88985

CONSTRUCTION PLANS FOR

NORTHEAST TRANSMISSION FACILITY - PHASE 1

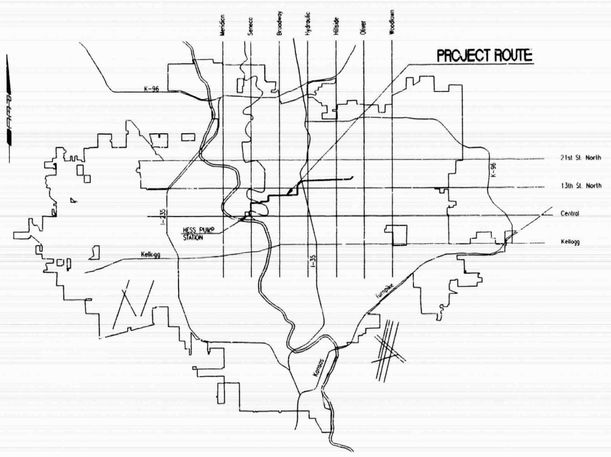
(FROM HESS PUMP STATION TO THE INTERSECTION
OF REGENTS LANE AND SHOCKER DRIVE)

FOR

THE CITY OF WICHITA,

SEDGWICK COUNTY, KANSAS

MICHAEL E. LINDEBAK, P.E.-CITY ENGINEER



LOCATION MAP

Phase 1A sheets 8-14
Contractor: Utility Contractors
Inspector: R. Strothman
4,755 LF 48" RCP

Phase 1B sheets 15-29
Contractor: Wildcat Const.
Inspector: R. Strothman
11,012 LF 48" RCP

Phase 1C sheets 29-40
Contractor: Wildcat Const.
Inspector: R. Strothman
9,642 LF RCP

AS BUILT
R. LOOMIS
12/20/01

INDEX OF SHEETS

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	WATERLINE KEY MAP
SHEET NO. 3	HORIZONTAL CONTROL MAP
SHEET NO. 4	VERTICAL CONTROL MAP
SHEET NO. 5-7	WATERLINE DETAILS
SHEET NO. 8-40	PLAN/PROFILE
SHEET NO. 41	EROSION CONTROL AND SEDIMENT BARRIER DETAILS
SHEET NO. 41A	STANDARD MANHOLE DETAILS
SHEET NO. 41B	MANHOLE FRAME AND COVER DETAILS

OCA # 758211

CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

APRIL 1998

PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

WICHITA, KANSAS

MICHAEL D. KRAETZ
13944
4/20/98
KANSAS
PROFESSIONAL ENGINEER

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CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

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CONSTRUCTION PLANS FOR

WATER DISTRIBUTION SYSTEM IMPROVEMENTS

IN

THE CITY OF WICHITA,

SEDGWICK COUNTY, KANSAS

MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER

NORTHEAST TRANSMISSION FACILITY - PHASE 1

OCA # 758211

CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

AND

GROUP 6 ("MIDTOWN - PHASE 1")

CITY OF WICHITA

APRIL 1998

PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS,P.A.

ENGINEERS

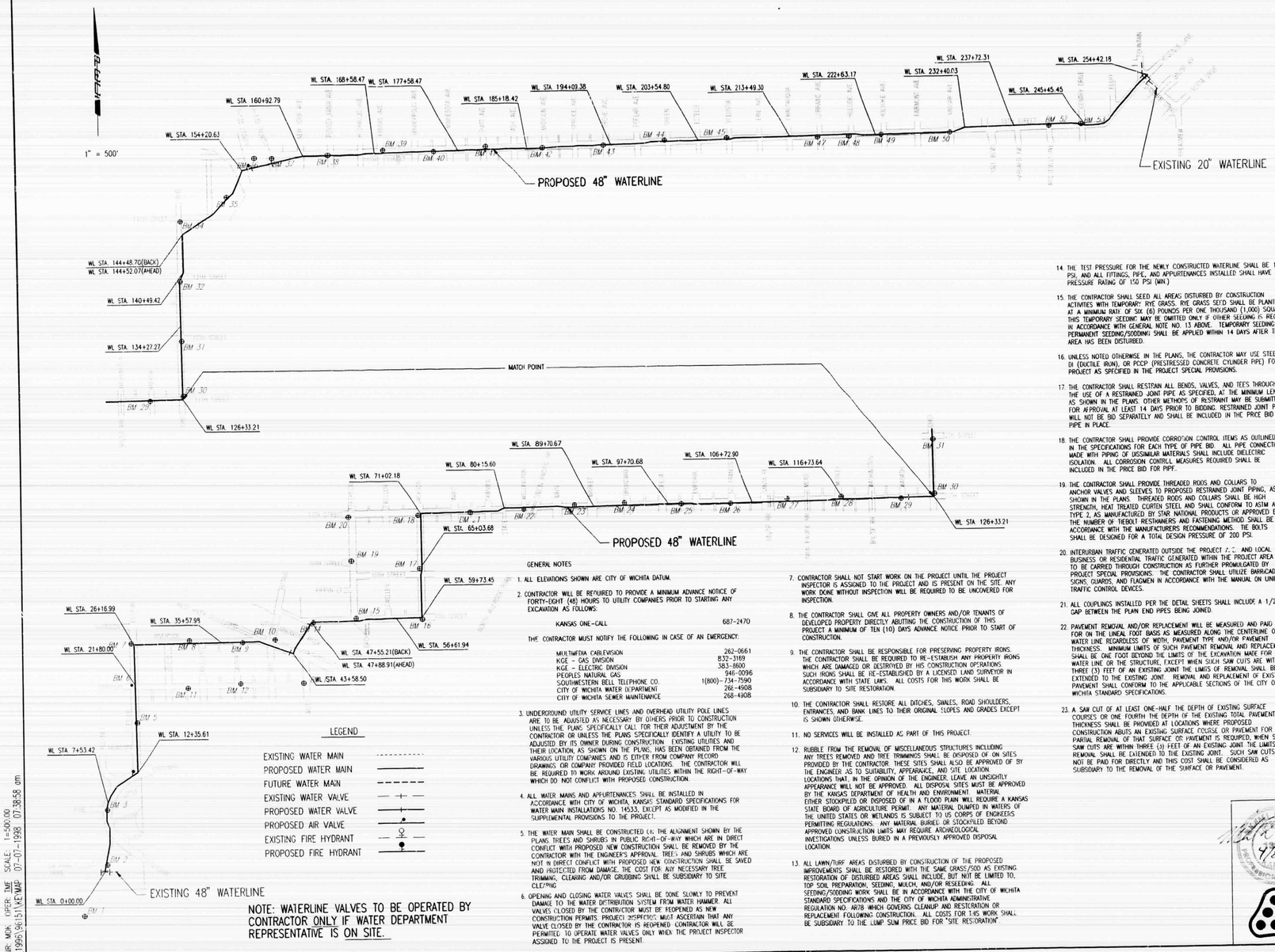
WICHITA, KANSAS





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NOTE: WATERLINE VALVES TO BE OPERATED BY CONTRACTOR ONLY IF WATER DEPARTMENT REPRESENTATIVE IS ON SITE.

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- FUTURE WATER MAIN
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- PROPOSED AIR VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT

GENERAL NOTES

1. ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM.
2. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

   KANSAS ONE-CALL 687-2470

   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

MULTIMEDIA CABLEVISION	262-0661
KGE - GAS DIVISION	832-3169
KGE - ELECTRIC DIVISION	383-8600
PEOPLES NATURAL GAS	946-0096
SOUTHWESTERN BELL TELEPHONE CO.	1(800)-734-7590
CITY OF WICHITA WATER DEPARTMENT	268-4908
CITY OF WICHITA SEWER MAINTENANCE	268-4908

3. UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES 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, HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
4. ALL WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF WICHITA, KANSAS STANDARD SPECIFICATIONS FOR WATER MAIN INSTALLATIONS NO. 14533, EXCEPT AS MODIFIED IN THE SUPPLEMENTAL PROVISIONS TO THE PROJECT.
5. THE WATER MAIN SHALL BE CONSTRUCTED ON THE ALIGNMENT SHOWN BY THE PLANS. 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 ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE. THE COST FOR ANY NECESSARY TREE TRIMMING, CLEARING AND/OR GRUBBING SHALL BE SUBSIDIARY TO SITE CLEARING.
6. OPENING AND CLOSING 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. PROJECT INSPECTOR MUST ASSERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.
7. 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.
8. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH 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. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO SITE RESTORATION.
10. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES, AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT IS SHOWN OTHERWISE.
11. NO SERVICES WILL BE INSTALLED AS PART OF THIS PROJECT.
12. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED AND TREE TRIMMINGS SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED OF BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, 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 OF 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 US CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
13. ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOD AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SEEDING, MULCH, AND/OR RESEEDING. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR78 WHICH GOVERNS CLEANUP AND RESTORATION OF REPLACEMENT FOLLOWING CONSTRUCTION. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".
14. THE TEST PRESSURE FOR THE NEWLY CONSTRUCTED WATERLINE SHALL BE 150 PSI, AND ALL FITTINGS, PIPE, AND APPURTENANCES INSTALLED SHALL HAVE A PRESSURE RATING OF 150 PSI (MIN.)
15. THE CONTRACTOR SHALL SEED ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WITH TEMPORARY RYE GRASS. RYE GRASS SEED SHALL BE PLANTED AT A MINIMUM RATE OF SIX (6) POUNDS PER ONE THOUSAND (1,000) SQUARE FEET. THIS TEMPORARY SEEDING MAY BE OMITTED ONLY IF OTHER SEEDING IS REQUIRED IN ACCORDANCE WITH GENERAL NOTE NO. 13 ABOVE. TEMPORARY SEEDING OR PERMANENT SEEDING/SODDING SHALL BE APPLIED WITHIN 14 DAYS AFTER THE AREA HAS BEEN DISTURBED.
16. UNLESS NOTED OTHERWISE IN THE PLANS, THE CONTRACTOR MAY USE STEEL, DI (DUCTILE IRON), OR PCCP (PRESTRESSED CONCRETE CYLINDER PIPE) FOR THIS PROJECT AS SPECIFIED IN THE PROJECT SPECIAL PROVISIONS.
17. THE CONTRACTOR SHALL RESTRAIN ALL BENDS, VALVES, AND TEES THROUGH THE USE OF A RESTRAINED JOINT PIPE AS SPECIFIED, AT THE MINIMUM LENGTHS AS SHOWN IN THE PLANS. OTHER METHODS OF RESTRAINT MAY BE SUBMITTED FOR APPROVAL AT LEAST 14 DAYS PRIOR TO BIDDING. RESTRAINED JOINT PIPE WILL NOT BE BID SEPARATELY AND SHALL BE INCLUDED IN THE PRICE BID FOR PIPE IN PLACE.
18. THE CONTRACTOR SHALL PROVIDE CORROSION CONTROL ITEMS AS OUTLINED IN THE SPECIFICATIONS FOR EACH TYPE OF PIPE BID. ALL PIPE CONNECTIONS MADE WITH PIPING OF DISSIMILAR MATERIALS SHALL INCLUDE DIELECTRIC ISOLATION. ALL CORROSION CONTROL MEASURES REQUIRED SHALL BE INCLUDED IN THE PRICE BID FOR PIPE.
19. THE CONTRACTOR SHALL PROVIDE THREADED RODS AND COLLARS TO ANCHOR VALVES AND SLEEVES TO PROPOSED RESTRAINED JOINT PIPING, AS SHOWN IN THE PLANS. THREADED RODS AND COLLARS SHALL BE HIGH STRENGTH, HEAT TREATED CORTEN STEEL AND SHALL CONFORM TO ASTM A242, TYPE 2, AS MANUFACTURED BY STAR NATIONAL PRODUCTS OR APPROVED EQUAL. THE NUMBER OF TIEBOLT RESTRAINERS AND FASTENING METHOD SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. TIE BOLTS SHALL BE DESIGNED FOR A TOTAL DESIGN PRESSURE OF 200 PSI.
20. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT R.C. AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS. THE CONTRACTOR SHALL UTILIZE BARRICADES, SIGNS, GUARDS, AND FLAGMEN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
21. ALL COUPLINGS INSTALLED PER THE DETAIL SHEETS SHALL INCLUDE A 1/2" GAP BETWEEN THE PLAIN END PIPES BEING JOINED.
22. PAVEMENT REMOVAL AND/OR REPLACEMENT WILL BE MEASURED AND PAID FOR ON THE LINEAL FOOT BASIS AS MEASURED ALONG THE CENTERLINE OF THE WATER LINE REGARDLESS OF WIDTH, PAVEMENT TYPE AND/OR PAVEMENT THICKNESS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE ONE FOOT BEYOND THE LIMITS OF THE EXCAVATION MADE FOR THE WATER LINE OR THE STRUCTURE, EXCEPT WHEN SUCH SAW CUTS ARE WITHIN THREE (3) FEET OF AN EXISTING JOINT THE LIMITS OF REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS.
23. A SAW CUT OF AT LEAST ONE-HALF THE DEPTH OF EXISTING SURFACE COURSES OR ONE FOURTH THE DEPTH OF THE EXISTING TOTAL PAVEMENT THICKNESS SHALL BE PROVIDED AT LOCATIONS WHERE PROPOSED CONSTRUCTION ABUTS AN EXISTING SURFACE COURSE OR PAVEMENT FOR WHICH PARTIAL REMOVAL OF THAT SURFACE OR PAVEMENT IS REQUIRED, WHEN SUCH SAW CUTS ARE WITHIN THREE (3) FEET OF AN EXISTING JOINT THE LIMITS OF REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT. SUCH SAW CUTS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE REMOVAL OF THE SURFACE OR PAVEMENT.
24. THE CROSSING OF THE LITTLE ARKANSAS RIVER AND I-135 DRAINAGE CANAL SHALL CONFORM WITH THE FOLLOWING AS DIRECTED BY THE STORM WATER MANAGEMENT DIVISION OF THE CITY OF WICHITA:

    A. ANY BANKLINE DISTURBED DURING CONSTRUCTION MUST BE RE-ESTABLISHED IMMEDIATELY FOLLOWING PROJECT COMPLETION WITH FINISH GRADING. CORPS APPROVED STABILIZATION MATERIAL, AND BANKS AND FORESHORES MUST BE SEEDED WITH CORPS APPROVED VEGETATION (50/50 FESCUE/BROME MIX).

    B. APPROVAL FROM ALL OTHER FEDERAL AND STATE AGENCIES (INCLUDING THE KC DISTRICT CORPS OF ENGINEERS FOR SECTION 404 PERMITTING) MUST BE OBTAINED PRIOR TO CONSTRUCTION.

    C. THE FLOOD CONTROL SUPERVISOR MUST BE NOTIFIED, AT 268-4095, FIVE (5) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.

    D. UPON PROJECT COMPLETION PROVIDE A SET OF AS-BUILT DRAWINGS FOR THE PROJECT TO THE TULSA DISTRICT CORPS OF ENGINEERS AND A SET TO THE CITY OF WICHITA STORM WATER MANAGEMENT OFFICE.

