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I hereby certify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or portion of the architectural or engineering project or survey.

REVISIONS

01/29/14	CITY COMMENTS
02/03/14	CITY COMMENTS
05/06/14	REVISE UTILITY LAYOUT
08/27/14	REVISE RAIN GARDENS
09/25/14	OWNER REVISIONS
11/20/14	WATER QUAL REVISIONS
12/12/14	CITY COMMENTS
01/28/15	OWNER REVISIONS
02/18/15	CITY/OWNER REVISIONS
04/21/15	CITY/OWNER REVISIONS

Developer / Owner:
MJS&M, L.L.C.
2209 DROSTE ROAD
ST. CHARLES, MO 63301
636-949-0680

REFERENCE DETAILS

MSD Type 5 Rock Blanket (% By Weight Passing)

Sieve	Maximum	Minimum
12 inch	90	70
6 inch	30	10
1/2 inch	5	0

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SEWER CONSTRUCTION DETAILS
FLARED END SECTION
(INLET/OUTLET PROTECTION)

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TRENCH
DETAIL

BENDS	10"	12"	14"	16"	18"
6"-11 1/4"	8"	16"	12"	24"	10"
6"-22 1/2"	8"	16"	12"	24"	15"
6"-45"	8"	30"	12"	24"	15"
6"-90"	8"	30"	12"	24"	28"
6"-11 1/4"	8"	20"	12"	24"	10"
6"-22 1/2"	8"	22"	12"	24"	16"
6"-45"	8"	31"	12"	24"	24"
6"-90"	8"	38"	12"	24"	38"
12"-11 1/4"	8"	30"	12"	24"	15"
12"-22 1/2"	8"	39"	12"	24"	25"
12"-45"	8"	40"	12"	24"	40"
12"-90"	8"	60"	12"	24"	52"
18"-11 1/4"	TL	28"	20"	24"	28"
18"-22 1/2"	TL	39"	20"	24"	39"
18"-45"	TL	85"	20"	24"	85"
18"-90"	TL	91"	20"	24"	85"
24"-11 1/4"	TL	34"	24"	28"	28"
24"-22 1/2"	TL	48"	24"	28"	39"
24"-45"	TL	74"	24"	28"	59"
24"-90"	TL	136"	24"	28"	89"
30"-11 1/4"	TL	40"	34"	30"	49"
30"-22 1/2"	TL	79"	34"	30"	60"
30"-45"	TL	154"	34"	30"	60"
30"-90"	TL	280"	34"	30"	60"

NOTES:
1. 2" & 4" FITTINGS EQUIVALENT TO 6" FITTINGS.
2. TAPPING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR FITTINGS.
3. TL = TOTAL LENGTH OF FITTING MINUS CLEARANCE FOR BELLS.

INTERNAL WATER PRESSURE 6" through 12"=200 psi
INTERNAL WATER PRESSURE 16" through 30"=210 psi
BEARING PRESSURE OF SOIL=2000 psi

BACKING BLOCKS
NOT TO SCALE

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BACKING BLOCK
DETAILS AND LOCATIONS

CONFIGURATION
ALL FIRE HYDRANTS SHALL BE 3' OFF BACK OF CURB
ALL WATER MAINS SHALL BE A MIN. OF 5' OFF BACK OF CURB

TYPICAL WATER MAIN AND FIRE HYDRANT LOCATIONS
NOT TO SCALE

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WATER MAIN
FIRE HYDRANT DETAIL

Concrete collar will be in accordance with the Concrete collar detail.

WATER VALVE DETAIL
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WATER
VALVE DETAIL

Note: Other connections such as anchor coupling are allowable with additional details and approval.

FIRE HYDRANT DETAIL
NOT TO SCALE

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FIRE HYDRANT
DETAILS

TYPICAL WATER MAIN INSTALLATION DETAILS
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WATER MAIN
INSTALLATION DETAIL

TYPICAL WATER AND SEWER SEPARATION
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WATER AND SEWER
SEPARATION DETAIL

Ductile Iron Pipe installation shall follow the Ductile Iron Research Association (DIPRA) guide line.
The Installation of PVC Pipe shall follow the Uni-Bell PVC Pipe Association Handbook of PVC Design and Construction.

ENGINEER'S SEAL DOES NOT APPLY TO DETAILS ON THIS SHEET.