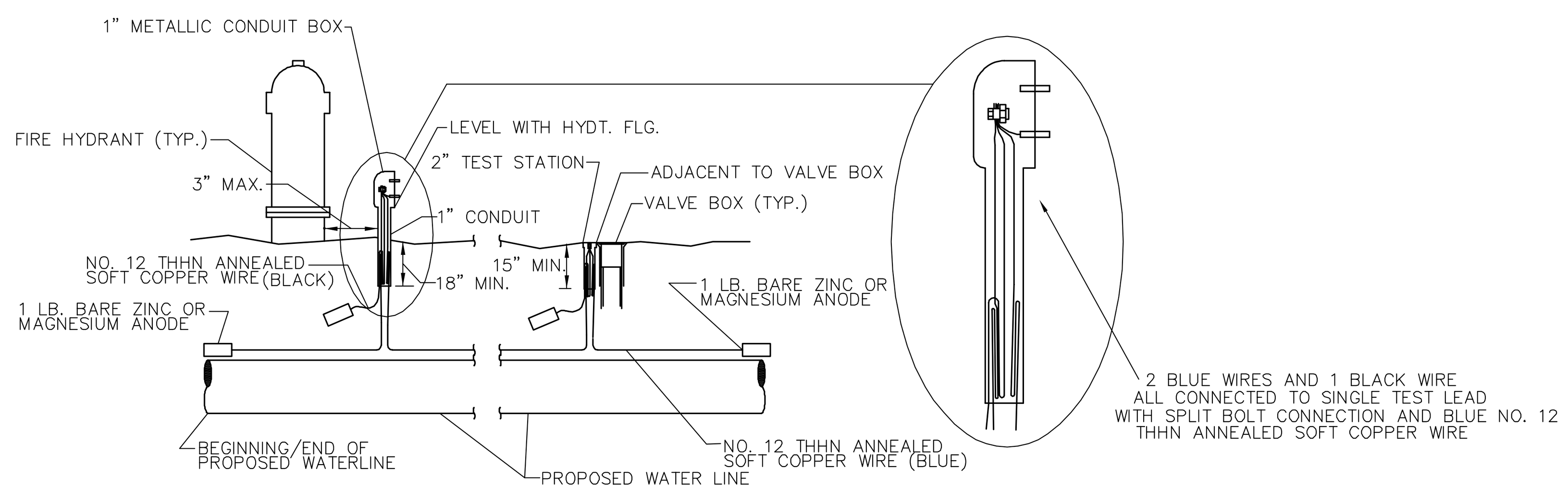


TRACER WIRE

CONDUCTIVE TYPE PIPE LOCATOR/TRACER WIRE SHALL BE INSTALLED TO LOCATE ALL WATERLINE PIPE REGARDLESS OF PIPE MATERIAL. THE WIRE SHALL EXTEND THE ENTIRE LENGTH OF THE PROPOSED PIPE. THE WIRE SHALL BE TAPED TO THE WATERLINE AND PULLED WITH THE PIPE. SPLIT-BOLT CONNECTORS SHALL BE USED AT SPLICE LOCATIONS. ELECTRICAL TAPE SHALL COVER ALL SPLICES SO NO BARE WIRE IS EXPOSED. TEST STATIONS SHALL BE INSTALLED ADJACENT TO ALL FIRE HYDRANTS ALONG THE WATERLINE AND AT BLOWOFFS OR VALVES NEAR THE ENDS OF THE WATERLINES. ANY EXCEPTIONS TO THE LOCATION OF TEST STATIONS SHALL BE APPROVED BY THE ENGINEER. AT EACH TEST STATION, THE TRACER WIRE SHALL BE CONNECTED TO A 1 LB. ZINC OR MAGNESIUM ANODE. ANODES SHALL ALSO BE ATTACHED TO THE TRACER WIRE AT BOTH THE BEGINNING AND THE END OF THE PROPOSED WATERLINE. A TYPICAL LAYOUT OF THE TRACER WIRE AND TEST STATION IS PROVIDED IN THE ABOVE FIGURE.