    E. PROVIDE SEDIMENT BARRIERS AT THE CROSSING OF THE LITTLE ARKANSAS RIVER AND THE I-135 DRAINAGE CANAL IN ACCORDANCE WITH THE EROSION CONTROL DETAIL, SHEET 41.
25. THE CONTRACTOR SHALL SUBMIT AN APPLICATION TO THE KANSAS DEPARTMENT OF TRANSPORTATION (KDOT) FOR A "HIGHWAY PERMIT AGREEMENT FOR USE OF RIGHT-OF-WAY". COPIES OF THE KDOT APPROVED PERMIT SHALL BE DELIVERED TO THE ENGINEER PRIOR TO BEGINNING ANY WORK NEAR K-15 HIGHWAY. HIGHWAY PERMIT FEES, IF ANY, SHALL BE BORNE BY THE CONTRACTOR. PERMIT FORMS FOR THIS PROJECT ARE AVAILABLE FROM THE KDOT OFFICE LISTED BELOW:

    KANSAS DEPARTMENT OF TRANSPORTATION
    3700 E. 45TH NORTH
    WICHITA, KS 67220
    (316) 744-1271
    MR. BRAD RAYMOND
    UTILITY COORDINATOR
26. PRIOR TO BEGINNING ANY WORK WITHIN BN-SF OR UNION PACIFIC RIGHT-OF-WAY THE CONTRACTOR MUST OBTAIN A COPY OF THE APPROVED APPLICATIONS FOR CROSSING THE RAILROAD TRACKS FROM THE ENGINEER. THE CONTRACTOR SHALL ALSO CONTACT THE RAILROAD COMPANY PERSONNEL AS SHOWN ON THE APPROVED APPLICATIONS PRIOR TO THE START OF CONSTRUCTION TO INFORM THEM OF THE PROPOSED CONSTRUCTION SCHEDULE AND TO REQUEST RAILROAD FLAGMEN. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE APPROVED APPLICATION AT NO ADDITIONAL COST TO THE PROJECT.

    MS. KELLY WOODY
    CONTRACT SPECIALIST
    CATELLUS MANAGEMENT CORPORATION
    (FOR BURLINGTON NORTHERN & SANTA FE RAILWAY COMPANY)
    4545 FULLER DRIVE, SUITE 105
    IRVING, TEXAS 75038
    (972) 719-6161

    MS. MARY HAUSCHILD
    CONTRACT REPRESENTATIVE
    UNION PACIFIC RAILROAD COMPANY
    1416 DODGE STREET, WP001
    OMAHA, NEBRASKA 68179-1100
    (402) 997-3642
    (FOLDER NO. 1611-94)

SCHEDULE OF SHEETS	
WATERLINE STA 0+00.00 TO WATERLINE STA. 7+53.42	SHEET NO. 8
WATERLINE STA. 7+53.42 TO WATERLINE STA. 12+35.61	SHEET NO. 9
WATERLINE STA. 12+35.61 TO WATERLINE STA. 21+80.00	SHEET NO. 10
WATERLINE STA. 21+80.00 TO WATERLINE STA. 26+16.99	SHEET NO. 11
WATERLINE STA. 26+16.99 TO WATERLINE STA. 35+57.99	SHEET NO. 12
WATERLINE STA. 35+57.99 TO WATERLINE STA. 43+58.50	SHEET NO. 13
WATERLINE STA. 43+58.50 TO WATERLINE STA. 47+55.21(BACK)	SHEET NO. 14
WATERLINE STA. 47+88.91(AHEAD) TO WATERLINE STA. 56+61.94	SHEET NO. 15
WATERLINE STA. 56+61.94 TO WATERLINE STA. 59+73.45	SHEET NO. 17
WATERLINE STA. 59+73.45 TO WATERLINE STA. 65+03.68	SHEET NO. 17
WATERLINE STA. 65+03.68 TO WATERLINE STA. 71+02.18	SHEET NO. 18
WATERLINE STA. 71+02.18 TO WATERLINE STA. 80+15.60	SHEET NO. 19
WATERLINE STA. 80+15.60 TO WATERLINE STA. 89+70.67	SHEET NO. 20
WATERLINE STA. 89+70.67 TO WATERLINE STA. 97+70.68	SHEET NO. 21
WATERLINE STA. 97+70.68 TO WATERLINE STA. 106+72.90	SHEET NO. 22
WATERLINE STA. 106+72.90 TO WATERLINE STA. 116+73.64	SHEET NO. 23
WATERLINE STA. 116+73.64 TO WATERLINE STA. 126+33.21	SHEET NO. 24
WATERLINE STA. 126+33.21 TO WATERLINE STA. 134+27.27	SHEET NO. 25
WATERLINE STA. 134+27.27 TO WATERLINE STA. 140+49.42	SHEET NO. 26
WATERLINE STA. 140+49.42 TO WATERLINE STA. 144+48.70(BACK)	SHEET NO. 27
WATERLINE STA. 144+52.07(AHEAD) TO WATERLINE STA. 154+20.63	SHEET NO. 28
WATERLINE STA. 154+20.63 TO WATERLINE STA. 160+92.79	SHEET NO. 29
WATERLINE STA. 160+92.79 TO WATERLINE STA. 168+58.47	SHEET NO. 30
WATERLINE STA. 168+58.47 TO WATERLINE STA. 177+58.47	SHEET NO. 31
WATERLINE STA. 177+58.47 TO WATERLINE STA. 185+18.42	SHEET NO. 32
WATERLINE STA. 185+18.42 TO WATERLINE STA. 194+09.38	SHEET NO. 33
WATERLINE STA. 194+09.38 TO WATERLINE STA. 203+54.80	SHEET NO. 34
WATERLINE STA. 203+54.80 TO WATERLINE STA. 213+49.30	SHEET NO. 35
WATERLINE STA. 213+49.30 TO WATERLINE STA. 222+63.17	SHEET NO. 36
WATERLINE STA. 222+63.17 TO WATERLINE STA. 232+40.03	SHEET NO. 37
WATERLINE STA. 232+40.03 TO WATERLINE STA. 237+72.31	SHEET NO. 38
WATERLINE STA. 237+72.31 TO WATERLINE STA. 245+45.45	SHEET NO. 39
WATERLINE STA. 245+45.45 TO WATERLINE STA. 254+42.18	SHEET NO. 40

No.	Revision	By	Date

CITY OF WICHITA, KANSAS
MICHAEL F. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE KEY MAP

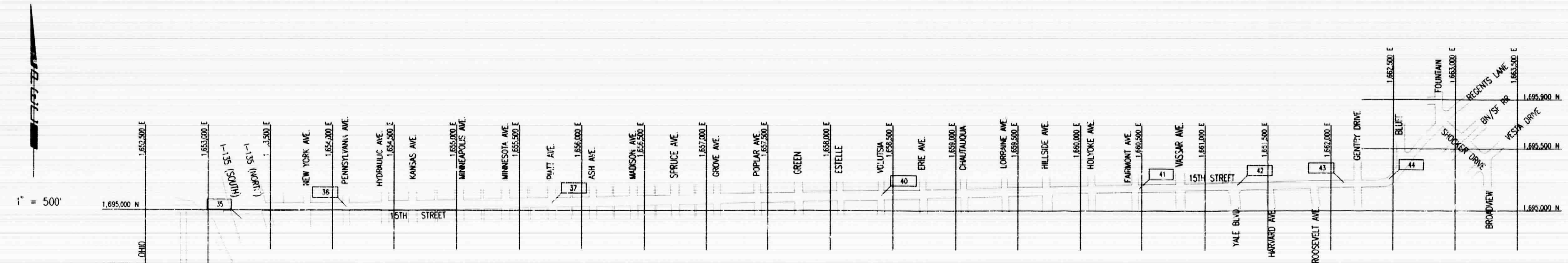
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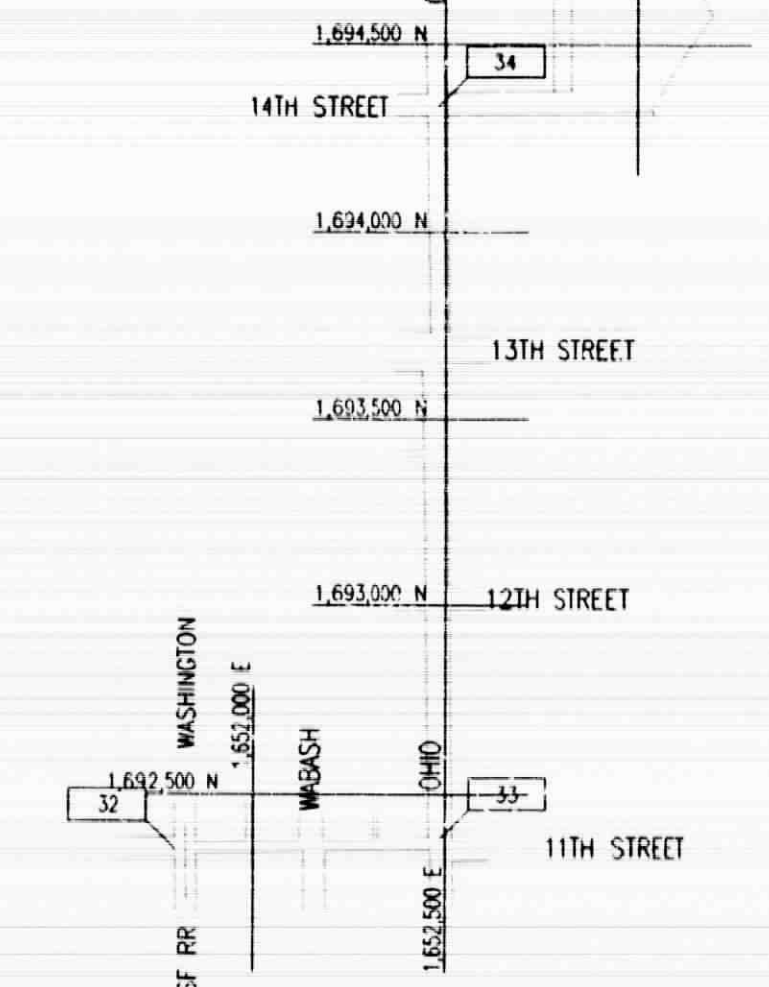
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

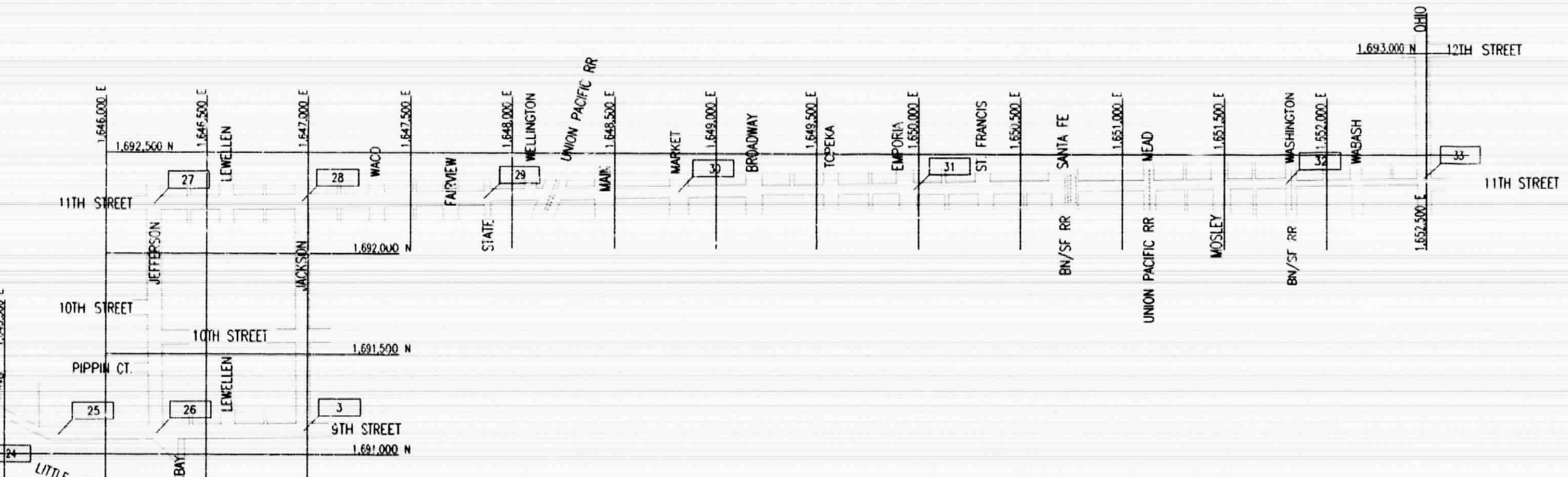
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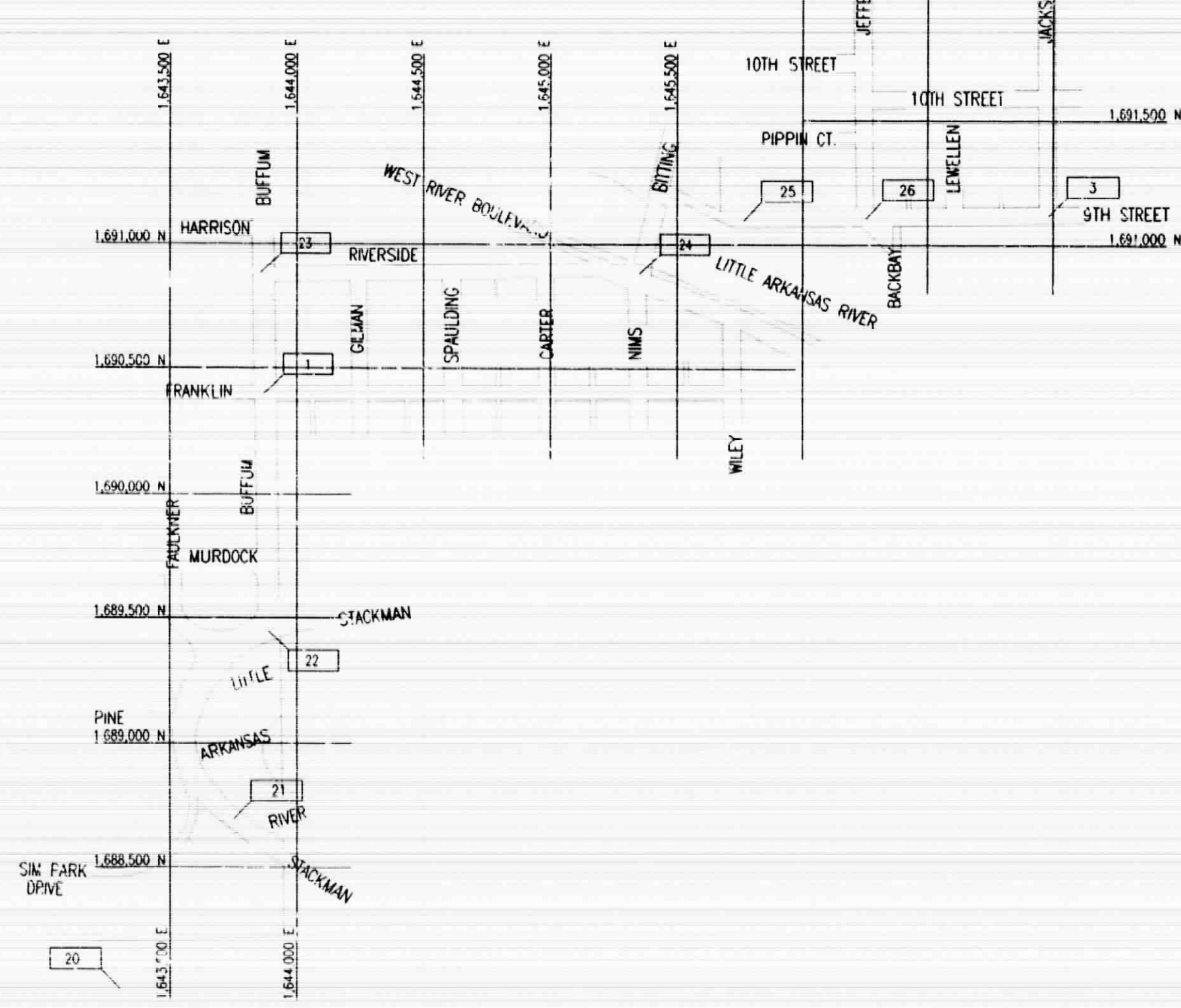
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Pt. No. 1
N – 1,690,398.631 E – 1,643,869.534
PK nail West side of Buffum @ approx. ℄ of Franklin St.
13.30' W to back of curb on Buffum St.
20.00' N to back of curb on Franklin St.
46.53' E to I.P. in Thimble @ ℄ Franklin St.

