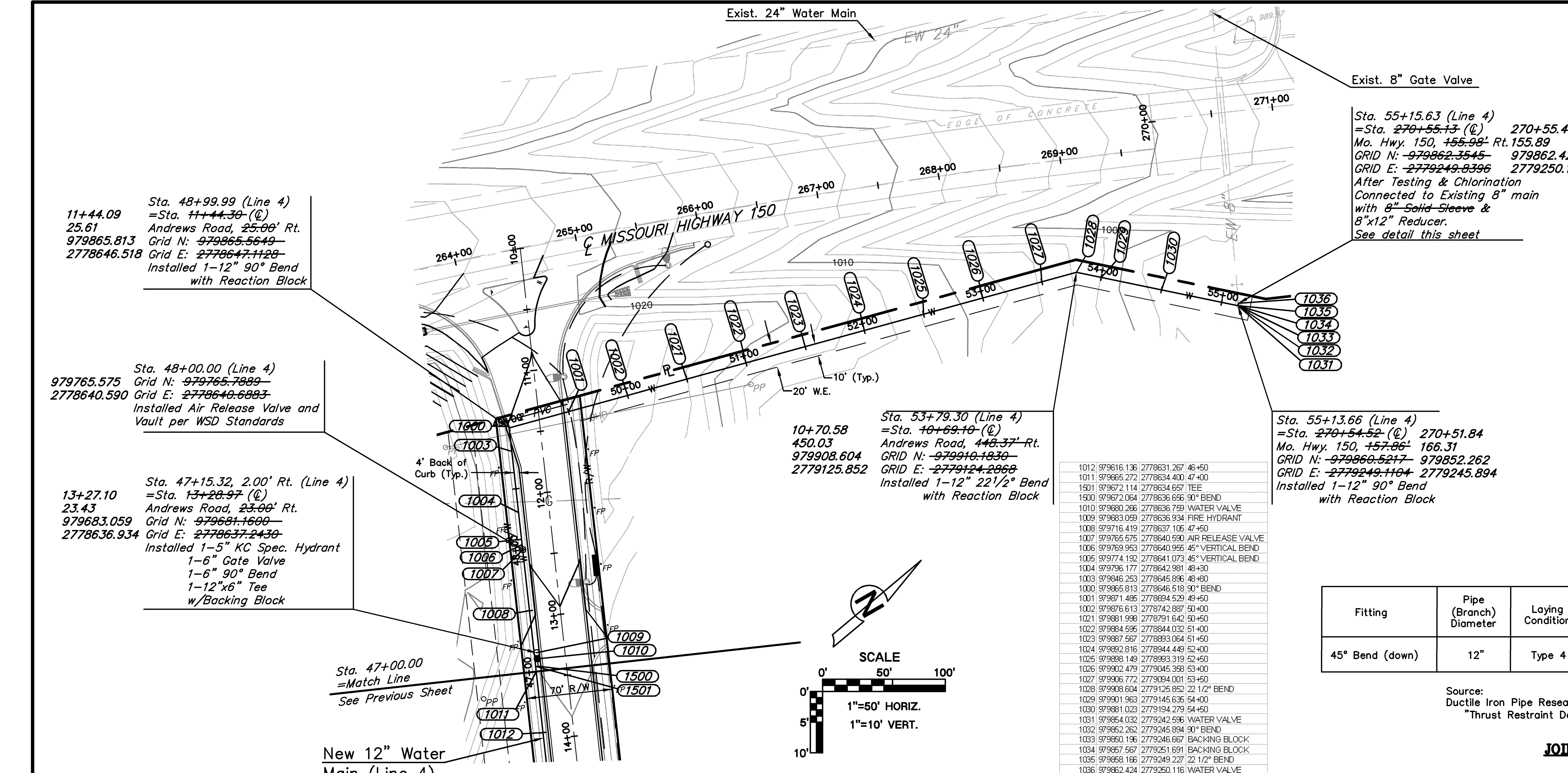


Record Drawing

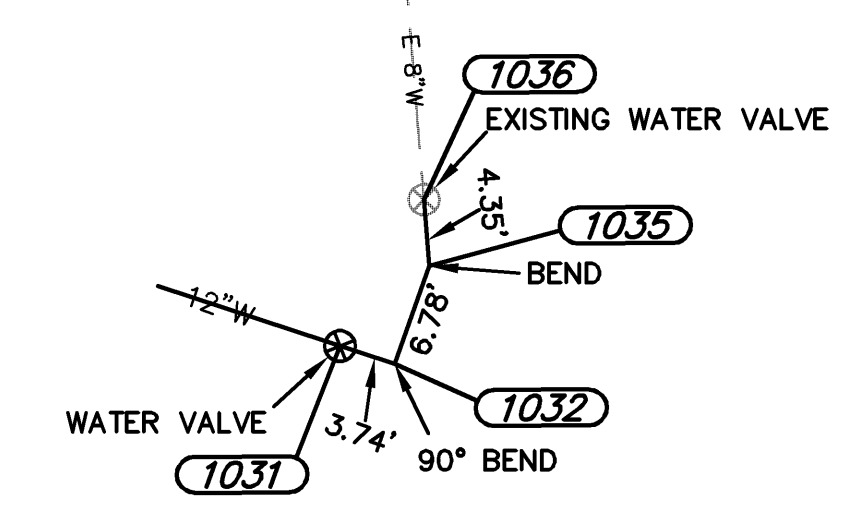
DATE: 11-03-08

I hereby certify that this Record correctly depicts the Work constructed as to size, horizontal and vertical location, and grade as shown on the approved construction drawings or their revision. The Work was done in accordance with these Records and the current version of the Standards and Specifications for Water Main Extensions and Relocations.

Contractor: _____ Date: _____
