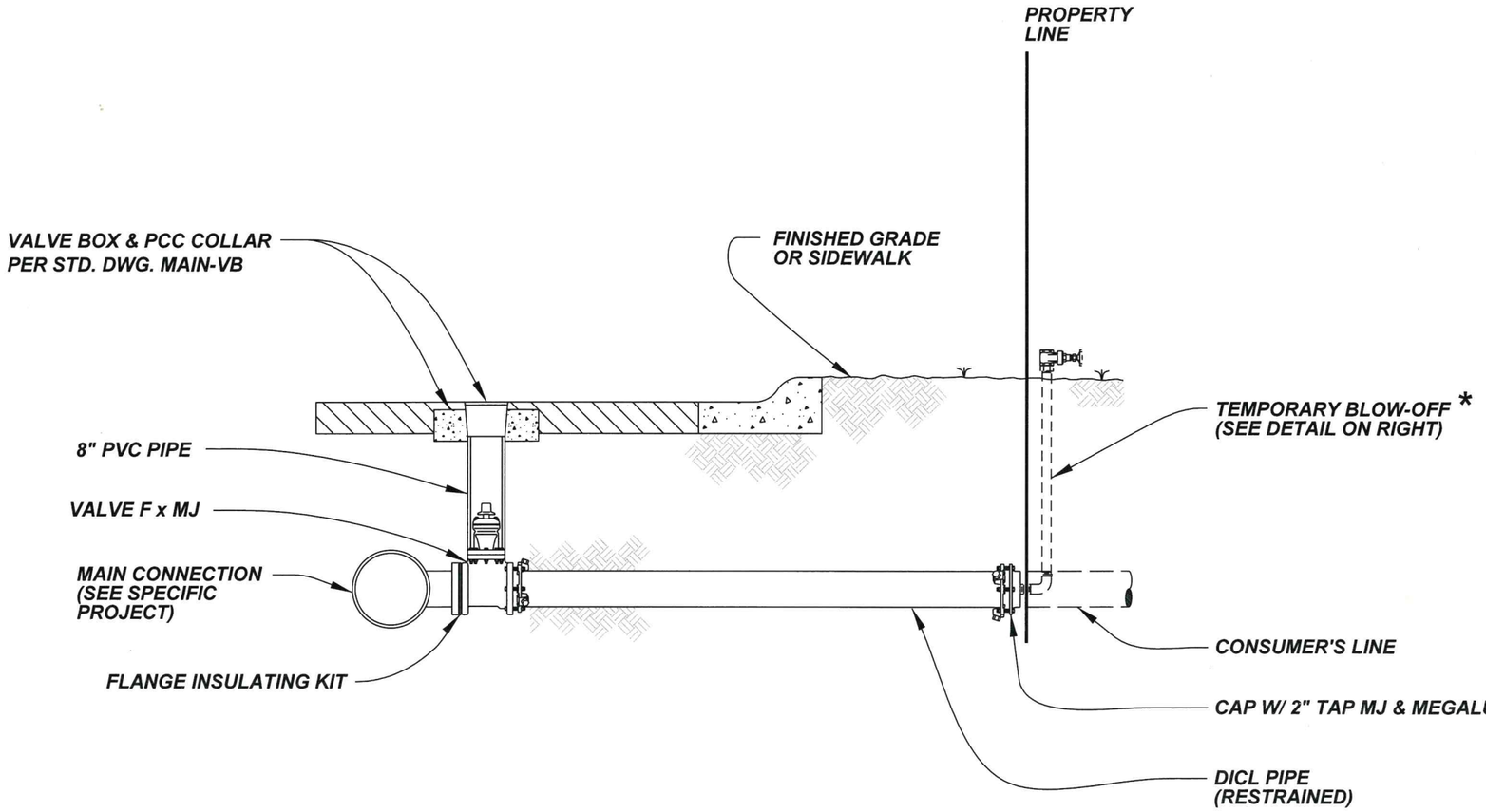
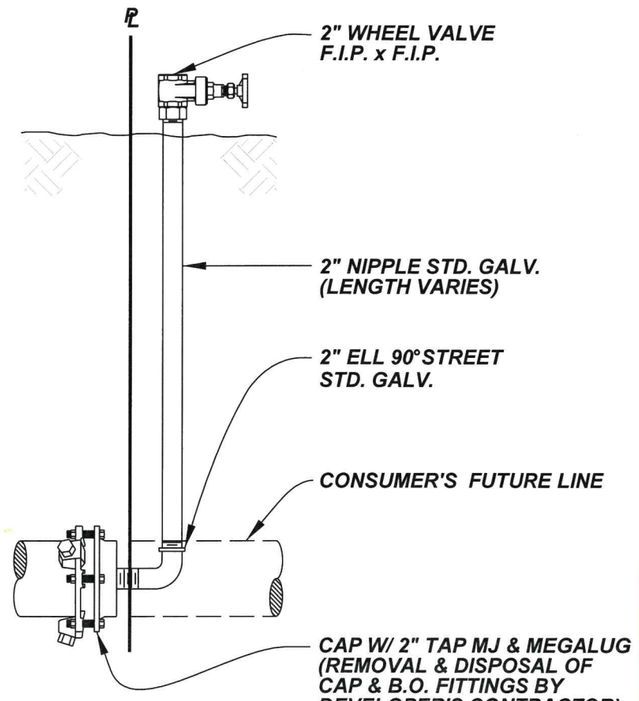
Mains, Hydrants & Fire Services





TEMPORARY BLOW-OFF DETAIL

***SJWC'S CONTRACTOR IS RESPONSIBLE FOR FLUSHING THE FIRE SERVICE LINE IMMEDIATELY AFTER INSTALLATION.**

REVISION	BY	DATE	CK
			OPS
			AP
			CK
			DATE
			REVISION
			BY

SAN JOSE WATER COMPANY

PRIVATE FIRE PROTECTION SERVICE

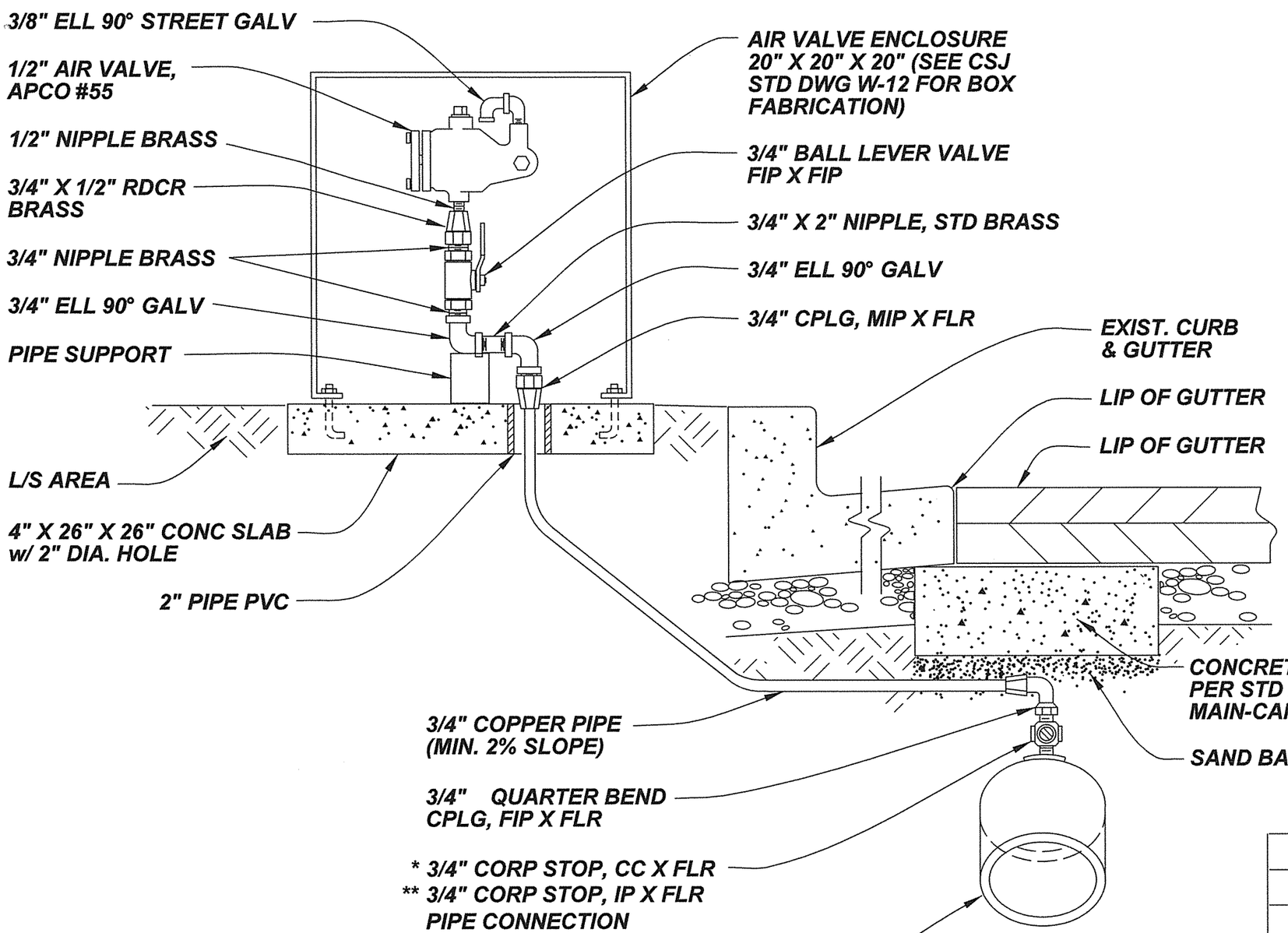
BY N. TRINH
DATE 9/30/2018
CK Efaisa ND
SCALE NONE

OPERATIONS C.Sm 10/8/18
ENGINEERING 10/8/18
VICE PRESIDENT OF ENGINEERING 10/9/18

REF. NOS.

