APPENDIX K

CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

AUTOCAD™ STANDARDS



City of San Bernardino
Municipal Water Department
195 North "D" Street
San Bernardino, CA 92402

AUTOCAD™ AND GIS STANDARDS

1.0 INTRODUCTION

The San Bernardino Municipal Water Department (SBMWD) AutoCAD $^{\text{TM}}$ and GIS Standards have been developed to aid in the preparation of drawings and to ensure consistency and uniformity on all SBMWD contracts and specifications. The Engineering section has made every attempt to assure that the SBMWD Standard Drawings are complete and accurate. However, the issuance of these standards does not relieve the Engineer of Record from assuring that the standard details are correct and applicable to their specific project.

2.0 DRAWING SUBMITTALS

2.1 General

When $AutoCAD^{TM}$ files are prepared for submittal to SBMWD, the paper set and electronic views must be the same. What is seen on the paper copy is also the electronic view on screen when the file is opened.

The Consultants shall use the title block in C-XXXX-G-G1.dwg for all contract drawing sheets. The title block is located in the AutoCAD $^{\text{TM}}$ and GIS Standards section of the SBMWD Uniform Design and Construction Standards. Due to the SBMWD document management system, the title block is not allowed to be exploded. If the title block has been exploded, the submittal will not be accepted.

Due to SBMWD printing requirements, Model Space and Paper/Layout Space drawings are only permitted. The drawing shell shall always be inserted into Paper/Layout Space at (1:1 scale) 22" x 34" and drawing plot scale to be set at "1". The Model Space viewport drawing scale shall be horizontal scale: 1"=40' and vertical scale: 1"=4' for plan and profiles. The Consultant and SBMWD Engineering Manager shall determine all other drawing scales.

Layering shall be labeled per standards listed herein. All layering nomenclature shall be clearly delineated between survey information, water improvements, existing utilities, etc. according to the layering convention standards herein.

North arrow and all text are to be oriented to be read from the bottom and right (Unless approved by SBMWD Engineering Manager).

All Stationing is to be oriented from left to right (Unless approved by SBMWD Engineering Manager). Stations are to be consistent at all match lines and station equations are not permitted. Stations are to be on the pipeline itself not the street centerline.

All text and construction notes that are pertinent to the design shall have a hide box placed around it to remove any lines from behind the text. The hide box shall be created from a 3dface in $AutoCAD^{TM}$ and shall be elevated such that all lines are hidden from behind the text and construction notes. The hide boxes shall be placed on the hide layer and the hideplot option for the viewports under the mview command shall be toggled to on. Also the hidetext command shall be toggled to off for all drawings.

All original signatures are to be in blue ink prior to the acceptance of the final submittal.

All files must be named in accordance with the file nomenclature standards herein and submitted on CD.

AutoCAD $^{\text{TM}}$ drawings created in version AutoCAD $^{\text{TM}}$ 2000i or more recent will be accepted.

2.2 All Progress Submittals

X-refs are permitted and must be provided with the drawing files. X-refs should be inserted on the "xref" layer. If more than one x-ref is used a layer should be created for each x-ref attached. For example layer names would read "c-xref-base" and "c-xref-topo" for a base and topo x-ref. Nested x-refs will not be accepted. All detail file names and dates are to remain by detail titles to verify the SBMWD AutoCAD $^{\text{TM}}$ Standards version currently being used.

2.3 100 Percent and Final Submittals

X-refs are permitted however, all x-ref files shall be saved and mapped in the same folder as the drawing files. All x-refs should be inserted on their appropriate layers as defined in the paragraph above. All layers are to be turned on and thawed. (Exception: "mview" to be frozen.) All information not pertinent to the final design must be deleted from the drawings and the file must be purged to smallest possible size. Detail file names and dates are to be removed from detail titles.

Any SBMWD AutoCAD $^{\text{TM}}$ Standards revisions or updates made prior to the 100 percent submittal will be required to be incorporated into the contract drawings prior to the acceptance of the final submittal.

2.4 Revisions or Addendums

When revisions or post signature changes are necessary, the following standard is required:

All changes are to be clouded in AutoCAD™ (provide AutoCAD™ drawing files with all changes). Numbered revision triangles will be placed within the clouded areas and in the drawings title block revision area. Detailed description of the changes shall also be provided in the revision area of the title block.

2.5 Record Drawing Submittal

2.5.1 Record Drawing Electronic Submittal

Upon completion of the work, all required information, dimensions and adjustments to the original contract drawings shall be submitted to the SBMWD to be transferred to the record drawings. Facilities and items to be located and verified on the record drawings shall include the following:

- a. Point of connections.
- b. Utility locations.

- c. Water mains: where deviations along installed water mains are more than 1/2 foot vertically and more than 1 foot horizontally, actual location (line and grade) shall be noted on the plans at intervals of 100 feet.
- d. Services: where service tie-in differs from the plan station by more than 1 or when meter box is perpendicular from the corporation stops shall be stationed. all service lines that directional changes, such as in the cul-de-sacs, of the installation shall be noted regardless of field changes, and shall adequately referenced the to satisfaction of the SBMWD Inspector.
- e. Any material changes, including additions, deletions, and substitutions.
- f. Other related facilities, as required by the SBMWD Inspector.
- g. Contractor shall write on all sheets where the water improvements were built per plan that the construction was made "Per Plan".
- h. Each As-Built sheet shall be signed and sealed by the Engineer of Record and stamped "As-Built" for approval by the SBMWD Engineering Manager.

The SBMWD's receipt and acceptance of all document submittals shall be a condition precedent to the release of the Contractor's retention/final payment. For projects constructed by Developers, the SBMWD will not accept final conveyance of water system improvements to the SBMWD until approved record plans and other required documents per the Developer-

Installed Agreement have been received and are correct.

2.5.2 GIS Data Electronic Submittal

The Developer shall provide the Department with a digital electronic file of the water system design and as-constructed water system compatible with the Department's GIS data system. The data files shall consist of the following:

2.5.2.1 Survey Information

Survey accurate GIS layers of centerline, right-of-way line, easements and lot lines. This survey information shall be within GIS subfoot accuracy.

2.5.2.2 Water System Information

All water system improvements GIS layers including mains, valves, service laterals, meter locations, fire hydrants, and other appurtenances shall be placed physically to within GIS subfoot accuracy, relative to the SURVEY INFORMATION in Subsection 2.5.2.1.

2.5.2.3 Street Improvements

All curbs, sidewalks, and other hard improvements visible from the street. These facilities shall be placed physically to within GIS subfoot accuracy, relative to the SURVEY INFORMATION in 2.5.2.1.

2.5.2.4 File Format

All information shall be provided to the Water Department in GIS format in either a shapefile or geodatabase. The format must comply with the Department's GIS system. The GIS data shall be in the Stateplane NAD83, California, Zone 5, feet coordinate system.

2.5.2.5 GIS Layer Data Information

The Survey Information, the Water System Information, and the Street Improvements shall each be on separate GIS shapefiles or geodatabases. The GIS layer information shall include the File Name(s), Description, Feature Type, and any comments as follows:

GIS DATA ELECTRONIC SUBMITTAL FILE REQUIREMENTS

File Name(s) ⁽¹⁾	Description	Feature Type	Comment(s)
Valves	Valve type; turns to close; size; manufacturer; location; installation date; valve purpose; pressure zone; status.	Point	Varies
Mains	Main type; size; length; material; installation date; location; pressure zone; manufacturer; status.	Line	Varies
Service Laterals	Lateral type; size; length; material; installation date; location; manufacturer; assessor parcel number (APN); pressure zone; status.	Line	Varies
Hydrants	Hydrant size; configuration; barrel diameter; manufacturer; installation date; location; pressure zone; status; nozzle diameter 1-2-3.	Point	Varies
Survey	Survey street centerlines; right of ways; easements; and lot lines.	Line	Varies

Notes: (1) File name shall be named appropriately to the item(s) in question.

2.5.2.6 Annotation

Annotation shall be easily readable with the default characteristics or as approved by the Department. Annotation for each of the information categories listed above shall be provided in its own GIS shapefile or geodatabase independent from the information itself as described in Section 2.5.2.5. Annotation will include but is not limited to: street names, valve numbers, parcel address, reducer size, distance from main to centerline, main size, type, and year installed. All appurtenances shall be shown according to the Department's GIS feature standards and will be provided to the Applicant in an electronic format upon request.

2.5.2.7 Additional Information

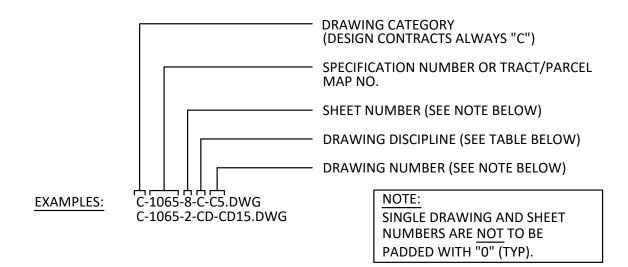
Files containing more information than what is specifically listed above are NOT acceptable and will be returned to the Applicant for correction.

AUTOCAD™ STANDARDS

FILE NOMENCLATURE TABLE
LAYERING NOMENCLATURE TABLE
MASTER LAYER LIST
PEN TABLE SETTINGS
LINE TYPES
TEXT FORMATS
DETAIL REFERENCES
REVISIONS/ADDENDUMS STANDARD
POTHOLE STANDARD
DISTRIBUTION SHEET STANDARD BLOCKS

W:\AUTOCAD\SBMWD CAD STANDARDS\BLOCKS-NOTES\SB-STD.DWG

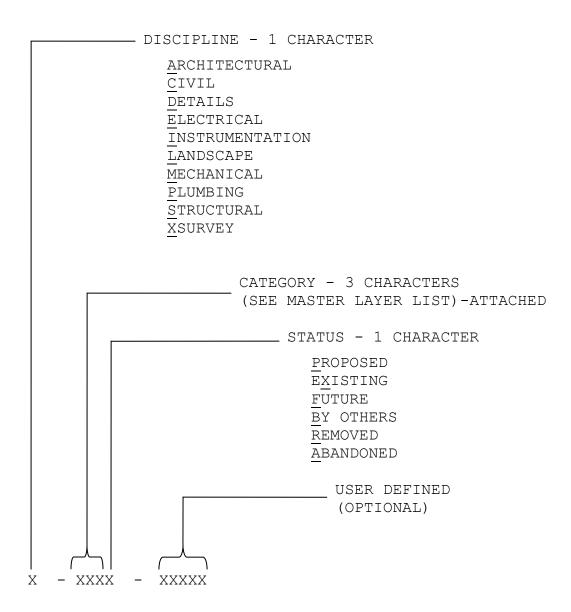
FILE NOMENCLATURE FOR AUTOCAD™ GENERATED CONTRACT DRAWINGS



	DRAWING DISCIPLINE TABLE
Α	ARCHITECTURAL PLAN SHEETS
AD	ARCHITECTURAL DETAIL SHEETS
С	CIVIL PLAN SHEETS
CD	CIVIL DETAIL SHEETS
D	DEMOLITION PLANS
E	ELECTRICAL PLAN SHEETS
ED	ELECTRICAL DETAIL SHEETS
F	FIRE PROTECTION PLAN SHEETS
FD	FIRE PROTECTION DETAIL SHEETS
G	GENERAL SHEETS
1	INSTRUMENTATION PLAN SHEETS
ID	INSTRUMENTATION DETAIL SHEETS
L	LANDSCAPING AND IRRIGATION PLAN SHEETS
LD	LANDSCAPE AND IRRIGATION DETAIL SHEETS
М	MECHANICAL SHEETS
MD	MECHANICAL DETAIL SHEETS
Р	PLUMBING PLAN SHEETS
PD	PLUMBING DETAIL SHEETS
S	STRUCTURAL PLAN SHEETS
SD	STRUCTURAL DETAIL SHEETS
SV	SURVEY SHEETS
Т	TRAFFIC PLAN SHEETS
TD	TRAFFIC DETAIL SHEETS
Χ	EXHIBIT/INTERPRETIVE SHEET
XD	EXHIBIT/INTERPRETIVE DETAIL SHEET

LAYER FORMAT FOR AUTOCAD™

GENERATED CONTRACT DRAWINGS



EXAMPLES: C-RDSP-EAST (CIVIL-ROADS PROPOSED-EAST ROAD)

C-WTRX-36IN (CIVIL-WATER EXISTING-36 INCH WATER LINE)

L-LANP-ROCK (LANDSCAPE-LANDSCAPE PROPOSED-ROCKS)

X-TEXT1-SURVEY (SURVEY-TEXT1-SURVEY TEXT LAYER)

MASTER LAYER LIST

LAYER		S		JS SU		X BY			LINETYPE BY STATUS (• INDICATES ONE LINETYPE FOR ALL STATUS SUFFIXES)																				
PREFIX GROUPING	DEFAULT COLOR (FOR ALL)	A PROPOSED	X EXISTING	L FUTURE	BY OTHERS	B	A ABANDONED		CENTER		CONTINUOUS		DASHED		DASHEDX2		HIDDEN		HIDDEN2		PHANTOM		PHANTOM2	CLOCA	DO12	SCREENING % (P,F & B)	SCREENING % (X, R, & A)	CREATED - SEE LEGEND	DESCRIPTION
0	7											•														100	100		MISCELLANEOUS LAYER
WAL		3	9	9	9	9	9					•														100	40	•	BLOCKWALL OR FENCE
* CITYVIEW																										100	100		CITY LOCATION MAP MVIEW FOR DISTRICT USE
*CORNERS																										100	100		INTERIOR BORDER OF TITLE BLOCK
BLD		2	9	-	-	-	-					Р					Х									100	40		BUILDING
CEN	1									•																100	100		CENTERLINES
CON		3	252	-	-	-	-					Р					Х									100	50		CONTOURS, PROFILE GRADES
DIT		2	9	2	2	-	-									•										100	40	•	DITCHES, WASHES AND TRENCHES
EAS	3																	•								100	100		EASEMENTS
GRID-1	251											•														100	100		PROFILE MAJOR GRIDLINES PER EXAMPLE
GRID-2	254											•														100	100		PROFILE MINOR GRIDLINES PER EXAMPLE
PRL	2																				•					100	100		PROPERTY LINES
RDS		2	9	2	2	9	9				P,F	В,Х		R,A												100	40		ALL SIDEWALK, CURB & GUTTER,
																													DRIVEWAYS, AND ROADS
ROW	4																				•					100	100		RIGHT-OF-WAY
SEC	3																						•			100	100		SECTION LINES
SGN		1	9	1	1	9	9					•														100	40		SIGNS
SLT		2	9	2	2	9	9					•														100	40	•	STREET LIGHT
UTL		1	9	1	1	9	9												•							100	40		UTILITIES
WTR-SNGL		6	9	2	2	9	9				Р	В	Х	R,A			F									100	40		WATERLINES SMALLER THAN 24"
WTR-DBL		2	9	2	2	9	9				Р	В	Х	R,A			F									100	40		WATERLINES 24" AND LARGER
SWR-SNGL		6	9	2	2	9	9				Р	В	Х	R,A			F									100	40		SANITARY SEWER MAINS SMALLER THAN 15"
SWR-DBL		2	9	2	2	9	9				Р	В	Х	R,A			F									100	40		SANITARY TRUNK SEWERS 15" AND LARGER
APP		3	9	2	2	9	9				Р	в,х		R,A			F									100	40		WATERLINE APPURTANENCES
AGO		3	9	1	2	9	9		T			•	7			7		T	T							100	40		ABOVE GROUND ONSITE
DET		3	9	1	1	9	9		T			•	7			7		T	T							100	40		DETAILS
EQP		3	9	1	1	9	9		Ť		Р	Х		1	寸		T	F	,R A	A,B						100	40		EQUIPMENT
SIT		3	9	1	1	9	9		T			•	7			7		T	T							100	40		SITE PLANS
GND		3	9	2	-	9	9		寸			•			寸		T	T								100	40		GROUNDING
UGO		3	9	2	1	9	9		Ţ		寸	•		T	1		T		1	1		1				100	40		UNDERGROUND ONSITE
HATCH		1	9	-	-	_	-		Ť		T	•			寸		T			T		1				100	40		ALL HATCHING
LAN		2	9	2	2	9	9	T	T		T	•	1	T	T	1	T	T	T	T	1	1	l	İ		100	40		ALL LANDSCAPING
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^{* -} REFERENCE LAYER DATE REVISED: 5/8/2019

MASTER LAYER LIST

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XREF	7										•	•											100		100		EXTERNAL REFERENCE
*MTOOLS																							100		100		MODEL SPACE
MVIEW	11																						0		0		MODEL SPACE VIEWPORTS
PLOTDATE	2																						100		100		AUTO FILE NAME, PLOT DATE AND TIME UPDATED
HIDE	11																						0		0		HIDE BOXES AND NON PRINTABLE TEXT
* PTOOLS																							100		100		PAPER SPACE
TITLEBLOCK																							100		100		TITLEBLOCK
* SITE1																							0		0		JOB SITE 1 MVIEW FOR DISTRICT USE
* SITE2																							0		0		JOB SITE 2 MVIEW FOR DISTRICT USE
TEXT1-X	2																						100		100		TEXT, DIMENSIONING, LEADER ARROWS AND NOTES
TEXT2-X	3						1					11						t					100		100		STREET NAMES
TEXT3-X	3							1	1		1	11		1									100		100		DETAIL AND DRAWING TITLES (INCLUDING THE DETAIL TITLE UNDERLINE)
TEXT4-X	3							1	1		1	11		1									100		100		PROFILE GRID STATIONS, ELEVATIONS AND ALL
																											INTERMEDIATE DETAIL AND TITLEBLOCK TITLES
* WD-BLK																							100		100		FOR USE IN SBMWD TITLE BLOCK
* WD-BLU																		Ì					100		100		FOR USE IN SBMWD TITLE BLOCK
* WD-TEXT																							100		100		FOR USE IN SBMWD TITLE BLOCK
* WD-YEL																							100		100		FOR USE IN SBMWD TITLE BLOCK
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^{* -} REFERENCE LAYER

MASTER LAYER LIST (DETAILS ONLY)

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LAYER		5	TATI PE		UFFI OLOF					LINETYPE BY STATUS (◆ INDICATES ONE LINETYPE FOR ALL STATUS SUFFIXES)																	
PREFIX GROUPING	DEFAULT COLOR (FOR ALL)	A PROPOSED	X EXISTING	L FUTURE	B BY OTHERS	R	A	ABANDONED		CENTER	SHOUNTENCO		DASHED		DASHEDX2	HIDDEN	HIDDEN2		PHANTOM	CMOTIVALIDA	NAME OF THE PROPERTY OF THE PR	DOT2	SCREENING % (P,F & B)	SCREENING % (X, R, & A)	CREATED - SEE LEGEND	DESCRIPTION	
D-CEN		1								•													100	100		ALL CENTER LINES	
D-CYN		4										•											100	100		PROPOSED PIPE LINES	
D-GRN		3										•											100	100		PROPOSED DETAIL PERTAINING TO TITLE	
D-YEL		2																•					100	100		PROPOSED HIDDEN LINES OF DETAIL	
D-YEL		2										•											100	100		PROPOSED DETAIL	
D-YEL			9										•)										40		ALL EXISTING	
D-RED	1											•											100	100		ALL HARD TO SEE SMALL PARTS SUCH AS BOLTS	
D-VLT		3	9	-	-	_	-					•											100	40		VAULT	
																						İ					
*	•					-			_	-			_	_		 										-	

^{* -} REFERENCE LAYER

BLACK AND WHITE PLOTTER PEN EXAMPLES

PEN NUMBER	COLOR	INCHES
1	RED	0.005
2	YELLOW	0.008
3	GREEN	0.012
4	CYAN	0.018
5	BLUE	0.028
6	MAGENTA	0.038
7	WHITE	0.050
9	GRAY	0.010
11	PINK	0.010
252	GRAY	0.008

NOTE: COLOR #9 IS TO BE USED FOR ALL EXISTING, REMOVED, AND ABANDONED LAYERS AND SCREENED TO 40%. COLOR #11 IS TO BE USED FOR MVIEWS, HIDE BOXES, AND ALL NON-PLOTTING OBJECTS ONLY AND SCREENED TO 0%. COLOR #252 IS TO BE USED FOR CONTOURS AND PROFILE GRIDS ONLY AND BE SCREENED TO 50%. OTHER USES SCREENINGS AND PEN WIDTHS OF COLORS #9, #11, AND #252 SHALL BE DETERMINED AND APPROVED BY SBMWD PRINCIPAL ENGINEER.

LINETYPES

DESCRIPTION	LINETYPE
CENTER	
CONTINUOUS	
DASHED	
DASHEDX2	
HIDDEN	
HIDDEN2	
PHANTOM	
PHANTOM2	
DOT2	

NOTE: WHEN IN MODEL SPACE LTSCALE WILL ALWAYS BE 0.5 x DRAWING SCALE. WHEN IN PAPER/LAYOUT SPACE THE PSLTSCALE WILL BE TOGGLED TO 1.

AUTOCAD™ TEXT FORMAT FOR CONTRACTS

STYLE: TEXT1

FONT: CALIBRI.TTF

SIZE: 0.10 x DRAWING SIZE

WIDTH: 1 OBLIQUING ANGLE: 0

LAYER: TEXT1

USAGE: ALL OTHER TEXT, DIMENSIONING, LEADERS, ARROWS, AND NOTES.

EXAMPLE: 10'-0", (TYP), STA. 10+00.00

STYLE: TEXT2

FONT: SANSSERIF.TTF (BOLD)

SIZE: 0.24 x DRAWING SIZE

WIDTH: 1 OBLIQUING ANGLE: 0

LAYER: TEXT2

USAGE: STREET NAMES

EXAMPLE: RIALTO AVENUE

STYLE: TEXT3

FONT: SANSSERIF.TTF (BOLD)

SIZE: 0.20 x DRAWING SIZE

WIDTH: 1 OBLIQUING ANGLE: 0

LAYER: TEXT3

USAGE: DETAIL AND DRAWING TITLES

EXAMPLE: SITE PLAN, BLOW-OFF DETAIL

STYLE: TEXT4

FONT: CALIBRI.TTF

SIZE: 0.15 x DRAWING SIZE

WIDTH: 1 OBLIQUING ANGLE: 0

LAYER: TEXT4

USAGE: MATCHLINES, PROFILE GRID STA. AND ELEV., INTERMEDIATE DETAIL TITLES

EXAMPLE: DETAIL "C". TRENCH SECTIONS

ALL TEXT IS TO BE UPPER CASE, UNLESS APPROVED OTHERWISE BY SBMWD PRINCIPAL ENGINEER.

ALL TEXT IS TO BE UPPER CASE,

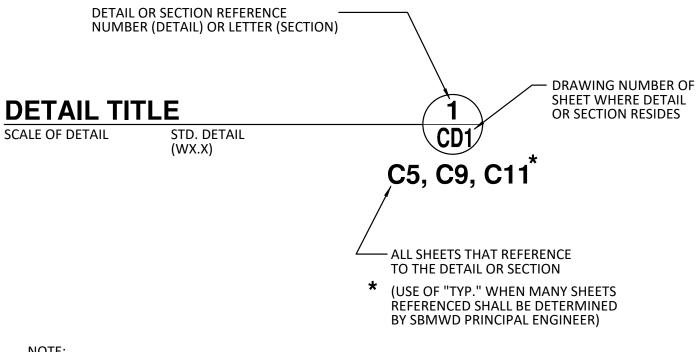
UNLESS APPROVED OTHERWISE BY SBMWD PRINCIPAL ENGINEER.

ALL TEXT IS TO BE UPPER CASE, UNLESS APPROVED OTHERWISE BY SBMWD PRINCIPAL ENGINEER.

ALL TEXT IS TO BE UPPER CASE,

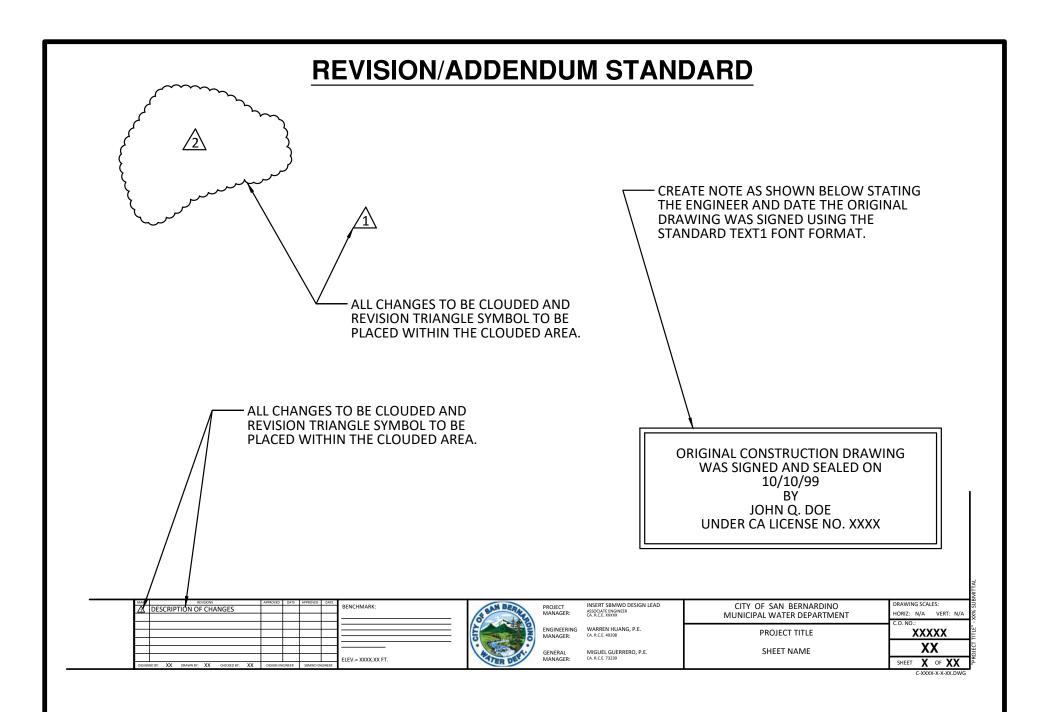
UNLESS APPROVED OTHERWISE BY SBMWD PRINCIPAL ENGINEER.

SAMPLE REFERENCE IDENTIFICATION STANDARD

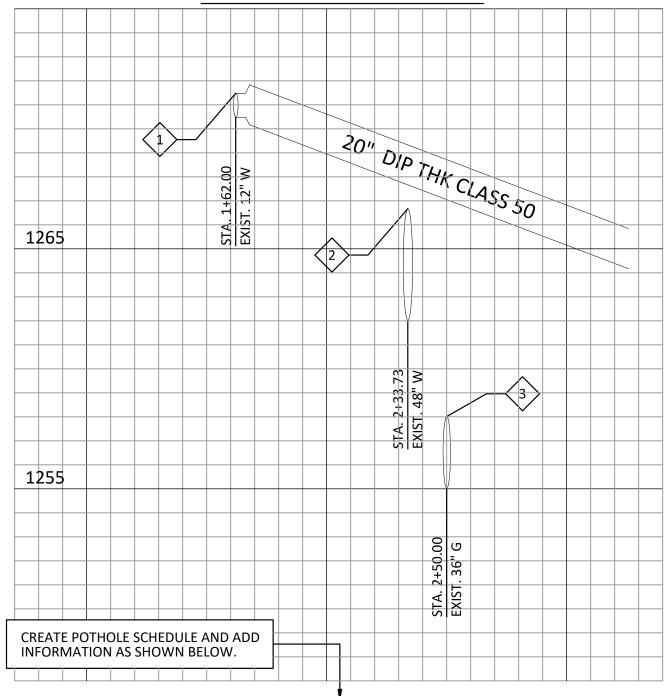


NOTE:

IF DETAIL AND/OR SECTION ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS TO BE REPLACED BY A DASH. EX:



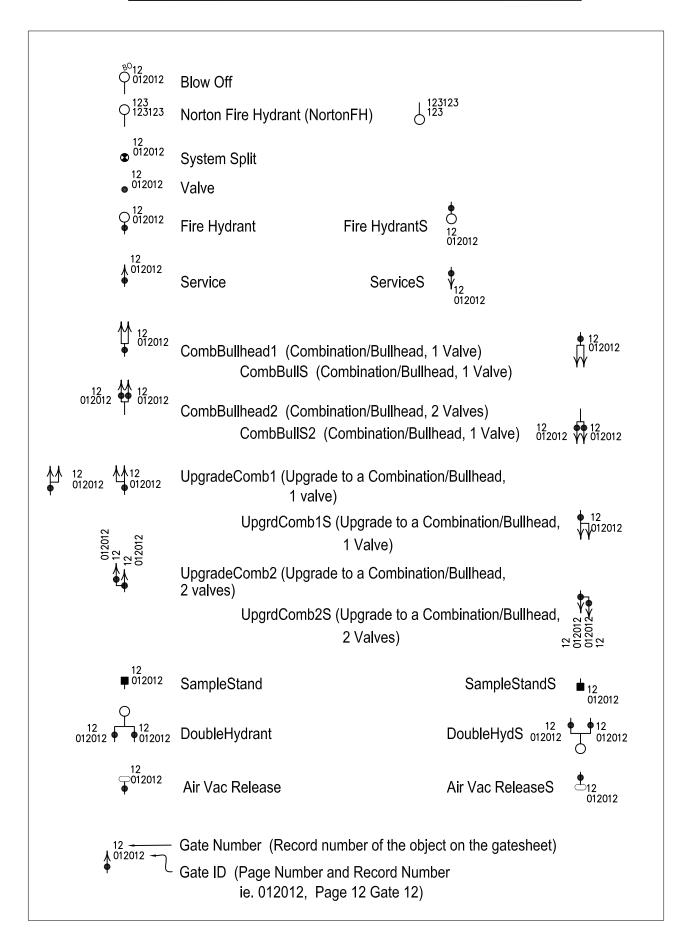
POTHOLE STANDARD



	POTHOLE SCHEDULE									
NO.	ELEVATION	DESCRIPTION								
1	1270.5'± FL	12" DIP WATERLINE								
2	1262.0'± FL	48" CML/C STEEL WATERLINE								
3	1258.0'±	36" STEEL GAS								

^{*} CONTRACTOR IS STILL REQUIRED TO POTHOLE ALL UTILITIES PRIOR TO CONSTRUCTION.

