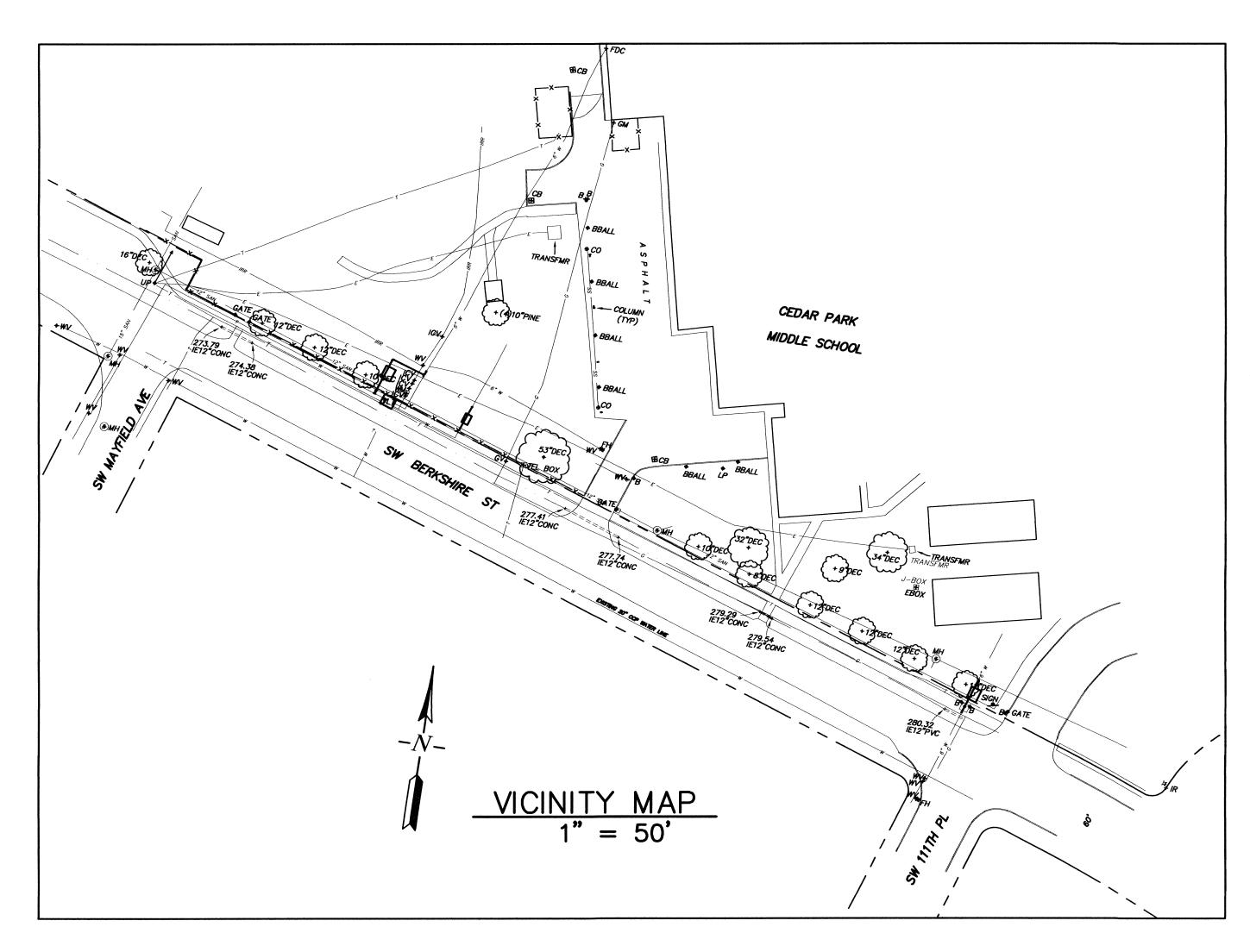
# CEDAR PARK MIDDLE SCHOOL BACKFLOW PREVENTION IMPROVEMENTS

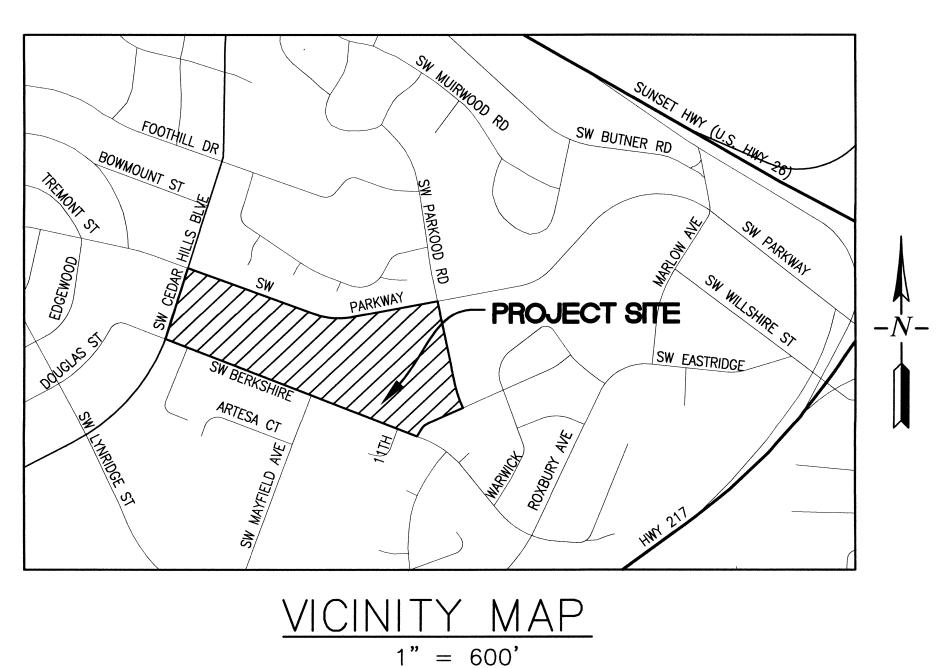
11100 SW PARKWAY, PORTLAND, OREGON TVWD CASE FILE: E8070

### APPLICANTS:

## Beaverton School District

CONTACT: ANTHONY ORDWAY 16550 SW MERLO ROAD BEAVERTON, OR 97003





### INDEX

SHEET	DESCRIPTION
CO C1	COVER EXISTING CONDITIONS AND DEMOLITION PLAN
C2	WATER IMPROVEMENT PLAN
C3	NOTES AND STREET DETAILS
C4	TVWD STD DETAILS

SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027

(503) 657-0188

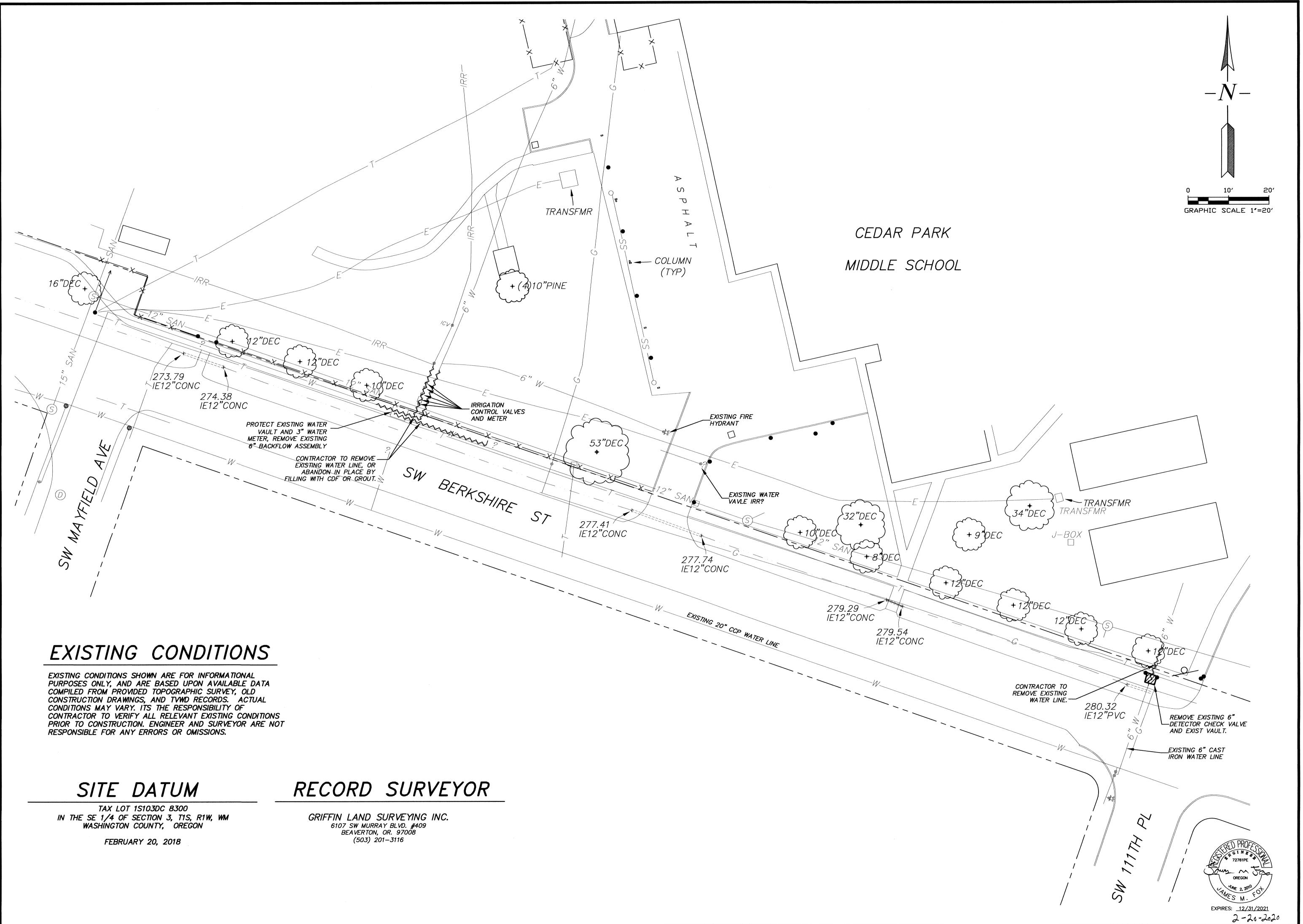
ATTENTION EXCAVATORS: OREGON LAW REQUIRES COMPLIANCE WITH OAR 952-001-0010 THROUGH 952-001-0090. THESE RULES MAY BE OBTAINED BY CALLING OREGON UTILITY NOTIFICATION CENTER (503) 232-1987. YOU MUST NOTIFY THE CENTER AT LEAST TWO WORKING DAYS BEFORE, BUT NOT MORE THAN TEN DAYS PRIOR TO EXCAVATION.

