





PIPE LENGTHS IN FEET

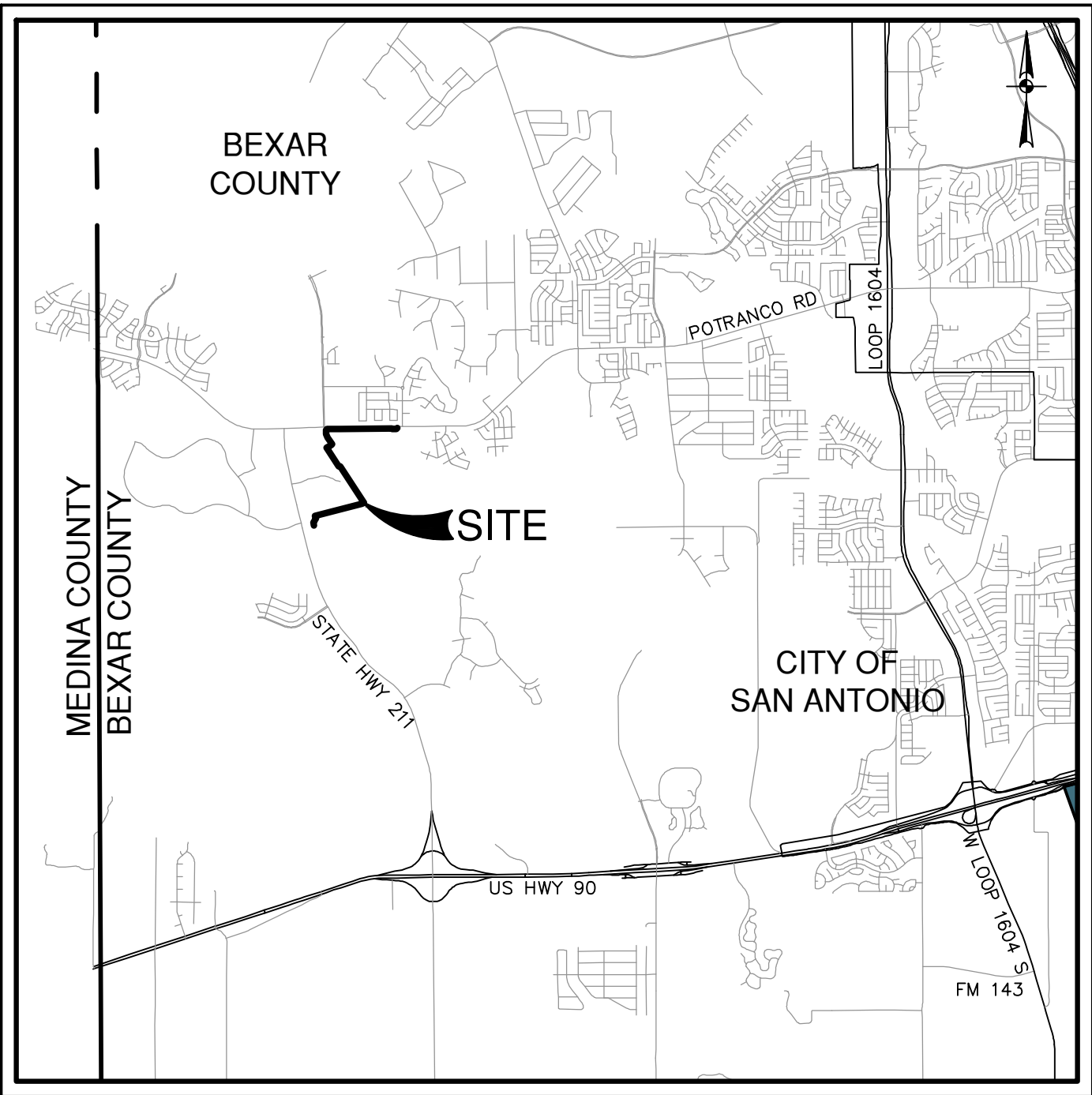
6" Fire	12" PVC	16" DI	24" DI
			
1.5	2.5	14	5
5	2.5	26	17
1.5	16	3	521
5	7	5	16
1.5	2.5	7	30
5	2.5	25	13
1.5	3.5	24	3
5	6	28	2
1.5	6	2	2
5	2.5	2	2
1.5	2.5		3
5	16		200
1.5	17		189
5	2.5		4
1.5	2.5		69
5	3.5		40
1.5	3.5		460
5	3.5		10
1.5	3.5		50
5	3.5		22
1.5	3.5		16
5	32		27
	10		383
	3		460
	2		10
			249
			14
			16
			47
			14
			248
			9
			394
			10
			292
			48
			10
			246
			300
			8
			73
			34
			18
			19
			593
			155
			9
			47
			12
			222
			16
			278
			156
			149
			49
			60
			9
			315
			25
			32
			645
			10
			626
			334
			9
			333
			24
			163
			33
			8
			5
71.5	159.5	136	8920

TOTALS (LF)

LADERA

SAN ANTONIO, TEXAS

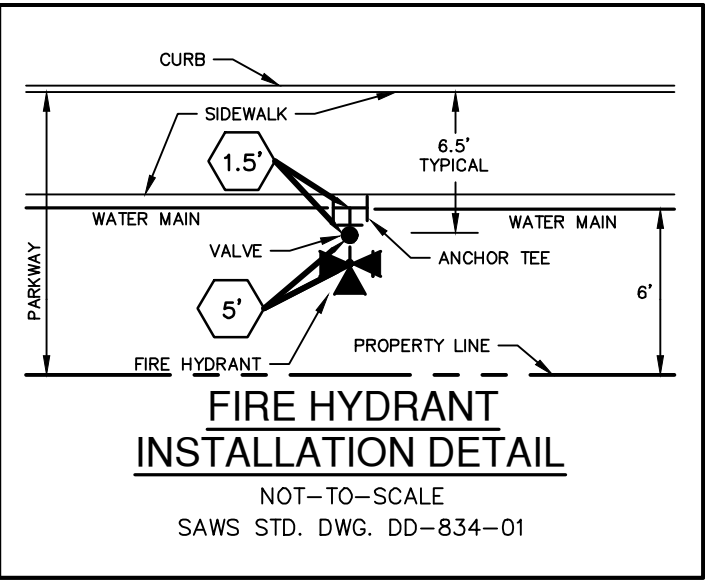
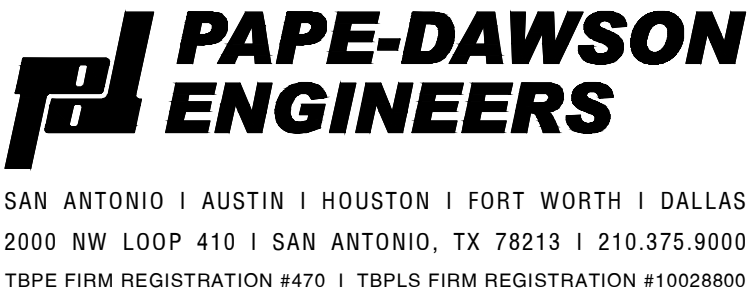
OFF-SITE WATER LINE



LOCATION MAP
NOT-TO-SCALE

PREPARED FOR:
LADERA I, LLC
P.O. BOX 93330
ANCHORAGE, AK 99509

JULY 2018



MATERIALS
GATE VALVES - EAST JORDAN IRON WORKS
VALVE BOX - SIGMA
DUCTILE IRON PIPE - MCWANE DUCTILE
C900 PVC DR 18 PIPE - JM EAGLE/NORTH AMERICAN PIPE CORP.
42" STEEL CASING - CIERRA PIPE
24" BUTTERFLY VALVES - PRATT (MUELLER)
FITTINGS - SIGMA/TYLER UNION
4" AIR RELEASE VALVE - APCO
FIRE HYDRANT - EAST JORDAN IRON WORKS

CONTRACTOR: PESADO CONSTRUCTION COMPANY
PESADO INSPECTOR: WILLIAM BRUNNER
SAWS INSPECTOR: CARLOS FERNANDEZ
COMPLETED: JULY 25, 2020

