSIONS ARE APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON THE SITE PRIOR TO PROCEEDING WITH WORK UNDER THIS CONTRACT.

3.2.2 THE OWNER SHALL LOCATE AND MARK ALL EXISTING UTILITIES SUCH AS POWER, TELEPHONE, DOMESTIC WATER, SEWER, AND STORM DRAINS. EXTREME CARE SHALL BE TAKEN BY THE LANDSCAPE CONTRACTOR WHEN EXCAVATING OR WORKING IN THESE AREAS AND COORDINATION AND COOPERATION BETWEEN THE OWNERS REPRESENTATIVE AND THE LANDSCAPE CONTRACTOR IS REQUIRED AS THE WORK PROGRESSES TO THESE AREAS. LANDSCAPE CONTRACTOR SHALL GIVE 24 HOUR NOTICE TO OWNER'S REPRESENTATIVE AS WORK PROGRESSES TO UNDERGROUND UTILITY AREAS. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY UTILITIES.

3.2.3 SHOULD UTILITIES NOT LOCATED OR MARKED BE FOUND DURING EXCAVATION, THE LANDSCAPE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER AND SHALL DISCONTINUE WITH THE WORK IN THE AREA EXCEPT NECESSARY EMERGENCY WORK REPAIR OR PREVENT DAMAGE UNTIL INSTRUCTIONS ARE RECEIVED.

3.2.4 FAILURE TO NOTIFY THE OWNER OF DISCOVERY OF SUCH UTILITIES OR DAMAGE THERETO WILL RESULT IN THE LANDSCAPE CONTRACTOR BEING LIABLE FOR ANY AND ALL DAMAGE CAUSED TO THE UTILITIES AS A RESULT OF HIS ACTIONS.

3.2.5 THE LANDSCAPE CONTRACTOR SHALL, BEFORE STARTING WORK ON THE SPRINKLER SYSTEM, CAREFULLY NOTE ALL FINISH GRADES IN ORDER TO SATISFY HIMSELF THAT HE MAY PROCEED WITH THE WORK, AND TO RESTORE FINISH GRADES TO ORIGINAL CONTOURS BEFORE COMPLETION.

3.2.6 THE INSTALLATION OF ALL SPRINKLER MATERIALS, INCLUDING PIPE, SHALL BE COORDINATED WITH THE LANDSCAPE DRAWINGS TO AVOID INTERFERING WITH THE TREES, SHRUBS, OR OTHER PLANTINGS.

3.2.7 LAYOUT SPRINKLER HEADS AND MAKE ANY MINOR ADJUSTMENTS REQUIRED DUE TO DIFFERENCES BETWEEN SITE AND DRAWINGS. ANY SUCH DEVIATIONS IN LAYOUT SHALL BE WITHIN THE INTENT OF THE ORIGINAL DRAWINGS, AND WITHOUT ADDITIONAL COSTS TO THE OWNER. WHEN DIRECTED BY THE LANDSCAPE ARCHITECT, THE LAYOUT SHALL BE APPROVED BEFORE INSTALLATION.

3.2.8 THE WORK SHOWN ON IRRIGATION PLANS IS SCHEMATIC. ALL ITEMS, I.E. CONTROLLERS, VALVES, MAINLINES, SLEEVES, WIRES, IRRIGATION HEADS, PIPING, ETC., ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. DO NOT USE THESE PLANS TO SCALE DIMENSIONS FOR PLACEMENT OF THESE ITEMS. DETAIL DRAWINGS MAY PROVIDE ADDITIONAL CLARIFICATION OR LOCATION OF SOME ITEMS. LANDSCAPE CONTRACTOR SHALL NOT LOCATE ANY ITEMS WHERE IT IS OBVIOUS THAT THEY ARE IN DIRECT CONFLICT WITH UNDERGROUND UTILITIES, STRUCTURES, PERMANENT IMPROVEMENTS, OR PEDESTRIAN AND VEHICULAR SAFETY CONSIDERATIONS. SPRINKLER HEADS ARE NOT TO BE SCALED OFF OF THE DRAWINGS, BUT LOCATED TO PREVENT OVERSPRAY ONTO BUILDINGS, WALKS, AND STRUCTURES. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL FIELD CONDITIONS.

3.2.9 DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST, THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.

3.3 WATER SUPPLY

3.3.1 THE LANDSCAPE CONTRACTOR SHALL CONNECT TO THE WATER SOURCE AS INDICATED ON THE DRAWINGS. THE LANDSCAPE CONTRACTOR SHALL VERIFY STATIC PRESSURE AS STATED ON THE DRAWINGS PRIOR TO BEGINNING WORK. IF STATIC PRESSURE OR POINT OF CONNECTION DIFFER FROM THAT SHOWN ON THE DRAWINGS, THE LANDSCAPE CONTRACTOR WILL PROMPTLY NOTIFY LANDSCAPE ARCHITECT BEFORE STARTING WORK.

3.4 WORKMANSHIP AND PROCEDURE

3.4.1 THE ROUTING OF THE PRESSURE SUPPLY LINES AS INDICATED ON THE DRAWING IS DIAGRAMMATIC. THE LANDSCAPE CONTRACTOR SHALL INSTALL LINES IN SUCH A MANNER AS TO CONFORM WITH THE VARIOUS DETAILS WITHOUT OFFSETTING THE VARIOUS ASSEMBLIES FROM THE PRESSURE SUPPLY LINE.

3.5 INSTALLATION

3.5.1 ASSEMBLIES

3.5.1.1 ALL THREADED PIPE AND FITTINGS SHALL BE ASSEMBLED USING TEFLON TAPE OR EQUIVALENT, APPLIED TO THE MALE THREADS ONLY.

3.5.1.2 ALL ASSEMBLIES SPECIFIED HEREIN SHALL BE INSTALLED IN ACCORDANCE WITH THEIR RESPECTIVE DETAIL. IN THE ABSENCE OF DETAIL DRAWINGS OR SPECIFICATIONS PERTAINING TO THE SPECIFIC ITEMS REQUIRED TO COMPLETE THE WORK, THE LANDSCAPE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH THE BEST STANDARD PRACTICE AND TO THE SATISFACTION OF THE OWNER.

3.5.2 PIPE CLEARANCES

3.5.2.1 ALL SPRINKLER LINES SHALL HAVE A MINIMUM CLEARANCE OF 6" FROM EACH OTHER. PARALLEL LINES SHALL NOT BE INSTALLED DIRECTLY OVER ONE ANOTHER.

3.5.2.2 ONE NEW ON-SITE SYSTEMS, RECLAIMED/NON-POTABLE WATER AND SEWER LINES SHOULD BE PLACED A MINIMUM OF FOUR FEET APART, OR AS DIRECTED BY THE PROJECT ENGINEER, AND/OR REGULATORY AGENCIES. MEASUREMENTS SHALL BE BETWEEN FACING SURFACES, NOT PIPE CENTER LINES.

3.5.2.3 CONSTANT PRESSURE RECLAIMED/NON-POTABLE WATER LINES SHALL CROSS AT LEAST 12" BELOW POTABLE WATER LINES AND SHALL MAINTAIN AT LEAST 12" CROSSING SEPARATION BETWEEN OTHER UTILITIES.

3.5.2.4 IF A CONSTANT PRESSURE RECLAIMED/NON-POTABLE WATER LINE MUST BE INSTALLED ABOVE A POTABLE WATER LINE, OR LESS THAN 12" BELOW A POTABLE WATER LINE, THEN THE RECLAIMED WATER SHALL BE INSTALLED WITH AN APPROVED PROTECTIVE SLEEVE. THE SLEEVE SHALL EXTEND TEN FEET IN EACH DIRECTION FROM THE CENTER LINE OF POTABLE LINE FOR A TOTAL OF TWENTY FEET.

3.5.3 EXCAVATION, PIPING, AND BACKFILLING

3.5.3.1 TRENCHES: PIPE SHALL HAVE THE CONTINUOUS SUPPORT OF THE TRENCH BOTTOM AND SHALL BE LAID TO AN EVEN GRADE. TRENCHING EXCAVATION SHALL FOLLOW THE LAYOUT INDICATED ON THE DRAWINGS AND SHALL BE OF SUFFICIENT WIDTH TO ALLOW "SNAKING" OF PIPE IN TRENCH.

3.5.3.2 PROVIDE MINIMUM COVER OF 24 INCHES FOR ALL PRESSURE SUPPLY LINES.

3.5.3.3 PROVIDE MINIMUM COVER OF 24 INCHES FOR ALL CONTROL WIRE RUNS.

3.5.3.4 PROVIDE MINIMUM COVER OF 18 INCHES FOR ALL NON-PRESSURE LINES.

3.5.3.5 ALL LINES UNDER DRIVEWAY AND ROADWAY PAVEMENT SHALL HAVE A 24 INCH MINIMUM COVER.

3.5.3.6 BACKFILL FOR TRENCHING SHALL BE COMPACT TO DRY DENSITY EQUAL TO THE ADJACENT UNDISTURBED SOIL IN PLANTING AREAS AND 90% UNDER PAVED AREAS AND SHALL CONFORM TO THE ADJACENT GRADES WITHOUT DIPS, SUNKEN AREAS, HUMPS, OR OTHER IRREGULARITIES. INITIAL BACKFILL ON ALL LINES SHALL BE OF A FINE GRANULAR MATERIAL WITH NO FOREIGN MATTER LARGER THAN ONE-HALF INCH IN SIZE.

3.5.3.7 IF, IN THE OPINION OF THE OWNER, THE EXCAVATED MATERIAL IS NOT SATISFACTORY FOR USE AS BACKFILL, THE LANDSCAPE CONTRACTOR SHALL DISPOSE OF THIS UNSATISFACTORY MATERIAL.

3.5.3.8 PROVIDE CONCRETE THRUST BLOCKS AT ANGLES, TREES, AND BENDS IN MAINLINE RUNS PER DRAWINGS.

3.5.3.9 NON-POTABLE WARNING STENCILING SHALL BE ORIENTED TOWARD THE TOP OF THE TRENCH.

3.5.3.10 ALL PRESSURE-SIDE PIPE SHALL BE LAID WITH METALLIC WARNING TAPE 9" DIRECTLY ABOVE THE PIPE, PER DETAILS.

3.5.3.11 PROVIDE TWO INCH SAND BEDDING AND FOUR INCH SAND BACKFILL OVER PIPE IN PAVED AREAS. PROVIDE SLEEVES FOR MAIN LINE UNDER PAVED AREAS SUBJECT TO VEHICULAR TRAFFIC.

3.5.3.12 TRENCHES SHALL BE BACKFILLED PROMPTLY AFTER THE OPEN TRENCH INSPECTION.

3.5.4 SLEEVING

3.5.4.1 SLEEVING SHALL EXTEND 4' MINIMUM BEYOND EDGE OF PAVING OR WALKWAY.

3.5.4.2 ALL SLEEVING SHALL BE LAID WITH METALLIC WARNING TAPE 9" DIRECTLY ABOVE SLEEVE.

3.5.4.3 PROVIDE PERMANENT PAVEMENT MARKING PIN AT BOTH ENDS OF SLEEVE, STANDARD BRASS SURVEY PIN IN LEAD, SET 1" FROM EDGE OF PAVING OR WALKWAY.

3.5.5 CONTROL WIRES

3.5.5.1 BETWEEN CONTROLLERS AND REMOTE CONTROL VALVES, USE A CONTINUOUS WIRE. UNDER NO CIRCUMSTANCE SHALL SPLICING EXIST.

3.5.5.2 WHERE MORE THAN ONE WIRE IS PLACED IN A TRENCH, THE WIRING SHALL BE TAPED TOGETHER AT INTERVALS OF TEN FEET.

3.5.5.3 WIRING SHALL OCCUPY THE SAME TRENCH AND SHALL BE INSTALLED ALONG THE SAME ROUTE AS THE PRESSURE SUPPLY LINE WHEREVER POSSIBLE. WIRE BUNDLE SHALL BE PLACED ALONG THE SIDE OF MAINLINE PIPE. WIRE BUNDLES SHALL NOT CROSS OVER TOP OF MAINLINE.

3.5.5.4 A LOOP OF TWELVE INCHES SHALL BE PROVIDED AT EACH DIRECTIONAL TURN IN THE WIRE RUN.

3.5.5.5 WIRE SHALL BE LAID LOOSELY IN TRENCH, NOT PULLED TIGHT. LAY WIRE SO THAT THERE IS 12 INCHES OF SLACK FOR EVERY 100 FEET OF LENGTH.

3.5.5.6 PROVIDE AT LEAST ONE (1) EXTRA SPARE WIRE FOR EVERY THREE VALVES BEING SERVED BY THE WIRE RUN. EXTRA WIRES SHALL BE CONTINUOUS TO END OF WIRE RUN.

3.5.5.7 PROVIDE SUFFICIENT EXTRA WIRE UNDER VALVE BOXES SO THAT VALVE CAN BE COMPLETELY REMOVED FROM GROUND AND BOX FOR SERVICING WITHOUT DISCONNECTING WIRES.

3.5.6 VALVE BOXES

3.5.6.1 INSTALL VALVE BOXES IN ACCORDANCE WITH THE DETAILS THEREOF.

3.5.6.2 SEAL ALL BELOW-GRADE OPENINGS IN VALVE BOXES AND AROUND PIPING TO PREVENT SOIL FROM ENTERING THE VALVE BOX. SUITABLE MATERIALS INCLUDE GEOTEXTILE FABRIC, HEAVY GAUGE SHRINK-WRAP PLASTIC, OR OTHER FLEXIBLE MATERIAL APPROVED BY THE LANDSCAPE ARCHITECT. DO NOT USE CARDBOARD, DUCT TAPE, OR OTHER MATERIALS THAT WILL DETERIORATE IN WET CONDITIONS.

3.5.6.3 KEEP VALVE BOX LIDS IN PLACE DURING SOIL PREPARATION TO KEEP SOIL OUT. REMOVE ALL SOIL MATERIALS WHICH ENTER THE VALVE BOX DURING CONSTRUCTION.

