EP·06·214·2/2

PIPELINE CROSSING INFORMATION

AT WATER MAIN CROSSINGS IN CONFLICT WITH OTHER FACILITIES:
When the water main is in conflict with existing facilities or proposed facilities that require more than a 2 foot adjustment from the nominal 4 feet of cover, a fabricated steel cement mortar lined and cement mortar coated offset will be installed at the crossing per CWS Co. standards.

*DENOTES CL&C OFFSET REQUIRED

(1) FINISHED GRADE ELEV. = 29.5
EXISTING TELEPHONE LINE INVERT ELEV. = 25.8±
INSTALL 12" DI UNDER EX. TEL w/5.5' COVER.

(2) FINISHED GRADE ELEV. = 29.5
EXISTING SANITARY SEWER INVERT ELEV. = 20.4
INSTALL 12" DI OVER EX. SS w/5.5' COVER.

(3) FINISHED GRADE ELEV. = 29.5
EXISTING STORM DRAIN LATERAL INVERT ELEV. = 24.9±
INSTALL 12" DI UNDER EX. SD w/5.5' COVER.

(4) FINISHED GRADE ELEV. = 29.3
10" SANITARY SEWER INVERT ELEV. = 7.6
INSTALL 12" DI OVER 10" SS w/5.5' COVER.

(5) FINISHED GRADE ELEV. = 29.3
EXISTING STORM DRAIN INVERT ELEV. = 24.4
INSTALL 12" DI UNDER EX. SD w/5.5' COVER.

(6) FINISHED GRADE ELEV. = 29.3
EXISTING GAS MAIN INVERT ELEV. = 25.9±
INSTALL 12" DI UNDER EX. GAS w/5.5' COVER.

(7) FINISHED GRADE ELEV. = 29.3
4" SANITARY SEWER INVERT ELEV. = 20.5± (Verify)
INSTALL 12" DI OVER 4" SS w/5' COVER.

(8) FINISHED GRADE ELEV. = 29.4
10" SANITARY SEWER INVERT ELEV. = 7.6±
INSTALL 12" DI OVER 10" SS w/5' COVER.

(9) FINISHED GRADE ELEV. = 29.5
10" SANITARY SEWER INVERT ELEV. = 7.7±
INSTALL 12" DI OVER 10" SS w/5' COVER.

(10) FINISHED GRADE ELEV. = 29.5±
EXISTING TELEPHONE LINE INVERT ELEV. = 25.8± (Verify)
INSTALL 6" PVC UNDER EX. TEL w/5.5' COVER.

(11) FINISHED GRADE ELEV. = 29.5
EXISTING SANITARY SEWER INVERT ELEV. = 20.7
INSTALL 6" PVC OVER EX. SS w/5.5' COVER.

(12) FINISHED GRADE ELEV. = 29.5
EXISTING STORM DRAIN LATERAL INVERT ELEV. = 24.5±
INSTALL 6" PVC UNDER EX. SD w/5.5' COVER.

(13) FINISHED GRADE ELEV. = 29.5
10" SANITARY SEWER INVERT ELEV. = 8.0
INSTALL 6" PVC OVER 10" SS w/5.5' COVER.

*(14) FINISHED GRADE ELEV. = 29.5
EX STORM DRAIN INVERT ELEV. = 23.5
INSTALL 6" CL&C DOUBLE OFFSET UNDER EX SD w/7' COVER, 1.5' & 1.1' DROP, 3' RUN, PC. MK. "Y" PER DWG. CW-693.

(15) FINISHED GRADE ELEV. = 29.3
EXISTING GAS MAIN INVERT ELEV. = 25.9± (Verify)
INSTALL 6" PVC UNDER EX. GAS w/5.9' COVER.

(16) FINISHED GRADE ELEV. = 29.3
EXISTING 12" STORM DRAIN INVERT ELEV. = 24.4
INSTALL 12" DI UNDER EX. 12" SD w/5.9' COVER.