Pt. No. 2
N – 1,690,404.757 E – 1,645,361.211
1" I.P. in Thimble @ ℄ Franklin and Nims Streets
(No Ties Taken)

Pt. No.3 = B.L. STA. 125+67.47
N – 1,691,118.850 E – 1,646,980.940
3/4" I.P. in Thimble @ ℄ Jackson and 9th Streets
(No Ties Taken)

Pt. No. 20
N – 1,688,012.985 E – 1,643,306.559
PK nail in conc. joint of sidewalk West side parking over water reservoir South of Hess Pump Station
4.45' NW to center bolt E side of parking lot light pole
64.70' N to SW corner of brick wall to elect. sub station
75.48' S to Chiseled "+" in NE corner 11' x 8' conc. vault

Pt. No. 21
N – 1,688,693.243 E – 1,643,746.872
Chiseled "+" in ℄ of sidewalk North of island @ intersection of Sim Park Dr. and Stackman St.
98.26' SE to Top center of 8" conc. square guard post with chain
52.43' NW to Top center of 8" conc. square guard post with chain

Pt. No. 22
N – 1,689,446.616 E – 1,643,888.811
Chiseled "+" SW corner inlet South side intersection Buffum and Stackman
22.00' N to ℄ of Stackman Dr.
3.00' E to ℄ of Buffum St. Extended South
21.95' E to Top center 8" square guard post

Pt. No. 23
N – 1,690,884.413 E – 1,643,859.697
PK nail and shiner in West side Buffum St. @ N curb line Riverside St.
12.03' W to back of curb on Buffum St.
7.00' N to back of curb on Riverside St.
36.90 NE to Conc. tele. marker post @ NE corner Buffum St. and Riverside St

Pt. No. 24
N – 1,690,882.383 E – 1,645,360.063
PK nail and shiner South end of ℄ stripe Nims bridge
50.44' NW to SE Corner of conc. post @ S end hand rail to bridge
40.93' NE to SW corner of conc. post @ S end hand rail to bridge
70.45' SW to NE corner Conc. tele. marker post

Pt. No. 25
N – 1,691,097.883 E – 1,645,766.632
PK nail in ℄ of 9th at PT curve from Nims St.
15.33' N to Back of curb N side 9th St. @ E end of curve E of Nims St.
15.84' S to Back of curb S side 9th St. @ E end of curve E of Nims
57.85' NW to Nail and shiner S face of 20" oak in park

Pt. No. 26
N – 1,691,105.829 E – 1,646,248.914
3/4" I.P. and thimble at ℄ Jefferson and 9th Streets
26.68' NW to Nail shiner NE face of light pole
23.94' NE to Center of Chiseled "◻" bench mark #15
60.95' SW to Top center of North Westerly stone column

Pt. No 27
N – 1,692,245.872 E – 1,646,236.378
3/4" I.P. and thimble at ℄ Jefferson and 11th Streets
45.69' SW to E. bolt on highline pole flange
40.20' NW to Top center of fire hydrant
49.85' NE to Corner of 6' cedar fence

Pt. No. 28
N – 1,692,258.590 E – 1,646,968.412
3/4" I.P. and thimble at ℄ Jackson and 11th Streets
42.59' NE to Top center of fire hydrant
46.75' NW to Corner 6' retaining wall
49.70' SW to Corner post chainlink fence

Pt. No. 29
N – 1,692,274.933 E – 1,647,864.732
3/4" I.P. and thimble West side of State and 11th Streets
48.95' SW to NE corner of brick house #303
20.80' S. to Top center of 8" guard post
27.60' NE to SW corner of 2' x 2' storm drain grate

Pt. No. 30
N – 1,692,308.956 E – 1,648,818.534
3/4" I.P. and thimble at ℄ of Market and 11th Streets
49.60' SW to Top center of fire hydrant
55.65' NW to 6' steel fence corner post
37.88' NE to Center school zone flashing light

Pt. No. 31
N – 1,692,321.745 E – 1,649,976.139
PK nail 9' North of curb at SE corner of Emporia and 11th Streets
39.90' SE to NW corner of brick building
75.78' NW to top center of fire hydrant
25.15' N to steel stop sign post

Pt. No. 32
N – 1,692,353.447 E – 1,651,798.501
3/4" I.P. and thimble at West line of Washington and 11th Streets
18.45' SSW to NE bolt on rail road signal base
28.39' E to center of W rail of rail road
24.93' N to Corner of 6' cedar fence

Pt. No. 33
N – 1,692,383.159 E – 1,652,488.116
Chiseled "+" at North line of 11th and Ohio Streets
16.45' E to Center of chiseled "◻" = Bench Mark #30
52.64' SW to Top center of fire hydrant
49.64' SE to Corner of 4' chainlink fence

Pt. No. 34
N – 1,694,336.607 E – 1,652,483.355
3/4" I.P. and thimble at Ohio and 14th Streets
43.50' NW to Corner of 8' woven wire fence
15.68' N to Back of curb of median
34.59' SW to Back of curb on Ohio St. at W edge of wheel chair ramp

Pt. No. 35
N – 1,694,928.107 E – 1,653,268.260
PK nail in ℄ of bike path West side of canal approx. 90' South of ℄ of 15th Street
60.71' NE to Center of chiseled "◻" = Bench Mark #36
30.69' SE to NW corner of 3' x 3' storm drain inlet
30,84' SE to NE corner of 3' x 3' storm drain inlet

Pt. No. 36
N – 1,695,027.195 E – 1,654,116.307
3/4" I.P. and thimble at ℄ of Pennsylvania and 15th Streets
31.27' NW to PK nail and shiner S face of power pole
40.72' SW to Top center bolt of fire hydrant
39.40' NE to SE corner of curb inlet

Pt. No. 37
N – 1,695,065.210 E – 1,655,760.953
1" I.P. and thimble at ℄ of Piatt and 15th Streets
59.89' NNW to Top center bolt of fire hydrant
35.70' NNE to SE corner of curb inlet
40.21' SW to PK nail and shiner E face of power pole

Pt. No. 40
N – 1,695,126.805 E – 1,658,407.421
3/4" I.P. and thimble at Volutsia and 15th Streets
32.19' SW to PK nail N face of power pole
35.98' SE to Top center bolt of fire hydrant
34.52' NW to SW corner curb inlet

Pt. No. 41
N – 1,695,181.554 E – 1,660,478.706
#4 bar and thimble at East line of Fairmont and 15th Streets
60.48' SW to Top center bolt of fire hydrant
17.59' NNE to Back of curb 15th St. at E side of wheel chair ramp
53.10' ESE to PK nail N face of power pole

Pt. No. 42
N – 1,695,209.786 E – 1,661,258.546
Chiseled "+" West bound lane of 15th at East end of East Return Yale Blvd.
4.44' N to Back of curb 15th St.
72.30' SW to Top center bolt of fire hydrant
38.00' SE to SW corner curb inlet

Pt. No. 43
N – 1,695,229.251 E – 1,662,097.857
Chiseled "+" West bound lane of 15th St. approx. 125' W of ℄ Gentry, 0.50' West of joint
4.35' N to back of curb of 15th St.
107.62' ENE to Top center bolt of fire hydrant
63.45' SW to Corner of 6' cedar fence

Pt. No. 44
N – 1,695,256.040 E – 1,662,467.638
Chiseled "+" on Back of curb North side Regents St. approx. 240' East of ℄ Gentry Street
72.07' WNW to Corner post of chain link fence
115.82' SSW to NW corner of brick house 3917 E 15th St.
93.08' ENE to SW corner of brick house 3929 E 15th St.

DSNR: MDK OPER: TDS SCALE: 1=500.00
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No.	Revision	By	Date

MICHAEL D. KELSEY LICENSED 13944 4/20/98 KANSAS PROFESSIONAL ENGINEER

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. – CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY – PHASE 1

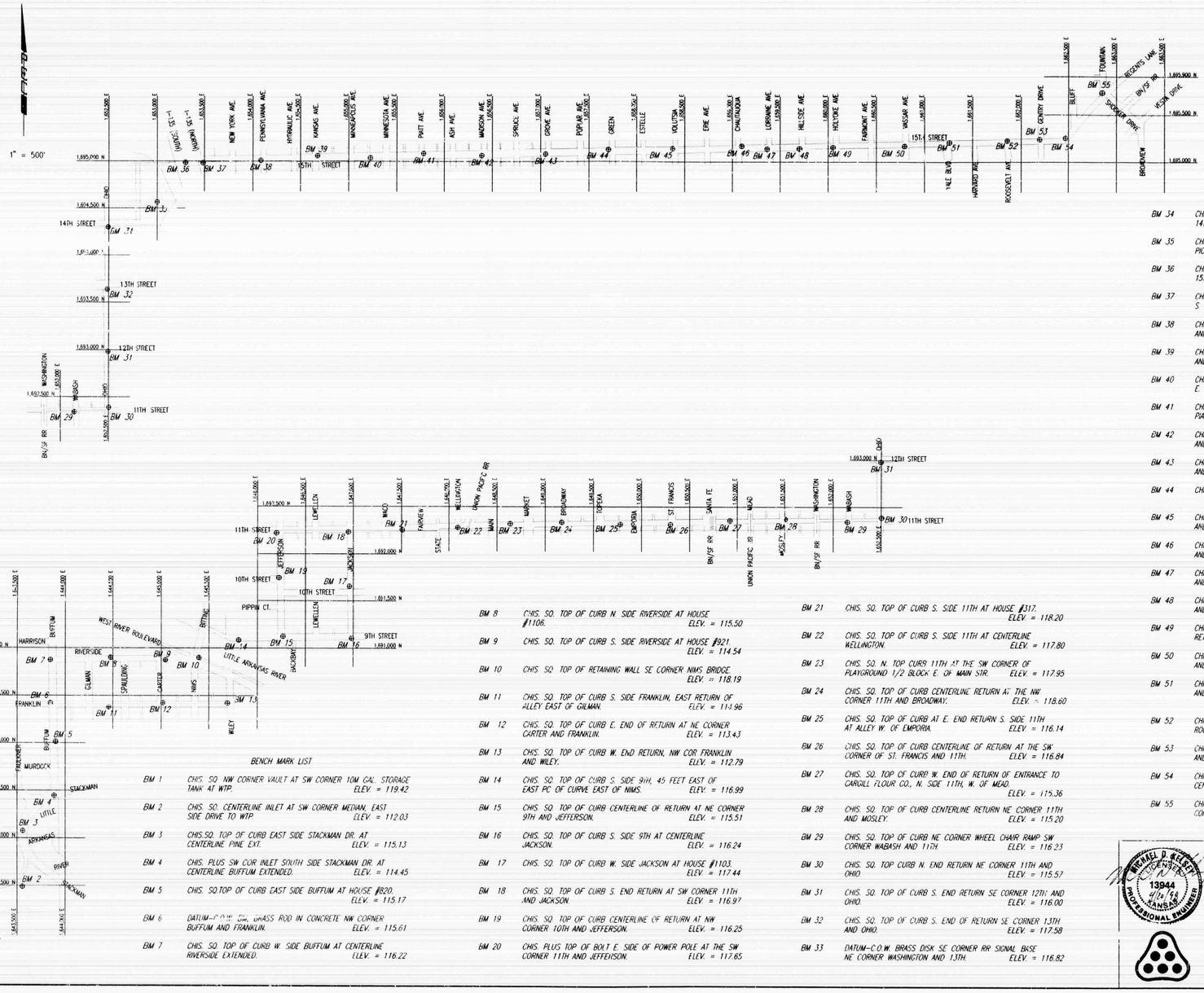
HORIZONTAL CONTROL MAP

C.O.W. Proj. No. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	MDK	Job No.	34-96151	Sht 3 of 41
Drawn by	GM	Date	April 1997	

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DSNR: MDK OPER: JDS SCALE: 1=500.00
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BENCH MARK LIST