WIRE

THE TRACER WIRE SHALL BE BLUE NO. 12 THHN ANNEALED SOFT COPPER WIRE WITH THERMAL PLASTIC INSULATION. THE INSULATION SHALL BE HEAT, OIL, AND GASOLINE RESISTANT AS MANUFACTURED BY TEMPLE ELECTRIC OR APPROVED EQUAL. TO ALLOW FOR GRADE ADJUSTMENT, A MINIMUM OF 12" OF EXCESS WIRE SHALL BE COILED AT THE BOTTOM OF THE TEST STATION FOR ALL WIRES. THE INSULATION SHEATHING SHALL BE REMOVED SUCH THAT 1" BARE COPPER WIRE IS EXPOSED AT ALL POINTS OF CONNECTION. CONTRACTOR SHALL ATTACH WIRE BEING INSTALLED WITH PROPOSED WATER MAIN TO ANY TRACER WIRE INSTALLED WITH ADJACENT WATERLINE PROJECTS.

TEST STATIONS

THE TEST STATION FOR FIRE HYDRANT APPLICATIONS SHALL BE A 1 INCH GALVANIZED CONDUIT STYLE TEST STATION AS MANUFACTURED BY AGRA INDUSTRIES WITH A REMOVABLE SOLID COVER HAVING TWO LEADS EXTENDING FROM THE FACE OR APPROVED EQUAL. THE TEST STATION FOR VALVE APPLICATIONS SHALL BE 2 INCH FLUSH STYLE TEST STATION T2PS3B AS MANUFACTURED BY HANDLEY INDUSTRIES OR APPROVED EQUAL. THE CONDUIT STYLE SHALL BE ATTACHED TO A 1 INCH RIGID GALVANIZED CONDUIT WITH A MINIMUM LENGTH OF 36" AND PLASTIC END BUSHING. THE FLUSH STYLE SHALL HAVE THE WORD "WATER" STAMPED OR MOLDED INTO THE LID. ALL TEST STATIONS SHALL BE MANUFACTURED USING MOLDED BLUE TOPS OR SUFFICIENTLY COATED WITH BLUE ENAMEL PAINT. THE TRACER WIRE AND THE ANODE WIRE SHALL BE INSTALLED TO ALLOW 10 INCHES OF WIRE WITHIN THE TEST STATION. IN CONCRETE ENVIRONMENTS SUCH AS SIDEWALKS OR IN THE DOWNTOWN AREA THE CONTRACTOR SHALL USE THE FLUSH STYLE TEST STATION. THE LOCATION OF ALL TEST STATIONS SHALL BE APPROVED BY THE ENGINEER, RECORDED, AND SHOWN IN THE AS-BUILT DRAWINGS.

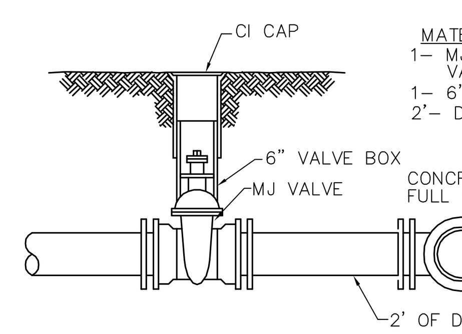
ANODES

THE ANODES SHALL BE 1 LB. BARE ZINC OR MAGNESIUM. THE ANODES SHALL BE BURIED AT THE SAME ELEVATION AS THE WATERLINE AT EACH TEST STATION. THE ANODES SHALL BE CONNECTED TO BLACK NO. 12 THHN ANNEALED SOFT COPPER WIRE WHICH SHALL BE EXTENDED TO THE TEST STATION.