(17) FINISHED GRADE ELEV. = 29.3
EXISTING TELEPHONE LINE INVERT ELEV. = 25.8± (Verify)
INSTALL 6" PVC UNDER EX. TEL w/5.5' COVER.

(18) FINISHED GRADE ELEV. = 29.3
EXISTING SANITARY SEWER INVERT ELEV. = 21.2
INSTALL 6" PVC OVER EX. SS w/5.5' COVER.

(19) FINISHED GRADE ELEV. = 29.3
10" SANITARY SEWER INVERT ELEV. = 8.7
INSTALL 6" PVC OVER 10" SS w/5.5' COVER.

(20) FINISHED GRADE ELEV. = 29.3
EXISTING STORM DRAIN LATERAL INVERT ELEV. = 24.5
INSTALL 6" PVC UNDER EX. SD w/5.5' COVER.

(21) FINISHED GRADE ELEV. = 29.3
EXISTING STORM DRAIN INVERT ELEV. = 24.3± (Verify)
INSTALL 6" PVC UNDER EX. SD w/5.5' COVER.

(22) FINISHED GRADE ELEV. = 29.3
EXISTING GAS MAIN INVERT ELEV. = 26.2± (Verify)
INSTALL 6" PVC UNDER EX. GAS w/5.5' COVER.

(23) FINISHED GRADE ELEV. = 29.3
EXISTING 12" STORM DRAIN LAT. INVERT ELEV. = 25.1
INSTALL 12" DI UNDER EX. 12" SD w/5.2' COVER.

(24) FINISHED GRADE ELEV. = 29.9
EXISTING TELEPHONE LINE INVERT ELEV. = 25.8± (Verify)
INSTALL 6" PVC UNDER EX. TEL. w/5.5' COVER.

(25) FINISHED GRADE ELEV. = 29.9
EXISTING SANITARY SEWER INVERT ELEV. = 21.9
INSTALL 6" PVC OVER EX. SS w/5.5' COVER.
FIELD VERIFY SS SIZE AND SHALL KEEP 1' CLR BETWEEN SS AND WATER MAIN

(26) FINISHED GRADE ELEV. = 29.9
10" SANITARY SEWER INVERT ELEV. = 9.1
INSTALL 6" PVC OVER 10" SS w/5.7' COVER.

(27) FINISHED GRADE ELEV. = 29.9
EXISTING STORM DRAIN INVERT ELEV. = 25.8± (VERIFY)
INSTALL 6" PVC UNDER EX. SD w/6' COVER.

(28) FINISHED GRADE ELEV. = 29.9
EXISTING STORM DRAIN INVERT ELEV. = 25.3±
INSTALL 6" PVC UNDER EX. SD w/6' COVER.

(29) FINISHED GRADE ELEV. = 29.9
EXISTING GAS MAIN INVERT ELEV. = 26.5±
INSTALL 6" PVC UNDER EX. GAS w/6' COVER.

(30) FINISHED GRADE ELEV. = 29.9
EXISTING STORM DRAIN LATERAL INVERT ELEV. = 25.1
INSTALL 12" DI UNDER EX SD w/6' COVER.

(31) FINISHED GRADE ELEV. = 29.8
8" SANITARY SEWER INVERT ELEV. = 9.2
INSTALL 12" DI OVER 8" S Sw/6' COVER.

(32) FINISHED GRADE ELEV. = 29.5±
PROPOSED 12" STORM DRAIN INVERT ELEV. = 24.5
INSTALL 12" DI UNDER 12" SD w/6' COVER.

(33) FINISHED GRADE ELEV. = 28.6
PROPOSED STORM DRAIN INVERT ELEV. = Verify
FIELD VERIFY EXACT DEPTH OF SD PRIOR TO WATER MAIN INSTALLATION.

(34) FINISHED GRADE ELEV. = 28.7
PROPOSED 12" STORM DRAIN INVERT ELEV. = 24.4 (VERIFY)
INSTALL 8" PVC UNDER 12" SD w/5' COVER.