BM 1 CHIS. SQ. NW CORNER VAULT AT SW CORNER 10M GAL. STORAGE TANK AT WTP. ELEV. = 119.42

BM 2 CHIS. SQ. CENTERLINE INLET AT SW CORNER MEDIAN, EAST SIDE DRIVE TO WTP ELEV. = 112.03

BM 3 CHIS.SQ. TOP OF CURB EAST SIDE STACKMAN DR. AT CENTERLINE PINE EXT. ELEV. = 115.13

BM 4 CHIS. PLUS SW COR INLET SOUTH SIDE STACKMAN DR. AT CENTERLINE BUFFUM EXTENDED. ELEV. = 114.45

BM 5 CHIS. SQ.TOP OF CURB EAST SIDE BUFFUM AT HOUSE #820. ELEV. = 115.17

BM 6 DATUM-C.O.W. BR. BRASS ROD IN CONCRETE NW CORNER BUFFUM AND FRANKLIN. ELEV. = 115.61

BM 7 CHIS. SQ. TOP OF CURB W. SIDE BUFFUM AT CENTERLINE RIVERSIDE EXTENDED. ELEV. = 116.22

BM 8 CHIS. SQ. TOP OF CURB N. SIDE RIVERSIDE AT HOUSE #1106. ELEV. = 115.50

BM 9 CHIS. SQ. TOP OF CURB S. SIDE RIVERSIDE AT HOUSE #921. ELEV. = 114.54

BM 10 CHIS. SQ. TOP OF RETAINING WALL SE CORNER NIMS BRIDGE. ELEV. = 118.19

BM 11 CHIS. SQ. TOP OF CURB S. SIDE FRANKLIN, EAST RETURN OF ALLEY EAST OF GILMAN. ELEV. = 114.96

BM 12 CHIS. SQ. TOP OF CURB E. END OF RETURN AT NE CORNER CARTER AND FRANKLIN. ELEV. = 113.43

BM 13 CHIS. SQ. TOP OF CURB W. END RETURN, NW COR. FRANKLIN AND WILEY. ELEV. = 112.79

BM 14 CHIS. SQ. TOP OF CURB S. SIDE 9th, 45 FEET EAST OF EAST PC OF CURVE EAST OF NIMS. ELEV. = 116.99

BM 15 CHIS. SQ. TOP OF CURB CENTERLINE OF RETURN AT NE CORNER 9TH AND JEFFERSON. ELEV. = 115.51

BM 16 CHIS. SQ. TOP OF CURB S. SIDE 9TH AT CENTERLINE JACKSON. ELEV. = 116.24

BM 17 CHIS. SQ. TOP OF CURB W. SIDE JACKSON AT HOUSE #1103. ELEV. = 117.44

BM 18 CHIS. SQ. TOP OF CURB S. END RETURN AT SW CORNER 11TH AND JACKSON. ELEV. = 116.97

BM 19 CHIS. SQ. TOP OF CURB CENTERLINE OF RETURN AT NW CORNER 10TH AND JEFFERSON. ELEV. = 116.25

BM 20 CHIS. PLUS TOP OF BOLT E. SIDE OF POWER POLE AT THE SW CORNER 11TH AND JEFFERSON. ELEV. = 117.65

BM 21 CHIS. SQ. TOP OF CURB S. SIDE 11TH AT HOUSE #317. ELEV. = 118.20

BM 22 CHIS. SQ. TOP OF CURB S. SIDE 11TH AT CENTERLINE WELLINGTON. ELEV. = 117.80

BM 23 CHIS. SQ. N. TOP CURB 11TH AT THE SW CORNER OF PLAYGROUND 1/2 BLOCK E. OF MAIN STR. ELEV. = 117.95

BM 24 CHIS. SQ. TOP OF CURB CENTERLINE RETURN AT THE NW CORNER 11TH AND BROADWAY. ELEV. = 118.60

BM 25 CHIS. SQ. TOP OF CURB AT E. END RETURN S. SIDE 11TH AT ALLEY W. OF EMPORIA. ELEV. = 116.14

BM 26 CHIS. SQ. TOP OF CURB CENTERLINE OF RETURN AT THE SW CORNER OF ST. FRANCIS AND 11TH. ELEV. = 116.84

BM 27 CHIS. SQ. TOP OF CURB W. END OF RETURN OF ENTRANCE TO CARGILL FLOUR CO., N. SIDE 11TH, W. OF MEAD. ELEV. = 115.36

BM 28 CHIS. SQ. TOP OF CURB CENTERLINE RETURN NE CORNER 11TH AND MOSLEY. ELEV. = 115.20

BM 29 CHIS. SQ. TOP OF CURB NE CORNER WHEEL CHAIR RAMP SW CORNER WABASH AND 11TH. ELEV. = 116.23

BM 30 CHIS. SQ. TOP CURB N. END RETURN NE CORNER 11TH AND OHIO. ELEV. = 115.57

BM 31 CHIS. SQ. TOP OF CURB S. END RETURN SE CORNER 12TH AND OHIO. ELEV. = 116.00

BM 32 CHIS. SQ. TOP OF CURB S. END OF RETURN SE CORNER 13TH AND OHIO. ELEV. = 117.58

BM 33 DATUM-C.O.W. BRASS DISK SE CORNER RR SIGNAL BASE NE CORNER WASHINGTON AND 13TH. ELEV. = 116.82

BM 34 CHIS. SQ. TOP OF CURB SW CORNER INLET AT SE CORNER 14TH AND OHIO. ELEV. = 117.29

BM 35 CHIS. SQ. TOP OF CURB N. END OF RETURN AT ENTRANCE TO PICNIC SHELTER N. OF 14TH, E. OF OHIO. ELEV. = 113.48

BM 36 CHIS. SQ. TOP FOOTING OF W. WINGWALL AT SW CORNER 15TH STR. BRIDGE AND DRAINAGE CANAL. ELEV. = 121.03

BM 37 CHIS. SQ. NE CORNER CONCRETE SLAB OF WATER LINE VAULT S. OF 15TH STR., E. SIDE DRAINAGE CANAL. ELEV. = 118.86

BM 38 CHIS. SQ. TOP OF CURB W. END RETURN SW CORNER 15TH AND PENNSYLVANIA. ELEV. = 117.12

BM 39 CHIS. SQ. TOP OF CURB CENTERLINE RETURN AT NE COR 15TH AND KANSAS. ELEV. = 116.16

BM 40 CHIS. SQ. TOP OF CURB CENTERLINE RETURN S. SIDE 15TH, E. SIDE OF ALLEY, E. OF MINNEAPOLIS. ELEV. = 116.85

BM 41 CHIS. SQ. TOP OF CURB CENTERLINE RETURN NE CORNER PIATT AND 15TH. ELEV. = 117.39

BM 42 CHIS. SQ. TOP OF CURB W. END RETURN AT SW CORNER 15TH AND MADISON. ELEV. = 118.95

BM 43 CHIS. SQ. TOP OF CURB NE CORNER INLET SW CORNER 15TH AND GROVE. ELEV. = 121.93

BM 44 CHIS. SQ. SW CORNER INLET NW CORNER 15TH AND GREEN. ELEV. = 127.98

BM 45 CHIS. SQ. TOP OF CURB SE CORNER INLET NW CORNER 15TH AND VOLUTSIA. ELEV. = 138.19

BM 46 CHIS. SQ. TOP OF CURB CENTERLINE RETURN NE CORNER 15TH AND CHAUTAUQUA. ELEV. = 150.09

BM 47 CHIS. SQ. TOP OF CURB W. END RETURN SW CORNER 15TH AND LORRAINE. ELEV. = 158.59

BM 48 CHIS. SQ. TOP OF CURB CENTERLINE RETURN SW CORNER 15TH AND HILLSIDE. ELEV. = 172.24

BM 49 CHIS. SQ. TOP OF CURB S. SIDE 15TH 10 FEET W. OF W. RETURN SW CORNER 15TH AND HOLYOKE. ELEV. = 184.11

BM 50 CHIS. SQ. TOP OF CURB CENTERLINE RETRUN SW CORNER 15TH AND VASSAR. ELEV. = 192.43

BM 51 CHIS. PLUS CONCRETE STREET 5 FEET S. OF N. CURBLINE 15TH AND 20 FEET E. OF E. CURBLINE YALE BLVD. ELEV. = 179.65

BM 52 CHIS. SQ. TOP OF CURB N. SIDE 15TH AT CENTERLINE ROOSEVELT. ELEV. = 200.98

BM 53 CHIS. SQ. TOP OF CURB CENTERLINE RETURN NW CORNER 15TH AND GENTRY. ELEV. = 203.65

BM 54 CHIS. PLUS TOP OF CURB N. SIDE REGENTS, 240' EAST OF CENTERLINE GENTRY ELEV. = 205.14

BM 55 CHIS. SQ. TOP OF CURB AT CENTERLINE OF RETURN NW CORNER OF REGENTS AND FOUNTAIN. ELEV. = 215.53

MICHAEL D. ACKERT LICENSED 13944 4/16/97 KANSAS PROFESSIONAL ENGINEER

No	Revision	By	Date

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

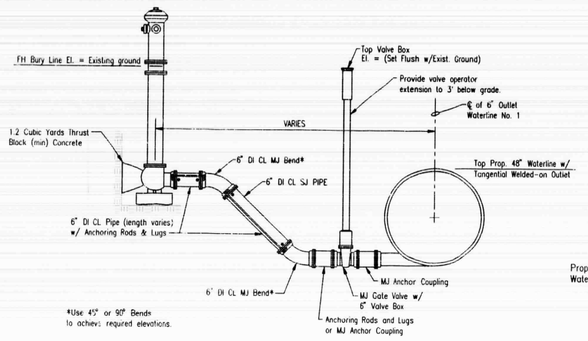
VERTICAL CONTROL MAP

C.O.W. Proj. No. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by MDK	Job No. 34-96151	Sht. 4 of 41
Drawn by GM	Date April 1997	

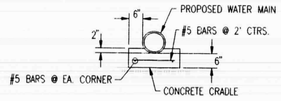
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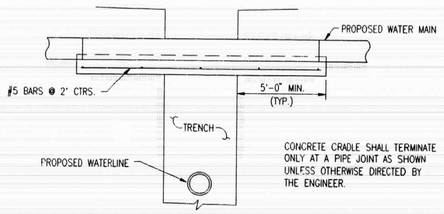


FLUSHING HYDRANT ASSEMBLY

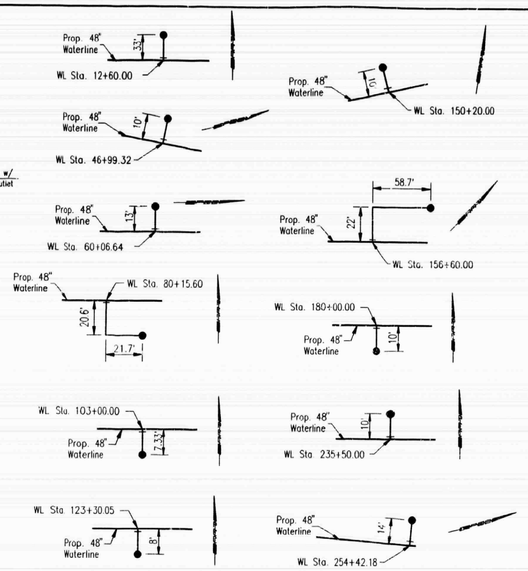
WL STA. 12+60.00, 46+99.32, 60+06.64, 80+15.60, 103+00.00, 123+30.05, 150+20.00, 125+60.00, 180+00.00, 235+50.00, AND 254+42.18

1) ALL BLOCKING TO BE POURED CONCRETE CLASS II.
2) USE STANDARD 5' BURY HYDRANT
3) ALL PIPING AND FITTINGS BETWEEN THE MAIN AND THE FIRE HYDRANT SHALL BE DUCTILE IRON.
4) FITTINGS OTHER THAN THOSE SHOWN OR ROTATED FITTINGS MAY BE REQUIRED IN ORDER TO ALIGN THE FIRE HYDRANT AT THE PLAN LOCATION. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED PIPE AND FITTINGS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.

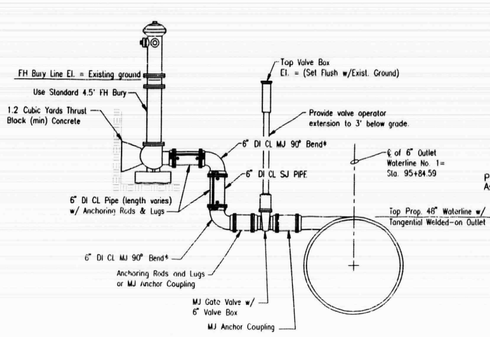




CONCRETE CRADLE DETAIL



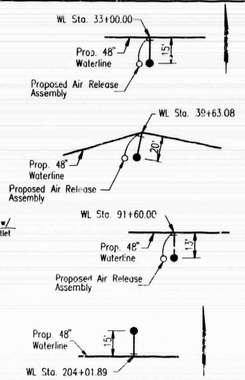
FLUSHING HYDRANT LOCATION HORIZONTAL LAYOUTS



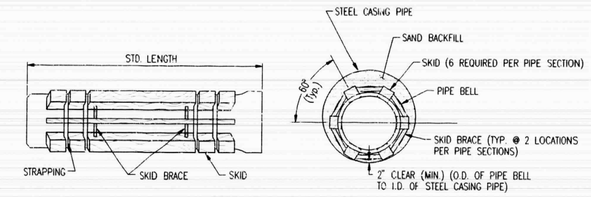
PURGING HYDRANT ASSEMBLY

WL STA. 33+00.00, 39+63.08, 91+60.00, 204+01.89, AND 220+61.77

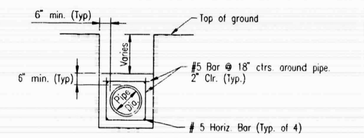
1) ALL BLOCKING TO BE POURED CONCRETE CLASS II.
2) USE STANDARD 5' BURY HYDRANT
3) ALL PIPING AND FITTINGS BETWEEN THE MAIN AND THE FIRE HYDRANT SHALL BE DUCTILE IRON.
4) FITTINGS OTHER THAN THOSE SHOWN OR ROTATED FITTINGS MAY BE REQUIRED IN ORDER TO ALIGN THE FIRE HYDRANT AT THE PLAN LOCATION THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED PIPE AND FITTINGS NECESSARY TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.



PURGING HYDRANT LOCATION HORIZONTAL LAYOUT

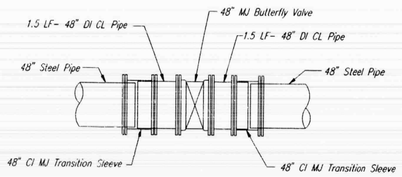


STEEL ENCASEMENT DETAIL



CONCRETE ENCASEMENT DETAIL

MATERIALS LIST
1 - 48" MJ Butterfly Valve
1 - 6" Valve Box
2 - 48" CI MJ Transition Sleeves
3' - of DI CL SJ Pipe

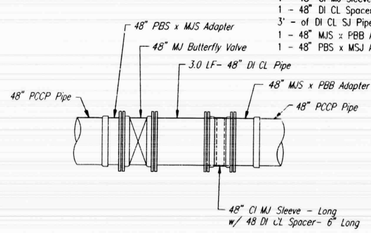


48" LINE VALVE DETAIL **

STEEL OPTION

**THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE AND TIE RODS TO RESTRAIN ALL PIPING AT THE VALVE LOCATIONS.

MATERIALS LIST
1 - 48" MJ Butterfly Valve
1 - 6" Valve Box
1 - 48" CI MJ Sleeve - Long
1 - 48" DI CL Spacer - 6" Long
3' - of DI CL SJ Pipe
1 - 48" MJS x PBB Adapter
1 - 48" PBS x MSJ Adapter

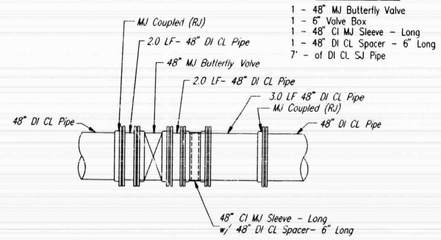


48" LINE VALVE DETAIL **

PCCP OPTION

**THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE AND TIE RODS TO RESTRAIN ALL PIPING AT THE VALVE LOCATIONS.

MATERIALS LIST
1 - 48" MJ Butterfly Valve
1 - 6" Valve Box
1 - 48" CI MJ Sleeve - Long
1 - 48" DI CL Spacer - 6" Long
7' - of DI CL SJ Pipe



48" LINE VALVE DETAIL **

DI CL OPTION

**THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE AND TIE RODS TO RESTRAIN ALL PIPIN.. AT THE VALVE LOCATIONS.

DWG. MDK OPER. IDC SCALE 1=1.00
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MICHAEL D. KRIEG LICENSED PROFESSIONAL ENGINEER 13044 STATE OF KANSAS

No.	Revision	By	Date

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE DETAILS

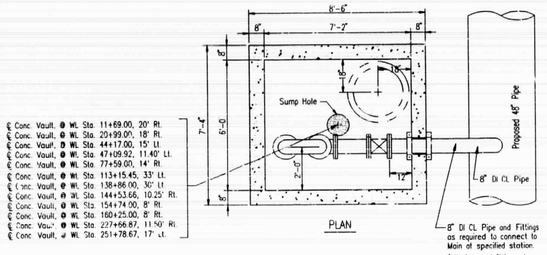
C.O.W. Proj. No. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by MDK	Job No. 34-96151	SM 5 of 41
Drawn by CM	Date April 1997	

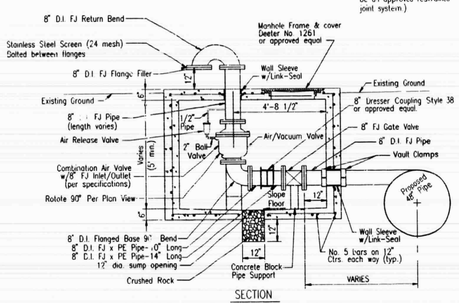
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℄ Conc. Vault, @ WL Sta. 11+69.00, 20' Rt.
℄ Conc. Vault, @ WL Sta. 20+99.00, 18' Rt.
℄ Conc. Vault, @ WL Sta. 44+17.00, 15' Lt.
℄ Conc. Vault, @ WL Sta. 47+09.92, 11.40' Lt.
℄ Conc. Vault, @ WL Sta. 77+59.00, 14' Rt.
℄ Conc. Vault, @ WL Sta. 113+15.45, 33' Lt.
℄ Conc. Vault, @ WL Sta. 138+86.00, 30' Lt.
℄ Conc. Vault, @ WL Sta. 144+53.66, 10.25' Rt.
℄ Conc. Vault, @ WL Sta. 154+74.00, 8' Rt.
℄ Conc. Vault, @ WL Sta. 160+25.00, 8' Rt.
℄ Conc. Vault, @ WL Sta. 227+66.87, 11.50' Rt.
℄ Conc. Vault, @ WL Sta. 251+78.67, 17' Lt.



PLAN

8" DI CL Pipe and Fittings as required to connect to Main at specified station. (All pipe and fittings to be ov approved restrained joint system.)



SECTION

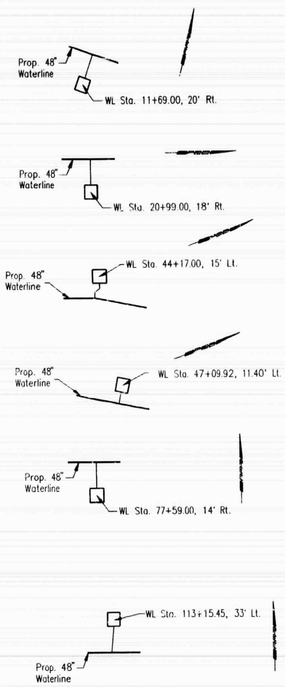
8" AUTOMATIC COMBINATION AIR VALVE AND VAULT

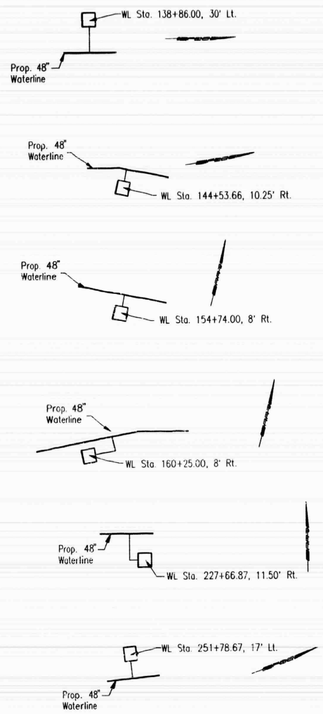
WL Sta. 11+70.00, 21+00.00, 44+12.13, 47+08.92, 77+60.00, 113+08.88, 138+85.00, 144+52.07, 154+75.00, 160+92.79, 227+66.87, and 251+77.67.