3.5.6.4 INSTALL VALVE BOXES SO RIM IS IN SAME PLANE AS ADJACENT GRADE. WHERE VALVE BOXES OCCUR ADJACENT TO WALKS, CURBS, OR HEADERBOARD, LOCATE THEM 6" CLEAR FROM EDGE OF IMPROVEMENT. WHERE TWO OR MORE VALVE BOXES OCCUR TOGETHER, LOCATE THEM WITH 6" CLEAR BETWEEN AND IN A STRAIGHT ROW. DUE TO THE SCHEMATIC NATURE OF PLANS, IF QUESTIONS, CONFIRM ACTUAL VALVE MANIFOLD LOCATIONS WITH LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH WORK.

3.5.7 SPRINKLER HEADS

3.5.7.1 INSTALL EACH TUPE OF SPRINKLER HEAD IN ACCORDANCE WITH THEIR RESPECTIVE DETAILS.

3.5.7.2 INSTALL SPRINKLER HEADS 6" AWAY FROM WALKWAY OR PAVING EDGE; 12" AWAY FROM BUILDINGS, ABOVE GROUND UTILITY STRUCTURES, TRANSFORMERS, AND OTHER ITEMS.

3.5.7.3 INSTALL SPRINKLER HEADS 12" AWAY FROM WALLS AND WOOD FENCES.

3.5.7.4 INSTALL SPRINKLER HEADS 6" AWAY FROM CHAINLINK FENCES.

3.5.7.5 DO NOT LOCATE SPRINKLER HEADS WHERE IT IS OBVIOUS THEY WILL SPRAY ONTO OR INTO UTILITY STRUCTURES, BUILDINGS, SIGNS, CONTROLLER EQUIPMENT, OR OTHER STRUCTURES.

3.5.8 PRESSURE TEST

3.5.8.1 ALL PRESSURE LINES SHALL BE TESTED UNDER HYDROSTATIC PRESSURE OF 150 PSI, AND ALL NON-PRESSURE LINES SHALL BE TESTED UNDER THE EXISTING STATIC PRESSURE AND BOTH BE PROVEN WATERTIGHT. (LANDSCAPE CONTRACTOR TO SUPPLY ALL EQUIPMENT NEEDED FOR TESTING.)

3.5.8.2 PRESSURE SHALL BE SUSTAINED IN THE LINES FOR NOT LESS THAN TWO HOURS. IF LEAKS DEVELOP, THE JOINTS SHALL BE REPLACED AND THE TEST REPEATED UNTIL THE ENTIRE SYSTEM IS PROVEN WATERTIGHT.

3.5.8.3 TESTS SHALL BE OBSERVED AND APPROVED BY THE LANDSCAPE ARCHITEC

3.5.10.4 LOWER RAISED SPRINKLER HEADS IN LAWN AREAS WITHIN TEN DAYS AFTER NOTIFICATION BY THE LANDSCAPE ARCHITECT.

3.5.11 ELECTRICAL

3.5.11.1 LANDSCAPE CONTRACTOR SHALL VERIFY POWER SOURCES SHALL BE AS INDICATED ON THE DRAWINGS.

3.5.11.2 THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING 110 VOLT ELECTRICAL CONNECTIONS TO THE AUTOMATIC CONTROLLER AND WIRE CIRCUITS FROM REMOTE CONTROL VALVES TO CONTROLLERS. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH ALL LOCAL AND /OR COUNTY ORDINANCES. WIRE SIZES TO BE AS PER MANUFACTURERS SPECIFICATIONS.

3.6 EQUIPMENT TO BE FURNISHED

3.6.1 THE LANDSCAPE CONTRACTOR SHALL PROVIDE AS PART OF THIS CONTRACT, TWO SETS OF SPRINKLER WRENCHES FOR ADJUSTING, CLEANING, OR DISASSEMBLING EACH TYPE OF SPRINKLER.

3.6.2 TWO EACH OF ANY SPECIAL TOOLS REQUIRED FOR ANY OTHER EQUIPMENT SHALL ALSO BE FURNISHED.

3.6.3 PROVIDE TWO KEYS FOR EACH AUTOMATIC CONTROLLER.

3.6.4 TWO SERVICE MANUALS AND INFORMATION PAGES FOR ALL EQUIPMENT USED SHALL BE FURNISHED TO THE OWNER. MANUALS MAY BE LOOSE LEAF AND SHOULD SHOW DRAWINGS OR EXPLODED VIEWS OF EQUIPMENT AND CATALOG NUMBER. OPERATING INSTRUCTIONS FOR ALL EQUIPMENT SHALL BE FURNISHED.

3.7 OBSERVATION OF WORK

3.7.1 INSTALLATIONS AND OPERATIONS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.

3.7.2 IN NO EVENT SHALL THE LANDSCAPE CONTRACTOR COVER-UP OR OTHERWISE REMOVE FROM VIEW ANY WORK UNDER THIS CONTRACT WITHOUT PRIOR APPROVAL OF THE OWNER. ANY WORK COVERED PRIOR TO OBSERVATION SHALL BE OPENED TO VIEW BY THE LANDSCAPE CONTRACTOR AT HIS OWN EXPENSE. THE LANDSCAPE CONTRACTOR SHALL REQUEST OF THE LANDSCAPE ARCHITECT AN OBSERVATION AT LEAST TWO DAYS IN ADVANCE. OBSERVATION WILL BE REQUIRED AS FOLLOWS:

3.7.2.1 MAINLINE PRESSURE TEST AND TRENCH DEPTH INSPECTIONS:

3.7.2.1.1 PRIOR TO BACKFILL.

3.7.2.1.2 SPOT CHECK UPON BACKFILL COMPLETION.

3.7.2.2 COVERAGE TEST UPON SPRINKLER SYSTEM COMPLETION.

3.8 RECORD DRAWINGS

3.8.1 THE LANDSCAPE CONTRACTOR SHALL MAINTAIN A COMPLETE AND ACCURATE SET OF PROJECT RECORD DRAWINGS. THESE DRAWINGS SHALL BE KEPT UP TO DATE WITH THE PROGRESS OF THE WORK.

3.8.2 LANDSCAPE CONTRACTOR SHALL PROVIDE ADEQUATE MEASUREMENTS AND FIELD NOTES AS DIRECTED BY THE CITY INSPECTOR AND/OR LANDSCAPE ARCHITECT FOR PREPARATION OF ACCURATE "PROJECT RECORD" DRAWINGS. SHOW EITHER ACTUAL LOCATIONS OR DIMENSIONS FORM TWO PERMANENT POINTS OF REFERENCE SUCH AS BUILDING CORNERS, CURBS, SIDEWALK, INTERSECTIONS, ETC. (BUT NOT FROM IRRIGATION EQUIPMENT) LOCATIONS OF THE FOLLOWING:

A. CONNECTIONS TO EXISTING WATER SOURCES. B. WATER METERS. C. ROUTING OF MAIN LINES. D. LOCATION OF BOTH ENDS OF ALL SLEEVES. E. CONTROL VALVES. F. QUICK COUPLERS. G. BACKFLOW PREVENTION DEVICES. H. GATE VALVES. I. ROUTING OF CONTROL WIRING. J. CONTROLLERS.

3.8.3 WHEN PROJECT IS COMPLETE, AS BUILT INFORMATION SHALL BE TRANSFERRED, IN INK, ONTO A SET OF REPRODUCIBLE SEPIA MYLARS OF THE ORIGINAL IRRIGATION PLANS.

3.8.4 THE COMPLETED AND ACCEPTED REPRODUCIBLE RECORD DRAWINGS SHALL BE DELIVERED TO THE OWNER ON OR PRIOR TO THE FINAL OBSERVATION.

3.9 CONTROLLER CHARTS

3.9.1 PROJECT RECORD DRAWINGS SHALL BE PREPARED BY THE LANDSCAPE CONTRACTOR BEFORE CHARTS ARE PREPARED.

3.9.2 PROVIDE ONE CONTROLLER CHART FOR EACH CONTROLLER SUPPLIED.

3.9.3 THE CHART SHALL SHOW THE AREA CONTROLLED BY AUTOMATIC CONTROLLER AND SHALL BE THE MAXIMUM SIZE CONTROLLER DOOR WILL ALLOW.

3.9.4 THE CHART IS TO BE REDUCED DRAWING OF THE INSTALLED SYSTEM. HOWEVER, IN THE EVENT THE CONTROLLER SEQUENCING IS NOT LEGIBLE WHEN THE DRAWINGS IS REDUCED, IT SHALL BE ENLARGED TO A SIZE THAT WILL BE READABLE WHEN REDUCED. IF CONTROLLER SEQUENCING HAS BEEN CHANGED FROM THE ORIGINAL DRAWINGS, THE NEW SEQUENCING SHALL BE INDICATED ON THE CONTROLLER CHART.

3.9.5 CHART SHALL BE BLACKLINE PRINT AND A DIFFERENT COLOR SHALL BE USED TO SHOW AREA OF COVERAGE FOR EACH VALVE STATION.

3.9.6 THE CHART SHALL BE MOUNTED USING VELCRO, OR EQUIVALENT TYPE OF COMPARABLE QUALITY.

3.9.7 WHEN COMPLETED AND APPROVED, THE CHART SHALL BE LAMINATED BETWEEN TWO PIECES OF CLEAR PLASTIC, EACH PIECE BEING A MINIMUM 20 MILS THICK.

3.9.8 THESE CHARTS SHALL BE COMPLETED AND APPROVED PRIOR TO FINAL INSPECTION OF THE IRRIGATION SYSTEM.

3.10 CLEAN-UP AND REPAIR

3.10.1 UPON COMPLETION OF THE WORK, MAKE THE GROUND SURFACE LEVEL, REMOVE EXCESS MATERIALS, RUBBISH, DEBRIS, ETC., AND REMOVE CONSTRUCTION AND INSTALLATION EQUIPMENT FROM THE PREMISES.

3.10.2 REPLACE AND/OR REPAIR TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT ALL EXISTING PAVING DISTURBED DURING THE COURSE OF THIS WORK. NEW PAVING SHALL BE THE SAME TYPE, STRENGTH, TEXTURE, FINISH, AND BE EQUAL IN EVERY WAY TO THE MATERIAL REMOVED.

3.10.3 LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR ALL MAINTENANCE AND REPAIR OF ENTIRE IRRIGATION SYSTEM, INCLUDING VANDALISM, UNTIL FINAL ACCEPTANCE.

3.11 FINAL INSPECTION

3.11.1 THE LANDSCAPE CONTRACTOR SHALL SHOW EVIDENCE TO THE OWNER'S REPRESENTATIVE THAT THE OWNER HAS RECEIVED ALL REQUIRED ACCESSORIES, CHARTS, RECORD DRAWINGS, ETC., BEFORE FINAL OBSERVATION CAN OCCUR.

3.11.2 NOTIFICATION BY THE LANDSCAPE CONTRACTOR SHALL BE MADE IN WRITING TO THE OWNER SEVEN DAYS PRIOR TO FINAL OBSERVATION. THE FINAL INSPECTION OF THE WORK SHALL BE MADE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AT THE TIME THE WORK IS COMPLETED.

3.12 GUARANTEE

3.12.1 THE ENTIRE SPRINKLER SYSTEM SHALL BE GUARANTEED BY THE LANDSCAPE CONTRACTOR AS TO MATERIAL AND WORKMANSHIP, INCLUDING SETTLING OF BACKFILLED AREAS AND TRENCHES FOR A PERIOD OF ONE YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE WORK.

3.12.2 SHOULD ANY OPERATIONAL DIFFICULTIES IN CONNECTION WITH THE SPRINKLER SYSTEM DEVELOP WITHIN THE SPECIFIED GUARANTEE PERIOD, WHICH IN THE OPINION OF THE OWNER MAY BE DUE TO INFERIOR MATERIAL AND/OR WORKMANSHIP, SAID DIFFICULTIES SHALL BE IMMEDIATELY CORRECTED BY THE LANDSCAPE CONTRACTOR TO THE SATISFACTION OF THE OWNER, AT NO ADDITIONAL COST.

3.13 TEMPORARY REPAIRS

3.13.1 THE OWNER RESERVES THE RIGHT TO MAKE TEMPORARY REPAIRS AS NECESSARY TO KEEP THE SPRINKLER SYSTEM EQUIPMENT IN OPERATING CONDITION. THE EXERCISE OF THIS RIGHT BY THE OWNER SHALL NOT RELIEVE THE LANDSCAPE CONTRACTOR OF HIS RESPONSIBILITIES UNDER THE TERM OF THE GUARANTEE AS HEREIN SPECIFIED.

PART 4 PAYMENT

4.1 PAYMENT FOR THE WORK OF THIS SECTION SHALL BE INCLUDED IN THE PRICE BID FOR "IRRIGATION SYSTEM-COMPLETE" AND NO ADDITIONAL COSTS WILL BE CONSIDERED.

