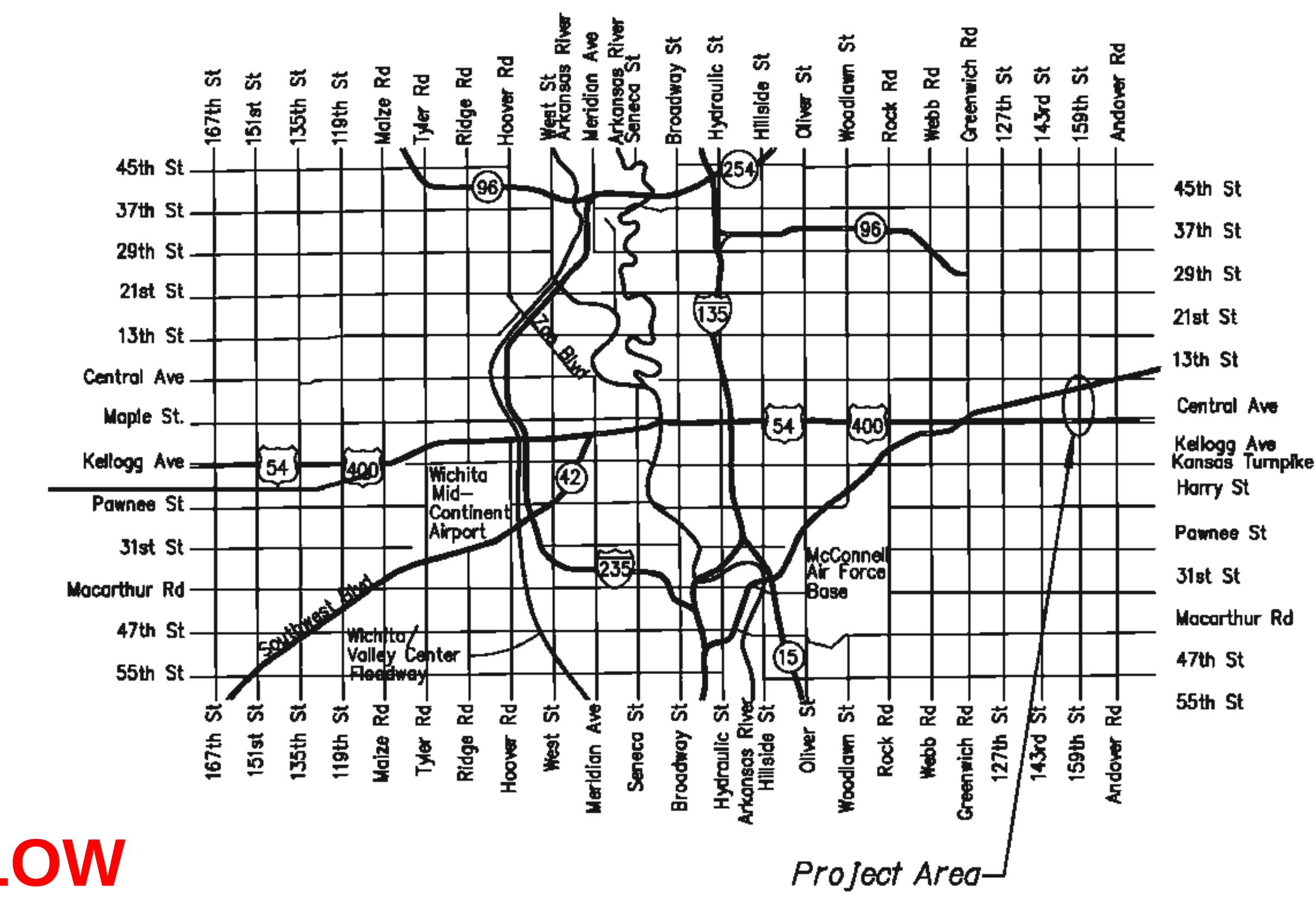
WATER DISTRIBUTION SYSTEM
TO SERVE
WICHITA & ANDOVER, KANSAS
159TH STREET & CENTRAL AVENUE
2206 PPW

AS-BUILT PLANS: 12-3-2019
CONTRACTOR: WILDCAT CONSTRUCTION
INSPECTING FIRM: TRANSYSTEMS
INSPECTOR: CORBIN KLEIN

FIRE HYDRANTS - CLOW



VICINITY MAP

GENERAL NOTES

1. The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City of Wichita Standard Specifications and Special Provisions.

2. Contractor will be required to provide notice to utility companies a minimum of seventy–two (72) hours prior to any excavation, as follows.

Kansas One–Call	687–2470

The Contractor must notify the following in case of an emergency:

AT&T	1–800–246–8464
Black Hills Energy	1–800–694–8989
City of Wichita Water & Sewer	1–316–219–8921
City of Wichita Stormwater	1–316–268–4090
City of Wichita Traffic	1–316–268–4034
Cax Communications	1–888–249–3530
Kansas Gas Service	1–888–482–4950
Westar Energy	1–800–544–4857
City of Andover	1–316–733–1303

3. Utility service lines, poles, etc. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best Information obtainable for design. The Contractor will be required to work around existing utilities within the right–of–way which do not conflict with proposed construction.

4. Rubble from the removal of miscelloneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed af in a flood plain will require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps. of Engineers permitting regulations. Any material buried or stockpiled beyond appraved construction limits will require additional archaeological investigations unless buried in a previously approved borrow location.

5. Trees and shrubs in public right–of–way which are in direct conflict with proposed new construction shall be removed by the Contractor with the City Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.

6. The Cantractar shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days notice prior to start of construction.

7. The Cantractor shall be responsible for preserving property irans. The Contractor will be required to reestablish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re–established by a licensed land surveyor in accordance with state laws.

8. The Engineering Division shall field locate water valves one time during construction when requested by the Contractor. It sholl be the Contractor's responsibility to preserve such field locatlons during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by Contractor at his awn expense. Valve boxes and water meters within the project limits shall be adjusted to match final grades by the contractor.

9. The Contractor shall notify the inspecting engineer and Tom Mason at 316–268–4574 with the City of Wichita with the anticipated construction start date and notify them of project completion. Stoking and inspection for this project will be the responsibility of the Contractor.

10. All elevations shown are NAVD 88.

11. All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.

12. All applicable fees (tap, equity, in lieu of & main benefit) must be paid before any connections can be made on this project. Quotes can be obtained on fees by calling 316–268–4555.

13. City maintenance of water mains ends at right–of–way or easement line or within two feet of vault.

14. Opening and closing of water valves shall be done slowly to prevent damage to the water distribution system from water hammer. All valves closed by the contractor must be reopened as new construction permits. The project inspector must ascertain that any valve closed by the Contractor is reopened. The Contractor will be permitted to operate water valves only when the project inspector assigned ta the project is present.

15. Connections to existing water lines shall not be paid for directly, but shall be considered INCIDENTAL to other items in the bid.

16. The Contractor shall lay a Tracer Wire and Set Test Stations along all water pipe installed in accordance with City Specifications and Trocer Wire Detail on detail sheet WL–101, cost is SUBSIDIARY to pipe installation.

17. The contractor shall provide materials for temporary blowoff of waterlines. Connections to the existing waterline(s) shall be made with clean, swabbed pipe and flushed upon completion of tie–ins.

18. Temporary Blowoff Valves necessary to flush lines at existing water line tie–ins shall not be paid for directly, but shall be considered INCIDENTAL to other items in the bid.

19. Requests for short term water interruptions shall be made to the City Water Distribution Division and will be subject to their approval. The Contractor shall give written notice to any praperty owner, business, and/or tenants that will have water service interrupted at least 5 days in advance. Such notifications should indicate the time and date that the water will be turned off and when the service will be restored. No business, property owner, and/or tenants sholl be without water service for mare than 8 hours. Proposed tie in locations which will affect water service to property owners shall be preformed during non–peak hours.

20. The Contractor must schedule the connections to the existing main with the City such that there is o minimum disruption of service. Connections shall be made during periods of low water usage. The Contractor shall submit his proposed schedule for completing work for City appraval at least 10 days prior to beginning construction.

21. Deflections at pipe joint or couplings shall not exceed the pipe manufactures recommended maximum. Where deflections ore greater than the maxlmum allowed, the contractor shall utilize fittings.

22. Any existing joint exposed during excavation shall be replaced if within four feet of proposed joint.

23. Valves 12 inch and larger are to be operated by the City Water Distribution Division, 48 hours of advance natice is required with the water Dispatch at 316–291–8921.

24. All wet taps shall be installed by the City of Wichita. The Contractor will reimburse the City for tapping fees priar to tap being made. Unless noted on plans.

25. Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.

26. Existing underground utilities are shown at estimated depths. The Contractor sholl verify the exact depths of underground utilities that are critical to the construction before beginning work. The cost for this shall be SUBSIDIARY to the project.

27. The Contractor shall protect from damage and support existing utilities through construction os approved by the utility owner ond the Engineer at the contractors expense.

28. The Contractor shall understand that utilities may have been relocated to new locotions and thot odditional coordination with Utility Companies may be required. The Contractor shall be required to work around existing utilities within the right–of–way.

29. Contractor shall verify horizontal and vertical location, type size and class of existing waterlines prior to making connections. The existing waterline locatians as shown on the plans are approximate. The contractor shall make adjustments as required and approved by the Engineer. Provisions and installation of pipe adaptors, short sections of pipe, ond couplers shall be SUBSIDIARY to other pay items of work.

30. Contractor shall not start work on the project until the Project Inspector is assigned to the project and is present on the site. Any work done without inspection will be required to be uncovered for inspection.