*(35) FINISHED GRADE ELEV. = 28.7
15" STORM DRAIN INVERT ELEV. = 22.7
INSTALL 6" CL&C SINGLE OFFSET OVER 15" SD W/ 3' COVER, 2' DROP, PC MK "Z" PER DWG CW-579

(36) FINISHED GRADE ELEV. = 28.7
8" SANITARY SEWER INVERT ELEV. = 12.2
INSTALL 6" PVC OVER 8" SS w/3' COVER.

(37) FINISHED GRADE ELEV. = 27.5
PROPOSED STORM DRAIN INVERT ELEV. = Verify
FIELD VERIFY EXACT DEPTH OF SD PRIOR TO WATER MAIN INSTALLATION. NO INFORMATION AVAILABLE.

(38) FINISHED GRADE ELEV. = 27.7
15" STORM DRAIN INVERT ELEV. = 22.3
INSTALL 6" PVC UNDER 15" SD w/6' COVER.

(39) FINISHED GRADE ELEV. = 27.7
8" SANITARY SEWER INVERT ELEV. = 13.0
INSTALL 6" PVC OVER 8" SS w/6' COVER.

(40) FINISHED GRADE ELEV. = 28.3
PROPOSED 18" STORM DRAIN INVERT ELEV. = VERIFY
FIELD VERIFY EXACT DEPTH OF SD PRIOR TO WATER MAIN INSTALLATION.

(41) FINISHED GRADE ELEV. = 28.3
8" SANITARY SEWER INVERT ELEV. = 13.9
INSTALL 6" PVC OVER 8" SS w/4' COVER.

*(42) FINISHED GRADE ELEV. = 27.5
12" STORM DRAIN INVERT ELEV. = 22.8
INSTALL 8" CL&C SINGLE OFFSET UNDER 12" SD W/ 5.7' COVER, 2.5' DROP, PC MK "X" PER DWG CW-579

(43) FINISHED GRADE ELEV. = 28.0
18" STORM DRAIN INVERT ELEV. = 21.4
INSTALL 8" PVC OVER 18" SD w/3.2' COVER.

(44) FINISHED GRADE ELEV. = 28.0
8" SANITARY SEWER INVERT ELEV. = 14.4
INSTALL 8" PVC OVER 8" SS w/3.2' COVER.

(45) FINISHED GRADE ELEV. = 28.4
15" STORM DRAIN INVERT ELEV. = 22.3
INSTALL 12" DI OVER 15" SD w/2.7' COVER.

(46) FINISHED GRADE ELEV. = 29.7
24" STORM DRAIN INVERT ELEV. = 20.6
INSTALL 8" PVC OVER 24" SD w/4' COVER.

(47) FINISHED GRADE ELEV. = 29.7
8" SANITARY SEWER INVERT ELEV. = 15.8
INSTALL 8" PVC OVER 8" SS w/4' COVER.

(48) FINISHED GRADE ELEV. = 27.4
24" STORM DRAIN INVERT ELEV. = 20.5
INSTALL 12" DI OVER 24" SD w/2.8' COVER.

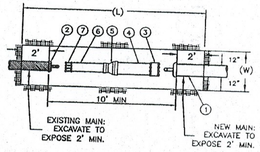
(49) FINISHED GRADE ELEV. = 27.2
PROPOSED STORM DRAIN INVERT ELEV. = Verify
FIELD VERIFY EXACT DEPTH OF SD PRIOR TO WATER MAIN INSTALLATION.

(50) FINISHED GRADE ELEV. = Verify
JOINT TRENCH INVERT ELEV. = Verify
FIELD VERIFY EXACT DEPTH OF JT PRIOR TO WATER MAIN INSTALLATION.

(51) FINISHED GRADE ELEV. = 29.3
PROPOSED TELEPHONE LINE INVERT ELEV. = Verify
WATER MAIN TO BE INSTALLED BEFORE TELEPHONE INSTALLATION.