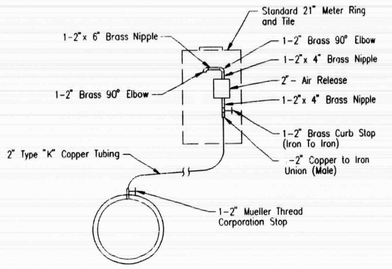
NO SCALE

NOTE: PROVIDE A CONFINED ENTRY SPACE WARNING SIGN, CHAMPION AMERICAN MODEL 7341SHH OR APPROVED EQUAL, FOR VAULT AT LOCATION AS APPROVED BY THE ENGINEER. WARNING SIGN TO BE MOUNTED ON 3#/FT. GALVANIZED "U" CHANNEL POST.

THE CONTRACTOR SHALL PROVIDE VERTICAL FITTINGS AS REQUIRED TO MEET THE REQUIREMENTS FOR DEPTH OF THE VAULT SHOWN IN THE DETAIL. THE TOP OF THE 8" PIPING INTO THE VAULT SHALL BE BETWEEN 3.5' (MIN.) TO 6' (MAX.) BELOW EXISTING GRADE.

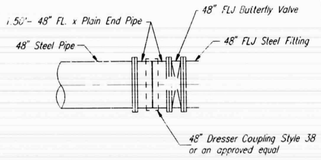






AIR RELEASE ASSEMBLY DETAIL

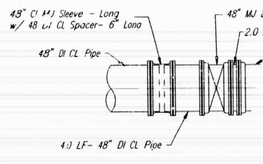
8" AUTOMATIC COMBINATION AIR VALVE AND VAULT
HORIZONTAL LAYOUTS



MATERIALS LIST
1 - 48" FLJ Butterfly Valve
1 - 6' Valve Box
3' - 48" FL x Plain End Pipe
1 - 48" Dresser Coupling Style 38 or an approved equal

48" VALVE ASSEMBLY DETAIL**
STEEL OPTION

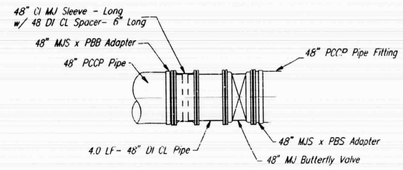
**THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE AND TIE RODS TO RESTRAIN ALL PIPING AT THE VALVE LOCATIONS



MATERIALS LIST
1 - 48" MJ Butterfly Valve
1 - 6' Valve Box
1 - 48" CI MJ Sleeve - Long
1 - 48" DI CL Spacer - 6" Long
6' - of DI CL SJ Pipe

48" VALVE ASSEMBLY DETAIL**
DI CL OPTION

**THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE AND TIE RODS TO RESTRAIN ALL PIPING AT THE VALVE LOCATIONS



MATERIALS LIST
1 - 48" MJ Butterfly Valve
1 - 6' Valve Box
1 - 48" CI MJ Sleeve - Long
1 - 48" DI CL Spacer - 6" Long
4' - of DI CL SJ Pipe
1 - 48" MJS x PBB Adapter
1 - 48" PBS x MSJ Adapter

48" VALVE ASSEMBLY DETAIL**
PCCP OPTION

**THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE AND TIE RODS TO RESTRAIN ALL PIPING AT THE VALVE LOCATIONS.

DSN#: FFJ OPER TDS SCALE: 1=1.00
D:\1998\34151\WL01L2 04-20-1998 09:56:23 am

No.	Revision	By	Date

MICHAEL D. KELLY — 13944 — KANSAS — PROFESSIONAL ENGINEER

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

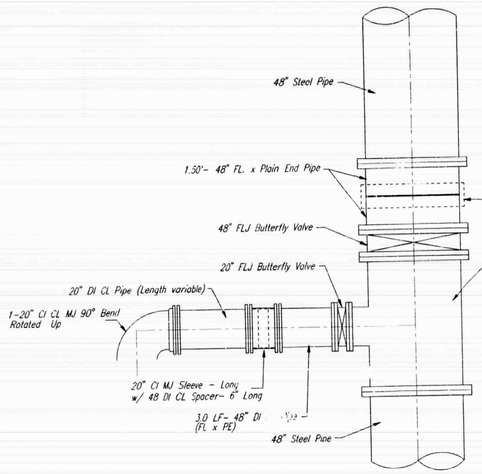
WATERLINE DETAILS

C.O.W. Proj. No. 448-76-245-88985-000-000-001

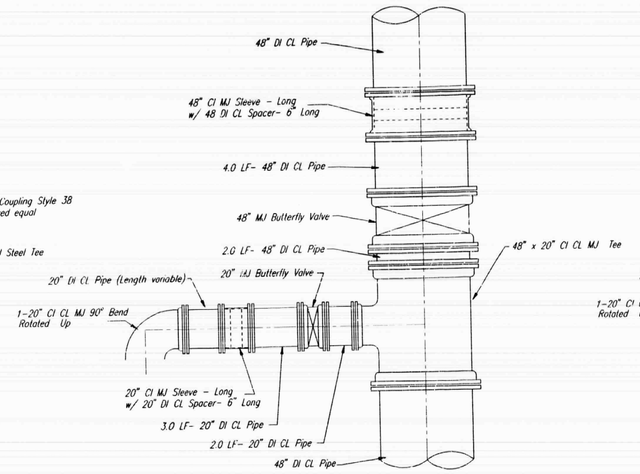
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by MDK	Job No. 34-96151	Sht. 6 of 41
Drawn by GM	Date April 1997	

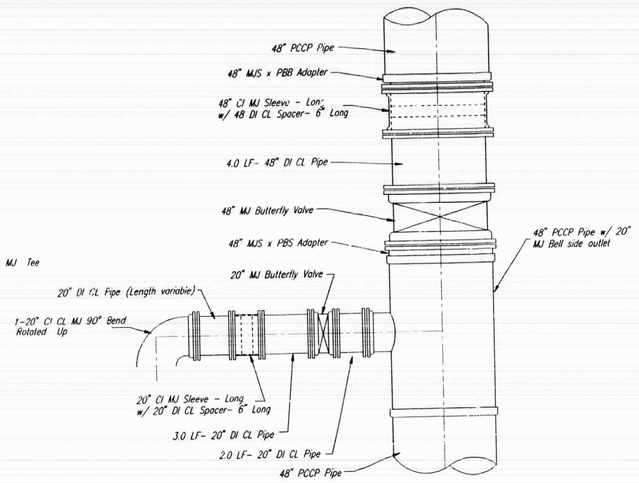
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STEEL OPTION



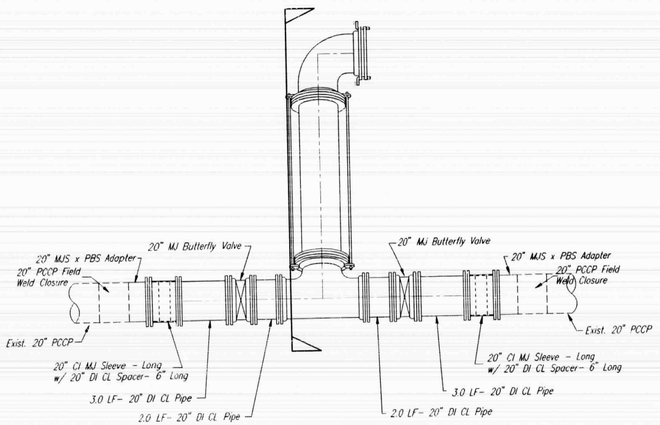
DI CL OPTION



PCCP OPTION

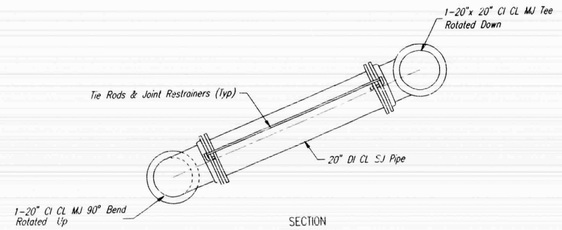
48" x 20" TEE INSTALLATION DETAIL

WL STA. 254+21.6±



20" x 20" TEE INSTALLATION DETAIL

WL STA 254+10.18



SECTION

TIE-IN EXISTING 20" PIPE AT STA. 254+21.6 NOTES:

1. CONTRACTOR SHALL NOTIFY CITY WATER DEPARTMENT A MINIMUM OF 48 HOURS BEFORE ANY CONSTRUCTION BEGINS. TIE IN AT STA. 254+10.18 SHALL OCCUR DURING PERIODS OF LOW WATER USE. CONTRACTOR SHALL SUBMIT A SCHEDULE DEPICTING DATE AND TIME OF SHUTDOWN TO THE CITY WATER DEPARTMENT FOR APPROVAL AT LEAST 2 WEEKS IN ADVANCE OF SHUTDOWN.
2. CONTRACTOR SHALL EXCAVATE THE EXISTING 20" WATERLINE TO VERIFY JOINT LAYOUT, DEPTH, AND CONNECTION DETAIL.
3. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF LAYING DIRECTION, SIZE, OR SPECIFIED MATERIAL TYPE DIFFERS FROM THE DETAILED DRAWING. THERE WILL NOT BE A CHANGE ORDER FOR OPPOSITE LAYING DIRECTION OR FOR MATERIAL TYPE DIFFERENCES.
4. CONTRACTOR SHALL HAVE CROSS, VALVES, AND APPURTENANCES ON SITE TO COMPLETE THE CONNECTION TO THE EXISTING WATERLINE BEFORE REMOVING ANY EXISTING WATERLINES.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING A MINIMUM OF THREE COMPLETE SECTIONS OF THE EXISTING 20" WATERLINE TO INSTALL THE CROSS, VALVES, AND APPURTENANCES TO CONNECT THE PROPOSED 20" WATERLINE.
6. ALL OVER EXCAVATED AREAS AT THE TIE IN LOCATION SHALL BE FILLED OR ENCASED WITH EXCAVATABLE FLOWABLE FILL.
7. THE CONTRACTOR SHALL UTILIZE RESTRAINED JOINT PIPE, TIE RODS, OR OTHER APPRVAL METHODS TO RESTRAIN ALL VALVES, FITTINGS, AND PIPING AT THE VALVE LOCATIONS.
8. ALL COUPLINGS AND DUCTILE IRON FITTINGS AND APPURTENANCES SHALL BE POLY WRAPPED PER THE SPECIFICATIONS.

MICHAEL D. KEEVER LICENSED 13944 STATE OF KANSAS PROFESSIONAL ENGINEER

No.	Revision	By	Date

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE DETAILS

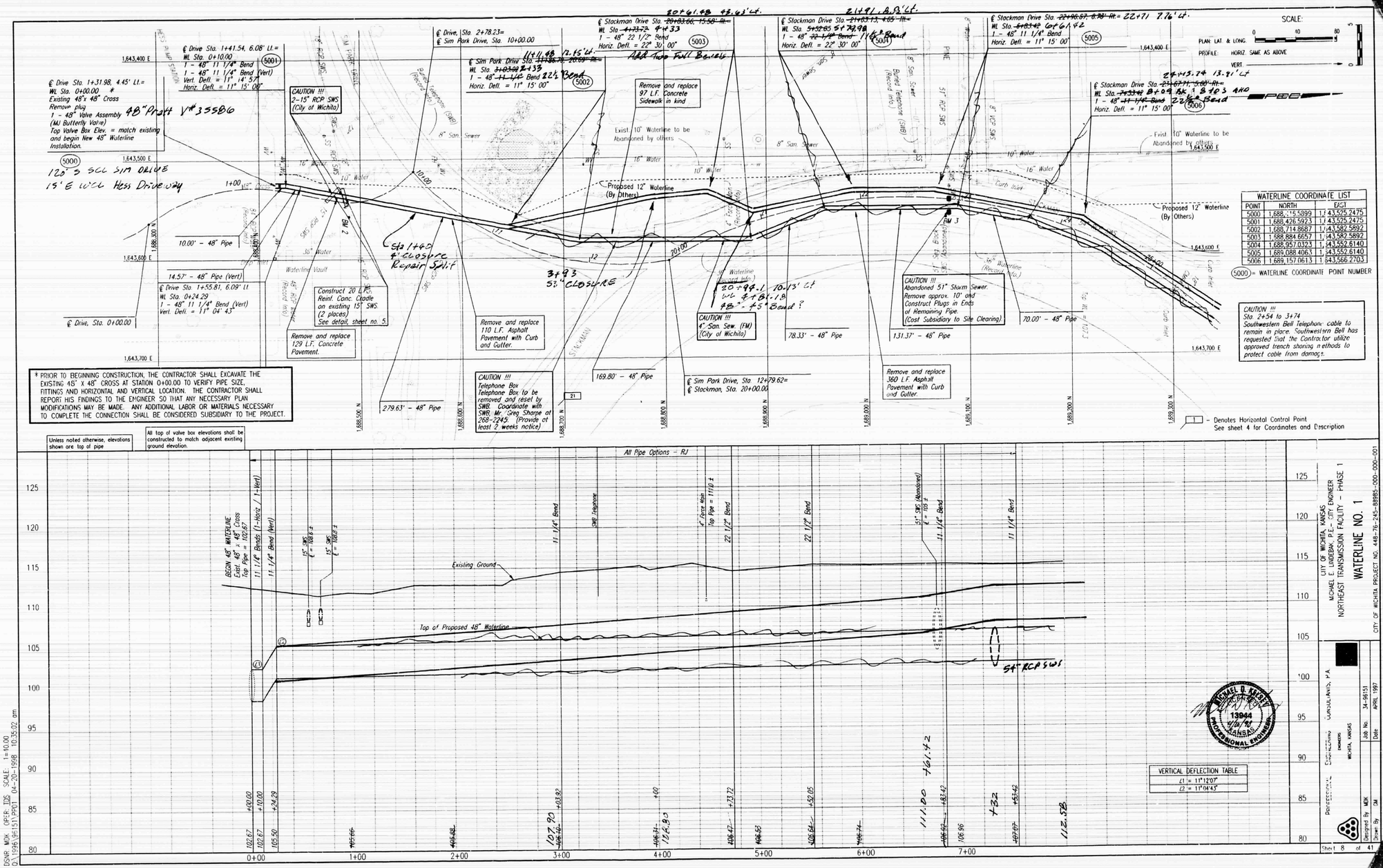
C.O.W. Proj. No. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	MDK	Job No.	34-96151	Sht. 7 of 41
Drawn by	GM	Date	April 1997	

DSN= TDS OPER: TDS SCALE: 1=1.00
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℄ Stackman Drive Sta. 23+67.71, 5.60' Rt. =
WL Sta. 7+53.42

5006

℄ Stackman Drive Sta. ~~24+18.90, 6.44' Rt.~~ 24+15.74 13.9' Lt.
WL Sta. ~~8+33.48~~ 8+03
1 - 48" ~~11 1/4°~~ Bend. 22½° Rt. Bend
Horiz. Defl. = 11° 15' 00"

5007

℄ Stackman Drive Sta. ~~25+00.71, 2.42' Rt.~~ 26+04.96 18' Lt.
WL Sta. ~~9+63.41~~ 9+97.18
1 - 48" 22 1/2° Bend
Horiz. Defl. = 23° 45' 00"

5008

℄ Buffum Sta. ~~30+01.91, 0.01' Rt.~~ 30+37.26 8.97' Rt.
WL Sta. ~~12+35.61~~ 12+65
1 - 48" 45° Bend
1 - 48" 11 1/4° Bend
Horiz. Defl. = 56° 23' 46"

5009

Exist. 12" Waterline to be Abandoned by Others

CAUTION !!!
54" RCP SWS
(City of Wichita)

CAUTION !!!
18"x 11" CMPA SWS
(City of Wichita)

Proposed 12" Waterline (By Others)

CAUTION !!!
10" Waterline (City of Wichita)
18" SWS (City of Wichita)

Reinf. Conc. Cradle
10 x 39

Curb Inlet

Curb Vert.

