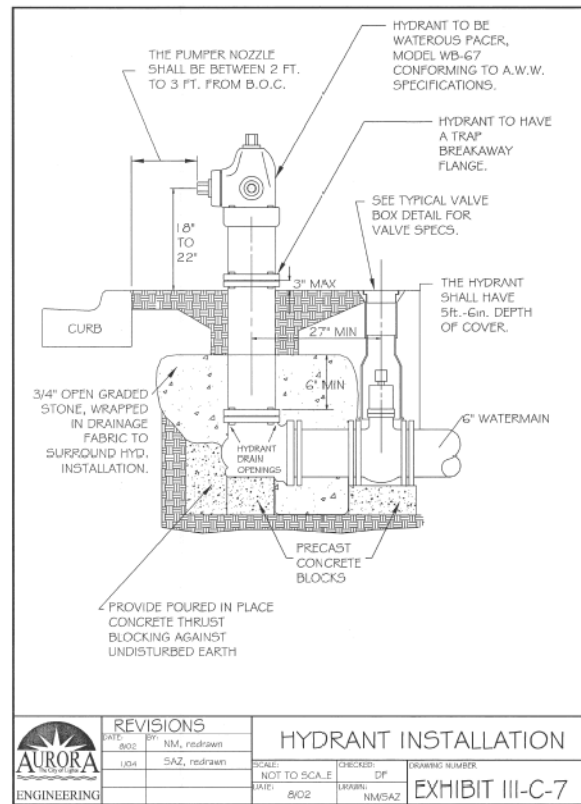
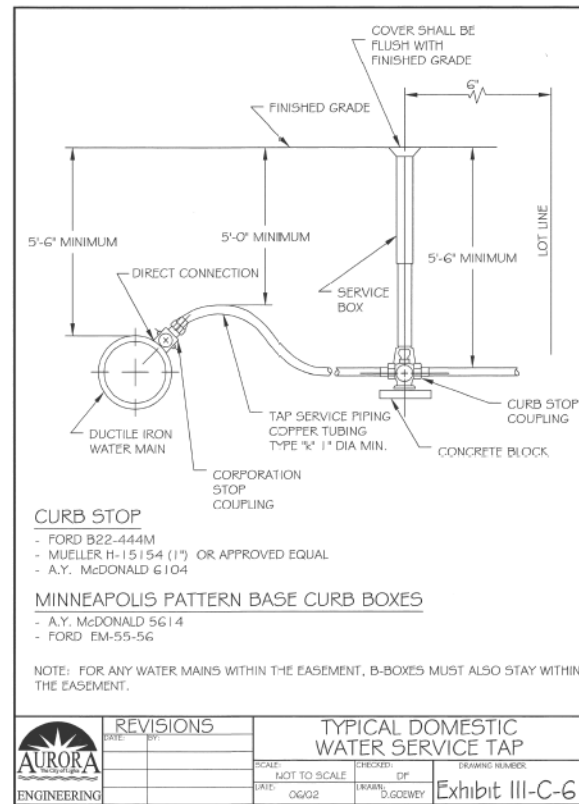


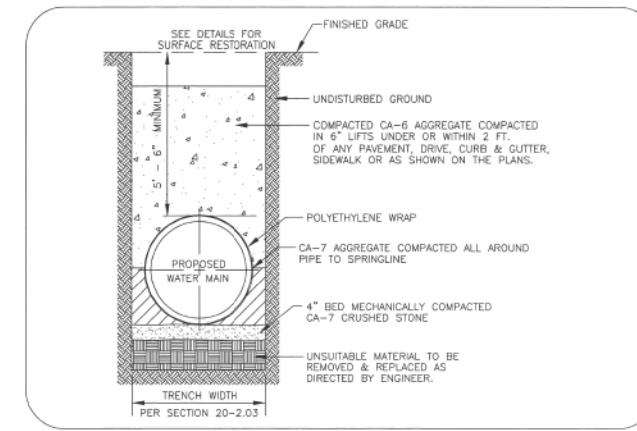
WATERMAIN



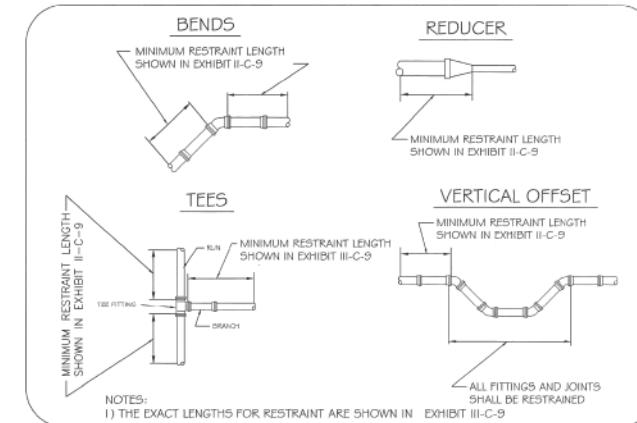
DATE	BY	REVISIONS	SCALE	CHECKED	DRAWING NUMBER
8/02	NM, redrawn		NOT TO SCALE	DP	EXHIBIT III-C-7
	SAZ, redrawn				