END OF SECTION

LICENSED LANDSCAPE ARCHITECT — COPLESON — No. 2505 — 10-31-01 Expiration Date — 02-22-04 Date — STATE OF CALIFORNIA

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"

KEITH B. FREUND — 4/21/04
TITLE ASSOCIATE — DATE

REVIEWED BY:
INSPECTOR — 11/08/04 DATE

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

SHEET 37 — CITY OF CARLSBAD, PARK & RECREATION DEPARTMENT — SHEETS 41

IRRIGATION SPECIFICATIONS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RE: 23889 — CITY ENGINEER — 3/29/01 DATE

DWN BY:
CHKD BY: DJH
RVWD BY: JDP

PROJECT NO. CT 90 - 03

DRAWING NO. 380-1K

1-15-01

PDC JOB No. 1607.20

T:\Eng\1607-20\Dwg\Irrigation\
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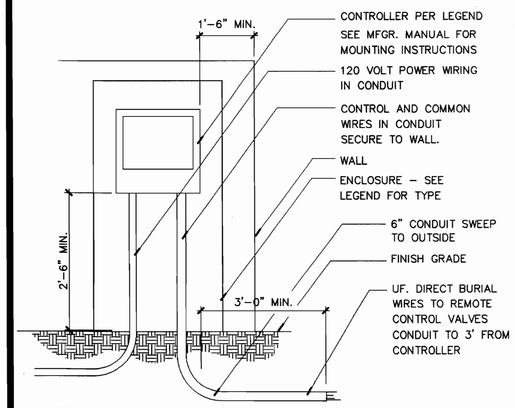
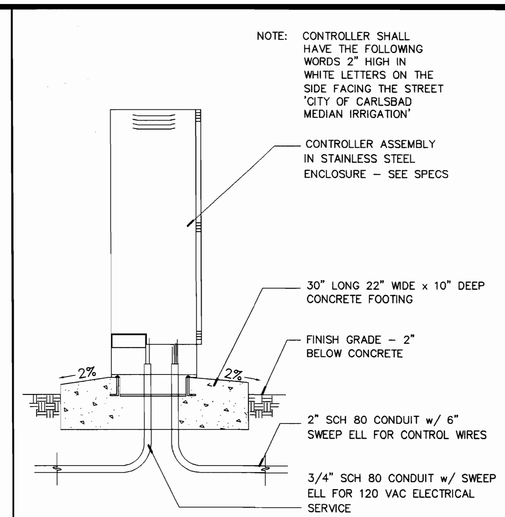
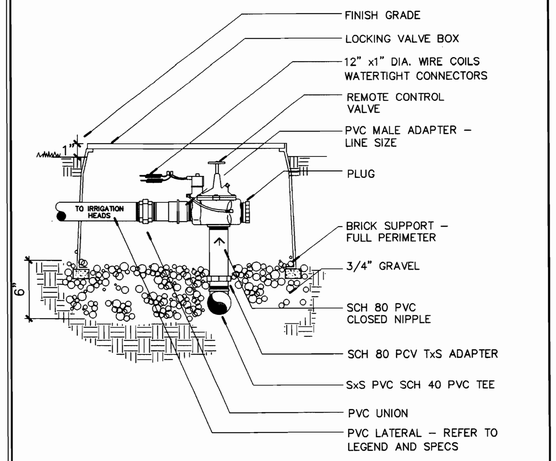


NOTE:
INSTALL ON 4X4 POST UNTIL HOUSE IS BUILT, THEN INSTALL ON HOUSE PER LANDSCAPE ARCHIECT DIRECTION.

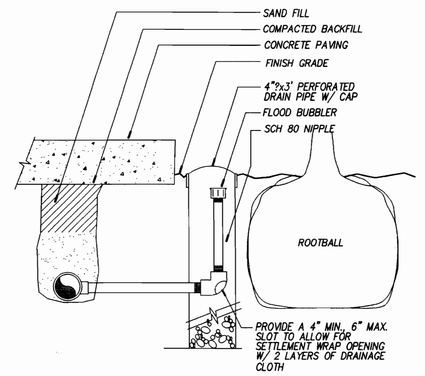
1 AUTOMATIC CONTROLLER N.T.S.



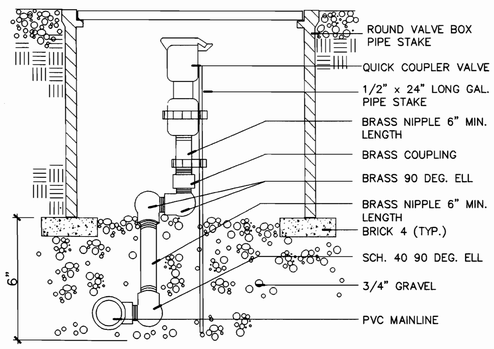
2 CONTROLLER ENCLOUSURE N.T.S.



3 REMOTE CONTROL VALVE N.T.S.

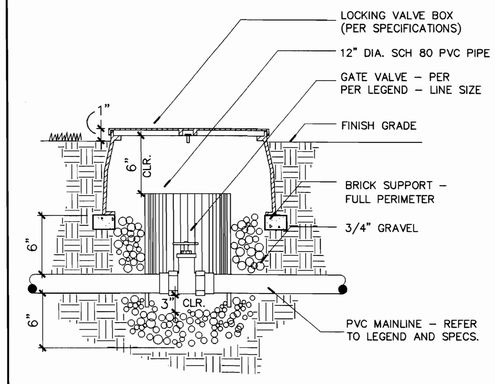


4 SUBSURFACE TREE BUBBLER N.T.S.



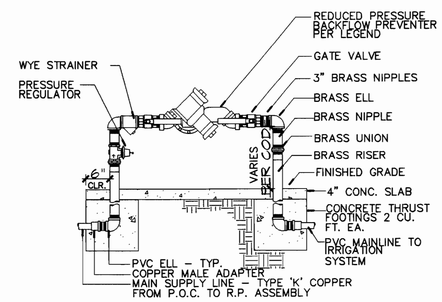
NOTES:
1. QUICK COUPLERS SHALL BE OF A TYPE APPROVED FOR RECYCLED WATER USE.

5 QUICK COUPLER N.T.S.

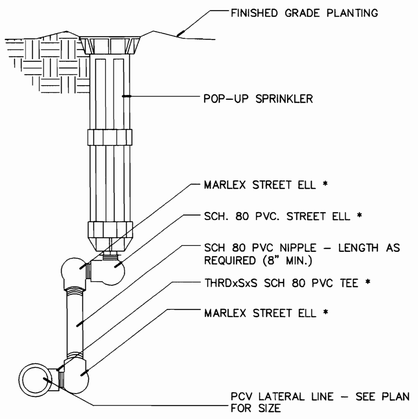


NOTES:
1. GATE VALVES 2 1/2" AND LARGER SHALL BE AWWA APPROVED AND HAVE A 2" SQUARE OPERATING NUT IN LIEU OF BRASS HANDWHEEL AND FLANGE CONNECTIONS IN LIEU OF UNIONS.

6 GATE VALVE N.T.S.

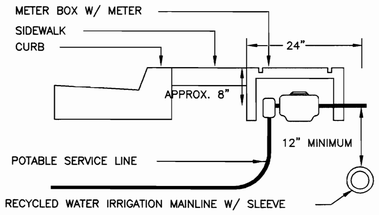


7 BACK FLOW PREVENTER N.T.S.



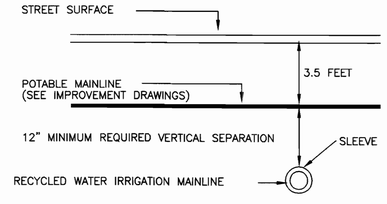
*NOTE: SIZE FOR FITTINGS AT NIPPLE SHALL BE SAME SIZE AS HEAD INLET SIZE.

8 POP-UP N.T.S.



NOTE:
VERTICAL CLEARANCE OF 12" MINIUMUM IS MANDATORY WHEN CROSSING PATH OF A POTABLE WATER LINE. INSTALLATION OF RECYCLED WATER IRRIGATION MAINLINE 24" FROM FACE OF SIDEWALK WILL PROVIDE THE NECESSARY 10' HORIZONTAL CLEARANCE FROM POTABLE MAINLINE IN THE STREET.

5 TABLE SERVICE LINE CROSSING



NOTE:
ALL RECYCLED WATER IRRIGATION PIPING AND SLEEVES SHALL BE PURPLE AND LABELED AS SPECIFIED IN:
"STANDARD SPECIFICATIONS FOR PRIVATE IRRIGATION SYSTEMS"
"CARLSBAD RECLAMATION RULES AND REGULATIONS FOR CONSTRUCTION OF RECYCLED WATER MAINS" OCTOBER 1993

6 POTABLE MAINLINE CROSSING

LICENSED LANDSCAPE ARCHITECT — STEPHEN P. COPPEY — Signature — Expiration Date 10-31-01 — 10-28-01 Date — STATE OF CALIFORNIA

LICENSED LANDSCAPE ARCHITECT — KEITH A. FRENCH — Signature — Expiration Date 08-31-05 — 9-21-04 Date — STATE OF CALIFORNIA

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
Keith A. French 9/21/04
TITLE ASSOCIATE DATE
REVIEWED BY:
Tim Fenny 11/03/04
INSPECTOR DATE

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

SHEET 38 — CITY OF CARLSBAD — PARK & RECREATION DEPARTMENT — SHEETS 41

IRRIGATION DETAILS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01
RE: 23889 — CITY ENGINEER — DATE 3/29/01

DWN BY: DJH
CHKD BY: JCE
RVWD BY: JCE

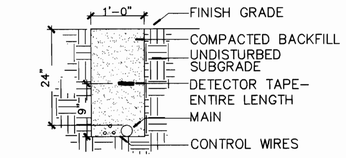
PROJECT NO. CT 90 - 03

DRAWING NO. 380-1K

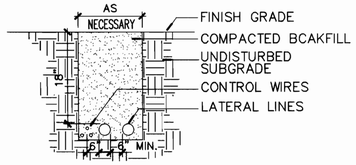
1-15-01

PDC JOB No. 1607.20

T:\Eng\1607-20\Dwgs\Construction\Dtl Sheet 1607-20 Dtl Sht.dwg 8/20/01 3440

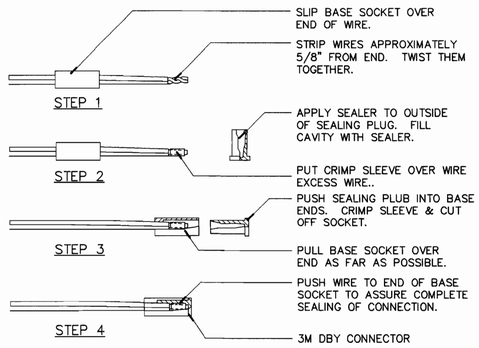


MAIN AND CONDUCTORS



LATERAL AND CONDUCTORS

1 TRENCH DETAIL N.T.S.



2 ELECTRICAL WIRING N.T.S.

LICENSED LANDSCAPE ARCHITECT — KEITH A. FRENCH — No. 2346 — Signature — Expiration Date 08-28-04 — STATE OF CALIFORNIA

APPROVED FOR PLANTING AND IRRIGATION ONLY, INCLUDING PRECISE LOCATION OF PLANTING AREAS.

"AS BUILT"
Keith A. French 9/21/04
TITLE ASSOCIATE DATE

REVIEWED BY:
Tim Fenn 11/03/04
INSPECTOR DATE

LICENSED LANDSCAPE ARCHITECT — COPLEY — No. 4037 — Signature — Expiration Date 08-28-04 — STATE OF CALIFORNIA

Project Design Consultants
701 'B' Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 234-0349

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1-22-04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 39 | CITY OF CARLSBAD — PARK & RECREATION DEPARTMENT | SHEETS 41

IRRIGATION DETAILS FOR:
RANCHO SANTA FE RD.
LANDSCAPE IMPROVEMENTS
STA. 14+55 THRU STA. 42+00

APPROVED: LLOYD B. HUBBS EXPIRES 12-31-01
RCE 23889 CITY ENGINEER DATE 3/29/01

DWN BY: —
CHKD BY: DLW
RVWD BY: JVR

PROJECT NO. CT 90 - 03

DRAWING NO. 380-1K

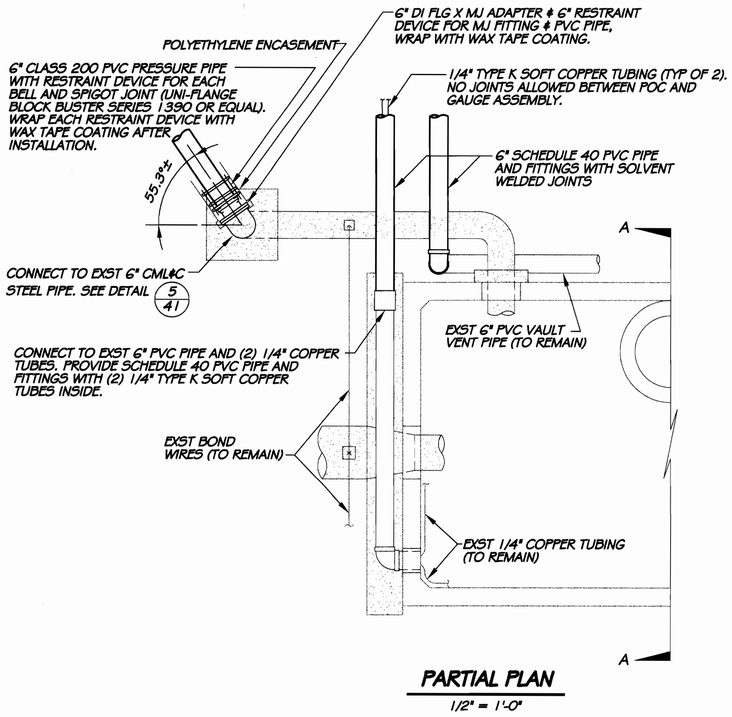
1-15-01

PDC JOB No. 1607.20

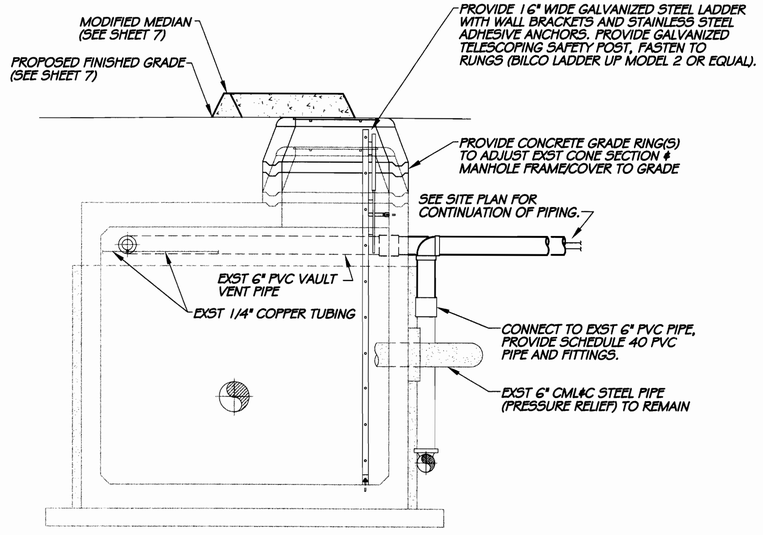
T:\Dwg\1607-20\Dwg\Construction\
DWG NAME: 1607-AHDR-07.dwg LAYOUT: 33742 PLOTTED: 3/29/01 8:20