 Name (print): _____ Title: _____
 Signature: _____



Sta. 55+15.63 (Line 4)
 =Sta. 270+55.13 (C) 270+55.40
 Mo. Hwy. 150, 155-09' Rt. 155.89
 GRID N: 979862.3545 979862.424
 GRID E: 2779249.8396 2779250.116
 After Testing & Chlorination
 Connected to Existing 8" main
 with 8" Solid Sleeve &
 8"x12" Reducer.
 See detail this sheet



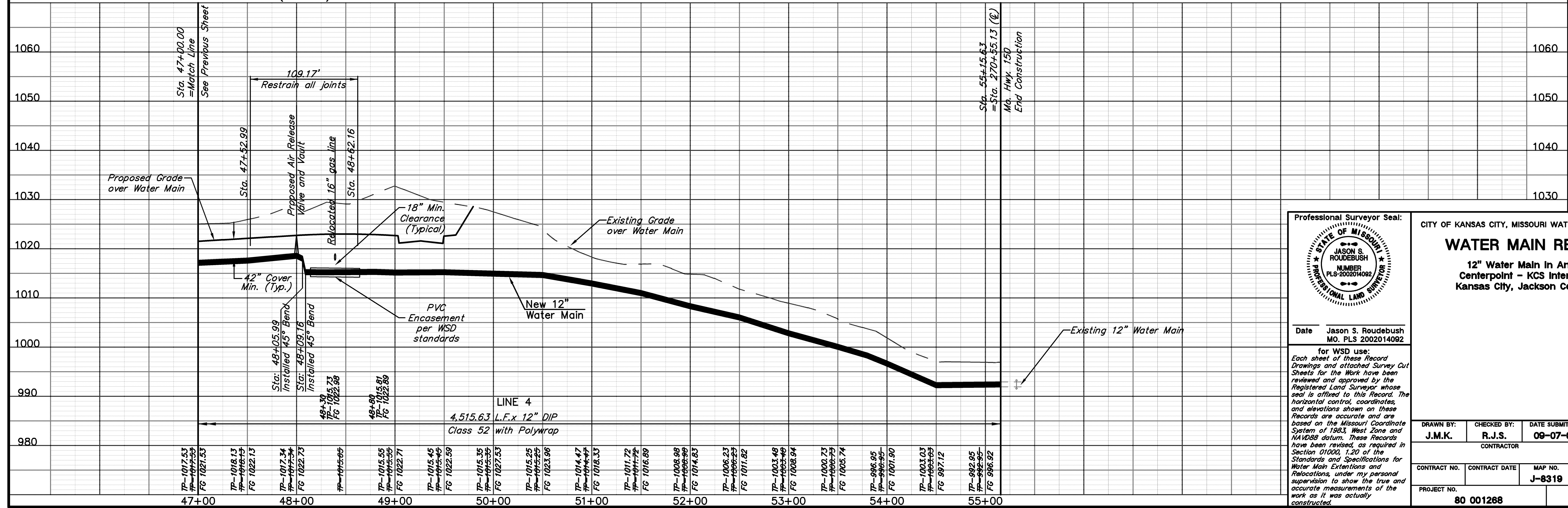
PERMANENT CONNECTION DETAILS
 Not to Scale
 Note: Contractor shall obtain permit from MODOT prior to any work activity in highway R.O.W.