CALL BEFORE YOU DIG (503) 246-6699

MOST RECENT REVISION TO THIS SET OF PLANS:

2-21-19

MARCH 2018



TVWD 1ST REV. JMF DATE 4/30/18 COB - BUILDING DATE 7/25/18

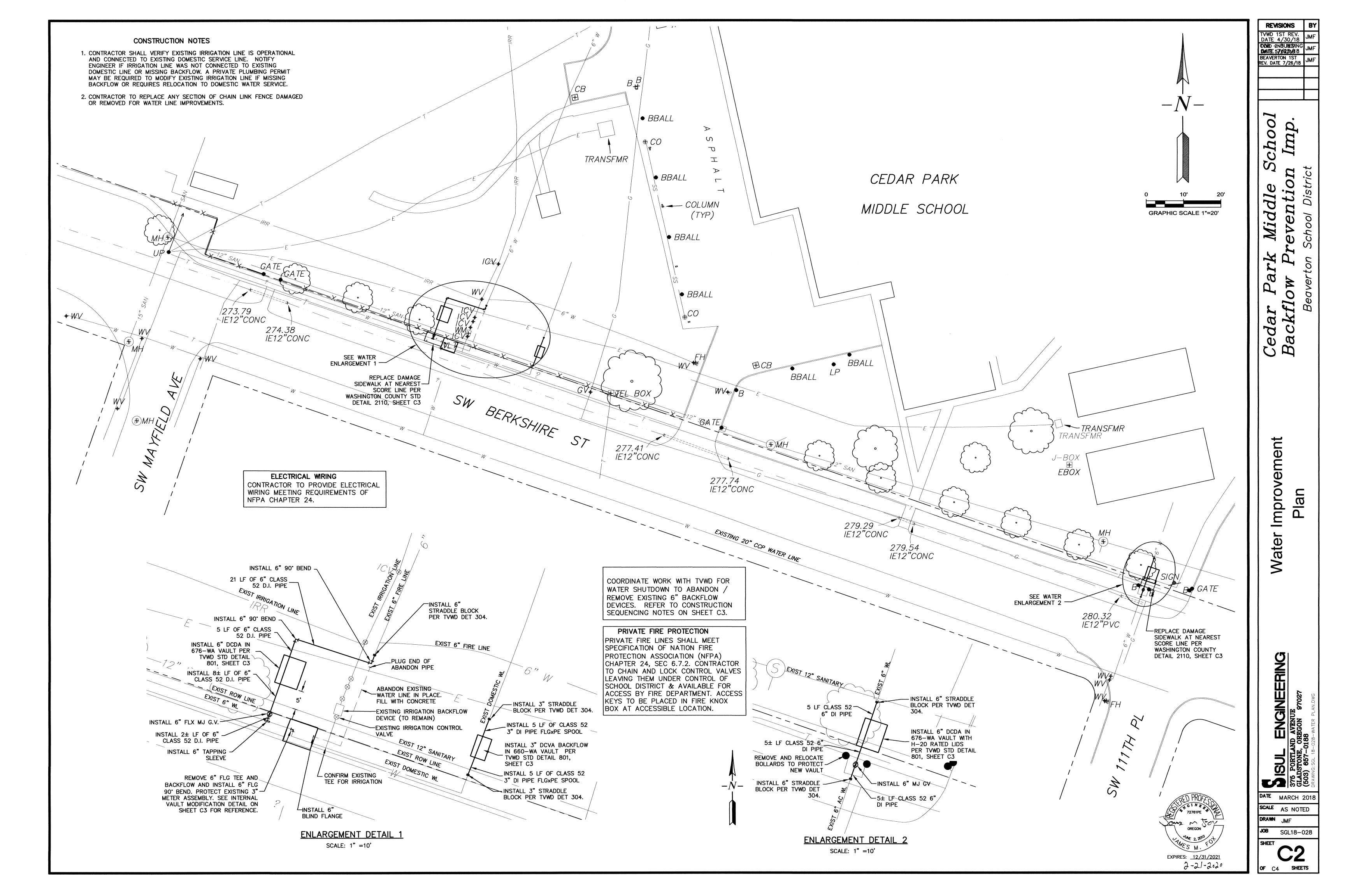
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STE PORTLAND AVENUE GLADSTONE, OREGON 97027 (503) 657-0188

DATE MARCH 2018

SCALE AS NOTED DRAWN JMF

JOB SGL18-028 SHEET OF C4 SHEETS



DISTRICT

- 1. WATER MAINS SHALL BE DUCTILE IRON PIPE CONFORMING TO AWWA C151 CLASS 52. PIPE IS TO HAVE CEMENT MORTAR LINING AND BITUMINOUS SEAL COAT CONFORMING TO AWWA C104. PIPE FITTINGS ARE TO BE OF THE SAME MATERIAL AND CLASS AS PIPE AND OF DOMESTIC ORIGIN. PIPE IS TO BE LAID SUCH THAT IT IS SUPPORTED ALONG ITS FULL LENGTH, INCLUDING DIGGING OF "BELL HOLES".
- 2. ALL NEW DUCTILE IRON PIPE SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT PER TVWD ADDENDUM #3 AND DETAIL #2.
- 3. JOINTS SHALL BE RESTRAINED USING EITHER MECHANICAL JOINT RESTRAINTS OR FIELD LOKTM (TYTON), FASTITETM (AMERICAN) GASKETS OR EQUAL (AS APPROVED BY PIPE MANUFACTURER). GASKETS SHALL CONFORM TO ANSI/AWWA C111/A21.11, AND SHALL BE SUITABLE FOR THE SPECIFIED PIPE SIZES AND PRESSURES. GASKÉTS SHOULD HAVE STAINLESS STEEL LOCKING SEGMENTS VULCANIZED INTO THE GASKETS TO GRIP THE PIPE AND PREVENT JOINT SEPARATION.
- 4. THRUST BLOCKS SHALL ONLY BE USED AS THRUST RESTRAINT AT ALL HOT TAP LOCATIONS. IN ALL OTHER CASES WHERE RESTRAINED JOINTS ARE NOT FEASIBLE, THRUST BLOCKS MAY ONLY BE USED WITH PRIOR AUTHORIZATION BY THE DISTRICT ENGINEER.
- 5. ALL PIPE AND FITTING SHALL BE MANUFACTURED IN THE USA UNLESS OTHERWISE APPROVED BY THE
- 6. WATER MAINS TO HAVE A MINIMUM COVER OF 36".
- 7. GATE VALVES SHALL BE DUCTILE IRON BODY, BRONZE MOUNTED, RESILIENT SEAT, NRS VALVES WITH O RING SEALS. AND SHALL CONFORM TO ANSI/AWWA C509 AND C515 FOR DUCTILE IRON BODY VALVES. VALVE BOXES SHALL BE ONE PIECE, CAST IRON TYPE AS MANUFACTURED BY OLYMPIC FOUNDRY. OR APPROVED EQUAL. THE VALVE BOX AND COVER SHALL BE NO. VB910 WITH A "W" CAST INTO THE TOP. WHERE THE TOP OF THE VALVE OPERATING NUT IS 36" OR MORE BELOW FINISHED GRADE, OPERATING EXTENSIONS SHALL BE PROVIDED TO BRING THE OPERATING NUT TO A POINT 18" BELOW FINISHED GRADE. THE EXTENSION STEM SHALL BE CONSTRUCTED OF STEEL.
- 8. GRANULAR BACKFILL IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T 99 TEST METHOD. BACKFILL SHALL BE 3/4"-0" CRUSHED ROCK. CRUSHED ROCK IS TO BE USED FOR PIPE ZONE AS WELL AS TRENCH BACKFILL.
- 9. WATER SERVICE LATERAL TAPS AND LINES WILL BE INSTALLED BY TUALATIN VALLEY WATER DISTRICT. CONTRACTOR SHALL PROVIDE SERVICE LATERAL TRENCHES AND COORDINATE SERVICE LATERAL INSTALLATION WITH WATER DISTRICT.
- 10. METERS AND METER BOXES WILL BE FURNISHED AND INSTALLED BY THE TUALATIN VALLEY
- 11. INSPECTION OF THE WATER IMPROVEMENTS WILL BE MADE BY WATER DISTRICT PERSONNEL OR OTHERS DESIGNATED BY THE DISTRICT.
- 12. ALL MATERIALS, INSTALLATION, TESTS AND CHLORINATION TO BE IN STRICT ACCORDANCE WITH THE STANDARDS AND CODES OF TUALATIN VALLEY WATER DISTRICT AND THE OREGON STATE HEALTH DIVISION ADMINISTRATIVE RULES, CHAPTER 333.