Distribution Sheet Standard Blocks



01/07/05 W:\Autocad\SBMWD CAD Standards\Blocks&Notes\SBMWD Standard Blocks.dwa

${\tt DEVELOPER-INSTALLED} \ \ {\tt AUTOCAD^{\tiny IM}} \ \ {\tt STANDARDS}$

W:\AUTOCAD\SBMWD CAD STANDARDS\TRACTS\

C-TXXXXX-1-G-G1.dwg

C-TXXXXX-2-G-G2.dwg

C-TXXXXX-3-C-C1.dwg

C-TXXXXX-4-CD-CD1.dwg

C-TXXXXX-5-CD-CD2.dwg

C-TXXXXX-6-CD-CD3.dwg

SERVICE SCHEDULE:

SIZE	TYPE	STD. NO.	BACKFLOW REQ.	QUANTITY
5/8"	DOMESTIC	W 1.1	NO	30
5/8" X 1"	COMBINATION DOMESTIC & FIRE	W 1.3	NO	17
2"	IRRIGATION	W 1.2	YES - RPP	1

LOTS 31 THRU 47 TO HAVE COMBINATION DOMESTIC AND

М	ATERIALS LIS	T AND QUANTI	ΠES:
SIZE	DESCRIPTION	CONFIGURATION	QUANTITY
12"	AWWA C151 CML D.I.P.	TJ	1420 LF
8"	AWWA C151 CML D.I.P.	TJ	2311 LF
6"	AWWA C151 CML D.I.P.	TJ	60 LF
6"	AWWA C503-82 F.H. W/BURY	1- 4" & 1-2-1/2"	9 EA
8"	G.V. W/CAN AWWA C509	FL X MJ	6 EA
8"	G.V. W/CAN AWWA C509	FGL X FLG	1 EA
12"	G.V. W/CAN AWWA C509	FL X MJ	1 EA
8"	ADAPTER	FL X MJ	1 EA
12"	ADAPTER	FL X MJ	3 EA
6"	G.V. W/CAN AWWA C509	FL X MJ	8 EA
STD.	BLUE DOT PVMT. MARKER	S.B.M.W.D. STD. W6.3	13 EA.
2"	CHLORINATION PORT	S.B.M.W.D. STD. W6.7	4 EA
12"	TEE	FL	3 EA
12"X12"X6"	TEE	MJ X MJ X FL	2 EA
8"X8"X6"	TEE	FL	6 EA
8"	TEE	FL	2 EA
8"	90° BEND CML D.I.P.	MJ X MJ	1 EA
12"x8"	D.I. REDUCER	FLXFL	3 EA
8"	TEST PLATES FL	S.B.M.W.D. STD W3.5	1 EA
12"	TEST PLATES FL	S.B.M.W.D. STD W3.5	2 EA
1'	AIR VACUUM RELEASE VALVE	SBMWD STD. NO. W 7.1	2 EA
6"	MJ RESTRAINT JOINT	MEGA-LUG	16 EA
8"	MJ RESTRAINT JOINT	MEGA-LUG	32 EA
12"	MJ RESTRAINT JOINT	MEGA-LUG	11 EA
*8"	MJ RESTRAINT JOINT	FIELD-LOK	18-24 EA
*12"	MJ RESTRAINT	FIELD-LOK	5-7 EA

* NUMBER IS APPROXIMATE. ACTUAL NUMBER WILL DEPEND ON PIPE LENGTHS USED IN RESTRAINED AREAS.

BEFORE YOU DIG

QUANTITY NOTES:

- QUANTITIES ARE FOR PLAN CHECK AND BONDING PURPOSES ONLY.
- CONTRACTOR IS RESPONSIBLE FOR CALCULATING OWN QUANTITIES.

WATER METER NOTE:

CONTRACTOR TO LOCATE SERVICE

LATERALS AND WATER METERS

<u>DECLARATION OF RESPONSIBLE CHARGE: ENGINEER OF WORK:</u> UNDERGROUND SERVICE ALERT I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTANT CALL: TOLL FREE I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE SAN BERNARDINO MUNICIPAL WATER DEPARTMENT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT TWO WORKING DAYS

NOTE: PRIOR TO ANY WATER DISCHARGE,

THE CONTRACTOR SHALL NOTIFY SBMWD WATER QUALITY AT (909) 384-5139 FIVE

DAYS IN ADVANCE OF THE INTENDED

DISCHARGE. DEVELOPER MAY PROVIDE A

COPY OF AN ACCEPTABLE STORM WATER

POLLUTION PREVENTION PLAN (SWPPP).

JOINT RESTRAINT NOTE:

USE MEGA-LUGS FOR JOINT

RESTRAINT AT FITTINGS.

2. USE FIELD-LOK GASKETS FOR

JOINT RESTRAINT AT PIPE JOINTS

EXISTING 24"

EXISTING 12"

STEEL WATER MAIN-

DIP WATER MAIN + - - '

EXISTING 12"

STEEL WATER MAIN -

DIP WATER MAIN-

HLORINE FLUSHING

-6" WET BARREL

FIRE HYDRANT

FIRE HYDRANI

CHLORINE

FLUSHING

- REMOVE EXIST. DRY BARREL FIRE HYDRANT

(IOWA 2-2-1/2") REPLACE WITH 6" WET

PER S.B.M.W.D. STD. DWG. W2.2.

BARREL FIRE HYDRANT (1-4" & 1-2-1/2")

PORT

AIR VAC

(1-4" & 1-2-1/2")

- 2" IRRIGATION

SERVICE

PROPOSED 8" [

WATER MAIN-



GARFIELD STREET

6" WET BARREL -

FIRE HYDRANT

25' EASEMENTS TO SBMWD-

FIRE HYDRANT

PROPOSED GATE VALVE

PROPOSED WATER LINE

CHLORINATION FLUSHING PORT

EXISTING WATER LINE

RESTAINED JOINTS

PER "RECORDED TRACT 1460**∤** MAP"

14

PROPOSED 12" DIP/

WATER MAIN-

THE SOUTH SIDE OF OHIO AVE

SEE SHEET No. 3

NO STREET IMPROVEMENTS TO BE CONSTRUCTED ON

(1-4" & 1-2-1/2")

(1-4" & 1-2-1/2")

PROPOSED 8" DIP

WATER MAIN -

FIRE HYDRANT

MONUMENT

6" WET BARREL

FIRE HYDRANT

(1-4" & 1-2-1/2")

LEGEND:

SEE SHEET No. 8

ENCHMARK: DESIGNED BY: XX DRAWN BY: XX CHECKED BY: XX DESIGN ENGINEER SBMWD ENGINEER FLEV.= XXXX.XX FT. REGISTERED CIVIL ENGINEER No. XXXXX

6"WET

BARREL FIRE

HYDRANT

(1-4" &

1-2-1/2"

SHEET INDEX

SHEET NO. DESCRIPTION

1 — TITLE SHEET

3 — PLAN/PROFILE

GENERAL NOTES

STANDARD DETAILS

STANDARD DETAILS

STANDARD DETAILS

VICINITY MAP

CHLORINE

FLUSHING

SEE SHEET No. 4

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

TRACT NO. XXXXX

WATER IMPROVEMENT PLANS

-SBMWD MONUMENT

PROPOSED 8" DIP

WATER MAIN ----

10

12

INDEX MAP

SCALE 1" = 80'

BLOWOFF ASSEMBLY

MECHANICAL JOINT (MJ) BEND

PIPE CROSSING OVER EXISTING

PIPE CROSSING UNDER EXISTING

AIR VACUUM AND/OR AIR RELEASE VALVE

HORIZONTAL DEFLECTION BY JOINT

" WET BARREL -

'WET BARREL —

(1-4" & 1-2-1/2")

OHIO AVENUE

FIRE HYDRANT

(1-4" & 1-2-1/2")

PROPOSED 8" DIP

WATER MAIN -

IRE HYDRANT

40

44

MONUMENT

CONSTRUCTION NOTES:

- INSTALL 8" PRESSURE CLASS 350 AND CEMENT MORTAR LINED DUCTILE IRON PIPE PER S.B.M.W.D. STANDARD SPECIFICATIONS.
- INSTALL 6" PRESSURE CLASS 350 AND CEMENT MORTAR LINED DUCTILE IRON PIPE PER S.B.M.W.D. STANDARD SPECIFICATIONS.
- INSTALL 12"X8" FLXFL DUCTILE IRON REDUCER.
- INSTALL 6" FIRE HYDRANT ASSEMBLY PER S.B.M.W.D. STD.
- DWG. NO. W 2.2 (CONFIG. A).
- INSTALL 6" FL X MJ GATE VALVE PER S.B.M.W.D. STD. DWG. NO. W 3.1.

INSTALL 8" FL X MJ GATE VALVE PER S.B.M.W.D. STD. DWG. NO. W 3.1.

- INSTALL 8" MJ X 8" MJ X 6" FL DUCTILE IRON TEE.
- INSTALL 8" FLG'D DUCTILE IRON TEE
- INSTALL 12" FLG'D DUCTILE IRON TEE.
- INSTALL 8" FLG'D DUCTILE IRON 90° BEND.

INSTALL 8" FL X MJ DUCTILE IRON ADAPTOR

- INSTALL 1/8" TEST PLATE.
- INSTALL 1" AIR RELEASE VALVE PER S.B.M.W.D. STD. DWG. NO. W7.1.
- INSTALL 2" TEMPORARY CHLORINATION AND FLUSHING PORT. CHLORINATION AND FLUSHING PORT MAY NOT BE LOCATED MORE THAN TEN FEET FROM THE EXISTING SYSTEM TAP LOCATION. REMOVE PLATES AND INSTALL BRASS PLUGS AFTER PERMISSION IS GIVEN BY S.B.M.W.D.
- INSTALL LINEAR JOINT RESTRAINT PER MANUFACTURER'S SPECIFICATIONS AND S.B.M.W.D. STD. DWG. NO. W 6.4 ON ALL JOINTS WITHIN MINIMUM LENGTH SPECIFIED ON PLAN. SEE JOINT RESTRAINT NOTE.
- INSTALL BLUE DOT PAVEMENT MARKER PER S.B.M.W.D. STD. DWG. NO. W 6.3.
- WELD 8" FABRICATED CONTOURED NOZZLE ONTO EXISTING 12" STEEL WATER MAIN. APPLY BITUMASTIC COATING AND PIPE TAPE TO NOZZLE AND ANY DISTURBED COATINGS ON EXISTING WATER MAIN.
- INSTALL 12" PRESSURE CLASS 350 CEMENT MORTAR LINED DUCTILE IRON PIPE PER S.B.M.W.D.STANDARD SPECIFICATIONS.
- INSTALL 12" FL X MJ GATE VALVE PER S.B.M.W.D. STD. NO. W 3.1.
- INSTALL 2" IRRIGATION WATER SERVICE PER S.B.M.W.D. STD. W 1.2.
- INSTALL 12" FL X MJ DUCTILE IRON ADAPTOR.
- INSTALL 12" MJ X 12" MJ X 6" FLG DUCTILE IRON TEE.
- INSTALL 8" FLG X FLG GATE VALVE PER S.B.M.W.D STD. DWG. W 3.1.

FOR EXAMPLE ONLY

- 1. THE CONTENTS OF THIS SET OF DRAWINGS WAS CREATED TO PROVIDE A GRAPHIC REPRESENTATION OF SBMWD AUTOCAD STANDARD REQUIREMENTS AND EXPECTATIONS.
- 2. ALL TYPES OF INFORMATION ON THIS SET OF DRAWINGS IS REQUIRED TO BE PROVIDED AS SHOWN FOR THE PROJECT SUBMITTAL TO BE ACCEPTED AND APPROVED (TYP).

CITY FIRE DEPARTMENT'S CERTIFICATE

THIS CERTIFIES THAT ON ______, I REVIEWED THE PLAN FOR THE 1720 ZONE WEST TRANSMISSION MAIN, AND FOUND THAT IT MEETS THE MINIMUM REQUIREMENTS OF THE CITY OF SAN BERNARDINO FIRE DEPARTMENT'S FIRE CODES AND

DOUG DUPREE FIRE MARSHAL (909) 384-5388

-EXISTING 12"DIP WATER MAIN

CHASON

WAY

WATER DEPARTMENT'S ENGINEER CERTIFICATE

THIS CERTIFIES THAT ON ______, I REVIEWED THE PLAN FOR THE 1720 ZONE WEST TRANSMISSION MAIN, AND FOUND THAT IT MEETS THE MINIMUM REQUIREMENTS OF THE CALIFORNIA HEALTH AND SAFETY CODE.

MATTHEW H. LITCHFIELD P.E. DIRECTOR, WATER UTILITY
CA. R.C.E. 58079
EXPIRATION DATE: 6/30/2010 (909) 384 - 5107

CITY OF SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

PROJECT TITLE

TITLE SHEET

XXXX DWG G1

HORIZ: N/A VERT: N/A

DRAWING SCALES:

of **XX** C-TXXXXX-1-G-G1.DWG

GENERAL WATER NOTES:

- . THESE PLANS HAVE BEEN PREPARED FOR THE SAN BERNARDINO MUNICIPAL WATER DEPARTMENT (SBMWD). THESE PLANS ARE INTENDED TO SUPPLEMENT THE DEPARTMENT'S TECHNICAL SPECIFICATIONS AND DETAILS
- DETAILS.

 2. ALL UTILITY LOCATIONS SHOWN ARE FROM RECORD INFORMATION ONLY AND ARE NOT A RESULT OF A FIELD SURVEY. CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600 -- 48 HOURS IN ADVANCE
- 3. ALL WATER LINE CONNECTION POINTS AND CRITICAL UTILITY CROSSING POINTS SHALL BE EXPOSED AND ACCURATELY LOCATED AT THE START OF CONSTRUCTION, AND THE SBMWD SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO THE CONTINUATION OF WORK.
- 4. ALL ELEVATIONS SHOWN ON PLANS SHALL BE BASED ON A U.S.G.S. DATUM, AND SHALL SHOW ELEVATION FROM MEAN SEA LEVEL.
- 5. ALL HORIZONTAL OR VERTICAL CHANGES IN PIPE ALIGNMENT DELINEATED ON THE PLANS AS "DEFLECTION BY JOINT" OR SHOWN WITHOUT BENDS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. TOTAL ANGULAR DISPLACEMENT SHALL BE DISTRIBUTED THROUGH AS MANY JOINTS AS PRACTICABLE.
- 6. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK, LATEST EDITION), SBMWD STANDARD SPECIFICATIONS, AND A.W.W.A. STANDARDS AND SPECIFICATIONS.
- 7. APPROVAL OF THIS PLAN BY THE SBMWD DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OR OF THE EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES WITHIN THE LIMITS OF THE PROJECT.
- 8. DURING THE PERIOD OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH, ERECT, AND MAINTAIN SUCH WARNINGS, SIGNS, STOP SIGNS, SIGNALS, BARRICADES, AND OTHER SAFETY MEASURES AS DIRECTED BY THE CITY OF SAN BERNARDINO, DEPARTMENT OF PUBLIC WORKS WITH REFERENCE TO THE W.A.T.C.H. MANUAL (LATEST EDITION).
- 9. THE CONTRACTOR SHALL NOT OPEN MORE TRENCHES THAN CAN BE PROPERLY PROSECUTED IN A DAY'S OPERATION. ANY TRENCH UNAVOIDABLY LEFT OPEN DURING THE HOURS OF DARKNESS OR OVER A WEEKEND SHALL BE FENCED WITH 6-FOOT CHAIN LINK AND PROPERLY LIGHTED OR BRIDGED BY A WATER DEPARTMENT APPROVED TRAFFIC PLATE WITH REFERENCE TO THE W.A.T.C.H. MANUAL (LATEST ED.).
- 10. THE CONTRACTOR SHALL REINSTALL PAVEMENT MARKINGS AND STRIPPING DISTURBED BY HIS OPERATIONS.
 11. A CAL/OSHA PERMIT IS REQUIRED FOR TRENCHES OVER 5' IN DEPTH.
- 12. THE CONTRACTOR SHALL PROVIDE SAFE AND CONTINUOUS PASSAGE FOR LOCAL PEDESTRIAN AND VEHICULAR TRAFFIC AT ALL TIMES WITH REFERENCE TO THE W.A.T.C.H. MANUAL (LATEST EDITION).
- 13. TRAFFIC SIGNAL FUNCTIONS SHALL BE APPROVED BY THE CITY OF SAN BERNARDINO, DEPARTMENT OF PUBLIC WORKS. HOWEVER, THE CONTRACTOR IS REQUIRED TO GIVE 48 HOUR NOTICE PRIOR TO ANY CONSTRUCTION THAT WILL DAMAGE OR AFFECT ANY BURIED TRAFFIC DETECTORS.
- 14. THE CONTRACTOR SHALL SO CONDUCT HIS OPERATIONS AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC, AND HE SHALL HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAN HE CAN PROSECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC. CONVENIENT ACCESS TO DRIVEWAYS, HOUSES, AND BUILDINGS ALONG THE LINE OF WORK SHALL BE MAINTAINED. TEMPORARY CROSSINGS SHALL BE PROVIDED AND MAINTAINED IN GOOD CONDITION. NOT MORE THAN ONE CROSSING OR INTERSECTING STREET OR ROAD SHALL BE CLOSED AT ANY ONE TIME WITHOUT THE APPROVAL OF THE TRAFFIC/WATER DEPARTMENT ENGINEER. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUCH FENCES, BARRIERS, DIRECTIONAL SIGNS, LIGHTS, AND FLAGMEN AS ARE NECESSARY TO GIVE ADEQUATE WARNING TO THE PUBLIC AT ALL TIMES OF ANY DANGEROUS CONDITIONS TO BE ENCOUNTERED AS A RESULT OF THE CONSTRUCTION WORK AND TO GIVE DIRECTIONS TO THE PUBLIC.
- 15. STREET CUT PERMITS MUST BE OBTAINED FROM THE CITY OF SAN BERNARDINO PUBLIC WORKS DEPARTMENT.
- 16. ALL REMOVALS IN PAVED AREAS SHALL BE SAW CUT ON A NEAT, STRAIGHT LINE PARALLEL TO THE PIPE LINE. THE EDGE SHALL BE PROTECTED FROM CRUSHING AND ALL BROKEN EDGES SHALL BE RE-CUT PRIOR TO PAVING OPERATIONS.
- 17. DUST SHALL BE CONTROLLED AT ALL TIMES BY APPROVED METHODS.
- 18. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE FROM DIRT AND/OR DEBRIS ON A DAILY BASIS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED IN STREET CLEANING NECESSITATED BY HIS OPERATION.
- 19. ALL TRENCH BACKFILLS SHALL BE TESTED AND CERTIFIED BY A SOILS ENGINEER PRIOR TO ACCEPTANCE.
- 20. 24 HOURS ADVANCE NOTICE IS REQUIRED FOR INSPECTION AND FIELD TIES. ARRANGEMENTS CAN BE MADE BY CALLING (909) 384-5391 BETWEEN 7:00 A.M. AND 4:30 P.M. WEEKDAYS.
- 21. NORMAL INSPECTION HOURS ARE 7:30 A.M. TO 4:00 P.M. MONDAY THROUGH FRIDAY EXCEPT LEGAL HOLIDAYS. REQUESTS FOR INSPECTION AT OTHER TIMES OR ON OTHER DAYS MUST BE SUBMITTED TO THE SBMWD ENGINEERING SECTION A MINIMUM OF 5 WORKING DAYS BEFORE THE INSPECTION IS REQUIRED. THE CONTRACTOR MUST BEAR THE COST OF SUCH OVERTIME INSPECTIONS AND WILL BILLED ACCORDINGLY. NORMAL OVERTIME RATES ARE 1.5 TIMES THE BASE RATE PLUS OVERHEAD. OVERTIME INSPECTIONS WILL BE MADE SOLELY AT THE DISCRETION OF THE SBMWD AND BASED ON STAFF AVAILABILITY.
- 22. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN CITY BUSINESS LICENSES, INSURANCE, AND PROVIDE EVIDENCE OF SAME TO INSPECTION STAFF UPON REQUEST.
- 23. THE CONTRACTOR SHALL NOT PLACE CONCRETE OR ASPHALT ON THE PROJECT PRIOR TO WATER
- DEPARTMENT/PUBLIC WORKS REVIEW AND APPROVAL OF CONTRACTOR—SUPPLIED COMPACTION TESTS.

 24. NO DEVIATIONS SHALL BE MADE FROM THIS PLAN WITHOUT THE REVIEW AND APPROVAL OF THE WATER
- DEPARTMENT ENGINEER.

 25. THE CONTRACTOR SHALL NOT MAKE ANY CONNECTION TO THE EXISTING SBMWD DISTRIBUTION SYSTEM WITHOUT FIRST GAINING WRITTEN PERMISSION TO DO SO FROM THE WATER DEPARTMENT ENGINEER. IN THE EVENT THAT PERMISSION IS GRANTED, A SBMWD INSPECTOR MUST BE PRESENT ON—SITE TO WITNESS SAID CONNECTION(S). TEST PLATES SHALL BE INSTALLED ON THE NEW CONSTRUCTED SIDE OF ALL MAIN CONNECTION POINTS.
 - ALL FLUSHING, CHLORINATION, AND TESTING SHALL BE PERFORMED EITHER BY (A) WATER TRUCK, OR (B) HYDRANT—TO—HYDRANT CONNECTION THROUGH AN APPROVED BACKFLOW PREVENTION ASSEMBLY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COMPLYING WITH THE NPDES PERMIT.

 26. ALL WATER MAINS AND APPURTENANCES SHALL BE PRESSURE TESTED AND DISINFECTED PRIOR TO ACCEPTANCE BY THE SBMWD.
- 27. TESTING AND DISINFECTION OF WATER MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE APPLICABLE A.W.W.A. STANDARDS AND THE CONTRACTOR OBTAINED NPDES PERMIT, EXCEPT AS HEREIN MODIFIED. (SEE ATTACHED SBMWD STANDARD)
- 28. ALL TESTING AND DISINFECTION SHALL BE MADE IN THE PRESENCE OF THE SBMWD INSPECTOR AND SHALL COMPLY WITH THE NPDES PERMIT REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN TWENTY—FOUR (24) HOURS IN ADVANCE OF THE ACTUAL TIME OF TESTING AND/OR DISINFECTION SO THAT THE ENGINEER OR DESIGNEE MAY OBSERVE THE PROCEDURE.
- 29. IF THE PRESSURE TEST, CHLORINATION, OR BACTERIOLOGICAL TEST FAIL TO MEET THE REQUIREMENT OF THE SPECIFICATIONS, THE CONTRACTOR SHALL MAKE NECESSARY REPAIRS, REPLACEMENTS, OR REPETITION OF PROCEDURES AT HIS OWN EXPENSE.
- 30. AT DEAD END LOCATIONS, WATER SERVICE SHALL BE TAPPED AT THE END OF THE WATER MAIN.
- 31. THE SBMWD MAY HAVE POTHOLED AND LOCATED CERTAIN EXISTING UTILITIES, AS SPECIFIED IN THE PLANS. THE CONTRACTOR SHALL POTHOLE & LOCATE ALL EXISTING UTILITIES TO VERIFY DEPTH AND LOCATION IN ADVANCE OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS REQUIRED FOR POTHOLING. CONTRACTOR SHALL PROVIDE A SHOP DRAWING (PLAN & PROFILE) SHOWING HOW THE PROPOSED PIPE ALIGNMENT SHOULD BE CHANGED TO AVOID EXISTING UTILITIES.
- 32. ALL SERVICES ARE TO REMAIN ACTIVE DURING NON-WORKING HOURS.
- 33. ANY UNDERCUT SEWERS WILL REQUIRE A 1-SACK SAND SLURRY BACKFILL UP TO THE SPRING LINE OF
- 34. PROPERTY RIGHT OF WAY LINES ARE APPROXIMATE AND ARE INTENDED AS GENERAL REFERENCE ONLY FOR THIS PROJECT. THERE IS NO RECORD OF SURVEY CONDUCTED OR IMPLIED.

DESIGN STANDARD NOTES:

CONDITIONAL APPROVAL OF VALVED OUTLETS (6" AND LARGER)

THESE PLANS MAY SHOW ONE OR MORE VALVED OUTLETS EXTENDING OUT OF PAVED AREAS. INSTALLATION OF THESE OUTLETS IS ACCEPTABLE. HOWEVER, IF THE OUTLETS ARE INCORRECTLY LOCATED OR NOT USED FOR ANY REASON WHEN THE PROPERTY IS ACTUALLY DEVELOPED, THE DEVELOPER SHALL ABANDON THE OUTLETS AT THE CONNECTION TO THE ACTIVE MAIN IN ACCORDANCE WITH SBMWD'S STANDARDS AND AT THE DEVELOPER'S EXPENSE. APPROVAL OF THE VALVED OUTLET DOES NOT PROVIDE OR IMPLY A WATER COMMITMENT BY THE SBMWD.

ABANDONMENTS

ACCEPTANCE OF THE DESIGN FOR VALVE / PIPE ABANDONMENT IS AT THE SOLE DESCRETION OF THE SBMWD ON A CASE BY CASE BASIS. IN MANY CASES, THE SBMWD WILL REQUIRE REMOVAL OF A VALVE OR TEE IN LIEU OF ABANDONMENT.

ABANDONED VALVES

ALL VALVES TO BE ABANDONED SHALL BE ABANDONED IN THE CLOSED POSITION (UNLESS SHOWN OTHERWISE), BY REMOVING A MINIMUM OF THE TOP TWENTY—FOUR (24) INCHES OF THE VALVE BOX, AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND. THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO THOUSAND (2,000) PSI. THE LATERAL MUST BE COMPLETELY REMOVED FROM THE ABANDONED VALVE AND CAPPED WITH A BLIND FLANGE OR PLUG.

ABANDONMENT OF EXISTING SERVICE LATERALS (2" AND SMALLER)

THE CONTRACTOR SHALL NOTIFY SBMWD TWO (2) FULL BUSINESS DAYS PRIOR TO THE REQUESTED REMOVAL TIME TO ALLOW SBMWD TO TAKE THE FINAL SERVICE READING. THE CONTRACTOR MAY THEN BEGIN REMOVAL PROCEDURES FOR THE AFFECTED SERVICE AS FOLLOWS:

EXISTING SERVICE LATERALS TO BE ABANDONED FROM EXISTING WATER MAINS SHALL HAVE THE CORPORATION STOPS TURNED OFF AT THE MAIN, A MINIMUM OF TWELVE (12) INCHES OF THE LATERAL CUT OUT NEAR THE CORPORATION STOPS, AND A BRASS CAP OR PLUG INSTALLED ON THE CORPORATION STOP. IF THE CORPORATION STOP IS DAMAGED BEYOND REPAIR OR PULLED FORM THE EXISTING WATER MAIN, THE MAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE IN A MANNER APPROVED BY SBMWD. IF IT IS DISCOVERED THE CORPORATION STOP IS NOT WATER TIGHT, THROUGH NO FAULT OF THE CONTRACTOR, THE CONTRACTOR SHALL NOTIFY SBMWD FOR FURTHER DIRECTION. THE EXISTING SERVICE(S) SHALL BE REMOVED AND RECYCLED. THE SBMWD MAY REQUIRE REUSABLE COMPONENTS (METERS, ETC.) TO BE DELIVERED TO SBMWD.

ABANDONMENT OF EXISTING SERVICE LATERALS (3" AND LARGER

THE CONTRACTOR SHALL NOTIFY SBMWD TWO (2) FULL BUSINESS DAYS PRIOR TO THE REQUESTED REMOVAL TIME TO ALLOW SBMWD TO TAKE THE FINAL SERVICE READING AND TO NOTIFY SBMWD'S INSPECTOR OF THE IMPENDING WORK. THE CONTRACTOR MAY THEN BEGIN REMOVAL PROCEDURES FOR THE AFFECTED SERVICE AS FOLLOWS:

ALL VALVES TO BE ABANDONED SHALL BE ABANDONED IN THE CLOSED POSITION (UNLESS SHOWN OTHERWISE), BY REMOVING A MINIMUM OF THE TOP TWENTY—FOUR (24) INCHES OF THE VALVE BOX, AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND. THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO THOUSAND (2,000) PSI.