DWG. NO. FS

Effective 10/09/2018



TAPPING SCHEDULE

PIPE	PIPE CONNECTION	SIZE
STEEL	* SDL, SSCC, (THRU 10 3/4") ** WELD CPLG (ALL OTHERS)	NOM. DIA. X 3/4" 3/4"
AC	* SDL, SSCC, (4") * DIR TAP, STOP CORP (6" & OVER)	NOM. DIA. X 3/4" 3/4"
CI & DICL	* DIRECT TAP, STOP CORP	3/4"
PVC	** SDL, PVC	NOM. DIA. X 3/4"

NOTE:

CORP AND LEVER VALVE TO BE LEFT OPEN

CONCRETE CAP & SAND BACKFILL TO BE PLACED ONLY IF:

- ***A. DISTANCE FROM TOP OF PIPE TO SUBGRADE IS 18" OR LESS.***
- ***B. DISTANCE FROM TOP OF PIPE TO FINISHED GRADE IS LESS THAN 3'.***

BLOW OFF MAIN BEFORE INSTALLING AIR VALVE

SEE MAIN-AVpavt FOR INSTALLATION OF AIR VALVE IN PAVEMENT

REFER TO MATERIAL SPECIFICATIONS LIST FOR MAKES & MODEL NUMBERS

REVISION: BY | DATE | CK | AP | OPS

SAN JOSE WATER COMPANY

STANDARD 1/2" AIR VALVE INSTALLATION (IN ENCLOSURE)

BY DTFOLK'G

DATE 3/14/2013

CK

SCALE SHOWN

OPERATIONS 7/16/14

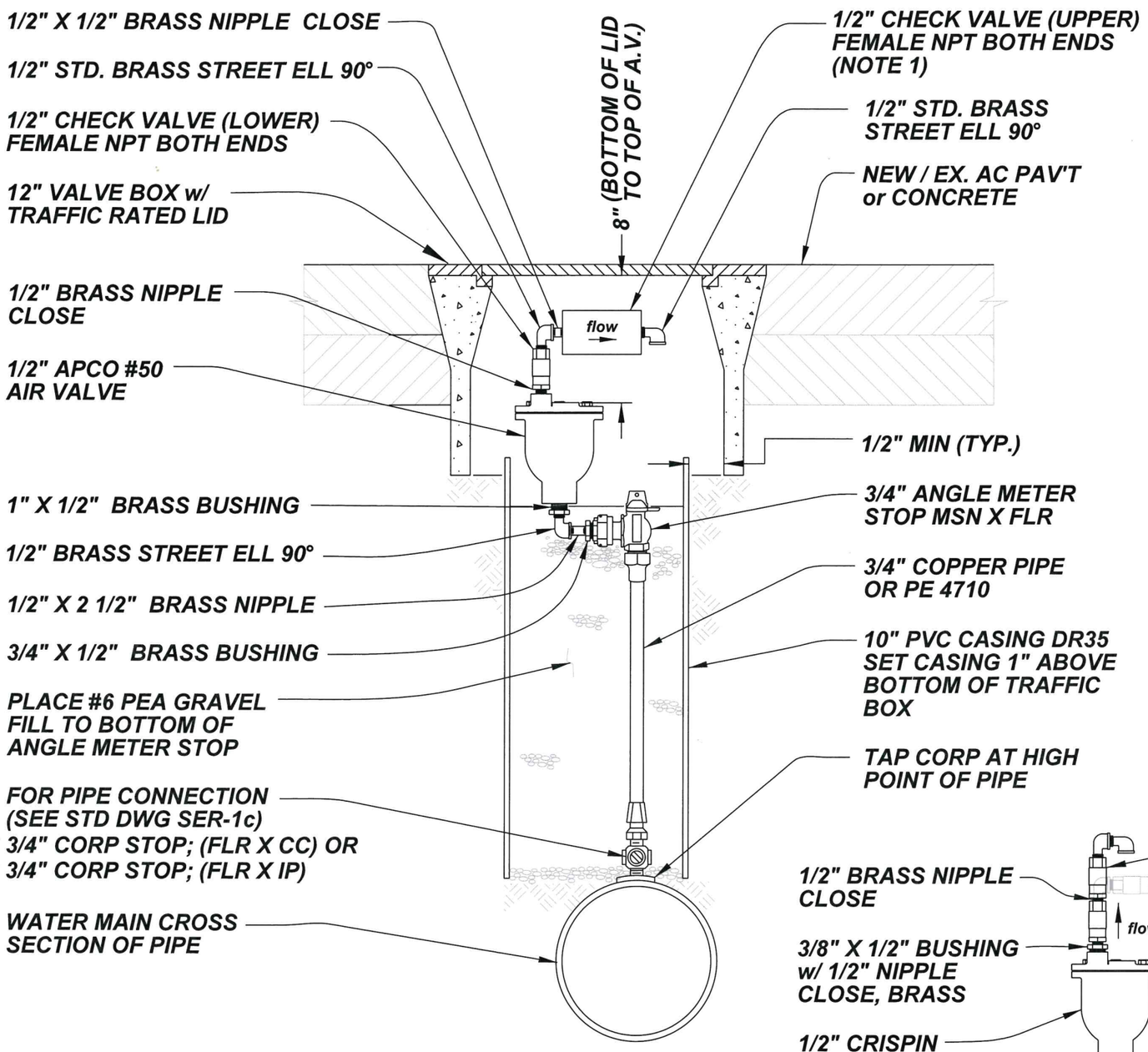
ENGINEERING 6/27/14

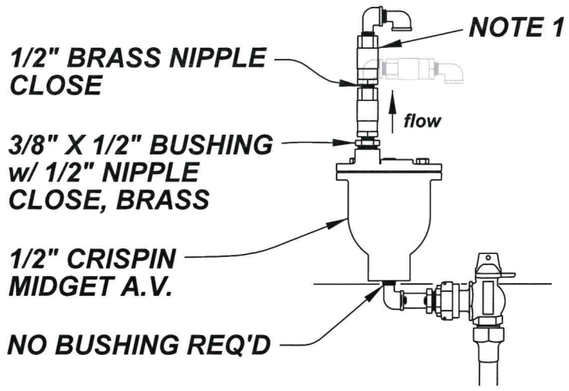
CHIEF ENGINEER 7/21/14

REF. NOS.

DWG. NO. MAIN-AVag

Effective 8/21/14





CRISPIN MIDGET FITTINGS

TAPPING SCHEDULE

PIPE	PIPE CONNECTION	SIZE
STEEL	* SDL, SSCC, (THRU 10 3/4") ** WELD CPLG (ALL OTHERS)	NOM. DIA. X 3/4" 3/4"
AC & CI	* SDL, SSCC, (4")	NOM. DIA. X 3/4"
DICL	* DIRECT TAP, CORP STOP	3/4"
PVC	** SDL, PVC	NOM. DIA. X 3/4"

AIR VALVE & CHECK VALVE MAKES

A.V.	C.V. (LOWER)	C.V. (UPPER[1])
APCO-50	KITZ WAFER or APOLLO BALL	KITZ WAFER, APOLLO BALL or TIDEFLEX DUCKBILL
CRISPIN MIDGET	KITZ WAFER or APOLLO BALL	KITZ WAFER, APOLLO BALL or TIDEFLEX DUCKBILL

NOTES:

1) KITZ WAFER C.V. MUST BE MOUNTED VERTICALLY
2) BLOW OFF MAIN BEFORE INSTALLING AIR VALVE
3) CORP AND ANGLE STOP TO BE LEFT OPEN
4) MSN = METER SWIVEL NUT
5) REFER TO MATERIAL SPECIFICATIONS LIST FOR COMPLETE LIST OF MAKE & MODEL NUMBERS.

REVISION	DATE	CK	AP	OPS	BY

SAN JOSE WATER COMPANY

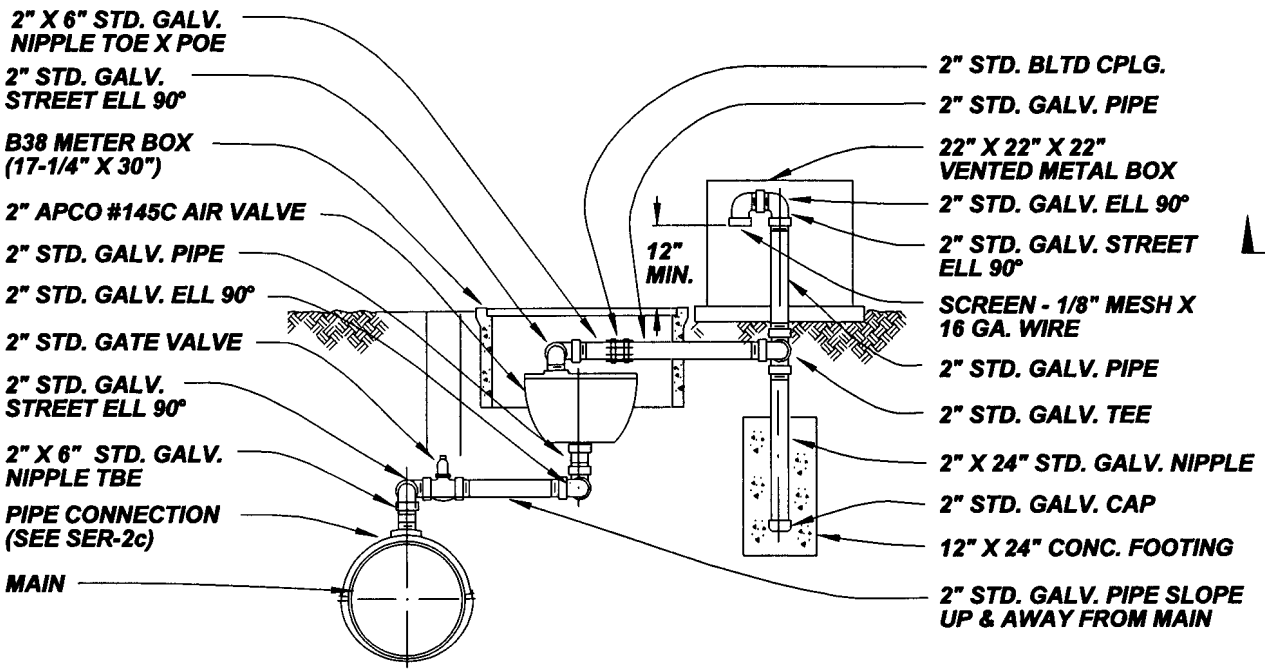
STANDARD 1/2" AIR VALVE INSTALLATION (IN PAVEMENT)

BY N. TRINH
DATE 5/7/2019
CK
SCALE NONE

DISTRIBUTION SYSTEMS / DATE 5/7/19
ENGINEERING / DATE 5/7/19
ASSISTANT CHIEF ENGINEER / DATE 5/7/19

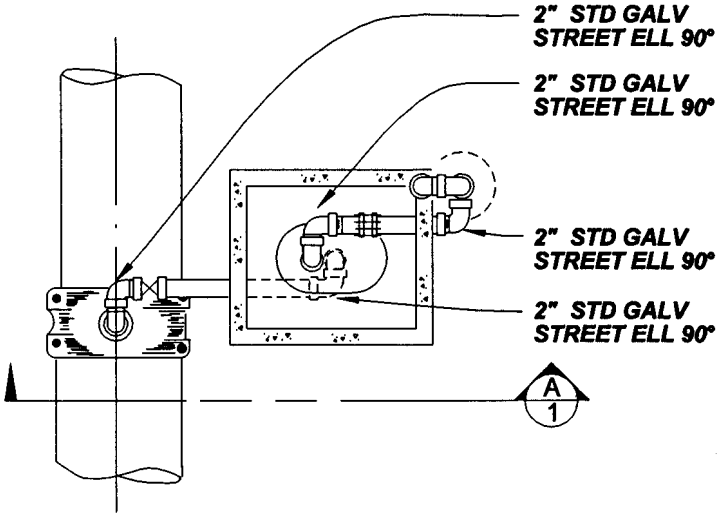
REF. NOS.