(52) FINISHED GRADE ELEV. = 29.4
PROPOSED GAS MAIN INVERT ELEV. = Verify
WATER MAIN TO BE INSTALLED BEFORE GAS MAIN INSTALLATION.

NOTE: IF UNFORESEEN CIRCUMSTANCES OR FIELD CONDITIONS ARISE THAT REQUIRE ALTERNATE OR ADDITIONAL MATERIALS FOR THE TIE-IN TO THE EXISTING SYSTEM, THE DEVELOPER'S CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THIS MATERIAL TO THE COMPANY TO COMPLETE THE TIE-IN.



TIE-IN DETAIL "A"
N.T.S.

(1) DEVELOPER'S CONTRACTOR SHALL INSTALL NEW MAIN AND ADJUST FROM NOMINAL LINE AND GRADE TO MATCH THE EXISTING FACILITIES AT THIS LOCATION. THE DEVELOPER'S CONTRACTOR SHALL INSTALL A TEMPORARY CAP AND BLOW OFF AT THIS LOCATION.

CALIFORNIA WATER SERVICE CO. WILL TIE THE NEW MAIN FROM THIS LOCATION.

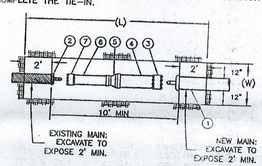
(2) EXISTING MAIN, 8" AC PIPE

DEVELOPER'S CONTRACTOR SHALL PROVIDE CALIFORNIA WATER SERVICE CO. WITH THE FOLLOWING MATERIALS FOR THE TIE-IN IT WILL MAKE AT THE INTERSECTION OF EAST MAIN ST. & COOLIDGE AVENUE.

(3) 1 – 12" SOLID SLEEVE MJ
(4) 5'– 12" DUCTILE IRON PIPE
(5) 1 – 12"x8" REDUCER PO w/1–12" RING & 1–8" RING
(6) 5'– 8" PVC C-900 PIPE
(7) 1– 8" ACRBxDI FLEX COUPLING, 10" SLV

NOTE: IN ADDITION, THE DEVELOPER'S CONTRACTOR SHALL PROVIDE: MISC. MATERIAL REQUIRED TO COMPLETE THE TIE-IN SUCH AS, BUT NOT LIMITED TO: PROTECTION COATING MATERIAL FOR PIPE AND FITTINGS, LINEGUARD TAPE, CONCRETE FOR THRUST BLOCKS, EMBEDMENT BACKFILL AROUND AND OVER THE PIPE, FINAL BACKFILL TO MEET COMPACTION REQUIREMENTS, AND PAVEMENT REPLACEMENT.

NOTE: IF UNFORESEEN CIRCUMSTANCES OR FIELD CONDITIONS ARISE THAT REQUIRE ALTERNATE OR ADDITIONAL MATERIALS FOR THE TIE-IN TO THE EXISTING SYSTEM, THE DEVELOPER'S CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THIS MATERIAL TO THE COMPANY TO COMPLETE THE TIE-IN.



TIE-IN DETAIL "B"
N.T.S.

(1) DEVELOPER'S CONTRACTOR SHALL INSTALL NEW MAIN AND ADJUST FROM NOMINAL LINE AND GRADE TO MATCH THE EXISTING FACILITIES AT THIS LOCATION. THE DEVELOPER'S CONTRACTOR SHALL INSTALL A TEMPORARY CAP AND BLOW OFF AT THIS LOCATION.

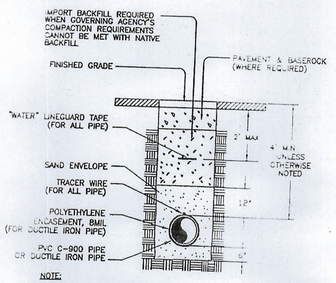
CALIFORNIA WATER SERVICE CO. WILL TIE THE NEW MAIN FROM THIS LOCATION.