IF THE VALVE IS TO BE ABANDONED IN THE CLOSED POSITION, THE LATERAL MUST BE CUT WITHIN THREE (3) FEET OF THE ABANDONED VALVE, OR AS SHOWN ON PLANS, AND CAPPED. WHERE A JOINT OR COUPLING IN THE EXISTING PIPE IS UNCOVERED AT THE CUT AND CAP LOCATIONS, THE INSTALLATION OF A RESTRAINED PLUG MAY BE PERMITTED WITH SBMWD APPROVAL. THE CONTRACTOR SHALL INSTALL A CONCRETE THRUST BLOCK IN ACCORDANCE WITH THE PROVISIONS OF THE SBMWD STANDARD DRAWING No. W6.4A AT ALL CAP OR PLUG LOCATIONS.

THE EXISTING SERVICE(S) SHALL BE REMOVED AND RECYCLED. THE CONTRACTOR SHALL THEN REMOVE AND/OR BACKFILL THE ABANDONED VAULT WITH SELECT MATERIAL AND RESTORE ALL DAMAGED SURFACE FEATURES AS DIRECTED BY SBMWD. THE SBMWD MAY REQUIRE REUSABLE COMPONENTS (METERS, ETC. TO BE DELIVERED TO SBMWD.

INSTALLATION OF METER AND VAULT

THE METER(S) AND VAULT(S) WITH TRAFFIC/NON-TRAFFIC BEARING COVERS(S) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS AND SPECIFICATIONS. PRE-CAST VAULTS APPROVED BY SBMWD MAY BE USED IN LIEU OF THE FIBERGLASS VAULTS. THE DESIGNATION OF PRE-CAST OR CAST-IN PLACE MUST BE MADE PRIOR TO PLAN APPROVAL.

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) TO ALLOW SBMWD DIRECT ACCESS TO THE VAULT(S) AND INLET PIPING FROM THE ADJACENT RIGHT-OF-WAY.

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

INSTALLATION OF DOUBLE CHECK DETECTOR ASSEMBLIES

THE DETECTOR CHECK(S) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS.

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

EXISTING PRIVATE WELLS TO REMAIN IN SERVICE

IF THE EXISTING PRIVATE WELL IS TO REMAIN IN SERVICE, SBMWD APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED IMMEDIATELY DOWNSTREAM OF SBMWD'S WATER METER IN ACCORDANCE WITH STANDARD DRAWING W4.2. THE NEW SERVICE SHALL NOT BE ACTIVATED UNTIL THE BACKFLOW PREVENTION ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY CERTIFIED PERSONNEL AND APPROVED BY THE SBMWD.

PRIVATE WELLS TO BE REMOVED FROM SERVICE

IF THE EXISTING PRIVATE WELL IS TO BE ABANDONED, THE INSTALLATION OF A BACKFLOW PREVENTION ASSEMBLY WILL NOT BE REQUIRED. HOWEVER, SBMWD WATER SERVICE WILL REMAIN IN THE OFF POSITION AND LOCKED OUT UNTIL THE WELL HAS BEEN ABANDONED. AN INSPECTION OF THE ON—SITE SYSTEM WILL BE MADE BY SBMWD'S INSPECTOR TO VERIFY THE WELL HAS BEEN DISCONNECTED FROM THE ON—SITE SYSTEM AND THE WELL IS NO LONGER FUNCTIONAL.

RELOCATION OF FIRE HYDRANTS (EXTENSION OF EXISTING LATERALS)

THE CONTRACTOR SHALL REMOVE AND RELOCATE BOTH THE UPPER AND LOWER BARRELS OF THE EXISTING FIRE HYDRANT(S) WHERE SHOWN, EXTEND THE EXISTING LATERAL AS REQUIRED, AND REINSTALL SUCH HYDRANT(S) AT THE NEW LOCATION(S) INDICATED. FIRE HYDRANTS SHALL BE TESTED PRIOR TO AND AFTER RELOCATION UNDER THE DIRECTION OF SBMWD TO ENSURE QUALITY OF THE FIRE HYDRANTS. INSTALLATION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING W2.2. LATERALS MADE OF UNAPPROVED MATERIALS SHALL BE REPLACED FROM THE MAIN TO THE FIRE HYDRANT.

DESIGN STANDARD NOTES (CONT.):

<u>FIRE HYDRANT RELOCATION AND LATERAL ABANDONMENT (EXISTING LATERAL</u> TO BE ABANDONED)

WHERE SHOWN ON THE DRAWING(S), THE CONTRACTOR SHALL ABANDON THE EXISTING FIRE HYDRANT(S) BY REMOVING BOTH THE UPPER AND LOWER BARRELS AND LATERAL OF THE FIRE HYDRANT TO THE FIRE HYDRANT VALVE ADJACENT TO THE MAIN. FIRE HYDRANTS SHALL BE TESTED PRIOR TO AND AFTER RELOCATION UNDER THE DIRECTION OF SBMWD TO ENSURE QUALITY OF THE FIRE HYDRANT(S). THE EXISTING HYDRANT SHALL BE INSTALLED AT THE NEW LOCATION AS INDICATED ON THE DRAWING, IN ACCORDANCE WITH STANDARD DRAWING NOS. W2.1 AND W2.2. THE EXISTING VALVE SHALL BE ABANDONED IN A CLOSED POSITION, UNLESS SHOWN OTHERWISE, BY REMOVING A MINIMUM OF THE TOP TWENTY—FOUR (24) INCHES OF THE VALVE BOX, AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND OR APPROVED AGGREGATE BASE, THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO—THOUSAND (2,000) PSI. THE LATERAL SHALL BE CUT WITHIN THREE (3) FEET OF THE ABANDONED VALVE, OR AS SHOWN ON PLANS, AND CAPPED. WHERE A JOINT OR COUPLING IN THE EXISTING PIPE IS UNCOVERED AT THE CUT AND CAP LOCATION, THE INSTALLATION OF A PLUG MAY BE PERMITTED, WITH SBMWD APPROVAL. A CONCRETE THRUST BLOCK SHALL BE INSTALLED AT ALL CUT AND CAP LOCATIONS IN ACCORDANCE WITH THE PROVISIONS OF STANDARD DRAWING W6.4A.

FIRE HYDRANT AND LATERAL ABANDONMENT

WHERE SHOWN ON THE DRAWING(S), THE CONTRACTOR SHALL ABANDON THE EXISTING FIRE HYDRANT(S) BY REMOVING BOTH THE UPPER AND LOWER FIRE HYDRANT BARRELS AND LATERAL OF THE FIRE HYDRANT TO THE FIRE HYDRANT VALVE ADJACENT TO THE MAIN. THE EXISTING HYDRANT MAY BE DELIVERED TO SBMWD AT SBMWD'S OWN DISCRETION. THE EXISTING VALVE SHALL BE ABANDONED IN A CLOSED POSITION, UNLESS SHOWN OTHERWISE, BY REMOVING A MINIMUM OF THE TOP TWENTY—FOUR (24) INCHES OF THE VALVE BOX, AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND OR APPROVED AGGREGATE BASE, THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO—THOUSAND (2,000) PSI. THE REMAINING PORTION OF THE LATERAL SHALL BE CUT WITHIN THREE (3) FEET OF THE ABANDONED VALVE, OR AS SHOWN ON PLANS, AND CAPPED. THE EXISTING CONCRETE HYDRANT PAD SHALL BE REMOVED.

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)
PERMIT REQUIRED

AN APPROVED CALTRANS ACCEPTANCE PERMIT SHALL BE OBTAINED THROUGH SBMWD PRIOR TO ANY CONSTRUCTION WITHIN CALTRANS RIGHT-OF-WAY. PLANS SHOWING WORK IN CALTRANS RIGHT-OF-WAY MUST SHOW CALTRANS STATIONING. THE DEVELOPER ASSUMES ALL LIABILITY FOR WORK CONDUCTED UNDER SBMWD OBTAINED PERMIT THROUGH WARRANTY EXPIRATION.

SURVEY MONUMENTATION NOTES:

ANY EXISTING STABLE MONUMENTS

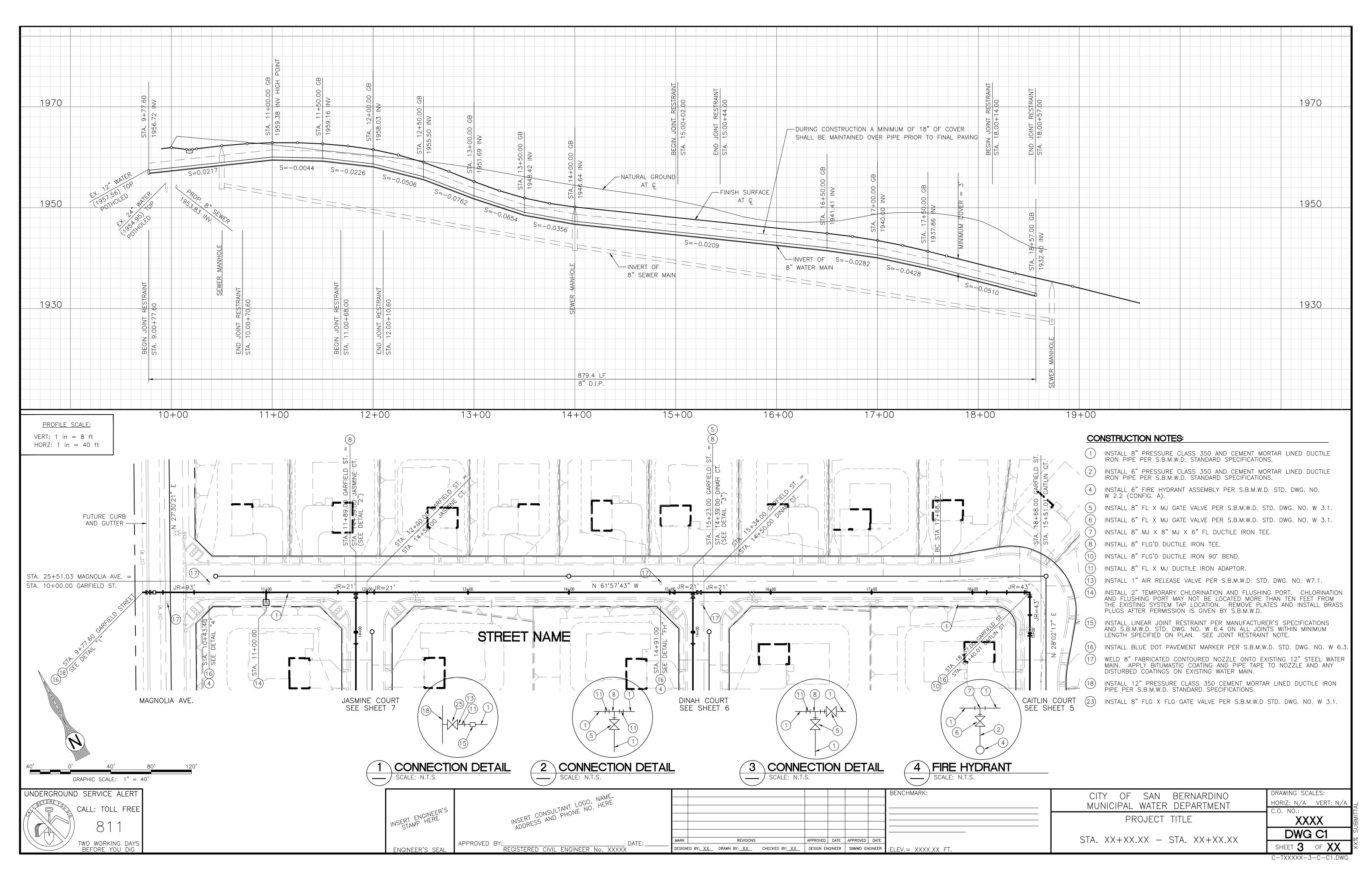
- 1. CONTRACTOR SHALL ESTABLISH SUFFICIENT MONUMENTS SO THAT A MINIMUM OF THREE HORIZONTAL AND VERTICAL CONTROL POINTS EXIST FOR EACH PROJECT. ALL MONUMENTS SHALL BE DURABLE, PERMANENT MONUMENTS WITH SBMWD MARKINGS. MONUMENT SHALL BE CONCRETE MONUMENT WITH BRASS DISK AS SHOWN ON STANDARD DRAWING NO. W6.2. WHEN BRASS DISK MONUMENT IS NOT APPLICABLE, OTHER ACCEPTABLE MONUMENTS WOULD INCLUDE:
 - 2-INCH GALVANIZED STEEL PIPE 30-INCHES LONG, WITH BRASS DISK OR PLASTIC PLUG 5/8" DIAMETER REBAR, 30-INCHES LONG WITH CAP BRASS DISK EPOXIED IN ROCK MASS OR BRIDGE ABUTMENT
- CONTRACTOR SHALL SET HORIZONTAL CONTROL MONUMENTS AS REQUIRED BY PROJECT CONDITIONS, NO MORE THAN ½ MILE APART. IF LONGER SPACING IS USED, ESTABLISH MONUMENTS IN PAIRS FOR
- INTERVISIBILITY. MINIMUM SPACING FOR MONUMENTS IS 500 FEET (1,000 FEET WHEN USING GPS).

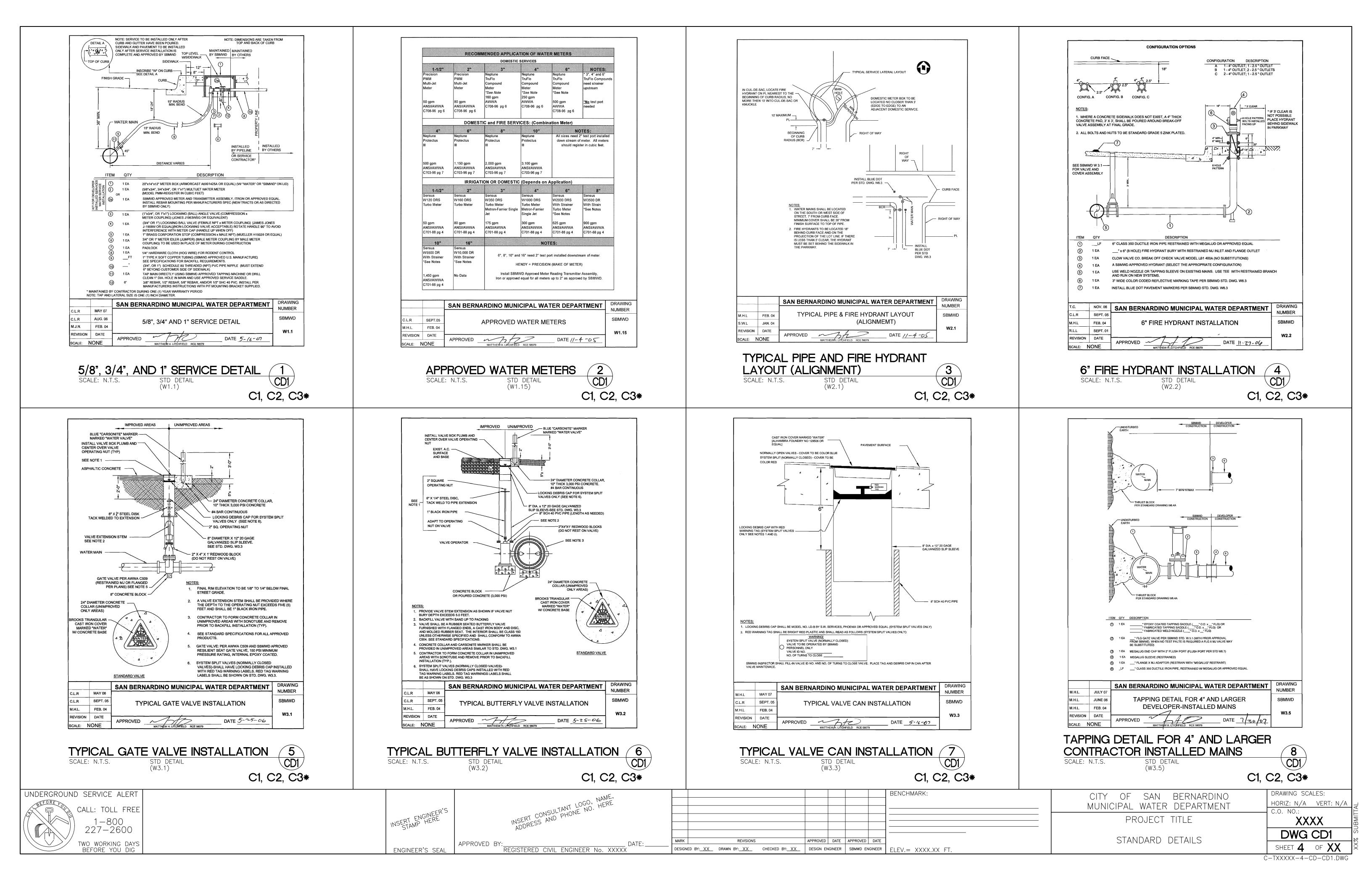
 3. MONUMENTS SHALL BE ACCESSIBLY LOCATED, WITHIN PUBLIC RIGHT—OF—WAY OR EASEMENT, TO MINIMIZE
- DISTURBANCE BY CONSTRUCTION AND BE CLEAR OF TRAFFIC.

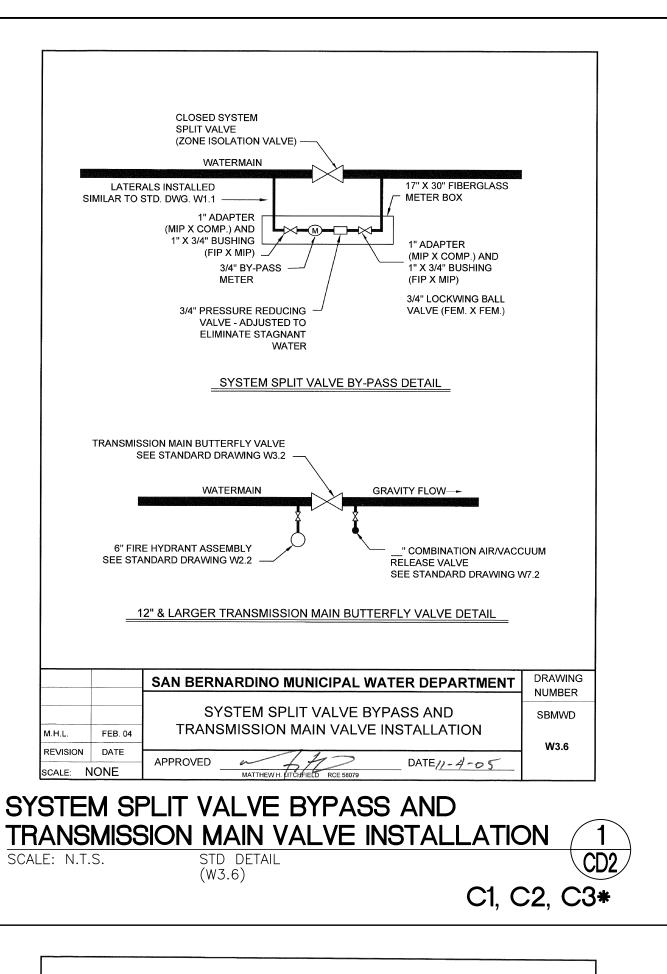
 4. HORIZONTAL CONTROL MONUMENTS SHALL BE SET SO THEY ARE INTER VISIBLE WITH A MINIMUM OF TWO OTHER MONUMENTS.
- 5. CONTRACTOR SHALL SET VERTICAL CONTROL MONUMENTS AS REQUIRED BY PROJECT CONDITIONS, NO MORE THAN ½ MILE APART. CONTRACTOR SHALL UTILIZE HORIZONTAL CONTROL MONUMENTS AS VERTICAL
- CONTROL MONUMENTS WHENEVER POSSIBLE.

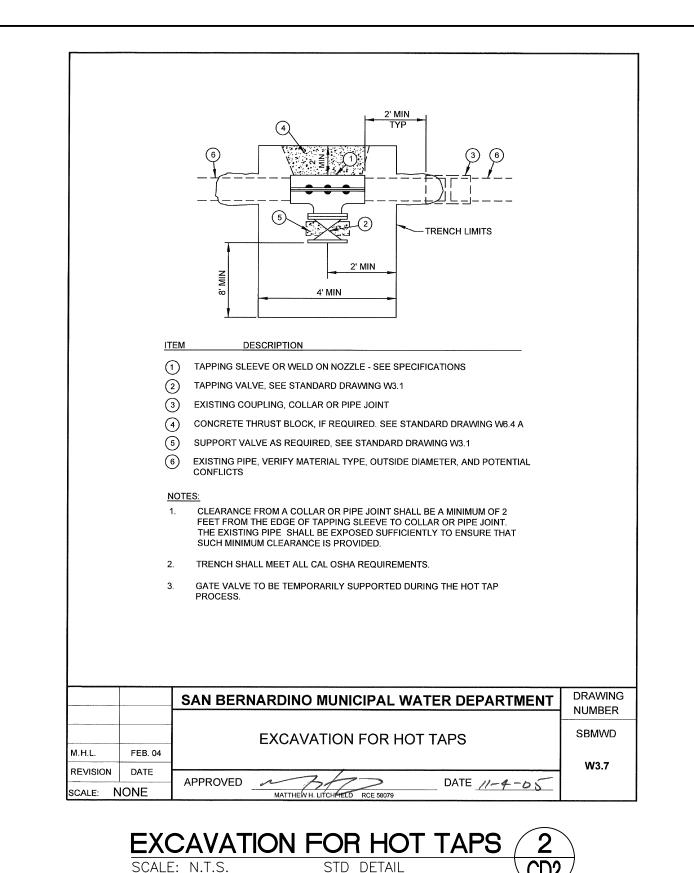
 6. CONTRACTOR SHALL SET VERTICAL CONTROL MONUMENT AT EACH MAJOR STRUCTURE, WHENEVER POSSIBLE.

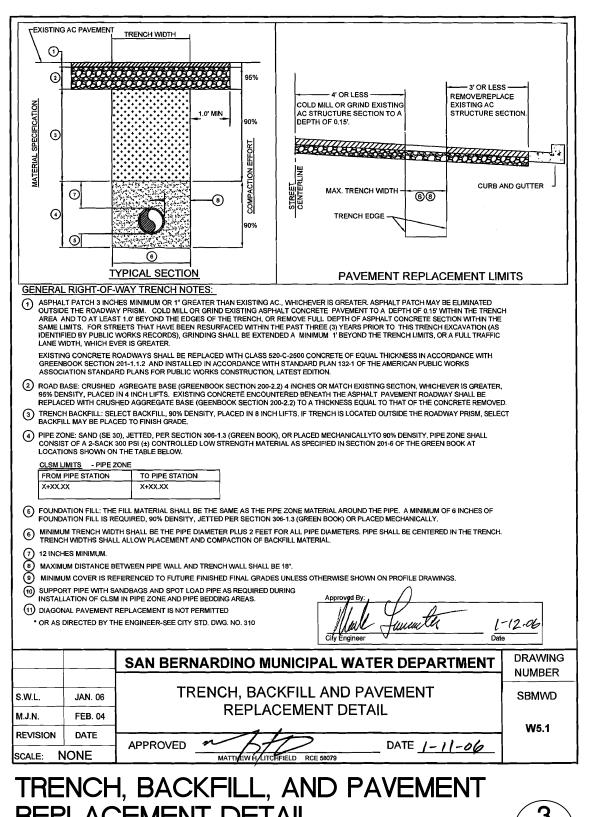
DRAWING SCALES: UNDERGROUND SERVICE ALER ENCHMARK CITY OF SAN BERNARDINO HORIZ: N/A VERT: N/A MUNICIPAL WATER DEPARTMENT CALL: TOLL FREE PROJECT TITLE XXXX 1 - 800227-2600 DWG G2 GENERAL NOTES TWO WORKING DAYS SHEET 2 OF XX DESIGNED BY: XX DRAWN BY: XX CHECKED BY: XX DESIGN ENGINEER SBMWD ENGINEER REGISTERED CIVIL ENGINEER No. XXXXX FIFV = XXXXXXX FTBEFORE YOU DIG **FNGINFFR'S SFAL**

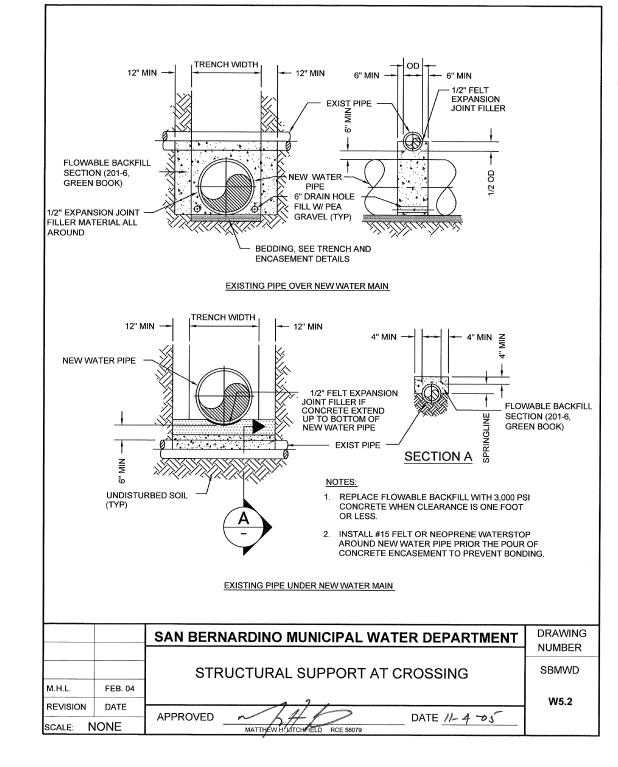






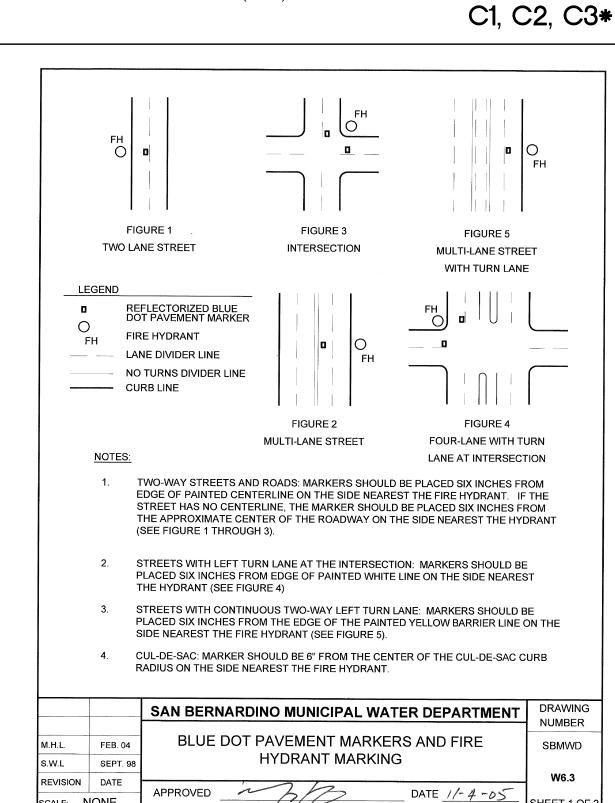


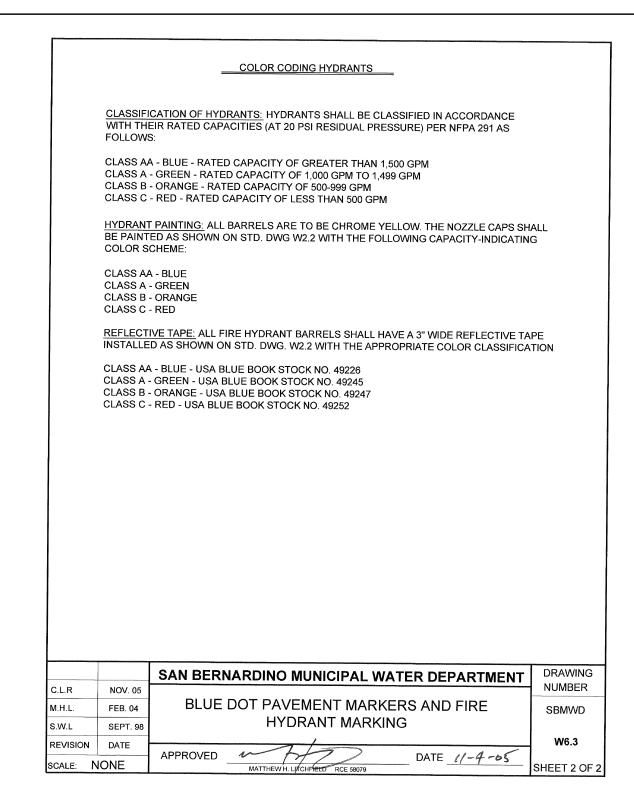


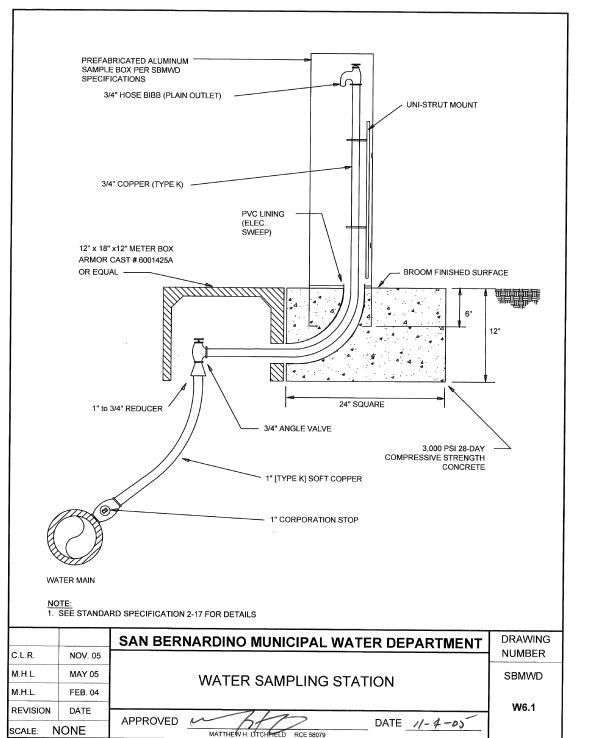




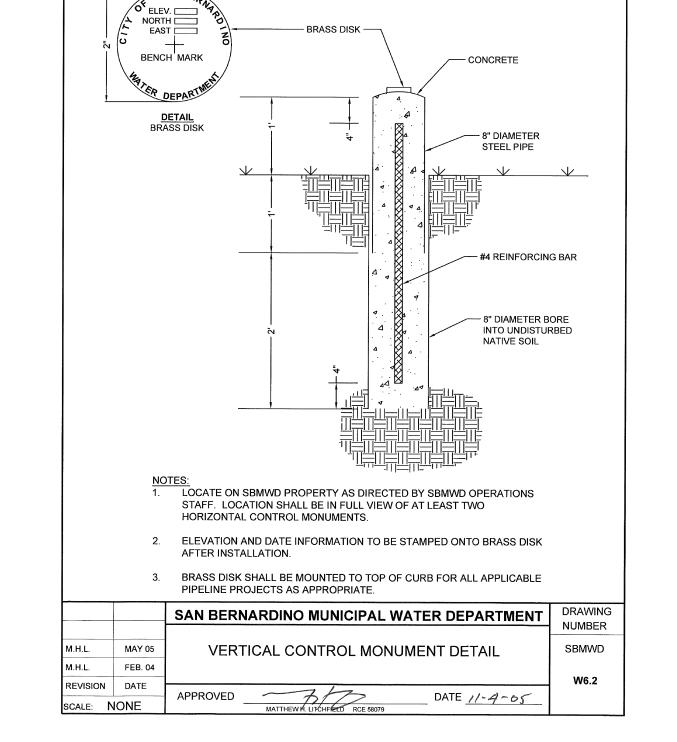
















C1, C2, C3*

C1, C2, C3*



NSERT ENGINEER'S NSERT ENGINEER'S STAMP HERE BY:

REGISTERED CIVIL ENGINEER NO. XXXXX

MARK REVISIONS APPROVED DATE APPROVED DATE

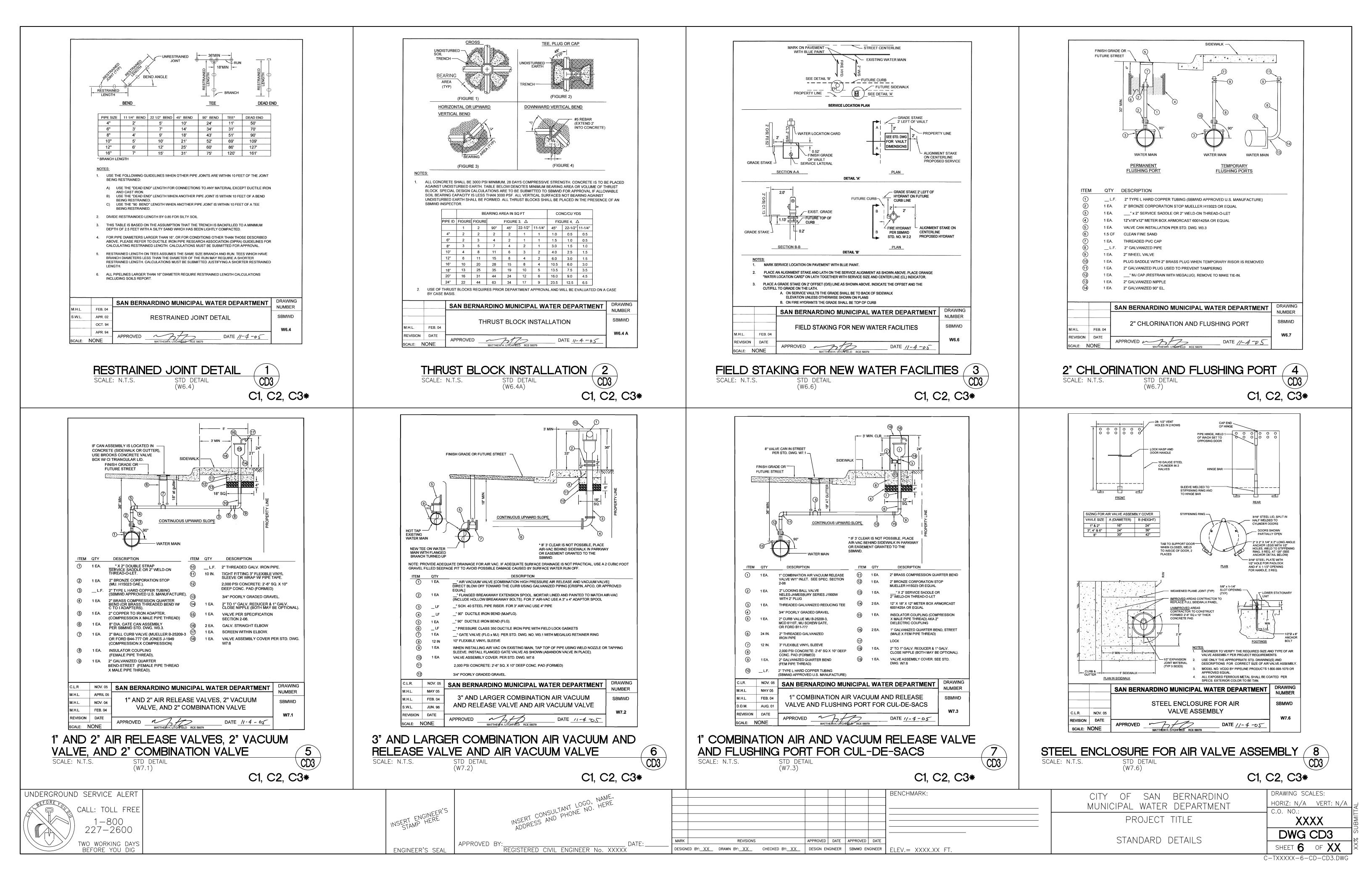
DESIGNED BY: XX DRAWN BY: XX CHECKED BY: XX DESIGN ENGINEER SBMWD ENGINEER ELEV.= XXXX.XX FT.

CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT
PROJECT TITLE
STANDARD DETAILS

DRAWING SCALES:
HORIZ: N/A VERT: N/A
C.O. NO.:
XXXX

SHEET **5** OF **XX**C-TXXXXX-5-CD-CD2.DWG

DWG CD2



${\tt STANDARD} \ \ {\tt AUTOCAD^{\tiny IM}} \ \ {\tt DRAWINGS}$

W:\AUTOCAD\SBMWD CAD STANDARDS\SPECIFICATIONS\

C-XXXX-1-G-G1.dwg

C-XXXX-2-G-G2.dwg

C-XXXX-3-G-G3.dwg

C-XXXX-4-G-G4.dwg

C-XXXX-5-SV-SV1.dwg

C-XXXX-6-C-C1.dwg

C-XXXX-7-CD-CD1.dwg

C-XXXX-8-CD-CD2.dwg

C-XXXX-9-CD-CD3.dwg

PROJECT-VICINITY BERNARDINO **REDLANDS** MORENO VALLEY **BEAUMONT**

VICINITY MAP

CONSTRUCTION NOTES, ESTIMATED QUANTITIES AND LEGEND

ABBREVIATIONS, SURVEY INFORMATION AND PARK RECREATION NOTES

5 — RIGHT-OF-WAY AND MONUMENTATION

PLAN/PROFILE

STANDARD DETAILS

STANDARD DETAILS

STANDARD DETAILS

SHEET INDEX

SHEET NO. DESCRIPTION

2 — GENERAL NOTES

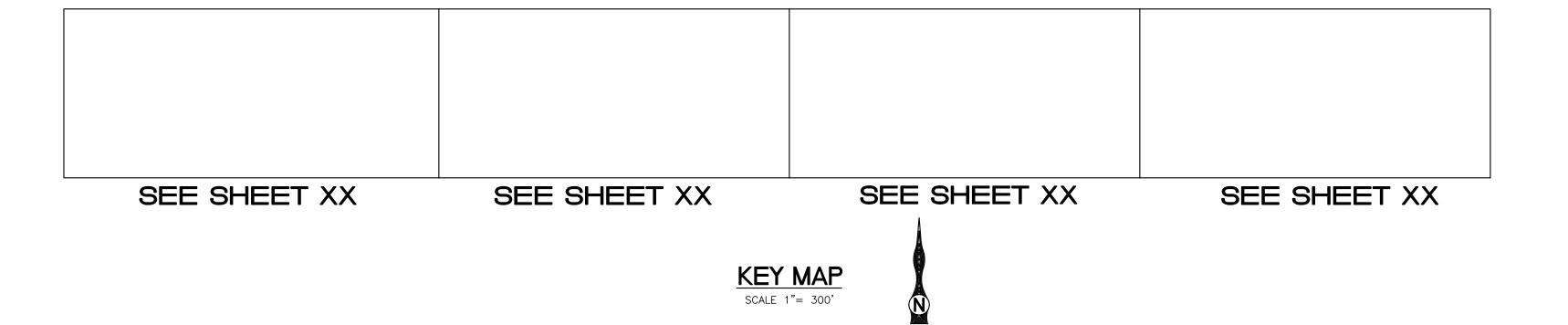
SAN BERNARDINO MUNICIPAL WATER DEPARTMENT SPECIFICATION NO. XXXX

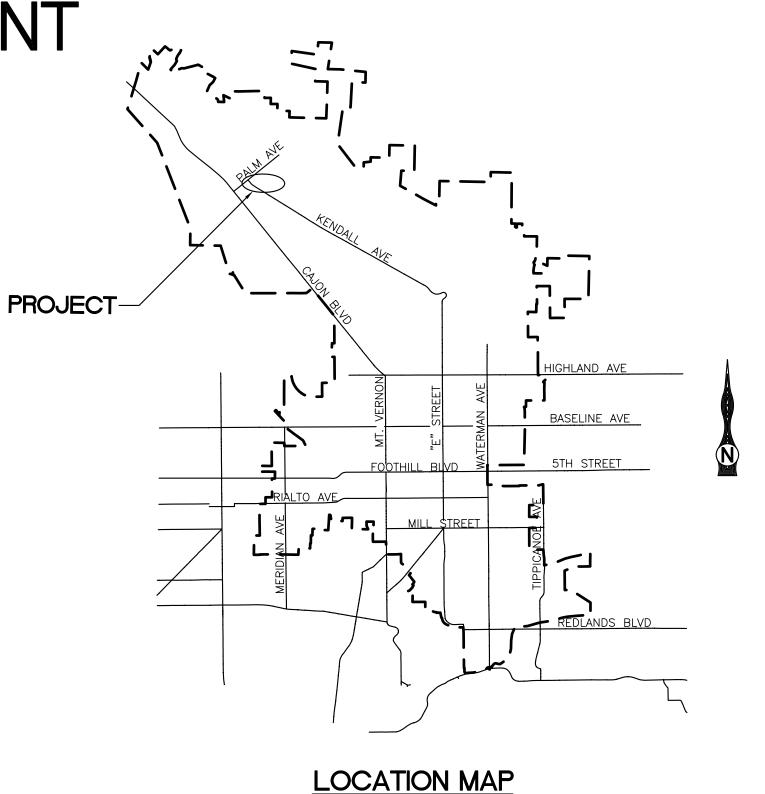
PROJECT TITLE



FOR EXAMPLE ONLY

- 1. THE CONTENTS OF THIS SET OF DRAWINGS WAS CREATED TO PROVIDE A GRAPHIC REPRESENTATION OF SBMWD AUTOCAD STANDARD REQUIREMENTS AND EXPECTATIONS.
- 2. <u>ALL</u> TYPES OF INFORMATION ON THIS SET OF DRAWINGS IS REQUIRED TO BE PROVIDED AS SHOWN FOR THE PROJECT SUBMITTAL TO BE ACCEPTED AND APPROVED (TYP).





CITY FIRE DEPARTMENT'S CERTIFICATE

THIS CERTIFIES THAT ON _______, I REVIEWED THE PLAN FOR THE 1720 ZONE WEST TRANSMISSION MAIN, AND FOUND THAT IT MEETS THE MINIMUM REQUIREMENTS OF THE CITY OF SAN BERNARDINO FIRE DEPARTMENT'S FIRE CODES AND

FIRE MARSHALL (909) 384-5388

WATER DEPARTMENT'S ENGINEER CERTIFICATE

THIS CERTIFIES THAT ON ________, I REVIEWED THE PLAN FOR THE 1720 ZONE WEST TRANSMISSION MAIN, AND FOUND THAT IT MEETS THE MINIMUM REQUIREMENTS OF THE CALIFORNIA HEALTH AND SAFETY CODE.

MATTHEW H. LITCHFIELD P.E. DIRECTOR, WATER UTILITY CA. R.C.E. 58079 EXPIRATION DATE: 6/30/2010 (909) 384-5107

TITLE SHEET

UNDERGROUND SERVICE ALERT BEFORE YOU DIG

DECLARATION OF RESPONSIBLE CHARGE: ENGINEER OF WORK: I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE DESIGN IS CONSISTANT WITH OUR DESIGN IS CONSISTANT I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE SAN BERNARDINO MUNICIPAL WATER DEPARTMENT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT

REGISTERED CIVIL ENGINEER No. XXXXX

DESIGNED BY: XX DRAWN BY: XX CHECKED BY: XX DESIGN ENGINEER SBMWD ENGINEER ELEV.= XXXX.XX FT.

CITY OF SAN BERNARDINO

MUNICIPAL WATER DEPARTMENT PROJECT TITLE

DWG G1 OF XX

DRAWING SCALES:

HORIZ: N/A VERT: N/A

XXXX

GENERAL WATER NOTES

- 1. THESE PLANS HAVE BEEN PREPARED FOR THE SAN BERNARDINO MUNICIPAL WATER DEPARTMENT (SBMWD). THESE PLANS ARE INTENDED TO SUPPLEMENT THE DEPARTMENT'S TECHNICAL SPECIFICATIONS AND DETAILS.
- 2. ALL UTILITY LOCATIONS SHOWN ARE FROM RECORD INFORMATION ONLY AND ARE NOT A RESULT OF A FIELD SURVEY. CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600 -- 48 HOURS IN
- 3. ALL WATER LINE CONNECTION POINTS AND CRITICAL UTILITY CROSSING POINTS SHALL BE EXPOSED AND ACCURATELY LOCATED AT THE START OF CONSTRUCTION, AND THE SBMWD. SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO THE CONTINUATION OF WORK.
- 4. ALL ELEVATIONS SHOWN ON PLANS SHALL BE BASED ON A U.S.G.S. DATUM, AND SHALL SHOW ELEVATION FROM MEAN SEA LEVEL.
- 5. ALL HORIZONTAL OR VERTICAL CHANGES IN PIPE ALIGNMENT DELINEATED ON THE PLANS AS "DEFLECTION BY JOINT" OR SHOWN WITHOUT BENDS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. TOTAL ANGULAR DISPLACEMENT SHALL BE DISTRIBUTED THROUGH AS MANY JOINTS AS PRACTICABLE.
- 6. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK) —— SBMWD STANDARD SPECIFICATIONS, AND A.W.W.A. STANDARDS AND SPECIFICATIONS.
- 7. APPROVAL OF THIS PLAN BY THE SBMWD DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION OR OF THE EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES WITHIN THE LIMITS OF THE PROJECT.
- 8. DURING THE PERIOD OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN SUCH WARNINGS, SIGNS, STOP SIGNS, SIGNALS, BARRICADES AND OTHER SAFETY MEASURES AS DIRECTED BY THE CITY OF SAN BERNARDINO, DEPARTMENT OF PUBLIC WORKS WITH REFERENCE TO THE W.A.T.C.H. MANUAL.
- 9. THE CONTRACTOR SHALL NOT OPEN MORE TRENCHES THAN CAN BE PROPERLY PROSECUTED IN A DAY'S OPERATION. ANY TRENCH UNAVOIDABLY LEFT OPEN DURING THE HOURS OF DARKNESS OR OVER A WEEKEND SHALL BE FENCED WITH 6-FOOT CHAIN LINK AND PROPERLY LIGHTED, OR BRIDGED BY A WATER DEPARTMENT APPROVED TRAFFIC PLATE WITH REFERENCE TO THE W.A.T.C.H. MANUAL.
- 10. THE CONTRACTOR SHALL REINSTALL PAVEMENT MARKINGS AND STRIPPING DISTURBED BY HIS OPERATIONS.
- 11. A CAL/OSHA PERMIT IS REQUIRED FOR TRENCHES OVER 5' IN DEPTH.
- 12. THE CONTRACTOR SHALL PROVIDE SAFE AND CONTINUOUS PASSAGE FOR LOCAL PEDESTRIAN AND VEHICULAR TRAFFIC AT ALL TIMES WITH REFERENCE TO THE W.A.T.C.H. MANUAL.
- 13. TRAFFIC SIGNAL FUNCTIONS SHALL BE APPROVED BY THE CITY OF SAN BERNARDINO, DEPARTMENT OF PUBLIC WORKS; HOWEVER, THE CONTRACTOR IS REQUIRED TO GIVE 48 HOUR NOTICE PRIOR TO ANY CONSTRUCTION THAT WILL DAMAGE OR AFFECT ANY BURIED TRAFFIC DETECTORS.
- 14. THE CONTRACTOR SHALL SO CONDUCT HIS OPERATIONS AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC, AND HE SHALL HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAN HE CAN PROSECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC. CONVENIENT ACCESS TO DRIVEWAYS, HOUSES, AND BUILDINGS ALONG THE LINE OF WORK SHALL BE MAINTAINED. TEMPORARY CROSSINGS SHALL BE PROVIDED AND MAINTAINED IN GOOD CONDITION. NOT MORE THAN ONE CROSSING OR INTERSECTING STREET OR ROAD SHALL BE CLOSED AT ANY ONE TIME WITHOUT THE APPROVAL OF THE TRAFFIC/WATER DEPARTMENT ENGINEER. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUCH FENCES, BARRIERS, DIRECTIONAL SIGNS, LIGHTS, AND FLAGMEN AS ARE NECESSARY TO GIVE ADEQUATE WARNING TO THE PUBLIC AT ALL TIMES OF ANY DANGEROUS CONDITIONS TO BE ENCOUNTERED AS A RESULT OF THE CONSTRUCTION WORK AND TO GIVE DIRECTIONS TO THE PUBLIC.
- 15. STREET CUT PERMITS MUST BE OBTAINED FROM THE CITY OF SAN BERNARDINO PUBLIC WORKS DEPARTMENT.
- 16. ALL REMOVALS IN PAVED AREAS SHALL BE SAW CUT ON A NEAT, STRAIGHT LINE PARALLEL TO THE PIPE LINE. THE EDGE SHALL BE PROTECTED FROM CRUSHING AND ALL BROKEN EDGES SHALL BE RE-CUT PRIOR TO PAVING OPERATIONS.
- 17. DUST SHALL BE CONTROLLED AT ALL TIMES BY APPROVED METHODS.
- 18. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE FROM DIRT AND/OR DEBRIS ON A DAILY BASIS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED IN STREET CLEANING NECESSITATED BY HIS OPERATION.
- 19. ALL TRENCH BACKFILLS SHALL BE TESTED AND CERTIFIED BY A SOILS ENGINEER PRIOR TO ACCEPTANCE.
- 20. 24 HOURS ADVANCE NOTICE IS REQUIRED FOR INSPECTION AND FIELD TIES. ARRANGEMENTS CAN BE MADE BY CALLING (909) 384-5391 BETWEEN 7:00 A.M. AND 4:30 P.M. WEEKDAYS.
- 21. NORMAL INSPECTION HOURS ARE 7:30 A.M. TO 4:00 P.M. MONDAY THROUGH FRIDAY EXCEPT LEGAL HOLIDAYS. REQUESTS FOR INSPECTION AT OTHER TIMES OR ON OTHER DAYS MUST BE SUBMITTED TO THE SBMWD ENGINEERING SECTION A MINIMUM OF 5 WORKING DAYS BEFORE THE INSPECTION IS REQUIRED. THE CONTRACTOR MUST BEAR THE COST OF SUCH OVERTIME INSPECTIONS AND WILL BILLED ACCORDINGLY. NORMAL OVERTIME RATES ARE 1.5 TIMES THE BASE RATE PLUS OVERHEAD. OVERTIME INSPECTIONS WILL BE MADE SOLELY AT THE DISCRETION OF THE CITY AND BASED ON STAFF AVAILABILITY.
- 22. THE CONTRACTORS WILL BE REQUIRED TO OBTAIN CITY BUSINESS LICENSES, INSURANCE AND PROVIDE EVIDENCE OF SAME TO INSPECTION STAFF UPON REQUEST.
- 23. THE CONTRACTOR SHALL NOT PLACE CONCRETE OR ASPHALT ON THE PROJECT PRIOR TO WATER DEPARTMENT/PUBLIC WORKS REVIEW APPROVAL OF CONTRACTOR—SUPPLIED COMPACTION TESTS.
- 24. NO DEVIATIONS SHALL BE MADE FROM THIS PLAN WITHOUT THE REVIEW AND APPROVAL OF THE WATER DEPARTMENT ENGINEER.
- 25. THE CONTRACTOR SHALL NOT MAKE ANY CONNECTION TO THE EXISTING SBMWD DISTRIBUTION SYSTEM WITHOUT FIRST GAINING WRITTEN PERMISSION TO DO SO FROM THE WATER DEPARTMENT ENGINEER. IN THE EVENT THAT PERMISSION IS GRANTED. A SBMWD INSPECTOR MUST BE PRESENT ON SITE TO WITNESS SAID CONNECTION(S). TEST PLATES SHALL BE INSTALLED ON THE NEW CONSTRUCTED SIDE OF ALL MAIN CONNECTION POINTS.
- ALL FLUSHING, CHLORINATION, AND TESTING SHALL BE PERFORMED EITHER BY (A) WATER TRUCK, OR (B) HYDRANT—TO HYDRANT CONNECTION THROUGH AN APPROVED BACKFLOW PREVENTION ASSEMBLY. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COMPLYING WITH THE NPDES PERMIT.

 26. ALL WATER MAINS AND APPURTENANCES SHALL BE PRESSURE TESTED AND DISINFECTED PRIOR TO
- ACCEPTANCE BY THE SBMWD.

 27. TESTING AND DISINFECTION OF WATER MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE APPLICABLE A.W.W.A. STANDARDS AND THE CONTRACTOR OBTAINED NPDES PERMIT, EXCEPT AS
- HEREIN MODIFIED. (SEE ATTACHED SBMWD STANDARD)

 28. ALL TESTING AND DISINFECTION SHALL BE MADE IN THE PRESENCE OF THE SBMWD INSPECTOR AND SHALL COMPLY WITH THE NPDES PERMIT REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN TWENTY—FOUR (24) HOURS IN ADVANCE OF THE ACTUAL TIME OF TESTING
- 29. IF THE PRESSURE TEST, CHLORINATION OR BACTERIOLOGICAL TEST FAIL TO MEET THE REQUIREMENT OF THE SPECIFICATIONS, THE CONTRACTOR SHALL MAKE NECESSARY REPAIRS, REPLACEMENTS OR REPETITION OF PROCEDURES AT HIS OWN EXPENSE.

AND/OR DISINFECTION SO THAT THE ENGINEER OR DESIGNEE MAY OBSERVE THE PROCEDURE.

- 30. AT DEAD END LOCATIONS, WATER SERVICE SHALL BE TAPPED TO THE END OF WATER MAIN.
- 31. THE SBMWD HAS POTHOLED AND LOCATED CERTAIN EXISTING UTILITIES IN THE PLANS.
 THE CONTRACTOR SHALL POTHOLE & LOCATE ALL EXISTING UTILITIES TO VERIFY DEPTH AND
 LOCATION IN ADVANCE OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS REQUIRED
 FOR POTHOLING. CONTRACTOR SHALL PROVIDE A SHOP DRAWING (PLAN & PROFILE) SHOWING HOW
 THE PROPOSED PIPE ALIGNMENT SHOULD BE CHANGED TO AVOID EXISTING UTILITIES.
- 32. ALL SERVICES ARE TO REMAIN ACTIVE DURING NON-WORKING HOURS.
- 33. ANY UNDERCUT SEWERS WILL REQUIRE A 1—SACK SAND SLURRY BACKFILL UP TO THE SPRING LINE OF THE SEWER PIPE.
- 34. PROPERTY RIGHT OF WAY LINES ARE APPROXIMATE AND ARE INTENDED AS GENERAL REFERENCE ONLY FOR THIS PROJECT. NO RECORD OF SURVEY CONDUCTED OR IMPLIED.

DEVIATIONS FROM STANDARDS

. THERE ARE NO DEVIATIONS FROM APPLICABLE SBMWD STANDARDS, UNLESS STATED IN THE SPECIFICATIONS.

ADDITIONAL NOTES

CONTRACT DOCUMENTS AND SPECIFICATIONS

THE CONTRACTOR IS HEREBY NOTIFIED THAT ESSENTIAL AND PERTINENT INFORMATION REGARDING THE CONSTRUCTION AND COMPLETION OF WORK FOR THIS PROJECT IS CONTAINED IN THE CONTRACT DOCUMENTS AND SPECIFICATIONS; IT IS THE CONTRACTOR'S RESPONSIBILITY TO READ AND REVIEW THIS INFORMATION TO THEIR OWN SATISFACTION PRIOR TO PERFORMING ANY WORK. DEFICIENT, INCOMPLETE OR INCORRECT WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REDONE TO MEET THE REQUIREMENTS AT THE CONTRACTOR'S SOLE EXPENSE.

SAFFTY

NEITHER THE OWNER NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR RECULATIONS. 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.

SAFETY AND RESPONSIBILITY

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. CONTRACTOR FURTHER AGREES THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

PROPERTY LINES

LOCATION OF PROPERTY BOUNDARIES, RIGHT OF WAY, AND EASEMENTS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND BASED ON RECORD DOCUMENTS. IF NO FIELD BOUNDARY OR EASEMENT SURVEY HAS BEEN PERFORMED, CONTRACTOR IS RESPONSIBLE TO VERIFY ANY AND ALL PROPERTY OR EASEMENT DATA DEEMED NECESSARY TO PERFORM THE WORK AS SHOWN.

UTILITY MARKOUT

THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (U.S.A.) AT 1-(800) 422-4133 FOR MARKOUT OF EXISTING UTILITIES A MINIMUM OF 48 HOURS PRIOR TO ANY WORK OR EXCAVATION.

EXPLORATORY EXCAVATIONS

THE LOCATION AND ELEVATION OF BOTH NEW AND EXISTING IMPROVEMENTS TO BE MET BY WORK TO BE DONE, AND ALL OF NEW OR EXISTING BURIED UNDERGROUND UTILITIES AND STRUCTURES' SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ANY CITY OF SAN BERNARDINO PUBLIC WORKS PERMITS PRIOR TO ANY EXPLORATORY EXCAVATIONS. CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISION OF THE PLANS, SHOULD REVISIONS BE NECESSARY DUE TO THE ACTUAL LOCATION OF FACILITIES.

<u>MONUMENTATION</u>

PRIOR TO CONSTRUCTION, THE CONTRACTOR'S LICENSED SURVEYOR SHALL TIE OUT ALL AFFECTED STREET AND PROPERTY MONUMENTS WHICH MAY BE DISTURBED AS PART OF THE WORK. RE-ESTABLISHMENT AND FILING OF CORNER RECORDS AND/OR A RECORD OF SURVEY FOR ALL DISTURBED/ REMOVED/REPLACED MONUMENTS WILL BE REQUIRED PRIOR TO ACCEPTANCE OF THE WORK. WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE CITY OF SAN BERNARDINO OR OTHER AGENCIES HAVING JURISDICTION AND SHALL BE PERFORMED AT THE CONTRACTOR'S SOLE EXPENSE.