31. The bid item "Fire Hydrant Assembly" shall include installation of a New Fire Hydront, thrust blocking, fittings and all necessary odjustments required to bring the hydront into complete and working order.

32. All existing waterline structures (i.e. water valve assemblies, fire hydrant assemblies, ect.) called out for removal in the plans shall be taken to the City of Wichita Water Department Material Yard located at 1701 Sim Park Drive.

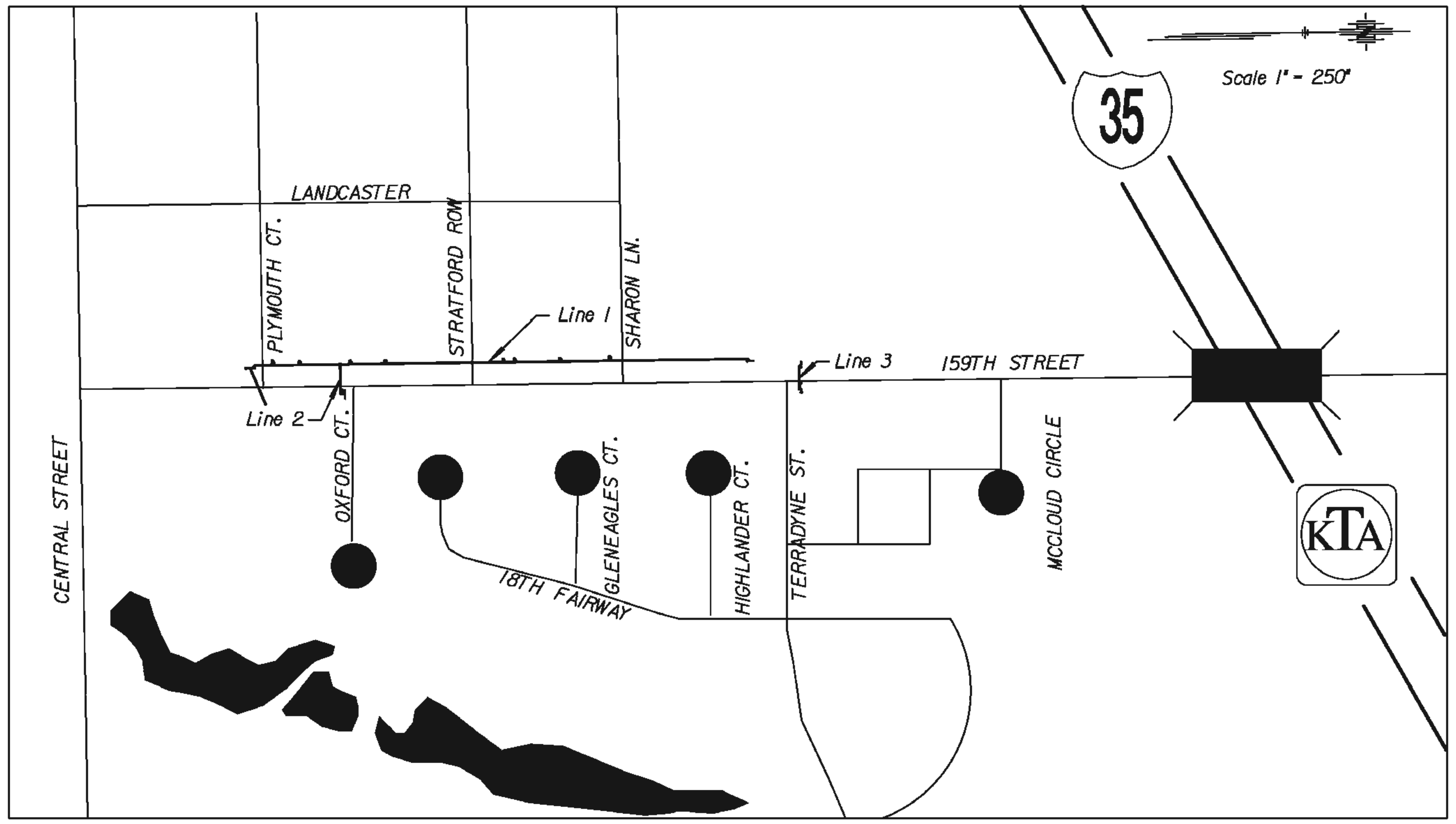
33. Contractor shall make minor adjustments to the new construction if required by the location of any existing utility at no cost to the owner. Should a conflict occur Controctor shall contact Engineer and uitility owner os shown in plans.

34. Contractor shall obtain all permissions and permits as required for disposal of any materiols. The Contractor shall hold the Owner and Engineer harmless from any claims related to the transporting or disposal of demolition materials. The cost for this effort shall be SUBSIDIARY to the project.

35. The Contractor shall be responsible for all traffic control measures to facilitate construction as shown in the construction phasing plan. The Contractor shall erect and maintain traffic control devices in accordance with the Manual if Uniform Traffic Control Devices (Latest Edition) subject ta the Engineer's approval.

36. All pipe 11.00 LF or less shall be Ductile Iron Cement Lined (DICL) pipe.

37. Waterlines shall have a minimum depth of bury of 48 inches from proposed improvements, unless shown otherwise.



38. It is the contractor's aption to remove or brick up ends, plug, flow fill and abandon in place existing 16" waterline. Existing 8" waterline can be removed or capped and abandoned in place. Regardless of method, this shall be paid for by the bid item "Pipe Removed".

39. The 8" waterline serving Oxford Caurt shall remain in service until the new main is active. No long term shutdowns are permitted other than the time needed to tie the new main into the existing line.

40. All waterline tieing into a restrained joint shall be restrained to the length as recommended by the manufocturer. The restraining of the pipe shall be considered SUBSIDIARY to the cost of the pipe line item.

INDEX OF SHEETS

RECOM. FOR APPROVAL - DATE
[illegible] 3/14/19
LES MANGUS
CITY OF ANDOVER
DIRECTOR OF PUBLIC WORKS

MICHAEL D. BAILEY
LICENSED
[illegible]
20585
3/14/19
KANSAS
PROFESSIONAL ENGINEER

APRIL 2019

PREPARED BY

TranSystems
245 N. WACO, SUITE 222
WICHITA, KANSAS 67202
MAIN: 316-303-3000
FAX: 316-303-0156

APPROVED AS NOTED
BY WICHITA PUBLIC WORKS
ENGINEERING DIVISION
BY WICHITA FIRE DEPARTMENT
& BY ANDOVER FIRE DEPARTMENT

Engineering [illegible] 3.14.19
Utilities [illegible] 3-14-19
Wichita Fire Dept. [illegible] WFD 3/14/19
Andover Fire Dept. [illegible] AFR -

NOTE TO CONTRACTORS

Public Property:

Inspection and testing for the waterline is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection is to be in accordance with the City of Wichita standard construction engineering practices and certified by a Professional Engineer Licensed in the stote of Kansos. No work shall be performed in dedicated easements or public right–of–way by the Contractor without such inspection nor sholl any work be commenced without written outhorization by City Engineering. All Construction and Materials shall comply with the City or Wichito Specifications ond Standards and Speciol Provision (on file and ovailoble in the City Engineer's Office) or on the City's Website.

Private Property:

Installation ond testing for the fire protection line is to be performed by a City of Wichita licensed fire protection contractor in accordance with the fire codes os adopted by the City of Wichito. All moterial and construction proctices for the fire protection line shall comply with the fire codes as adopted by the City of Wichito (ovailable from the City of Wichita Fire Department). The Controctor sholl not commence work without notification ond opprovol of the Wichita Fire Department. Inspection of the fire protection line is to be provided by a licensed Engineering Firm under contract with the Owner/Developer ond the Fire Department. The contractor shall not start work until the project inspector is assigned to the project ond present on the site. Any work done without inspection will be required to be uncovered for inspection.

An approved copy of these plans signed by City staff are required on–site.

DATE
BY
SURVEY
CADD TECHNICIAN
DESIGNERS
SQUAD

Drawn By : Road
Plotted : 5/8/2019
File : c:\transystems\pw_local\transyscorp-pw1\taummel\d0489550\C-WTR-COV-101.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P125170021	2019	5	54