(2) EXISTING MAIN, 8" DUCTILE IRON PIPE

DEVELOPER'S CONTRACTOR SHALL PROVIDE CALIFORNIA WATER SERVICE CO. WITH THE FOLLOWING MATERIALS FOR THE TIE-IN IT WILL MAKE AT GUERNSEY AVENUE.

(3) 1 – 12" SOLID SLEEVE MJ
(4) 5'– 12" DUCTILE IRON PIPE
(5) 1 – 12"x8" REDUCER PO w/1–12" RING & 1–8" RING
(6) 5'– 8" PVC C-900 PIPE
(7) 1– 8" SOLID SLEEVE MJ

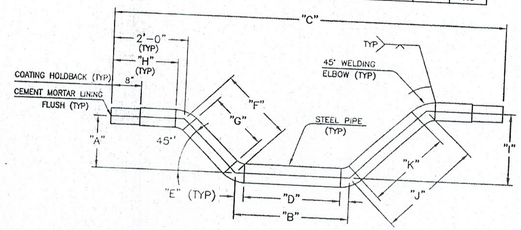
NOTE: IN ADDITION, THE DEVELOPER'S CONTRACTOR SHALL PROVIDE: MISC. MATERIAL REQUIRED TO COMPLETE THE TIE-IN SUCH AS, BUT NOT LIMITED TO: PROTECTION COATING MATERIAL FOR PIPE AND FITTINGS, LINEGUARD TAPE, CONCRETE FOR THRUST BLOCKS, EMBEDMENT BACKFILL AROUND AND OVER THE PIPE, FINAL BACKFILL TO MEET COMPACTION REQUIREMENTS, AND PAVEMENT REPLACEMENT



NOTE:
1. ALL EXCESS SPOIL IN TRACT IS TO REMAIN TRENCHSIDE AND ALL EXCESS SPOIL OFF TRACT IS TO BE REMOVED
2. ALL VALVE CASINGS AND COVERS SHALL BE RAISED TO FINISHED GRADE AFTER PERMANENT PAVEMENT HAS BEEN PLACED

TRENCH CROSS SECTION
NTS

PIECE MARKED	"A"	"B"	"C" 4'+A+I+B	"D" B-2E	"E" A/.707	"G" F-2E	"H" 2'-0"-E	"I"	"J" I/.707	"K" J-2E
"Y"	1.5'	3.0'	9.6'	2.4'	2.1'	1.5'	1.7'	1.1'	1.6'	1.0'



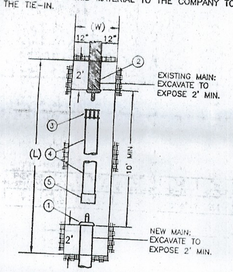
NOTES:
1. STEEL CYLINDER SHALL BE PER A.S.A. WITH ASTM A53 TEST PRESSURE AND ASTM A36 PHYSICAL PROPERTIES.
2. COATING SHALL BE REINFORCED WITH 14 GAUGE WIRE MESH OR 14 GUAGE WIRE SPIRALLY WOUND IN CENTER OF COATING PER LATEST REVISION OF AWWA STANDARD C205.
3. WELDING FITTINGS SHALL BE ASTM A234 GRADE B.

PIECE MARKED	QTY	PIPE STEEL CYL.(OD)	PIPE SCHED.	CML	CMC	ELBOW SCHED.	ELBOW "B"
"A"	1	6.63"	40	3/8"	3/4"	40	3.75"
		8.63"	20	3/8"	3/4"	40	5.00"
		10.75"	20	1/2"	3/4"	40	6.25"
		12.75"	20	1/2"	3/4"	.375"	7.50"
		14.0"	10	1/2"	3/4"	30	8.75"
		16.0"	10	1/2"	3/4"	30	10.00"

CEMENT MORTAR LINING, CML
CEMENT MORTAR COATING, CMC

CW 693R6 CEMENT MORTAR LINED & COATED STEEL DOUBLE OFFSET WITH 45° ELBOWS

NOTE: IF UNFORESEEN CIRCUMSTANCES OR FIELD CONDITIONS ARISE THAT REQUIRE ALTERNATE OR ADDITIONAL MATERIALS FOR THE TIE-IN TO THE EXISTING SYSTEM, THE DEVELOPER'S CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THIS MATERIAL TO THE COMPANY TO COMPLETE THE TIE-IN.