DAMAGED IMPROVEMENTS

ALL EXISTING IMPROVEMENTS, BOTH PUBLIC AND PRIVATE, INTENTIONALLY OR UNINTENTIONALLY DISTURBED, DESTROYED, OR REMOVED AS PART OF CONSTRUCTION, SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

MINIMUM COVER

MAINTAIN 3 FOOT MINIMUM DEPTH OF COVER OVER ALL PIPELINES, UNLESS OTHERWISE NOTED ON THE PLANS.

PERMITS

CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED TO COMPLETE THE WORK INCLUDING, BUT NOT LIMITED TO. COUNTY TRAFFIC CONTROL PERMITS.

TRAFFIC SIGNALS

ALL CONDUITS DISTURBED BY THIS WATER LINE SHALL BE REPLACED. NEW CONDUCTORS SHALL BE REPULLED WITH APPROPRIATE SPARES FROM PULL BOX TO PULL BOX, INTERCONNECT CABLE SHALL BE REPLACED FROM CONTROLLER TO CONTROLLER. ALL LOOPS SHALL BE REPLACED WITHIN 48 HOURS OF BEING DISTURBED. CONTRACTOR SHALL MAINTAIN LIABILITY UNTIL SIGNALS ARE IN APPROVED WORKING ORDER.

DESIGN STANDARD NOTES:

CONDITIONAL APPROVAL OF VALVED OUTLET (6" AND LARGER)

THE WATER PLANS SHOW ONE OR MORE VALVED OUTLETS EXTENDING OUT OF PAVED AREAS. INSTALLATION OF THESE OUTLETS IS ACCEPTABLE; HOWEVER, IF THE OUTLETS ARE INCORRECTLY LOCATED OR NOT USED FOR ANY REASON WHEN THE PROPERTY IS ACTUALLY DEVELOPED, THE DEVELOPER SHALL ABANDON THE OUTLETS AT THE CONNECTION TO THE ACTIVE MAIN IN ACCORDANCE WITH SBMWD'S STANDARDS AND AT THE DEVELOPER'S EXPENSE. APPROVAL OF THE VALVED OUTLET DOES NOT PROVIDE OF IMPLY A WATER COMMITMENT.

<u>ABANDON VALVES</u>

ALL VALVES TO BE ABANDONED SHALL BE ABANDONED IN THE CLOSED POSITION, UNLESS SHOWN OTHERWISE, BY REMOVING A MINIMUM OF THE TOP TWENTY—FOUR (24) INCHES OF THE VALVE BOX AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND, THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO THOUSAND (2,000) PSI. THE LATERAL MUST BE COMPLETELY REMOVED FROM THE ABANDONED VALVE AND CAPPED WITH A BLIND FLANGE OR PLUG.

ABANDONMENT OF EXISTING SERVICE LATERALS (2" AND SMALLER) THE CONTRACTOR SHALL NOTIFY SBMWD TWO (2) FULL BUSINESS DAYS PRIOR TO THE REQUESTED REMOVAL TIME TO ALLOW SBMWD TO TAKE THE FINAL SERVICE READING. THE CONTRACTOR MAY THEN BEGIN REMOVAL PROCEDURES FOR THE AFFECTED SERVICE AS FOLLOWS:

DESIGN STANDARD NOTES (CONT.):

EXISTING SERVICE LATERALS TO BE ABANDONED FROM EXISTING WATER MAINS SHALL HAVE THE CORPORATION STOPS TURNED OFF AT THE MAIN, A MINIMUM OF TWELVE (12) INCHES OF THE LATERAL CUT OUT NEAR THE CORPORATION STOPS AND A BRASS CAP OR PLUG INSTALLED ON THE CORPORATION STOP. IF THE CORPORATION STOP IS DAMAGED BEYOND REPAIR OR PULLED FORM THE EXISTING WATER MAIN, THE MAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE IN A MANNER APPROVED BY SBMWD. IF IT IS DISCOVERED THE CORPORATION STOP IS NOT WATER TIGHT, THROUGH NO FAULT OF THE CONTRACTOR, THE CONTRACTOR SHALL NOTIFY SBMWD FOR FURTHER DIRECTION. THE EXISTING SERVICE(S) SHALL BE REMOVED AND RECYCLED. THE SBMWD MAY REQUIRE REUSABLE COMPONENTS (METERS) ETC. TO BE DELIVERED TO SBMWD.

ABANDONMENT OF EXISTING SERVICE LATERALS (3" AND LARGER)

THE CONTRACTOR SHALL NOTIFY SBMWD TWO (2) FULL BUSINESS DAYS PRIOR TO THE REQUESTED REMOVAL TIME TO ALLOW SBMWD TO TAKE THE FINAL SERVICE READING AND TO NOTIFY SBMWD'S INSPECTOR OF THE IMPENDING WORK. THE CONTRACTOR MAY THEN BEGIN REMOVAL PROCEDURES FOR THE AFFECTED SERVICE AS FOLLOWS:

ALL VALVES TO BE ABANDONED SHALL BE ABANDONED IN THE CLOSED POSITION, UNLESS SHOWN OTHERWISE, BY REMOVING A MINIMUM OF THE TOP TWENTY—FOUR (24) INCHES OF THE VALVE BOX AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND, THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO THOUSAND (2,000) PSI.

IF THE VALVE IS TO BE ABANDONED IN THE CLOSED POSITION, THE LATERAL MUST BE CUT WITHIN THREE (3) FEET OF THE ABANDONED VALVE, OR AS SHOWN ON PLANS, AND CAPPED. WHERE A JOINT OR COUPLING IN THE EXISTING PIPE IS UNCOVERED AT THE CUT AND CAP LOCATIONS, THE INSTALLATION OF A RESTRAINED PLUG MAY BE PERMITTED WITH SBMWD APPROVAL. THE CONTRACTOR SHALL INSTALL A CONCRETE THRUST BLOCK IN ACCORDANCE WITH THE PROVISIONS OF THE SBMWD STANDARD DRAWING NO. W6.4A AT ALL CAP OR PLUG LOCATIONS.

THE EXISTING SERVICE(S) SHALL BE REMOVED AND RECYCLED. THE CONTRACTOR SHALL THEN REMOVE AND/OR BACKFILL THE ABANDONED VAULT WITH SELECT MATERIAL AND RESTORE ALL DAMAGED SURFACE FEATURES AS DIRECTED BY SBMWD MAY REQUIRE REUSABLE COMPONENTS (METERS) ETC. TO BE DELIVERED TO SBMWD.

INSTALLATION OF METER AND VAULT

THE METER(S) AND VAULT(S) WITH TRAFFIC/NON-TRAFFIC BEARING COVER(S) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS AND SPECIFICATIONS. PRE-CAST VAULTS APPROVED BY SBMWD MAY BE USED IN LIEU OF THE FIBERGLASS VAULTS. THE DESIGNATION OF PRE-CAST OR CAST-IN PLACE MUST BE MADE PRIOR TO PLAN APPROVAL.

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S), TO ALLOW SBMWD DIRECT ACCESS TO THE VAULT(S) AND INLET PIPING FROM THE ADJACENT RIGHT-OF-WAY.

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTTION.

INSTALLATION DOUBLE CHECK DETECTOR CHECK ASSEMBLY

THE DETECTOR CHECK(S) SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS.

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTTION.

EXISTING PRIVATE WELLS TO REMAIN IN SERVICE

IF THE EXISTING PRIVATE WELL IS TO REMAIN IN SERVICE, SBMWD APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED IMMEDIATELY DOWNSTREAM OF SBMWD'S WATER METER IN ACCORDANCE WITH STANDARD DRAWING W4.2. THE NEW SERVICE SHALL NOT BE ACTIVATED UNTIL THE BACKFLOW PREVENTION ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY SBMWD.

PRIVATE WELLS TO BE REMOVED FROM SERVICE

IF THE EXISTING PRIVATE WELL IS TO BE ABANDONED, THE INSTALLATION OF A BACKFLOW PREVENTION ASSEMBLY WILL NOT BE REQUIRED; HOWEVER, SBMWD WATER SERVICE WILL REMAIN IN THE OFF POSITION AND LOCKED OUT UNTIL THE WELL HAS BEEN ABANDONED. AN INSPECTION OF THE ON—SITE SYSTEM WILL BE MADE BY SBMWD'S INSPECTOR TO VERIFY THE WELL HAS BEEN DISCONNECTED FROM THE ON—SITE SYSTEM AND THE WELL IS NO LONGER FUNCTIONAL.

RELOCATION OF FIRE HYDRANTS (EXTENSION OF EXISTING LATERALS)
THE CONTRACTOR SHALL REMOVE AND RELOCATE BOTH THE UPPER AND LOWER BARRELS OF THE EXISTING FIRE HYDRANT(S) WHERE SHOWN, EXTEND THE EXISTING LATERAL AS REQUIRED, AND REINSTALL SUCH HYDRANT(S) AT THE NEW LOCATION(S) INDICATED. FIRE HYDRANTS SHALL BE TESTED PRIOR TO AND AFTER RELOCATION UNDER THE DIRECTION OF SBMWD TO ENSURE QUALITY. INSTALLATION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING W2.2. LATERALS MADE OF UNAPPROVED MATERIALS SHALL BE REPLACED FROM THE MAIN TO THE FIRE HYDRANT.

FIRE HYDRANT RELOCATION AND LATERAL ABANDONMENT (EXISTING LATERAL TO BE ABANDONED)

WHERE SHOWN ON THE DRAWING(S), THE CONTRACTOR SHALL ABANDON THE EXISTING FIRE HYDRANT(S) BY REMOVING BOTH THE UPPER AND LOWER BARRELS AND LATERAL OF THE FIRE HYDRANT TO THE FIRE HYDRANT VALVE ADJACENT TO THE MAIN. FIRE HYDRANTS SHALL BE TESTED PRIOR TO AND AFTER RELOCATION UNDER THE DIRECTION OF SBMWD TO ENSURE QUALITY OF THE FIRE HYDRANT(S). THE EXISTING HYDRANT SHALL BE INSTALLED AT THE NEW LOCATION AS INDICATED ON THE DRAWING, IN ACCORDANCE WITH STANDARD DRAWING NOS. W2.1 AND W2.2. THE EXISTING VALVE SHALL BE ABANDONED IN A CLOSED POSITION, UNLESS SHOWN OTHERWISE, BY REMOVING A MINIMUM OF THE TOP TWENTY—FOUR (24) INCHES OF THE VALVE BOX, AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND OR APPROVED AGGREGATE BASE, THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO—THOUSAND (2,000) PSI. THE LATERAL SHALL BE CUT WITHIN THREE (3) FEET OF THE ABANDONED VALVE, OR AS SHOWN ON PLANS, AND CAPPED. WHERE A JOINT OR COUPLING IN THE EXISTING PIPE IS UNCOVERED AT THE CUT AND CAP LOCATION, THE INSTALLATION OF A PLUG MAY BE PERMITTED, WITH SBMWD APPROVAL. A CONCRETE THRUST BLOCK SHALL BE INSTALLED AT ALL CUT AND CAP LOCATIONS IN ACCORDANCE WITH THE PROVISIONS OF STANDARD DRAWING.

<u>fire hydrant and lateral abandonment</u>

WHERE SHOWN ON THE DRAWING(S), THE CONTRACTOR SHALL ABANDON THE EXISTING FIRE HYDRANT(S) BY REMOVING BOTH THE UPPER AND LOWER FIRE HYDRANT BARRELS AND LATERAL OF THE FIRE HYDRANT TO THE FIRE HYDRANT TO THE FIRE HYDRANT VALVE ADJACENT TO THE MAIN. THE EXISTING HYDRANT MAY BE DELIVERED TO SBMWD AT SBMWD'S OWN DISCRETION. THE EXISTING VALVE SHALL BE ABANDONED IN A CLOSED POSITION, UNLESS SHOWN OTHERWISE, BY REMOVING A MINIMUM OF THE TOP TWENTY—FOUR (24) INCHES OF THE VALVE BOX, AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND OR APPROVED AGGREGATE BASE, THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO—THOUSAND (2,000) PSI. THE REMAINING PORTION OF THE LATERAL SHALL BE CUT WITHIN THREE (3) FEET OF THE ABANDONED VALVE, OR AS SHOWN ON PLANS, AND CAPPED. THE EXISTING CONCRETE HYDRANT PAD SHALL BE REMOVED.

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) PERMIT REQUIRED

AN APPROVED CALTRANS ACCEPTANCE PERMIT SHALL BE OBTAINED THROUGH SBMWD PRIOR TO ANY CONSTRUCTION WITHIN CALTRANS RIGHT—OF—WAY. PLANS SHOWING WORK IN CALTRANS RIGHT—OF—WAY MUST SHOWN CALTRANS STATIONING. THE DEVELOPER ASSUMES ALL LIABILITY FOR WORK CONDUCTED UNDER SBMWD OBTAINED PERMIT THROUGH WARRANTY EXPIRATION.

GENERAL STRUCTURAL NOTES

GENERAL

STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURES. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND BALANCING WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR.

DESIGN IN ACCORDANCE WITH UBC 1997, ACI 318-99 AND AISC ASD 9th EDITION.

LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE AS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.

TRENCH EXCAVATION SHORING SHALL CONFORM TO OSHA REGULATIONS 29 CFR PART 1926, SUBPART P, APPENDIX C.

STRUCTURAL STEEL

STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE LATEST EDITION OF THE AISC STEEL CONSTRUCTION MANUAL.

ALL STRUCTURAL SHAPES, THREADED ROD, PLATES AND SHEET SHALL BE OF STEEL MEETING ASTM A-36 SPECIFICATIONS. STEEL PIPE SHALL BE ASTM A500 GRADE B. ALL STRUCTURAL STEEL ASSEMBLIES SHALL BE GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE.

ALL WELDING SHALL BE BY THE SHIELDED ARC METHOD AND SHALL CONFORM TO AWS CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION.

QUALIFICATIONS OF WELDERS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS FOR STANDARD QUALIFICATION PROCEDURE OF THE AWS.

BOLTS SHALL CONFORM TO ASTM A-325X.

CONCRETE (EXCEPT PRECAST CONCRETE)

UNLESS OTHERWISE NOTED OR SPECIFIED, ALL STRUCTURAL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS.

REINFORCEMENT STEEL SHALL BE DEFORMED BARS CONFORMING IN QUALITY TO THE REQUIREMENTS OF ASTM A-615 "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT". GRADE 60.

ALL DETAILING, FABRICATION AND PLACING OF REINFORCING BARS, UNLESS OTHERWISE INDICATED, SHALL BE IN ACCORDANCE WITH ACI—315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" LATEST FDITION

TOLERANCES IN PLACING REINFORCEMENT SHALL BE:

 \pm 3/8 INCH FOR MEMBERS WITH D \leq 8 INCHES \pm 1/2 INCH FOR MEMBERS WITH D > 8 INCHES

DOWELS, WATERSTOPS AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.

UNLESS OTHERWISE INDICATED, ASIDE FROM NORMAL ACCESSORIES USED TO HOLD REINFORCING BARS FIRMLY IN POSITION, THE FOLLOWING SHALL BE ADDED:

A) IN SLABS #5 RISER BARS AT 36 INCHES OC MAXIMUM TO SUPPORT TOP REINFORCING BARS.

B) IN WALLS WITH 2 CURTAINS #3 U OR Z SHAPE SPACERS AT 6 FEET OC EACH WAY.

METAL CLIPS OR SUPPORTS SHALL NOT BE PLACED IN CONTACT WITH THE FORMS OR THE SUBGRADE. CONCRETE BLOCKS (OR DOBIES) SUPPORTING BARS ON SUBGRADE SHALL BE IN SUFFICIENT NUMBERS TO SUPPORT THE BARS WITHOUT SETTLEMENT, BUT IN NO CASE SHALL SUCH SUPPORT BE CONTINUOUS.

DOWELS SHALL BE WIRED OR OTHERWISE HELD IN POSITION. THEY SHALL NOT BE PLACED AFTER CONCRETE HAS BEEN POURED.

UNLESS OTHERWISE INDICATED ON THE DRAWINGS. LAPS OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF ACI-318.

REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH METAL PARTS EMBEDDED IN CONCRETE. A MINIMUM OF 1-1/2" OF CLEARANCE SHALL BE PROVIDED AT ALL TIMES.

UNLESS OTHERWISE SHOWN ON THE DRAWINGS CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:

FOR CONCRETE PLACED AGAINST EARTH ______ 3"

FOR SURFACES IN CONTACT WITH WATER OR WEATHER AND FORMED SURFACES IN CONTACT WITH EARTH:

#6 OR LARGER ______ 2" #4 TO #5 ______ 1-1/2"

FOR CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH WATER OR EARTH _______ 1-1/2"

UNLESS OTHERWISE NOTED, WALLS AND SLABS SHOWN WITH A SINGLE LAYER OF REINFORCEMENT SHALL HAVE THAT REINFORCEMENT CENTERED.

UTILITY NOTES

- 1. ALL WORK SHALL BE COORDINATED WITH CITY FORCES.
- CONTRACTOR SHALL NOTIFY UTILITY COMPANIES PRIOR TO STARTING WORK NEAR COMPANY FACILITIES AND COORDINATE WORK WITH COMPANY REPRESENTATIVES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE UTILITY COMPANIES, ADVISE THEM OF THE PROPOSED IMPROVEMENTS AND BEAR THE COST OF RELOCATION, IF NEEDED.
 LOCATION AND ELEVATION OF IMPOVEMENTS TO BE MET BY WORK TO BE

DONE SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO PREPARATION OF SHOP DRAWINGS CONSTRUCTION OF NEW WORK.

4. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF

RECORD OR NOT SHOWN ON THESE PLANS.

5. SOILS INSPECTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER OF WORK

BY A QUALIFIED SOILS ENGINEER WHICH CERTIFY THAT TRENCH BACKELL WAS

BY A QUALIFIED SOILS ENGINEER WHICH CERTIFY THAT TRENCH BACKFILL WAS COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS.

DRAWING SCALES: UNDERGROUND SERVICE ALERT **BENCHMARK:** CITY OF SAN BERNARDINO HORIZ: N/A VERT: N/A MUNICIPAL WATER DEPARTMENT CALL: TOLL FREE PROJECT TITLE XXXX 1 - 800227-2600 DWG G2 GENERAL NOTES APPROVED BY TWO WORKING DAYS SHEET 2 OF XX DESIGNED BY: XX DRAWN BY: XX CHECKED BY: XX | DESIGN ENGINEER | SBMWD ENGINEER | ELEV.= XXXX.XX FT. REGISTERED CIVIL ENGINEER No. XXXXX BEFORE YOU DIG ENGINEER'S SEAL C-XXXX-2-G-G2.DWG

	LEGEND		CONSTRUCTION NOTES	ESTIMATED QUANTITIES
	SYMI	BOL	(1) X X X X	(FOR MATERIAL PRE-PURCHASING PURPOSE
DESCRIPTION	PROPOSED	EXISTING	② X X X X	
12" WATER PIPELINE	12" PVC		3 × × × × × · · · · · · · · · · · · · ·	ITEM — DESCRIPTION UNIT
66" WATER PIPELINE	66" MLCP ACGESS MH	66" MLCP	4 × × × ×	XX XX
IN-LINE VALVE VAULT			5 X X X X	XX XX
ACCESS MANHOLE (TO PIPELINE)				XX XX
BLOWOFF	φ _{BO}			XX XX
COMBINATION AIR VALVE	A			XX XX
TEST STATION (CATHODIC)	<u> </u>			XX
REDUCER	>	\triangleright		XX XX
END CAP FOR WATER PIPELINE]			XX XX
WATER VALVE	——IXI——			NOTE: FOR COMPLETE DESCRIPTION, REFER TO THE BID PROPOSAL OF THE CONTR.
FIRE HYDRANT ASSEMBLY	× 	-⊗>		TON COMPLETE DESCRIPTION, NEITER TO THE BID TROPOSAL OF THE CONTIN
WATER METER	■ WM	WM		
WATER METER SIZE	1")			
IDENTIFICATION HEXAGON	$\langle x \rangle$			
EDGE OF PAVEMENT		777 — — — —		
SANITARY SEWER MANHOLE	, ,	S		
STORM DRAIN MANHOLE		SD		
POWER POLE W/GUY WIRE				
STREET LIGHT	•	·		
SURVEY MONUMENT		•		
POLYGON FOR TRANSMISSION POLE				
ELECTRICAL BOX		□ ELEC		
ELECTRICAL PANEL BOX		ELEC PANEL		
CABLE TV		CTV		
FENCE				
GAS LINE		2" G		
CONTOURS				
DITCH				
SANITARY SEWER		10" SS		
STORM DRAIN		24" SD		
UNDERGROUND POWER				
UNDERGROUND TELEPHONE		UGTEL		
CURB, GUTTER AND SIDEWALK				
PROPERTY LINE				
CENTER LINE	<u> </u>	<u> </u>		
BLOCK WALL				
RIGHT-OF-WAY LINE				
PATENT RESERVATION OR EASEMENT LINE				
SECTION LINE				
ANGLE (HORIZONTAL OR VERTICAL)	<u> </u>			
ANGLE OF CURVE	\triangle			
FIELD WELD	t			
REFERENCE BUBBLE	DETAIL OR SECTION REFERENCE NUMBER (DETAIL) OR LETTER (SECTION) DRAWING NUMBER OF SHEET WHERE DETAIL OR SECTION RESIDES C1, C9, C11 — ALL SHEETS THAT REFERENCE TO THE DETAIL OR SECTION			
UNDERGROUND SERVICE ALERT			NAME, BENCHMARK:	CITY OF SAN BERNARDINO
CALL: TOLL FREE		ONSULTANT LOG	O. HERE	MUNICIPAL WATER DEPARTMENT
1-800 227-2600		INSERT ENGINEER'S INSERT CONSULTANT LOG INSERT CONSULTANT LOG ADDRESS AND PHONE N		PROJECT TITLE
TWO WORKING DAYS BEFORE YOU DIG		APPROVED BY: ENGINEER'S SEAL REGISTERED CIVIL ENGINEE	DATE: MARK REVISIONS APPROVED DATE APPROVED DATE	CONSTRUCTION NOTES, ESTIMATED QUANTITIES, AND LEGE

APPROVED BY:______REGISTERED CIVIL ENGINEER No. XXXXXX

PRE-PURCHASING PURPOSES BY SBMWD)

	ITEM - DESCRIPTION	UNIT	QUANTITY
XX			
XX			
XX			
XX			
XX			
XX			
XX			
XX			
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XX			

R TO THE BID PROPOSAL OF THE CONTRACT SPECIFICATIONS.

CONSTRUCTION NOTES, ESTIMATED QUANTITIES, AND LEGEND DWG G3 SHEET 3 OF XX

C-XXXX-3-G-G3.DWG

HORIZ: N/A VERT: N/A C.O. NO.:

XXXX

DRAWING SCALES:

	- A -		- D -		- I -		- P - (CONT.)		- T - (CONT.)
A/C	AIR CONDITIONING	D OR A	DELTA ANGLE	ID	INSIDE DIAMETER	PKWY	PARKWAY	TAN	TANGENT THREAD BOTH ENDS TEMPORARY BENCH MARK
AB ABAN	ANCHOR BOLT ABANDON	D/W DEC	DRIVEWAY DECIMETER	IN INST	INCH INSTALL	PL PI S	PLACE/PLATE/PARCEL LINE PROFESSIONAL LAND SURVEYOR	TBE TBM	TEMPOBARA BENCH WARK IHKFAN ROIH FUNZ
ABC	AGGREGATE BASE COURSE	DEMO	DEMOLITION	INSTR	INSTRUMENT	PLS PLT PO POLY PP	PLATE (DRAWING)	TC	TOP OF CURB
ABC ABS ABUT	ABSOLUTE	DEPT	DEPARTMENT	INSUL	INSULATION	PO	PLATE (DRAWING) PUSH-ON	TD	TOP OF CURB TRENCH DRAIN
ABUT	ABUTMENT	DET	DETAIL	INT	INTERIOR	POLY	POLYETHYLENE POWER POLE	TDH	TOTAL DYNAMIC HEAD
ABV AC	ABOVE ASPHALTIC CONCRETE	DEV DI	DEVELOPMENT DROP INLET OR DUCTILE IRON	INV IPS	INVERT IRON PIPE SIZE	PPM PPM	PARTS PER MILLION	TEMP THK	TEMPORARY THICK(NESS)
ACKV	AUTOMATIC CHECK VALVE	DIA OR Ø	DIAMETER	IRR	IRRIGATION	PPM PR P/R PRC	PAIR	THR BLK	THRUST BLOCK
ACP ACS	ASBESTOS CEMENT PIPE	DIAG	DIAGONAL			P/R	PATENT RESERVATION PRECAST REINFORCED PIPE/ POINT OF REVERSE CURVE	THRD	THREADED
ACS	ACCESS	DIM	DIMENSION DUCTILE IRON PIPE			PRC	PRECAST REINFORCED PIPE/	<u>T</u> K	TANK
ADA AD	AMERICAN DISABILITY ACT AREA DRAIN	DIP DIR	DUCTILE IRON PIPE DIRECTION		- J -	PRELIM	POINT OF REVERSE CURVE PRELIMINARY	TMH TOE	TOP OF MANHOLE THREAD ONE END
ADDL	ADDITIONAL	DISCH	DISCHARGE	JT	JOINT	PRELIM PRIM		TOF	TOP OF FOOTING
ADDM	ADDENDUM	DIST	DISTANCE			PRIM PROP	PRIMARY PROPOSED PRESSURE REGULATING VALVE PRESSURE SWITCH/PUMP STATION POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POINT/POINT OF TANGENCY	TOG	TOGETHER TOP OF GRATE TOP OF PIPE TOP OF RIM
ADJ	ADJUSTABLE	DISTR	DISTRIBUTE			PRV	PRESSURE REGULATING VALVE	TOGR	TOP OF GRATE
AGGR	AGGREGATE	DIV	DIVISION		- K -	PRV PS PSF PSI PT	PRESSURE SWITCH/PUMP STATION	TOP	TOP OF PIPE
AHD AL	AHEAD ALUMIINUM	DL DMH	DEAD LOAD DROP MANHOLE	kg km	KILOGRAM	P5F	POUNDS PER SQUARE FOOT POUNDS PER SOUARE INCH	TOR TOS	TOP OF SLAB
ALT	ALTERNATE	DN	DOWN	km	KILOMETER	PT	POINT/POINT OF TANGENCY	TOSTL	TOP OF SLAB TOP OF STEEL TOP OF SIDEWALK TOTAL
AMS	ANGLE METER STOP	DR	DRIVE			PV	FLUG VALVE	TOSW	TOP OF SIDEWALK
AMT	AMOUNT	DRW	DRY WELL		- L -	PVC	POLYVINYL CHLORIDE PIPE	TOT	TOTAL
& ANCI	AND AMERICAN NATIONAL STANDARDS INSTITUTE	DUPL	DUPLICATE DRAWING					TOW TP	I()P()F WALL
ANSI ANT	ANTENNA	DWG DWR	STATE OF CALIFORNIA DEPARTMENT OF	LAD LB OR #	LADDER POUND			TR	TELEPHONE POLE/TOP OF PIPE TRAIL OF TRACK/TOP OF RIM TRANSITION/TRANSMISSION
AP	ACCESS PANEL	DIII	WATER RESOURCES	LDR LDR	LEADER		- Q -	TRANS	TRANSITION/TRANSMISSION
APN	ASSESSOR PARCEL NUMBER			LEN OR L	LENGTH OF CURVATURE	QCV QDC	QUICK COUPLER VALVE QUICK DISCONNECT COUPLING	(TYP)	TYPICAL '
APPROX	APPROXIMATE			LF	LINEAR FOOT	QDC OS	QUAD SHEET		
APPVD ASPH	APPROVED ASPHALT		– E –	LG LN	LONG LANE	QS QTR	QUARTER		
ASSN	ASSOCIATION	Е	EAST OR EDGE	I T	LEFT/LIGHT	QTY	QUANTITY		- U −
ASSY	ASSEMBLY	EA	EACH	LWR	LOWER			UDS	UNIFORM DESIGN STANDARDS FOR SAN
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	EC ECC	EPOXY COATED/END OF CURB ECCENTRIC					UE	BERNARDINO MUNICIPAL WATER DEPARTMENT UNDERGROUND ELECTRIC UNIFORM FIRE CODE
AUX AV	AUXILIARY AIR VENT/AIR VALVE	EF	EACH FACE			_	- R -	UFC	UNIFORM FIRE CODE
AVAR	AIR VENT/AIR VALVE AIR VACUUM AIR RELEASE VALVE	ĒĹ	EPOXY LINED		- M -	R	RADIUS	UG	UNDERGROUND
AVE	AVENUE	ELEC	ELECTRICAL	M	METER	(R) R/W	RADIAL RIGHT-OF-WAY	UGC	UNDERGROUND UNDERGROUND CONDUIT UNDERGROUND POWER
AWG	AMERICAN WIRE GAUGE	ELEV ELL	ELEVATION ELBOW	MATL MAX	MATERIAL MAXIMUM	RĆB	REINFORCED CONCRETE BOX	UGP UGT	UNDERGROUND POWER UNDERGROUND TELEPHONE
AWWA	AMERICAN WATER WORKS ASSOCIATION	ELL ENG	ELBOW ENGINE/ENGINEERING	MAX MC	MAXIMUM MORTAR COATED	RCP	REINFORCED CONCRETE PIPE	061 []]	UNDERWRITERS LABORATORIES
1		ENGR	FNGINFÉR	MEAS	MEASUREMENT	RD	ROAD RECESSED	UNC	AMERICAN STANDARD UNIFIED COARSE THREAD
	– B –	EOP EOS	FDGE OF PAVEMENT	MECH	MEASUREMENT MECHANICAL	REC	RECESSED RECTANGULAR	UNF	AMERICAN STANDARD UNIFIED COARSE THREAD AMERICAN STANDARD UNIFIED FINE THREAD
		EOS	EDGE OF SHOULDER	MFR	MANUFACTURER MILLION GALLONS	KEUI RFN	REDUCER	UNIV	UNIVERSAL
B/H B&S	BUMPED HEAD BELL & SPIGOT	EQ EQ SP	EDGE OF SHOULDER EQUAL OR EQUATION EQUALLY SPACED	MG MGD	MILLION GALLONS MILLION GALLONS PER DAY	RCP RD REC RECT RED REF REG REINF REQD RES RET REV RF	REFERENCE (DIMENSION) REGULATING (REGULATOR) REINFORCED (REBAR)	UNO UPC	UNIVERSAL UNLESS NOTED OTHERWISE UNIFORM PLUMBING CODE
BAL	BALANCE	EQUIP	EQUIPMENT	MH	MANHOLE	REG	REGULATING (REGULATOR)	UPRR	UNION PACIFIC RAILROAD
BC	BOLT CIRCLE/BACK OF CURB BUTTERFLY CHECK VALVE	FOUIV	FOUIVAI FNT	MIN	MINIMUM	REINF	REINFORCED (REBAR)	USGS	UNITED STATES GEODETIC SURVEY
BC BCV	BUTTERFLY CHECK VALVE	ESMT	EASEMENT ESTIMATE	MISC	MISCELLANEOUS	REQU	REQUIRED RESIDENTIAL OR RESERVOIR	UTIL	UTILITIES
■ BE	BELL END	EST	ESTIMATE	MJ	MECHANICAL JOINT	RES RFT	RESIDENTIAL OR RESERVOIR RETURN		
BETW BFP	BETWEEN BACKFLOW PREVENTER	ESMT EST ETC EW	ETCETERA EACH WAY	MKR ML	MARKER MORTAR LINED	REV	REVISION OR REVERSE		
BFV	BUTTERFLY VALVE	EXC	EXCAVATE	MLC	MORTAR LINED & COATED		REVISION OR REVERSE RAISED FACE	_	- V -
BK	BOOD/BACK	EXIST	EXISTING	MON	MONLIMENT	RHWC	RIVERSIDE HIGHLAND WATER COMPANY	V	VOLT OR VALVE
BL-FLG	BLIND FLANGE	EXP JT	EXPANSION JOINT	MOV	MOTOR OPERATED VALVE MALE PIPE THREAD	RM DME	ROOM	VAC VAR	VACUUM VARIES
BLDG	BUILDING	EXT	EXTENSION	MPT	MALE PIPE THREAD	RPM	RESIDENTIAL MAIN EXTENSION REVOLUTIONS PER MINUTE REVOLUTIONS PER SECOND	VAR VB	VARIES VALVE BOX
BLK	BLOCK BUREAU OF LAND MANAGEMENT			MSD MSDS	MAIN SERVICE DISTRIBUTION MATERIAL SAFETY DATA SHEET	RPS	REVOLUTIONS PER SECOND	VCP	VITRIFIED CLAY PIPE
BLM BLVD	BOULEVARD		Г	MTD	MOUNTED	RM RME RPM RPS RPPA	REDUCED PRESSURE PRINCIPLE ASSEMBLY	VEL	VELOCITY
BM	BENCHMARK		- F -	WITE	MOONTED	RR RSGV	RAILROAD	VENT	VENTILATOR
ВО	BLOW OFF ASSEMBLY	F/F FABR	FACE TO FACE FABRICATED			RSGV	RESILIENT SEALED GATE VALVE	VERT VFD	VERTICAL
BOC	BACK OF CURB	FC	FACE OF CURB		- N -	RT RV	RIGHT/RING TITE RELIEF VALVE	VFD VG	VARIABLE FREQUENCY DRIVE VALLEY GUTTER
BOT BOW	BOTTOM BACK OF WALK	FD FDN FEXT FF FG	FLOOR DRAIN	Ν	NORTH	1 \ \	TALLET VALVE	VHF	VERY HIGH FREQUENCY
BPV	BACK OF WALK BACK PRESSURE VALVE	FDN	FOUNDATION FIRE EXTINGUISHER FINISHED FLOOR FINISHED GRADE	N/A	NOT APPLICABLE			VIB	VIBRATION
BRG	BEARING	FEXT	FIRE EXTINGUISHER	NaOCL	SODIUM HYPOCHLORITE NORTH AMERICAN VERTICAL DATUM	_	- S -	VIN	VINYL
BS	BACK_SIGHT	FF FC	FINISHED FLOOR	NAVD NAP	NORTH AMERICAN VERTICAL DATUM NOT-A-PART	S	SOUTH/SLOPE	VISC VOL	VISCOSITY VOLUME
BUR	BURIED	F G F H	FIRE HYDRANT	NAP	NATIONAL BURFAU OF STANDARDS	SA SBCFCD	SAMPLE LINE SAN BERNARDINO COUTNY FLOOD	VOL VPI	VOLUME VERTICAL POINT OF INTERSECTION
BV BW	BALL VALVE BOTH WAYS/BACK OF SIDEWALK	FIG	FIGURE	NC	NATIONAL BUREAU OF STANDARDS NATIONAL COURSE	SBCFCD	SAN BERNARDINO COUTNY FLOOD	VS VS	VALVE SHEET
	BOTTI WATS/ BACK OF SIDEWALK	FL OR E	FLOW LINE	NE	NORTHFAST	SBMWD	CONTROL DISTRICT SAN BERNARDINO MUNICIPAL WATER	VT	VENT
		FLG	FLANGE	NF	NORTH FACE	ZRMMD	DEPARTMENT		
-	- C -	FLR FMCT	FLOOR FLOW METER COMPOUND TORRENT	NFPA NG	NATIONAL FIRE PROTECTION ASSOCIATION	SBVMWD	DEPARTMENT SAN BERNARDINO VALLEY MUNICIPAL		
	CENTER TO CENTER	FMH	FLEXIBLE METAL HOSE	NIC	NATURAL GROUND NOT IN CONTRACT		WATER DEPARTMENT	_	— W —
C/C	CONDUIT	FN	FENCE	NIP	NOT IN PROJECT	S/C SCCP SCH SD	SAW CUT	W/	WITH
C&G	CURB & GUTTER	FND FO	FOUND	NO. #	NUMBER	SCLP	STEEL CYLINDER CONCRETE PIPE	W W /O	WEST/WATER WITHOUT
CAL CAP	CALIBRATE CAPACITY	FO.	FIBER OPTIC	NOM " NPS	NOMINAL DIDE SIZE	SD	SCHEDULE STORM DRAIN	WD WD	WIDTH
CAP	COMBINATION AIR VALVE	FOC FOW	FACE OF CURB FACE OF WALL/FRONT OF WALK FLEXIBLIE PIPE COUPLING	NPS NPT	NOMINAL PIPE SIZE NATIONAL TAPER PIPE THREAD	SDWK	SIDEWALK	WDH	WASTE DRAIN
CB	CATCH BASIN	FPC	FLEXIBLIE PIPE COUPLING	NTS	NOT TO SCALE	SE SEC	SOUTHEAST (AS)	WF WH	WIDE FLANGE
CEM	CEMENT	FPM	FEET PER MINUTE	NW	NORTHWEST	SEC SEG	SECTION/SECOND(ARY)	\/\/ H	ANALL LINGS DANT
CI	CAST IRON	FPS	FEET PER SECOND				SECMENÍT , , ,		WALL HYDRANT
CIP CIR	CAST IRON PIPE/CAST IN PLACE					SHI DR	SEGMENT	WI	WALL HYDRANT WROUGHT IRON
CIRCUM	CIRCIF	FPT FRFQ	FEMALE PIPE THREAD FREQUENCY			SHLDR	SEGMENT SHOULDER SHEET	WI WL WLD	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED
CITCOM	CIRCLE CIRCUMFERENCE	FPT FREQ FRP	FEMALE PIPE THREAD FREQUENCY FIRE RETARDANT POLYESTER RESIN/		- 0 <i>-</i>	SHLDR	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT	WI WL WLD WM	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER
CJP	CIRCUMFERENCE COMPLETE JOINT PENETRATION	FREQ FRP	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER	0/0	OUT TO OUT	SHLDR	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL	WI WL WLD WM WP	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF
CJP CL OR G	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE	FREQ FRP FSTNR	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER	0/0 0C	OUT TO OUT ON CENTER	SHLDR	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR	WI WL WLD WM WP WS	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF
CJP CL OR G	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE	FREQ FRP FSTNR FT	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET	0/0 0C 0D 0F	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE	SHLDR	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE	WI WL WLD WM WP WS WSP WSTP	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP
CJP CL OR Q CL2 CLG CLO	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT	FREQ FRP FSTNR	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER	0/0 0C 0D 0F 0FC	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE	SHLDR	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT	WI WLD WM WP WS WSP WSTP WT	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT
CJP CL OR Q CL2 CLG CLO CLP	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT CLAMP	FREQ FRP FSTNR FT	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET FOOTING	O/O OC OD OF OFC OH	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE OVER HEAD	SHLDR SHT SID SIG SIM SL SLV SO SPC	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT STATE PLANE COORDINATES	WI WLD WM WP WS WSP WSTP WT	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT WATER
CJP CL OR Q CL2 CLG CLO CLP CLR	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT CLAMP CLEAR	FREQ FRP FSTNR FT FTG FUT	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET FOOTING FUTURE	O/O OC OD OF OFC OH OHP	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE OVER HEAD	SHLDR SHT SID SIG SIM SL SLV SO SPC SPEC(S)	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT STATE PLANE COORDINATES SPECIFICATION(S)	WI WL WLD WM WP WS WSP WSTP WT WTR WV	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT WATER WATER WATER
CJP CL OR Q CL2 CLG CLO CLP CLR CLSM	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT CLAMP CLEAR CONTROLLED LOW STRENGTH MATERIAL	FREQ FRP FSTNR FT FTG FUT	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET FOOTING FUTURE - G -	O/O OC OD OF OFC OH OHP OHTEL OPER	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE OVER HEAD OVER HEAD POWER OVER HEAD TELEPHONE OPERATOR	SHLDR SHT SID SIG SIM SL SLV SO SPC SPEC(S) SQ	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT STATE PLANE COORDINATES SPECIFICATION(S) SQUARE SQUARE SQUARE	WI WLD WM WP WS WSP WSTP WT	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT WATER
CJP CL OR Q CL2 CLG CLO CLP CLR CLSM CM	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT CLAMP CLEAR CONTROLLED LOW STRENGTH MATERIAL CENTIMETER CORRUGATED METAL PIPE	FREQ FRP FSTNR FT FTG FUT	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET FOOTING FUTURE - G - GRADE BREAK	O/O OC OD OF OFC OH OHP OHTEL OPER OPNG	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE OVER HEAD OVER HEAD POWER OVER HEAD TELEPHONE OPERATOR OPENING	SHLDR SHT SID SIG SIM SL SLV SO SPC SPEC(S) SQ SQ FT SO SD	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT STATE PLANE COORDINATES SPECIFICATION(S) SQUARE SQUARE SOLIARE SOLIARE SOLIARE SOLIARE SHOULDER SOLIARE SOLIAR	WI WL WLD WM WP WS WSP WSTP WT WT WTR WV	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER
CJP CL OR Q CL2 CLG CLO CLP CLR CLSM CM CMP CMU	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT CLAMP CLEAR CONTROLLED LOW STRENGTH MATERIAL CENTIMETER CORRUGATED METAL PIPE CONCRETE MASONRY UNIT	FREQ FRP FSTNR FT FTG FUT	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET FOOTING FUTURE - G - GRADE BREAK GAS	O/O OC OD OF OFC OH OHP OHTEL OPER OPNG OPP	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE OVER HEAD OVER HEAD POWER OVER HEAD TELEPHONE OPERATOR OPENING OPPOSITE	SHLDR SHT SID SIG SIM SL SLV SO SPC SPEC(S) SQ SQ FT SO SD	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT STATE PLANE COORDINATES SPECIFICATION(S) SQUARE SQUARE SOLIARE SOLIARE SOLIARE SOLIARE SHOULDER SOLIARE SOLIAR	WI WLD WM WP WS WSP WSTP WT WTR WV WWF	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT WATER WATER WATER WATER WATER WATER WATER WELDED WIRE FABRIC WELDED WIRE MESH
CJP CL OR Q CL2 CLG CLO CLP CLR CLSM CM CMP CMU CO	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT CLAMP CLEAR CONTROLLED LOW STRENGTH MATERIAL CENTIMETER CORRUGATED METAL PIPE CONCRETE MASONRY UNIT COUNTY/COMPANY/CONTRACT	FREQ FRP FSTNR FT FTG FUT G/B G GA	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET FOOTING FUTURE - G - GRADE BREAK GAS GAGE	O/O OC OD OF OFC OH OHP OHTEL OPER OPNG OPP ORF	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE OVER HEAD OVER HEAD POWER OVER HEAD TELEPHONE OPERATOR OPENING OPPOSITE ORIFACE	SHLDR SHT SID SIG SIM SL SLV SO SPC SPEC(S) SQ SQ FT SO SD	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT STATE PLANE COORDINATES SPECIFICATION(S) SQUARE SQUARE SOLIARE SOLIARE SOLIARE SOLIARE SHOULDER SOLIARE SOLIAR	WI WL WLD WM WP WS WSP WSTP WT WTR WV WWF WWF	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WATER WALVE WELDED WIRE FABRIC WELDED WIRE MESH
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CJP CL OR Q CL2 CLG CLO CLP CLR CLSM CM CMP CMU CO COL COMB COMM COMPL	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT CLAMP CLEAR CONTROLLED LOW STRENGTH MATERIAL CENTIMETER CORRUGATED METAL PIPE CONCRETE MASONRY UNIT COUNTY/COMPANY/CONTRACT COLUMN COMBINATION COMPLETE	FREQ FRP FSTNR FT FTG FUT G/B GA GAL(S) GALV GENL GIS	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET FOOTING FUTURE - G - GRADE BREAK GAS GAGE GALLON(S) GALVANIZED GENERAL GEOGRAPHIC INFORMATION SYSTEM	O/O OC OD OF OFC OH OHP OHTEL OPER OPP ORF ORIG OS&Y OSHA	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE OVER HEAD OVER HEAD POWER OVER HEAD TELEPHONE OPERATOR OPENING OPPOSITE ORIFACE ORIGINAL OUTSIDE SCREW & YOKE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION	SHLDR SHT SID SIG SIM SL SLV SO SPC SPEC(S) SQ SQ FT SQ SR SR SR SS	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT STATE PLANE COORDINATES SPECIFICATION(S) SQUARE SQUARE SQUARE FOOT (FEET) SQUARE YARD SAMPLE RETURN SINGLE RESIDENTIAL MAIN SANITARY SEWER STREET STATION STANDARD	WI WL WLD WM WP WS WSP WSTP WT WTR WV WWF WWM	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT WATER WATER WATER VALVE WELDED WIRE FABRIC WELDED WIRE MESH - X - CROSS ARM TRANSFORMER TRANSFER
CJP CL OR Q CL2 CLG CLO CLP CLR CLSM CM CMP CMU CO COL COMB COMB COMPL CON	CIRCUMFERENCE COMPLETE JOINT PENETRATION CENTERLINE CHLORINE CEILING CLEANOUT CLAMP CLEAR CONTROLLED LOW STRENGTH MATERIAL CENTIMETER CORRUGATED METAL PIPE CONCRETE MASONRY UNIT COUNTY/COMPANY/CONTRACT COLUMN COMBINATION COMPLETE CONCENTRIC	FREQ FRP FSTNR FT FTG FUT G/B GA GAL(S) GALV GENL GIS GND	FREQUENCY FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER FASTENER FOOT OR FEET FOOTING FUTURE - G - GRADE BREAK GAS GAGE GALLON(S) GALVANIZED GENERAL GEOGRAPHIC INFORMATION SYSTEM GROUND	O/O OC OD OF OFC OH OHP OHTEL OPER OPNG OPP ORF ORIG OS&Y OSHA	OUT TO OUT ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OFFICE OVER HEAD OVER HEAD POWER OVER HEAD TELEPHONE OPERATOR OPENING OPPOSITE ORIFACE ORIGINAL OUTSIDE SCREW & YOKE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION OVERFLOW	SHLDR SHT SID SIG SIM SL SLV SO SPC SPEC(S) SQ SQ FT SQ SR SR SR SS	SEGMENT SHOULDER SHEET SPECIAL IMPROVEMENT DISTRICT SIGNAL SIMILAR SLOPE SLEEVE STUBOUT STATE PLANE COORDINATES SPECIFICATION(S) SQUARE SQUARE SQUARE FOOT (FEET) SQUARE YARD SAMPLE RETURN SINGLE RESIDENTIAL MAIN SANITARY SEWER STREET STATION STANDARD STIRRUP	WI WLD WM WP WS WSP WSTP WT WTR WV WWF WWM	WALL HYDRANT WROUGHT IRON WASTE LINE WELDED WATER METER WORK POINT/WEATHER PROOF WATER SURFACE WELDED STEEL PIPE WATER STOP WEIGHT WATER WATER VALVE WELDED WIRE FABRIC WELDED WIRE MESH - X - CROSS ARM TRANSFORMER
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REGISTERED CIVIL ENGINEER No. XXXXX

ENGINEER'S SEAL

CALL: TOLL FREE

TWO WORKING DAYS BEFORE YOU DIG

CITY OF SAN BERNARDINO, PARKS, RECREATION AND COMMUNITY SERVICES DEPARTMENT CONSTRUCTION NOTES

- 1. WORK WITHIN THE CITY OF SAN BERNARDINO PARKS, RECREATION AND COMMUNITY SERVICE (PARKS DEPARTMENT) PROPERTY SHALL BE COORDINATED WITH JOHN T. TUCKER, PARK MAINTENANCE SUPERVISOR A MINIMUM OF 48—HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY WITHIN PARKS DEPARTMENT PROPERTY.
- 2. LOCATIONS OF THE EXISTING IRRIGATION PIPING WITHIN THE PARKS DEPARTMENT PROPERTY HAS BEEN SHOWN TO THE BEST KNOWN INFORMATION AVAILABLE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL IRRIGATION PIPING, ELECTRICAL CONDUITS, AND APPURTENANCES. ALL IRRIGATION PIPING AND ELECTRICAL CONDUITS SHALL BE PROTECTED AT ALL TIMES BY CONTRACTOR AND REMAIN IN SERVICE DURING CONSTRUCTION. SHUTDOWN OF ANY IRRIGATION ZONES WILL BE LIMITED TO A MAXIMUM OF 4 HOURS. ANY DAMAGES TO IRRIGATION PIPING, ELECTRICAL CONDUITS, OR APPURTENANCES SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR UNDER THE SUPERVISION OF A PARKS DEPARTMENT REPRESENTATIVE.
- 3. ALL LANDSCAPE FEATURES, INCLUDING GRASS, TREES, SHRUBS, PLANTERS, MONUMENTS, AND OTHER MISCELLANEOUS LANDSCAPE FEATURES DISTURBED OR DESTROYED AS A RESULT OF THE CONTRACTORS ACTIVITIES SHALL BE REPLACED TO PRE—CONSTRUCTION CONDITIONS BY THE CONTRACTOR AT THE DIRECTION OF A PARKS DEPARTMENT REPRESENTATIVE. ALL LANDSCAPE RESTORATION ACTIVITIES SHALL MEET OR EXCEED THE PARKS DEPARTMENT STANDARDS.
- 4. ALL TRENCH EXCAVATIONS SHALL BE RESTRICTED FROM ENTRY AND COVERED COMPLETELY AFTER WORKING HOURS TO PREVENT VANDALISM AND ACCIDENTS BY THE GENERAL PUBLIC.
- 5. ALL MISCELLANEOUS CONCRETE SIDEWALKS SHALL BE REPLACED PER CITY STD. PLAN NO. 202 BY THE CONTRACTOR TO THE NEAREST CONSTRUCTION JOINTS AS DIRECTED BY A PARKS DEPARTMENT REPRESENTATIVE.
- 6. ALL MISCELLANEOUS CONCRETE CURB AND GUTTER REPLACEMENT SHALL BE PER CITY STD. PLAN NO. 200 BY THE CONTRACTOR AS DIRECTED BY PARKS DEPARTMENT REPRESENTATIVE.
- 7. ALL LANDSCAPE RELATED WORK BY THE CONTRACTOR SHALL COME WITH A 180 CALENDAR DAY WARRANTY AT NO COST TO THE DEPARTMENT.

SURVEY INFORMATION

<u>SURVEYOR</u> EDC CONSULTANTS 350 WEST FIFTH STREET, SUITE 201A

BENCHMARK
1 1/4" BRASS DISC MARKED "MUSCOY BL—S 2001" LOCATED AT THE S.W.
CORNER OF BASELINE AVENUE AND STODDARD AVENUE IN TOP OF CONCRETE

CURB 2 FEET SOUTH OF ECR.
ELEV.= 1099.39 FEET NGVD29

BASIS OF BEARING
THE CALIFORNIA STATE PLANE COODINATE SYSTEM, NAD 83, ZONE V, AS DEFINED BY THE FOLLOWING CORS CONTROL STATIONS:
LAKE SKINNER (BILL) CORS STA. PID AF9684H
PINON 1 (PIPI) CORS STA. PID AF9708H

DATE OF SURVEY

CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT

PROJECT TITLE

DRAWING SCALES:
HORIZ: N/A VERT: N/A
C.O. NO.:
XXXX

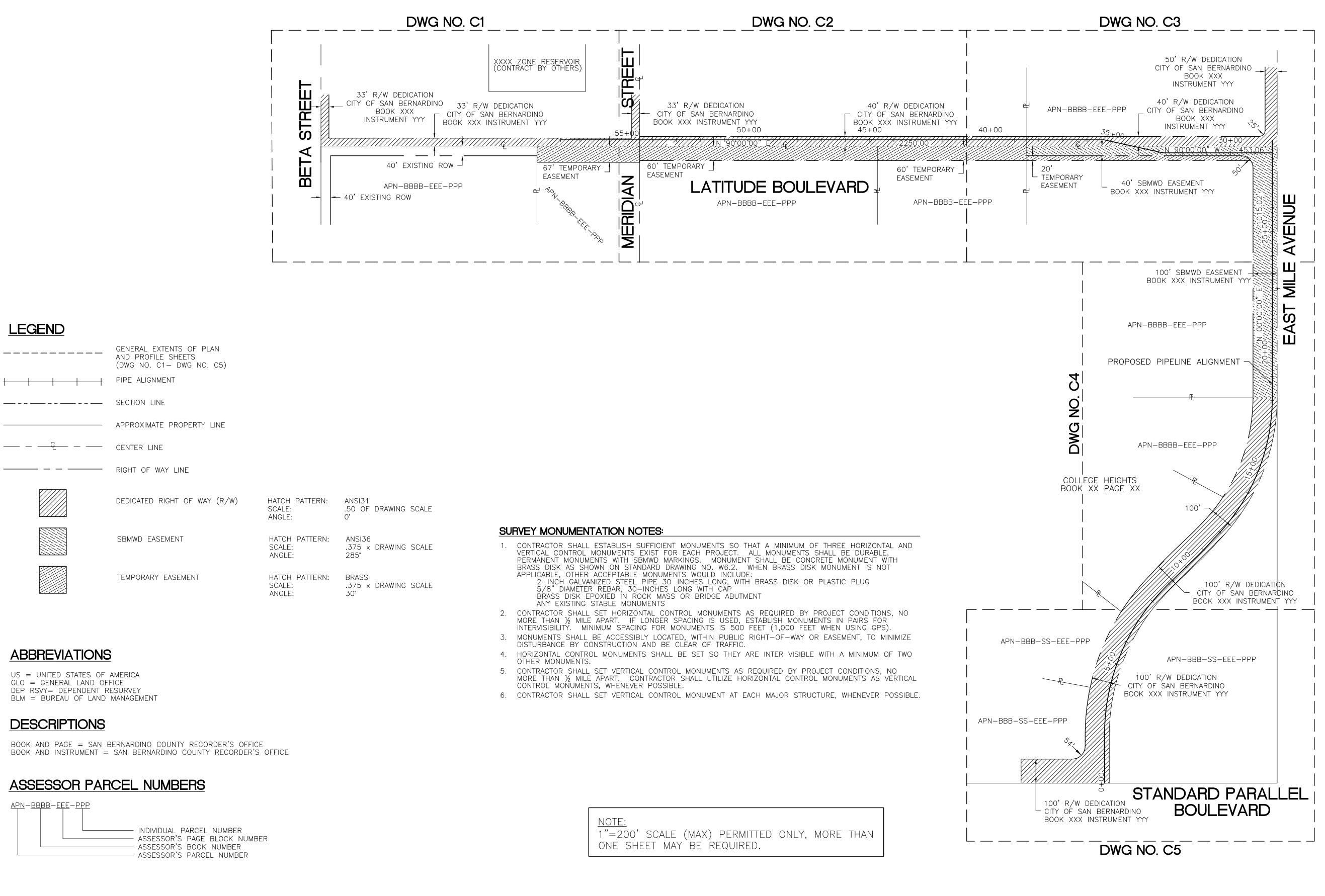
ABBREVIATIONS, SURVEY INFORMATION AND PARK RECREATION NOTES

DESIGNED BY: XX DRAWN BY: XX CHECKED BY: XX DESIGN ENGINEER SBMWD ENGINEER ELEV. = XXXX.XX FT.