DWG. NO. MAIN-AV pavt



SECTION A/1

NO SCALE



PLAN VIEW

NO SCALE

NOTE:

WRAP ALL PIPE W/2 LAYERS PROTECTIVE WRAP

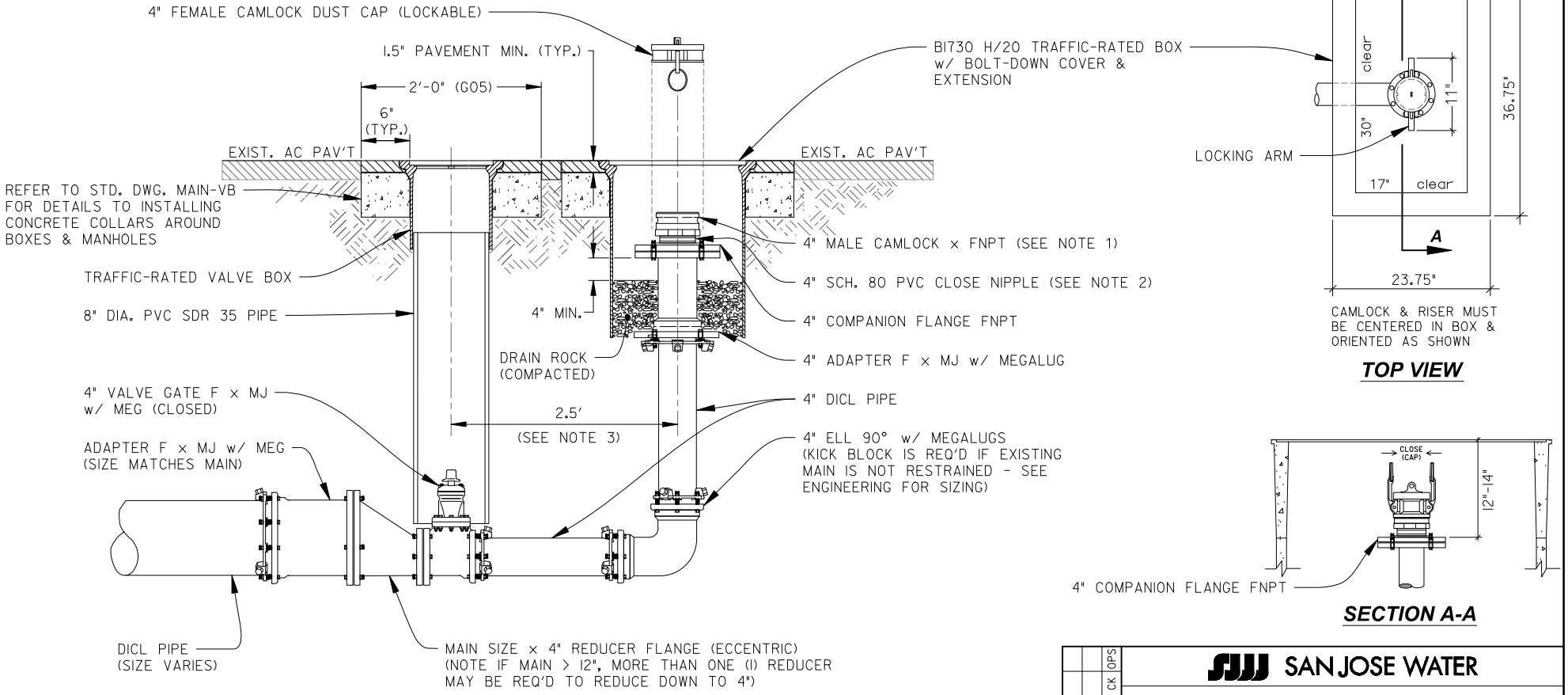
SEE MAIN-AVag FOR AIR VALVE ENCLOSURE BOX INSTALLATION

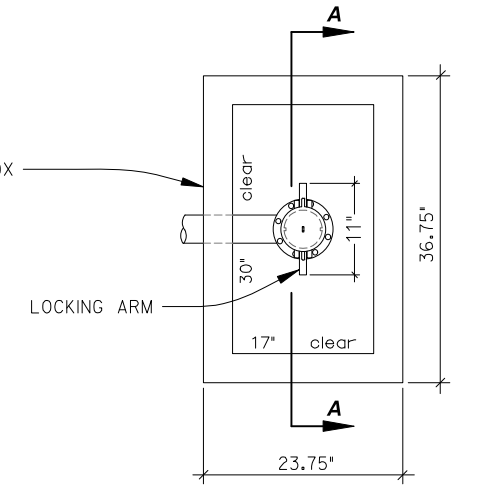
REVISION	BY	DATE	CK	AP	OPS

SAN JOSE WATER COMPANY

STANDARD 2" SINGLE AIR VALVE INSTALLATION

BY P. JOCHIM	OPERATIONS	REF. NOS. A-16-139B-1
DATE 15 NOV '04	ENGINEERING	DWG. NO. MAIN-AV2
CK	CHIEF ENGINEER	
SCALE SHOWN		





TOP VIEW

SECTION A-A

NOTES:

01) CAMLOCK TO BE INSTALLED W/ NOTCHES PERPENDICULAR TO SHORT SIDE OF THE BOX.

02) PVC CLOSE NIPPLE SHALL ONLY BE USED WHERE PRESSURE IS LESS THAN 160 PSI. WHERE PRESSURE IS ≥ 160 PSI, USE STD. GALV. CLOSE NIPPLE, AND APPLY PETROLATUM WAX TAPE FROM ABOVE GRADE PIPING AND FITTINGS TO ANY EXPOSED PARTS OF THE CLOSE NIPPLE.

03) MINIMUM LENGTH TO AVOID TWO (2) CONCRETE COLLARS. LENGTH WILL VARY DEPENDING ON LOCATION OF 4" BLOWOFF.

SAN JOSE WATER

STANDARD 4" BLOWOFF INSTALLATION

REV	REVISION	DATE	CK
			OPS
		5/9/25	
	REMOVED VALVE EXT		
RV			BY

BY	DTFOLK'G
DATE	04/15/2024
CK	
SCALE	NONE

Rayer, Curt — Digitally signed by Rayer, Curt Date: 2024.06.14 11:20:00 -07'00' — OPERATIONS

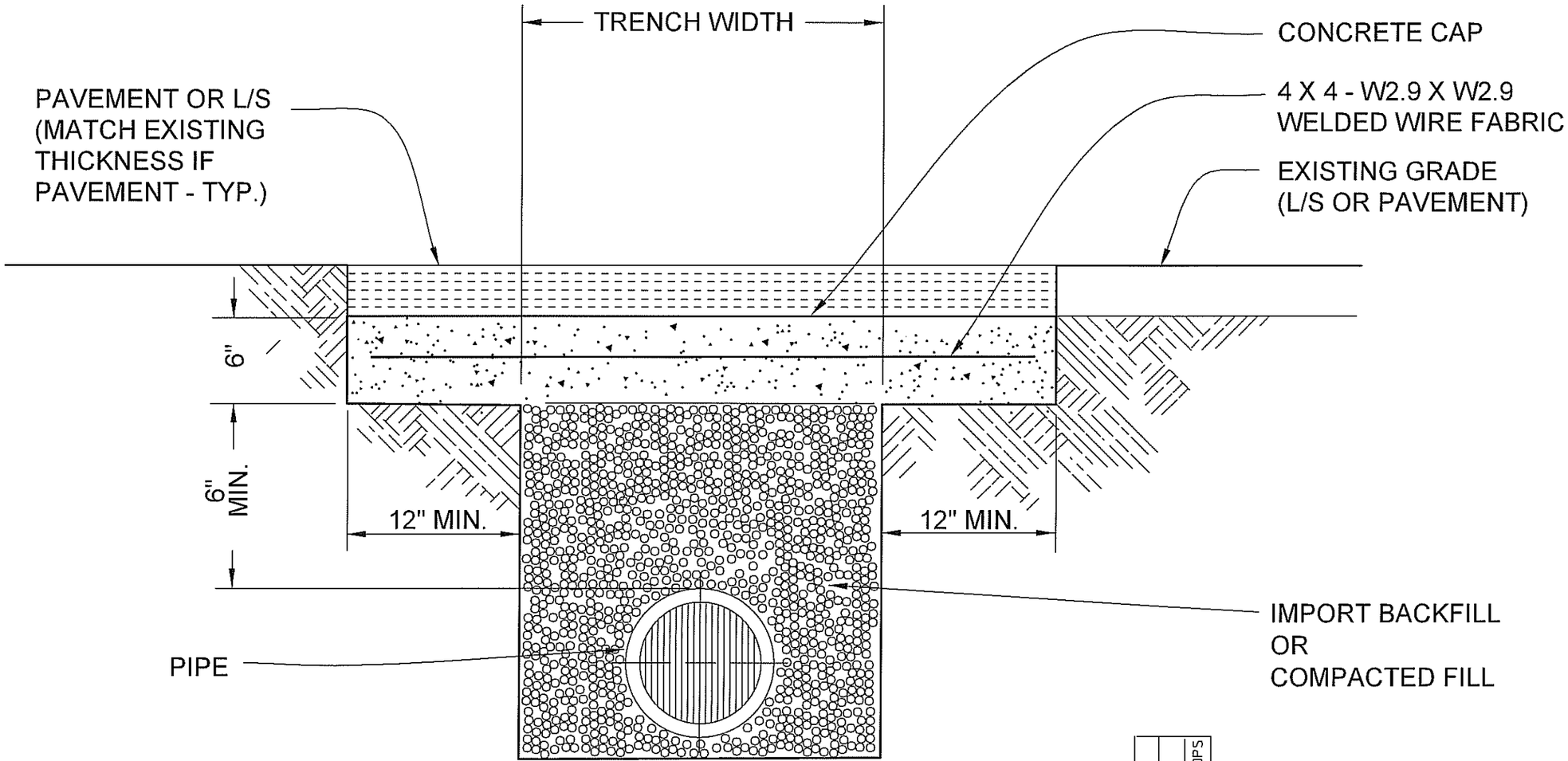
Folkening, Dean — ENGINEERING

Tuttle, Bill — Digitally signed by Tuttle, Bill Date: 2024.05.21 15:37:11 -07'00' — VICE PRESIDENT OF ENGINEERING

REF. NOS

DWG. NO.