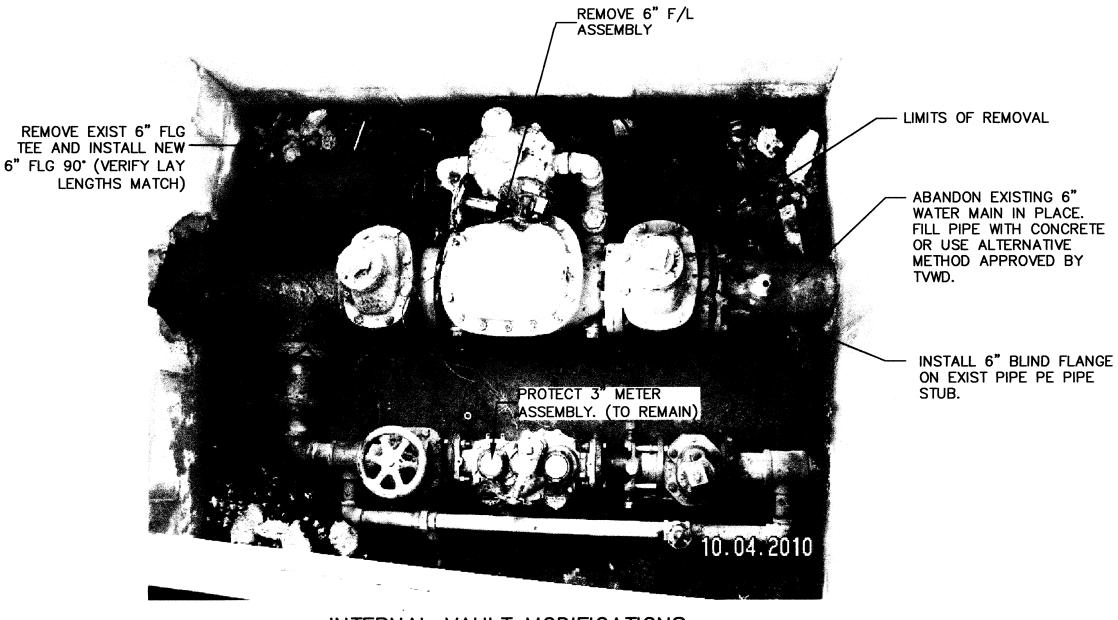
#### PRIVATE WATER SUPPLY NOTES:

- 1. WATERLINE FACILITIES BEHIND THE METER OR BACKFLOW PREVENTOR ARE PRIVATE IMPROVEMENTS. FACILITIES LOCATED IN FRONT OF THE WATER METER OR BACKFLOW PREVENTOR ARE PUBLIC
- 2. EIGHT-INCH THROUGH FOUR-INCH WATERLINES SHALL BE CLASS 52 DUCTILE IRON PIPE. ALL FITTINGS SHALL BE DUCTILE IRON, HAVE MECHANICAL JOINT ENDS, AND BE OF DOMESTIC ORIGIN. MINIMUM DEPTH TO TOP OF PIPE SHALL BE 36 INCHES.
- 3. DOMESTIC WATERLINE 2 1/2" AND SMALLER SHALL BE SCHEDULE 40 PVC PIPE.
- 4. BACKFLOW PREVENTION DEVICES ARE REQUIRED ON THE FIRE, DOMESTIC AND IRRIGATION WATER SUPPLY LINES. ALL BACKFLOW PREVENTION DEVICES SHALL BE ON THE STATE OR OREGON APPROVED LIST. FIRE SYSTEM BACKFLOW PREVENTION DEVICE SHALL BE A 6-INCH DOUBLE CHECK DETECTOR ASSEMBLY. ACCEPTABLE MODELS INCLUDE 6-INCH AMES SERIES 3000SS DCDA HAVING NO MORE THAN 9.5 PSI PRESSURE DROP AT 1550 GPM. FIRE SYSTEM DCDA VAULT SHALL BE OLD CASTLE PRECAST MODEL 676-WA-TVWD.
- 5. A WALL MOUNTED POST INDICATOR VALVE SHALL BE LOCATED ON THE BUILDING AS SHOWN ON PLANS. THE WALL MOUNTED POST INDICATOR VALVE SHALL BE A MAKE AND MODEL ACCEPTABLE TO THE BEAVERTON FIRE DEPARTMENT AND THE CITY BEAVERTON BUILDING DEPARTMENT. THE POST INDICTOR VALVE SHALL BE POSITIONED BETWEEN 36 INCHES AND 48 INCHES ABOVE ADJACENT GRADE.
- 6. GATE VALVES SHALL BE DUCTILE IRON DOUBLE DISC TYPE CONFORMING TO AWWA C500. VALVE BOXES SHALL BE CAST IRON, TWO PIECE SLIP TYPE AND SHALL HAVE THE WORD "WATER" CAST IN
- WATERLINE AND APPURTENANCES ARE TO CONFORM TO MATERIALS, INSTALLATION AND TESTING REQUIREMENTS OF THE CURRENT OREGON STATE PLUMBING SPECIALTY CODE. THE CITY OF BEAVERTON BUILDING DEPARTMENT AND THE OREGON HEALTH DIVISION ADMINISTRATIVE RULES, CHAPTER 333.
- 8. ALL PIPE SHALL BE BEDDED AND BACKFILLED IN ACCORDANCE WITH THE TRENCH BACKFILL NOTES,
- 9. ALL WATERLINE JOINTS TO BE RESTRAINED JOINTS. RESTRAINED JOINTS ARE TO HAVE FIELD LOCK GASKETS AND RESTRAINED MECHANICAL JOINTS SUCH AS "MEGA-LUG" JOINTS OR APPROVED EQUALS.
- 10. FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED WITH THE NUMERICAL ADDRESS OF THE BUILDING BEING SERVED WITH NUMBERS AND LETTERS AT LEAST TWO INCHES TALL AND ONE-HALF INCH WIDE ON A CONTRASTING BACKGROUND OR IN SOME OTHER MANNER APPROVED BY THE FIRE MARSHAL AND WITH ONE OR MORE OF THE FOLLOWING COLORS OF REFLECTIVE TAPE: 10.1. BLUE WHEN SUPPLYING FIRE SPRINKLER SYSTEMS;
- 10.2. RED WHEN SUPPLYING STANDPIPE SYSTEMS; AND 10.3. YELLOW WHEN SUPPLYING PRIVATE FIRE SERVICE HYDRANTS.
- 11. FIRE DEPARTMENT CONNECTION SHALL BE 36 INCHES TO 48 INCHES ABOVE ADJACENT GRADE. FDC SHALL HAVE CHECK VALVE PER NFPA 13 SECTION 8.17.2.5.1.
- 12. HYDRANTS SHALL BE UL LISTED AND FM APPROVED CONFORMING TO AWWA C502, DRY BARREL TRAFFIC MODEL, WITH MINIMUM 5 1/4" MAIN VALVE, ONE 4 1/2" PUMPER NOZZLE AND TWO 2 1/2" HOSE NOZZLES, OR APPROVED EQUAL. THE EXTERIOR COATING ON THE HYDRANT NOZZLE SECTION SHALL BE PAINTED YELLOW WITH HOME DEPOT (FEDERAL SAFETY YELLOW, SKU 121-622) OR APPROVED EQUAL.
- 13. FIRE HYDRANTS, FIRE DEPARTMENT CONNECTION & INDICATOR POST SHALL BE PROTECTED FROM VEHICULAR IMPACT PER NFPA 24 SECTION 7.3.4. FOUR-INCH DIAMETER STEEL POSTS, FILLED WITH CONCRETE, SHALL BE PLACED AROUND THE DEVICES BEING PROTECTED IN A MANNER THAT WILL PROVIDE NO LESS THAN 36-INCHES OF CLEAR WORKING SPACE AROUND THE DEVICE PER OFC SECTION 912.3.2. BOLLARDS SHALL BE SPACED NO MORE THAN FOUR FEET ON CENTER.

#### TRENCH BACKFILL NOTES:

- 1. TRENCH BACKFILL SHALL CONSIST OF A CLEAN CRUSHED AGGREGATE CONTAINING LESS THAN 5 PERCENT FINE MATERIALS PASSING THE NO. 200 SIEVE. BEDDING MATERIALS SHOULD BE PLACED BENEATH PIPES TO ENSURE NO POINT OR CONCENTRATED LOADING OCCURS AND SHOULD CONFORM TO MUNICIPAL REQUIREMENTS.
- 2. ALL GRANULAR TRENCH BACKFILL ABOVE THE PIPE ZONE AND WITHIN STRUCTURAL AREAS SHALL BE PLACED IN LIFTS AND COMPACTED BY MECHANICAL MEANS TO A MINIMUM 90 PERCENT OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D1557 (MODIFIED PROCTOR). TRENCH BACKFILL WITHIN STRUCTURAL AREAS WILL NEED TO BE TESTED BY THE GEOTECHNICAL ENGINEER.