PRESSURE REDUCING STATION
REFERENCE DRAWINGS

RANCHO SANTA FE ROAD
OLIVENHAIN MUNICIPAL WATER DISTRICT
PIPELINE 4-REPLACEMENT (SD-001-365-57)

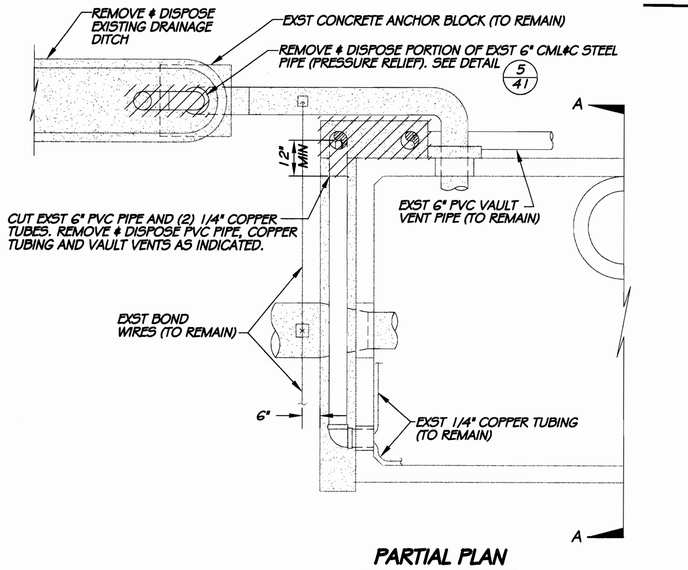


PARTIAL PLAN
1/2" = 1'-0"

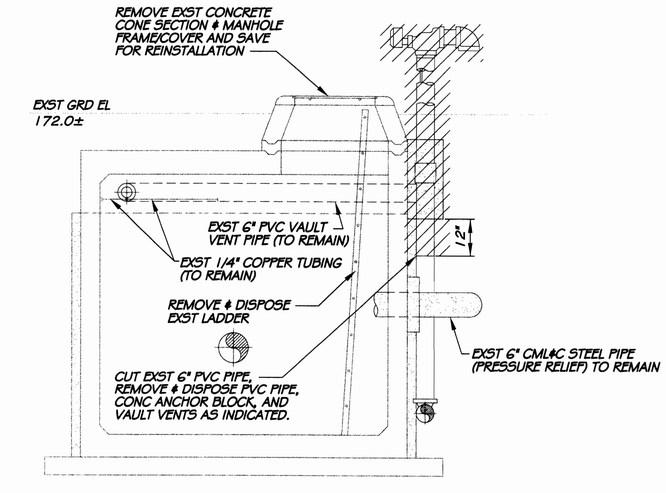


SECTION A-A
1/2" = 1'-0"

STEP 2



PARTIAL PLAN
1/2" = 1'-0"

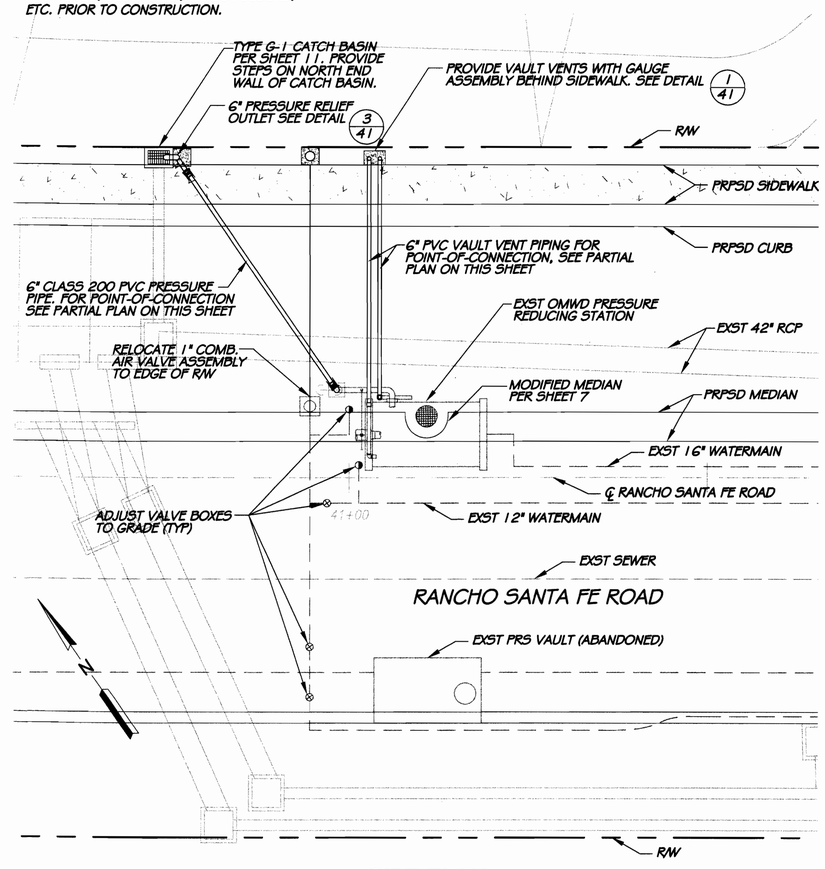


SECTION A-A
1/2" = 1'-0"

STEP 1

MODIFICATION TO EXISTING PRESSURE REDUCING STATION

NOTE:
CONTRACTOR SHALE VERIFY LOCATION AND ELATION OF ALL PRESSURE REDUCING STATION FACILITIES INCLUDING MANHOLES, AIR VALVES, BLOW-OFFS, THRUST BLOCKS, ETC. PRIOR TO CONSTRUCTION.



SITE PLAN
1" = 10'

RECORD DRAWING
Changes were made in accordance with information supplied by Contractor.
By: AKE Date: 9-27-04

REGISTERED PROFESSIONAL ENGINEER
ANDERS K. EGENSE
No. 40654
Exp. 03-31-03
CIVIL
STATE OF CALIFORNIA

BOYLE ENGINEERING CORPORATION
consulting engineers/architects
DISTRICT'S CONSULTING ENGINEER

ANDERS K. EGENSE
ANDERS K. EGENSE PE 40654 DATE 12/14/00

PRIVATE CONTRACT

DATE	INITIAL	ENGINEER OF WORK

REVISION DESCRIPTION

DATE	INITIAL	OTHER APPROVAL
DATE	INITIAL	CITY APPROVAL

SHEET 40 | CITY OF CARLSBAD ENGINEERING DEPARTMENT | SHEETS 41

IMPROVEMENT PLANS FOR:
RANCHO SANTA FE ROAD
MODIFICATIONS TO PRESSURE REDUCING STATION
CT 90-03

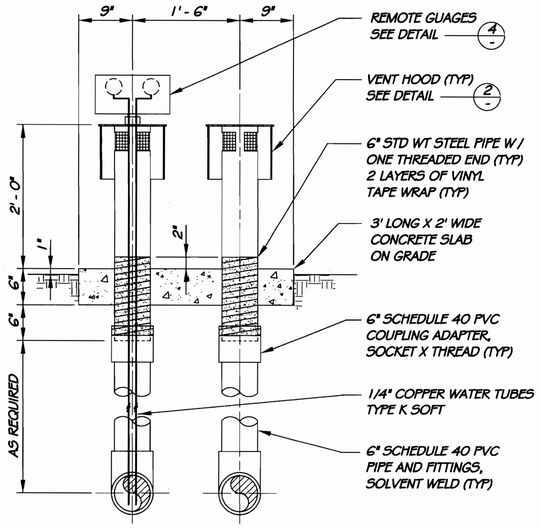
APPROVED: LLOYD B. HUBBS
RE: 23889 EXPIRES 12-31-01 CITY ENGINEER DATE 3/29/01

DWN BY: MSR
CHKD BY: AKE/DA
RVWD BY: JOE

PROJECT NO. CT 90-03

DRAWING NO. 380-1K

SD-001-243-50



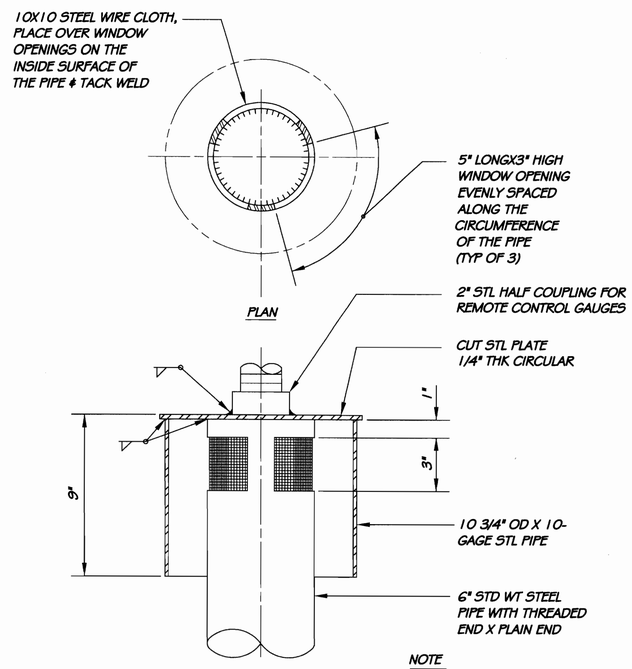
VAULT VENTS
DETAIL 1
1" = 1'-0"

1. 3-1/2" DIA PRESSURE GAUGE, LIQUID FILLED, 0-300 PSI
2. 1/4" BRASS PLUG VALVE W/MALE IPT ENDS
3. 1/4" CAST BRONZE TEE, CL 125, FEMALE IPT ENDS
4. 1/4" CAST BRONZE UNION, COPPER x MALE IPT
5. 1/4" COPPER 90° ELL, LONG RADIUS, COPPER x FITTING
6. 1/4" COPPER WATER TUBE, TYPE K SOFT

SECTION ELEVATION

NOTES
1. HOT DIP GALVANIZE COMPLETED ASSEMBLY AFTER FABRICATION.
2. PIPING TO ONLY ONE GAUGE HAS BEEN SHOWN. THE SECOND GAUGE SHALL BE INSTALLED THE SAME.

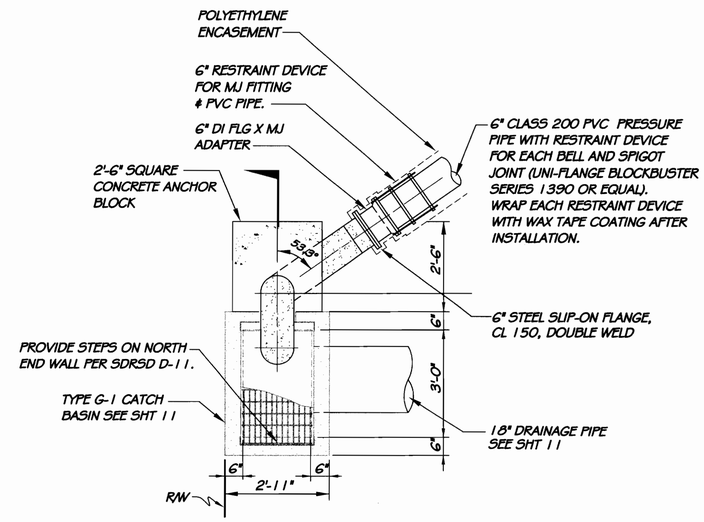
REMOTE GAUGES
DETAIL 4
3" = 1'-0"



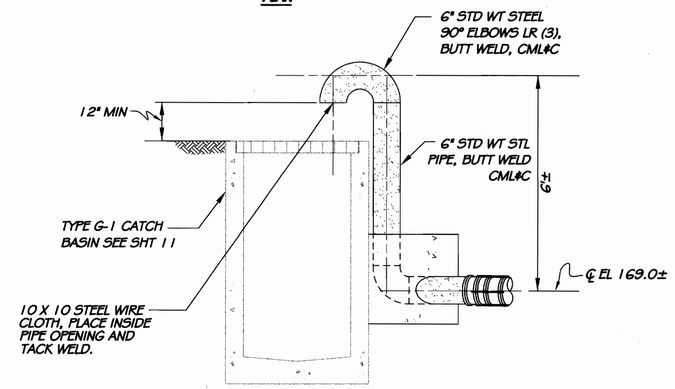
NOTE
HOT DIP GALVANIZE COMPLETED ASSEMBLY AFTER FABRICATION AND FIELD PAINT EXTERIOR OSHA BLUE.