WATERLINE PROJECT CONTROL AND COORDINATE DATA

	POINT NO.	BASELINE STATION	OFFSET	SIDE	DESCRIPTION	NORTHING	EASTING
	Waterline 1						
102	~~100~~	100+20.00	0.00'	℄	16" Valve Assembly	1689848.3146	1702219.9544
	101	100+25.00	0.00'	℄	Begin, Connect to Exist. Waterline	1689853.3142	1702219.8887
100	~~102~~	100+30.00	0.00'	℄	2" Long Service Line Tap into Waterline 1	1689858.3134	1702219.8018
	103	100+35.00	0.00'	℄	45° Horizontal Bend (Restrained)	1689863.3127	1702219.7150
	104	100+44.36	0.00'	℄	45° Horizontal Bend (Restrained)	1689869.8154	1702212.9822
	105	100+80.57	0.00'	℄	0.5° Vertical PI	1689906.0196	1702212.3530
	106	100+89.12	0.00'	℄	Fire Hydrant Assembly	1689914.5699	1702212.2044
	107	101+54.07	0.00'	℄	1" Short Service Line Tap into Waterline 1	1689979.5126	1702211.0758
	108	101+54.07	5.00'	Lt.	New Meter Can w/ 1" Short Service Line Connection	1689979.4257	1702206.0765
	109	102+48.14	0.00'	℄	16" x 8" Tee Fitting, Connect to Waterline 2	1690073.5598	1702209.4413
	110	102+74.58	0.00'	℄	1" Short Service Line Tap into Waterline 1	1690099.9992	1702208.9818
	111	102+74.58	5.00'	Lt.	New Meter Can w/ 1" Short Service Line Connection	1690099.9123	1702203.9825
	112	102+98.29	0.00'	℄	1°Vertical PI	1690123.7068	1702208.5697
	113	103+59.20	0.00'	℄	1" Short Service Line Tap into Waterline 1	1690184.6102	1702207.5113
	114	103+59.20	5.00'	Lt.	New Meter Can w/ 1" Short Service Line Connection	1690184.5233	1702202.5120
	115	104+95.48	0.00'	℄	1°Vertical PI	1690320.8670	1702205.1432
	116	105+75.69	0.00'	℄	1°Vertical PI	1690401.0649	1702203.7494
	117	106+40.52	0.00'	℄	1" Short Service Line Tap into Waterline 1	1690465.8855	1702202.6228
	118	106+40.52	5.00'	Lt.	New Meter Can w/ 1" Short Service Line Connection	1690465.7986	1702197.6236
	119	106+67.51	0.00'	℄	1" Short Service Line Tap into Waterline 1	1690492.8758	1702202.1537
	120	106+67.51	5.00'	Lt.	New Meter Can w/ 1" Short Service Line Connection	1690492.7889	1702197.1545
	121	107+76.28	0.00'	℄	1" Short Service Line Tap into Waterline 1	1690601.6245	1702200.2637
	122	107+76.28	5.00'	Lt.	New Meter Can w/ 1" Short Service Line Connection	1690601.5376	1702195.2645
	123	108+80.77	0.00'	℄	1°Vertical PI	1690706.0988	1702198.4480
	124	108+95.63	0.00'	℄	Fire Hydrant Assembly	1690720.9555	1702198.1898
	125	112+15.00	0.00'	℄	16" Valve Assembly	1691040.2738	1702192.6402
	126	112+21.95	0.00'	℄	45° Horizontal Bend (Restrained), 1°Vertical PI	1691047.2228	1702192.5195
	127	112+28.36	0.00'	℄	45° Horizontal Bend (Restrained)	1691051.8381	1702196.9772
	128	112+38.36	0.00'	℄	End, Connect to Exist. Waterline	1691061.8366	1702196.8034
	Waterline 2						
	200	200+25.00	0.00'	℄	Begin, Connect to Waterline 1	1690073.5598	1702209.4413
	201	200+27.79	0.00'	℄	45°Vertical Bend (Restrained)	1690073.6083	1702212.2308
	202	200+30.00	0.00'	℄	45°Vertical Bend (Restrained), Begin Directional Drill	1690073.6467	1702214.4405
	203	200+95.00	0.00'	℄	End Directional Drill, 45°Vertical Bend (Restrained)	1690074.7762	1702279.4307
	204	200+98.00	0.00'	℄	45°Vertical Bend (Restrained)	1690077.7757	1702279.3786
	205	201+00.00	0.00'	℄	End, Connect to Exist. Waterline	1690079.7784	1702279.3438
	Waterline 3						
	300	300+25.00	0.00'	℄	Begin, Connect to Exist Waterline, 2°Vertical PI	1691175.6766	1702199.1385
	301	300+30.00	0.00'	℄	45° Horizontal Bend (Restrained)	1691175.7635	1702204.1378
	302	300+37.36	0.00'	℄	2°Vertical PI, Begin Directional Drill	1691170.6529	1702209.4292
	303	300+92.36	0.00'	℄	End Directional Drill, 11.25°Vertical Bend (Restrained)	1691171.6086	1702264.4209
	304	300+97.02	0.00'	℄	11.25°Vertical Bend (Restrained), End, Connect to Exist. Waterline	1691176.2758	1702264.3397
	305	301+04.00	0.00'	℄	8"Valve Assembly	1691176.3603	1702271.3192

FIRE HYDRANTS REQUIRED

STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED †	VALVE STEM EXT. REQUIRED (ft) †
100+89.12	1,332.30	1,326.86	5.9'	0.9'
108+95.63	1,336.08	1,330.34	6.2'	1.2'

† For Details See Sheet 10 (WL-101)

WATER SYSTEM BILL OF MATERIALS

	BID ITEM	QUANTITY	UNIT
AWWA C900/DR18	8" Waterline (DICL)	27	L.F.
	8" Waterline Bored	120	L.F.
AWWA C900/DR18	16" Waterline (DICL)	36	L.F.
AWWA C900 / DR18	16" Waterline	1178	L.F.
M&H Valve Co.	8" Valve Assembly	3 2	EA.
M&H Vlave Co.	16" Valve Assembly	4	EA.
CLOW 2545	Fire Hydrant Assembly	2	EA.
	Fire Hydrant Assembly (Removed)	2	EA.
	8" Pipe Cut and Cap	4	EA.
	16" Pipe Cut and Cap	2	EA.
	2" Long Service Complete	1	EA.
	1" Short Service Complete	6	EA.
	Sand, Fill, Flush & Vibrate	198	L.F.
	Pipe Removed	1232	L.F.
	Pavement Removed	236	S.Y.
	Temporary Surfacing Material (Aggregate)	59	S.Y.
	Temporary Surfacing Material (HMA)	63	TONS
	Aggregate Base (AB-3)(8")	139	S.Y.

PROJECT SURVEY CONTROL & DATUM BENCHMARK

Horizonal - Kansas State Plane Coordinates
(SPCS KS-South- CAF= 0.999882592)

Vertical - BM #10-17 (PT. 200) "L" Cut in Southwest Corner of Curb Inlet South of Driveway to 15830 E 10th St.
N 1,692,699.5090
E 1,702,177.3070
Datum: NAVD88 - Elev. = 1352.25'

BM #251 "□" Cut on Sidewalk at NW Cor. N. 159th Street and W. Central Avenue.
N 1,689,486.6692
E 1,702,187.4772
Elev. = 1327.78

BM #250 "□" Cut on Curb Inlet at NE Cor. N. 159th Street and W. Central Avenue.
N 1,689,479.4712
E 1,702,317.7679
Elev. = 1327.02

BM #252 "□" Cut on Vault Box located on east side of N. 159th Street at Plymouth Road.
N 1,689,895.1787
E 1,702,304.8707
Elev. = 1333.49

BM #257 "□" Cut Top of Mail Box Conc. Pad east side of N. Prairie Dunes Street.
N 1,691,023.3694
E 1,702,154.7367
Elev. = 1342.28

BM #256 "□" Cut Top of Median Curb at N. 159th Street and N Prairie Dunes Street.
N 1,691,130.1147
E 1,702,190.7482
Elev. = 1344.28

BM #254 "□" Cut Top of Median Curb at N. 159th Street and W. Terradyne Drive.
N 1,691,132.4386
E 1,702,275.6007
Elev. = 1344.08

BM #11/#255 "□" Cut Top of east Conc. Head Wall north of N. 159th Street and N. McCloud Circle.
N 1,691,772.5965
E 1,702,248.4566
Elev. = 1347.11

UTILITY OWNERS

City of Andover
Les Mangus
Public Works Director
1609 E. Central Ave.
Andover, KS 67002
(316) 733-1303
Water, Storm Sewer

City of Andover
Steve Anderson
City Engineer
1609 E. Central Ave.
Andover, KS 67002
(316) 733-1303
Water, Storm Sewer

City of Andover
Bill Braitsch
Street Superintendent
1609 E. Central Ave.
Andover, KS 67002
(316) 733-8290
(316) 239-8041 (cell)

City of Andover
Brian Walls
1609 E. Central Ave.
Andover, KS 67002
(316) 733-2621
Sanitary Sewer

City of Wichita Water Dept.
Greg Lolley
455 N. Main
Wichita, KS 67202
(316) 268-4334
Water Main

City of Wichita Storm Sewer Dept.
Kelly Fleming
455 N. Main
Wichita, KS 67202
(316) 268-4545
Storm Sewer

AT&T
Jason Edwards
154 N. Broadway
Room 210
Wichita, KS 67202
(316) 268-2008
Telephone, Fiber Optic

Cox Communications
Pat Roth
901 George Washington Blvd.
Wichita, KS 67211
(316) 260-7170
Cable Television

Westar Energy
Becky Thompson
4025 N. Tobin
Wichita, KS 67219
(316) 261-6320
Electrical

Sprint
Bart DeCarlo
(316) 683-7671
Fiber Optic

Zayo
Jeff Capps
(316) 833-9032
Fiber Optic

Kansas Gas Service
Adam Knolla
1021 E. 26th St.
Wichita, KS 67219
(316) 831-3123
Emerg: 1-888-482-4950
Gas

Kansas Turnpike Authority
Chris Hulett
(316) 347-6727.3
9401 E. Kellogg
Wichita, KS 67207

Indian Nations / Chickasaw Tele.
Eddie Tomlinson
124 W. Vinta Ave.
Sulphur, OK 73086
(580) 622-3837
Fiber Optic

SUMMARY OF WATERLINE ITEMS
(For Information Only)

WATERLINE NO.	PIPE 8" DICL WL L.F.	Ø BORED 8" WL L.F.	PIPE 16" DICL WL L.F.	PIPE 16" WL L.F.	8" VALVE ASSEMBLY EA.	16" VALVE ASSEMBLY EA.	FIRE HYDRANT ASSEMBLY EA.	REMOVE FH ASSEMBLY EA.	8" PIPE CUT & CAP EA.	16" PIPE CUT & CAP EA.	2" LONG SERVICE COMPLETE EA.	1" SHORT SERVICE COMPLETE EA.	SAND, FILL, FLUSH & VIBRATE L.F.	PIPE REMOVED L.F.	PAVEMENT REMOVED S.Y.	TEMP. SURFACING MAT. (AGG.) S.Y.	TEMP. SURFACING MAT. (HMA) TONS	AGGREGATE BASE (AB-3)(8") S.Y.
Line 1			35.8	1177.6		4	2	2		2	1	6	175.6	1198.9	201.3	58.8	50.5	104.4
Line 2	10.0	65.0			0 2				2				5.0	5.0	9.8		3.5	9.8
Line 3	17.0	55.0			1				2				17.0	27.8	24.8		8.8	24.8
Total	27.0	120.0	35.8	1177.6	3	4	2	2	4	2	1	6	197.6	1231.7	235.9	58.8	62.8	139.0

Ø All Bored Pipe will be restrained.
All pipe 11.00 LF or less in length shall be DICL, longer pipe may be PVC.