6" Water

8" Water

8" San. Sewer

6" RCP SWS

51" RCP SWS

3" San. Sewer

Buried Telephone (SBC) (Record Info.)

12" Water (Record Info.)

16" Water

Curb Inlet

Curb Vert.

54" RCP SWS

Curb Inlet

Curb Vert.

12" Water (Record Info.)

8" San. Sewer

Curb Inlet

Curb Vert.

Thermopolis Water (Record Info.)

12" Water (Record Info.)

12" San. Sewer

Waterline

SWS

Curb Inlet

Curb Vert.

Waterline

SWS

Curb Inlet

Curb Vert.

Waterline (Record Info.)

SWS

Curb Inlet

Curb Vert.

12" San. Sewer

Exist. 10" Waterline to be Abandoned by Others

10" Water

1,690,000 N

1,689,900 N

1,643,600 E

1,643,550 E

1,643,700 E

1,643,800 E

1,643,900 E

1,644,000 E

1,644,100 E

1,689,500 N

1,689,700 N

1,689,800 N

1,689,900 N

1,690,000 N

1,689,600 N

Clow A.V. V#35580
Clow Fit #10750
6" Clow V#35587

Remove and replace 486 l.f. Asphalt Pavement.

10 x 45

Construct 20 L.F. Reinf. Conc. Cradle on existing 18" x 11" CMPA. See detail, sheet no. 5

80.00' - 48" Pipe

130.06' - 48" Pipe

218.38' - 48" Pipe

℄ Stackman Drive Sta. 27+89.90, 5.18' Rt. =
WL Sta. 11+70.00
~~Install 1 - 6" Automatic Combination Air Valve in concrete vault.~~
~~See detail, sheet no. 6~~

℄ Stackman Drive Sta. 28+01.79, 3.58' Rt. =
WL Sta. ~~11+82.00~~
1 - 48" 11 1/4° Bend (Vert)
Vert. Defl. = ~~11° 17' 19"~~

38.73' - 48" Pipe (Vert.)

Construct 20 L.F. Reinf. Conc. Cradle on existing 18" SWS See detail, sheet no. 5

15.61' - 48" Pipe

℄ Stackman Drive Sta. 28+39.46, 1.48' Lt. =
WL Sta. 12+20.00
1 - 48" 11 1/4° Bend (Vert)
Vert. Defl. = 11° 09' 54"

℄ Stackman, Sta. 28+43.48 =
℄ Buffum, Sta. 30+00.00

Added ½ Bend

BM

SCALE:
0 40 80
PLAN: LAT. & LONG.
PROFILE: HORIZ. SAME AS ABOVE
VERT

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5006	1,689,157.0613	1,643,566.2703
5007	1,689,230.9717	1,643,596.8850
5008	1,689,339.0627	1,643,669.1091
5009	1,689,485.3103	1,643,898.6718

(5000) = WATERLINE COORDINATE POINT NUMBER

MICHAEL D. KRUSE
13944
KANSAS
PROFESSIONAL ENGINEER

1 - Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

All Pipe Options - RJ

11 1/4° Bend

11 1/4° Bend

18" - 11° SWS
℄ = 1126.4'

22 1/2° Bend

Combination Air Valve

11 1/4° Bend (Vert)

18" Reinforced Concrete Pipe
Approx. 412.4'

11 1/4° Bend (Vert)

14" SWS
Approx. 100.5'

45° Bend
11 1/4°

Existing Ground

Top of Proposed 48" Waterline

+53.42 +13.42 +53.42 +74.02 +26.60 +15.61

497.07 497.16 497.26 497.39 497.61 497.87 498.07 498.97 499.97 499.99 500.87

1:2.58 1:2.58 1:2.58 1:3.00 1:6.82 1:55.87

7.82 19.67

VERTICAL DEFLECTION TABLE
Δ1 = 11°17'19"
Δ2 = 11°09'54"

8+00 9+00 10+00 11+00 12+00

125 120 115 110 105 100 95 90 85 80

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed By MDK
Drawn By GM
Job No. 34-86151
Date APRIL 1997

Sheet 9 of 41

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SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

€ Buffum Sta. 30+27.26
WL Sta. 12+35.01 = 12+65
9.01' Rt.
5009

€ Buffum Sta. 30+32.30, 8.98' Rt. =
WL Sta. 12+60.00
1 - 48" 1 1/4 Bend (Vert)
Vert. Defl. = 11° 06' 47"
1 - Flushing Hydrant Assembly
See detail, sheet no. 5.
Moved

CAUTION !!!
54" RCP SWS (City of Wichita)
8" Waterline (City of Wichita)
10" VCP SWS (City of Wichita)

CAUTION !!!
15" San. Sewer
12" VCP SWS (City of Wichita)
Contractor shall Concrete
Encase existing 15" San. Sewer
10' each way from Crossing

CAUTION !!!
4" Gasline (Peoples Natural Gas)
Telephone (Clay Tile Conduit) (SWB)
6" PE Gasline (KGE-GAS)

€ Buffum, Sta. 39+20.80=
€ Franklin

€ Buffum Sta. 39+52.27, 7.95' Rt.=
WL Sta. 21+80.00
5010

Proposed 12" Waterline (By Others)

10" Waterline (Record Info.)
(Abandoned in Place)

7" Gas (Peoples Natural Gas) (Record Info.)

10" Waterline (Record Info.)

8" San. Sewer (Record Info.)

4" Disco Gas (KGE Gas) (Record Info.)

Curb Inlet

BUFFUM

€ Stackman, Sta. 28+43.48=
€ Buffum, Sta. 30+00.00

Construct 20 L.F.
Reinf. Conc. Cradle
on existing 54" SWS.
See detail, sheet no. 5.

24.39' - 48" Pipe

28.54' - 48" Pipe (Vert.)

€ Buffum Sta. 30+60.30, 8.94' Rt.=
WL Sta. 12+88.00
1 - 45° 1 1/4 Bend (Vert)
Vert. Defl. = 10° 27' 50"

Construct 20 L.F.
Reinf. Conc. Cradle
on existing 10" SWS.
See detail, sheet no. 5.

CAUTION !!!
3" Steel Gasline
(KGE-GAS)

Construct 30 L.F.
Reinf. Conc. Cradle
on existing 12" SWS.
See detail, sheet no. 5.

812.00' - 48" Pipe

Remove and replace
942 L.F. Asphalt
Pavement.

€ Buffum Sta. 38+72.30, 7.93' Rt.=
WL Sta. 21+00.00
1 - 48" 1 1/4 Bend (Vert)
Vert. Defl. = 11° 22' 42"
Install 1 - 8" Automatic Combination Air
Valve in concrete vault.
See detail, sheet no. 6
A.V. # 35589

40.79' - 48" Pipe (Vert.)

€ Buffum Sta. 39+12.30, 7.89' Rt.=
WL Sta. 21+40.00
1 - 48" 1 1/4 Bend (Vert)
Vert. Defl. = 11° 18' 36"

CAUTION !!!
48" Waterline
18" SWS
(City of Wichita)

Construct 20 L.F.
Reinf. Conc. Cradle
on existing 18" SWS.
See detail, sheet no. 5.

40.00' - 48" Pipe

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5009	1,689,485.3103	1,643,898.6718
5010	1,690,429.5852	1,643,883.9295

(5000) = WATERLINE COORDINATE POINT NUMBER

□ - Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

DI and ST - RJ
PCCP - RJ

45° & 11 1/4° Bends
54" SWS
E = 104.14
16" Waterline
Top of Pipe = 112.03
11 1/4° Bend (Vert)
12" SWS
E = 111.34
1" Gasline
15" San. Sewer
E = 108.12
12" SWS
E = 112.11
11 1/4° Bend (Vert)
Combination Air Valve
8" Gasline
11 1/4° Bend (Vert)
48" Waterline
Top of Pipe = 108.98
48" SWS
E = 109.47
Match Line

Existing Ground

Top of Proposed 48" Waterline

105.94

VERTICAL DEFLECTION TABLE
Δ5 = 11°06'47"
Δ6 = 10°57'50"
Δ7 = 0°51'12"
Δ8 = 0°56'05"
Δ9 = 11°22'42"
Δ10 = 11°18'36"
Δ11 = 11°14'59"

MICHAEL D. KINGERY
13944
4/10/98
KANSAS
PROFESSIONAL ENGINEER

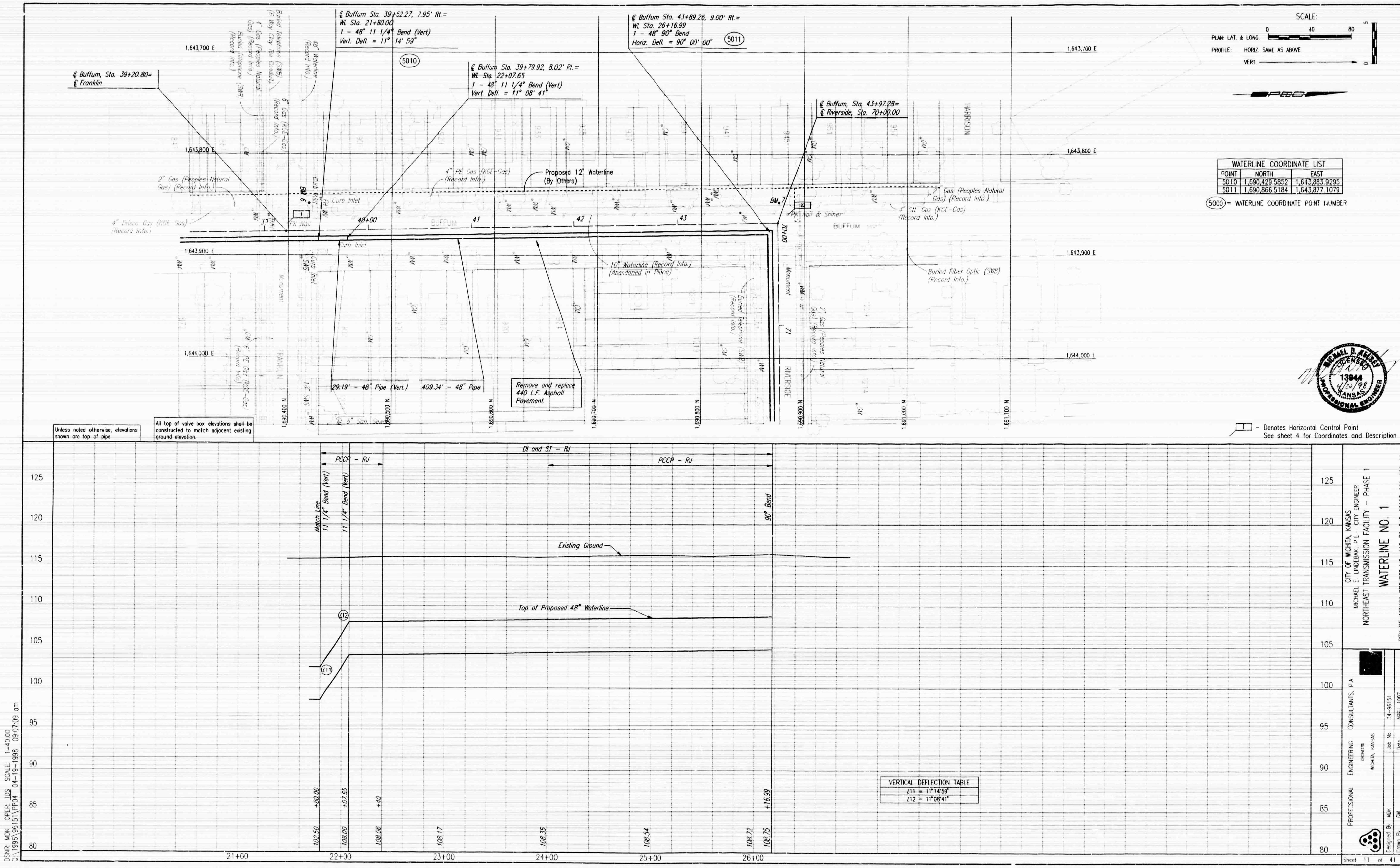
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
DENVER WICHITA, KANSAS
Designed By MDK
Drawn By GM
Job No. 34-98151
Date APRIL 1997

CITY OF WICHITA, KANSAS
MICHAEL D. KINGERY, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-301

Sheet 10 of 41

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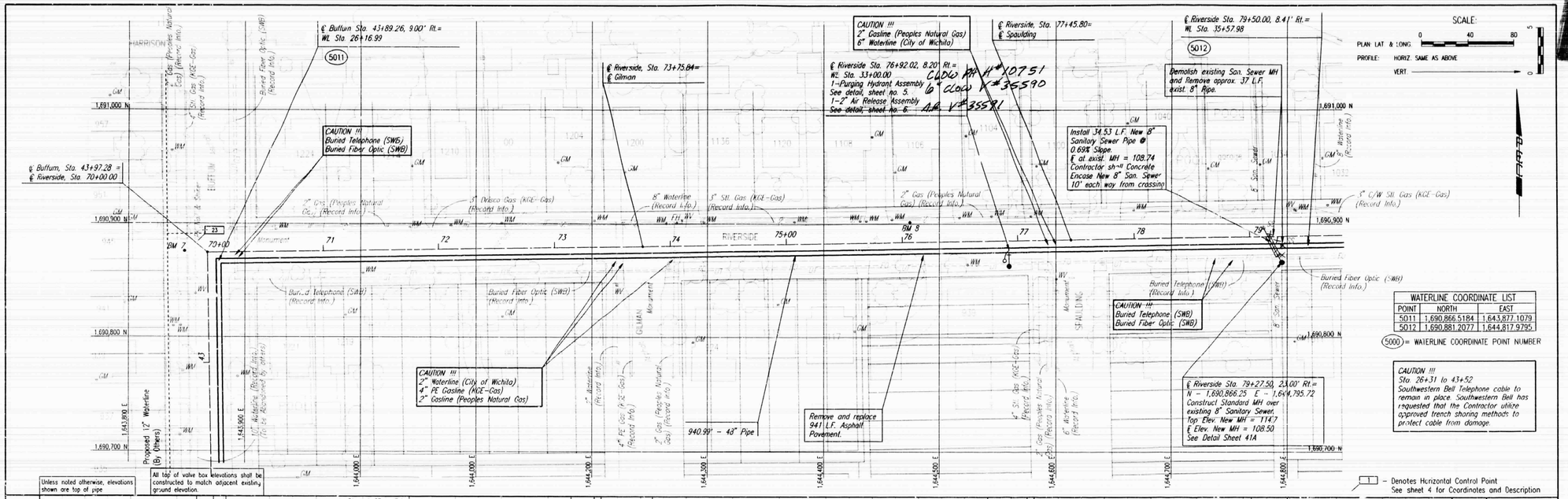
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WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5010	1,690,429.5852	1,643,883.9295
5011	1,690,866.5184	1,643,877.1079

VERTICAL DEFLECTION TABLE
∠11 = 11°14'59"
∠12 = 11°08'41"