MAIN-4BO



SECTIONAL VIEW

INSTALL CONCRETE CAP WHERE MAIN
IS LESS THAN 30" COVER

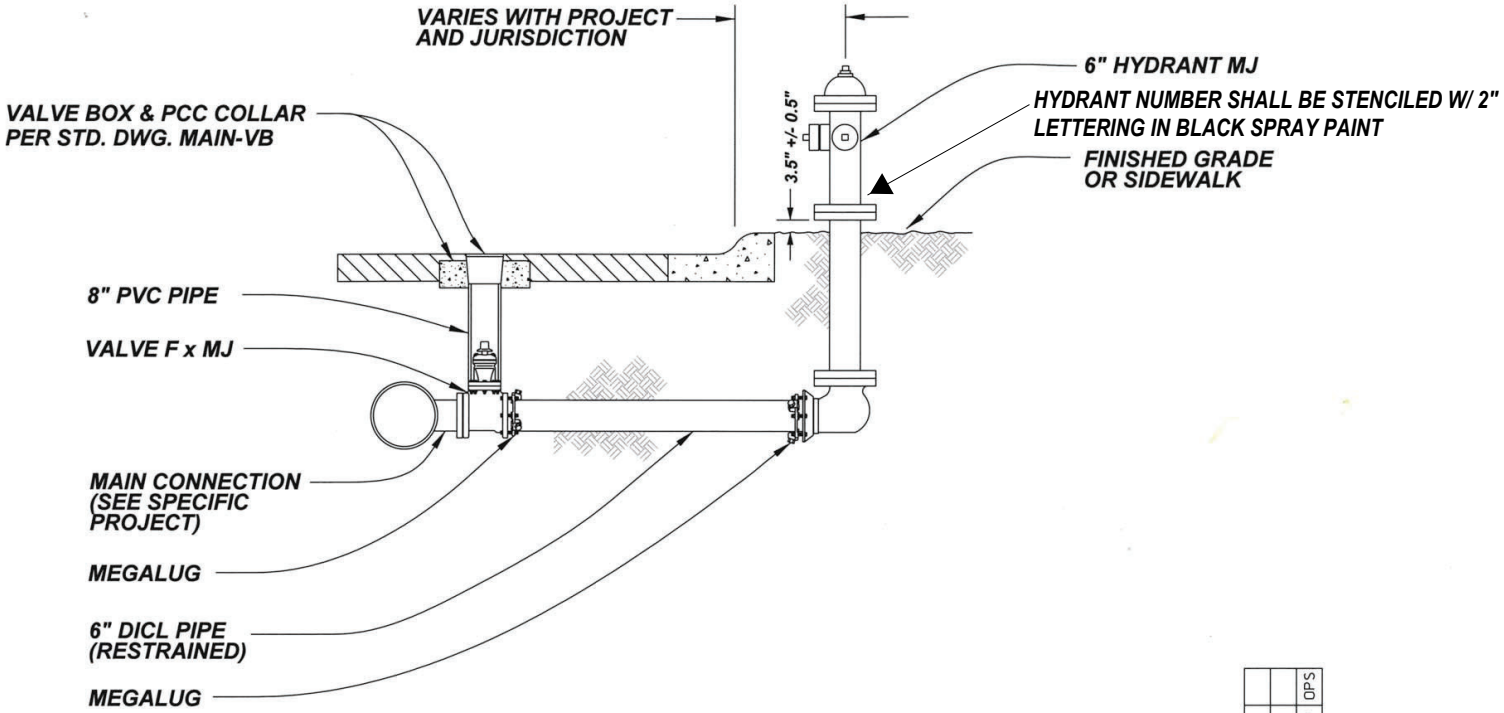
REVISION	BY	DATE	CK

SAN JOSE WATER COMPANY

CONCRETE CAP
ON SHALLOW MAINS

BY P. JOCHIM	OPERATIONS 6/14/13	REF. NOS.
DATE 6/3/2013	ENGINEERING 6/5/13	DWG. NO.
CK DFox 6/3/13		MAIN-CC
SCALE NONE	VICE PRESIDENT OF ENGINEERING 7/19/13	

Effective 09/03/2013



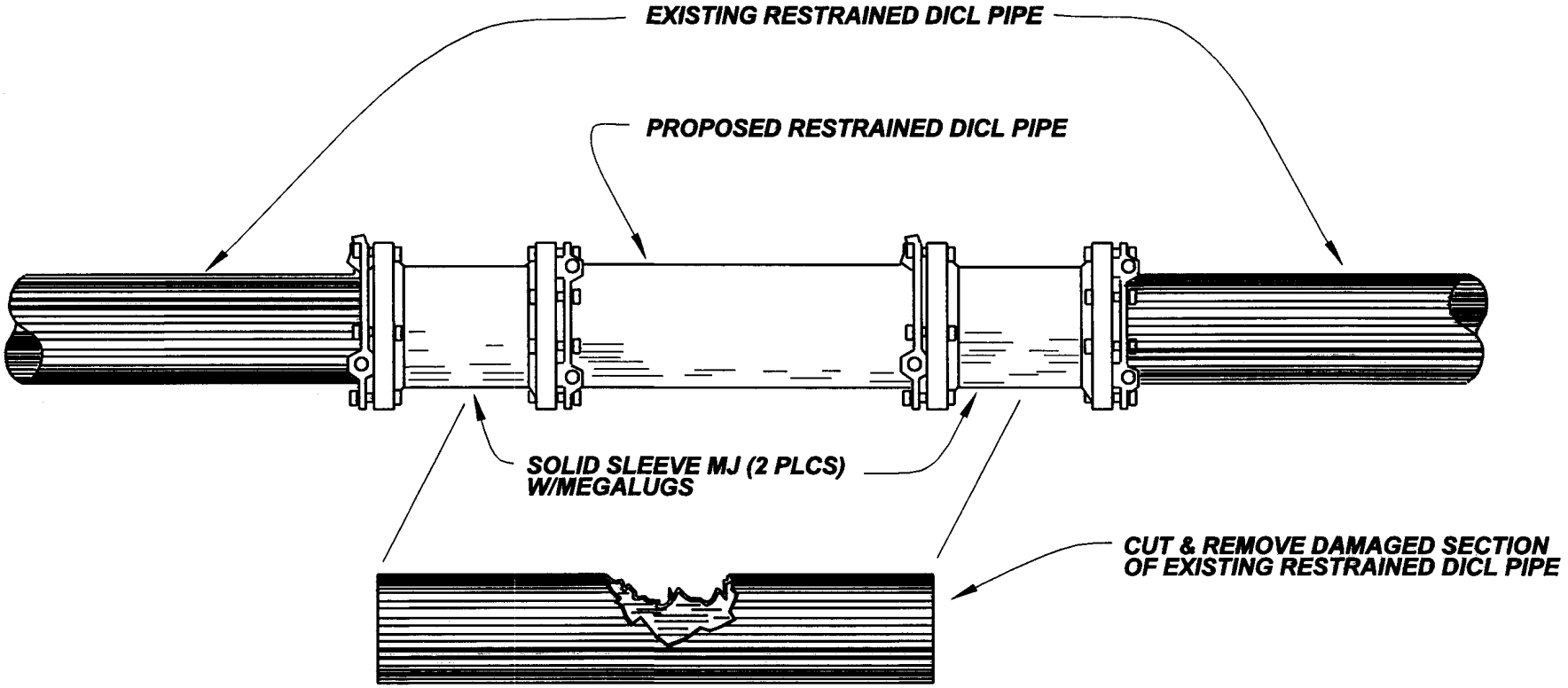
REVISION	BY	DATE	CK	AP	OPS

SAN JOSE WATER COMPANY

STANDARD HYDRANT INSTALLATION

BY LJ DAVID	OPERATIONS 10/8/18	REF. NOS.	
DATE 9/30/2018	ENGINEERING 10/5/18	DWG. NO.	MAIN-HYD
CK [illegible] ND	VICE PRESIDENT OF ENGINEERING 10/9/18		
SCALE NONE			

Effective 3/7/2023



REVISION	BY	DATE	CK	AP	OPS

SAN JOSE WATER COMPANY

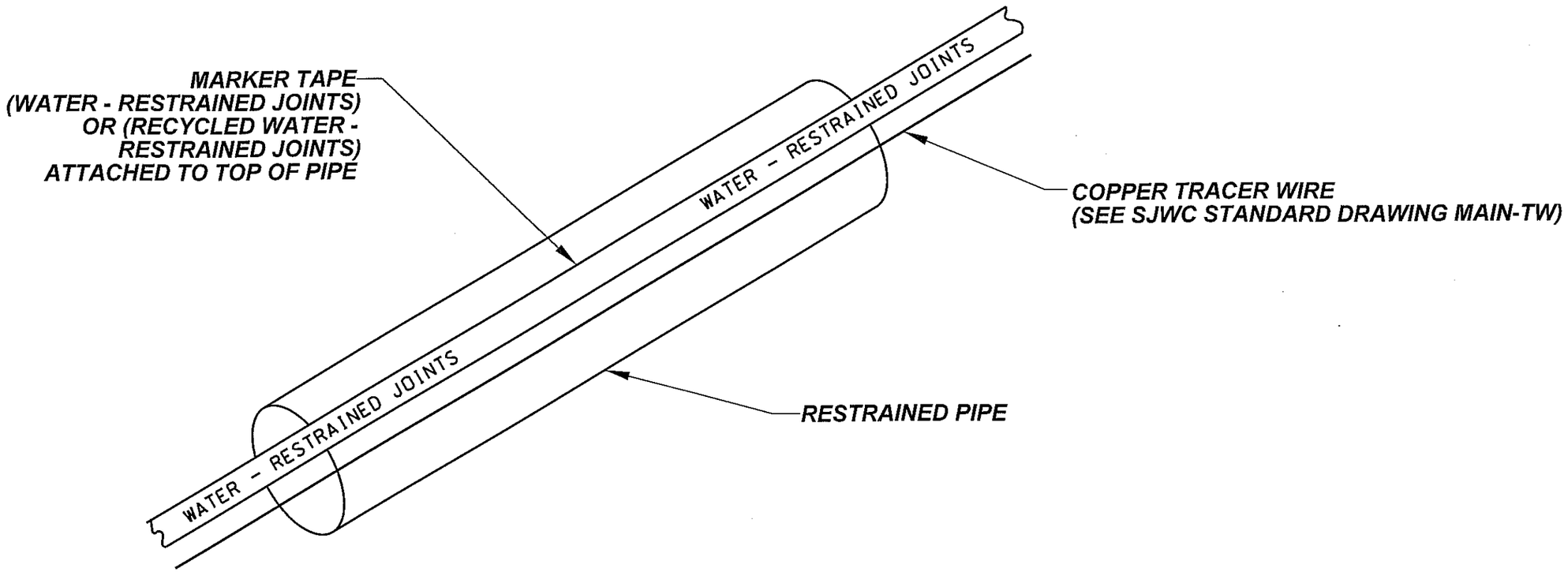
RESTRAINED PIPE REPAIR

BY P. JOCHIM
DATE 15NOV'04
CK ELM
SCALE NONE

OPERATIONS
ENGINEERING
CHIEF ENGINEER

REF. NOS.