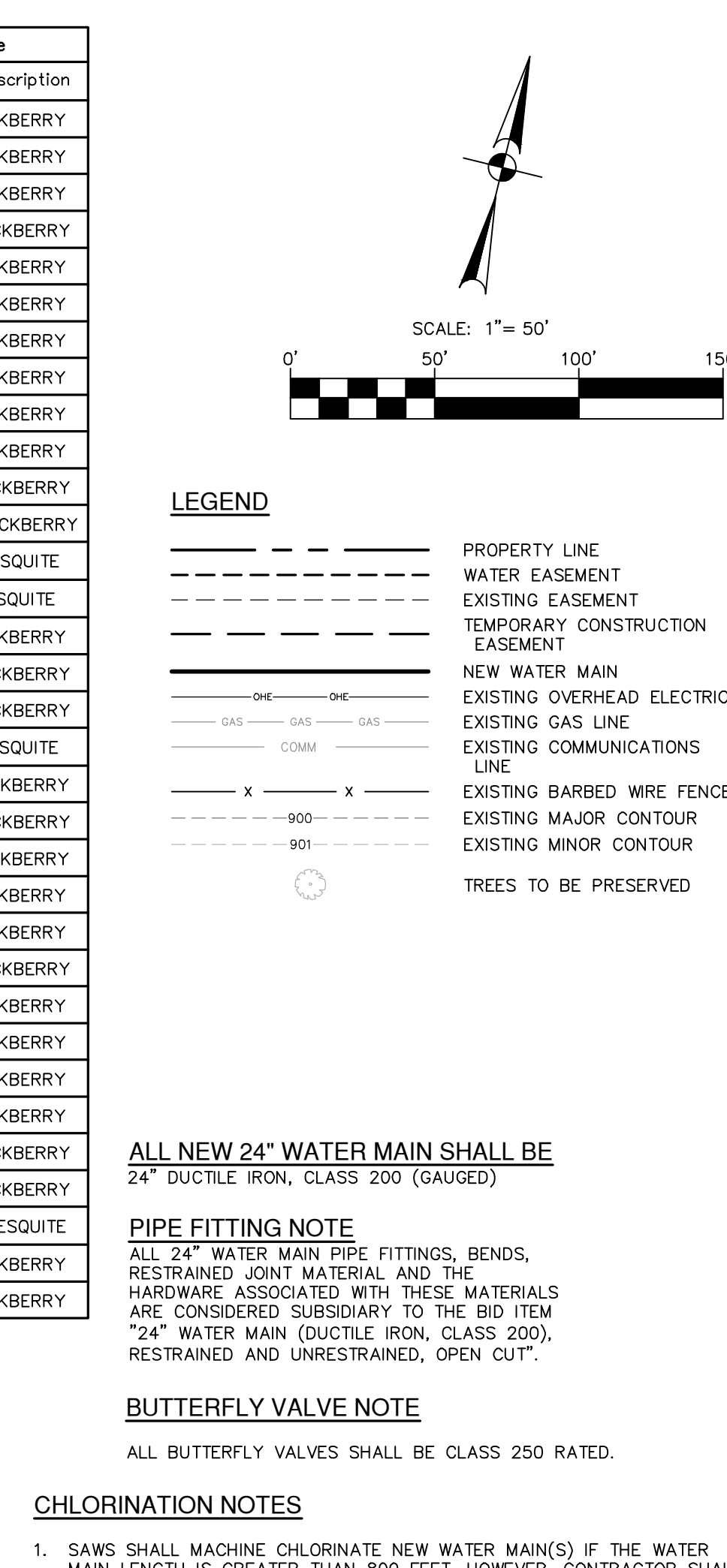
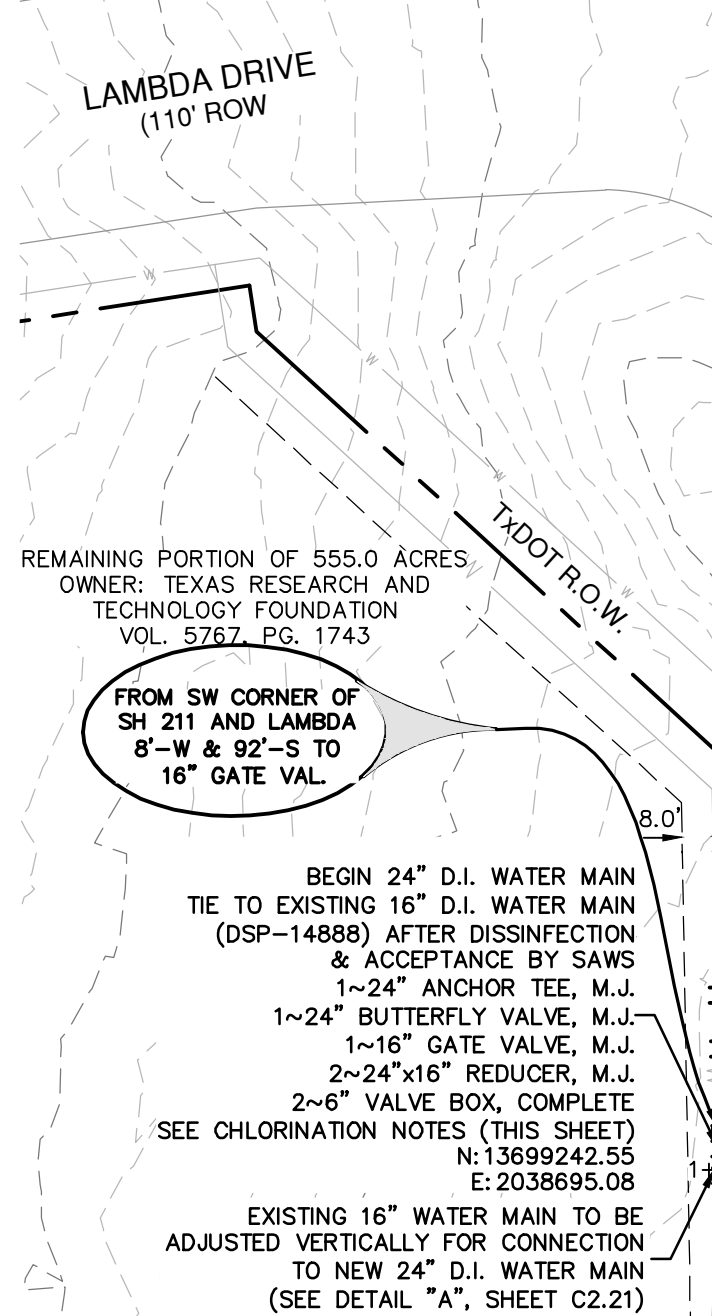
" PLAN OF RECORD "
I HERBY CERTIFY THAT THIS "PLAN OF RECORD" IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND WAS PREPARED UNDER MY SUPERVISION.
Jason T. Diamond
NOTE: INFORMATION FOR "PLAN OF RECORD" DRAWING WAS PROVIDED TO PAPE-DAWSON ENGINEERS BY THE CONTRACTOR.

WATER (SAWS PRESSURE ZONE 1170)

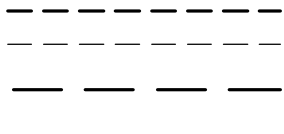
Developer's Name: LADERA I, LLC			
Address: P.O. BOX 93330			
City: ANCHORAGE	State: ALASKA	ZIP: 99509	
Phone#	FAX#		
SAWS Block Map# 070-574 Total FDU's: N/A Total Acreage: 2,235.4 Ac.			
Total Linear Footage of Pipe: 8,820 (24") 136 (6" FIRE) Plot No.: N/A			
Number of Lots: N/A SAWS JOB NO. 18-1083			

SHEET C0.00

"AS BUILT/PLAN OF RECORD"
DATE: 09/09/21



Point Table	
Point #	Tree Description
1667	6" HACKBERRY
1668	6" HACKBERRY
1669	7" HACKBERRY
1670	12" HACKBERRY
1671	7" HACKBERRY
1672	7" HACKBERRY
1673	6" HACKBERRY
1674	7" HACKBERRY
1675	7" HACKBERRY
1676	6" HACKBERRY
1677	10" HACKBERRY
1678	22M" HACKBERRY
1679	12" MESQUITE
1680	8" MESQUITE
1681	9" HACKBERRY
1682	12" HACKBERRY
1683	12" HACKBERRY
1684	11" MESQUITE
1685	11" HACKBERRY
1686	13" HACKBERRY
1687	11" HACKBERRY
1688	9" HACKBERRY
1689	8" HACKBERRY
1690	13" HACKBERRY
1691	8" HACKBERRY
1692	7" HACKBERRY
1693	6" HACKBERRY
1694	9" HACKBERRY
1695	12" HACKBERRY
1696	12" HACKBERRY
1697	14M" MESQUITE
1698	7" HACKBERRY
1699	6" HACKBERRY



PROPERTY LINE
 WATER EASEMENT
 EXISTING EASEMENT
 TEMPORARY CONSTRUCTION EASEMENT
 NEW WATER MAIN
 EXISTING OVERHEAD ELECTRIC
 EXISTING GAS LINE
 EXISTING COMMUNICATIONS LINE
 EXISTING BARBED WIRE FENCE
 EXISTING MAJOR CONTOUR
 EXISTING MINOR CONTOUR
 TREES TO BE PRESERVED

PIPE FITTING NOTE
ALL 24" WATER MAIN PIPE FITTINGS, BENDS, RESTRAINED JOINT MATERIAL AND THE HARDWARE ASSOCIATED WITH THESE MATERIALS ARE CONSIDERED SUBSIDIARY TO THE BID ITEM "24" WATER MAIN (DUCTILE IRON, CLASS 200) RESTRAINED AND UNRESTRAINED. OPEN CUT.

ALL BUTTERFLY VALVES SHALL BE CLASS 250 RATED.

1. SAWS SHALL MACHINE CHLORINATE NEW WATER MAIN(S) IF THE WATER MAIN LENGTH IS GREATER THAN 800 FEET, HOWEVER, CONTRACTOR SHALL PROVIDE CHLORINATION INJECTION FACILITY AS NOTED BELOW AND IN THE DETAILS HEREIN.

CHLORINATION INJECTION FACILITY
2 - 1" CORP. STOP C.C. x I.P.
2 - 1" COMP. 1 1/4" CPL, CURB STOP
1 - 1 1/4" THD. SOLID CAP AFTER CHLORINATION
2 - 1" COPPER TUBING, CUT AS REQ'D
SEE DETAIL C-31

CAUTION!!!
CONTRACTOR TO EXERCISE EXTREME
CAUTION WHEN WORKING UNDER AND/OR
AROUND OVERHEAD ELECTRIC LINES.
CONTRACTOR SHALL COORDINATE WITH CPS
ENERGY TO ESTABLISH THE MAXIMUM
WORKING HEIGHT FROM GROUND ELEVATION.
COORDINATE ALL WORK WITH CPS ENERGY.

CAUTION!!!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES, INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE OWNER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION, ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT THE CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

CONTRACTOR AND/OR GEOTECHNICALS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL ENGINEER, GEOTECHNICALS, SAFETY/EQUIPMENT CONSULTANT, ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCING EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR TRENCING EXCAVATION. CONTRACTOR SHALL MAINTAIN DOCUMENTATION OF THE IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCING EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCING EXCAVATION. SPECIFICALLY, CONTRACTOR AND/OR GEOTECHNICALS INDEPENDENTLY RETAINED EMPLOYEE SHALL MAINTAIN DOCUMENTATION OF THE IMPLEMENTATION OF THESE PROGRAMS IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCING EXCAVATION.

Developer's Name: LADERA I, LLC
Address: P.O. BOX 93330
City: ANCHORAGE State: ALASKA ZIP: 99509
Phone# FAX#
SAWS Block Map# 070-574 Total EDU's N/A Total Acreage 2,2354 Ac.
Total Linear Footage of Pipe: 8,920 (24" 156 (6") 66 (6" FIRE)
Number of Lots N/A SAWS JOB NO. 18-1083

**PAPE-DAWSON
ENGINEERS**

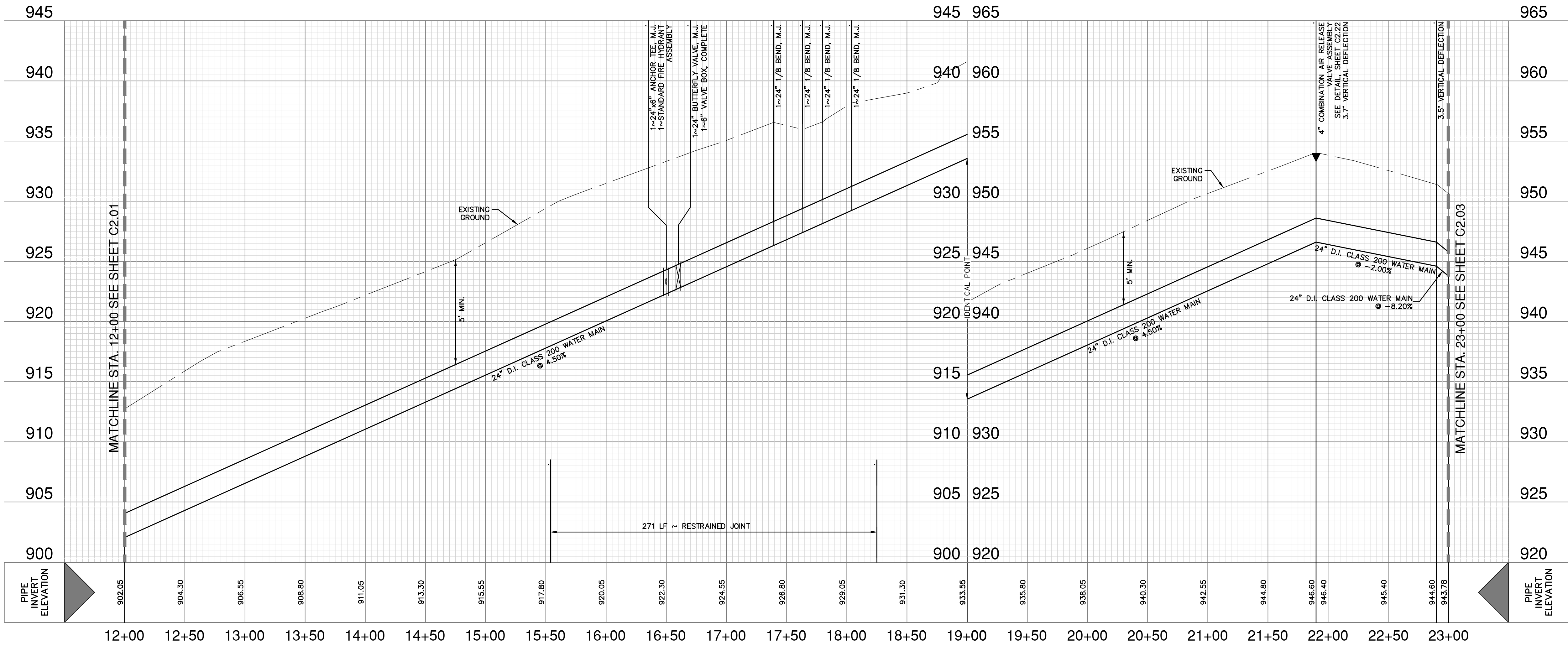
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
20000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #420 | TBPAS FIRM REGISTRATION #10028600