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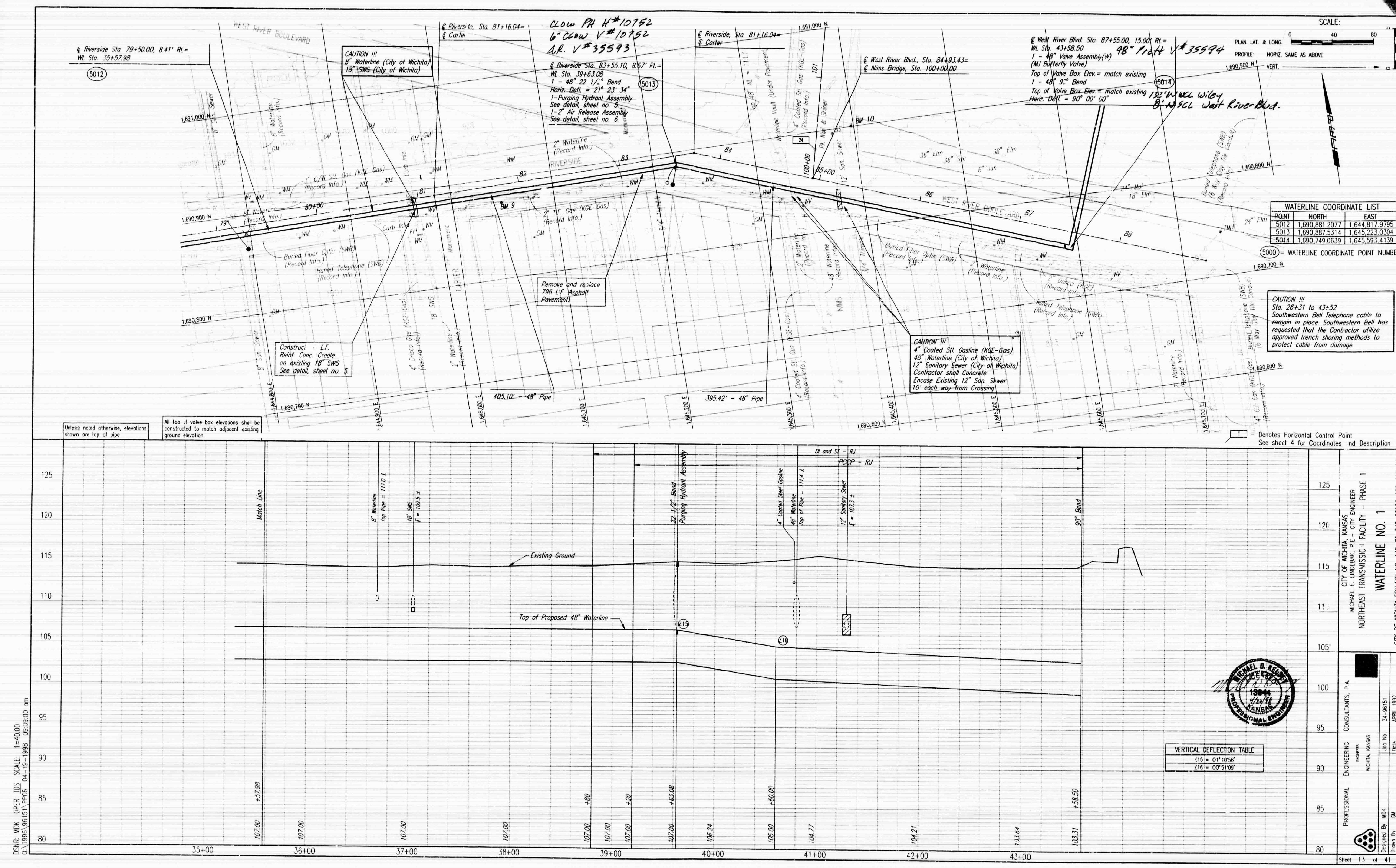
CITY OF WICHITA, KANSAS
MICHAEL E. UNDERHILL, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-88983-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Designed By MDK
Drawn By CM
Job No. 34-96151
Date APRIL 1997

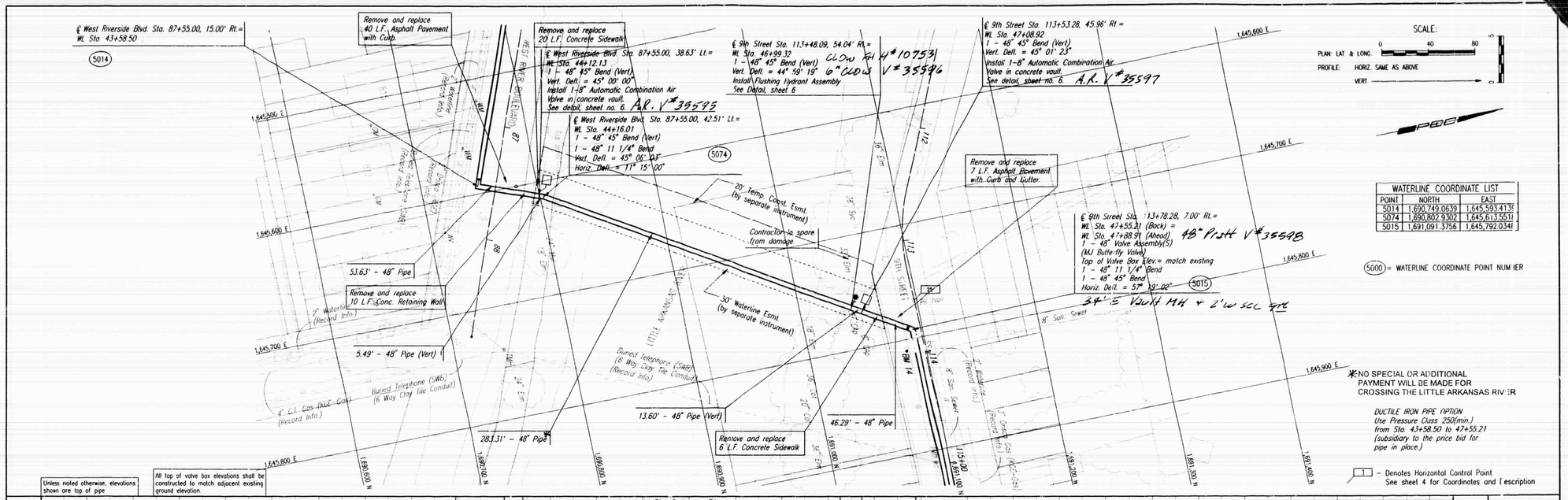
MICHAEL D. KELLEY
13944
Wichita
KANSAS
PROFESSIONAL ENGINEER

Sheet 12 of 41

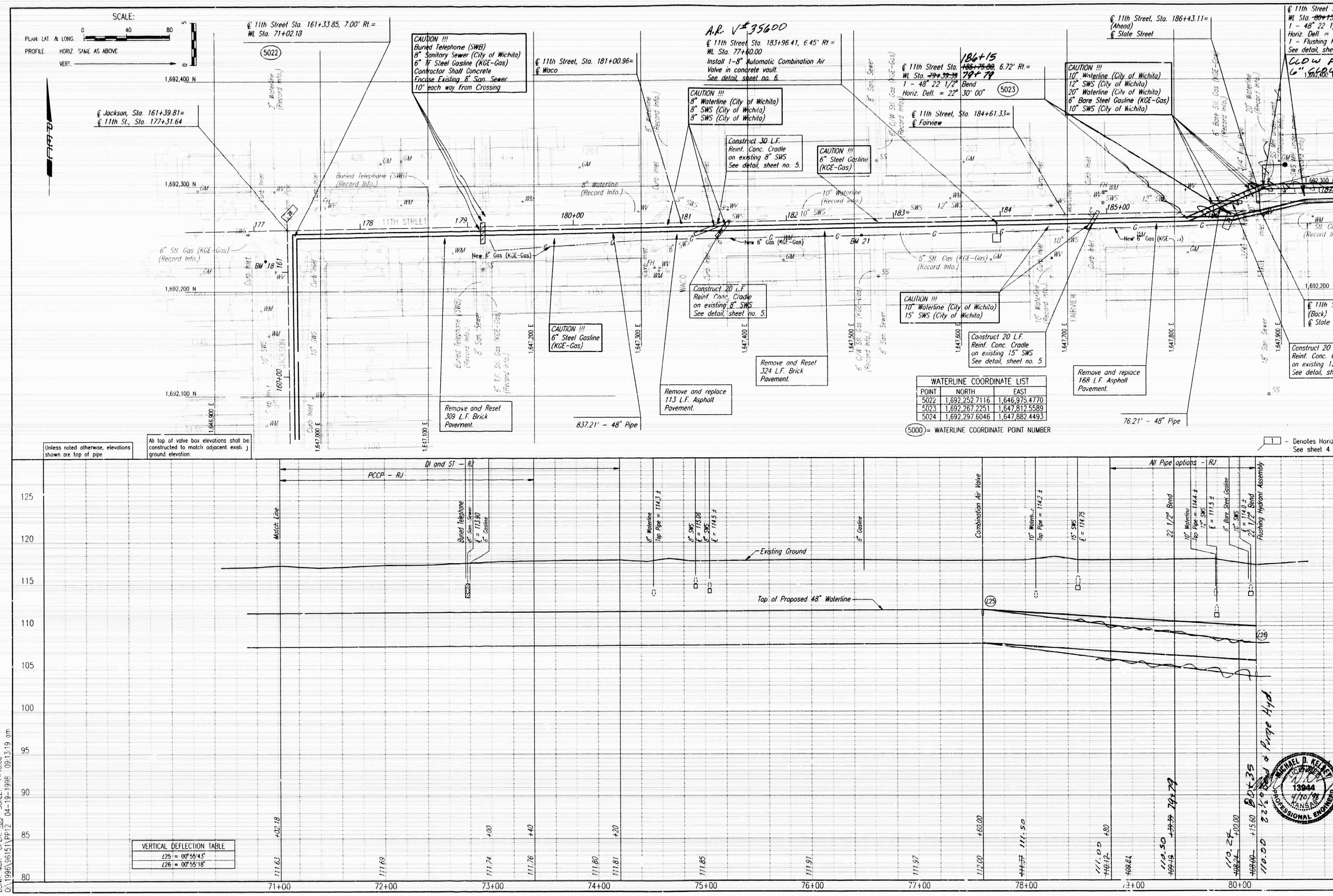
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WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5022	1,692,252.7116	1,646,975.4770
5023	1,692,267.2251	1,647,812.5589
5024	1,692,297.6046	1,647,882.4493

VERTICAL DEFLECTION TABLE
∠25 = 00°55'43"
∠26 = 00°55'18"

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK P.E.- CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Job No. 34-96151
Date APRIL 1997
Designed By MDK
Drawn By GM

Sheet 19 of 41

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℄ 11th Street Sta. 186+46.24, 7.00' Lt. = Wl. Sta. 80+15.60

5024

℄ 11th Street, Sta. 186+43.11 = (Ahead) ℄ State Street

1,692,400 N

1,692,300 N

1,692,200 N

℄ 11th Street, Sta. 186+43.11 = (Back) ℄ State Street

CAUTION !!!
20" Waterline (City of Wichita)
18" San. Sewer (City of Wichita)
6" Waterline (City of Wichita)
Contractor shall Concrete Encase Existing 18" San. Sewer 10' each way from Crossing

Remove and replace 254 L.F. Asphalt Pavement.

578.22' - 48" Pipe

℄ 11th Street, Sta. 188+56.23 = ℄ Wellington

CAUTION !!!
3 - 12" SWS's (City of Wichita)

Construct 20 L.F. Reinf. Conc. Cradle on existing 12" SWS (2 places) See detail, sheet no. 5.

℄ 11th Street Sta. 189+00.00, 6.91' Lt. to ℄ 11th Street Sta. 190+20.00, 6.65' Lt. = Wl. Sta. 82+69.35 to Wl. Sta. 83+89.35 Install 120.00 L.F. Steel Casing by Boring. * See detail, sheet 5

Remove and Reset 95 L.F. Brick Pavement.

Remove and replace 19 L.F. Asphalt Pavement.

℄ 11th Street Sta. 192+24.48, 6.21' Lt. = Wl. Sta. 85+93.82 1 - 48" 11 1/4° Bend Horz. Defl. = 11° 15' 00"

5025

CAUTION !!!
8" San. Sewer (City of Wichita)
12" SWS (City of Wichita)
8" Waterline (City of Wichita)
Contractor shall Concrete Encase Existing 8" San. Sewer 15' each way from Crossing

Construct 20 L.F. Reinf. Conc. Cradle on existing 12" SWS. See detail, sheet no. 5.

Remove and replace 144 L.F. Concrete Pavement.

67.84' - 48" Pipe

℄ 11th Street Sta. 192+91.02, 7.00' Rt. = Wl. Sta. 86+61.66 1 - 48" 11 1/4° Bend Horz. Defl. = 11° 26' 02"

5026

CAUTION !!!
6" Steel Gasline (KGE-Gas)
12" SWS (City of Wichita)
10" Waterline (City of Wichita)

Construct 10 L.F. Reinf. Conc. Cradle on existing 12" SWS. See detail, sheet no. 5.

Remove and replace 11 L.F. Asphalt Pavement.

309.01' - 48" Pipe

5027 ℄ 11th Street Sta. 196+00.00, 5.13' Rt. = Wl. Sta. 89+70.67

℄ 11th Street, Sta. 195+82.99 = ℄ Market

CAUTION !!!
Buried Telephone (SWB)
8" San. Sewer (City of Wichita)
Contractor shall Concrete Encase Existing 8" San. Sewer 10' each way from Crossing.
Buried Tele. (Clay Conduit) (SWB)
10" Waterline (City of Wichita)
8" San. Sewer (City of Wichita)

Remove and Reset 247 L.F. Brick Pavement.

BL 192+69.36, 2' Rt.
WL STA 86+40
48" PIPE W #35602

SCALE:
0 40 80
PLAN. LAT. & LONG.
PROFILE: HORIZ SAME AS ABOVE
VERT. 0

WATERLINE COORDINATE LIST

POINT	NORTH	EAS
5024	1,692,297.6046	1,647.8[illegible] .4493
5025	1,692,308.0910	1,648.46 .5786
5026	1,692,296.0656	1,648.52 .3400
5027	1,692,302.6614	1,648.8[illegible] .2751

(5000) = WATERLINE COORDINATE POINT NUMBER

[1] - Denotes Horizontal Control Point See sheet 4 for Coordinates and Description

RENAE D. KLAUS 13944 4/24/98 KANSAS PROFESSIONAL ENGINEER

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

*STEEL CASING SIZES
58" I.D. (Min.) for 48" D.I. Waterline (0.844" wall thickness)
64" I.D. (Min.) for 48" PCCP Waterline (0.938" wall thickness)
56" I.D. (Min.) for 48" Steel Waterline (0.813" wall thickness)

All Pipe options - RJ

Melch Line
20" Waterline Top Pipe = 1146
18" Sanitary Sewer ℄ = 1171.54 ±
6" Waterline Top Pipe = 1140.2 ±
12" SWS ℄ = 1144.1 ±
12" SWS ℄ = 1141.1 ±
12" PVC SWS ℄ = 1132.2 ±
Existing Ground
8" Sanitary Sewer ℄ = 1135.98 ±
12" SWS ℄ = 1144.48
8" Waterline Top Pipe = 1159.4 ±
11 1/4° Bend
6" Gasline
12" SWS ℄ = 1144.78
10" Waterline Top Pipe=1143.8 ±
11 1/4° Bend
Telephone
8" Sanitary Sewer ℄ = 1171.90
Telephone
6" Waterline Top Pipe = 1141.7 ±
Melch Line
Steel Casing
Top of Proposed 48" Waterline

VERTICAL DEFLECTION TABLE
Δ26 = 00°55'18"

80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00 88+00 89+00

125 120 115 110 105 100 95 90 85 80

DSN: WDK OPER: JDS SCALE: 1"=40.00
G:\1998\98151\DP1S 04-20-1998 10:25:35 am

PROFESSIONAL ENGINEERING CONSULTANTS, P.A. WICHITA, KANSAS

Designed By	WDK	
Drawn By	GM	
Job No.	34-98151	
Date	APRIL 1997	

CITY OF WICHITA, KANSAS
PUBLIC WORKS DEPARTMENT - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

Sheet 23 of 41

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℄ 11th Street, Sta. 195+82.99= ℄ Market

℄ 11th Street Sta. 196+00.00, 5.13' Rt. = WL Sta. 89+70.67

(5027)

℄ 11th Street Sta. 199+21.51, 4.25' Rt. = WL Sta. 92+92.18
Horiz. Defl. Waterline 0° 09' 32" Rt. (5028)

℄ 11th Street Sta. ~~197+80.00~~ 196+55 4.61' Rt. = WL Sta. ~~97+60.00~~ 90+26
1-Purging Hydrant Assembly
See detail, sheet no. 5

CLOW PH
H #10756
V #35603
CLOW
V #35604
A.R. 2"

℄ 11th Street, Sta. 199+21.54 (Ahead)

℄ 11th Street, Sta. 199+21.54 (Back)

℄ 11th Street Sta. 204+00.00, 6.01' Rt. = WL Sta. 97+70.68

(5029)

℄ 11th Street, Sta. 203+37.46= ℄ Topeka

CAUTION !!!
4" Gasline (Peoples Natural Gas)
6" Steel Gas (KGE-Gas)
18" San. Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 18" San. Sewer
10' each way from Crossing

CAUTION !!!
6" Steel Gasline (KGE-Gas)
6" Waterline (City of Wichita)
6" Steel Gasline (KGE-Gas)
8" San. Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing

CAUTION !!!
6" Waterline (City of Wichita)
12" Bore Steel Gasline (KGE-Gas)
Buried Tele. (Clay Conduit) (SWB)

Remove and replace 800 L.F. Asphalt Pavement.