- 1. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES BEFORE STARTING CONSTRUCTION.
- 2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND ARRANGE FOR THE RELOCATION OF ANY IN CONFLICT WITH THE PROPOSED CONSTRUCTION. EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND ADDITIONAL UTILITIES MAY EXIST.
- 3. CONTRACTOR SHALL REMOVE AND DISPOSE OF TREES, STUMPS, BRUSH, ROOTS, TOPSOIL, AND OTHER MATERIAL IN THE SIDEWALK, BENEATH STRUCTURAL FILLS, AND WHERE INDICATED ON THE PLANS. MATERIAL SHALL BE DISPOSED OF OFFSITE IN SUCH A MANNER AS TO MEET LOCAL REGULATIONS.
- 4. CONSTRUCTION VEHICLES SHALL PARK ON THE CONSTRUCTION SITE.
- THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THIS PROJECT IN ACCORDANCE WITH THE PLANS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND OTHER AS NECESSARY TO PROVIDE A COMPLETE
- 6. THE CONTRACTOR SHALL KEEP AN APPROVED SET OF PLANS ON THE PROJECT SITE AT ALL
- ANY ALTERATION OR VARIANCE FROM THESE PLANS, EXCEPT MINOR FIELD ADJUSTMENTS NEEDED TO MEET EXISTING FIELD CONDITIONS, SHALL FIRST BE APPROVED BY THE APPLICABLE AGENCY REPRESENTATIVE.
- CONTRACTOR SHALL PROVIDE THE NECESSARY EROSION PROTECTION TO MINIMIZE EROSION AND IMPACTS TO ADJACENT PROPERTIES. SEE EROSION/SEDIMENT CONTROL NOTES AND PLAN.
- OPEN TRENCHES SHALL BE STRICTLY LIMITED TO A MAXIMUM OF 100 FEET WITHIN STREET RIGHT-OF-WAYS UNLESS LIMITED TO A LESSER AMOUNT BY PERMIT. NO TRENCHES WILL BE ALLOWED TO REMAIN OPEN AT NIGHT.
- CONTRACTOR SHALL MAINTAIN AND COORDINATE ACCESS TO ALL AFFECTED PROPERTIES.
- CONTRACTOR SHALL DEMOLISH AND DISPOSE OF OR ABANDON ALL EXISTING STRUCTURES OR OTHER EXISTING SITE FEATURES THAT ARE NOT TO REMAIN AS PART OF THIS DEVELOPMENT.
- EXISTING SURVEY MONUMENTS ARE TO BE PROTECTED DURING CONSTRUCTION OR REPLACED IN ACCORDANCE WITH OREGON REVISED STATUTES 209.140 - 209.155.



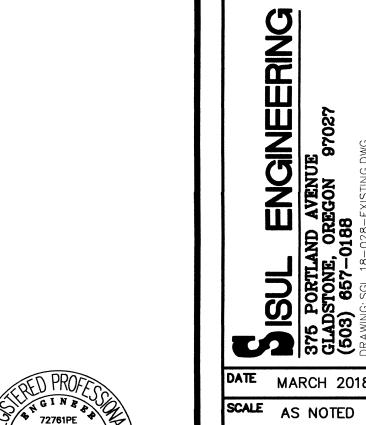
INTERNAL VAULT MODIFICATIONS

SCALE: NTS

#### CEDAR PARK MS BACKFLOW IMPROVEMENTS (E8070) CONSTRUCTION SEQUENCING NOTES.

- 1. CONTRACTOR TO POTHOLE AND VERIFY LOCATION, ELEVATION, AND SIZE OF EXISTING WATER MAIN.
- 2. CONSTRUCT NEW 6" ZINC-COATED DI MAIN IN POLYETHYLENE ENCASEMENT (PER TVWD 2018 STANDARDS). INSTALL 2" CARVS AT ALL INTERMEDIATE HIGH POINTS (PER TVWD DET 405).
- 3. CONTRACTOR TO FLUSH, DISINFECT, AND TEST NEW 6" MAIN PRIOR TO CONNECTION TO EXISTING MAIN. COORDINATE WITH TVWD FOR INSPECTION AND TESTING.
- 4. UPON APPROVAL OF TESTING BY TVWD, COORDINATE WITH TVWD FOR SHUTDOWN OF EXISTING MAIN. TVWD'S INSPECTOR WILL PROVIDE NOTICE TO EFFECTED CUSTOMERS.
- 5. CONTRACTOR TO PROVIDE WRITTEN SEQUENCE SHUTDOWN PLAN TO TVWD WITH A MINIMUM 2 WEEK NOTIFICATION PRIOR TO SHUTDOWN OF EXISTING MAIN. CONTRACTOR IS LIMITED TO 4-HOUR SHUTDOWN(S), TUESDAY THROUGH THURSDAY ON NON-SCHOOL DAYS.
- 6. CONTRACTOR TO PROVIDE WRITTEN DE-WATERING PLAN FOR EXISTING PIPE AND TRENCH EFFORTS SHALL BE MADE TO NOT ALLOW WATER FROM DITCH TO ENTER PIPING. PROVIDE ADEQUATE SUMP AND PUMPS AT CONNECTION POINTS. IT SHALL BE AT TVWD'S SOLE DISCRETION TO ALLOW CONNECTION TO WATER SYSTEM.
- 7. CAP AND / OR PLUG SECTIONS OF EXISTING MAIN AT BOTH ENDS OF ABANDONMENT COORDINATE INSPECTION WITH TVWD. PIPE AND FITTINGS SHALL BE SWABBED AND A VISUAL PRESSURE TEST WILL BE CONDUCTED.
- 8. UPON ACCEPTANCE, COORDINATE WITH TVWD TO PUT MAIN IN SERVICE AND TO FLUSH MAIN. TVWD TO TAKE WATER QUALITY SAMPLE.
- 9. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING PASSING WATER QUALITY SAMPLE. ANY EFFORTS BEYOND SAMPLING BY TVWD SHALL BE BILLED TO THE CONTRACTOR ON A TIME AND MATERIALS

BASIS AT TVWD'S DISCRETION.



EXPIRES: <u>12/31/2021</u> 2-21-2020

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REVISIONS

DATE 4/30/18

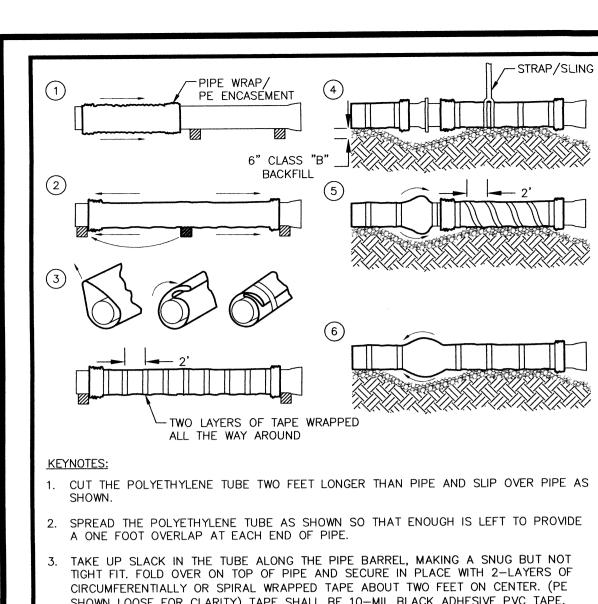
BEOBVERTENUIL STING

REMATERATE / 12/52/6/18B

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DATE MARCH 2018 SCALE AS NOTED DRAWN JMF

JOB SGL18-028 SHEET OF C4 SHEETS

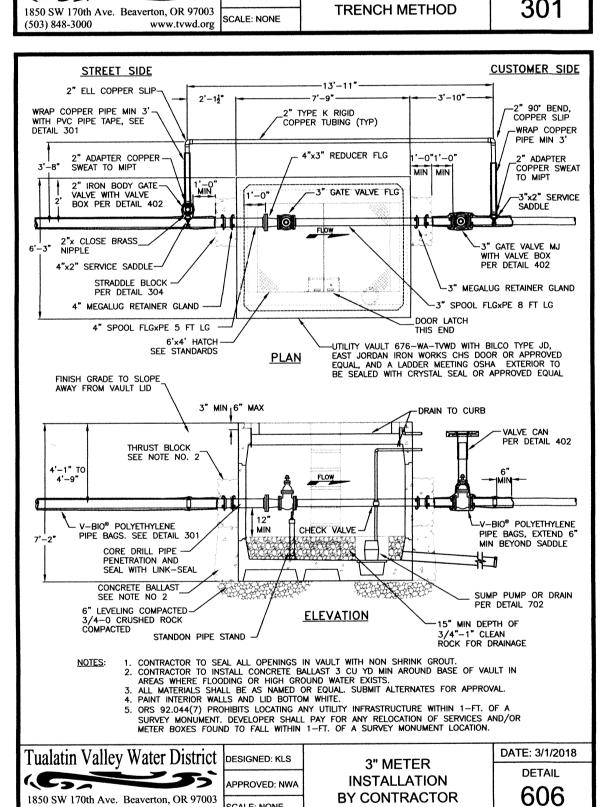


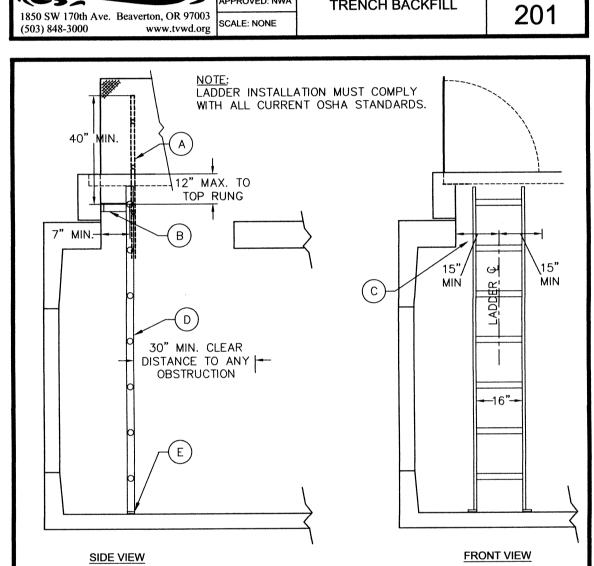
- SHOWN LOOSE FOR CLARITY) TAPE SHALL BE 10-MIL BLACK ADHESIVE PVC TAPE, CHRISTY'S PIPE WRAP TAPE, OR APPROVED EQUAL.
- LOWER PIPE INTO TRENCH, BEING SURE THAT THE POLYWRAP IS NOT DAMAGED, AND MAKE UP JOINT. PULL POLYETHYLENE FORWARD FROM PREVIOUS JOINT OVER THE BELL AND SECURE IN
- 6. PULL POLYETHYLENE FROM NEW PIPE OVER THIS SAME BELL, PROVIDING A DOUBLE

PLACE AS SHOWN.