TIE-IN DETAIL "C"
N.T.S.

(1) DEVELOPER'S CONTRACTOR SHALL INSTALL NEW MAIN AND ADJUST FROM NOMINAL LINE AND GRADE TO MATCH THE EXISTING FACILITIES AT THIS LOCATION. THE DEVELOPER'S CONTRACTOR SHALL INSTALL A TEMPORARY CAP AND BLOW OFF AT THIS LOCATION.

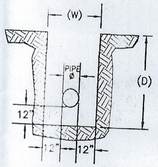
CALIFORNIA WATER SERVICE CO. WILL TIE THE NEW MAIN FROM THIS LOCATION.

(2) EXISTING MAIN, 6" AC PIPE

DEVELOPER'S CONTRACTOR SHALL PROVIDE CALIFORNIA WATER SERVICE CO. WITH THE FOLLOWING MATERIALS FOR THE TIE-IN IT WILL MAKE AT CARROLL AVE.; DAWES AVE.; WAGNER AVE. (3 LOCATIONS).

(3) 1 – 6" ACRBxDI FLEX COUPLING, 10" SLV
(4) 10'– 6" PVC C-900 PIPE
(5) 1 – 6" "CERTAINTEED" PVC CLOSURE COUPLING

NOTE: IN ADDITION, THE DEVELOPER'S CONTRACTOR SHALL PROVIDE: MISC. MATERIAL REQUIRED TO COMPLETE THE TIE-IN SUCH AS, BUT NOT LIMITED TO: PROTECTION COATING MATERIAL FOR PIPE AND FITTINGS, LINEGUARD TAPE, CONCRETE FOR THRUST BLOCKS, EMBEDMENT BACKFILL AROUND AND OVER THE PIPE, FINAL BACKFILL TO MEET COMPACTION REQUIREMENTS, AND PAVEMENT REPLACEMENT.



TRENCH NOTES FOR TIE IN:

TRENCH WIDTH (W) SHALL BE ONE PIPE DIAMETER PLUS 12" ON EACH SIDE OF THE PIPE. (E.G. A 6" OR 8" MAIN REQUIRES A 30" TRENCH).

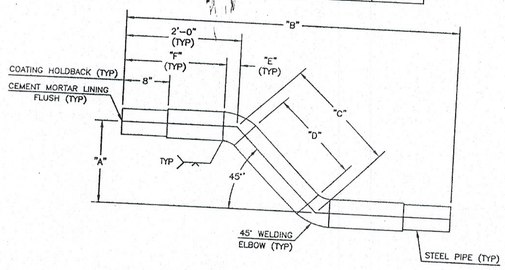
TRENCH LENGTH (L) SHALL BE 14' (MIN). (10' FOR TIE-IN PLUS 2' EXPOSURE OF EXISTING AND NEW MAINS).

TRENCH DEPTH (D) SHALL BE 12" (MIN) BELOW BOTTOM OF MAIN.

DEVELOPER'S CONTRACTOR SHALL PROVIDE TRENCH SHORING PER OSHA STANDARDS.

DEVELOPER'S CONTRACTOR SHALL BE RESPONSIBLE FOR EMBEDMENT BACKFILL, TRENCH BACKFILL, COMPACTION TO REQUIREMENTS, AND FINAL PAVEMENT RESTORATION.