ERA - OFFSITE WATER LINE
SAN ANTONIO, TEXAS
WATERLINE PLAN AND PROFILE

PLAT NO. --
JOB NO. 6445-45
DATE SEPTEMBER 2018
DESIGNER JD
CHECKED RG DRAWN ABC
SHEET C2 01

Date: Sep. 09, 2021, 1:54pm User ID: EPO0007
File Path: \\P:\A\45\40\Drawings\Water\Water-WT-644540.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE/UNLESS OTHERWISE NOTED. Imagery © 2016,CAPSO/Digital Globe,Texas Orthomogry Program, USDA Farm Service Agency



QUANTITIES	
24" D.I. CLASS 200 WATER MAIN	1
1" ~ 24" STANDARD FIRE HYDRANT ASSEMBLY	1
1" ~ 24"x6" ANCHOR TEE	1
1" ~ 24" BUTTERFLY VALVES, M.J.	4
1" ~ 24" 1/8 BEND, M.J.	1
1" ~ 6" GATE VALVE, M.J.	1
1" ~ 4" COMBINATION AIR RELEASE VALVE ASSEMBLY	2
2" ~ 6" VALVE BOX, COMPLETE	2

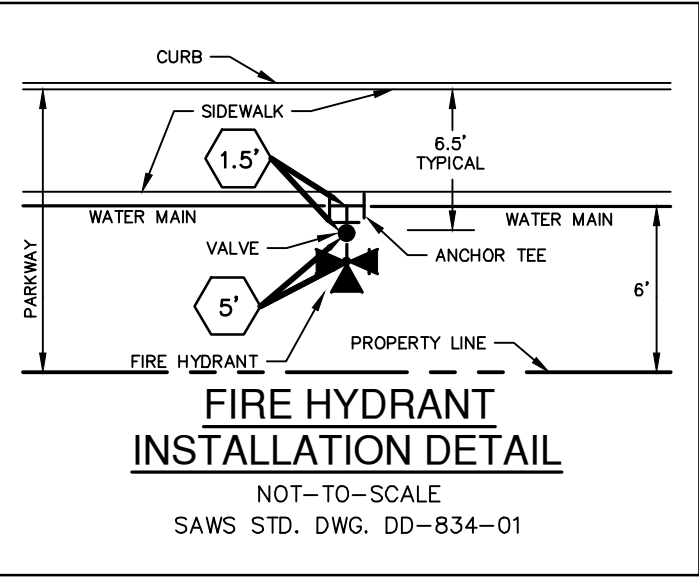
Point Table	
Point #	Tree Description
1550	27" OAK
1580	27" OAK
1585	27" OAK

LEGEND	
	PROPERTY LINE
	WATER EASEMENT
	EXISTING EASEMENT
	TEMPORARY CONSTRUCTION EASEMENT
	NEW WATER MAIN
	EXISTING OVERHEAD ELECTRIC
	EXISTING GAS LINE
	EXISTING COMMUNICATIONS LINE
	EXISTING BARBED WIRE FENCE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	TREES TO BE PRESERVED

ALL NEW 24" WATER MAIN SHALL BE 24" DUCTILE IRON, CLASS 200 (GAUGED)

PIPE FITTING NOTE
ALL 24" WATER MAIN PIPE FITTINGS, BENDS, RESTRAINED JOINT MATERIAL AND THE HARDWARE ASSOCIATED WITH THESE MATERIALS ARE CONSIDERED SUBSIDIARY TO THE BID ITEM "24" WATER MAIN (DUCTILE IRON, CLASS 200), RESTRAINED AND UNRESTRAINED, OPEN CUT".

BUTTERFLY VALVE NOTE
ALL BUTTERFLY VALVES SHALL BE CLASS 250 RATED.



HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

CAUTION!!!
CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING UNDER AND/OR AROUND OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL COORDINATE WITH CPS ENERGY TO ESTABLISH THE MAXIMUM WORKING HEIGHT FROM GROUND ELEVATION. COORDINATE ALL WORK WITH CPS ENERGY.

CAUTION!!!
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION:
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND /OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

WATER (SAWS PRESSURE ZONE 1170)

Developer's Name: LADERA J. LLC	
Address: P.O. BOX 93330	
City: ANCHORAGE	State: ALASKA
ZIP: 99509	
Phone#	FAX#
SAWS Block Map# 070-574 Total EDU's N/A Total Acreage 2.2354 Ac.	
159.5 (12"), 65 (6" FIRE)	
Total Linear Footage of Pipe: 8,820 (24"), 136 (16")	
Plot No. N/A	
Number of Lots: N/A	SAWS JOB NO. 18-1083

NO. REVISION	
DATE	

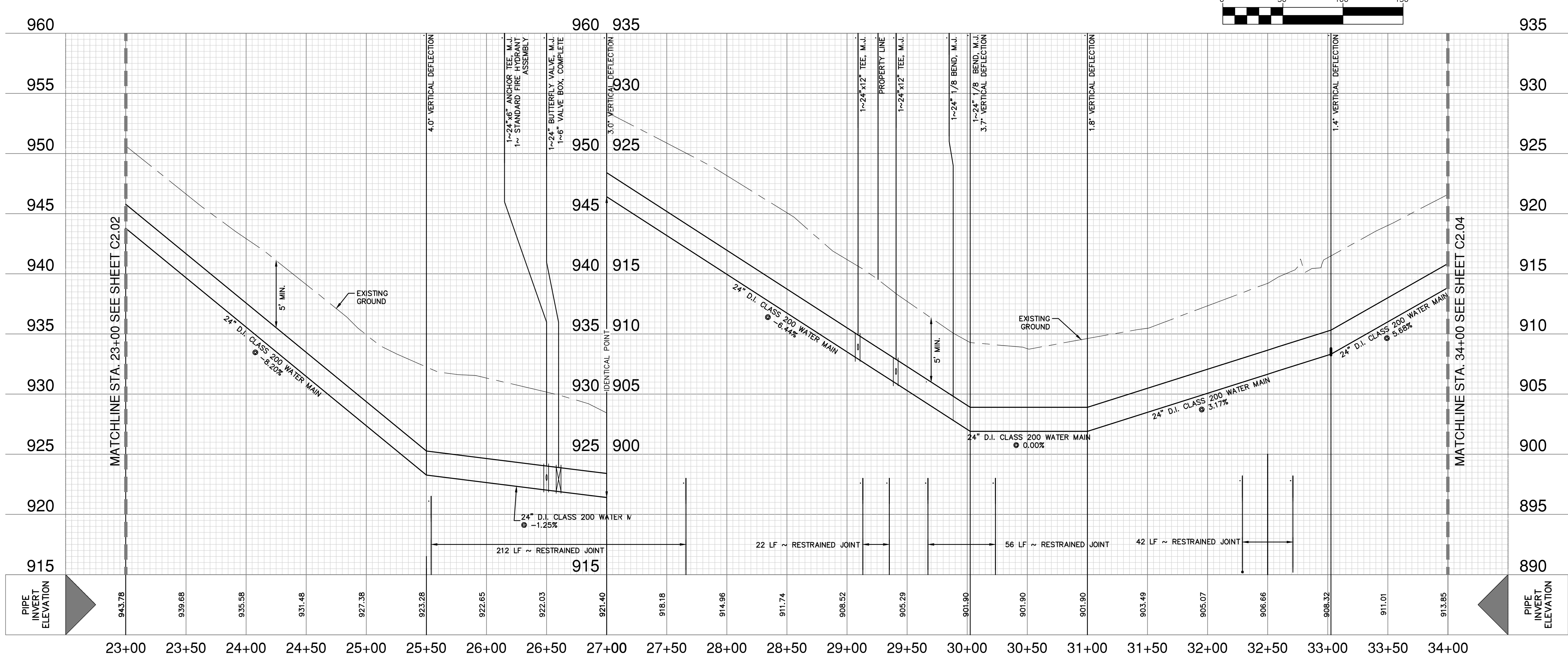
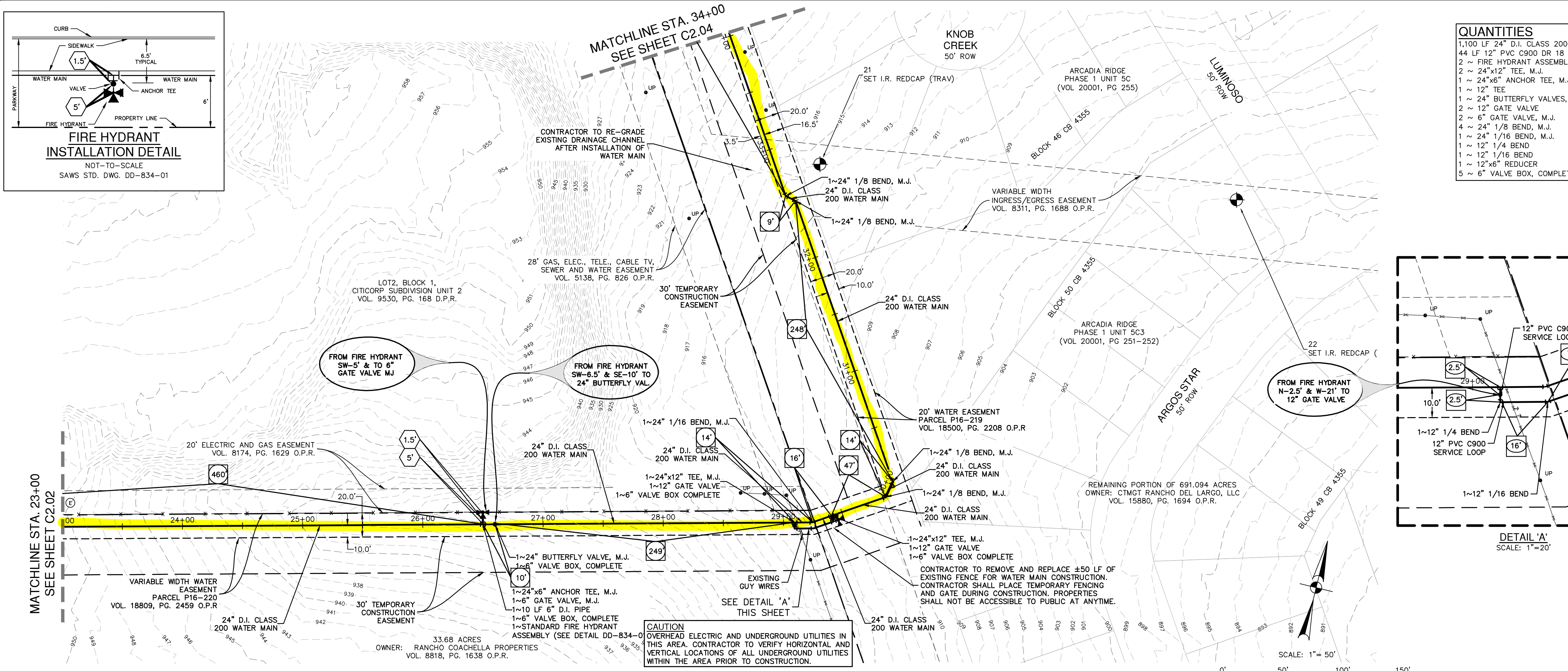
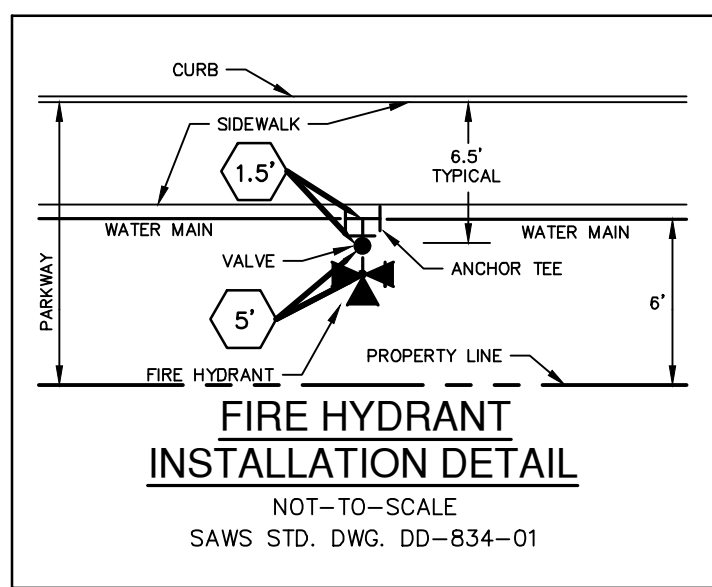