TRACER WIRE DETAIL

COST IS SUBSIDIARY TO PIPE INSTALLATION

TRACER WIRE DETAIL



MATERIALS LIST
1– MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1– 6" VALVE BOX
2'– DICL SJ PIPE

CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

VALVE ASSEMBLY

WATER VALVE

90 DEGREE BEND							
SIZE	2"	4"	6"	8"	10"	12"	18"
A	16"	16"	26"	33"	40"	50"	70"
B	16"	16"	24"	33"	40"	50"	70"
C	9"	9"	12"	12"	15"	16"	22"
D	6"	8"	12"	16"	20"	25"	24"

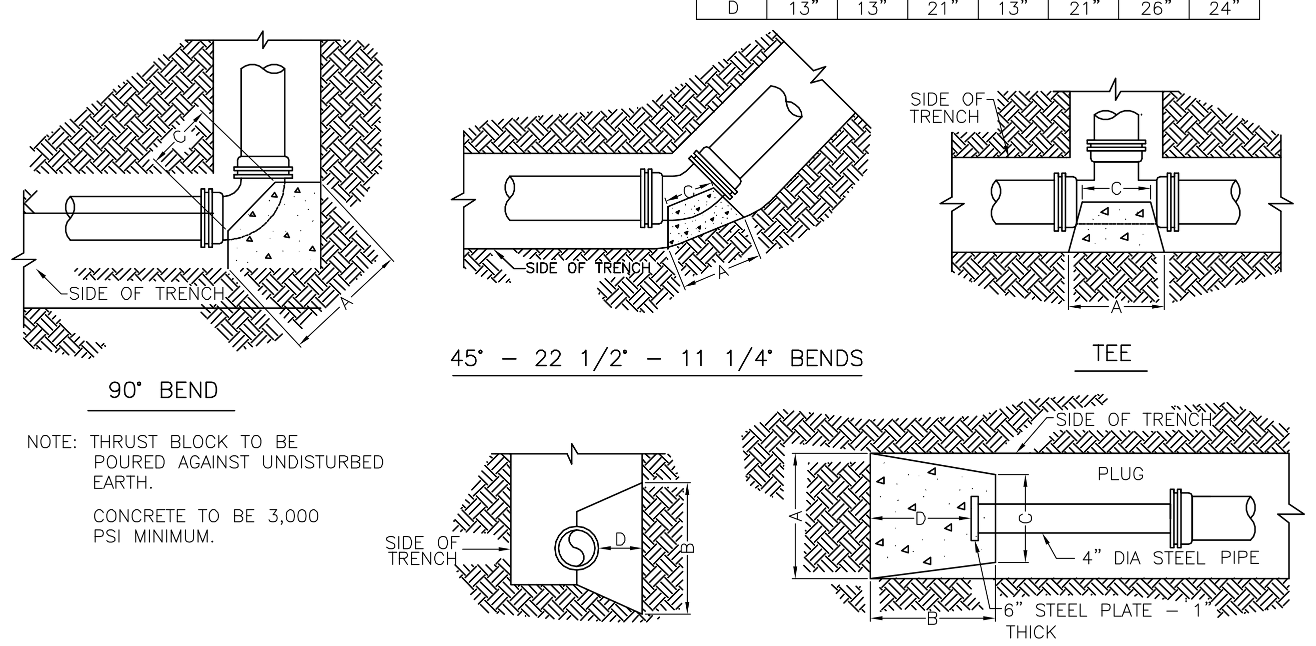
PLUG							
SIZE	2"	4"	6"	8"	10"	12"	18"
A	26"	26"	26"	34"	43"	52"	70"
B	26"	26"	26"	34"	43"	52"	70"
C	12"	12"	12"	12"	12"	12"	30"
D	11"	11"	11"	15"	22"	32"	32"

45 DEGREE BEND							
SIZE	2"	4"	6"	8"	10"	12"	18"
A	12"	12"	18"	24"	31"	37"	52"
B	12"	12"	18"	24"	31"	37"	52"
C	8"	8"	10"	12"	14"	16"	14"
D	6"	6"	9"	12"	15"	18"	18"

11-1/4 DEGREE BEND							
SIZE	2"	4"	6"	8"	10"	12"	18"
A	9"	9"	11"	13"	16"	18"	30"
B	9"	9"	11"	13"	16"	18"	30"
C	8"	8"	10"	12"	14"	16"	15"
D	4"	4"	5"	6"	8"	9"	16"