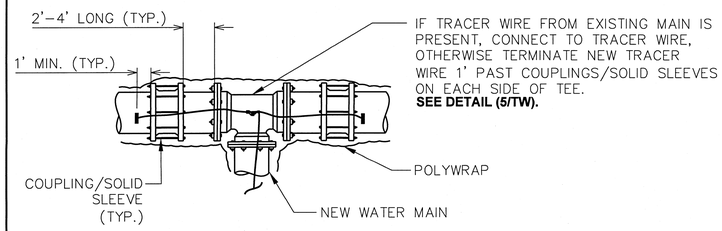
DWG. NO. MAIN-RPR



RESTRAINED PIPE MARKER TAPE AND TRACER WIRE DETAIL

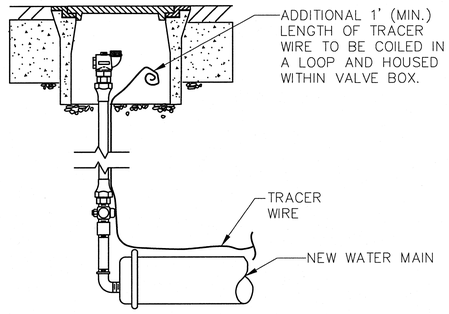
NTS

		OPS			SAN JOSE WATER COMPANY	
		AP				
		CK				
		DATE			RESTRAINED PIPE MARKING	
		REVISION	BY	J. GUEVARA	DISTRIBUTION SYSTEM / DATE 2/3/15	REF. NOS.
			DATE	2/3/15	ENGINEERING / DATE 2/3/15	DWG. NO.
			CK	TN 2/3/15	VICE PRESIDENT OF ENGINEERING / DATE 2/5/15	MAIN-RPM
		BY	SCALE	NONE		



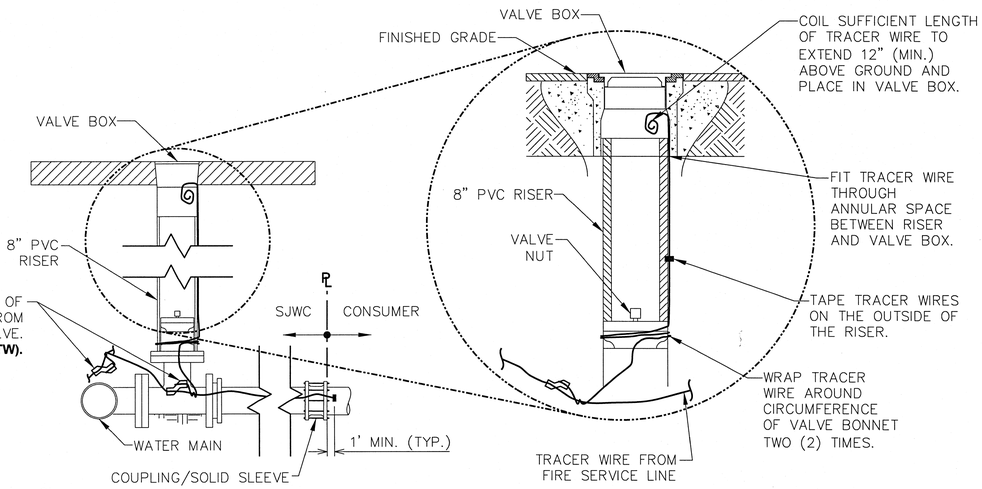
TRACER WIRE WITH CUT IN TEE ON EXISTING MAIN — 1 TW

NTS



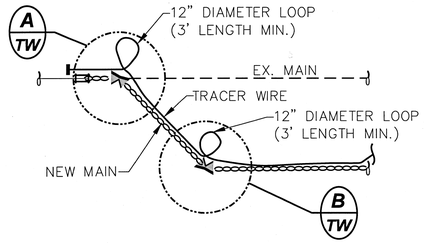
TRACER WIRE WITH BLOWOFF INSTALLATION — 4 TW

NTS



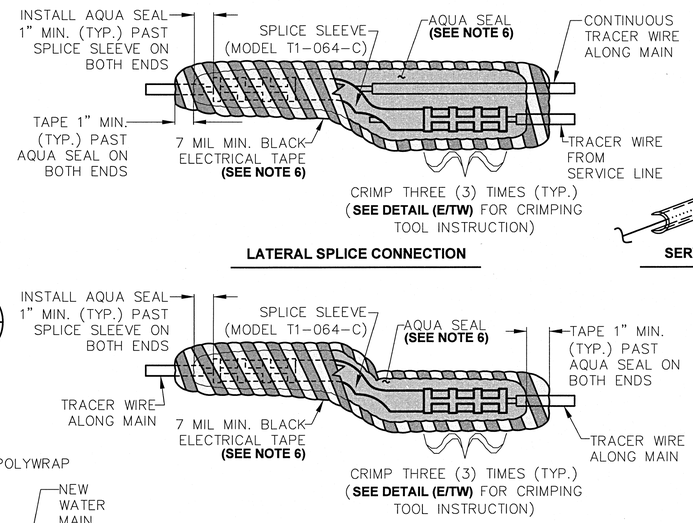
TRACER WIRE WITH FIRE SERVICE INSTALLATION — 6 TW

NTS

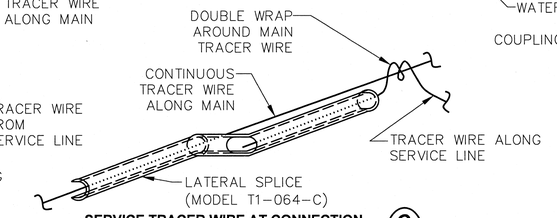


TRACER WIRE WITH MAIN INSTALLATION AT ELBOWS AND TIE-IN LOCATIONS — 2 TW

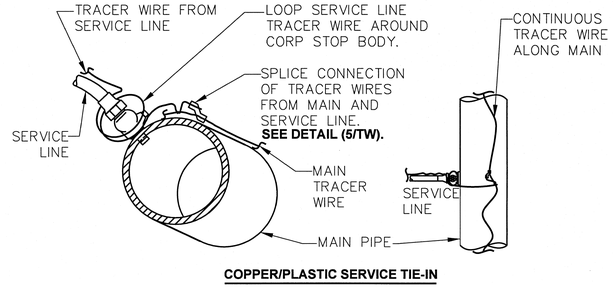
NTS



LATERAL SPLICE CONNECTION



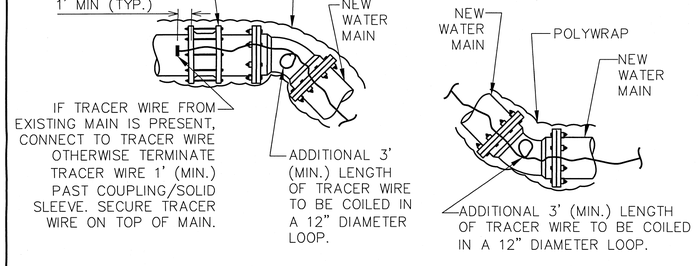
SERVICE TRACER WIRE AT CONNECTION — C TW



COPPER/PLASTIC SERVICE TIE-IN

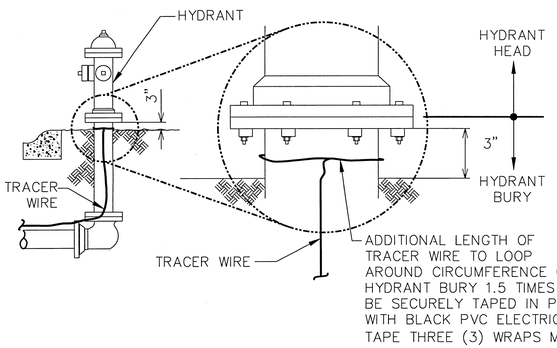
SERVICE LINE TRACER WIRE TIE-IN AT MAIN — 7 TW

NTS



TERMINAL END DETAIL — A TW

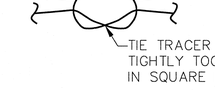
ELBOW / DEFLECTION DETAIL — B TW



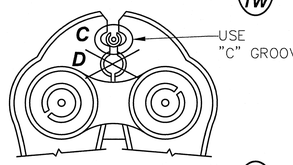
TRACER WIRE AT A HYDRANT — 3 TW

NTS

STRAIGHT SPLICE CONNECTION



END TO END CONNECTION — D TW



31-DC CRIMPING TOOL — E TW

TRACER SPLICE WIRE CONNECTION — 5 TW

NTS

SPLICE CONNECTION NOTES:

1. ALL CONNECTIONS ARE TO BE MADE WITH NICOTAP SPLICE SLEEVE T1–064–C MANUFACTURED BY NICOPRESS. THESE CONNECTIONS WILL BE INSTALLED USING NICOPRESS CRIMPING TOOL 31–DC IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. THE C–GROOVE SHALL BE USED. THE USE OF PLIERS OR TOOLS OTHER THAN SPECIFIED HEREIN IS UNACCEPTABLE. **SEE DETAIL (E/TW).**

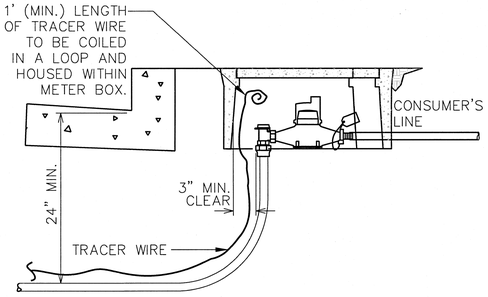
2. WHEN IN USE, VERIFY PRESS DIAMETER OF CRIMPS WITH NICOPRESS TOOL GAUGE ON A DAILY BASIS. ADJUST CRIMPING TOOL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

3. ALL PORTIONS OF WIRE WITHIN SPLICE SLEEVE MUST BE STRIPPED (APPROXIMATELY 1-¾"). AFTER COMPRESSION, THE SLEEVE AND THE WIRE INSULATION SHOULD BE SEPARATED BY APPROXIMATELY ⅛".