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TPLS FIRM REGISTRATION #10028600

LADERA - OFFSITE WATER LINE
SAN ANTONIO, TEXAS
WATERLINE PLAN AND PROFILE

PLAT NO.	--
JOB NO.	6445-45
DATE	SEPTEMBER 2018
DESIGNER	JD
CHECKED	RG DRAWN ABC
SHEET	C2.02

"AS BUILT/PLAN OF RECORD"
DATE: 09/09/21



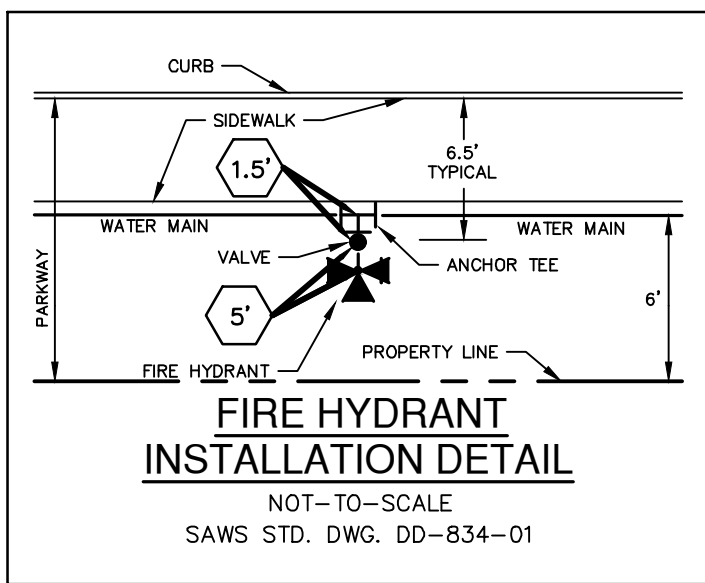
NO.	REVISION	DATE



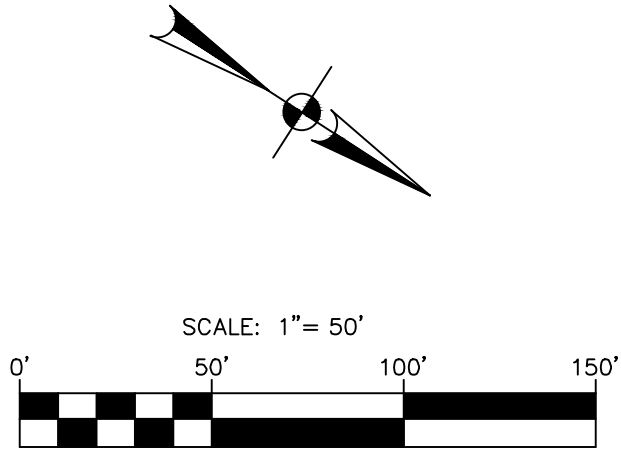
LADERA - OFFSITE WATER LINE
SAN ANTONIO, TEXAS

WATERLINE PLAN AND PROFILE

PLAT NO. --
JOB NO. 6445-45
DATE SEPTEMBER 2018
DESIGNER JD
CHECKED RG DRAWN ABC
SHEET C2.03



QUANTITIES	
24" D.I. CLASS 200 WATER MAIN	
12" C-900 PVC (DR14) PIPE	
1 ~ FIRE HYDRANT ASSEMBLY	
1 ~ 24"x6" ANCHOR TEE, M.J.	
2 ~ 24" BUTTERFLY VALVES, M.J.	
1 ~ 6" GATE VALVE, M.J.	
1 ~ 12" GATE VALVE, M.J.	
4 ~ 6" VALVE BOX, COMPLETE	
2 ~ 24" 1/8 BEND, M.J.	
1 ~ 4" COMBINATION AIR RELEASE VALVE ASSEMBLY	



Point Table	
Point #	Tree Description
1308	35" OAK

LEGEND	
	PROPERTY LINE
	WATER EASEMENT
	EXISTING EASEMENT
	TEMPORARY CONSTRUCTION EASEMENT
	NEW WATER MAIN
	EXISTING OVERHEAD ELECTRIC
	EXISTING GAS LINE
	EXISTING COMMUNICATIONS LINE
	EXISTING BARBED WIRE FENCE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	TREES TO BE PRESERVED

ALL NEW 24" WATER MAIN SHALL BE 24" DUCTILE IRON, CLASS 200 (GAUGED)

PIPE FITTING NOTE
ALL 24" WATER MAIN PIPE FITTINGS, BENDS, RESTRAINED JOINT MATERIAL AND THE HARDWARE ASSOCIATED WITH THESE MATERIALS ARE CONSIDERED SUBSIDIARY TO THE BID ITEM "24" WATER MAIN (DUCTILE IRON, CLASS 200), RESTRAINED AND UNRESTRAINED, OPEN CUT".

BUTTERFLY VALVE NOTE
ALL BUTTERFLY VALVES SHALL BE CLASS 250 RATED.

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

NOTE:
CONTRACTOR TO MAINTAIN A FIVE FOOT MINIMUM CLEARANCE BETWEEN EDGE OF TRENCH AND CPS POWER POLES.

CAUTION!!!
CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING UNDER AND/OR AROUND OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL COORDINATE WITH CPS ENERGY TO ESTABLISH THE MAXIMUM WORKING HEIGHT FROM GROUND ELEVATION. COORDINATE ALL WORK WITH CPS ENERGY.

CAUTION!!!
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WATER (SAWS PRESSURE ZONE 1170)

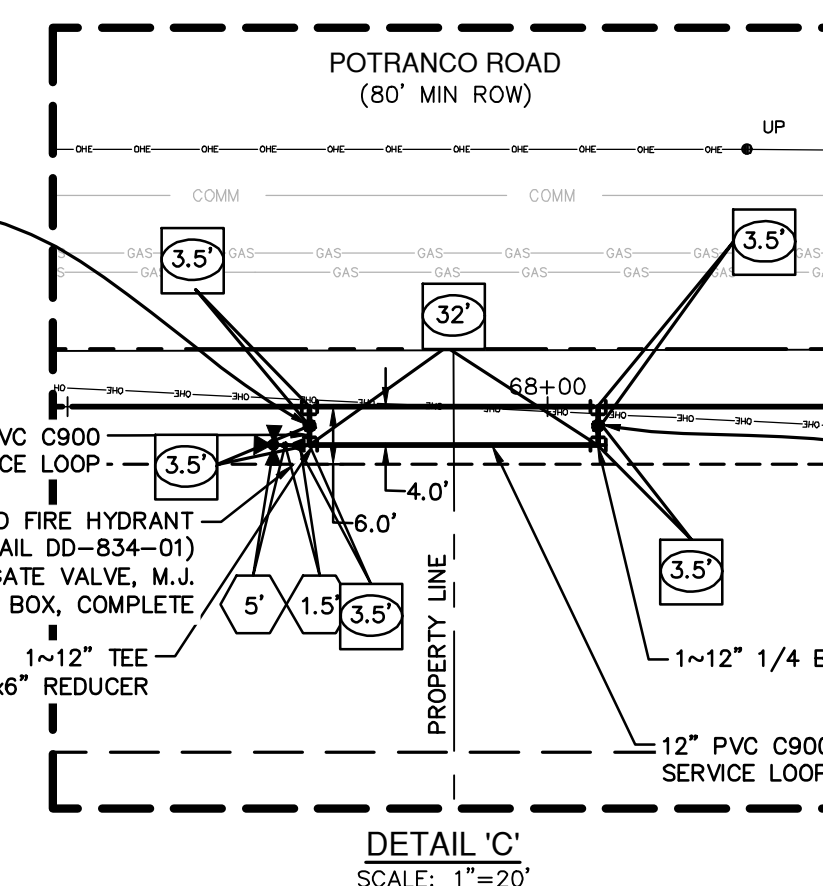
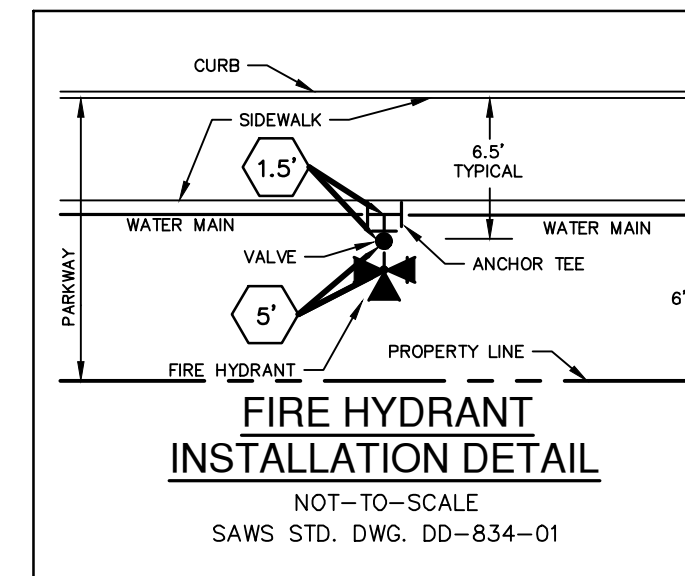
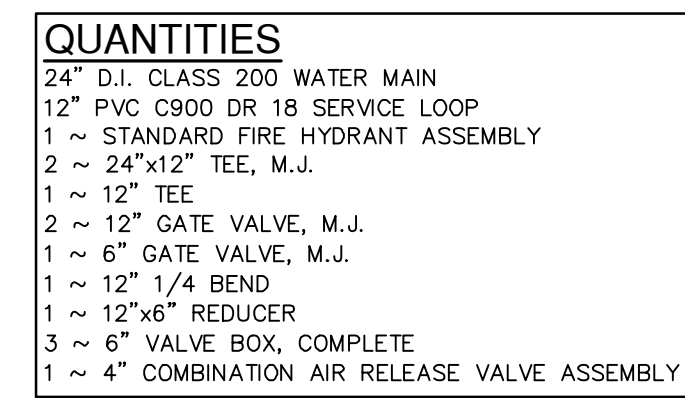
Developer's Name: LADERA I, LLC	
Address: P.O. BOX 93330	
City: ANCHORAGE	State: ALASKA ZIP: 99509
Phone#	FAX#
SAWS Block Map# 070-574 Total EDU's N/A Total Acreage 2,235.4 Ac	
Total Linear Footage of Pipe: 8,920 (12") 65 (6" FIRE) 136 (16")	
Number of Lots: N/A SAWS JOB NO. 18-1083	