SECTION

VENT HOOD
DETAIL 2
3" = 1'-0"

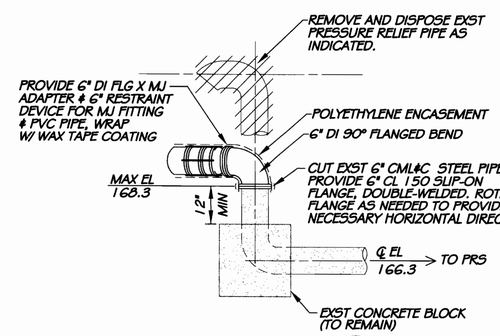


PLAN



SECTION

DETAIL 3
1/2" = 1'-0"



DETAIL 5
1/2" = 1'-0"

RECORD DRAWING
Changes were made in accordance with information supplied by Contractor.
By: AKE Date: 9-27-04

REGISTERED PROFESSIONAL ENGINEER — ANDERS K. EGENSE — No. 40654 — Exp. 03-31-03 — CIVIL — STATE OF CALIFORNIA

BOYLE ENGINEERING CORPORATION
consulting engineers/architects
DISTRICT'S CONSULTING ENGINEER

Anders K Egense 12/14/00
ANDERS K. EGENSE, RE 40654 DATE

PRIVATE CONTRACT

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 41 — CITY OF CARLSBAD, ENGINEERING DEPARTMENT — SHEETS 41

IMPROVEMENT PLANS FOR:
RANCHO SANTA FE ROAD
MODIFICATIONS TO PRESSURE REDUCING STATION
CT 90-03

APPROVED: LLOYD B. HUBBS
RE 23889 EXPIRES 12-31-01 CITY ENGINEER — DATE 3/29/01

DWN BY: MSR
CHKD BY: MIKI TAN
RVWD BY: JOE

PROJECT NO. CT 90-03
DRAWING NO. 380-1K

SD-001-243-50

\001\dwg\243-50\ACAD\Sheet 02.dwg Wed Feb 21 15:47:13 2001 BENZAD M

CARLSBAD TRACT NO. 90-03
SHELLEY PROPERTY
UNIT NO. 2

GENERAL NOTES

1. THIS PLAN SUPERSEDES ALL OTHER PLANS PREVIOUSLY APPROVED BY THE CITY OF CARLSBAD REGARDING IMPROVEMENTS SHOWN ON THIS SET OF PLANS.
2. APPROVAL OF THIS PLAN DOES NOT LESSEN OR WAIVE ANY PORTION OF THE CARLSBAD MUNICIPAL CODE, RESOLUTION OR CONDITIONAL APPROVAL, CITY STANDARDS OR OTHER ADDITIONAL DOCUMENTS LISTED HERON AS THEY MAY PERTAIN TO THIS PROJECT. THE ENGINEER IN RESPONSIBLE CHARGE SHALL REVISE THESE PLANS WHEN NON-CONFORMANCE IS DISCOVERED.
3. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER OR ENGINEER-OF-WORK FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING CONSTRUCTION. ALL PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.
4. A RIGHT-OF-WAY PERMIT FROM THE CITY ENGINEER WILL BE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT OF WAY. PRIOR TO PERMIT ISSUANCE, A CERTIFICATE OF INSURANCE MUST BE FILED NAMING THE CITY OF CARLSBAD AS AN ADDITIONAL INSURED ON THE PERMITTEE'S POLICY IN THE MINIMUM AMOUNT OF $1,000,000.00 FOR EACH OCCURRENCE OF LIABILITY. THE INSURANCE COMPANY WRITING THE POLICY MUST HAVE A RATING OF 'A' AND A SIZE CATEGORY OF CLASS V AS ESTABLISHED BY "BESTS" KEY RATING GUIDE.
5. NO WORK SHALL COMMENCE UNTIL ALL PERMITS HAVE BEEN OBTAINED FORM THE CITY AND OTHER APPROPRIATE AGENCIES.
6. REVISION OF THESE PLANS MAY BE REQUIRED IF THE PROPOSED IMPROVEMENTS ARE NOT CONSTRUCTED PRIOR TO THE DEADLINE DATE OF THE IMPROVEMENT AGREEMENT.
7. NO REVISIONS WILL BE MADE TO THESE PLANS WITHOUT WRITTEN APPROVAL OF THE CITY ENGINEER, NOTED WITHIN THE REVISION BLOCK, ON THE APPROPRIATE SHEET OF THE PLANS AND TITLE SHEET.
8. ORIGINAL DRAWINGS SHALL BECOME THE PROPERTY OF THE CITY UPON BEING SIGNED BY THE CITY ENGINEER.
9. THE ORIGINAL DRAWING SHALL BE REVISED TO REFLECT AS-BUILT CONDITIONS BY THE EINGINNER-OF-WORK PRIOR TO FINAL ACCEPTANCE OF THE WORK BY THE CITY.
10. ACCESS TO THE PROJECT SITE FOR FIRE AND OTHER EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
11. WHERE TRENCHES ARE WITHIN CITY EASEMENTS, A SOILS REPORT COMPRISED OF: (A) SUMMARY SHEET, (B) LABORATORY WORK SHEETS AND, (C) COMPACTION CURVES, SHALL BE SUBMITTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS, THE SOILS REPORT WILL BE SUBMITTED TO THE CITY ENGINEERING INSPECTOR WITHIN TWO WORKING DAYS OF COMPLETION OF FIELD TESTS. THE WRITTEN FIELD COMPACTION REPORT(S) SHALL BE IMMEDIATELY SUBMITTED TO THE CITY ENGINEERING INSPECTOR UPON COMPLETION OF THE FIELD TESTS.
12. A PRECONSTRUCTION MEETING SHALL BE HELD AT THE SITE PRIOR TO THE BEGINNING OF WORK AND SHALL BE ATTENDED BY ALL REPRESENTATIVES RESPONSIBLE FOR CONSTRUCTION, INSPECTION, SUPERVISION, TESTING AND ALL OTHER ASPECTS OF THE WORK. THE CONTRACTOR SHALL SCHEDULE THE MEETING THROUGH THE PERMIT CLERK (438-3634) AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING CONSTRUCTION APPROVED DRAWING MUST BE AVAILABLE PRIOR TO SCHEDULING.
13. ALL INSPECTION REQUESTS OTHER THAN FOR PRECONSTRUCTION MEETING WILL BE MADE BY CALLING THE 24-HOUR ENGINEERING INSPECTION REQUEST LINE AT (760)438-3891. INSPECTION REQUESTS MUST BE RECEIVED PRIOR TO 2:00 P.M. ON THE DAY BEFORE THE INSPECTION IS NEEDED. INSPECTIONS WILL BE MADE THE NEXT WORK DAY UNLESS YOU REQUEST OTHERWISE. REQUESTS MADE AFTER 2:00 P.M. WILL BE SCHEDULED FOR TWO FULL WORK DAYS LATER.
14. THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE CITY ENGINEER AND/OR CONCERNED AGENCY SHOWING THE DESIGN OF SHORING, BRACING, SLOPING OR OTHER PROVISIONS TO BE MADE FOR WORKER PROTECTION FROM THE HAZARD OF CAVING GROUND DURING THE EXCAVATION OF SUCH TRENCH OR TRENCHES OR DURING THE PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET (5') OR MORE IN DEPTH AND APPROVED BY THE CITY ENGINEER AND/OR CONCERNED AGENCY PRIOR TO EXCAVATION. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8 CALIFORNIA ADMINISTRATIVE CODE, THE PLANS SHALL BE PREPARED BY A REGISTERED ENGINEER AT THE CONTRACTOR'S EXPENSE. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO EXCAVATION.
15. IF ANY ARCHEOLOGICAL RESOURCES ARE DISCOVERED WITHIN ANY WORK ZONE DURING CONSTRUCTION, OPERATIONS WILL CEASE IMMEDIATELY, AND THE PERMITTEE WILL NOTIFY THE CITY ENGINEER. OPERATIONS WILL NOT RESTART UNTIL THE PERMITTEE HAS RECIEVED WRITTEN AUTHORITY FROM THE CITY ENGINEER TO DO SO.
16. ALL OPERATIONS CONDUCTED ON THE SITE OR ADJACENT THERETO, INCLUDING WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR OPERATION OF TRUCKS, EARTH MOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 A.M. AND SUNSET EACH DAY, MONDAY THROUGH FRIDAY AND NO EARTH MOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON WEEKENDS OR HOLIDAYS. (A LIST OF CITY HOLIDAYS IS AVAILABLE OAT THE ENGINEERING DEPARTMENT COUNTER.)
17. ALL OFF-SITE HAUL ROUTES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL TWO FULL WORKING DAYS PRIOR TO BEGINNING OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTE OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
18. NO BLASTING SHALL BE COMMENCED WITHOUT A CITY ENGINEER APPROVED BLASITNG PROGRAM.
19. THE CONTRACTOR SHALL NOTIFY AFFECTED UTILITY COMPANIES (SEE BELOW) AT LEAST TWO FULL WORKING DAYS PRIOR TO STARTING CONSTRUCTION NEAR THEIR FACILITIES AND SHALL COORDINATE WORK WITH A COMPANY REPRESENTATIVE.

UNDERGROUND SERVICE ALERT	1-800-422-4133
SDG&E	(760)438-6200
PACIFIC BELL	1-800 995-3867
DANIELS CABLEVISION	(760)438-5241
CITY OF CARLSBAD(STREETS AND STORM DRAIN)	(760)434-2980
* CITY OF CARLSBAD(SEWER,WATER & RECLAIMED WATER)	(760)438-3367
* SAN DIEGUITO WATER DISTRICT	(760)753-1145
* LEUCADIA COUNTY WATER DISTRICT	(760)753-0155
* VALLECITOS WATER DISTRICT	(760)744-0460
OLIVENHAIN WATER DISTRICT	(760)753-6466
BUENA SANITATION DISTRICT	(619)565-5657

* AS APPROPRIATE

20. THE OWNER AND/OR APPLICANT THROUGH THE DEVELOPER AND/OR CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
21. THE EXISTENCE AND LOCATION OF UTILITY STRUCTURES AND FACILITIES SHOWN ON THE CONSTRUCTION PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITY FACILITIES OR STRUCTURES NOT SHOWN OR IN LOCATION DIFFERENT FROM THAT SHOWN IN THE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND ANY OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN.
22. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (ABOVEGROUND AND UNDERGROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF THE CONSTRUCTION TO PERMIT THE REVISIONS OF THE CONTRUCTION PLANS IF IT IS FOUND THAT THE LOCATIONS ARE IN CONFLICT WITH THE PROPOSED WORK.

STREET NOTES

1. ACTUAL STRUCTURAL SECTIONS WILL BE DETERMINED AFTER "R" VALUE TESTS HAVE BEEN CONDUCTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOIL MECHANICS, ON THE PREPARED BASEMENT SOIL. THE "R" VALUE TESTS AND THE ENGINEERED STRUCTURAL SECTION MUST BE SUBMITTED TO THE ENGINEERING INSPECTOR FOR REVIEW AND APPROVAL, A MINIMUM OF TWO (2) CITY WORKING DAYS BEFORE THE WORK BEGINS.
2. STREET LIGHTS SHALL BE INSTALLED AS SHOWN ON THESE PLANS, UNDERGROUND CONDUIT RUNS, SERVICE POINTS AND HANDHOLDS SHALL BE SHOWN ON THE "AS-BUILT" PLANS. NO DIRECT BURIAL STREET LIGHT FOUNDATIONS WILL BE ALLOWED. ALL LUMINARIES SHALL BE "CUTOFF" TYPE.
3. ALL UNDERGROUND UTILITIES AND LATERALS SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF CURBS, CROSS GUTTERS OR SURFACING OF STREETS.
4. STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE WITH A MINIMUM D-LOAD OF 1,350 OR ASBESTOS CEMENT PIPE WITH A MINIMUM D-LOAD OF 2,000. FOR PRIVATE STORM DRAINS, PIPES UP TO 15" PVC MAY BE UTILIZED PROVIDED DEPTH IS LESS THAN 15 FEET AND BACKFILLED WITH 3/4" ROCK PER SDRSD S-4 TYPE "C" AND PIPE MEETS ASTM STANDARD 3034 FOR SDR 35 SOLID WALL PIPE.
5. WHERE AN EXISTING PIPE LINE IS TO BE ABANDONED IT SHALL BE REMOVED WITHIN TWENTY FEET OF BUILDING OR STREET AREAS AND REPLACED WITH PROPERLY COMPACTED SOILS. IN OTHER AREAS THE PIPE WILL BE PLUGGED WITH CONCRETE OR REMOVED AS APPROVED BY THE CITY ENGINEER.
6. WHEELCHAIR RAMPS SHALL BE INSTALLED PER REQUIREMENTS OF TITLE 24, CALIFORNIA ADMINISTRATIVE CODE.
7. STREET TREES SHALL BE INSTALLED PER SECTION IV D.3 OF THE CITY OF CARLSBAD LANDSCAPE MANUAL.
8. FIRE HYDRANT MARKERS SHALL BE PLACED IN THE STREET WITHIN THE LIMITS OF WORK OF THIS PLAN PER SDRS DWG M19.
9. ALL SURVEY MONUMENTS AND POINTS THAT ARE DISTURBED BY THIS WORK SHALL BE RE-ESTABLISHED, PERPETUATED, AND DOCUMENTED PER THE PROFESSIONAL LAND SURVEYORS ACT.
10. TWO (2) SETS OF SURVEY (CUT) SHEETS SHALL BE PROVIDED TO THE CITY ENGINEERING INSPECTOR.