4. FOR ALL SERVICE CONNECTIONS, DOUBLE WRAP SERVICE TRACER WIRE AROUND MAIN TRACER WIRE THEN LEAD SERVICE TRACER WIRE ALONG SERVICE LINE. **SEE DETAIL (C/TW).**

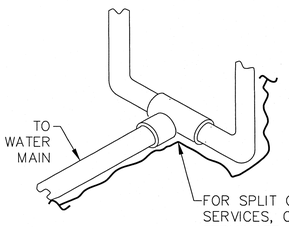
5. AT END OF TRACER WIRE SPOOL LENGTH, CONNECT TO NEW SPOOL WITH STRAIGHT SPLICE SLEEVE AND APPLY A SQUARE KNOT. **SEE DETAIL (D/TW).**

6. APPLY AQUA SEAL TO FULL LENGTH OF CONNECTOR PLUS AN ADDITIONAL 1" MIN. PAST THE CONNECTOR IN BOTH DIRECTIONS ALONG TRACER WIRE. AFTER APPLICATION OF AQUA SEAL, HALF LAP AND DOUBLE WRAP FULL LENGTH OF SEALANT PLUS AN ADDITIONAL 1" MIN. IN BOTH DIRECTIONS ALONG TRACER WIRE WITH 7 MIL MIN. BLACK PVC ELECTRICAL TAPE.



SERVICE TRACER WIRE AT WATER METER — 8 TW

NTS



SPLIT SERVICES — 9 TW

NTS

GENERAL NOTES:

1. ALL TRACER WIRES SHALL BE 12 AWG SOLID COPPER WIRE WITH 45 MIL HMW PE INSULATION (MIN.) RATED FOR DIRECT BURIAL AS MANUFACTURED BY AGAVE WIRE LTD.

2. TRACER WIRE SHALL BE INSTALLED ABOVE AND ALONG ALL WATER MAINS, SECURELY FASTENED TO TOP OF PIPELINE WITH TAPE.

3. TRACER WIRE SHALL TERMINATE IN LOCATIONS AS SHOWN AND AT METER BOXES, BLOWOFF BOXES, FIRE SERVICES, HYDRANTS, AND DEDICATED VALVE BOXES.

4. CONTRACTOR SHALL TEST TO CONFIRM CONTINUITY IN ALL TRACER WIRES. IF A SEGMENT OF TRACER WIRE IS FOUND TO BE DISCONTINUOUS, THE CONTRACTOR SHALL REPAIR OR REPLACE THE FAILED SEGMENT OF TRACER WIRE.

5. THE LOCATION OF THE TRACER WIRE AND LEADS SHALL BE MARKED ON THE RECORD DRAWINGS WITH THE LEAD LOCATION CLEARLY MARKED IN THE FIELD.

San Jose Water Company

TRACER WIRE INSTALLATION

BY	REVISION	CK	DATE

BY: J. GUEVARA — DATE: 2/20/2015 — CHECK / DATE: TN 2/23/15 — SCALE: AS SHOWN

DISTRIBUTION SYSTEM / DATE: 2/23/15

ENGINEERING / DATE: 2/23/15

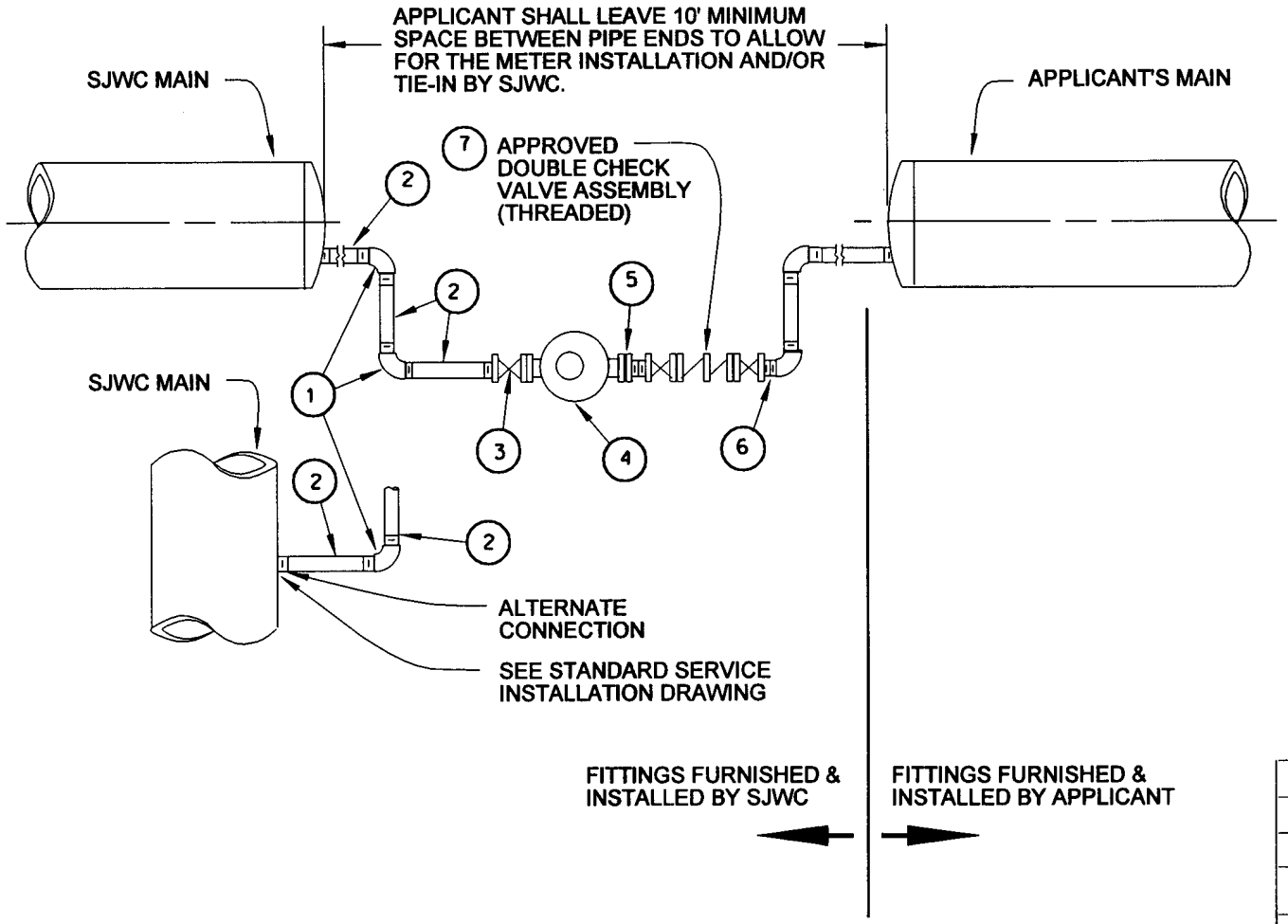
VICE PRESIDENT OF ENGINEERING / DATE: 2/23/15

REF. NOS.

DWG. NO. MAIN-TW

SHEET 1 OF 1

Effective 2/23/15



	SJWC MATERIALS LIST
#	DESCRIPTION
1	2" ELL 90° GALVANIZED
2	2" GALVANIZED PIPE
3	2" METER WHEEL VALVE, MODEL J-372-F
4	2" FLANGED METER (TURBO OR POSITIVE DISPLACEMENT)
5	2" METER FLANGE MALE
6	2" NIPPLE CLOSE BRASS
7	2" DOUBLE CHECK VALVE ASSEMBLY

FOR END CAP,
SEE BLOCKING AND BLOW OFF DETAIL
ON INSTALLATION DRAWING.

UPON ACCEPTANCE OF THE APPLICANT'S MAINS, SJWC WILL INSTALL THE FINAL CONNECTION BETWEEN THE APPLICANT'S MAIN AND SJWC MAIN.

SOURCE OF WATER:
FOR CONNECTION TO A NEARBY FIRE HYDRANT, SJWC CONTRACTOR SHALL OBTAIN PORTABLE METER AND DOUBLE CHECK VALVE ASSEMBLY FROM SJWC STORES DEPARTMENT.