SHEET 4 OF XX

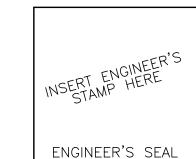
C-XXXX-4-G-G4.DWG

DWG G4

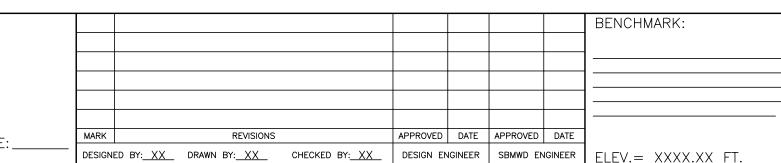


UNDERGROUND SERVICE ALERT CALL: TOLL FREE 227-2600 TWO WORKING DAYS BEFORE YOU DIG

LEGEND

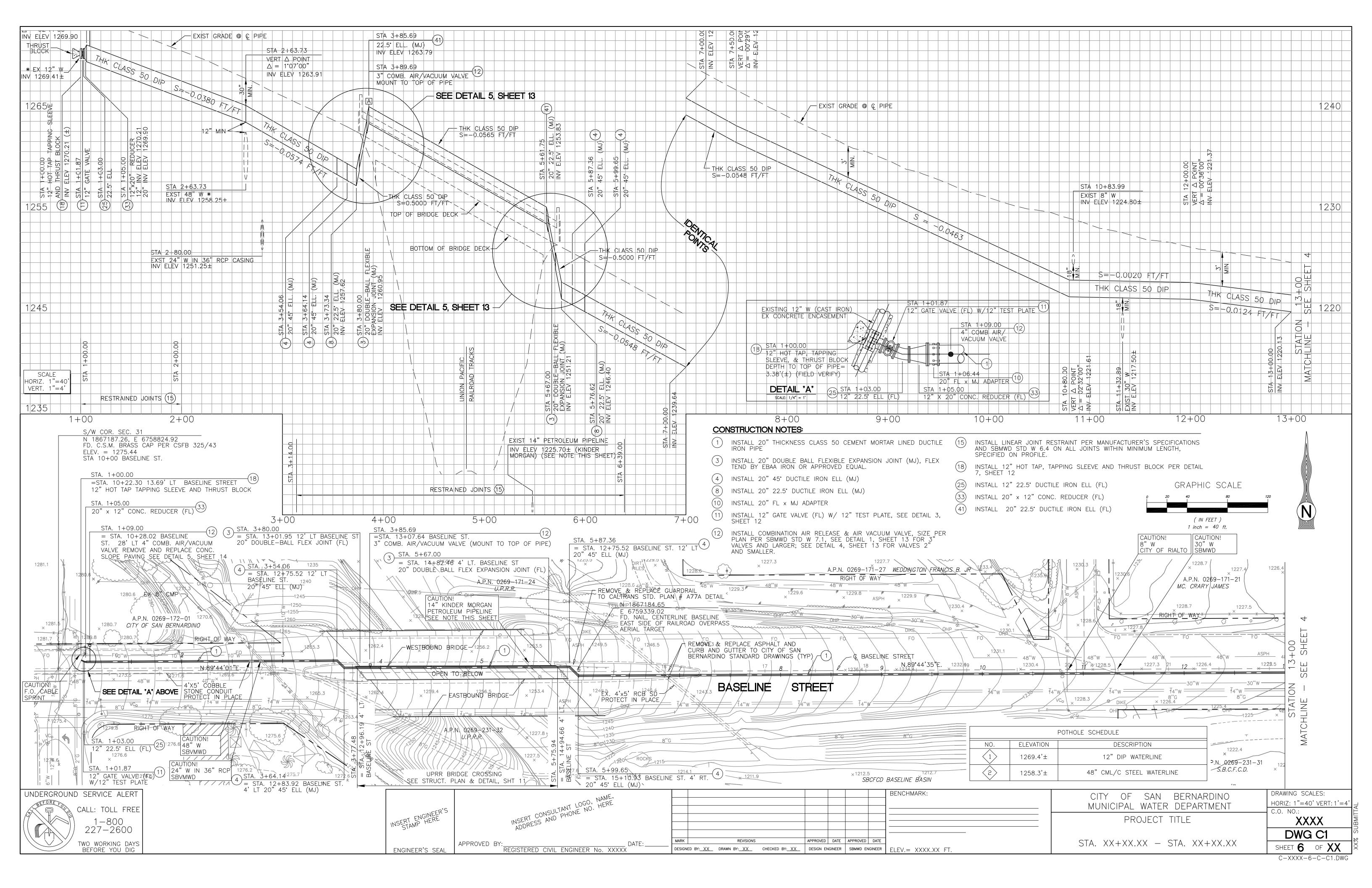


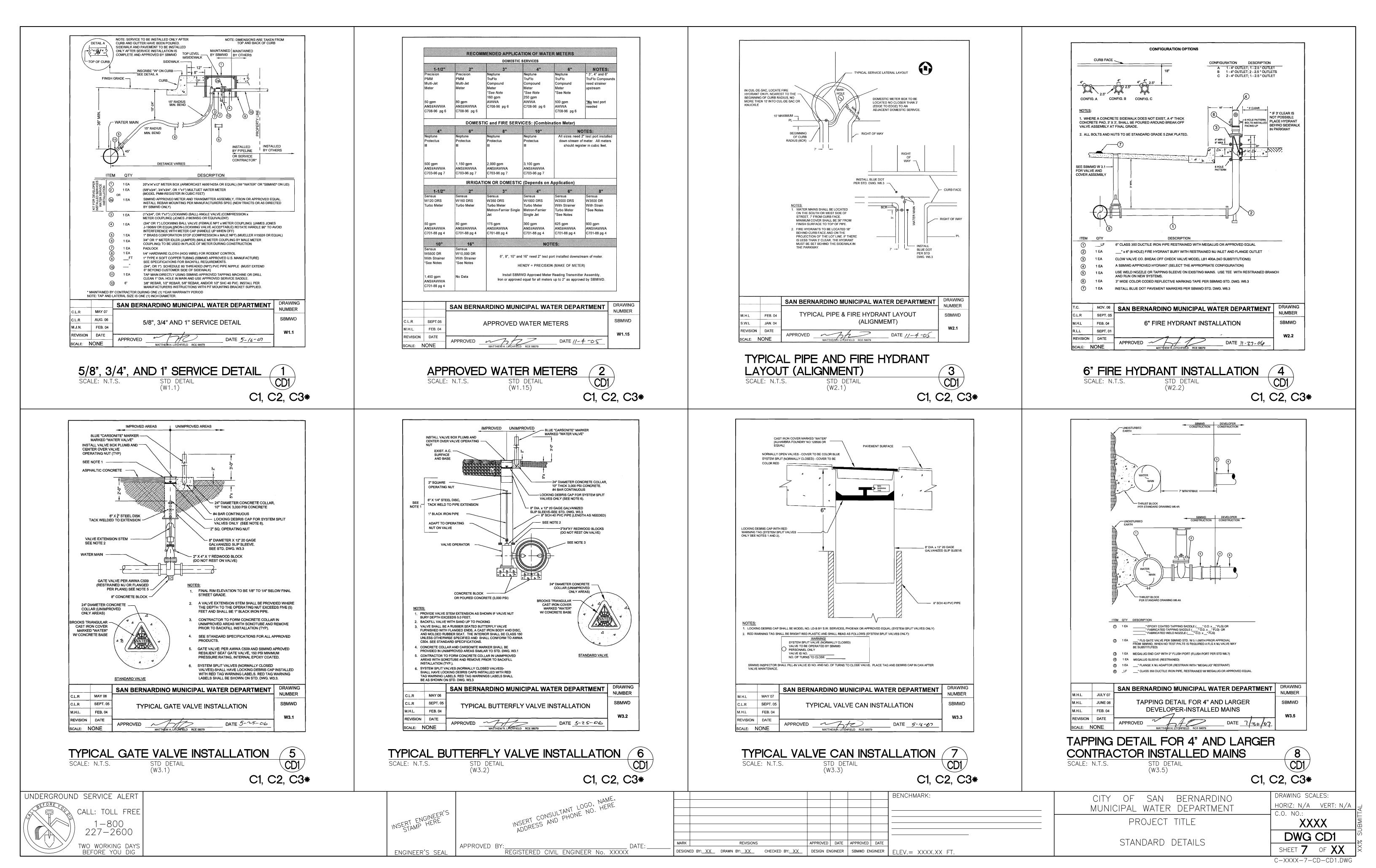


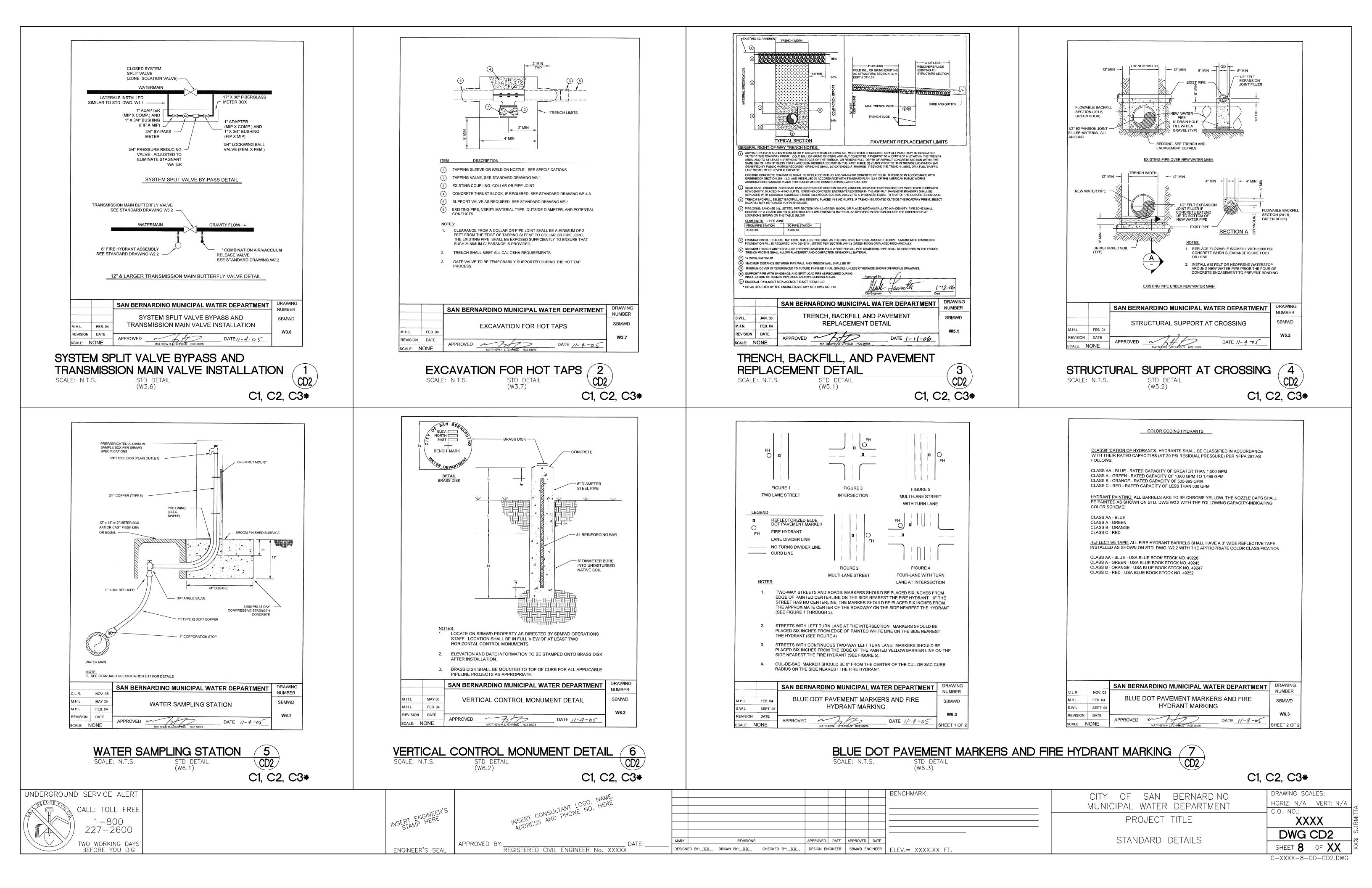


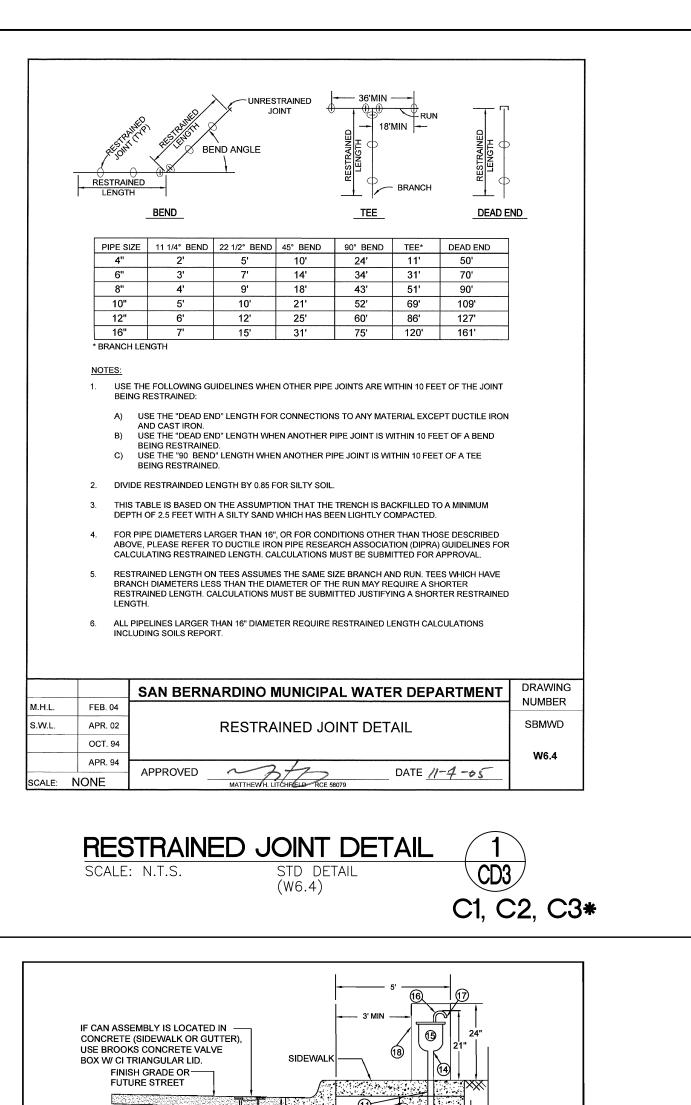
DRAWING SCALES: CITY OF SAN BERNARDINO HORIZ: N/A VERT: N/A MUNICIPAL WATER DEPARTMENT C.O. NO.: PROJECT TITLE XXXX DWG SV1 RIGHT-OF-WAY AND MONUMENTATION

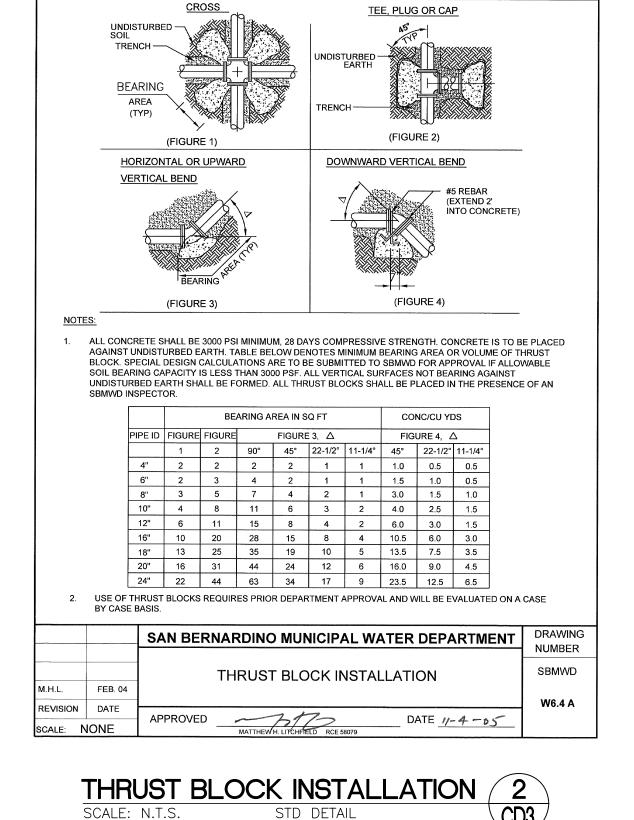
SHEET 5 OF XX C-XXXX-5-SV-SV1.DWG

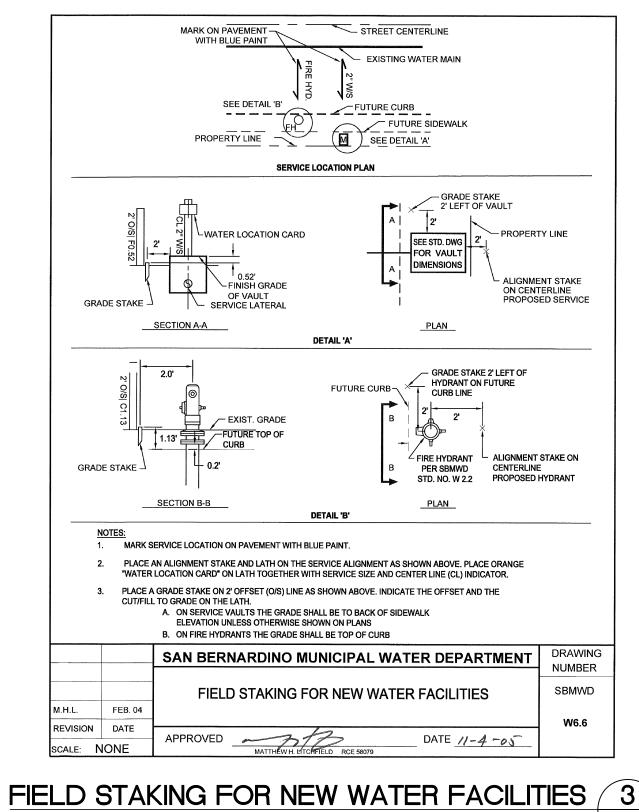


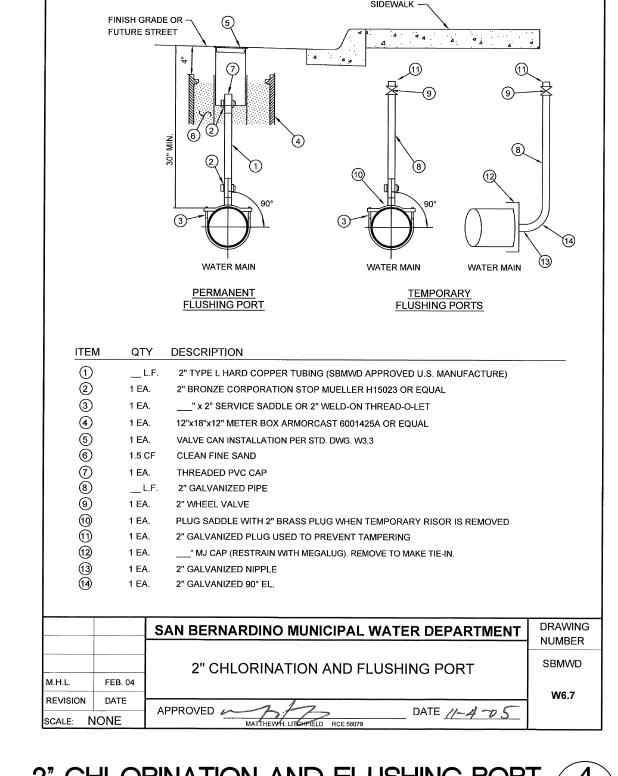




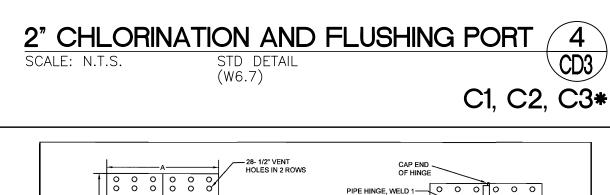


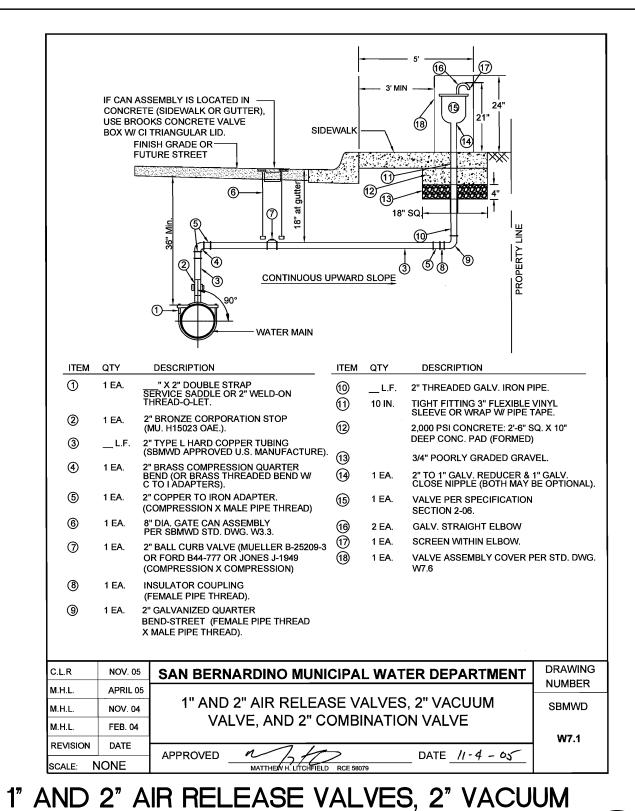








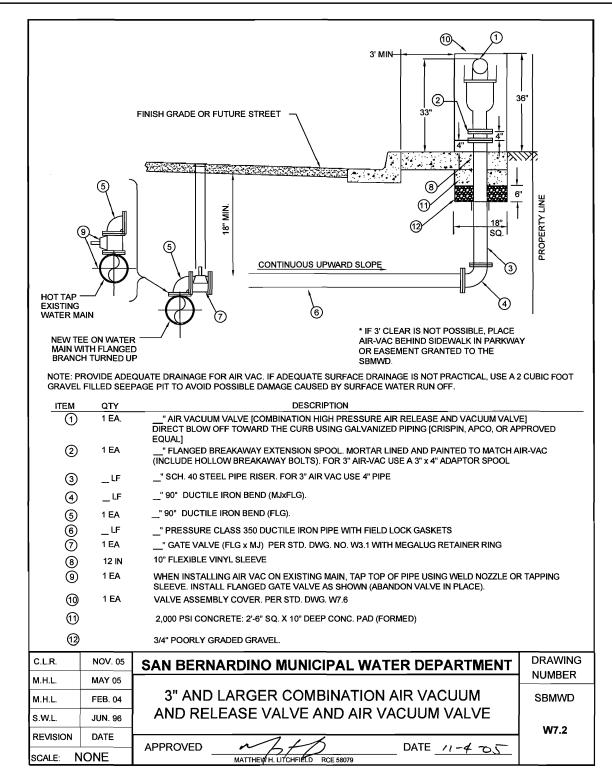




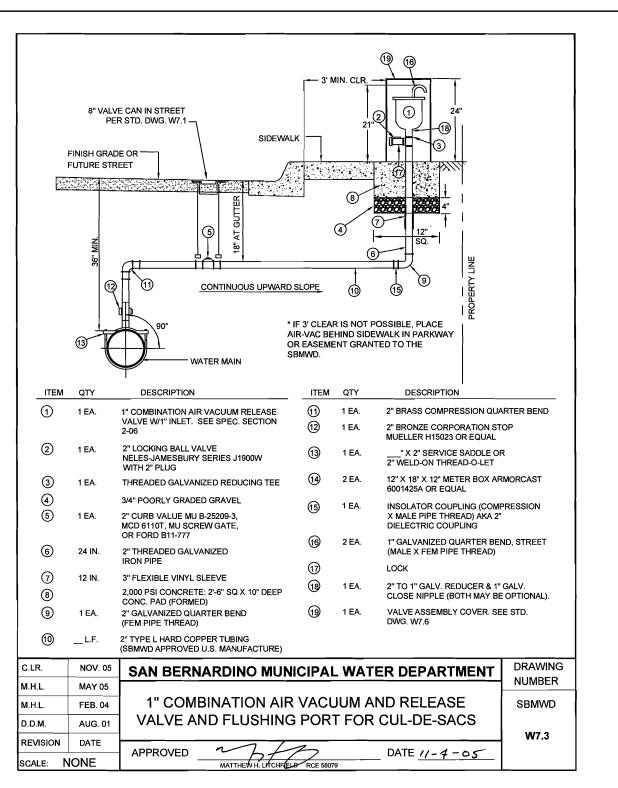
VALVE, AND 2" COMBINATION VALVE

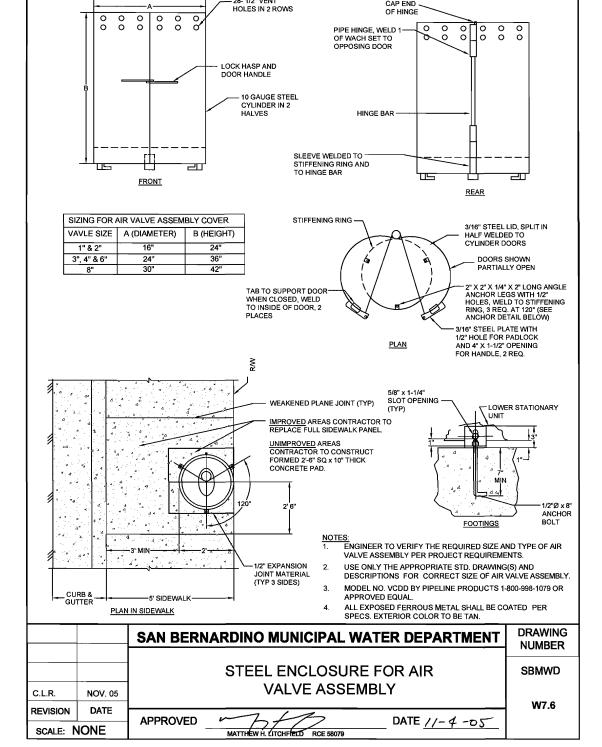
STD DETAIL

(W7.1)



(W6.4A)







(W7.2)

1" COMBINATION AIR AND VACUUM RELEASE VALVE AND FLUSHING PORT FOR CUL-DE-SACS

SCALE: N.T.S. STD DETAIL (W7.3)

C1, C2, C3*

STEEL ENCLOSURE FOR AIR VALVE ASSEMBLY

SCALE: N.T.S.

STD DETAIL
(W7.6)

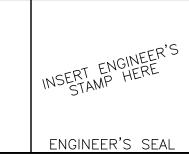
C1, C2, C3*

UNDERGROUND SERVICE ALERT

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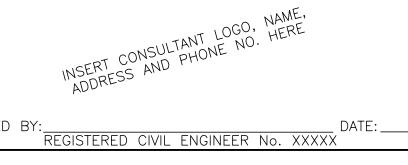
1-800
227-2600

TWO WORKING DAYS
BEFORE YOU DIG

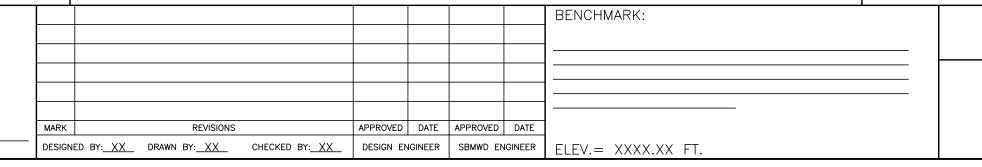


5`

C1, C2, C3*



C1, C2, C3*



CD3

CITY OF SAN BERNARDINO
MUNICIPAL WATER DEPARTMENT

PROJECT TITLE

STANDARD DETAILS

DRAWING SCALES:
HORIZ: N/A VERT: N/A
C.O. NO.:

XXXXX

DWG CD3

SHEET **9** OF **XX** C-XXXX-9-CD-CD3.DWG

PLANT MAP AUTOCAD™ STANDARDS

W:\AUTOCAD\SBMWD CAD STANDARDS\PLANT MAP\

C-XXXX-1-G-G1.dwg

C-XXXX-2-SV-SV1.dwg

C-XXXX-3-C-C1.dwg

C-XXXX-4-C-C2.dwg

PROJECT-VICINITY BERNARDINO **REDLANDS** MORENO VALLEY **BEAUMONT**

VICINITY MAP

CONSTRUCTION NOTES, ESTIMATED QUANTITIES AND LEGEND

ABBREVIATIONS, SURVEY INFORMATION AND PARK RECREATION NOTES

5 — RIGHT-OF-WAY AND MONUMENTATION

PLAN/PROFILE

STANDARD DETAILS

STANDARD DETAILS

STANDARD DETAILS

SHEET INDEX

SHEET NO. DESCRIPTION

2 — GENERAL NOTES

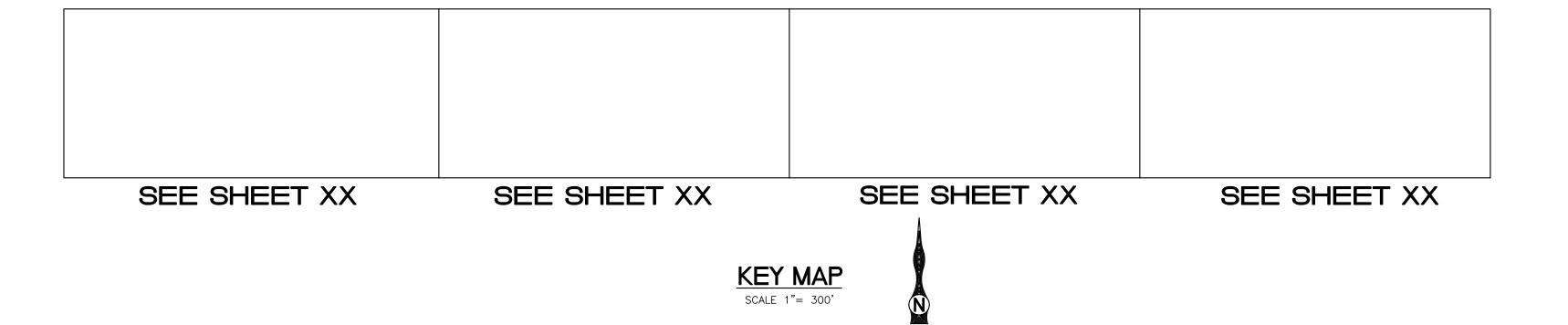
SAN BERNARDINO MUNICIPAL WATER DEPARTMENT SPECIFICATION NO. XXXX

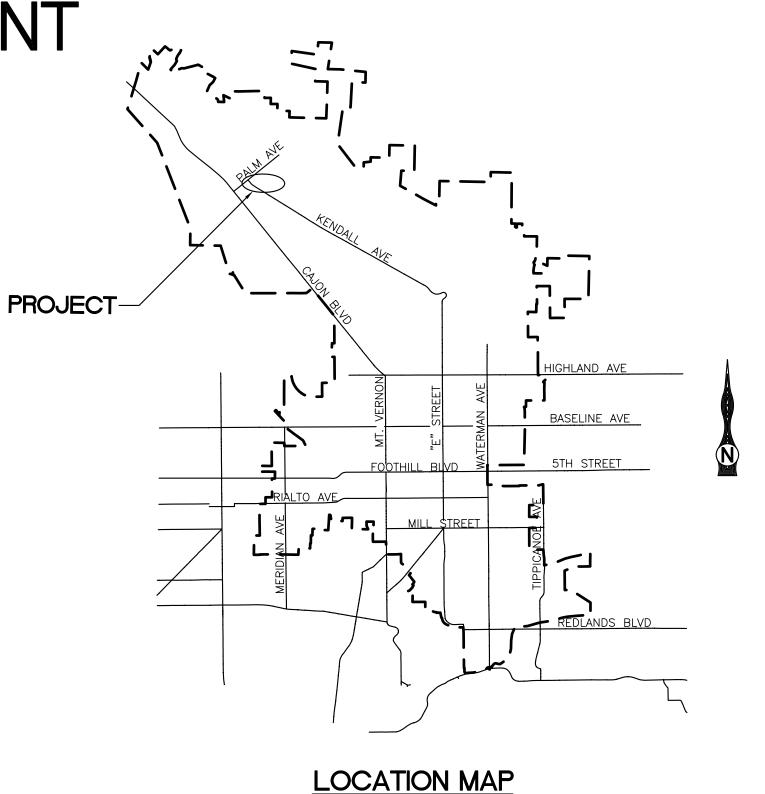
PROJECT TITLE



FOR EXAMPLE ONLY

- 1. THE CONTENTS OF THIS SET OF DRAWINGS WAS CREATED TO PROVIDE A GRAPHIC REPRESENTATION OF SBMWD AUTOCAD STANDARD REQUIREMENTS AND EXPECTATIONS.
- 2. <u>ALL</u> TYPES OF INFORMATION ON THIS SET OF DRAWINGS IS REQUIRED TO BE PROVIDED AS SHOWN FOR THE PROJECT SUBMITTAL TO BE ACCEPTED AND APPROVED (TYP).