MICHAEL D. BALL
LICENSED
20585
3/14/19
KANSAS
PROFESSIONAL ENGINEER

Utility Notes:

Visual indications of utilities are as shown. Underground locations shown, as furnished by their lessors, are approximate and should be verified in the field at the time of construction. For actual field locations of underground utilities, call 1-800-344-7233. Verification of utilities is the Contractor's responsibility.

COORDINATE DATA
AND
SUMMARY OF QUANTITIES

DATE			
BY			
	REFERENCES NOTED		
	REFERENCES CHECKED		

Drawn By : Road Plotted : 5/8/2019
File : c:\transystems\pw_local\transyscorp-pw1\taummeld\0489550\C-WTR-COR-101.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P125170021	2019	6	54

LEGEND

Pavement Removal

Tree Removal

Note:
Sideroad entrances and concrete driveways removed for Waterline construction shall be replaced with Temporary Surfacing Material (HMA). Sideroad entrances shall also include Aggregate Base (AB-3)(8").

Gravel driveways removed for Waterline Construction shall be replaced with Temporary Surfacing Material (Aggregate).

All existing 5/8", 3/4", and 1" water meters shall be replaced with new 1" water meters using approved meter gaskets and adaptors. Costs shall be SUBSIDIARY to the long and short service line items.

It is the contractor's option to remove or brick up ends, plug, flow fill and abandon in place existing 16" waterline. Existing 8" waterline can be removed or capped and abandoned in place. Regardless of method, this shall be paid for by the bid item "Pipe Removed".

16" Waterline shall be replaced to the nearest joint and include a minimum 10' transition section. This connection shall not be paid for directly but shall be SUBSIDIARY to other items of the contract.

Robert D & Charlene G Adamson Living Trust
15931 E Plymouth Road
Wichita, KS 67230

Shaheen Real Estate LLC
8412 E Steeplechase St.
Wichita, KS 67206

Sean W & Debra McAdam Rev. Trust
559 N. 159th St. E.
Wichita, KS 67230

William J Fields
15925 E. Stratford Row
Wichita, KS 67230

Kanza Office Park LLC
1518 W Central Ave.
Wichita, KS 67230

Craig A Medcalf & Michelle Brzezinski
1619 Oxford Ct.
Andover, KS 67002

William Leppert
1620 Oxford Ct.
Andover, KS 67002

Sta. 100+35.00 Waterline 1
Install 1 - 16" 45° Bend (Restrained) (NW)
Install 9.36 L.F. 16" Pipe (DICL) (NW)
N: 1689863.3127
E: 1702219.7150

Sta. 100+30.00 Waterline 1
Install 1 - 2" Long Service Line Complete (NE)
Tie into Exist. Meter Box east of 159th St.
See Detail Sheet 11
N: 1689858.3134
E: 1702219.8018

Sta. 100+20.00
Install 1 - 16" Valve Assembly (Restrained)
Valve Box Elevation = 1331.13
N: 1689848.3146
E: 1702219.9544

Sta. 100+25.00 Begin Waterline 1 TS 26.0' West of 159th CL,
Remove 1208.8 L.F. Exist 16" (N) 45.0' South of Plymouth CL
Install 1 - 16" AC Transition Coupler (S)
Connect to Exist. 16" Waterline (S)
Install 10.00 L.F. 16" Pipe (DICL) (N)
N: 1689853.3142
E: 1702219.8887

Sta. 100+44.36 Waterline 1
Install 1 - 16" 45° Bend (Restrained) (N)
Install 44.76 L.F. 16" Pipe (N)
N: 1689869.8154
E: 1702212.9822

Sta. 100+68.12
Remove & Replace Pavement
w/ 10.8 Tons Temporary Surfacing
Material (HMA) & 30.5 S.Y. AB-3 (8")
N: 1689893.5704
E: 1702212.5694

Sta. 100+89.12 Waterline 1
Install 1 - Fire Hydrant Assembly, L=8.0'
Valve Box Elevation = 1332.14
Install 159.02 L.F. 16" Pipe (N)
N: 1689914.5699
E: 1702212.2044

FH VB IS 6' E. OF FH

Fire Hydrant Assembly
21.0' North of Plymouth CL
49.0' West of 159th CL

Sta. 101+05.13, 3.60' Rt. Waterline 1
Remove Fire Hydrant Assembly.
N: 1689930.6427
E: 1702215.5297

Sta. 101+54.07 Waterline 1
Install 1 - 1" Short Service Line Complete (W)
N: 1689979.5126
E: 1702211.0758

Sta. 101+54.07, 5.00' Lt. Waterline 1
Install 1 - Water Meter Can
Connect 1" Short Service Line Complete
N: 1689979.4257
E: 1702206.0765

Sta. 102+48.14 Waterline 1 = Sta. 200+25.00 Waterline 2 TS 180.0; North of Plymouth CL 38.0' West of 159th CL
Install 2 - 16" Valve Assembly (Restrained) (N,S)
Valve Box Elevation(s) = 1333.66
Install 1 - 16" x 8" Tee Fitting (Restrained) (E)
Install 1 - 8" Valve Assembly (Restrained) (E)
Valve Box Elevation = 1333.41
Install 647.49 L.F. 16" Pipe (N)
N: 1690073.5598
E: 1702209.4413

Sta. 103+59.20, 5.00' Lt. Waterline 1
Install 1 - Water Meter Can
Connect 1" Short Service Line Complete
N: 1690184.5233
E: 1702202.5120

Sta. 103+59.20 Waterline 1
Install 1 - 1" Short Service Line Complete (W)
N: 1690184.6102
E: 1702207.5113

Sta. 102+91.88
Remove & Replace Gravel Driveway
w/ 30.9 S.Y. Temporary Surfacing Material (Agg.)
N: 1690117.3020
E: 1702208.6810

Sta. 102+74.58, 5.00' Lt. Waterline 1
Install 1 - Water Meter Can
Connect 1" Short Service Line Complete
N: 1690099.9123
E: 1702203.9825

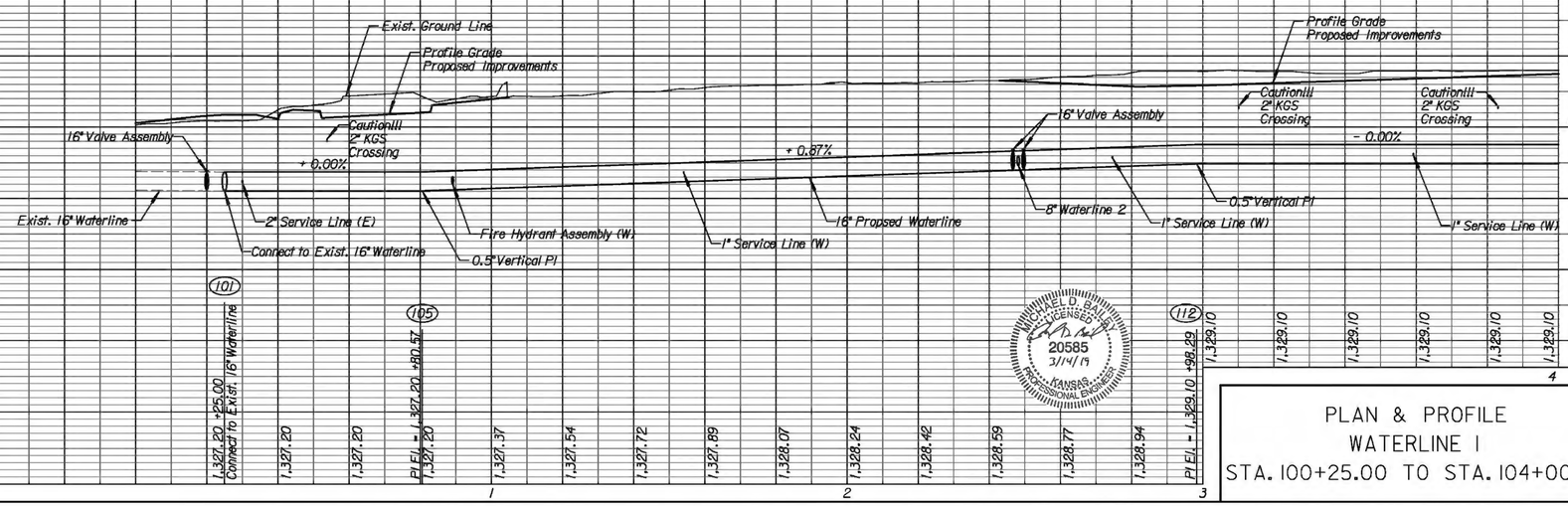
Sta. 102+74.58 Waterline 1
Install 1 - 1" Short Service Line Complete (W)
N: 1690099.9992
E: 1702208.9818

Note:
E.O.P. = Edge of Proposed Pavement

SCALE
20' 0 20' 40'
1"=20'

PLYMOUTH STREET
159TH STREET
OXFORD COURT
MATCHLINE STA. 104+00.00
Exist. R/W
Exist. 16" Waterline
Proposed 2" Service Line
Proposed Storm Sewer
Existing Meter Box to Remain
Remove Meter Assembly and
install straight pipe through Vault
See Sheet 11
Caution!! 2" KGS Crossing
10" Sanitary Sewer Crossing
Const. Limits
Proposed Waterline 1
Proposed Waterline 2
See Sheet 9
Exist. 8" Waterline
Exist. Wall Esmt.
15.5' Waterline to E.O.P.