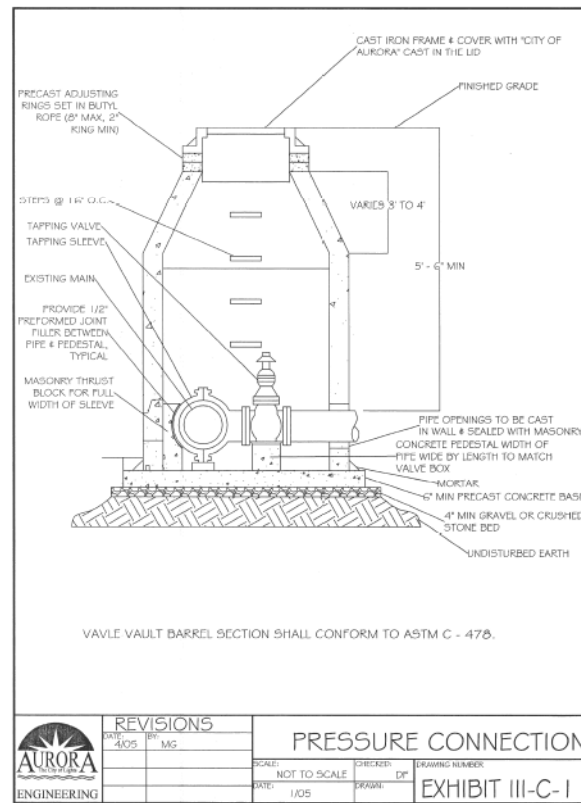
DATE	BY	REVISIONS	SCALE	CHECKED	DRAWING NUMBER
06/02	WJ, D. GOWEY		NOT TO SCALE	DP	EXHIBIT III-C-6



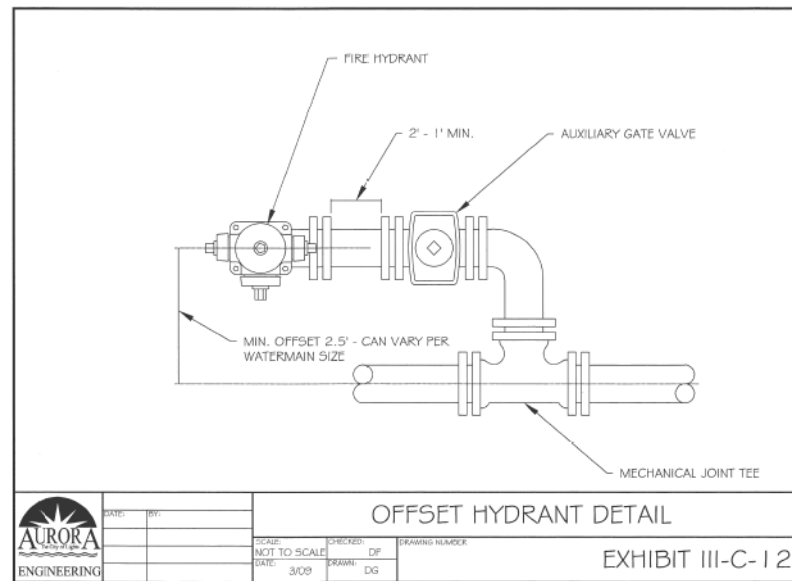
TRENCH DETAIL
(FOR WATERMAIN UNDER PAVEMENT, DRIVES, CURBS, OR SIDEWALKS)



WATER MAIN RESTRAINT DETAIL
(EXHIBIT III-C-10)



DATE	BY	REVISIONS	SCALE	CHECKED	DRAWING NUMBER
1/05	MS		NOT TO SCALE	DP	EXHIBIT III-C-11



DATE	BY	REVISIONS	SCALE	CHECKED	DRAWING NUMBER
3/09	DG		NOT TO SCALE	DP	EXHIBIT III-C-12

Minimum Restraint Length (ft) on both sides of the Fitting				
Fitting Type/Nominal Size	6"	8"	12"	16"
11 1/2" Bend	2	3	4	6
22 1/2" Bend	5	6	9	11
45" Bend	10	13	18	23
90" Bend	23	30	43	56
Dead End	31	40	57	74
Top Side of a Vertical Offset ¹	19	25	35	46
Tee Run x Branch ²	6" BY	24		
Tee Run x Branch ²	8" BY	23	34	
Tee Run x Branch ²	12" BY	18	31	51
Tee Run x Branch ²	16" BY	14	28	48
Reducer ³	8" BY	17		
Reducer ³	12" BY	42	30	
Reducer ³	16" BY	62	54	31

¹ All joints within the lowered section of the watermain shall be restrained or shall be solid pipe. The above distances reflect the required restraint distance on the normally elevated watermain either side of the 45° fitting of the vertical offset (or lowering).

² Minimum of 8 ft of solid pipe is required on both sides of the fitting on the run side. Distance indicates the length of restraint on the branch side or the side perpendicular to the tee run watermain.

³ Indicates the distance from the larger end of the reducer.

Notes: 1) All nuts and bolts shall be stainless steel.
2) The restraint system from the fitting to the minimum restraint distance must be inspected by The City of Aurora prior to backfilling.

Watermain Restraint Length Table
EXHIBIT III-C-9

WATERMAIN RESTRAINT LENGTH TABLE
(EXHIBIT III-C-9)

FOR INFORMATION ONLY

FILE NAME = Q:\Aurora\351278\US 34 Water Main Relocation\Roadway Drawings\Plan&Profile\Aurora-WaterMain-shd-Details-1.dgn



USER NAME = URS	DESIGNED - MB	REVISED -
PLOT SCALE = 48.0000' / in.	DRAWN - JMA	REVISED -
PLOT DATE = 02/28/2014	CHECKED - SPF	REVISED -
	DATE - 02/28/2014	REVISED -

CITY OF AURORA

PROPOSED WATER MAIN PLAN DETAILS - 1

SCALE: 20	SHEET NO. 4 OF 5 SHEETS	STA. TO STA.
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F.A.P. RTE. 311	SECTION	COUNTY	TOTAL SHEETS 383	SHEET NO. 325
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				