22-1/2" DEGREE BEND							
SIZE	2"	4"	6"	8"	10"	12"	18"
A	9"	9"	13"	18"	23"	26"	40"
B	9"	9"	13"	18"	23"	26"	40"
C	8"	8"	10"	12"	14"	16"	15"
D	4"	4"	6"	9"	11"	13"	16"

TEE							
SIZE MAIN	2"-6"	8"-12"	8"-10"	12"	12"	12"	18"
SIZE BRANCH	2"-6"	2"-6"	8"-10"	2"-6"	8"-10"	12"	16"-18"
A	26"	26"	43"	26"	43"	52"	70"
B	26"	26"	43"	26"	43"	52"	70"
C	12"	12"	12"	12"	12"	12"	30"
D	13"	13"	21"	13"	21"	26"	24"



90° BEND

45° – 22 1/2° – 11 1/4° BENDS

TEE

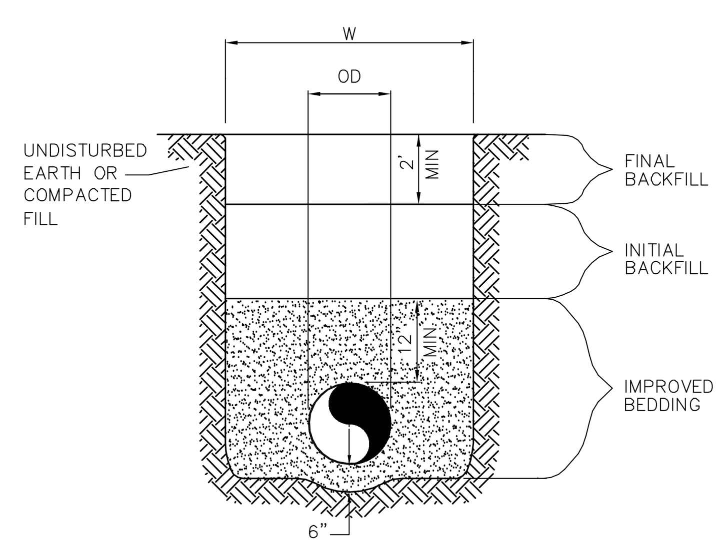
TYPICAL SECTION

PLUG

NOTE: THRUST BLOCK TO BE POURED AGAINST UNDISTURBED EARTH.

CONCRETE TO BE 3,000 PSI MINIMUM.