Utilities shown in the Profile are shown at approximate depths. The Contractor is responsible for field verifying the locations of utilities prior to construction in that area.



MICHAEL D. BAUER
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20585
3/14/19
KANSAS
PROFESSIONAL ENGINEER

PLAN & PROFILE
WATERLINE 1
STA. 100+25.00 TO STA. 104+00.00

DATE	BY	REFERENCES NOTED	REFERENCES CHECKED

Plotted : 5/8/2019
Drawn By : Road
File : c:\transystems\pw_local\transyscorp-pw1\taummell\d0489550\C-WTR-M01-101.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	PI25170021	2019	7	54

LEGEND

Pavement Removal

Tree Removal

Note:
Sideroad entrances and concrete driveways removed for Waterline construction shall be replaced with Temporary Surfacing Material (HMA). Sideroad entrances shall also include Aggregate Base (AB-3)(8").

Gravel driveways removed for Waterline Construction shall be replaced with Temporary Surfacing Material (Aggregate).

All existing 5/8", 3/4", and 1" water meters shall be replaced with new 1" water meters using approved meter gaskets and adaptors. Costs shall be SUBSIDIARY to the long and short service line items.

It is the contractor's option to remove or brick up ends, plug, flow fill and abandon in place existing 16" waterline. Existing 8" waterline can be removed or capped and abandoned in place. Regardless of method, this shall be paid for by the bid item "Pipe Removed".

16" Waterline shall be replaced to the nearest joint and include a minimum 10' transition section. This connection shall not be paid for directly but shall be SUBSIDIARY to other items of the contract.

SCALE 1"=20'

DATE | BY | REFERENCES NOTED | REFERENCES CHECKED

Drawn By : Road
Plotted : 5/8/2019
File : c:\transystems\pw_local\transyscorp-pw1\taummel\d0489550\C-WTR-M01-102.dgn

PLAN & PROFILE
WATERLINE I
STA. 104+00.00 TO STA. 110+40.00

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	PI25I7002I	2019	8	54

LEGEND

▨ Pavement Removal

✕ Tree Removal

Note:
Sideroad entrances and concrete driveways removed for Waterline construction shall be replaced with Temporary Surfacing Material (HMA). Sideroad entrances shall also include Aggregate Base (AB-3)(8").

Gravel driveways removed for Waterline Construction shall be replaced with Temporary Surfacing Material (Aggregate).

It is the contractor's option to remove or brick up ends, plug, flow fill and abandon in place existing 16" waterline. Existing 8" waterline can be removed or capped and abandoned in place. Regardless of method, this shall be paid for by the bid item "Pipe Removed".

16" Waterline shall be replaced to the nearest joint and include a minimum 10' transition section. This connection shall not be paid for directly but shall be SUBSIDIARY to other items of the contract.

SCALE

20' 0 20' 40'

1"=20'

Note:
E.O.P. = Edge of Proposed Pavement

Utilities shown in the Profile are shown at approximate depths. The Contractor is responsible for field verifying the locations of utilities prior to construction in that area.

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KANSAS
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PLAN & PROFILE
WATERLINE 1
STA. 110+40.00 TO STA. 112+38.36

DATE	BY	REFERENCES NOTED	REFERENCES CHECKED

Drawn By : Road
File : c:\transystems\pw_local\transyscorp-pw1\taummel\d0489550\C-WTR-M01-103.dgn
Plotted : 5/8/2019

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	P125170021	2019	9	54

DATE	BY	REFERENCES NOTED	REFERENCES CHECKED

LEGEND

Pavement Removal

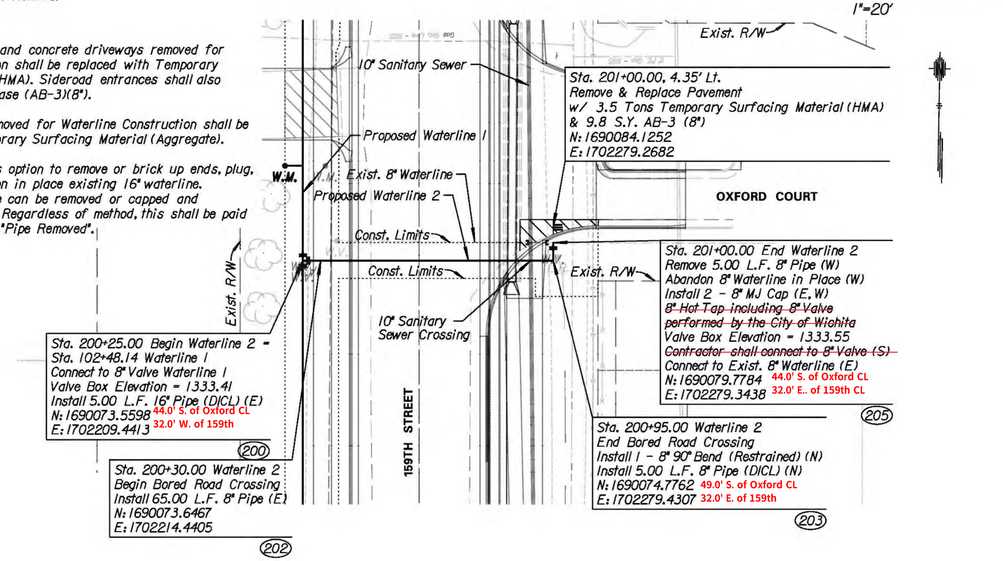
Tree Removal

Note:
Sideroad entrances and concrete driveways removed for Waterline construction shall be replaced with Temporary Surfacing Material (HMA). Sideroad entrances shall also include Aggregate Base (AB-3)(8").

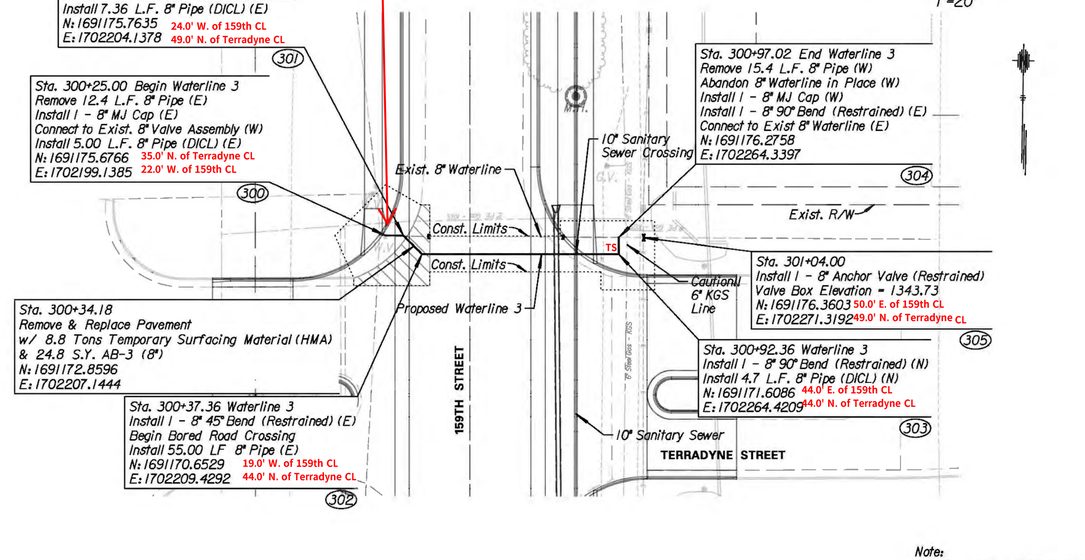
Gravel driveways removed for Waterline Construction shall be replaced with Temporary Surfacing Material (Aggregate).

It is the Contractor's option to remove or brick up ends, plug, flow fill and abandon in place existing 16" waterline. Existing 8" waterline can be removed or capped and abandoned in place. Regardless of method, this shall be paid for by the bid item "Pipe Removed".

SCALE
20' 0 20' 40'
1"=20'