	"A"	"B" 4'+ A	"C" A/.707	"D" C-2E	"F" 2'-0"-E
X	2.5	6.5	3.5	2.7	1.6
Z	2.0	6.0	2.8	2.2	1.7



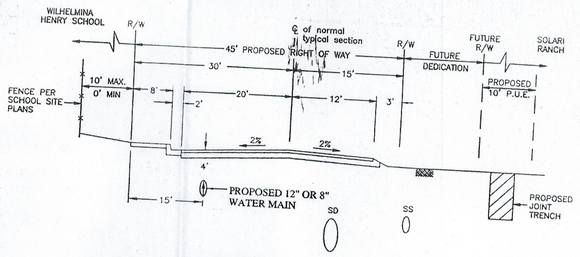
NOTES:
1. STEEL CYLINDER SHALL BE PER A.S.A. WITH ASTM A53 TEST PRESSURE AND ASTM A36 PHYSICAL PROPERTIES.
2. COATING SHALL BE REINFORCED WITH 14 GAUGE WIRE MESH OR 14 GAUGE WIRE SPIRALLY WOUND IN CENTER OF COATING PER LATEST REVISION OF AWWA STANDARD C205.
3. WELDING FITTINGS SHALL BE ASTM A234 GRADE B

PIECE "MARKED"	QTY	PIPE STEEL CYL.(OD)	PIPE SCHED.	CML	CMC	ELBOW SCHED.	ELBOW "B"
Z	1	6.63"	40	3/8"	3/4"	40	3.75"
X	1	8.63"	20	3/8"	3/4"	40	5.00"
		10.75"	20	1/2"	3/4"	40	6.25"
		12.75"	20	1/2"	3/4"	.375"	7.50"
		14.0"	10	1/2"	3/4"	30	8.75"
		16.0"	10	1/2"	3/4"	30	10.00"
		18.0"	10	1/2"	3/4"	.375"	11.25"
		20.0"	10	1/2"	3/4"	20	12.50"

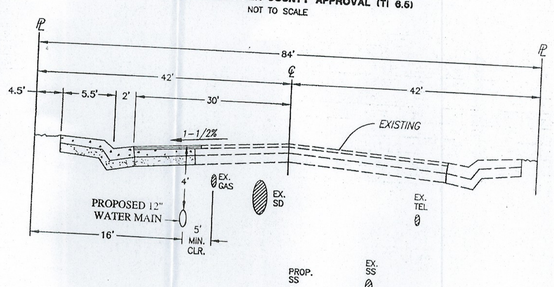
CEMENT MORTAR LINING, CML
CEMENT MORTAR COATING, CMC

CW 579R3 CEMENT MORTAR LINED & COATED STEEL SINGLE OFFSET WITH 45° ELBOWS

TYPICAL STREET CROSS SECTION
N.T.S.



GUERNSEY/WAGNER AVENUE EXTENTION
PARTIAL STREET SECTION
(COLLECTOR RESIDENTIAL)
PROPOSED 45' RIGHT OF WAY
FUTURE 60' RIGHT OF WAY
TRAFFIC INDEX PER COUNTY APPROVAL (TI 8.6)
NOT TO SCALE



CROSS SECTION 84' R/W (TYP.)
EAST MAIN STREET
NOT TO SCALE

ENGINEERING DEPARTMENT
CALIFORNIA WATER SERVICE CO.

REVISIONS:

	DATE	INIT.
DISTRIBUTION MAP	X	
PLAT SHEET	X	
SYSTEM SCHEMATIC		
STATION SCHEMATIC		
ZONE MAP		
VALVE SHOWED		

PLAT SHEET NO.: 32-34, 33-34
SCALE: AS NOTED
DRAWN BY: PERALTA
DESIGNED BY: TING HE
CHECKED BY: DP DATE: 7/22/05
APPROVED BY: T.H. DATE: 7/22/05

REGISTERED PROFESSIONAL ENGINEER TING MET HEN No. C60340 EXP. 06-30-06 CIVIL STATE OF CALIFORNIA

TITLE: WILHELMINA HENRY ELEMENTARY SCHOOL

DISTRICT: STOCKTON
DATE: 10/25/04
PROJECT ID.: 12419
DRAWING NO.: STK-8352
SHT 2 OF 2