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPIS FIRM REGISTRATION #10028890

LADERA - OFFSITE WATER LINE
SAN ANTONIO, TEXAS
WATERLINE PLAN AND PROFILE

PLAT NO. --
JOB NO. 6445-45
DATE SEPTEMBER 2018
DESIGNER JD
CHECKED RG DRAWN ABC
SHEET C2.04

"AS BUILT/PLAN OF RECORD"
DATE: 09/09/21



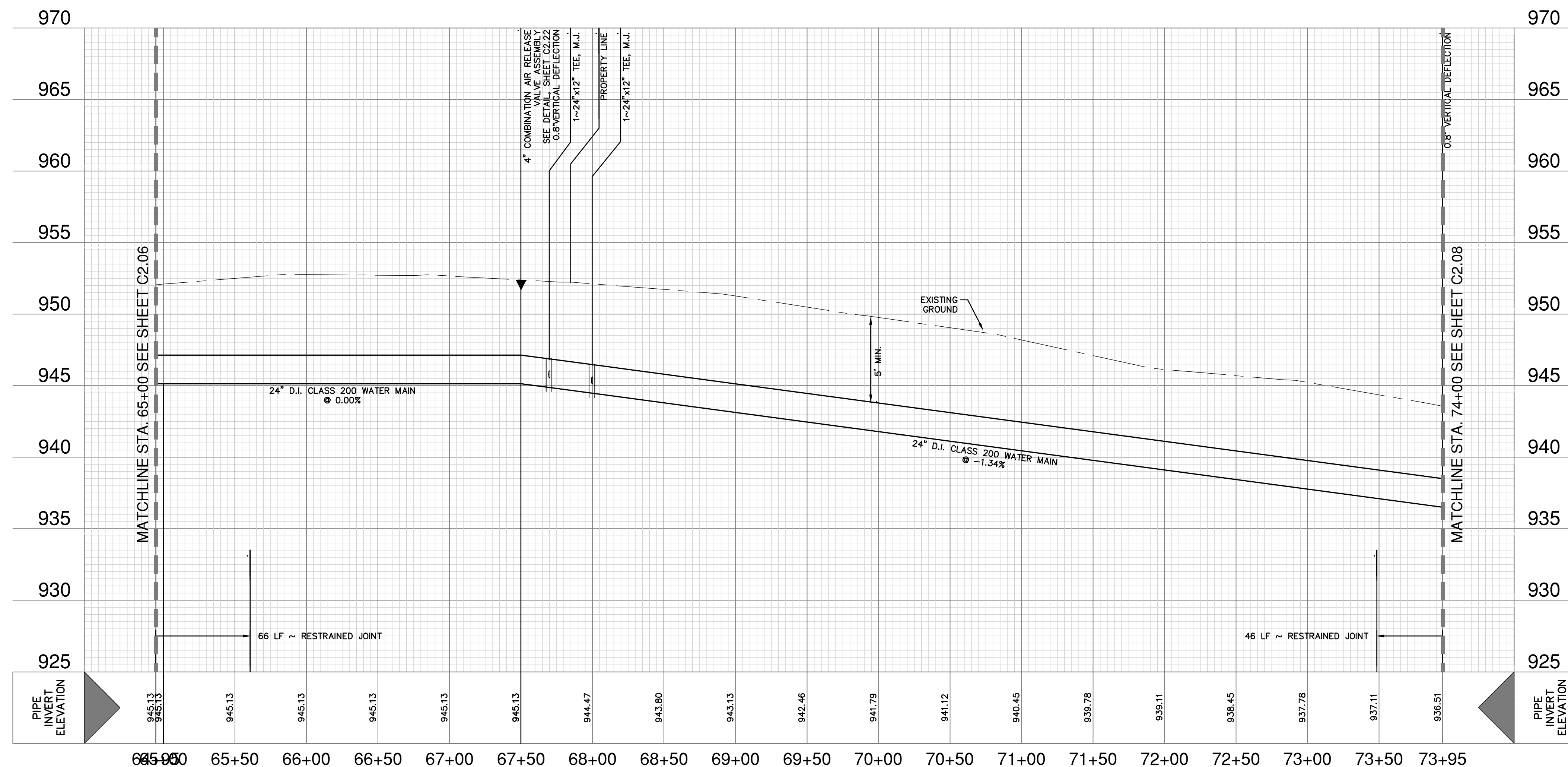
ALL NEW 24" WATER MAIN SHALL BE
24" DUCTILE IRON, CLASS 200 (GAUGED)

PIPE FITTING NOTE
ALL 24" WATER MAIN PIPE FITTINGS, BENDS, RESTRAINED JOINT MATERIAL AND THE HARDWARE ASSOCIATED WITH THESE MATERIALS ARE CONSIDERED SUBSIDIARY TO THE BID ITEM "24" WATER MAIN (DUCTILE IRON, CLASS 200), RESTRAINED AND UNRESTRAINED, OPEN CUT".

BUTTERFLY VALVE NOTE

ALL BUTTERFLY VALVES SHALL BE CLASS 250 RATED

FROM FIRE HYDRANT
N-3.5' & W-8.5' TO
12" GATE VALVE, N



HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

CAUTION!!

CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING UNDER AND/OR AROUND OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL COORDINATE WITH CPS ENERGY TO ESTABLISH THE MAXIMUM WORKING HEIGHT FROM GROUND ELEVATION. COORDINATE ALL WORK WITH CPS ENERGY.

CAUTION

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL, DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION PRIOR TO THE START OF THE INSPECTION AND SHALL BE AVAILABLE ON SITE IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE TRENCH EXCAVATION. THE TRENCH EXCAVATION SAFETY PROTECTION IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATION. SPECIFICALLY, CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE

WATER (SAWS PRESSURE ZONE 1170)

Developer's Name: LADERA L, LLC
Address: P.O. BOX 83330
City: ANCHORAGE State: ALASKA ZIP: 99509
Phone: _____ FAX# _____
SAWS Block Map# 070-574 Total Edu'n N/A Total Acreage 2.2354 Ac.
156.5 (12'), 65 (0' FIRE)
Total Linear Footage of Pipes 8,600 (24") 136 (16") Plat No. N/A
Number of Lots N/A SAWS JOB No. 18-1083



**PAPE-DAWSON
ENGINEERS**

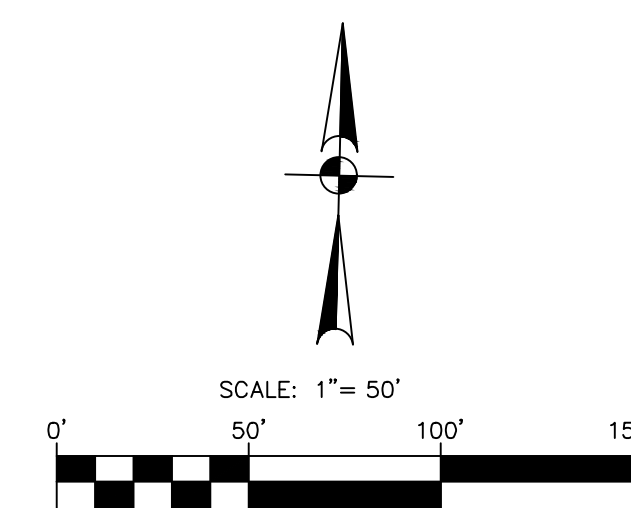
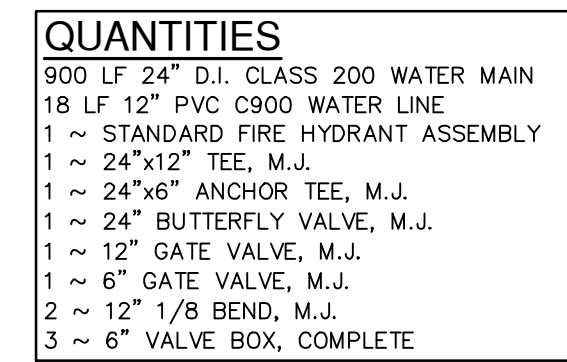
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