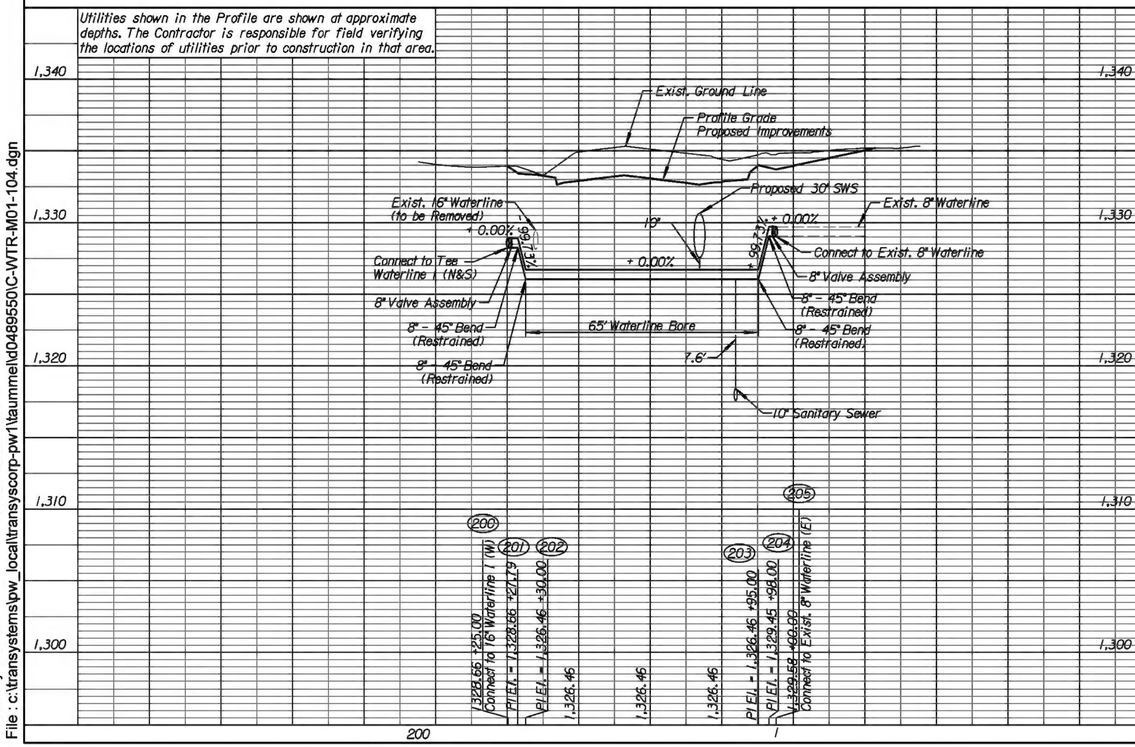


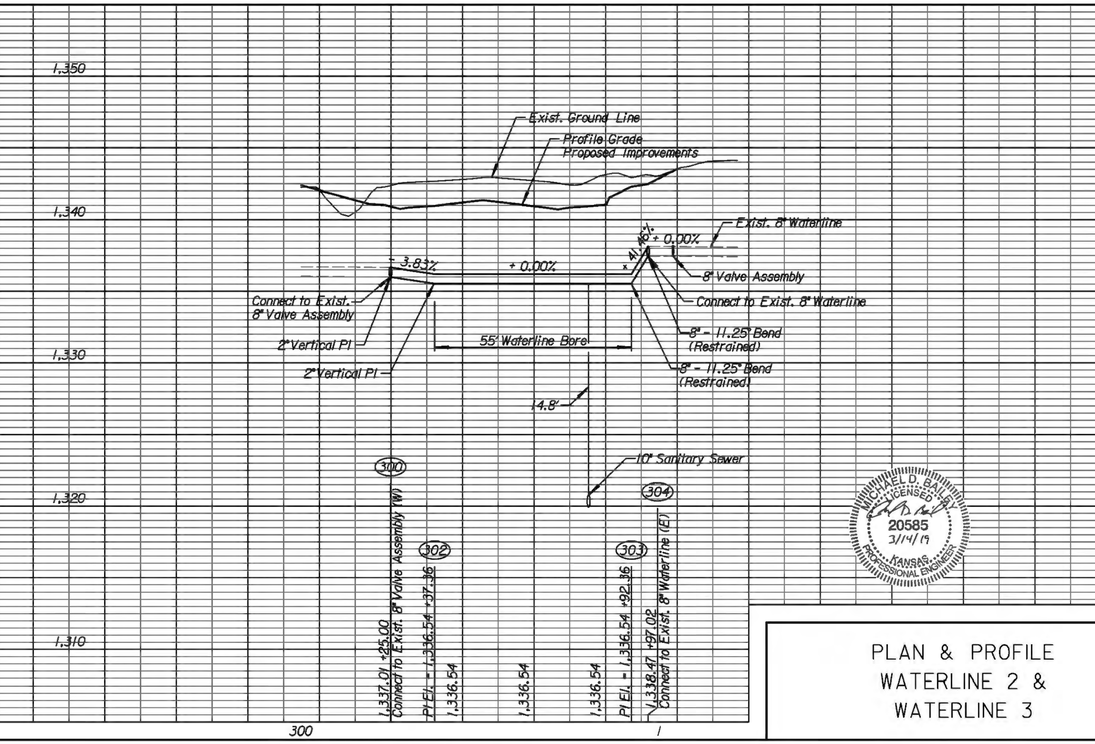
TWO EXISTING VB'S AT NW CORNER OF 159TH E & TERRADYNE.
#1 - 56' N & 27' W OF CENTER LINE
#2 - 44' n & 24' W OF CENTER LINE



Note:
E.O.P. = Edge of Proposed Pavement

Utilities shown in the Profile are shown at approximate depths. The Contractor is responsible for field verifying the locations of utilities prior to construction in that area.





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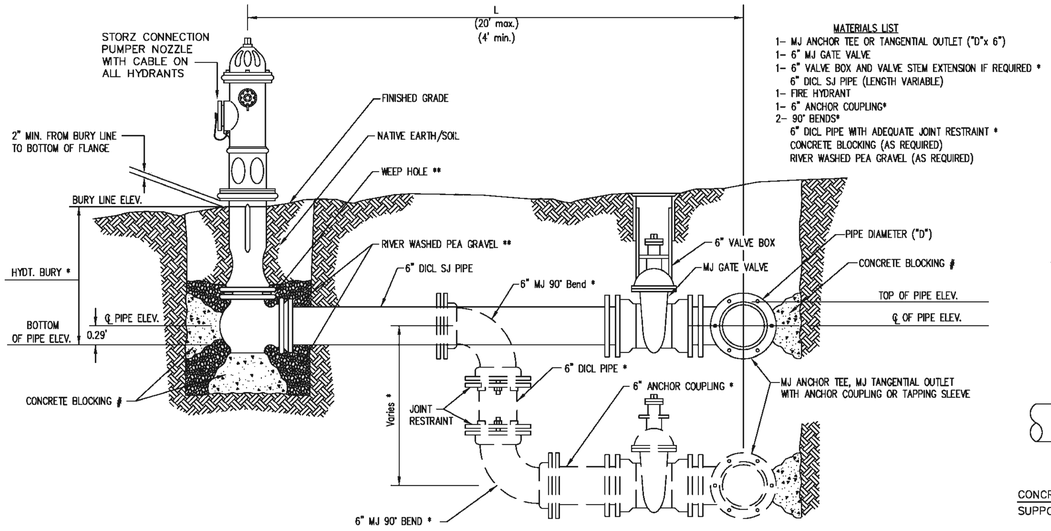
KANSAS
PROFESSIONAL ENGINEER

PLAN & PROFILE
WATERLINE 2 &
WATERLINE 3

Drawn By : Road
File : c:\transystems\pw_local\transyscorp-pw1\taummeil\d0489550\C-WTR-M01-104.dgn
Plotted : 5/8/2019



MATERIALS LIST
1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D"x 6")
1- 6" MJ GATE VALVE
1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED *
6" DICL SJ PIPE (LENGTH VARIABLE)
1- FIRE HYDRANT
1- 6" ANCHOR COUPLING*
2- 90° BENDS*
6" DICL PIPE WITH ADEQUATE JOINT RESTRAINT *
CONCRETE BLOCKING (AS REQUIRED)
RIVER WASHED PEA GRAVEL (AS REQUIRED)

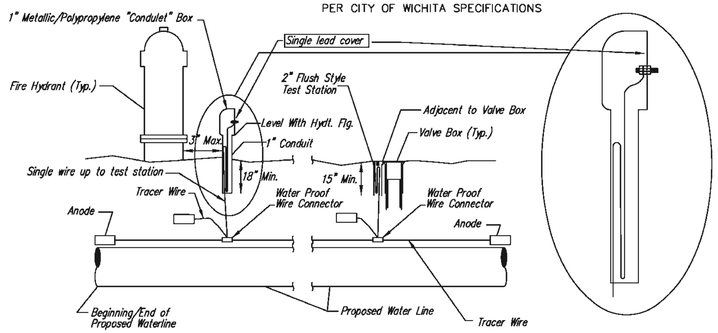
* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2-MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DICL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, OR SIMILAR RESTRAINT BETWEEN 90° BENDS TO SECURE ALL FITTINGS DURING TESTING AND OPERATION. THE CONTRACTOR SHALL PROVIDE A VALVE STEM EXTENSION PER DETAIL THIS SHEET.

** CAUTION: WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

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

FIRE HYDRANT ASSEMBLY

PER CITY OF WICHITA SPECIFICATIONS



TRACER WIRE

Conductive type pipe locator/tracer wire shall be install to locote 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. A waterproof connector shall be used at splice locations. A complete list of approved tracer wire and waterproof connectors can be found on the City of Wichita's website at www.wichita.gov.

WIRE

The tracer wire shall be Blue No. 12 AWG CCS with 45 mil HDPE insulation. 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. Wire connectors shall be installed per manufacturer recommendations. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

TEST STATIONS

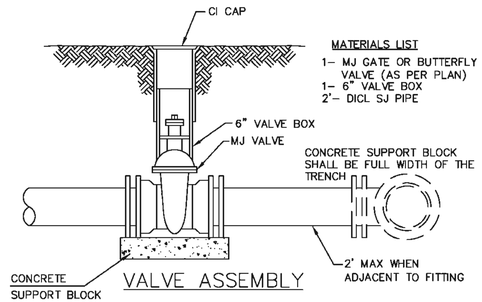
*The test station for fire hydrant application shall be a 1" "conduiet" style station as manufactured by AGRA Industries with a removable solid cover having a single lead extending from the face or approved equal. The "conduit" style test station shall be attached to a 1" rigid galvanized conduit with a minimum length of 36" and plastic end bushing. The flush style shall have the word "WATER" stamped or molded into the lid. The test station for valve applications shall be a 2" flush style test station with wire connector on lid. Model # T2PH7B1LP Handley Industries or CD14*TP SnakePit as manufactured by Copperhead Industries or approved equal. 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 install to allow 12" of wire within the test station. The location of all test stations shall be recorded, and shown in the as-built drawings. Flush style test stations shall not be installed in pavement or sidewalk unless approved by the Engineer. Contractor shall extend tracer wire & move flush mount test station to nearest location out of pavement or sidewalk.*

ANODES

The anodes shall be 3 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes sholl be connected to 12 AWG CCS which shall be extended to the test station.