THRUST BLOCKING



WATER LINE

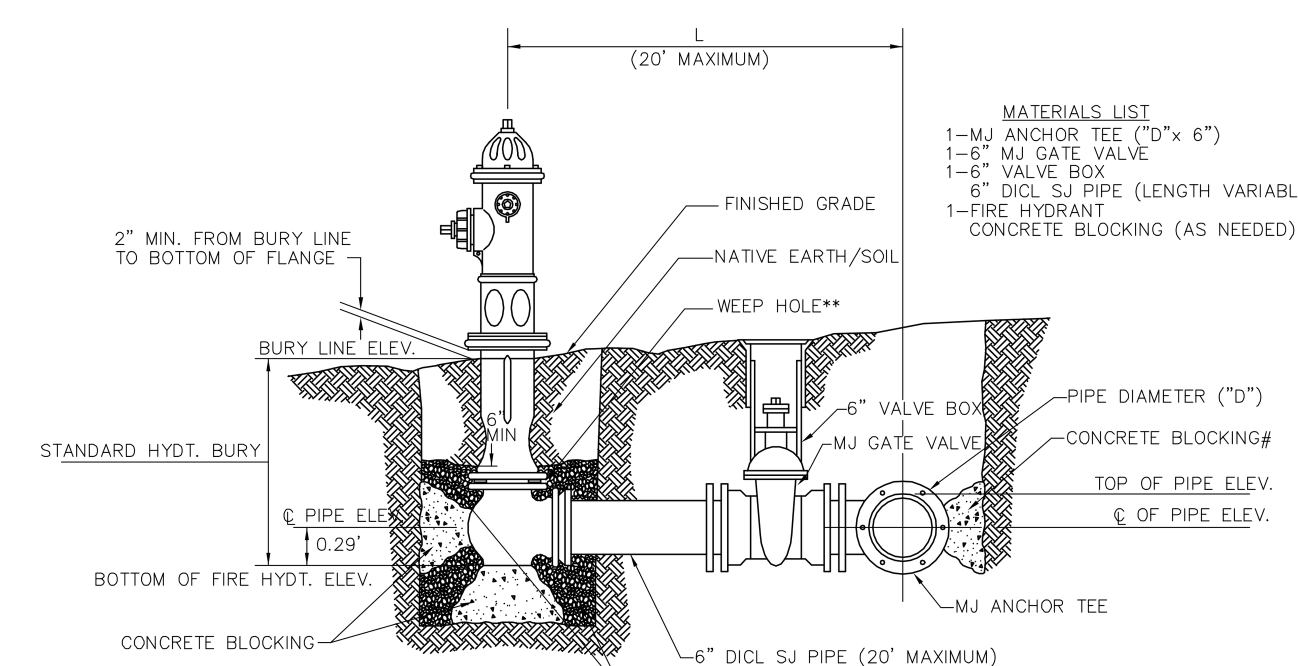
NTS

PIPE DIA.	W
≤12"	OD OF PIPE + (12" TO 18")
>12"	≥ OD OF PIPE + 18"

GENERAL NOTES

1. IMPROVED BEDDING SHALL BE CLEAN WASHED SAND WITH 100% PASSING THE 3/4" SIEVE, NOT MORE THAN 25% RETAINED ON A NO. 4 SIEVE, AND NOT MORE THAN 10% PASSING THE NO. 200 SIEVE.
2. IMPROVED BEDDING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS.
3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 95% STANDARD PROCTOR.
4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 95% STANDARD PROCTOR.
5. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3 AND 4.
6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV-A COMPACTED TO 95% STANDARD PROCTOR.
7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-89.
8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 6" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

WATER TRENCHING AND BEDDING



MATERIALS LIST
1–MJ ANCHOR TEE ("D"x 6")
1–6" MJ GATE VALVE
1–6" VALVE BOX
6" DICL SJ PIPE (LENGTH VARIABLE)
1–FIRE HYDRANT
CONCRETE BLOCKING (AS NEEDED)

** CAUTION! WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES.

\# CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

* IF HYDRANT BURY IS IN EXCESS OF 5', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY.

\## MINIMUM 1 CU. FT. PER WEEP HOLE

PEA GRAVEL ## GRADATION REQUIREMENT	
SIEVE SIZE	SPECIFICATION % RETAINED
3/4"	0 – 5
1/2"	5 – 35
3/8"	40 – 85
# 4	95 – 100
# 8	97 – 100

FIRE HYDRANTS REQUIRED			
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
0+00 LINE "B"	121.80	118.30	117.76
0+10 LINE "C"	118.00	114.50	113.96

FIRE HYDRANT ASSEMBLY

PER CITY OF WICHITA SPECIFICATIONS

FIRE HYDRANT

REVISIONS

NO.	DATE	DESCRIPTION

DEVELOPER:

SAM'S CLUB
702 S.W. 8th ST.
BENTONVILLE, AR 72716-0550
(479) 273-4000

SHEET: WATER DETAILS

PROJECT: SAM'S CLUB #8254 WICHITA, KANSAS

DEAN L. CARLSON LICENSED 19555 KANSAS PROFESSIONAL ENGINEER 7/23/09

Dean L. Carlson, P.E.
7068 Ledgestone Commons
Bartlett, TN 38133
Phone: (901) 384-0404
FX: (901) 384-0710

DWG: WICHITA, KS #8254\
wichitaDETS.DWG
DATE: JULY 16, 2009
SCALE: NTS
SHEET 3 OF 3