1850 SW 170th Ave. Beaverton, OR 97003

LAYER OF POLYETHYLENE AND SECUR	E IN PLACE AS SHOWN.
Tualatin Valley Water District DESIGNED: K	DATE: 3/1/20
	DETAIL DETAIL
APPROVED:	WA MODIFIED DIFKA WEI





CLASS "B" GRANULAR BACKFILL

AC PAVEMENT REPLACEMENT.

SAND SEAL JOINT. -EXISTING

AC PAVEMENT

ROADWAY

BASE

CLASS "B" 3/4"-0"

CRUSHED ROCK

GRANULAR BACKFILL

DATE: 3/1/2018

DETAIL

-SAWCUT CLEAN EDGE FOR

AC PAVEMENT REPLACEMENT.

12" MIN. SEE NOTE 4.

SEE NOTE 4.

CLASS "A" NATIVE BACKFILL

MOUND EXCESS MATERIAL TO ALLOW -

SHALL RESTORE ALL LANDSCAPING

DETECTABLE WARNING -

TAPE FOR PIPE DIA. >12"

TRACER WIRE FOR -

PIPE DIA. >12"

FOR SETTLEMENT. CONTRACTOR

TO PRE-EXISTING CONDITIONS.

**EXISTING** -

GROUND

CLASS "A

COMPACTED TO 95% OF AASHTO T-99.

JURISDICTIONAL REQUIREMENTS.

ualatin Valley Water District | DESIGNED: KLS

T-99 IN LIFTS NOT EXCEEDING 18" (LOOSE MEASURE).

AREAS. BACKFILL SHALL BE COMPACTED TO 95% OF AASHTO T-99.

JURISDICTION, THE MORE STRINGENT SPECIFICATION SHALL GOVERN.

NATIVE

ZONE

PIPE ZONE MATERIAL SHALL BE 3/4"-0" CRUSHED ROCK GRANULAR BACKFILL

SAWCUT WIDTH AND AC PAVEMENT REPLACEMENT SHALL BE PER APPLICABLE

CLASS "A" NATIVE BACKFILL MAY ONLY BE USED OUTSIDE OF PAVED AREAS AND

REQUIRES DISTRICT APPROVAL. BACKFILL SHALL BE COMPACTED TO 90% OF AASHTO

CLASS "B" 3/4"-0" CRUSHED ROCK GRANULAR BACKFILL SHALL BE USED WITHIN PAVED

IF THESE SPECIFICATIONS CONFLICT WITH THE SPECIFICATIONS OF ANOTHER APPLICABLE

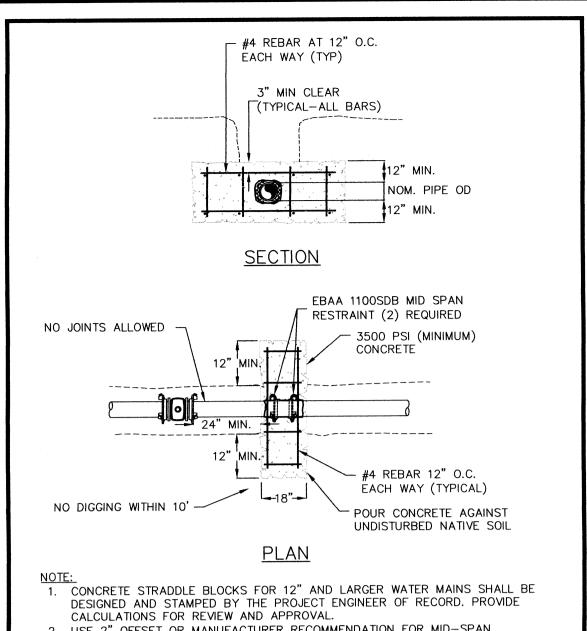
TYPICAL

TRENCH BACKFILL

A. LADDER EXTENSION SHALL BE ALUMINUM AND EXTEND 40" ABOVE THE TOP RUNG OF ATTACH LADDER SUPPORT TO INSIDE FACE OF VAULT COVER OPENING WITH STAINLESS STEEL HARDWARE AS SHOWN. & OF RUNG MUST BE SET 7" FROM FACE OF SURFACE BEHIND RUNG. LADDER SHALL BE ON THE SIDE ADJACENT TO THE DOOR HINGE.

PROVIDE 15" MINIMUM LATERAL CLEARANCE ON EACH SIDE OF LADDER €. LADDER SHALL MEET THE REQUIREMENTS OF OSHA AND SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.

E. LADDER SHALL BE ATTACH PER THE MANUFACTURERS		TIONS.	EL HARDWARE
Tualatin Valley Water District	DESIGNED: KLS		DATE: 3/1/2018
		VAULT LADDER	DETAIL
1050 CW 170th Assa Descenter OB 07002	APPROVED: NWA	INSTALLATION	701
1850 SW 170th Ave. Beaverton, OR 97003 (503) 848-3000 www.tvwd.org	SCALE: NONE		701



2. USE 2" OFFSET OR MANUFACTURER RECOMMENDATION FOR MID-SPAN RESTRAINT.
THE REBAR TO LITSELE TO HOLD FORM

3.	HE REBAR TO HISELF TO HOLD FORM.
4.	WRAP RESTRAINTS WITH 1 LAYER OF V-BIO® POLYETHYLENE ENCASEMENT
	PRIOR TO POURING CONCRETE. EXTEND PE WRAP A MINIMUM OF 6" BEYOND
	RESTRAINTS. SECURE TO PIPE WITH 10 MIL PVC PIPE WRAP TAPE.

PLAN VIEW

**ELEVATION** 

DRAIN TO CURB OR OTHER LOCATION WITH

3/4"-1" CRUSHED ROCK FILL, NO FINES.

CONTRACTOR SHALL PROTECT ALL PIPE,

VALVES, METERS, DEVICES, ETC. WHILE

MANUFACTURE GRATE WITH CUTOUT FOR

REMOVABLE WITHOUT DISASSEMBLY OF

C. PROVIDE PERMANENT POWER SOURCE PER

SECURE POWER CORD TO SUMP PUMP

LOCAL ELECTRICAL CODES FOR SUMP PUMP.

DISCHARGE PIPING WITH NYLON CABLE TIES.

DATE: 3/1/2018

DETAIL

1850 SW 170th Ave. Beaverton, OR 97003

(503) 848-3000

www.tvwd.org | SCALE: NONE

DISCHARGE PIPING. GRATE SHALL BE

DISTRICT APPROVAL.

RODENT SCREEN

PLACING ROCK.

DISCHARGE PIPING.

PROVED: NWA SUMP PUMP INSTALLATION

KEYNOTES:
A. LOCATE SUMP PUMP AWAY FROM

B. DRAIN LID CHANNEL TO DAYLIGHT.

DISCHARGE LOCATION PER PLAN.

BASIN WITH FABRICATED GRATE,

PROVIDE 6 - 1" HOLES SPACED

TO KEEP GRAVEL OUT OF SUMP.

1850 SW 170th Ave. Beaverton, OR 97003

SUMP PUMP DISCHARGE PIPING TO

18" T & G OR B & S ROUND CATCH

GALVANIZED AFTER MANUFACTURING.

AROUND BASIN 3" ABOVE FLOOR OF

ualatin Valley Water District | designed: kls

www.tvwd.org SCALE: NONE

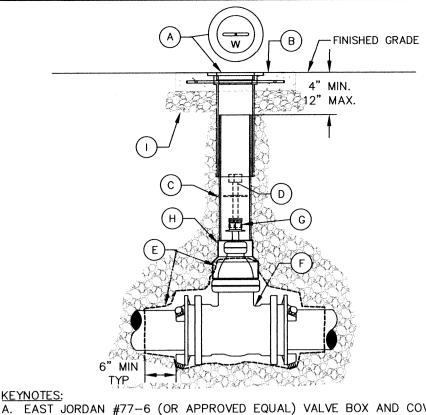
VAULT, WRAP WITH FILTER FABRIC

PIPING AND DEVICES.