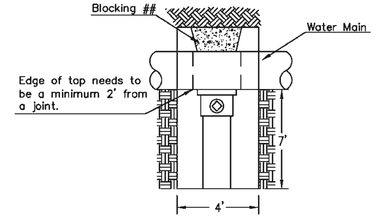
TRACER WIRE DETAIL

COST IS SUBSIDIARY TO PIPE INSTALLATION



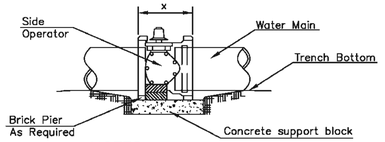
MATERIALS LIST
1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1- 6" VALVE BOX
2'- DICL SJ PIPE

VALVE ASSEMBLY



CITY TAP

When the City of Wichita makes tap, blocking is to be done by Contractor

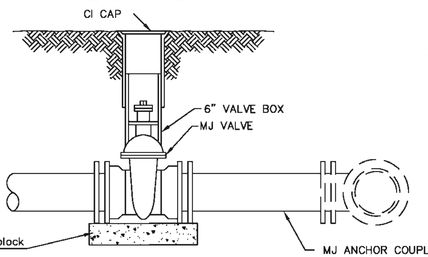


NOTES

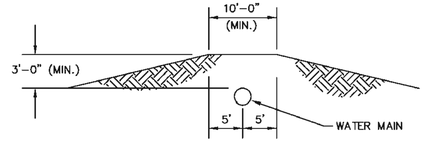
1. This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
2. 6" Valve Box and Cover required per City of Wichita Std. Specifications.
3. Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION

MATERIALS LIST
1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1-MJ ANCHOR COUPLING (12" OR SMALLER)
1-6" VALVE BOX
CONCRETE- SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

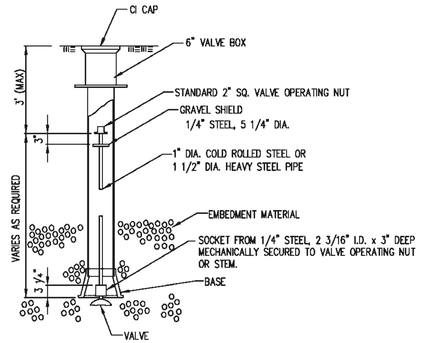


ANCHORED VALVE ASSEMBLY



PROTECTIVE FILL DETAIL

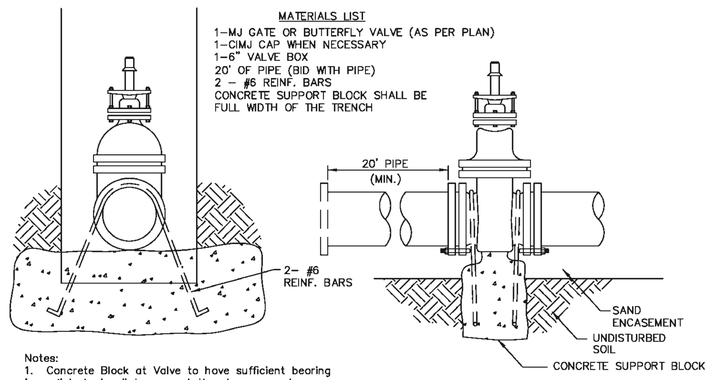
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



VALVE STEM EXTENSION DETAIL

NOTE: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.

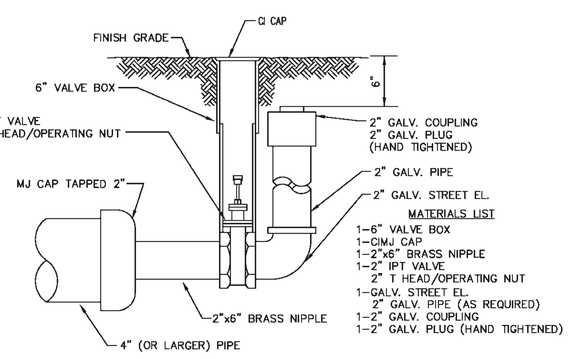
MATERIALS LIST
1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1-CIMJ CAP WHEN NECESSARY
1-6" VALVE BOX
20' OF PIPE (BID WITH PIPE)
2 - #6 REINF. BARS
CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



Notes:
1. Concrete Block at Valve to hove sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
2. The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept cleor of concrete.
3. All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

THRUST AT VALVES	
VALVE	THRUST AT 150 #/in²
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

ANCHORED VALVE ASSEMBLY, SPECIAL



MATERIALS LIST
1-6" VALVE BOX
1-CIMJ CAP
1-2"x6" BRASS NIPPLE
1-2" IPT VALVE
2" T HEAD/OPERATING NUT
1-GALV. STREET EL.
2" GALV. PIPE (AS REQUIRED)
1-2" GALV. COUPLING
1-2" GALV. PLUG (HAND TIGHTENED)

2" BLOWOFF ASSEMBLY

REVISED: OCTOBER 2016

CITY OF WICHITA

PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

MICHAEL D. JANZEN LICENSED 20585 3/14/19 KANSAS PROFESSIONAL ENGINEER

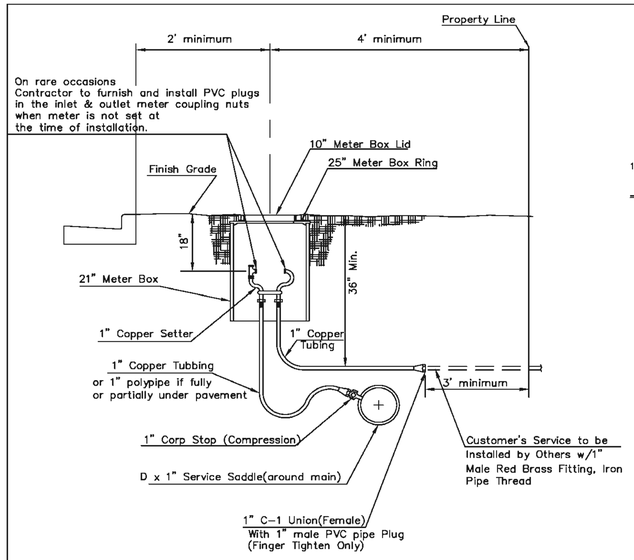
STANDARD WATER ASSEMBLY DETAIL

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
P125170021	2206 PPW	5/8/2019

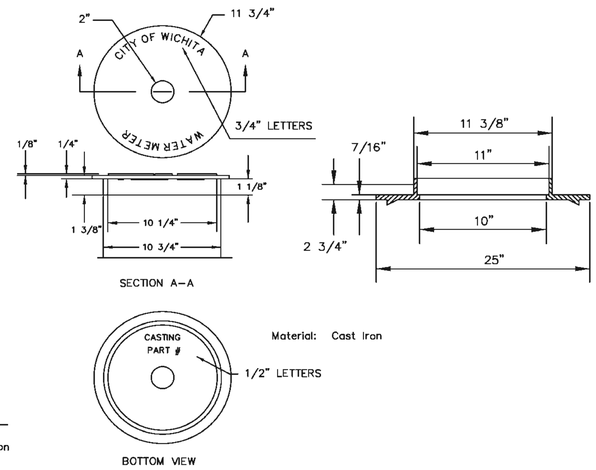
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
10 of 54



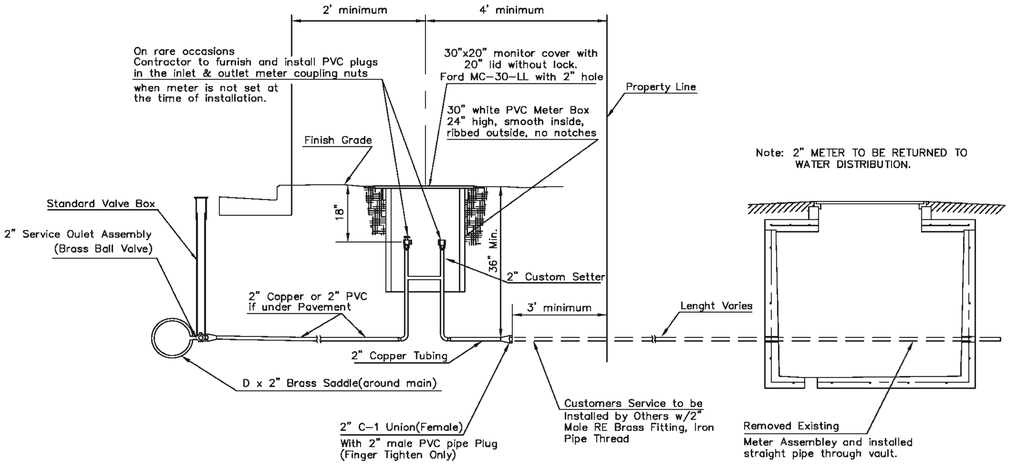
Minimum length of pigtail on consumer side is 36" of copper tubing from meter set.
Bore hole under paving shall be a maximum of 2" in diameter and a minimum of 36" below top of pavement.
Service Saddles are required on all mains.
Meter boxes will be located on each lot to be served, as indicated in the SPECIAL PROVISIONS

TYPICAL 1" METER SETTING



Material: Cast Iron

NOT TRAFFIC RATED
RING & LID FOR 1" METER BOX

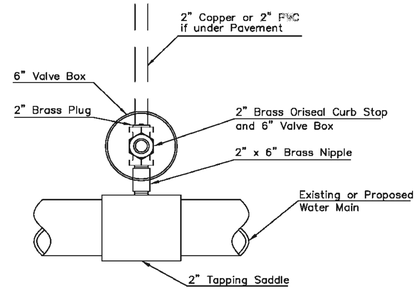


TYPICAL 2" METER SETTING

Note: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.