BLADERA - OFFSITE WATER LINE
SAN ANTONIO, TEXAS













WATERLINE PLAN AND PROFILE

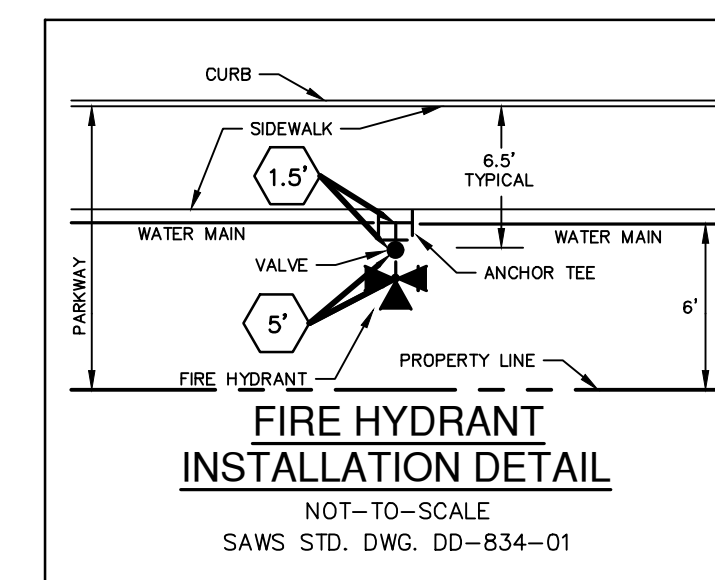
PLAT NO. --
JOB NO. 6445-45
DATE SEPTEMBER 2018
DESIGNER JD
CHECKED RG DRAWN AE
SHEET C2.07

"AS BUILT/PLAN OF RECORD"
DATE: 09/09/21



LEGEND

	PROPERTY LINE
	WATER EASEMENT
	EXISTING EASEMENT
	TEMPORARY CONSTRUCTION EASEMENT
	NEW WATER MAIN
	EXISTING OVERHEAD ELECTRIC
	EXISTING GAS LINE
	EXISTING COMMUNICATIONS LINE
	EXISTING BARBED WIRE FENCE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	TREES TO BE PRESERVED



ALL NEW 24" WATER MAIN SHALL BE
24" DUCTILE IRON, CLASS 200 (GAUGED)

PIPE FITTING NOTE
ALL 24" WATER MAIN PIPE FITTINGS, BENDS, RESTRAINED JOINT MATERIAL AND THE HARDWARE ASSOCIATED WITH THESE MATERIALS ARE CONSIDERED SUBSIDIARY TO THE BID ITEM "24" WATER MAIN (DUCTILE IRON, CLASS 200), RESTRAINED AND UNRESTRAINED, OPEN CUT".

BUTTERFLY VALVE NOTE

ALL BUTTERFLY VALVES SHALL BE CLASS 250 RATED



CAUTION!!!

CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING UNDER AND/OR AROUND OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL COORDINATE WITH CPS ENERGY TO ESTABLISH THE MAXIMUM WORKING HEIGHT FROM GROUND ELEVATION. COORDINATE ALL WORK WITH CPS ENERGY.

CAUTION!!!

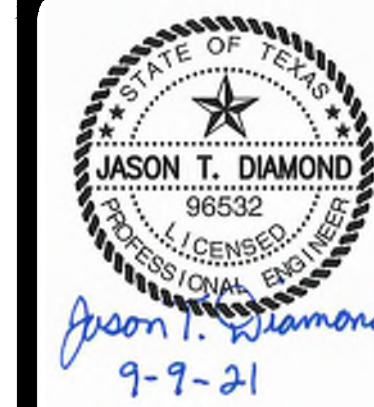
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TWO A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BEAR THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN, GEOTECHNICAL, SAFETY/EQUIPMENT CONSULTANT, ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA AND DETERMINE THE APPROPRIATENESS OF THE PROPOSED SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, CONSTRUCTION AND/OR MAINTENANCE OF ANY SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES PROVIDED FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION TO COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATION SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, CONSTRUCTION AND/OR MAINTENANCE OF ANY SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES PROVIDED FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION TO COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATION SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, CONSTRUCTION AND/OR MAINTENANCE OF ANY SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES PROVIDED FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION TO COMPLY WITH AS A MINIMUM, OSHA STANDARDS GOVERNING THE PRESENCE OF ANY OF THE ABOVE.

WATER (SAWS PRESSURE ZONE 1170)

Developer's Name: LADERA I, LLC
Address: P.O. BOX 93330
City: ANCHORAGE State: ALASKA ZIP: 99509
Phone: FAX:
SAWS Block Map: 070-574 Total EDU's N/A Total Accre 2,2354 Ac
159.5 (12", 65 (6" FIRE)
Total Linear Footage of Pipe: 9,900 (24", 136 (6") Plat No. N/A
Number of Lots N/A SAWS JOB NO. 18-1083

[illegible]

**PAPE-DAWSON
ENGINEERS**

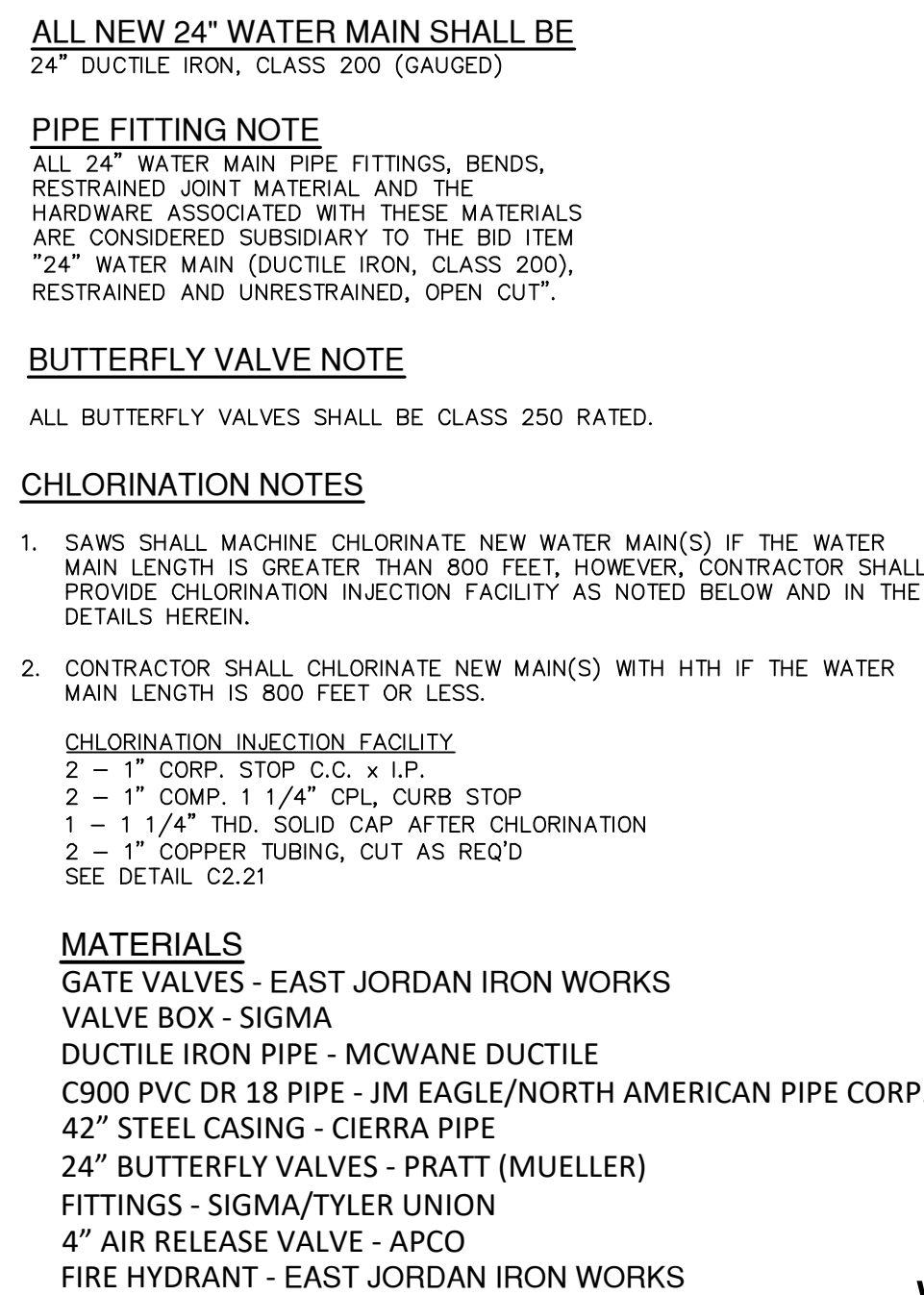
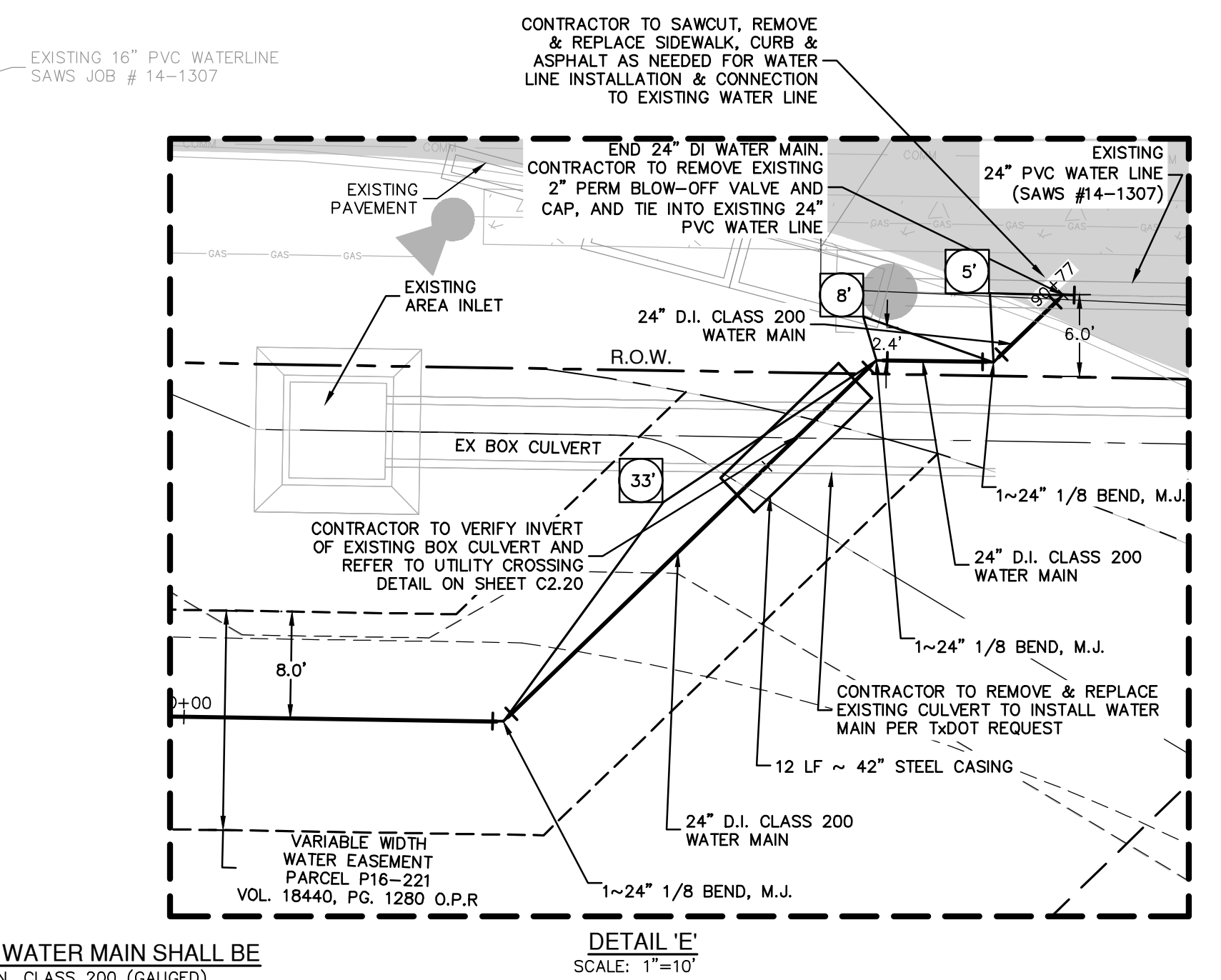
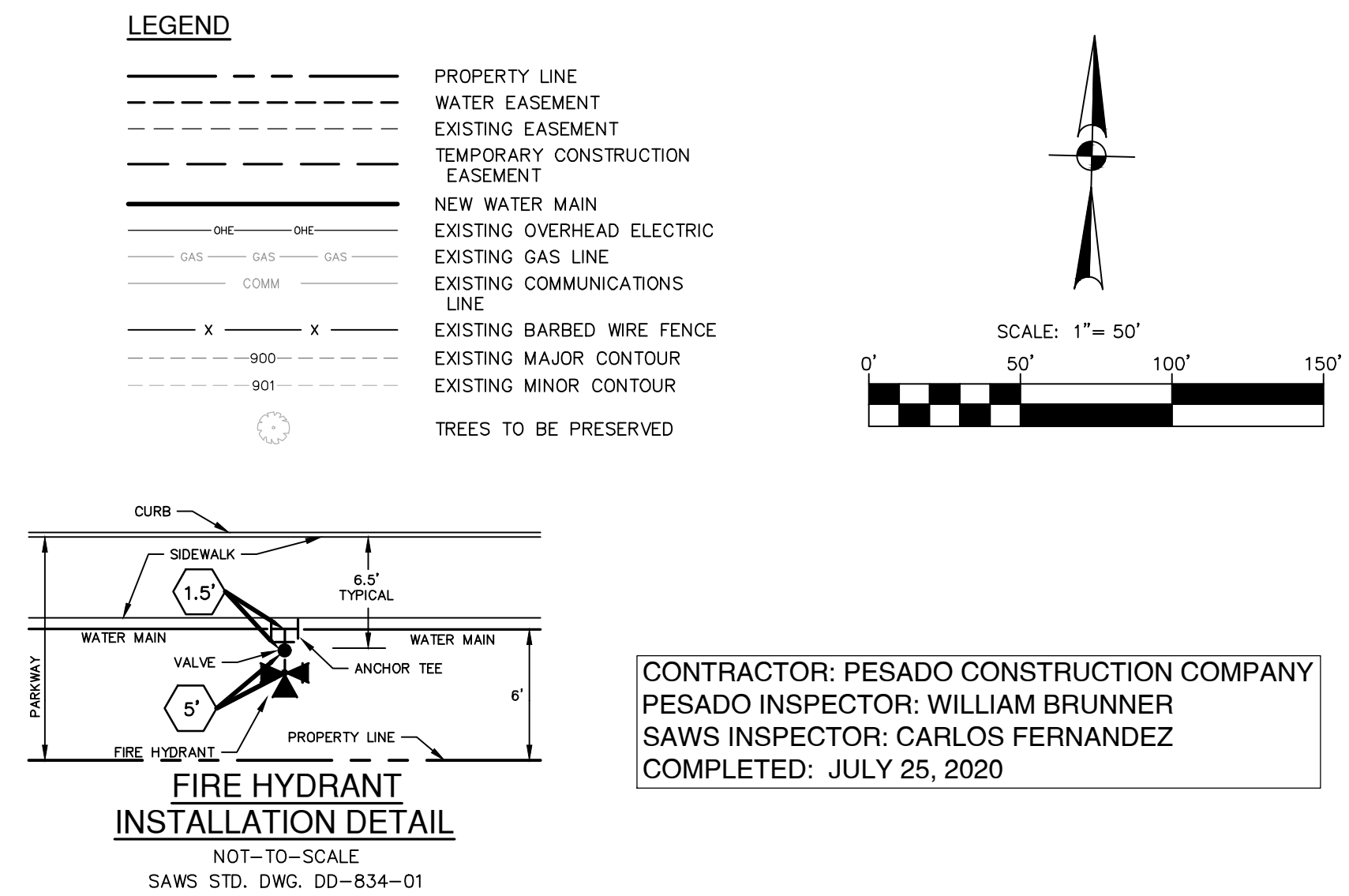
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
0000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #4470 | TBPLS FIRM REGISTRATION #10028800