REVISION | BY | DATE | CK | AP | OPS
BY: P. JOCHIM
DATE: 15NOV'04
CK: EVM
SCALE: NONE

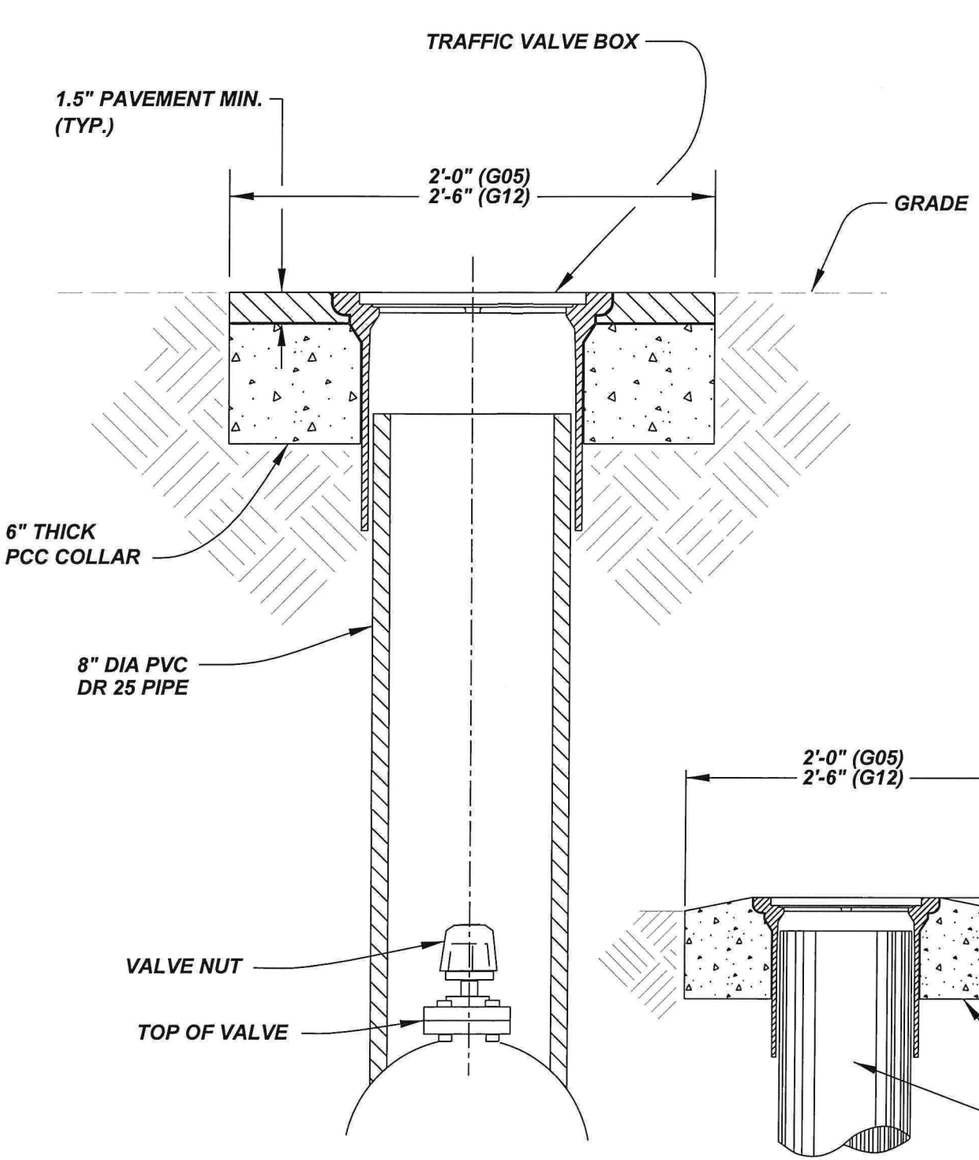
SAN JOSE WATER COMPANY

STANDARD TEMPORARY TIE-IN

OPERATIONS
ENGINEERING
CHIEF ENGINEER

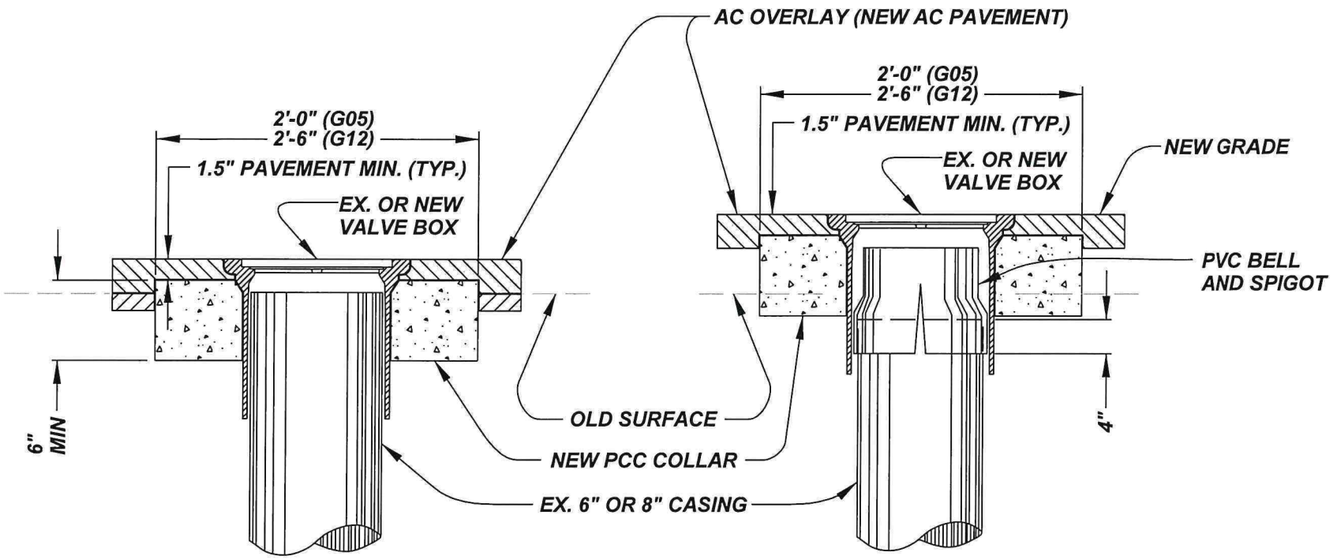
REF. NOS. A-16-161

DWG. NO. MAIN-TT



DETAIL 1

STD. VALVE BOX INSTALLATION (PAVED AREA)

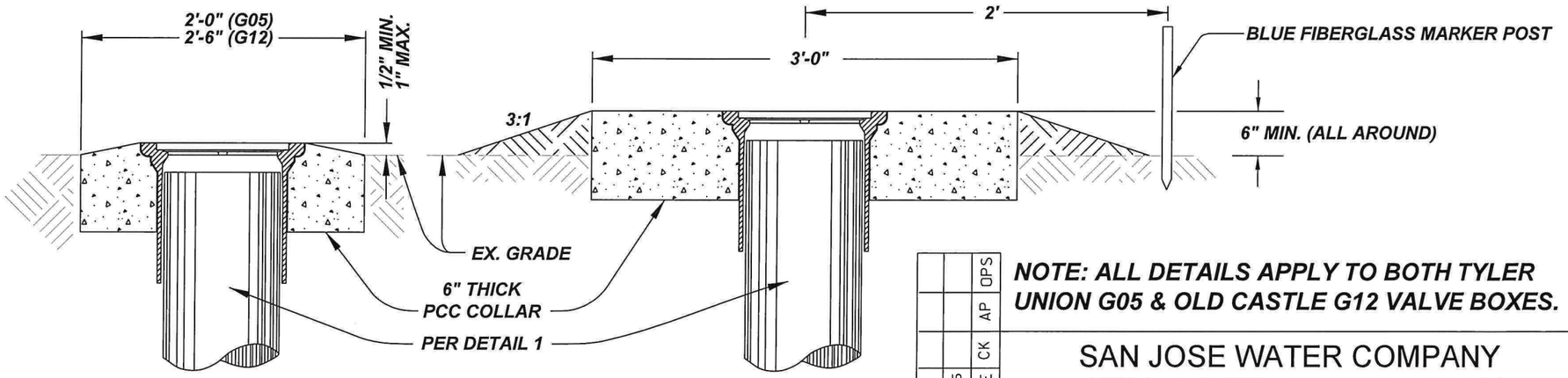


DETAIL 2A

RAISED VALVE BOX W/O CASING EXTENSION

DETAIL 2B

RAISED VALVE BOX W/ CASING EXTENSION



DETAIL 1A

VALVE BOX INSTALLATION (NON-PAVED AREA)

DETAIL 1B

VALVE BOX INSTALLATION (CROSS-COUNTRY AREA)

NOTE: ALL DETAILS APPLY TO BOTH TYLER UNION G05 & OLD CASTLE G12 VALVE BOXES.

REVISION	DATE	BY
REMOVED VALVE EXTENSION	5/9/25	RV

BY	N. TRINH
DATE	9/30/2018
CK	
SCALE	NONE

OPS / AP / CK / DATE / BY

SAN JOSE WATER COMPANY

STANDARD VALVE BOX INSTALLATION & RAISING

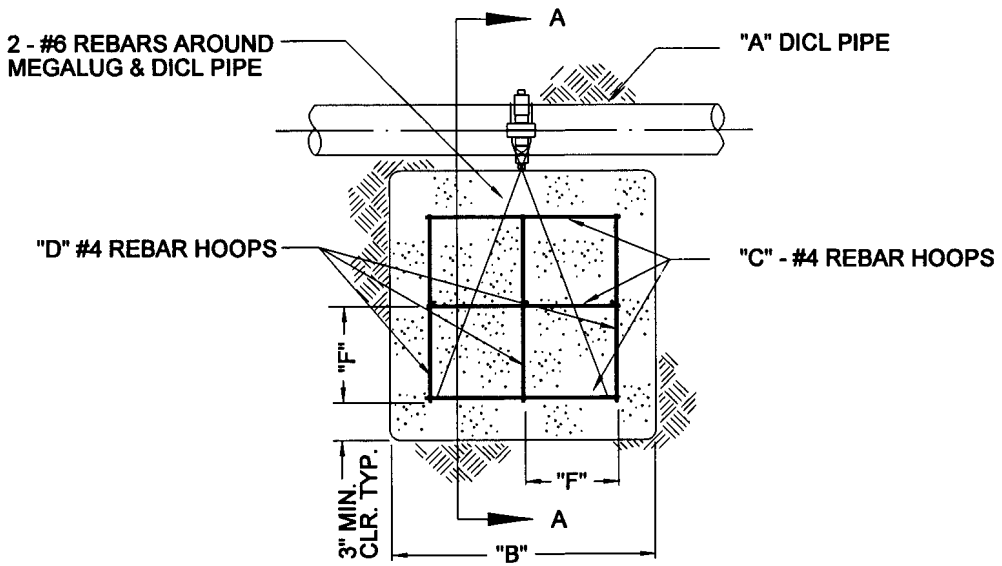
OPERATIONS 10/8/18

ENGINEERING 10/5/18

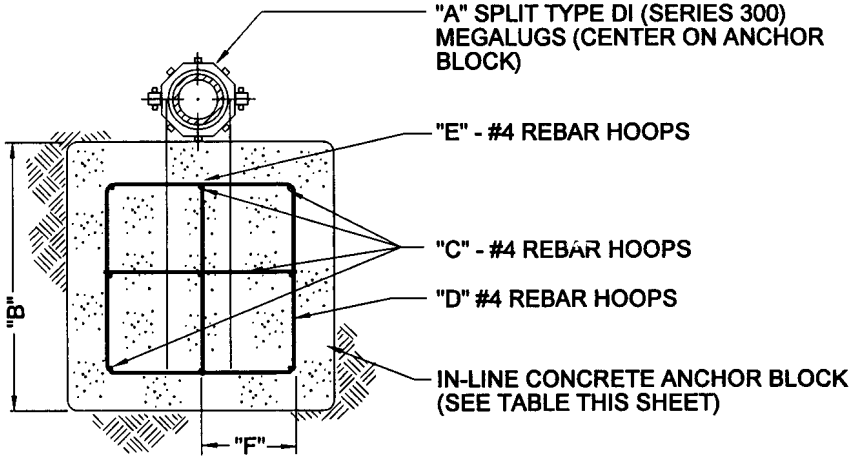
VICE PRESIDENT OF ENGINEERING 10/9/18

REF. NOS. A-16-109A

DWG. NO. MAIN-VB



DETAIL



SECTION AA

"A" NOMINAL SIZE (IN.)	"B" LENGTH OF ONE SIDE OF ANCHOR BLOCK (IN.)	"C" QUANTITY OF REBAR HOOPS -HORIZONTAL-	"D" QUANTITY OF REBAR HOOPS	"E" QUANTITY OF REBAR HOOPS -VERTICAL-	"F" APPROX. CENTER DISTANCE BETWEEN REBARS (IN.)
4"	30"	3	3	1	12"
6"	39"	4	4	2	11"
8"	45"	4	4	2	13"
10"	54"	5	5	3	12"
12"	60"	6	6	4	11"

NOTES:
1.) IN-LINE ANCHOR BLOCK SHALL BE POURED AGAINST UNDISTURBED GROUND.
2.) APPLY TWO COATS OF SUPER TANK SOLUTION ON ALL METAL EXPOSED TO SOIL.
3.) ANCHOR BLOCK SIZES ARE BASED ON 150 PSI WORKING PRESSURE (SAFETY FACTOR OF 1.5) AND 2000 LBS./SQ. FT. BEARING SOIL.
4.) CONCRETE SHALL BE KEPT CLEAR OF FLANGES, NUTS, AND BOLTS.