ISOLATION BALL VALVE

INLINE CHECK VALVE

RESTRAINTS. SECURE TO	) PIPE WITH 1	O MIL PVC PIPE WRAP TAPE.	
Tualatin Valley Water District	DESIGNED: KLS		DATE: 3/1/2018
		STRADDLE BLOCK	DETAIL
	APPROVED: NWA	STRADDLE BLOCK	304
1850 SW 170th Ave. Beaverton, OR 97003 (503) 848-3000 www.tvwd.org	SCALE: NONE		304



A. EAST JORDAN #77-6 (OR APPROVED EQUAL) VALVE BOX AND COVER WITH "W" CAST IN TOP SURFACE. VALVE BOX SHALL BE PLUMB, CENTERED ON AXIS OF OPERATING NUT, AND SHALL NOT REST ON OPERATING ASSEMBLY. UNPAVED AREAS ONLY: PROVIDE 4" THICK CONCRETE PAD OVER 4"

COMPACTED 1"-0" CRUSHED ROCK. PAD SHALL EXTEND OF A MINIMUM OF 6" AROUND VALVE BOXES. REINFORCE CONCRETE WITH #4 REBAR MAX 12" O.C. CENTERED VERTICALLY IN SLAB. PROVIDE 3" CLEARANCE FROM EDGES AND PENETRATIONS. 6" TYPE SDR 35 PVC, D3034 PIPE SPACER. LENGTH AS NECESSARY.

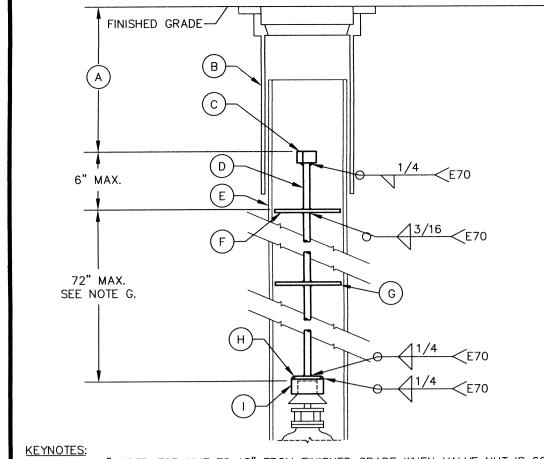
OPERATOR EXTENSION REQUIRED WHEN VALVE NUT IS 60" OR DEEPER FROM FINISHED GRADE. SEE DETAIL 403. WRAP VALVE WITH V-BIO® POLYETHYLENE ENCASEMENT, OR APPROVED EQUAL

PRIOR TO BACKFILLING. EXTEND POLYETHYLENE 6" MINIMUM BEYOND VALVE AND SECURE TO PIPE WITH 10 MIL PVC TAPE. SEE DETAIL 301. VALVES 8" AND SMALLER SHALL BE MJ GATE VALVES. VALVES 10" AND LARGER SHALL BE MJ BUTTERFLY VALVES. STANDARD LOCATION FOR BUTTERFLY VALVE OPERATORS - NORTH AND EAST SIDE OF MAIN.

. 2" SQUARE OPERATING NUT. H. 8"x6"PVC SDR35 REDUCER SXS, CONNECT TO D3034 PIPE USING A COMPATIBLE PVC CEMENT.

COMPACTED ROCK. Tualatin Valley Water District DESIGNED: KLS

DATE: 3/1/2018 DETAIL PPROVED: NWA TYPICAL VALVE SETTING 402 1850 SW 170th Ave. Beaverton, OR 97003 SCALE: NONE (503) 848-3000 www.tvwd.org



EXTEND 2" OPERATOR NUT TO 18" FROM FINISHED GRADE WHEN VALVE NUT IS 60" OR DEEPER FROM FINISHED GRADE. VALVE BOX PER DETAIL 402.

" SQUARE OPERATOR NUT. 1" MINIMUM SOLID STOCK A36 STEEL (ROUND OR SQUARE). VALVE OPERATOR

EXTENSION SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION. 6" SDR 35 PVC D3034 PIPE SPACER. LENGTH AS NECESSARY. ROCK GUARD. 1/8" STEEL PLATE WELDED TO SOLID SHAFT. GUARD SHALL BE 3/8"

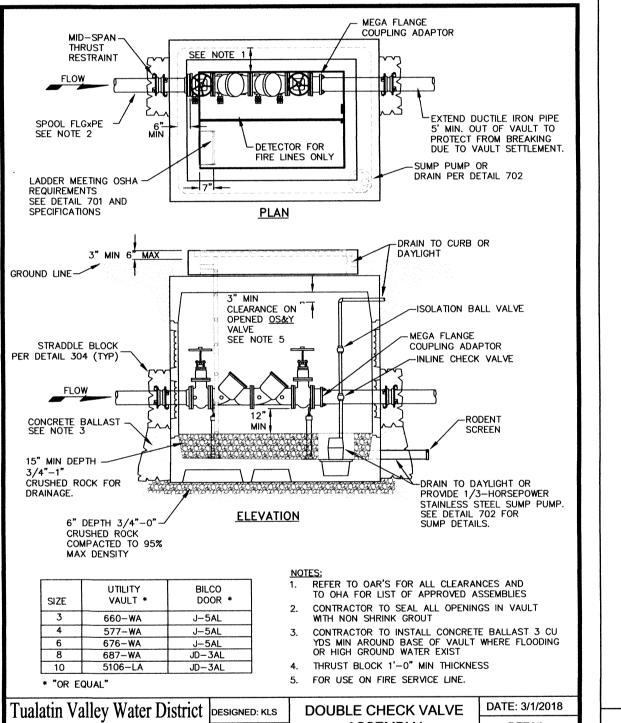
SMALLER THAN INSIDE DIAMETER OF PIPE SPACER. SECONDARY ROCK GUARD IS REQUIRED IF DISTANCE FROM UPPER ROCK GUARD TO VALVE NUT EXCEEDS 72". INSTALL SECONDARY GUARD HALFWAY BETWEEN UPPER GUARD AND VALVE NUT.

2-1/2"X2-1/2"X3/8" STEEL FLAT BAR. 3"X3"X3/8"X2" LONG STEEL SQUARE TUBE.

PLOT STAMP: 01/27/16 3:47P KELLYE

8"X6" PVC SDR35 REDUCER SXS, CONNECT TO D3034 PIPE USING A COMPATIBLE PVC

Alatin Valley Water District DESIGNED: KLS APPROVED: NWA SO SW 170th Ave. Beaverton, OR 97003 Www.tvwd.org Strain Valley Water District DESIGNED: KLS APPROVED: NWA SCALE: NONE	VALVE OPERATOR EXTENSION	DATE: 3/1/20 DETAIL 403
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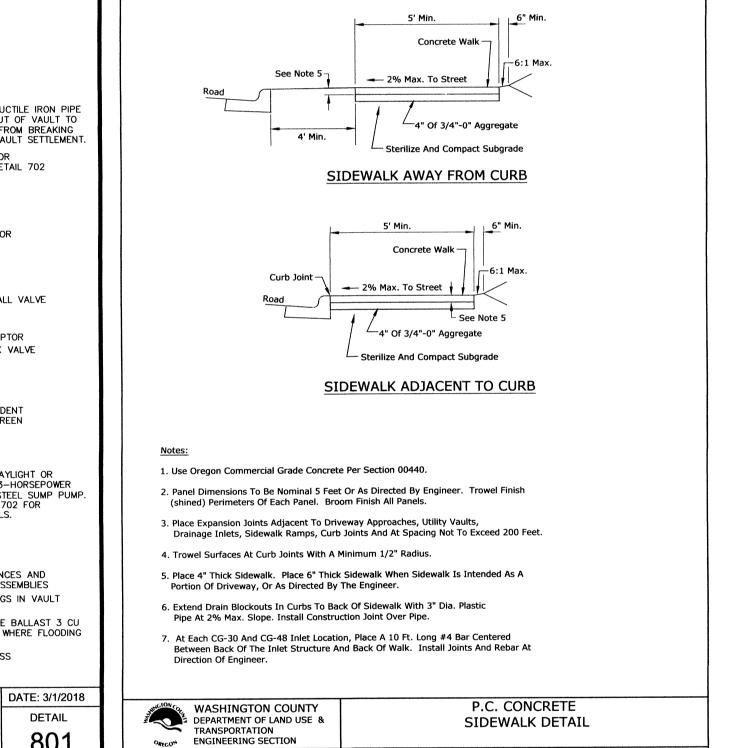