LEUCADIA COUNTY WATER DISTRICT NOTES

(SEE SHEET 3)

OLIVENHAIN MUNICIPAL WATER DISTRICT NOTES (POTABLE)

1. WATER WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND MATERIALS AS SPECIFIED IN THE OLIVENHAIN MUNICIPAL WATER DISTRICT STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF WATER MAINS AND FACILITIES, DATED MARCH 1997 WITH REVISIONS. CONTRACTOR SHALL HAVE A CURRENT COPY OF THE STANDARD SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
2. THE SUBMISSION AND REVIEW OF ALL SUBMITTALS (SHOP DRAWINGS, SIX SETS) AS REQUIRED BY THE STANDARD SPECIFICATIONS ARE TO BE ACCOMPLISHED PRIOR TO THE PRE-CONSTRUCTION MEETING WITH THE DISTRICT'S INSPECTOR.
3. NO WORK MAY BEGIN OR PROCEED WITHOUT DIRECTION OF DISTRICT'S INSPECTOR. INSPECTOR'S SCHEDULING MUST BE 24-48 HOURS IN ADVANCE OF WORK.
4. WHERE ELEVATIONS AND GRADES ARE NOT SHOWN ON THE WATER MAIN PROFILE, TOP OF PIPE PROFILE IS 48-INCHES BELOW CENTERLINE OF FINISH GRADE OF STREET.
5. INSTALL A MINIMUM 1-INCH WATER SERVICE TO EACH LOT. METER TO BE LOCATED 5-FEET FROM A SIDE LOT LINE. A 3/4-INCH HIGH LETTER "W" SHALL BE CHISELED IN TOP OF EXISTING CURB OR IMPRINTED IN NEW CURB AT ALL WATER SERVICE CROSSINGS.
6. MANUAL AIR RELEASES SHALL BE INSTALLED AT ALL HIGH POINTS AND BLOW-OFFS AT ALL LOW POINTS IN THE WATER MAIN PROFILE. ALL MANUAL AIR RELEASES AND BLOW-OFFS SHALL BE LOCATED BEHIND CURB UNLESS OTHERWISE APPROVED BY THE DISTRICT'S REPRESENTATIVE. FIRE HYDRANTS MAY BE USED IN LIEU OF A MANUAL AIR RELEASE OR BLOW-OFF WHEN LOCATED AT OR NEAR HIGH OR LOW POINTS, AS APPROVED BY THE DISTRICT'S REPRESENTATIVE.
7. UNLESS OTHERWISE NOTED, CONNECTIONS TO EXISTING MAINS SHALL BE MADE DRY. THE TIME AND DURATION OF ANY SHUTDOWNS OF EXISTING MAINS SHALL BE SUBJECT TO APPROVAL BY THE DISTRICT. DISTRICT SHALL BE NOTIFIED TWO WEEKS MINIMUM IN ADVANCE OF ANY SHUTDOWN.
8. CONTRACTOR SHALL COORDINATE WITH DISTRICT ALL ARRANGEMENTS FOR HIGH-LINING TEMPORARY SERVICES, ETC., PRIOR TO SHUTDOWNS. NO SHUTDOWNS WILL BE SCHEDULED ON A FRIDAY.
9. LINE VALVES, WHERE REQUIRED AT STREET INTERSECTIONS SHALL BE LOCATED ON THE PROLONGATION OF THE STREET RIGHT-OF-WAY WHENEVER POSSIBLE.
10. FIRE HYDRANTS, AS APPROVED BY THE APPROPRIATE FIRE DISTRICT AND MEETING THE DISTRICT'S STANDARD SPECIFICATIONS, ARE TO BE INSTALLED AT LOCATIONS SPECIFIED BY THE FIRE DISTRICT.
11. CONTRACTOR SHALL REVIEW ALL PROPOSED TRENCH WORK WITH CAL/OSHA. A COPY OF EXEMPTION LETTER OR TRENCHING PERMIT, IF REQUIRED, SHALL BE SUBMITTED TO THE DISTRICT PRIOR TO CONSTRUCTION.
12. ALL EXISTING FACILITIES WHICH MAY AFFECT FINAL DESIGN, I.E., LINE CROSSINGS, LINE PARALLELING, OR PROPOSED CONNECTIONS SHALL BE FIELD VERIFIED. ALL EXISTING OR PROPOSED UTILITY CROSSINGS, OR UTILITIES WITHIN 10-FEET OF PROPOSED WATER MAINS, SHALL BE SHOWN ON IMPROVEMENT PLANS.
13. ALL WATER SERVICES FOR IRRIGATION, MULTIPLE RESIDENTIAL COMPLEXES AND COMMERCIAL OR INDUSTRIAL DEVELOPMENTS SHALL HAVE AN APPROVED BACKFLOW PREVENTION DEVICE ON CUSTOMER'S SIDE OF WATER METER.
14. THE WATER SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE PROCEDURES IN THE STANDARD SPECIFICATIONS. THE CLASS OF PIPE SHALL BE USED AS THE DESIGNATED WORKING PRESSURE FOR TESTING ALL PIPE, VALVES (CLOSED) AND APPURTENANCES.
15. CONTRACTOR TO TIE OFF ALL VALVE LOCATIONS AND PROVIDE WRITTEN DIMENSIONS TO INSPECTOR IMMEDIATELY UPON INSTALLATION OF VALVES.
16. ALL DEFLECTIONS (HORIZONTAL AND VERTICAL) SHALL BE MADE BY USE OF JOINT COUPLINGS WITH 4' MAXIMUM DEFLECTION PER COUPLING (2' PER JOINT). NO BENDING (CURVING) OF PIPE SHALL BE PERMITTED.
17. PIPELINES AND APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 15041 OF THE STANDARD SPECIFICATIONS PRIOR TO TIE-IN OR CONNECTION TO EXISTING SYSTEM FACILITIES. BACTERIOLOGIC QUALITY TEST RESULTS SHALL CONFORM TO THE CRITERIA SPECIFIED IN PARAGRAPH 3.06 OF THAT SPECIFICATION SECTION.
18. METER BOXES FOR 2-INCH SERVICES OR SMALLER SHALL BE FIBERGLASS REINFORCED POLYMER CONCRETE (RCP) MANUFACTURED BY ARMORCAST PRODUCTS COMPANY, CDR SYSTEMS CORPORATION, OR APPROVED EQUAL. METER BOX SIZE SHALL BE 17"x30". METER BOXES SHALL NOT BE PLACE WITHIN DRIVEWAYS OR SIDEWALKS WITHOUT THE DISTRICT'S PRIOR WRITTEN CONSENT.

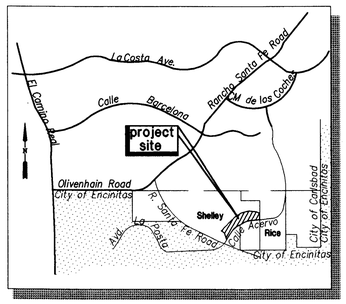
BENCH MARK

DESCRIPTION: STANDARD COUNTY M10 CENTERLINE MONUMENT
LOCATION: EL CAMINO REAL AND OLIVENHAIN ROAD

RECORDED: COUNTY OF SAN DIEGO BENCHMARK BOOK PAGE 164, DATE: APRIL 1988
ELEVATION: 79.716 FEET U.S.G.S. DATUM: M.S.L. DATUM 1929

IMPORTANT NOTICE

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID.
FOR YOUR DIG ALERT I.D. NUMBER, CALL UNDERGROUND SERVICE ALERT: TOLL FREE 1-800-422-4133; TWO WORKING DAYS BEFORE YOU DIG.



VICINITY MAP
NOT TO SCALE

WORK TO BE DONE

THE IMPROVEMENT WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS, CURRENT AT THE TIME OF CONSTRUCTION, AS DIRECTED BY THE CITY ENGINEER.

1. CARLSBAD MUNICIPAL CODE
2. CITY OF CARLSBAD STANDARDS
3. THIS SET OF PLANS
4. RESOLUTION NO.S 4349, 4350, 4351, 4352, 4353 DATED OCT. 7, 1998.
5. THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK)
6. SOILS REPORT AND RECOMMENDATIONS BY LEIGHTON & ASSOCIATES, DATED SEPTEMBER 8, 1998.
7. THE SAN DIEGO AREA REGIONAL STANDARD DRAWINGS AND AS MAY BE MODIFIED BY THE CITY OF CALRSBAD STANDARDS.
8. THE LEUCADIA COUNTY WATER DISTRICT GENERAL STANDARDS SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION OF SEWERS AND APPURTENANCES.
9. THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, "MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES".
10. THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DOCUMENT NO. 769692.
11. THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLAN, DOCUMENT NO. 769691.
12. THE OLIVENHAIN MUNICIPAL WATER DISTRICT STANDARDS SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION OF POTABLE AND RECLAIMED WATER MAINS AND FACILITIES.
13. THE SAN DIEGO REGIONAL STANDARD DRAWINGS.

"DECLARATION OF RESPONSIBLE CHARGE"

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

FIRM: PROJECT DESIGN CONSULTANTS
ADDRESS: 701 B STREET, SUITE 800
CITY, STATE: SAN DIEGO, CALIFORNIA
TELEPHONE: (619) 235-6471
BY: David B. Ragland DATE: 10/12/00
DAVID B. RAGLAND
R.C.E. NO. 35985 REGISTRATION EXPIRATION DATE: 6-30-04

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

LEGAL DESCRIPTION

THAT PORTION OF LOTS 13 AND 14 OF THE SUBDIVISION OF THE RANCHO ENCINITAS, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE MAP THEREOF NO. 848, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JUNE 27, 1898.

REFERENCE DRAWINGS

CITY OF CARLSBAD
DWG NO. 331-2, 342-6, 342-6A
LEUCADIA COUNTY WATER DISTRICT IMPROVEMENT DISTRICT NO. 1 SHEET 7
CMWD DWG

SOURCE OF TOPOGRAPHY

TOPOGRAPHY SHOWN ON THESE PLANS WAS GENERATED BY PHOTOGRAMMETRY METHODS FROM INFORMATION GATHERED ON MAY 11 19 98 BY SAN-LO AERIAL SURVEYS
TOPOGRAPHY SHOWN HEREON CONFORMS TO NATIONAL MAP ACCURACY STANDARDS.

PROJECT LOCATION

THIS PROJECT IS LOCATED WITHIN ASSESSORS PARCEL NUMBER(S)
255-040-19, 264-010-32
THE CALIFORNIA COORDINATE INDEX OF THIS PROJECT IS:
196-6252 (NAD 83)

LCWD NOTE:

APPROVAL OF THIS PLAN BY THE LEUCADIA COUNTY WATER DISTRICT DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OF , OR THE EXISTENCE OF, ANY UNDERGROUND UTILITY, PIPE, OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT.

LEGEND

QUANTITY	UNIT	ITEM	STANDARD DRAWING	SYMBOL
70,375	SF	ASPHALT PAVING	CARLSBAD GS-1	
3,623	LF	6" TYPE 'G' CURB & GUTTER	SDRSD G-2	
144	LF	6" TYPE 'A' A.C. DIKE	SDRSD G-5	
8,833	SF	CONCRETE DRIVEWAYS	SDRSD G-14A	
18,116	SF	PCC SIDEWALK - 4" THICK	SDRSD G-7	
986	SF	CROSS GUTTER	SDRSD G-12, CARLSBAD GS-9 & GS-10	
4	EA	PEDESTRIAN RAMP	SDRSD G-27, TYPE A	
1	EA	PEDESTRIAN RAMP	SDRSD G-27, TYPE B	
5	EA	STREET LIGHT, PULLBOX	SDRSD E-1,** E-2, CARLSBAD GS-6, GS-21	
8	EA	STREET SURVEY MONUMENT	SDRSD M-10	
2	EA	DOUBLE STREET NAME SIGN	SDRSD SDM-102	
2	EA	TRAFFIC CONTROL SIGN	CALIF. D.O.T. TRAFFIC MANUAL & STD. DWGS.	
2,464	LF	CONSTRUCTION OF 8" POTABLE WATER MAIN, (375 HGL) CLASS NOTED ON PLANS	8" PVC-150	
3	EA	CONSTRUCTION OF MANUAL AIR RELEASE OR AIR & VACCUM VALVE ASSEMBLY	M.A.R. A.&V.V.	
1	EA	CONSTRUCTION OF 2" BLOW-OFF ASSEMBLY		
7	EA	CONSTRUCTION OF 8" GATE VALVE ASSEMBLY		
1	EA	CONSTRUCTION OF 12" GATE VALVE ASSEMBLY		
2	EA	CONSTRUCTION OF CAP ASSEMBLY		
3	EA	CONSTRUCTION OF FIRE HYDRANT ASSEMBLY	F.H.	
3	EA	FIRE HYDRANT MARKER	SDRSD M-19	
50	EA	CONSTRUCTION OF 1" WATER SERVICE	W	
5	EA	CONSTRUCTION OF P/O x P/O x FLANGE TEE W/ FLANGE VALVE		
2,747	LF	8" PVC-SDR-35	LCWD S-12	S
13	EA	SEWER ACCESSHOLES	LCWD S-3, S-4	
70	EA	4" SEWER LATERALS	LCWD S-17, S-18	S
1	EA	DEAD END	LCWD S-8	D.E.
2	EA	STUB		
233	LF	18" RCP STORM DRAIN	SDRSD D-60	
3	EA	TYPE 'A-4' CLEANOUT	SDRSD D-9, D-11, D-61	
3	EA	TYPE 'B-1', 'B-2' CURB INLET	SDRSD D-2,** D-11, D-12, D-61, CARLSBAD DS-1, DS-9	B-1 B-2

** AS MODIFIED BY THE CITY OF CARLSBAD

NOTE: THE ABOVE QUANTITIES ARE FOR BONDING PURPOSES ONLY AND SHOULD NOT BE USED FOR FINAL PAY QUANTITIES.

OWNER'S CERTIFICATE

I (WE) HEREBY CERTIFY THAT A REGISTERED SOILS ENGINEER OR GEOLOGIST HAS BEEN OR WILL BE RETAINED TO SUPERVISE OVER-ALL GRADING ACTIVITY AND ADVISE ON THE COMPACTION AND STABILITY OF THIS SITE.

NAME: David A. Potter TITLE: VICE PRES. DATE: 11/20/00

OWNER/DEVELOPER

NAME: CONTINENTAL HOMES
ADDRESS: 2237 FARADAY AVENUE, SUITE 100 CARLSBAD, CA 92008
PHONE: (760) 931-1980

NOTE: THE CONSTRUCTION OF UNDERGROUND FACILITIES SHALL NOT BEGIN UNTIL A LETTER HAS BEEN SUBMITTED TO THE CITY ENGINEER FROM THE SOILS ENGINEER STATING THE SETTLEMENT FROM ROUGH GRADING IS COMPLETE.