1012	979616.136	2778631.267	46+50
1011	979665.272	2778634.400	47+00
1501	979672.114	2778634.657	TEE
1500	979672.064	2778636.656	90° BEND
1010	979680.266	2778636.799	WATER VALVE
1009	979683.089	2778636.934	FIRE HYDRANT
1008	979716.419	2778637.105	47+50
1007	979765.575	2778640.530	AIR RELEASE VALVE
1006	979769.953	2778640.955	45° VERTICAL BEND
1005	979774.182	2778641.073	45° VERTICAL BEND
1004	979796.177	2778642.981	48+30
1003	979846.253	2778645.896	48+80
1000	979865.813	2778646.518	90° BEND
1001	979871.485	2778694.529	49+50
1002	979876.613	2778742.887	50+00
1021	979881.998	2778791.642	50+50
1022	979884.595	2778844.032	51+00
1023	979887.587	2778893.054	51+50
1024	979892.816	2778944.445	52+00
1025	979898.149	2778993.319	52+50
1026	979902.479	2779045.388	53+00
1027	979906.772	2779094.001	53+50
1028	979908.604	2779125.882	22 1/2" BEND
1029	979901.963	2779145.635	54+00
1030	979881.023	2779194.279	54+50
1031	979864.032	2779242.536	WATER VALVE
1032	979852.282	2779245.894	90° BEND
1033	979850.196	2779246.667	BACKING BLOCK
1034	979857.567	2779251.691	BACKING BLOCK
1035	979858.186	2779249.227	22 1/2" BEND
1036	979862.424	2779250.116	WATER VALVE

Fitting	Pipe (Branch) Diameter	Laying Condition	Soil Designation	Depth of Cover, ft.	Design Pressure	Factor of Safety	Restrained Length, ft. (Polywrap)
45° Bend (down)	12"	Type 4	Clay 1	4.0	180	1.5	53

Source:
 Ductile Iron Pipe Research Association,
 "Thrust Restraint Design for Ductile Iron Pipe" (computer program)

JOINT RESTRAINT TABLE



Professional Surveyor Seal:

 Date Jason S. Roudebush
 MO. PLS 2002014092

CITY OF KANSAS CITY, MISSOURI WATER SERVICES DEPARTMENT
WATER MAIN RELOCATION
 12" Water Main In Andrews Road
 Centerpoint - KCS Intermodal Center
 Kansas City, Jackson County, Missouri

DRAWN BY: J.M.K.	CHECKED BY: R.J.S.	DATE SUBMITTED: 09-07-07	RANGE: 32 W 47 N	TOWNSHIP: 35	SECTION: 35
CONTRACTOR			DATE COMPLETED:		
CONTRACT NO.	CONTRACT DATE	MAP NO.	WORK ORDER NO.	DRAWING NO.	
PROJECT NO.	80 001268	J-8319	M-08-28	19747	
SHEET 6 OF 6					

Location: S:\Survey\RG-AIRPORT\WATERLINE\AS-BUILTS\ANDREWS.WA4 - 07165.dwg

Prepared for Review:
 R.J.S. R.J.S. R.J.S. R.J.S. R.J.S.
 09-07-07 01-25-08 04-02-08 09-08-08 11-03-08
 A Revised horizontal and vertical alignment
 A Revised per city comments
 A Revised connection location
 AS-BUILTS

DATE DESCRIPTION

WATER PLAN & PROFILE
 CENTERPOINT-KCS
 INTERMODAL CENTER

Reviewed By: S.E.C.
 Designed By: R.J.S.
 Drafted By: J.W.W.
 Lutjen Project No.: 07216

LUTJEN
 8350 N. Saint Clair Ave.
 Kansas City, MO 64151
 816.587.4320
 816.587.1393 fax
 www.lutjen.com
 surveying
 planning
 engineering
 landscape architecture