DOUBLE CHECK VALVE

ASSEMBLY

OR DOUBLE CHECK

DETECTOR ASSEMBLY

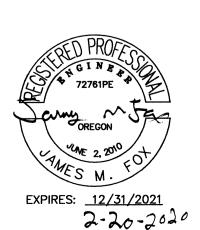


EFFECTIVE DATE: 1/31/2016 WASH. CO. #



6" MAX

(503) 848-3000 www.tvwd.org SCALE: NONE **DETAILS 606 SHOWN FOR REFERENCE ONLY** 



2110

ENGINEERINC D AVENUE DREGON 97027 DATE MARCH 2018 SCALE AS NOTED DRAWN JMF JOB SGL18-028 SHEET

C4

REVISIONS

TVWD 1ST REV. DATE 4/30/18 JMF

COB - BUILDING DATE 7/25/18

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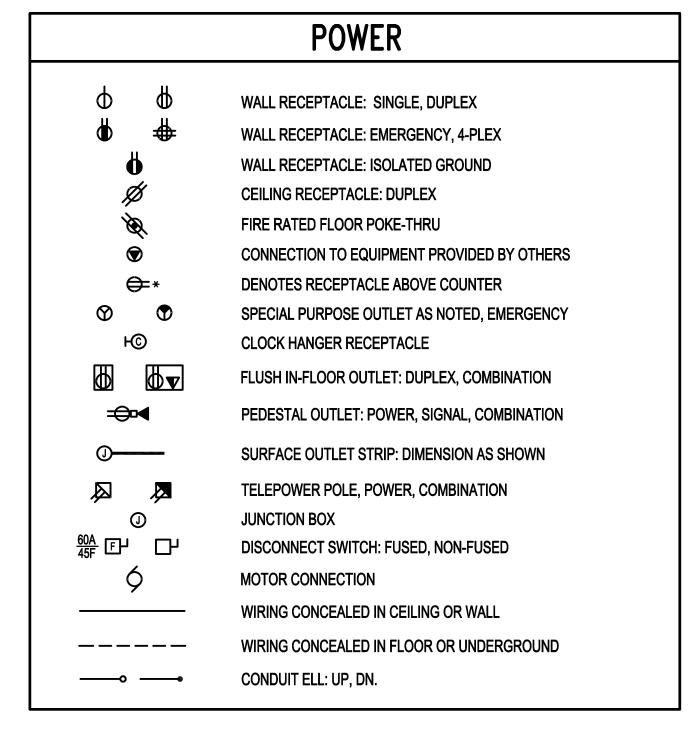
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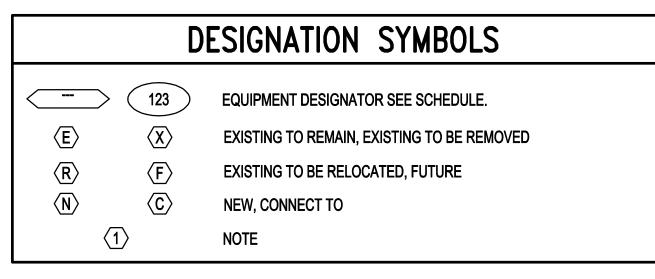
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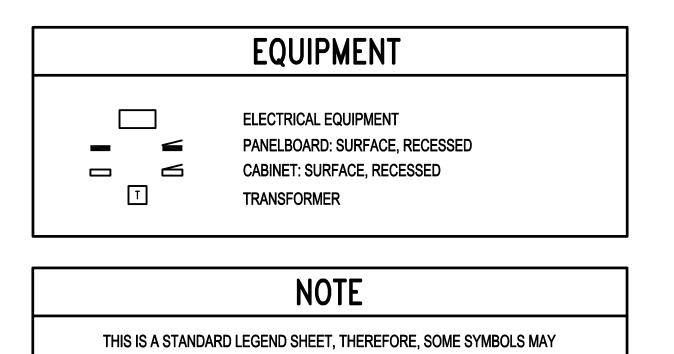
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## SHEET INDEX LIST

APPEAR ON THIS SHEET THAT DO NOT APPEAR ON THE DRAWINGS.

E001 - SYMBOLS, LEGENDS AND ABBREVIATIONS E010 - ELECTRICAL SITE PLAN

E601 - ELECTRICAL DETAILS AND DIAGRAMS

E801 - PANEL SCHEDULE



Project Title:

CEDAR PARK MIDDLE SCHOOL
BACKFLOW PREVENTION IMP.
11100 SW Park Way, Portland, OR 97225

Stamp:

Client

BEAVERTON §

DISTRICT

SCHOOL



Rev #	Date:

CEDAR PARK MS BACKFLOW IMPROVMENTS

Drawn By: BDC

Checked By: AG

Date: 01/10/2020

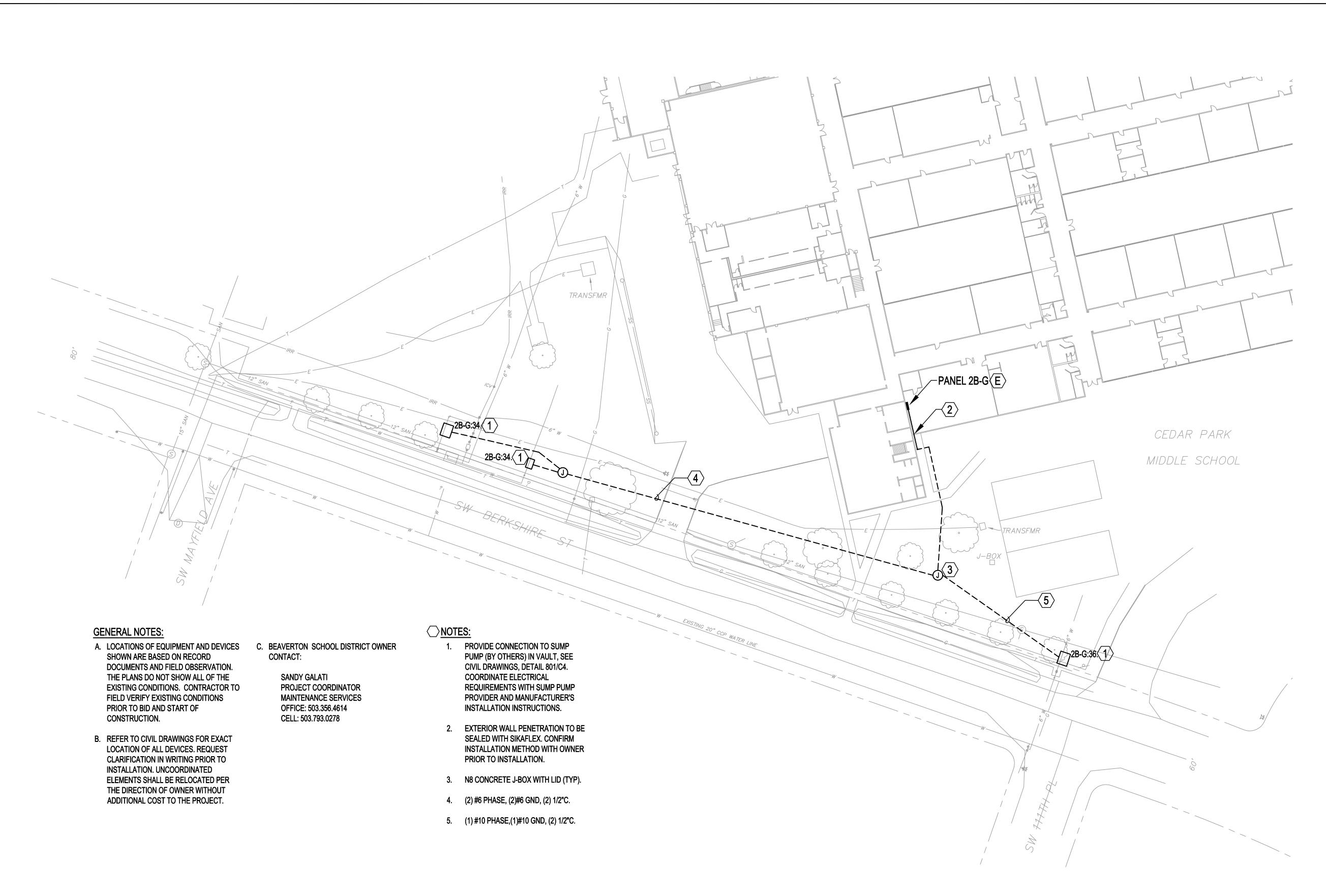
Sheet Title

Project Number:

SYMBOLS, LEGENDS
AND ABBREVIATIONS
ELECTRICAL

Sheet Numb

E001





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BEAVERTON SCHOOL DISTRICT

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Rev #	Date:

## CEDAR PARK MS BACKFLOW IMPROVMENTS

Drawn By: BDC

Checked By: AG

Date: 01/10/2020

Project Number: 19-1967

Sheet Title

ELECTRICAL SITE PLAN

Sheet Number:

E010

1 ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

#### **GENERAL NOTES:**

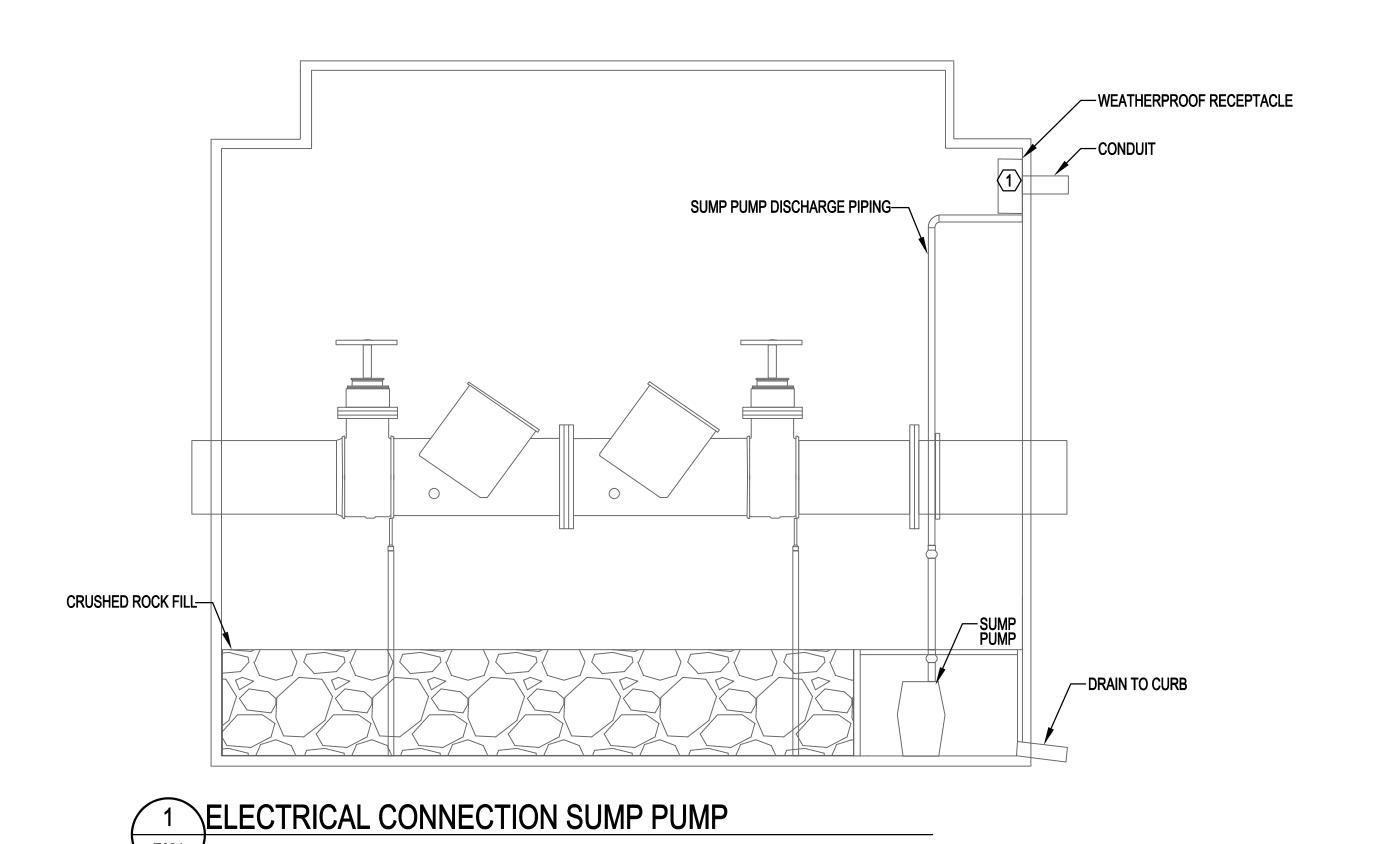
A. PLACE WEATHERPROOF RECETACPLE AT THE HIGHEST ELEVATION POSSIBLE WITHIN THE VAULT. COORDINATE AVAILABLE ELEVATIONS WITH CIVIL.

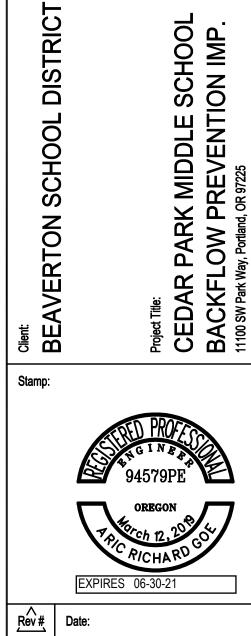
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#### NOTES:

WEATHER PROOF RECEPTACLE FOR ELECTRICAL CONNECTION TO SUMP PUMP. MATCH CORROSION AND WEATHERABILITY SPECIFICATION OF SPECIFIED SUMP PUMP DEVICE PLUG WITH MANUFACTURER AND CIVIL. CONFIRM MATCHING SPECIFICATIONS WITH CIVIL PRIOR TO INSTALLATION.





CEDAR PARK MS BACKFLOW IMPROVMENTS

Project Number:

Sheet Title

ELECTRICAL DETAILS AND DIAGRAMS

Sheet Numbe

E601

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User:	
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							© PNL	_2B-	G					
PANEL: PNL 2B-G AMP: 100	LOCATION MCB						VC	OLTAGE:	208	Υ/	120	P	: 3	W: 4 AIC RATING:  MOUNTING: X SURFACE FLUSH
	STING X NEW		PANELBOAI	RD			NE	EUTRAL:	100%					FED FROM:
				.OAD	СКТ	Р	CIR	ТР	CIR	Р	СКТ	10	OAD	
	CIRCUIT DESCRIPTION		TYPE	KVA	BKR	'	#	Н,	#	'	BKR	KVA	TYPE	CIRCUIT DESCRIPTION
PLUGS 301-302					20	1	1	A	2	1	20			PLUGS 301 UNDER WINDOW
PLUGS 301-302					40	1	3	В	4	1	20			BOOTH PLUGS
PLUGS 301-302					30	1	5	С	6	1	20			LATHE
BAND SAW					20	1	7	Α	8	1	20			LATHE
DRILL PRESS					20	1	9	В	10	1	40			"
DRILL PRESS					20	1	11	С	12	1	20			"
JOINTER					20	3	13	Α	14	3	20			COMPRESSOR
							15	В	16					
							17	С	18					
PLANER					20	3	19	A	20	3	30			CIRULAR SAW
							21	В	22					
							23	С	24					
NO BUSBAR CONNECTION THIS					20	1	25	A	26	1	20			WALL BACK ROOM
UNLABELED (POSSIBLY SPINDL	E SANDER)				20	3	27	В	28	3	20			UNLABELED (POSSIBLE SPINDLE SANDER)
							29	C	30					
CDACE						1	31 33	A B	32	1	20	0.87	MTR	CUMP DUMP
SPACE SPACE						'	35	C	34 36	'	20	0.87	MTR	SUMP PUMP SUMP PUMP
SPACE						1	37	1	38	1	20	0.67	IVITY	SPACE
SPACE						1	39	A R	40	1				SPACE
SPACE						1	41	C	42	1				SPACE
ESTIMATED MAXIMUM DEMAND	(EMD) CALCULATIONS			•										
LOAD SUMMARY:	LOAD TYPE	CONNECTED	NEC D	DEMAND										
LIGHTING	LTG	0.0 KVA	0.0	KVA (125%)	_								CONNECT	ED PHASE LOADING
RESIDENT LTG/REC	RES	0.0 KVA		KVA ( 100/35	/25 %)								PHASE A:	
SMALL APPLIANCE	RES	0.0 KVA		KVA ( 100/35	-								PHASE B:	
LARGEST MOTOR	MTR	0.0 KVA		KVA (125%)	-								PHASE C:	
REMAINING MOTORS	MTR	1.7 KVA											THACE O.	0.01
				KVA (100%)										
GEN PURPOSE REC	REC	0.0 KVA		KVA (50% >										
COMPUTER REC	MISC	0.0 KVA		KVA (100%)										
EQUIP/OTHER	MISC	0.0 KVA	0.0	KVA (100%)					NOTES:					
HEATING	MISC	0.0 KVA	0.0	KVA (100%)					1. LIGHT LIN	IEWEIGHT	AND '(E)' DENO	OTES EXISTING.	BOLD LINEWEI	GHT DENOTES NEW.
ELEVATOR	ELEV	0.0 KVA	0.0	KVA (100%)					2. CONTRA	CTOR SHA	LL CONFIRM AI	LL EXISTING CO	NDITIONS PRIO	R TO CONSTRUCTION.
KITCHEN EQPT	KITCH	0.0 KVA	0.0	KVA (65%)					3. CONTRA	CTOR TO V	ERIFY THAT C	IRCUITS IDENTIF	FIED ARE AVAIL	ABLE FOR USE AS
TOTALS:		1.7 KVA		KVA	_				INDICAT	ED ON PLA	NS.			
		4.8 AMP		AMP					4. CONTRA	CTOR SHA	LL MARK CIRC	UIT DESCRIPTIO	N AS 'SPARE' IF	F LOAD IS FOUND TO BE
		/ 1111	710						REMOVE					

#### **GENERAL NOTES:**

- A. VERIFY ALL CIRCUITS CURRENTLY IN USE AND LABEL ALL CIRCUITS NOT BEING USED AS SPARE. PROVIDE TYPEWRITTEN UPDATED PANEL BOARD SCHEDULE. TURN "OFF" ALL SPARE BREAKERS.
- B. MAINTAIN INTEGRITY OF ALL CIRCUITS IN THE AREA OF WORK THAT WILL REMAIN IN USE.
- C. PRIOR TO CONSTRUCTION, PERFORM METERING ANALYSIS IN ACCORDANCE WITH NEC 220.87 ON EXISTING PANEL 2B-G IN ORDER TO DETERMINE MAXIMUM PEAK DEMAND OVER A 30-DAY PERIOD AND VERIFY TOTAL EXISTING DEMAND LOAD. PROVIDE METERING RESULTS TO ENGINEER FOR REVIEW.
- D. MAINTAIN AS-BUILTS ON A DAILY BASIS WITH INFORMATION NOTED ABOVE AND IN ACCORDANCE WITH SPECIFICATIONS.
- E. LOAD ESTIMATE CALCULATION:

EXISTING LOAD: 51.79 KVA\* REMOVED LOAD: 0 KVA NEW LOAD: 0.87 KVA TOTAL REVISED LOAD: 52.66 KVA\*\*

\*EXISTING LOAD IS BASED ON AN ASSUMPTION OF 50% FOR EACH EXISTING BREAKER CAPACITY, TO BE VERIFIED BY MEASUREMENT.

\*\*TOTAL IS LESS THAN THE EXISTING PANEL AND MAIN OCP RATING.



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CEDAR PARK MS BACKFLOW IMPROVMENTS

Checked By:

Project Number: 19-1967

PANEL SCHEDULES

E801