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C48692 Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

SHEET INDEX

SHEET 1 . . . . . TITLE SHEET
SHEET 2 TO 3 . . . . . KEY MAP, DETAILS AND NOTES
SHEET 4 TO 7 . . . . . IMPROVEMENT PLANS

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

1 6 4 8 6

OLIVENHAIN MUNICIPAL WATER DISTRICT	CITY OF CARLSBAD FIRE DEPARTMENT
POTABLE AND RECLAIMED WATER SYSTEMS APPROVAL (OMWD W.O. #551892)	REQUIREMENTS
APPROVED BY: BOYLE ENGINEERING CORP. DISTRICT'S CONSULTING ENGINEER	NO. OF F.H.(S) 3 F.FLOW 1500 G.P.M. OUT OF 1 F.H.(S)
Andy Hogan 10/26/00 SD-001-243-04	BLDG. SPRINKLED YES/NO... F.FLOW G.P.M.
R.C.E. 40654 DATE JOB NO.	Michael E. Smith 11-7-00
NOTE: SIGNATURE EXPIRES 2 YEARS AFTER DATE	FIRE MARSHAL DATE

OMWD APPROVED CHANGES			
AS-BUILT	1-8-05	CB	

LEUCADIA COUNTY WATER DISTRICT
PUBLIC SEWER SYSTEM APPROVAL
APPROVED BY: DUDEK AND ASSOCIATES
Raymond Deering 10/19/00 1919-581
R.C.E. 26514 DATE JOB NO.

"AS BUILT"
6-23-04 DATE
RCE 46692 EXP. 6-30-05

REVIEWED BY:
Tim Fanning 4DS 6/29/04
INSPECTOR DATE

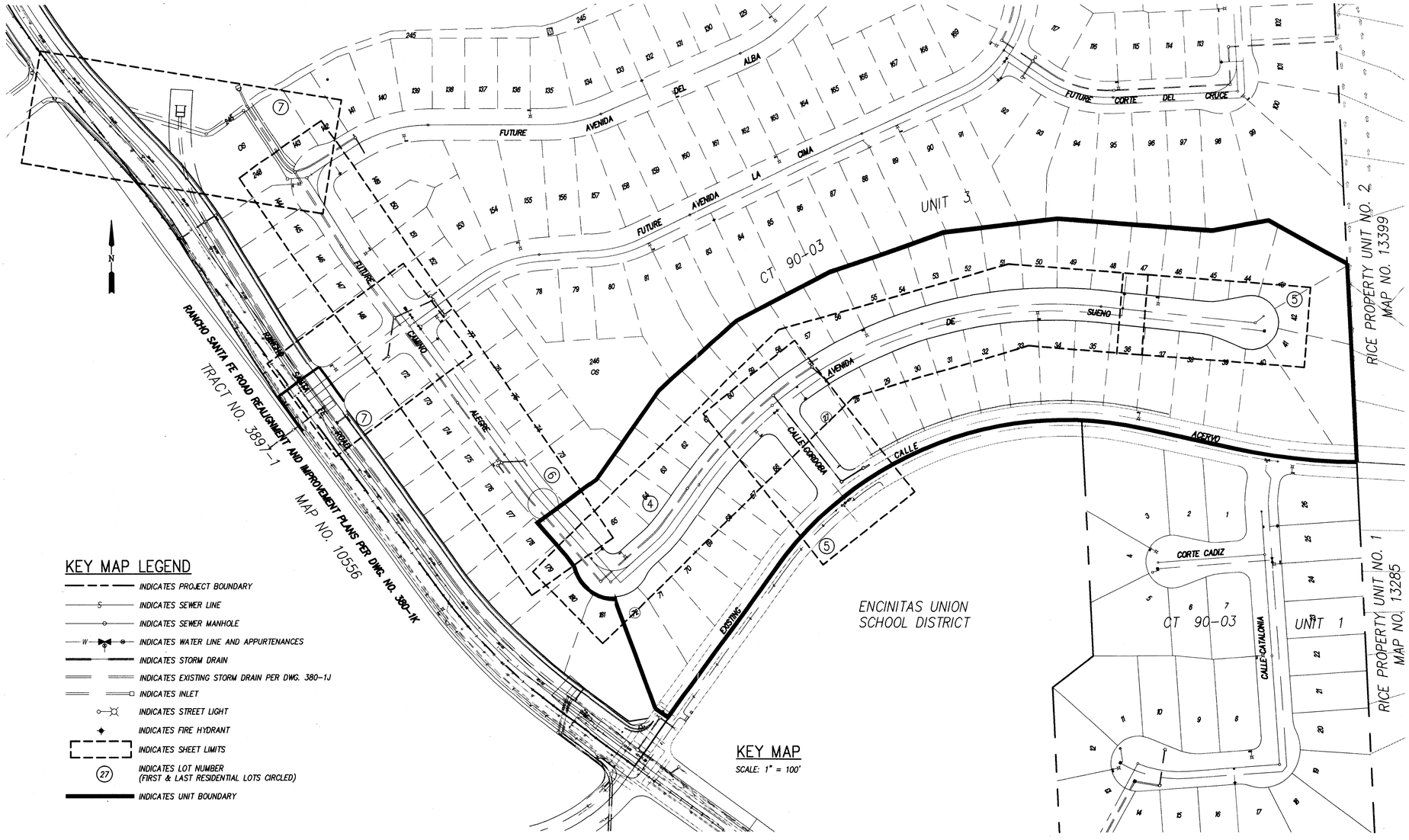
DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1/22/04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 1	CITY OF CARLSBAD ENGINEERING DEPARTMENT		SHEETS 7
PLANS FOR THE IMPROVEMENTS OF: SHELLEY PROPERTY UNIT NO. 2			
APPROVED: LLOYD B. HUBBS RCE: 23889 CITY ENGINEER		EXPIRES 12-31-01 DATE 1/10/01	
DWN BY: CHKD BY: RVWD BY:	PROJECT NO. CT 90-03	DRAWING NO. 380-IC	

Unit2ip1.dwg 10-10-00 3:36:34 pm PST
XREF: 1 TADMSTR.DWG

CMWD 98-303

Job No. 1424.20

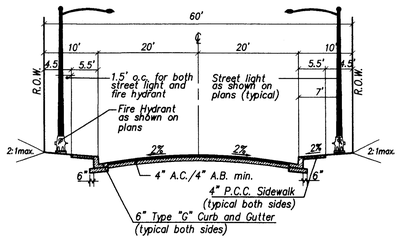


KEY MAP LEGEND

- INDICATES PROJECT BOUNDARY
- INDICATES SEWER LINE
- INDICATES SEWER MANHOLE
- INDICATES WATER LINE AND APPURTENANCES
- INDICATES STORM DRAIN
- INDICATES EXISTING STORM DRAIN PER DWG. 380-1J
- INDICATES INLET
- INDICATES STREET LIGHT
- INDICATES FIRE HYDRANT
- INDICATES SHEET LIMITS
- (27) INDICATES LOT NUMBER (FIRST & LAST RESIDENTIAL LOTS CIRCLED)
- INDICATES UNIT BOUNDARY

KEY MAP

SCALE: 1" = 100'



AVENIDA DE SUENO/CALLE CORDOBA

NO SCALE

TRAFFIC INDEX = 5.0

OLIVENHAIN MUNICIPAL WATER DISTRICT

RECLAIMED WATER NOTES

1. WATER SYSTEM SHALL CONFORM TO THE RULES AND REGULATIONS FOR RECLAIMED AND NON-POTABLE WATER SERVICE OF THE OLIVENHAIN MUNICIPAL WATER DISTRICT, ORDINANCE NO. 175, DATED MARCH 1989.
2. WATER WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND MATERIALS AS SPECIFIED IN THE OLIVENHAIN MUNICIPAL WATER DISTRICT STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF WATER MAINS AND FACILITIES, DATED MARCH 1997 WITH REVISIONS AND MODIFIED HEREWITH. CONTRACTOR SHALL HAVE A COPY OF THE STANDARD SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
3. THE SUBMISSION AND REVIEW OF ALL SUBMITTALS AS REQUIRED BY THE STANDARD SPECIFICATIONS ARE TO BE ACCOMPLISHED PRIOR TO THE PRE-CONSTRUCTION MEETING WITH THE DISTRICT'S INSPECTOR.
4. NO WORK MAY BEGIN OR PROCEED WITHOUT DIRECTION OF DISTRICT'S INSPECTOR. INSPECTOR'S SCHEDULING MUST BE 24-48 HOURS IN ADVANCE OF WORK.
5. WHERE ELEVATIONS AND GRADES ARE NOT SHOWN ON THE WATER MAIN PROFILE, TOP OF PIPE PROFILE IS 66-INCHES BELOW CENTERLINE OF FINISH GRADE OF STREET.
6. LOCATIONS OF RECLAIMED WATER METERS ARE SUBJECT TO APPROVAL BY DISTRICT'S INSPECTOR. 3/4-INCH HIGH LETTERS "RW" SHALL BE CHISELED IN TOP OF EXISTING CURB OR IMPRINTED IN NEW CURB AT ALL RECLAIMED WATER SERVICE CROSSINGS.
7. MANUAL AIR RELEASES SHALL BE INSTALLED AT ALL HIGH POINTS AND BLOW-OFFS AT ALL LOW POINTS IN THE WATER MAIN PROFILE.
8. UNLESS OTHERWISE NOTED, CONNECTIONS TO EXISTING MAINS SHALL BE MADE DRY. THE TIME AND DURATION OF ANY SHUTDOWNS OF EXISTING MAINS SHALL BE SUBJECT TO APPROVAL BY THE DISTRICT. DISTRICT SHALL BE NOTIFIED TWO WEEKS MINIMUM IN ADVANCE OF ANY SHUTDOWN.
9. LINE VALVES, WHERE REQUIRED AT STREET INTERSECTIONS SHALL BE LOCATED ON THE PROLONGATION OF THE STREET RIGHT-OF-WAY WHENEVER POSSIBLE.
10. CONTRACTOR SHALL REVIEW ALL PROPOSED TRENCH WORK WITH CAL/OSHA. A COPY OF EXEMPTION LETTER OR TRENCHING PERMIT, IF REQUIRED, SHALL BE SUBMITTED TO THE DISTRICT PRIOR TO CONSTRUCTION.
11. ALL EXISTING FACILITIES WHICH MAY AFFECT FINAL DESIGN, I.E., LINE CROSSINGS, LINE PARALLELING, OR PROPOSED CONNECTIONS SHALL BE FIELD VERIFIED. ALL EXISTING OR PROPOSED UTILITY CROSSINGS, OR UTILITIES WITHIN 10 FEET OF PROPOSED WATER MAINS, SHALL BE SHOWN ON IMPROVEMENT PLANS.
12. THE WATER SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THE PROCEDURES IN THE STANDARD SPECIFICATIONS. THE CLASS OF PIPE SHALL BE USED AS THE DESIGNATED WORKING PRESSURE FOR TESTING ALL PIPE, VALVES (CLOSED) AND APPURTENANCES.
13. CONTRACTOR TO TIE OFF ALL VALVE LOCATIONS AND PROVIDE WRITTEN DIMENSIONS TO INSPECTOR IMMEDIATELY UPON INSTALLATION OF VALVES.
14. RECLAIMED WATER MAIN SHALL BE PURPLE PVC PIPE AWWA C 900, WITH 2 CONTINUOUS METALLIC TAPE STRIPS, STAMPED "RECLAIMED WATER." STRIPS SHALL BE SET AT TOP OF PIPE AND AT 12" BELOW FINISH GRADE.
15. ALL DEFLECTIONS (HORIZONTAL AND VERTICAL) SHALL BE MADE BY USE OF JOINT COUPLINGS WITH 4° MAXIMUM DEFLECTION PER COUPLING (2° PER JOINT). NO BENDING (CURVING) OF PIPE SHALL BE PERMITTED.
16. APPROVAL OF THESE PLANS FOR CONSTRUCTION OF A RECLAIMED WATER SYSTEM, AS EVIDENCED BY THE SIGNATURES OF THE AUTHORIZED REPRESENTATIVES OF THE CITY OF CARLSBAD (CITY), THE CARLSBAD MUNICIPAL WATER DISTRICT (CMWD), AND THE OLIVENHAIN MUNICIPAL WATER DISTRICT (OMWD), WITHIN THE BOUNDARIES OF THE SHELLEY PROPERTY SUBDIVISION (CT 90-3) AND ADJACENT PUBLIC ROAD RIGHTS-OF-WAY SHALL NOT BE DEEMED TO BE A WAIVER, ACQUIESCENCE, CONSENT, ACCEPTANCE, OR DECISION CONCERNING THE AUTHORITY OR RIGHT OF THE CITY, CMWD, OR OMWD TO SERVE RECLAIMED WATER WITHIN THE BOUNDARIES OF THE SHELLEY PROPERTY SUBDIVISION. CITY, CMWD, AND OMWD HAVE APPROVED THESE PLANS SOLELY FOR THE PURPOSE OF ALLOWING FOR THE RECORDATION OF THE FINAL MAP AND CONSEQUENT CONSTRUCTION OF THE RECLAIMED WATER SYSTEM.

SPECIAL NOTES

THE FOLLOWING NOTES ARE PROVIDED TO GIVE DIRECTIONS TO THE CONTRACTOR BY THE ENGINEER OF WORK THE CITY ENGINEER'S SIGNATURE ON THESE PLANS DOES NOT CONSTITUTE APPROVAL OF ANY OF THESE NOTES AND THE CITY WILL NOT BE RESPONSIBLE FOR THEIR ENFORCEMENT.