REVISION | BY | DATE | CK | BY | AP | OPS

SAN JOSE WATER COMPANY

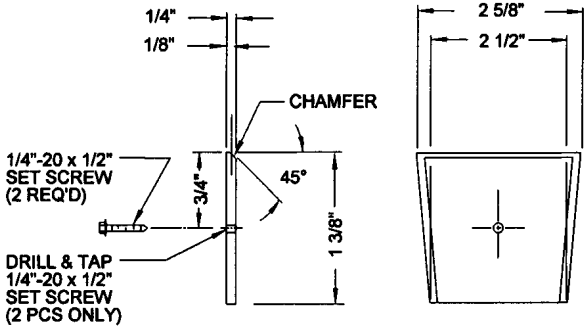
IN-LINE ANCHOR BLOCK

BY P. JOCHIM
DATE 15 NOV 04
CK ELM
SCALE NONE

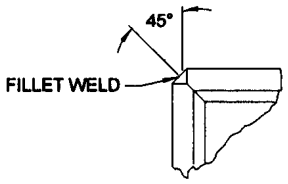
OPERATIONS
ENGINEERING
CHIEF ENGINEER

REF. NOS.

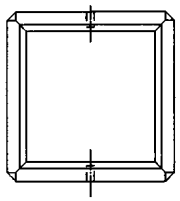
DWG. NO.
MAIN-LAB



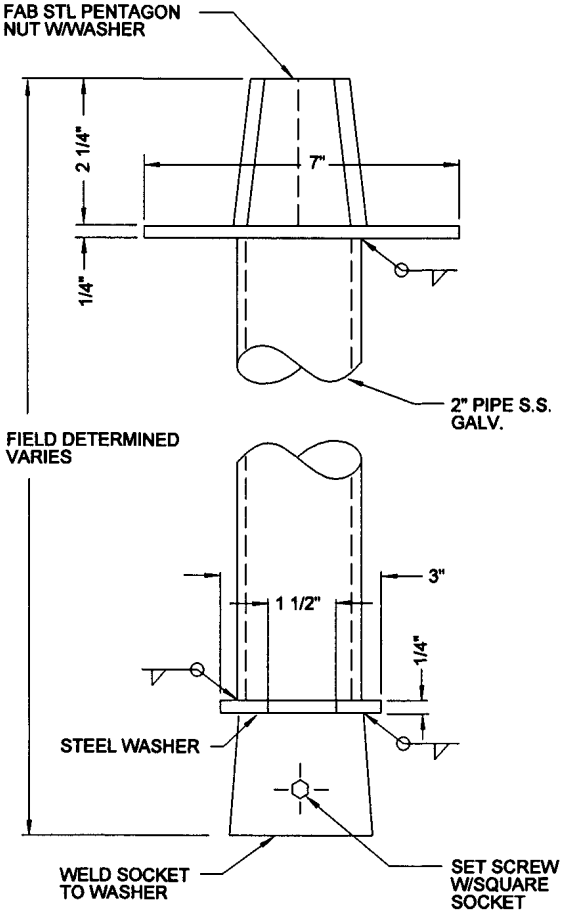
4 EACH



CORNER DETAIL



SQUARE SOCKET



MATERIAL:

STD. PIPE - SCH. 40 (BLACK & GALV.)
PLATES, SHAPES & WELDED STL. PIPE
COUPLING, 3000 LB. GRADE 2
FLANGE, 150 LB. GRADE 2
FLANGE, 150 LB. AND 300 LB.
BOLT, NUTS AND FLAT WASHERS

WELDING PROCEDURE:

PIPING:	
AWWA	C206
AWS	D7
STRUCTURAL:	
AWS	D1
ELECTRODES:	
AWS	A5

ASTM WELD ELECTRODES
DESIG. AWS - ASTM CLASS.

A53	E - 60 SERIES
A36	E - 70 SERIES
A105	E - 60 SERIES
A181, GR. 1	E - 70 SERIES
A307	E - 60 SERIES

MARKING AND USE

MARK_____ NO. REQ'D _____
USE EST. _____ ITEM_____
DATE REQ'D _____

NOTES:

APPLY BITUMASTIC #33 ON ALL NON-GALVANIZED SURFACES.

PAINT OUTSIDE OF SOCKET YELLOW FOR IDENTIFICATION.

NOTE:

AWWA, AWS & ASTM DESIGNATIONS
TO BE WITH LATEST REVISIONS.

REVISION	BY	DATE	CK	AP	OPS
	P. JOCHIM	15NOV'04	ELM		

SAN JOSE WATER COMPANY

STANDARD FABRICATED FITTING W/SQUARE SOCKET

SCALE: NONE

OPERATIONS

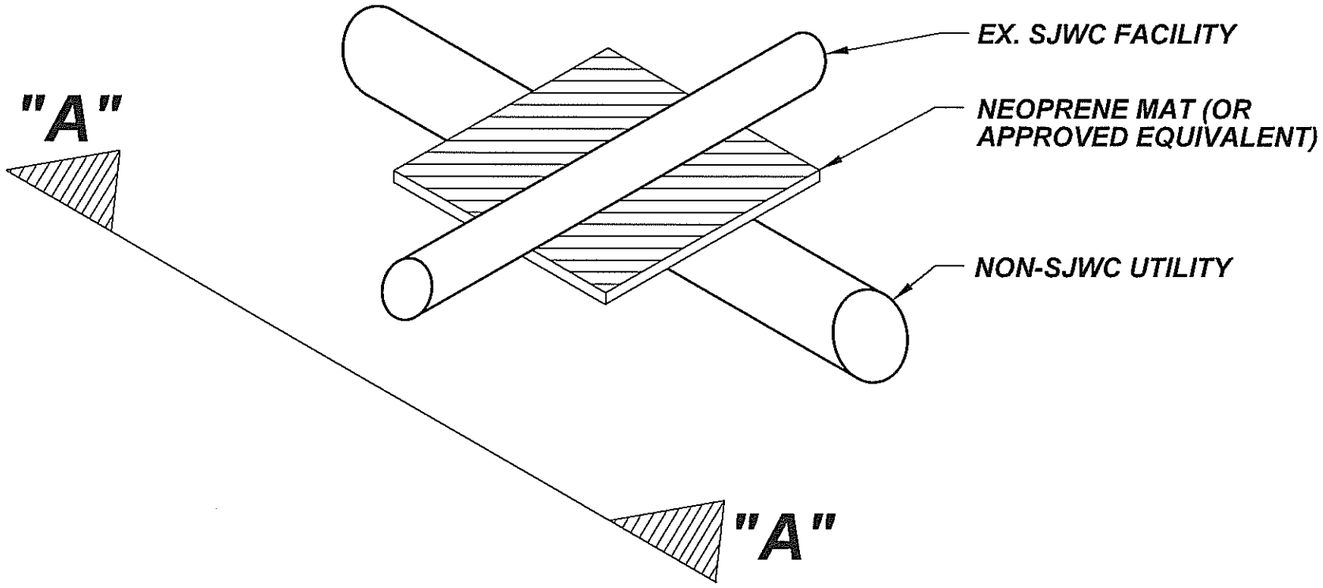
ENGINEERING

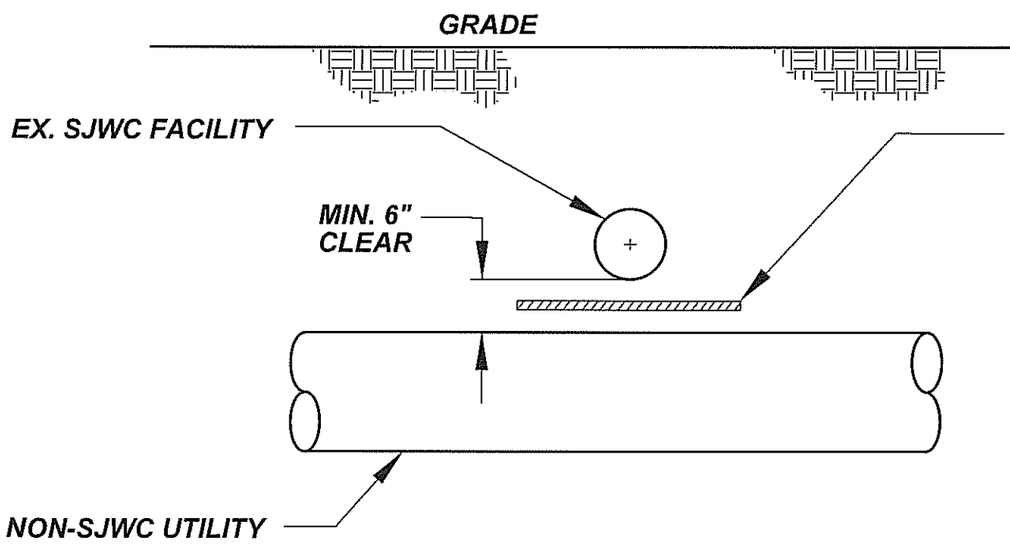
CHIEF ENGINEER

REF. NOS.
D-2-392A

DWG. NO.
MAIN-VSE

Effective 09/03/2013





SECTION A - A

1" MINIMUM THICK NEOPRENE SEPARATION MAT (OR APPROVED EQUIVALENT) CENTERED ON PIPE

SIZE OF SQUARE MAT = O.D. OF THE LARGER PIPE PLUS 2'

NOTES:

BARRIER IS REQUIRED FOR ANY PROPOSED UTILITY CROSSING INVOLVING SJWC PIPING WHERE THE CLEARANCE BETWEEN THE 2 UTILITIES IS LESS THAN 12".

IF THE CLEARANCE IS LESS THAN 6", THEN THE PROPOSED CROSSING IS NOT ALLOWED; AN OFFSET MAY THEN BE REQUIRED IF AN ALTERNATE SOLUTION CAN'T BE FOUND.

REVISION	BY	DATE	CK
			OPS
			AP
			CK
			DATE
			BY

SAN JOSE WATER COMPANY

STANDARD SEPARATION BARRIER FOR UTILITIES < 12" CLEAR

BY DTFOLKENING	OPERATIONS 9/1/13	REF. NOS.
DATE 7/31/2013	ENGINEERING 7/31/13	DWG. NO. SEP-BAR
CK Effective 7/3/13	VICE PRESIDENT OF ENGINEERING 8/6/13	
SCALE NONE		

Effective 09/03/2013