CITY FIRE DEPARTMENT'S CERTIFICATE

THIS CERTIFIES THAT ON _______, I REVIEWED THE PLAN FOR THE 1720 ZONE WEST TRANSMISSION MAIN, AND FOUND THAT IT MEETS THE MINIMUM REQUIREMENTS OF THE CITY OF SAN BERNARDINO FIRE DEPARTMENT'S FIRE CODES AND

FIRE MARSHALL (909) 384-5388

WATER DEPARTMENT'S ENGINEER CERTIFICATE

THIS CERTIFIES THAT ON ________, I REVIEWED THE PLAN FOR THE 1720 ZONE WEST TRANSMISSION MAIN, AND FOUND THAT IT MEETS THE MINIMUM REQUIREMENTS OF THE CALIFORNIA HEALTH AND SAFETY CODE.

MATTHEW H. LITCHFIELD P.E. DIRECTOR, WATER UTILITY CA. R.C.E. 58079 EXPIRATION DATE: 6/30/2010 (909) 384-5107

TITLE SHEET

UNDERGROUND SERVICE ALERT BEFORE YOU DIG

DECLARATION OF RESPONSIBLE CHARGE: ENGINEER OF WORK: I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE DESIGN IS CONSISTANT WITH OUR DESIGN IS CONSISTANT I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE SAN BERNARDINO MUNICIPAL WATER DEPARTMENT IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT

REGISTERED CIVIL ENGINEER No. XXXXX

DESIGNED BY: XX DRAWN BY: XX CHECKED BY: XX DESIGN ENGINEER SBMWD ENGINEER ELEV.= XXXX.XX FT.

CITY OF SAN BERNARDINO

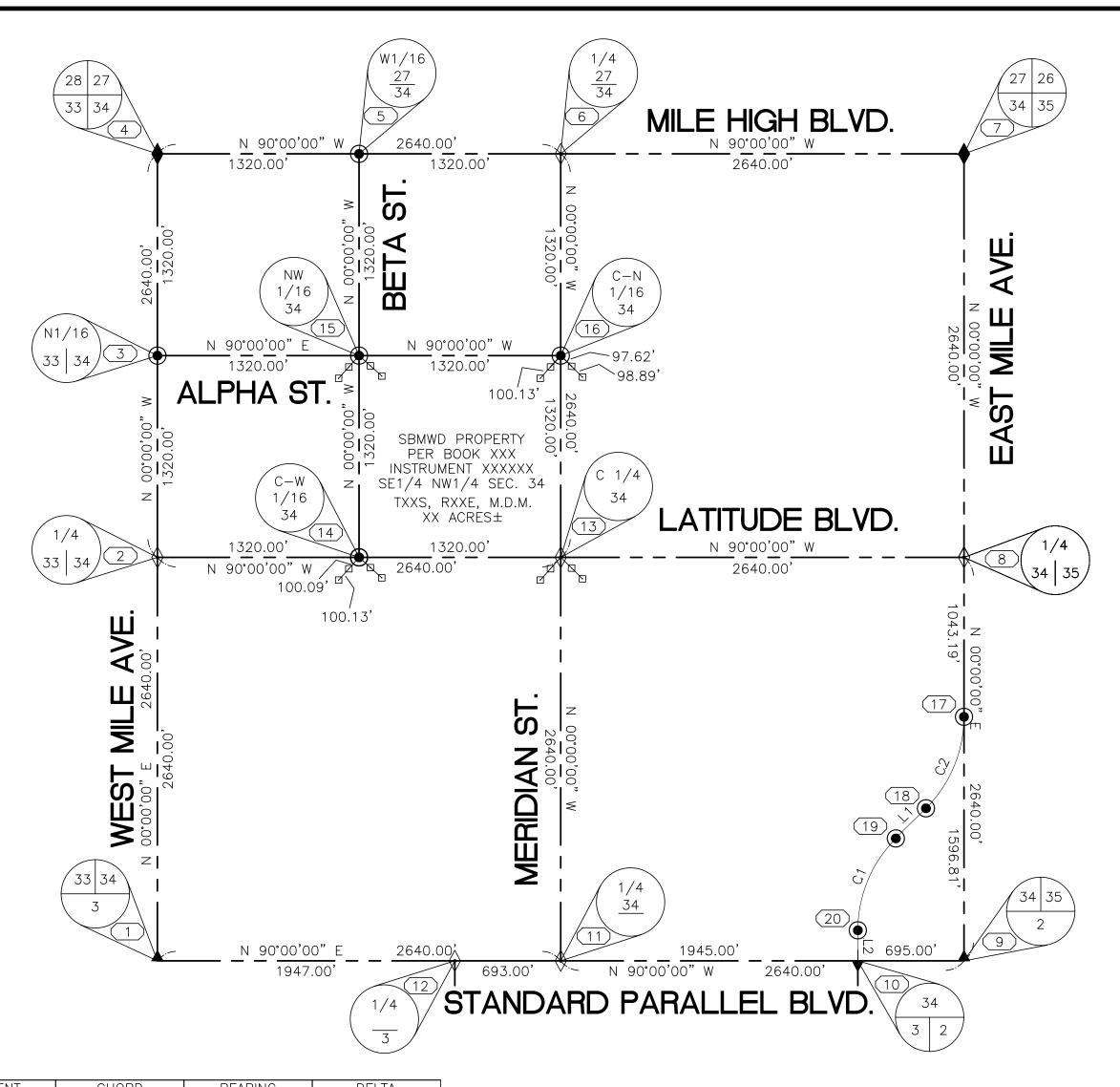
MUNICIPAL WATER DEPARTMENT PROJECT TITLE

DWG G1 OF XX

DRAWING SCALES:

HORIZ: N/A VERT: N/A

XXXX



HORIZONTAL LINE TABLE

L	LINE	DIRECTION	DISTANCE
	L1	N 45°00'00" E	278.72'
	L2	N 00°00'00" W	200.00'

HORIZONTAL CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	850.00'	667.59'	352.08'	650.56'	N 22°30'00" E	45°00'00"
C2	850.00'	665.23	350.70'	648.38	N 22°34'46" F	44°50'28"

PROJECT CONTROL COORDINATE TABLE

POINT	PROJECT COORDINATE INFORMATION					STATE OF CALIFORNINA COORDINATE SYSTEM 1983 HARN BASED		GEOGRAPHIC COORDINATES NAD 83		
	HORIZONTAL: U.S. SURVEY FEET		VERTICAL: NAVD 88 U.S. SURVEY FEET		EAST ZONE (METERS)		HARN BASED			
NO.	NORTHING	EASTING	ELEV	DESCRIPTION	PROVENANCE	NORTHING	EASTING	LATITUDE	LONGITUDE	ELLIPSOID HT. (FT)
1	20000.0000	20000.0000		F 3-1/2" DIA. AL CP PLS 2050	RS, FL XXX, PG XXX	8157242.484	237485.347	36° 10′ 00.0000″	115° 10' 00.0000"	2145.26
2	22640.0000	20000.0000	2700.00	F 1-1/2" DIA. AL CP PLS 5072	PM, BK XXX, PG XXX	8158046.988	237488.800	36° 10′ 26.1024″	115° 09' 59.7236"	2455.11
3	23960.0000	20000.0000	2600.00	F 1-1/2" DIA. AL CP PLS 4046	SD, BK XXX, PG XXX	8158449.240	237490.526	36° 10′ 39.1536″	115° 09' 59.5854"	3222.86
4	25280.0000	20000.0000		F 3-1/4" DIA. BC BLM "1956"	BLM DEP RSVY, 9/58	8158851.492	237492.253	36° 10′ 52.2048″	115° 09' 59.4472"	2890.03
5	25280.0000	21320.0000	2550.00	S 1-1/4" DIA. AL CP PLS 9677	SET PER REFERENCES	8158849.766	237894.505	36° 10′ 52.0924″	115° 09' 43.3486"	2776.21
							L — — — —			

FOR EXAMPLE ONLY

- 1. THE CONTENTS OF THIS DRAWING WERE CREATED TO PROVIDE A GRAPHIC REPRESENTATION OF SBMWD AUTOCAD STANDARD REQUIREMENTS AND EXPECTATIONS FOR SURVEY SHEETS.
- 2. ALL TYPES OF INFORMATION ON THIS DRAWING ARE REQUIRED TO BE PROVIDED AS SHOWN FOR

DESCRIPTION:

THE PROJECT SUBMITTAL TO BE ACCEPTED AND APPROVED (TYP) CONTROL COORDINATE TABLE ABBREVIATION LISTING

PROVENANCE:

RS = RECORD OF SURVEY FL = FILE (CLARK CO. RECORDER) BLM = BUREAU OF LAND MANAGEMENT PM = PARCEL MAP

PG = PAGE (CLK. CO. RECORDER) GLO = GENERAL LAND OFFICE BK = BOOK (CLK. CO. RECORDER) DEP RSVY= DEPENDENT RESURVEY SD = SUBDIVISION MAP

F = FOUND

CP = CAPS = SET, THIS SURVEYAL = ALUMINUMDIA. = DIAMETER (CIRCULAR) BC = BRASS CAP (DISK) HARN = HIGH ACCURACY REF. NETWORK

GENERAL: "1958" = DATE SET BY BLM/GLO ELEV = ELEVATIONPLS = PROFESSIONAL LAND SURVEYOR NO. = NUMBER

LEGEND

---- CADASTRAL LINE CENTERLINE DEDICATED RIGHT-OF-WAY — TIE DISTANCE DIMENSION LINE SECTION CORNER, SEE PROVENANCE 1/4 SECTION CORNER, SEE PROVENANCE FOUND OR SET, SEE PROVENANCE SET P/K & TAG, PLS 9677 IN-LINE REFERENCES 100.00 FEET SPACING UNLESS STATED OTHERWISE MONUMENT IDENTIFICATION NUMBER SEE "PROJECT CONTROL COORDINATE TABLE" (999)

PROJECT BENCHMARK

DESCRIPTION: FOUND 1-1/2" X 2" ALUMINUM PLATE AND RIVET LOCATED IN TOP OF CURB AT THE NORTH RETURN, NORTHEAST QUADRANT OF THE INTERSECTION OF XXXXX ST. WITH XXXXX AVE. ELEVATION = XXX.XXX FEET (NAVD 88) SOURCE: BENCHMARK STATION XC21 XXSWWX

ON-SITE BENCHMARKS

IN ADDITION TO THE 3 DIMENSIONAL POSITIONS FOUND WITHIN THE "PROJECT CONTROL VERIFIED COORDINATE TABLE", THE FOLLOWING BENCHMARKS WERE SET FOR ON-SITE VERTICAL CONTROL:

"X" IN CONCRETE AT NE COR. ELECTRIC VAULT, 80' S OF AND 40' W OF NE COR. SE1/4 NW1/4 SECTION 34. ELEVATION = xxxx.xx (U.S. SURVEY FEET NAVD'83)

BASIS OF BEARINGS

THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION XX, TOWNSHIP XX SOUTH, RANGE XX EAST, XX MERIDIAN, AS SHOWN ON THE [XX] ON THE FIELD AT COUNTY OF SAN BERNARDINO.

REFERENCES

- PARCEL MAPS: XXX-XXX; XXX-XXX; XXX-XXX; XXX-XXX
- 2. SURVEYS: XXX-XXX; XXX-XXX; XXX-XXX; XXX-XXX
- PLATS: XXX-XXX; XXX-XXX; XXX-XXX; XXX-XXX 4. CORNER RECORDS: XXX-XXX; XXX-XXX; XXX-XXX
- 5. GOV'T. PLATS: DEP. RSRVY., USBLM SEPT. 1958, ORIG. SRVY. AUG. 1881.
- 6. UNRECORDED SURVEYS: XXX 7. QUASI-MUNICIPAL RECORDS: XXX
- 8. THE TITLE REPORT WAS FURNISHED BY XXXXXX , SPECIFICALLY PREPARED BY, OR UNDER THE RESPONSIBLE CHARGE OF, XXXX XXXXXXXXX, TITLE OFFICER. SAID REPORT AND COPIES OF ALL EXCEPTIONS TO THE PROPERTIE(S) WERE FURNISHED BY SAID OFFICER UNDER REPORT NO. XXXXXXXX, DTD. X/X/XX @ 7:30AM.

ENCHMARK:

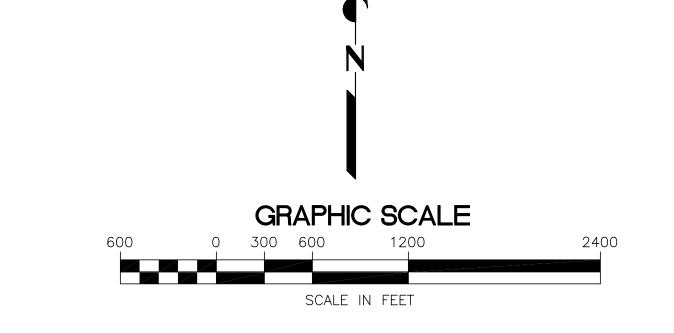
NOTES

1. THIS SURVEY WAS PERFORMED UTILIZING TRIMBLE STATIC AND FAST STATIC GPS SURVEING TECHNIQUES. THE PUBLISHED TECHNICAL ACCURACY SPECIFICATIONS USING THIS EQUIPMENT AND PROCESSING SOFTWARE ARE LISTED AS FOLLOWS:

HORIZONTAL: $\pm [5MM + (1PPM \times BASELINE)]$ (1 SIGMA) VERTICAL: $\pm [10MM + (1PPM X BASELINE)]$ (1 SIGMA) THE PRECEDING REQUIRES THE FOLLOWING MINIMUM FIELD CONDITIONS: P.D.O.P.<6, R.M.S.<50, SATELLITES>5, OBSTRUCTION MASK ANGLE<13° (TRIMBLE LIT. ID# TID10358 11/95, TRIMBLE NAVIGATION LTD.)

2. TRIMBLE SOFTWARE USED FOR THIS SURVEY INCLUDES: PROJECT MANAGEMENT: GPSURVEY VERSION 2.20 LEAST SQUARES ADJUSTMENT: TRIMNET VERSION 2.20 BASELINE PROCESSOR: WAVE VERSION 2.20

- 3. EQUIPMENT USED FOR THIS SURVEY INCLUDES:
- * 3 TRIMBLE 4000SSi RECEIVERS,
- * 2 L1/L2 COMPACT ANTENNAS WITH GROUND PLANE * SOKKIA TRIBRACHS (RECENTLY CALIBRATED)
- * SOKKIA WOODEN TRIPODS
- * 1 L1/L2 GEODETIC ANTENNA WITH PERMANENT GROUND PLANE



SURVEYOR'S CERTIFICATE

I, XXXXXXXX X. XXXXXXX, A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF CALIFORNIA, ACTING AS AGENT FOR XXXXXXXXXXXXXXX XXXXXXXX, HEREBY CERTIFY THAT:

1. THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY DIRECT SUPERVISION AT THE INSTANCE OF THE SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

2. THE LANDS SURVEYED LIES WITHIN THE XX QUARTER OF SECTION XX, TOWNSHIP XX SOUTH, RANGE XX EAST, [XX] SAN BERNARDINO COUNTY, CALIFORNIA, AND THE SURVEY WAS COMPLETED ON XX/XX/XX.

3. THIS PLAT COMPLIES WITH APPLICABLE STATUTES OF THIS STATE AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE SURVEY WAS COMPLETED.

4. THE MONUMENTS DEPICTED ON THE PLAT ARE OF THE CHARACTER SHOWN, OCCUPY THE POSITIONS INDICATED, AND ARE OF SUFFICIENT

5. THIS PLAT AND THE SURVEY ON WHICH IT IS BASED UPON WAS PERFORMED IN RECOGNITION OF THE RELATIVE POSITIONAL TECHNICAL ACCURACY SPECIFICATIONS AS PUBLISHED BY THE MANUFACTURER (SEE "NOTES").

XXXXXXXX X. XXXXXXX PROFESSIONAL LAND SURVEYOR CALIFORNIA PLS NO. XXXX

ENVELOPING EXTERIOR CONTROL

THE FOLLOWING GEODETIC CONTROL POINTS WERE HELD FIXED DURING THE FINAL CONSTRAINED LEAST SQUARES ADJUSTMENT:

NAME	GENERAL PROVENANCE	LOCAL PROVENANCE		
XXX	NGS DATASHEETS, MAY 1995, CD ROM 1236900	MM, FL 002, PG 032		
XXX	NGS DATASHEETS, MAY 1995, CD ROM 1236900	MM, FL 002, PG 032		

TRANSFORMATION-CONVERSION PARAMETERS

1. NAVD 88 ELEVATION FACTOR: 20,906,000 20,906,000 + 2409.93 + 90.05

2. PROJECT CENTRAL (MEAN E-W EXTENT) ELLIPSOID TO GRID FACTOR: 0.9999181

3. PROJECT COMBINED FACTORS:

GROUND TO GRID: 0.9997985; GRID TO GROUND 1.0002015

4. EAST OF CENTRAL MERIDIAN ROTATIONAL PARAMETER: 00° 14' 45" CLOCKWISE FROM THIS PROJECT CARTESIAN COORDINATE SYSTEM TO THE STATE PLANE GRID SYSTEM.

5. ENGLISH/METRIC CONVERSIONS: METERS $\times (\frac{3937}{1200}) = \text{U.S. SURVEY FEET}$

U.S. SURVEY FEET $\times \left(\frac{1200}{3937}\right) = METERS$

2D CONFORMAL TRANSFORMATION PARAMETERS

1. EQUATIONS: aX - bY + TX = X2 + vx; bX + ay + ty = Y2 + vy

2. WHERE: (X,Y) ARE STATE PLANE VALUES AND (x,y) ARE PROJECT COORDINATES.

3. a = 0.99978950; b = -0.00429111; Tx = 26742643.082; Ty = 759068.023

4. ROTATION = 0° 14' 45.3"

5. SCALE = 0.99980

RECORDER'S NOTE

ANY SUBSEQUENT CHANGES TO THIS MAP MAY BE DETERMINED BY REFERENCE TO THE COUNTY RECORDER'S CUMULATIVE MAP INDEX. NRS 278.5695



1 - 800227-2600

BEFORE YOU DIG

REGISTERED CIVIL ENGINEER No. XXXXX

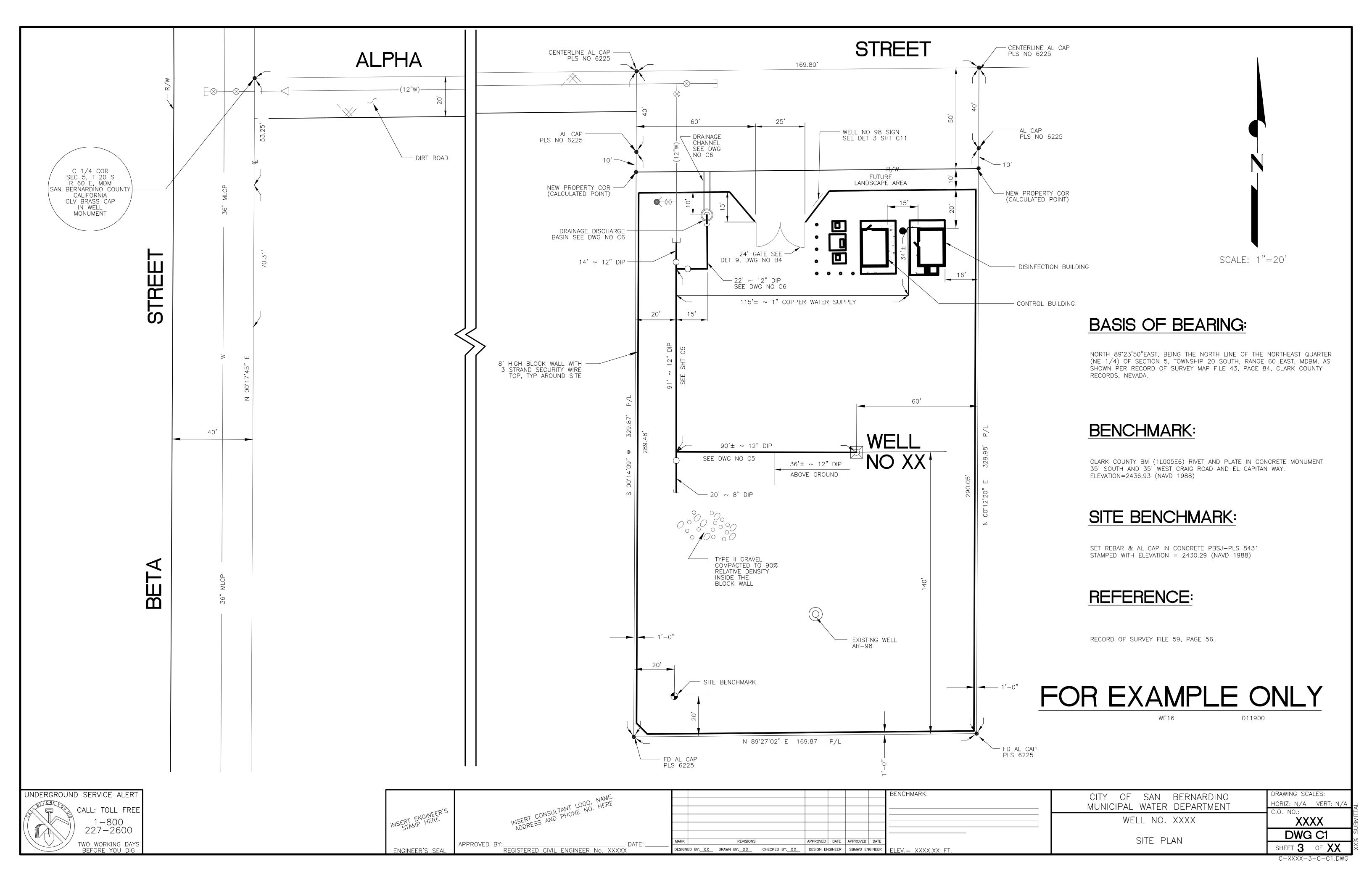
APPROVED DATE APPROVED DATE DESIGNED BY: XX DRAWN BY: XX CHECKED BY: XX DESIGN ENGINEER SBMWD ENGINEER FIFV = XXXXXXX FT MUNICIPAL WATER DEPARTMENT

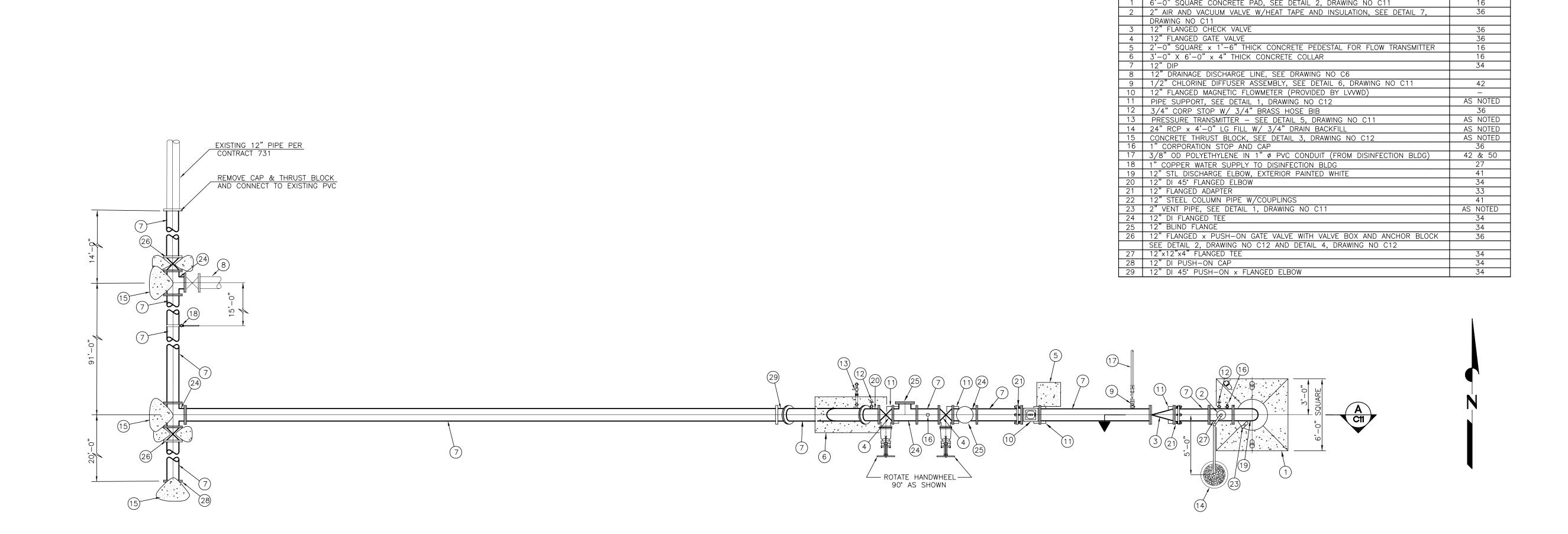
WELL NO. XXXX RECORD OF SURVEY

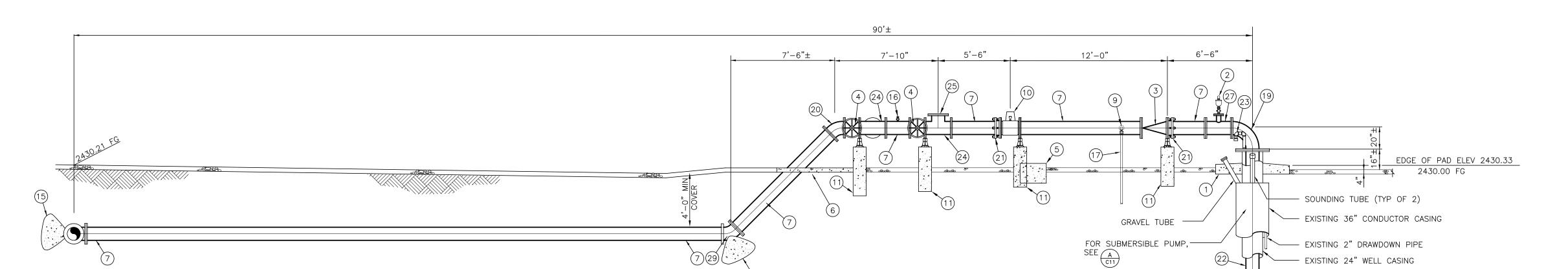
CITY OF SAN BERNARDINO

HORIZ: N/A VERT: N/A XXXX DWG SV1 SHEET 2 OF XX

DRAWING SCALES:







FOR EXAMPLE ONLY

PUMP PIPING PROFILE SCALE: 1/4" = 1'

PUMP PIPING PLAN

SCALE: 1/4" = 1'

UNDERGROUND SERVICE ALERT CALL: TOLL FREE

	JAME,			BENCHMARK:	CITY OF SAN BERNARDINO	DRAWING SCALES:
	LOGO, NAME				MUNICIPAL WATER DEPARTMENT	HORIZ: N/A VERT: N/A
ICINEER'S	CONSULTANT NO.					C.O. NO.:
INSERT ENGINEE	INSERT CO AND FITTE				WELL NO. XXXX	XXXX
200	ADD.					DWG C2
ENCINEED'S SEAL	APPROVED BY:DATE:	MARK	APPROVED DATE SBMWD ENGINEER	FLEV - VVVV VV ET	PIPING PLAN	SHEET 4 OF XX

DESCRIPTION

1 6'-0" SQUARE CONCRETE PAD, SEE DETAIL 2, DRAWING NO C11

SPEC. DIVISION