1. THE LOCATION OF EXISTING UTILITIES ARE BASE ON AVAILABLE RECORD INFORMATION. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING FACILITIES (ABOVE GROUND AND UNDER GROUND) WITHIN THE PROJECT SITE. THIS WORK SHALL BE PERFORMED SUFFICIENTLY HEAD OF CONSTRUCTION TO PERMIT CITY APPROVED REVISIONS TO THE CONSTRUCTION PLANS IF ACTUAL LOCATIONS ARE FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK. CONTRACTOR SHALL NOTIFY ENGINEER OF WORK OF ANY CONFLICTS OR ANY OTHER UTILITIES ENCOUNTERED PRIOR TO PROCEEDING WITH CONSTRUCTION.
2. ATTENTION IS CALLED TO THE POSSIBLE EXISTANCE OF OTHER UTILITY FACILITIES OR STRUCTURES NOT SHOWN OR IN A LOCATION DIFFERENT FROM THAT SHOWN ON THE PLANS. CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES, FACILITIES, OR STRUCTURES, SHOWN AND ANY OTHER LINES, FACILITIES, OR STRUCTURES, NOT OF RECORD OR NOT SHOWN ON THESE PLANS. ANY PAVEMENT OR OTHER EXISTING SURFACE IMPROVEMENTS DAMAGED BY CONTRACTOR SHALL BE REPLACED AS REQUIRED BY THE CITY OF CARLSBAD ENGINEERING DEPARTMENT.
3. SAFETY PRECAUTIONS AND ADEQUATE BARRICADING TO BE IN FORCE BY THE CONTRACTOR AT ALL TIMES. NEITHER THE OWNER NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS THE OWNER AND/OR APPLICANT THROUGH THE DEVELOPER AND/OR CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
4. ALL LENGTHS AND DISTANCES FOR IMPROVEMENTS SHOWN ON THESE PLANS ARE MEASURED IN A HORIZONTAL PLANE.
5. THE DISPOSAL OF ANY ASBESTOS CEMENT PIPE SHALL BE IN COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.
6. THE WORK TO BE DONE SECTION ON THIS SHEET LISTS THE STANDARD SPECIFICATIONS AND DRAWINGS USED DURING THE IMPROVEMENT PLAN/GRADING PLAN DESIGN. THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE STANDARD SPECIFICATIONS AND DRAWINGS IN EFFECT ON THE DATE OF THE SIGNATURE BY THE ENGINEER OF WORK.

PROJECT DESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 — EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985	DATE	REGISTRATION EXPIRES 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
Dwl BRgld	11-8-00		D.U.	D.U.	D.M./M.C.

"AS BUILT"

RCE 46692 EXP. 6-30-07 — 6-23-04 DATE

REVIEWED BY:

INSPECTOR — 6/29/04 DATE

PRIVATE CONTRACT

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C46692 — Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1/22/04	PDC	⚠ AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS
2		7

PLANS FOR THE IMPROVEMENTS OF:

SHELLEY PROPERTY UNIT NO. 2

APPROVED: LLOYD B. HUBBS — EXPIRES 12-31-01

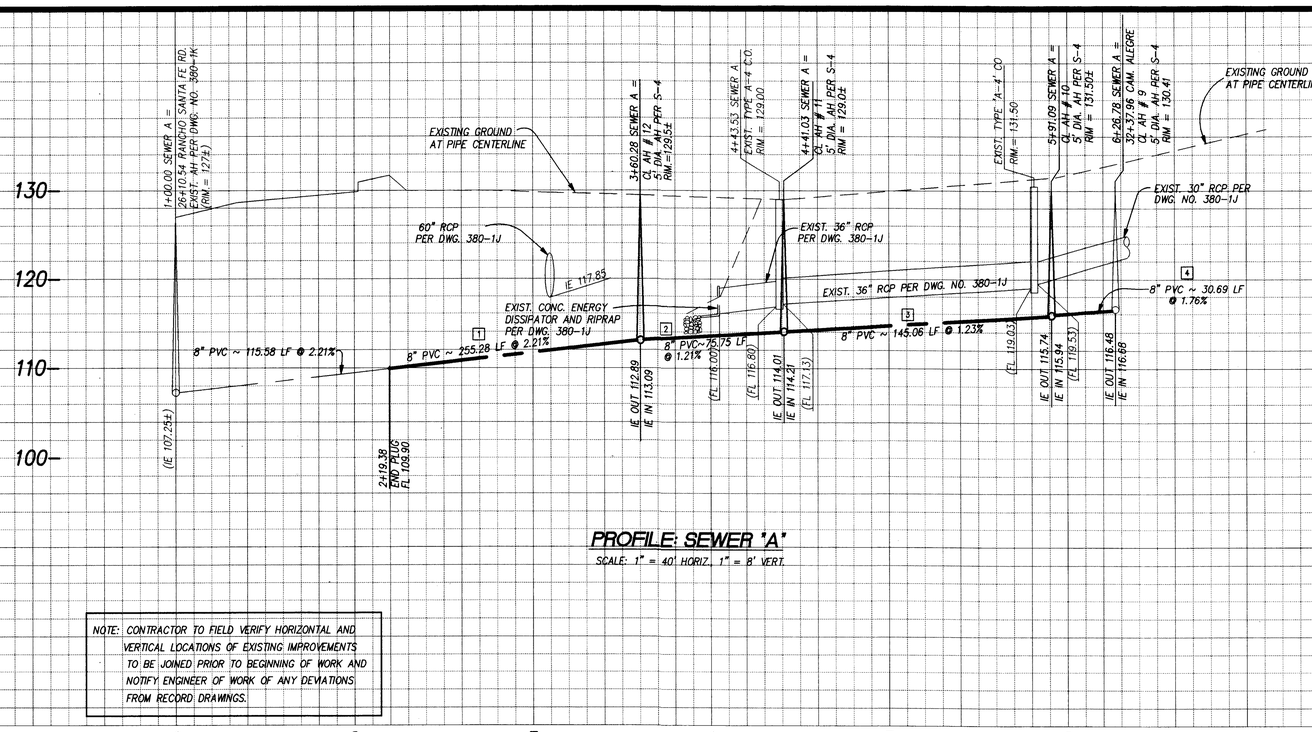
RE: 23889 CITY ENGINEER — 1/10/01 DATE

DWN BY:	CHKD BY:	RVWD BY:	PROJECT NO.	DRAWING NO.
			CT 90-03	380-1C

CMWD 98-303

Unit2ip2.dwg 11-7-00 5:04:01 pm EST
XREF-130UNIST.DWG

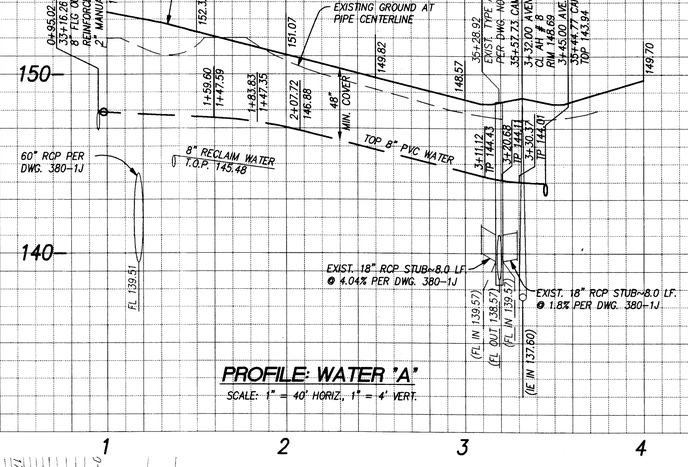
Job No. 1424.20



PROFILE: SEWER "A"

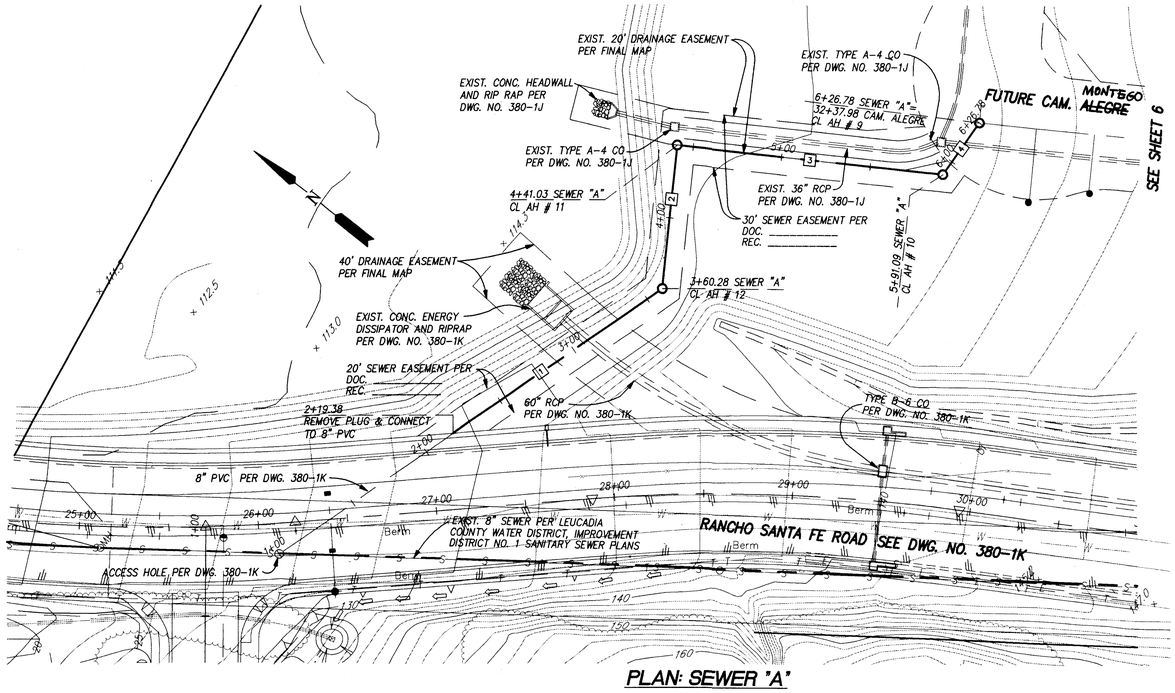
SCALE: 1" = 40' HORIZ., 1" = 8' VERT.

NOTE: CONTRACTOR TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING IMPROVEMENTS TO BE JOINED PRIOR TO BEGINNING OF WORK AND NOTIFY ENGINEER OF WORK OF ANY DEVIATIONS FROM RECORD DRAWINGS.



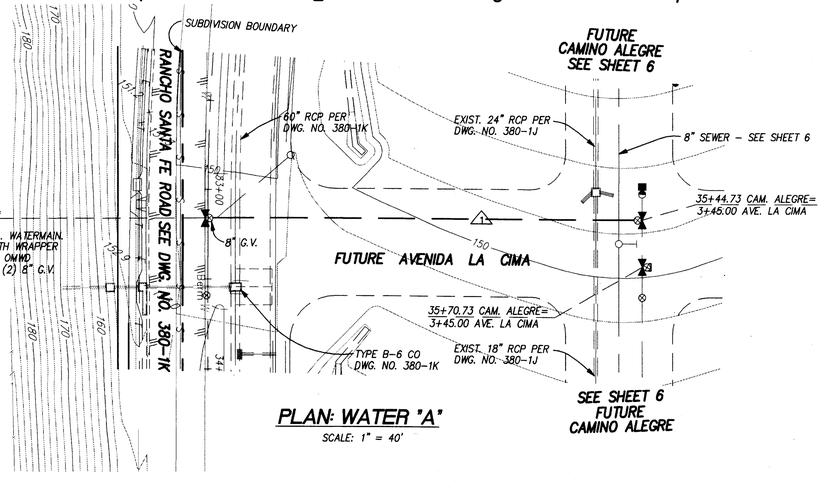
PROFILE: WATER "A"

SCALE: 1" = 40' HORIZ., 1" = 4' VERT.



PLAN: SEWER "A"

SCALE: 1" = 40'



PLAN: WATER "A"

SCALE: 1" = 40'

SEWER DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N72°52'07"W	-----	142.20'	8" P.V.C. SDR 35
2	N57°36'18"E	-----	80.75'	"
3	N32°23'42"W	-----	150.06'	"
4	N86°44'12"E	-----	35.69'	8" P.V.C. SDR 35

WATER DATA				
NO.	DELTA OR BRG.	RADIUS	LENGTH	REMARKS
1	N53°33'42"E	-----	249.98'	8" P.V.C. CL 150

GRAPHIC SCALE

40 0 20 40 80 180

(IN FEET)
1 inch = 40 ft.

PROJECTDESIGN CONSULTANTS
PLANNING • ENVIRONMENTAL • ENGINEERING • SURVEY/GPS
701 B Street, Suite 800, San Diego, CA 92101
619-235-6471 FAX 619-234-0349

ENGINEER OF WORK

DAVID B. RAGLAND, R.C.E. 35985	DATE REGISTRATION EXPIRES: 6-30-04	DESIGNED BY:	DRAWN BY:	CHECKED BY:
Dwl BRyl	11-8-00	DU	RF	DM/MFC

REGISTERED PROFESSIONAL ENGINEER — DAVID B. RAGLAND — REG. NO. 35985 EXP. 6-30-04 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — JIM M. KILGORE — No. C46692 Exp. 6-30-07 — CIVIL — STATE OF CALIFORNIA

"AS BUILT"

RCE 46692 EXP. 6-30-07 — 6.23.04 DATE

REVIEWED BY:

INSPECTOR — 6/27/04 DATE

PRIVATE CONTRACT

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
1/22/04	PDC	⚠1 AS-BUILT				
ENGINEER OF WORK			OTHER APPROVAL		CITY APPROVAL	

SHEET 7 — CITY OF CARLSBAD, ENGINEERING DEPARTMENT — SHEETS 7

PLANS FOR THE IMPROVEMENTS OF:

SEWER "A" AND WATER "A"

SHELLEY PROPERTY

APPROVED: LLOYD B. HUBBS RCE 23889 — CITY ENGINEER — EXPIRES 12-31-01 — DATE 11/10/01

DWN BY: — CHKD BY: — RVWD BY: — PROJECT NO. CT 90-03 — DRAWING NO. 380-1C

CMWD 98-303

Job no. 1424.20

D:\1424\7.dgn 11-9-2000 7:30:09 am PST