BLADERA - OFFSITE WATER LINE
SAN ANTONIO, TEXAS

WATERLINE PLAN AND PROFILE

PLAT NO. --
JOB NO. 6445-45
DATE SEPTEMBER 2018
DESIGNER JD
CHECKED RG DRAWN AB
SHEET C2.08

"AS BUILT/PLAN OF RECORD"
DATE: 09/09/21



CAUTION!!!
CONTRACTOR TO EXERCISE EXTREME
CAUTION WHEN WORKING UNDER AND/OR
AROUND OVERHEAD ELECTRIC LINES.
CONTRACTOR SHALL COORDINATE WITH CPS
ENERGY TO ESTABLISH THE MAXIMUM
WORKING HEIGHT FROM GROUND ELEVATION.
COORDINATE ALL WORK WITH CPS ENERGY.

CAUTION!!!!
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES BUT NOT LIMITING TO WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ARCHITECT IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE, OR STRUCTURAL DESIGN/ GEOTECHNICAL SAFETY/EQUIPMENT CONSULTANT, IF APPLICABLE, SHALL PROVIDE ALL NECESSARY INFORMATION, INCLUDING ALL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. CONTRACTOR SHALL PROVIDE ALL INFORMATION DEMANDS FOR INFORMATION FROM THE PROJECT. CONTRACTOR SHALL IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH A.S.A. MINIMUM, OSHA STANDARDS, AND TRENCH EXCAVATION SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY SYSTEM THAT PROTECTS ALL INDIVIDUALS WORKING IN AND AROUND TRENCHES AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

WATER (SAWS PRESSURE ZONE 1170)

Developer's Name: LADERA I, LLC
Address: P.O. BOX 93330
City: ANCHORAGE State: ALASKA ZIP: 98509
Phone# _____ FAX# _____
SAWS Block Map# 070-574 Total EDU's N/A Total Acreage 2.2354 Ac.
159.5 (TIRE) 85 (TIRE)
Total Linear Footage of Pipe: 8,820 (24") 136 (18") Plat No. N/A
Number of Lots: N/A SAWS JOB No. 18-1083

[illegible]

**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #10028600 | TBPAS FIRM REGISTRATION #10028600

ERA - OFFSITE WATER LINE
SAN ANTONIO, TEXAS
WATERLINE PLAN AND PROFILE

PLAT NO. --
JOB NO. 6445-45
DATE SEPTEMBER 2018
DESIGNER JD
CHECKED RG DRAWN ABC
C2.09
SHEET

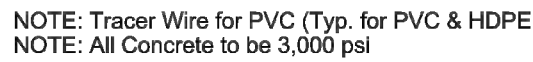
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

"AS BUILT/PLAN OF RECORD"
DATE: 09/09/21

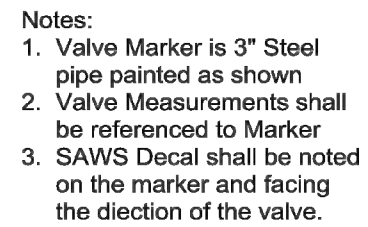
1. DEPTH OF GRAVEL SUBGRADE FILLER TO BE DETERMINED IN FIELD BY OWNER IN CONDITIONS WHERE TRENCH BOTTOM IS UNSTABLE
2. BEDDING SHALL HAVE A MINIMUM THICKNESS OF 6-INCHES BELOW OUTSIDE DIAMETER OF PIPE AND BE PLACED AND SHAPED TO CONFORM TO PIPE BARREL AND BELL OR FLANGES SUCH THAT THE ENTIRE LENGTH OF THE BARREL IS SUPPORTED BY THE BEDDING MATERIAL, NO SEPARATE PAY ITEM (NSP).
3. INITIAL BACKFILL TO BE A MINIMUM OF 1-FOOT ABOVE OUTSIDE DIAMETER OF PIPE PLACED WITH A TEMPORARY SHIELD OVER THE PIPE TO PROTECT THE PIPE COATING AND/OR POLYWRAP, NO SEPARATE PAY ITEM (NSP).
4. ALL BEDDING OR GRAVEL SUBGRADE FILLER IF USED TO BE PLACED ON UNDISTURBED SOILS.
5. CONTRACTOR SHALL INCORPORATE THE USE OF A TRENCH BOX OR OTHER ACCEPTABLE SAFETY SYSTEM IN ANY TRENCH THAT EXCEEDS FIVE (5) FEET IN DEPTH.
6. ALL BACKFILL SHALL BE COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY OR DETERMINED BY TxDOT TEST METHOD TEX-113E.



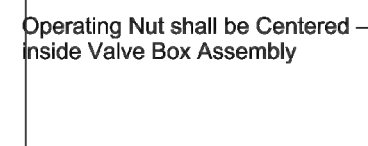
TYPICAL TRENCH INSTALLATION DETAIL



Note: For all work associated with Recycled Water Valves, refer to DD 110-10, Sht. 1 of 1



SECTION A-A

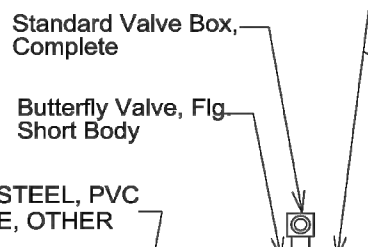


NOTE: All Concrete to be 3,000 psi

PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS

PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS

1	INSTALLATION OF BURIED BUTTERFLY VALVE WITH VALVE BOX COMPLETE	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD 830-01	SHEET 1 OF 4



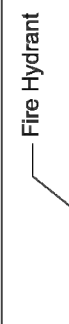
Normal 1" gap between pipe ends.



Main Size	A (Min.)	Reinforcing Bar Size	Bearing Surface Required (in Sq. Ft.)
6"	12"	#4	3
8"	12"	#4	5
12"	18"	#4	8
16"	18"	#4	12
20"	28"	#5	16
24"	28"	#5	23
30"	36"	#5	35
36"	36"	#5	50
42"	36"	#5	70

Note: Concrete shall be 3,000 psi

PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS



NOTE: Operation of Hydrant shall be Full Opened or Full Closed Throttling is Prohibited.