TYPICAL 2" METER SETTING INVOLVING EXISTING 2" METER VAULT

Note: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



Note: Where the 2" Service Outlet Assembly is to be used to connect a 2" main to another main, the 2" valve shall be a 2" IPT Gate Valve. 2" ball or globe vavles shall not be approved for this use.

2" SERVICE OUTLET ASSEMBLY

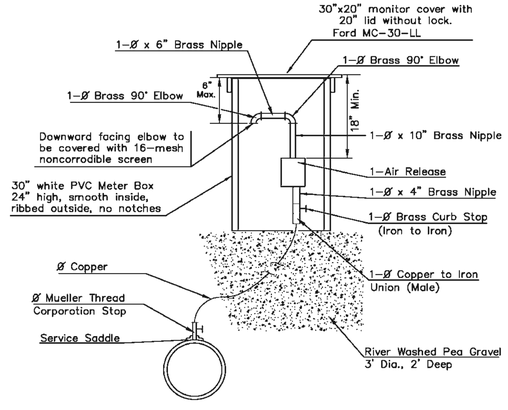
TOP VIEW

1 – Ø Mueller Thread Corporation Stop
– Ø Type "K" Copper Tubing
1 – Ø Copper to Iron Union (Male)
1 – Ø Brass Curb Stop (Iron to Iron)
2 – Øx4" Brass Nipple

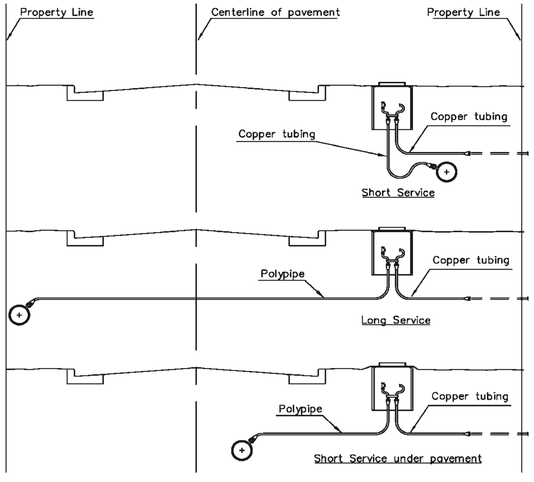
Air Release
2 – Ø Brass Elbows (90°)
1 – 1"x6" Brass Nipple
1 – 30" Monitor Cover
1 – 20" Meter Lid

NOTE:

THE 1"/2" AIR RELEASE ASSEMBLY WILL TYPICALLY BE USED ON WATER MAINS 24" AND SMALLER, AS SPECIFICALLY DESIGNATED IN THE PLANS. COMBINATION AIR RELAEASE ASSEMBLIES WILL BE SPECIFICALLY DESIGNED FOR PROJECTS WITH LARGER MAINS, AND WILL BE INCLUDED IN THE PLANS.



MATERIALS FOR 1" or 2" AIR RELEASE ASSEMBLY
Ø = 1" or 2"



SERVICE TYPES

MICHAEL D. BAILEY
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REVISED: DECEMBER 2018 | TM | BRASS NIPPLE LENGTH TO 10" ON THE 1" OR 2" AIR RELEASE ASSEMBLY

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD WATER SERVICE DETAIL

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
P125170021	2206 PPW	5/8/2019

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
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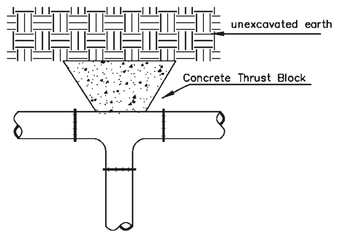
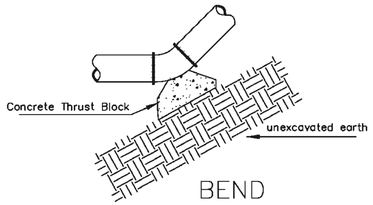
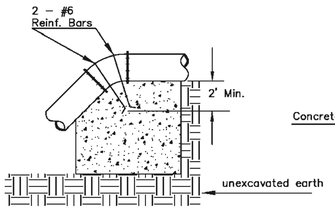


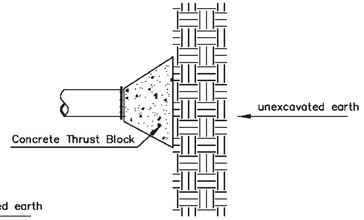
TEE



BEND



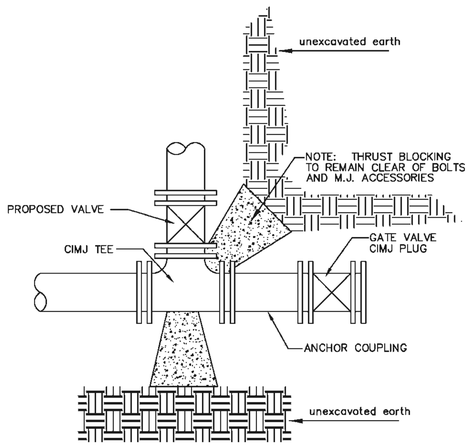
VERTICAL BEND



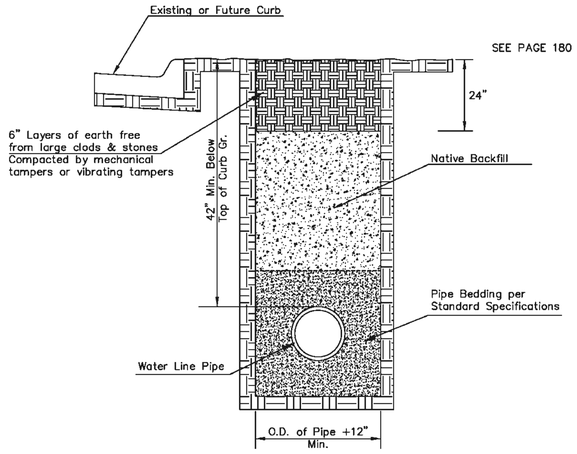
PLUG

PIPE SIZE	THRUST AT FITTINGS IN TONS–AT 150#/IN^{2}P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

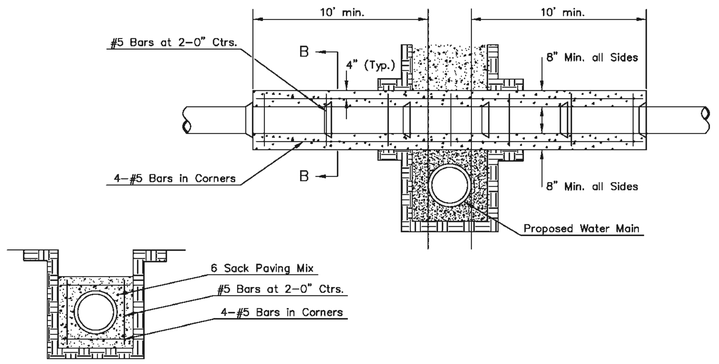
TYPICAL THRUST BLOCKS



KEY BLOCK DETAIL



TRENCH COMPACTION IN ROAD RIGHT–OF–WAY

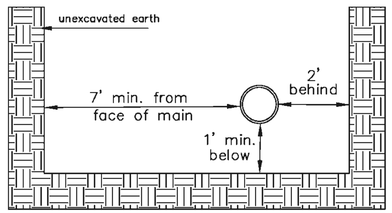


SECTION B–B

Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

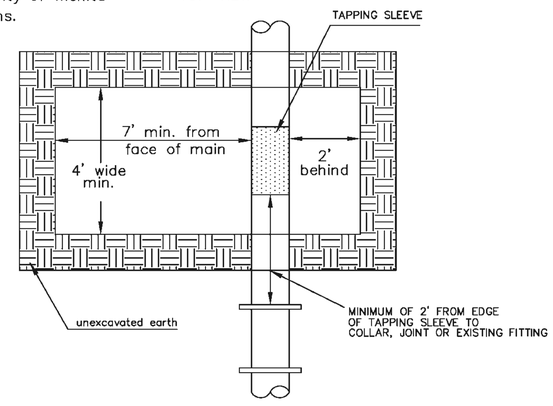
REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER

SIDE VIEW

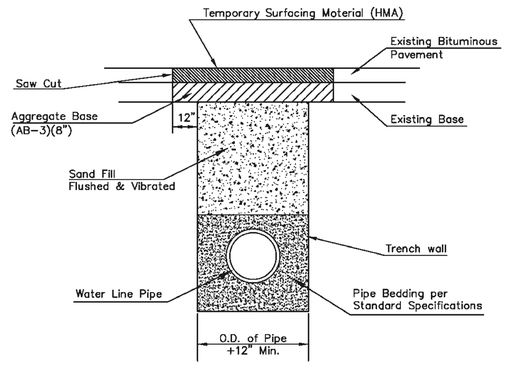


Note: When shoring is required it is to be per The City of Wichita Standard Specifications.

TOP VIEW



EXCAVATION FOR WET TAP



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS

* PLANS GOVERN
UNLESS OTHERWISE NOTED ON PLANS

MICHAEL D. BAILEY LICENSED 20585 3/14/19 KANSAS PROFESSIONAL ENGINEER

REVISED: JULY 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

MISCELLANEOUS WATER DETAILS

CITY ENGINEER
GARY JANZEN, P.E..

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