FIRE HYDRANT WITH OFFSET	APPROVED	REVISED
	MAY 2013	AUG 2013
	<i>DD-834-01</i>	

[illegible]

EM	4" (TEMPORARY) BLOW-OFF ASSEMBLY 20" AND LARGER D. I./P.V.C. MAIN (JOINT RESTRAINT)	APPROVED	REVISED
		March 2008	AUG 2019
		DD-844-04	SHEET 3 OF 4

Developer's Name: LADERA I. LLC
Address: P.O. BOX 93330
City: ANCHORAGE State: ALASKA ZIP: 99509
Phone: FAX:
SAWS Block Map# 070-574 Total EDU's N/A Total Acreage 2.2354 Ac.
15.5 (12.7) 25.16 (FIRE)
Total Linear Footage of Pipe: 8,820 (24") 136 (16") Plot No. N/A
Number of Lots: N/A SAWS JOB NO. 18-1083

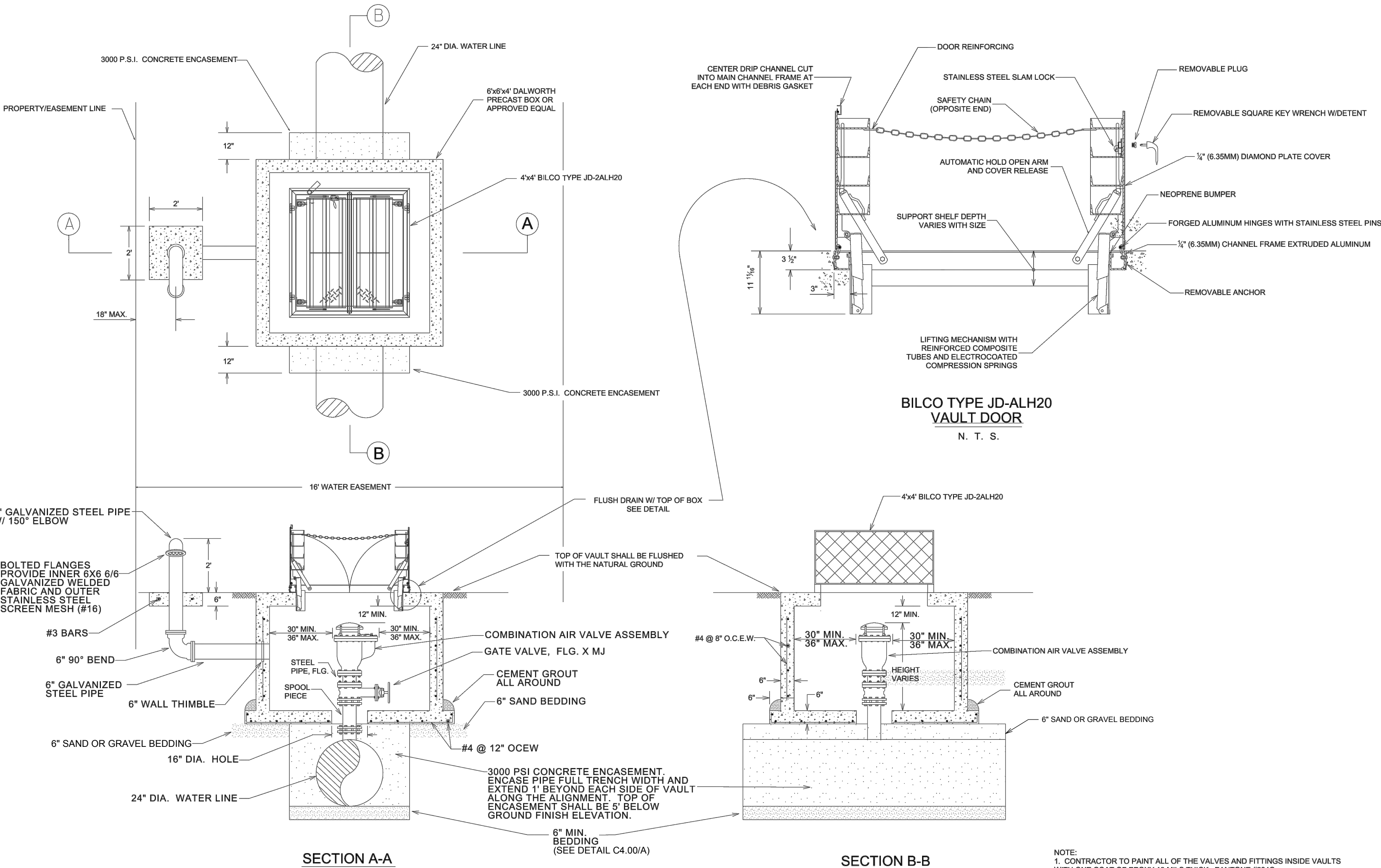
PLAT NO. --
JOB NO. 6445-45
DATE SEPTEMBER 2018
DESIGNER JD
CHECKED RG DRAWN ABC
SHEET C2.20

C2.20

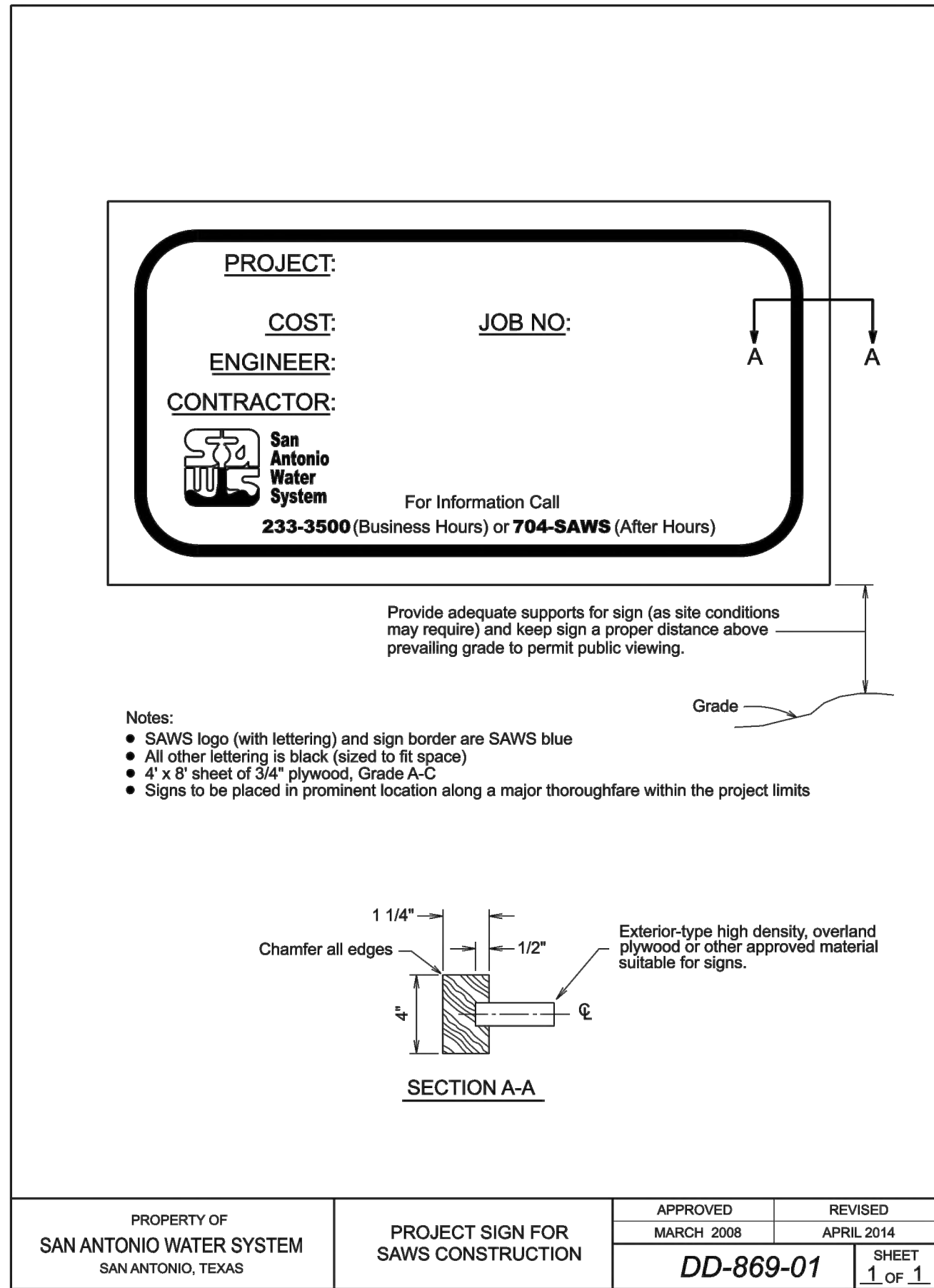
"AS BUILT/PLAN OF RECORD"
DATE: 09/09/21

Date: Sep 09, 2021, 2:16pm User ID: EPO007
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4" COMBINATION AIR RELEASE VALVE ASSEMBLY DETAIL
NTS



CALCULATED RESTRAINT LENGTHS													
Fitting Type	Pipe Material	Soil Type	Safety Factor	Trench Type	Depth of Bury	Test Pressure	Nominal Size	Bend Angle	Branch Size	Length Along Run	Lowside Depth	Restraint Length	Restraint Length 2
Horizontal Bend	Ductile Iron	CH, Gran.Fill	1.5	5	5	200	24	90				49 ft.	
Horizontal Bend	Ductile Iron	CH, Gran.Fill	1.5	5	5	200	24	45				21 ft.	
Horizontal Bend	Ductile Iron	CH, Gran.Fill	1.5	5	5	200	24	22.5				10 ft.	
Horizontal Bend	Ductile Iron	CH, Gran.Fill	1.5	5	5	200	24	11.25				5 ft.	
Vertical Offset	Ductile Iron	CH, Gran.Fill	1.5	5	5	200	24	11.25			6	11 ft.	3 ft.
Tee	Ductile Iron	CH, Gran.Fill	1.5	5	5	200	24		12	0		49 ft.	
Dead End	Ductile Iron	CH, Gran.Fill	1.5	5	5	200	24					106 ft.	
Reducer	Ductile Iron	CH, Gran.Fill	1.5	5	5	200	24		16			58 ft.	

WATER (SAWS PRESSURE ZONE 1170)

Developer's Name: LADERA J. LLC	
Address: P.O. BOX 93330	
City: ANCHORAGE	State: ALASKA
Phone#	FAX#
SAWS Block Map# 070-574 Total EDU's N/A Total Acreage 2,2354 Ac.	
Total Linear Footage of Pipe: 8,920 (24") 136 (6" FIRE)	
Number of Lots: N/A SAWS JOB NO. 18-1083	

DATE	
NO.	
REVISION	



PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TPLS FIRM REGISTRATION #10028600

LADERA - OFFSITE WATER LINE
SAN ANTONIO, TEXAS
WATER DETAILS

PLAT NO.	--
JOB NO.	6445-45
DATE	SEPTEMBER 2018
DESIGNER	JD
CHECKED	RG
DRAWN	ABC
SHEET	C2.22

"AS BUILT/PLAN OF RECORD"
DATE: 09/09/21