321.51' - 48" Pipe

478.50' - 48" Pipe

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE.
VERT. 0 5

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5027	1,692,302.6614	1,648,836.7751
5028	1,692,309.5242	1,649,157.7149
5029	1,692,318.4117	1,649,616.1345

(5000) = WATERLINE COORDINATE POINT NUMBER

1 – Denotes Horizontal Control Point. See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

Match Line
4" Gasline
6" Gasline
16" Sanitary Sewer
Existing Hydrant Assembly
Deflect Waterline
6" Waterline
Top Pipe = 1154 ±
Existing Ground
6" Gasline
6" Sanitary Sewer
E = 1111.91
6" Waterline
Top Pipe = 1153.1 ±
17" Bore Steel Gasline
Telephone
Match Line
Top of Proposed 48" Waterline

VERTICAL DEFLECTION TABLE
∠27° = 00°03'00"

MICHAEL D. KEARNEY
CONSULTING ENGINEER
13944
12-19-98
KANSAS
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
WICHITA, KANSAS
Designed By MDK
Drawn By DM
Job No. 34-96151
Date APRIL 1997

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

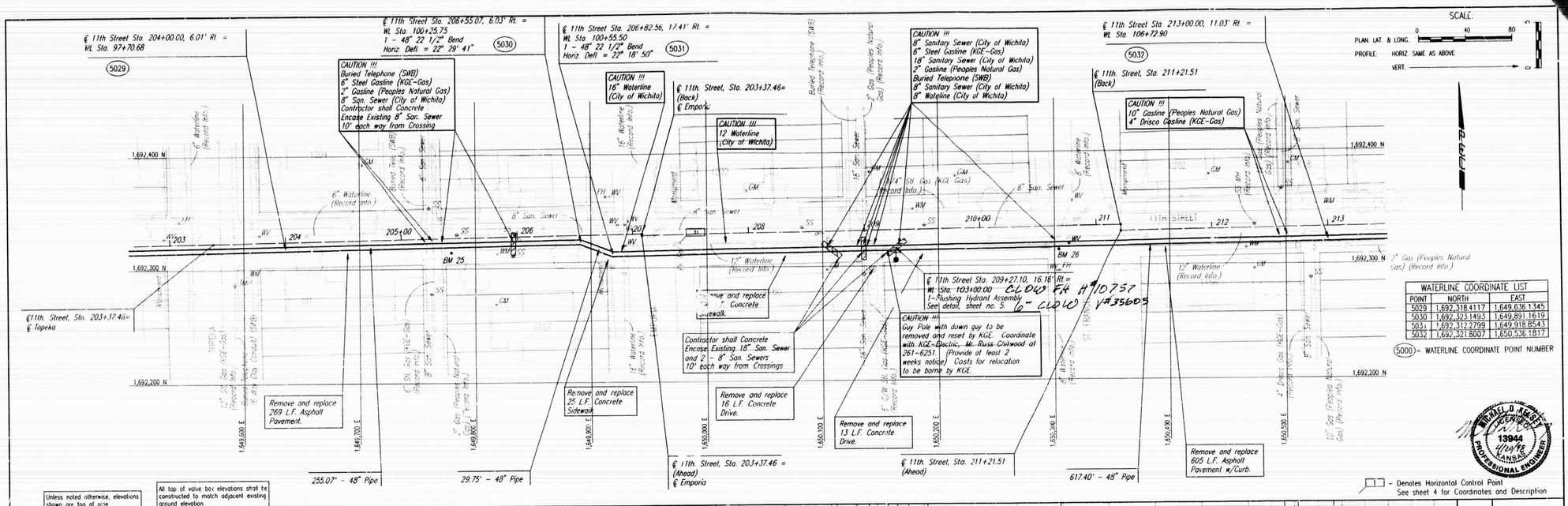
WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

Sheet 21 of 41

DSNR MDK OFER IDS SCALE: 1"=40.00
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CITY OF WICHITA, KANSAS
MICHAEL D. LINDEMAN, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Designed By: MDK
Drawn By: GM
Job No. 34-96151
Date APRIL 1997
Sheet 22 of 41

DGN: MDK OPER: TDS SCALE: 1=40.00
D:\1996\96151\PP15 04-19-1998 09:14:20 am

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℄ 11th Street Sta. 213+00.00, 11.03' Rt. = Wl Sta. 106+72.90

(5032)

CAUTION !!!
12" Waterline (City of Wichita)
12" SWS (City of Wichita)
8" Waterline (City of Wichita)

℄ 11th Street Sta. 214+15.00, 11.15' Rt. to ℄ 11th Street Sta. 215+50.00, 11.24' Rt. = Wl Sta. 107+87.90 to Wl Sta. 109+22.90
Install 135.00 L.F. Steel Casing by Boring. *
See detail, sheet 5

CAUTION !!!
12" Waterline (City of Wichita)
Exist. 12" Waterline parallel to Prop. 48" Waterline. Contractor to verify location/depth.

CAUTION !!!
12" RCP SWS (City of Wichita)
2" Waterline (City of Wichita)

Construct 20 L.F. Reinf. Conc. Cradle on existing 12" SWS
See detail, sheet no. 5.

℄ 11th, Street, Sta. 219+01.67= (Ahead) ℄ Mead

℄ 11th Street Sta. 221+39.68, 12.78' Rt. = Wl Sta. 115+12.56
1 - 48" 11 1/4° Bend
Horiz. Defl. = 11° 15' 00"

(5033)

℄ 11th Street Sta. 218+71.00, 11.42' Rt. to ℄ 11th Street Sta. 219+36.00, 12.85' Rt. = Wl Sta. 112+43.88 to Wl Sta. 113+08.88
Install 65.00 L.F. Steel Casing by Boring
See detail, sheet 5

CAUTION !!!
18" San. Sewer (City of Wichita)
Contractor shall Concrete Encase Existing 18" San. Sewer and Existing 8" San. Sewer, 10' each way from Crossing
2" Waterline (City of Wichita)
8" San. Sewer (City of Wichita)

CAUTION !!!
12" Waterline (City of Wichita)

℄ 11th Street Sta. 221+78.31, 5.08' Rt. = Wl Sta. 115+51.96
1 - 48° 22 1/2° Bend
Horiz. Defl. = 11° 19' 47"

(5034)

CAUTION !!!
8" SWS (City of Wichita)
8" Waterline (City of Wichita)
2" Steel Gasline (KGE-Gas)

℄ 11th Street Sta. 223+00.00, 5.1' Rt. = Wl Sta. 116+73.64

(5035)

PLAN: LAT & LONG 0 40 80
PROFILE: HORIZ SAME AS ABOVE
VERT 0 5

RR Mile Post 211.0

BNSF RR

UNION PACIFIC RR

SANTA FE

Buried USD 259 Communication Line (Record Info.)

1,692,400 N

1,692,300 N

1,692,200 N

1,650,500 E | 1,650,600 E | 1,650,700 E | 1,650,800 E | 1,650,900 E | 1,651,000 E | 1,651,100 E | 1,651,200 E | 1,651,300 E | 1,651,400 E | 1,651,500 E

213 | 214 | 215+00 | 216 | 217 | 218 | 219 | 220+00 11TH STREET | 221 | 222 | 223

BM 27 | BM 28

Remove and replace 101 L.F. Asphalt Pavement.

Remove and replace 13 L.F. Concrete Pavement.

CAUTION !!!
1 1/4" Gas (Peoples Natural Gas)

Remove and replace 321 L.F. Asphalt Pavement.

CAUTION !!!
2" Plastic Gasline (Peoples Natural Gas)

Remove and replace 275 L.F. Asphalt Pavement.

Remove and replace 21 L.F. Concrete Pavement.

Remove and replace 39 L.F. Concrete Pavement.

Remove and replace 30 L.F. Asphalt Pavement.

℄ 11th Street, Sta. 222+43.07 = ℄ Mosley

℄ 11th Street, Sta. 214+46.63= ℄ P.I.

℄ 11th Street Sta. 219+36.00, 12.85' Rt. = Wl Sta. 113+08.88
Install 1-8" Automatic Combination Air Valve in concrete vault.
See detail, sheet no. 6.

A.R V# 35606

839.66' - 48" Pipe

39.40' - 48" Pipe

121.68' - 48" Pipe

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5032	1,692,321.8007	1,650,536.1817
5033	1,692,334.7489	1,651,375.7424
5034	1,692,343.0297	1,651,414.2586
5035	1,692,344.7366	1,651,535.9250

(5000) = WATERLINE COORDINATE POINT NUMBER

Unless noted otherwise, elevations shown are top of pipe

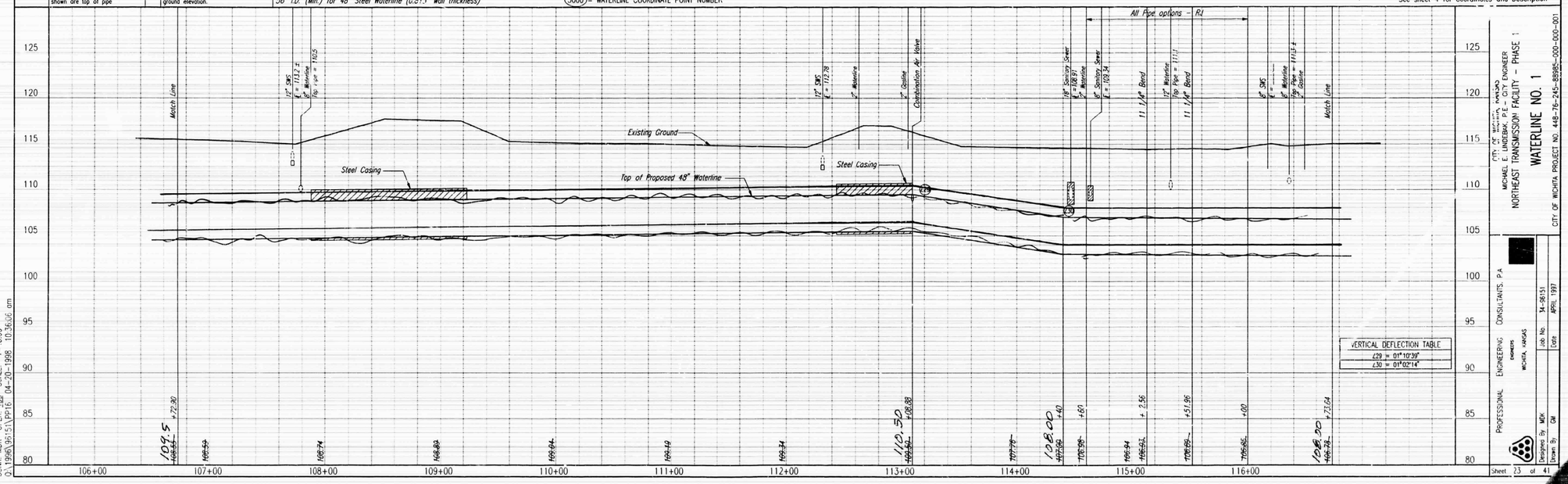
All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

*STEEL CASING SIZES
58" I.D. (Min.) for 48" D.I. Waterline (0.844" wall thickness)
64" I.D. (Min.) for 48" PCCP Waterline (0.938" wall thickness)
56" I.D. (Min.) for 48" Steel Waterline (0.813" wall thickness)

- Denotes Horizontal Control Point See sheet 4 for Coordinates and Description

SCALE:

MICHAEL D. KEARNEY 3944 10/3/96 LICENSED PROFESSIONAL ENGINEER



VERTICAL DEFLECTION TABLE
∠29 = 01°10'39"
∠30 = 01°02'14"

DSNR: MDK OPER: TDS SCALE: 1=40.00
D:\1996\96151\PP16 04-20-1998 10:36:06 am

PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS
Designed By: MDK
Drawn By: GM
Job No. 14-96151
Date APRIL 1997

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER (CITY OF WICHITA, KANSAS)

NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

Sheet 23 of 41

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℄ 11th Street Sta. 223+00.00, 5.13' Rt. = WL Sta. 116+73.64

(5035)

℄ 11th. Street, Sta. 225+86.53= (Ahead) ℄ Washington

℄ 11th Street Sta. 225+60.00, 5.03' Rt. to ℄ 11th Street Sta. 226+25.00, 8.24' Rt. = WL Sta. 119+33.64 to WL Sta. 119+98.64 Install 65.00 L.F. Steel Casing by Boring # See detail, sheet 5

℄ 11th Street Sta. 229+00.00, 9.00' Rt. = WL Sta. 122+73.66 Deflect Waterline 0° 19' 32" Left

(5036)

℄ 11th Street Sta. 230+85.62, 12.00' Lt. = N - 1,692,377.27 E - 1,652,321.09 Construct Standard MH over existing 8" Sanitary Sewer Top Elev. New MH = 115.32 ℄ Elev. New MH = 103.10 ± See Detail Sheet 41A

Demolish existing San. Sewer MH and Install New Sanitary Sewer Pipe in its place.

℄ 11th Street Sta. 229+56.40, 9.00' Rt. = WL Sta. 123+30.05 1-Flushing Hydrant Assembly See detail, sheet no. 5

1-48" Line Valve Assembly (WL Butterfly Valve) See detail, sheet no. 5

CLOW FH # 10758
6" CLOW V # 33607
48" Pratt V # 35608

℄ 11th Street Sta. 233+59.55, 9.00' Rt (Ext.) = WL Sta. 126+33.21 1 - 48" 90° Bend Horiz. Defl. = 89° 51' 06"

(5037)

CAUTION !!!
8" San. Sewer (City of Wichita)
Contractor shall Concrete Encase Existing 8" San. Sewer 10' each way from Crossing
4" Coated Steel Gasline (KGE-Gas)
2" Waterline (City of Wichita)

CAUTION !!!
12" SWS (City of Wichita)
8" San. Sewer (City of Wichita)
Contractor shall Concrete Encase Existing 8" San. Sewer 10' each way from Crossing

CAUTION !!!
2" Waterline (City of Wichita)
2" Steel Gasline (KGE-Gas)
8" SWS (City of Wichita)

CAUTION !!!
4" CI Gasline (KGE-Gas)
18" SWS (City of Wichita)
8" Waterline (City of Wichita)

CAUTION !!!
4" C.I. Gasline to be replaced prior to Waterline Construction. Coordinate With KGE Ms. Charlene Lawless at 832-3121 (Provide at least 2 weeks notice)

CAUTION !!!
8" San. Sew. (City of Wichita) Contractor shall Concrete Encase Existing 8" San. Sewer 10' each way from Crossing

Construct 14 L.F. Reinf. Conc. Cradle on existing 12" SWS See detail, sheet no. 5.

Construct 13 L.F. Reinf. Conc. Cradle on existing 8" SWS See detail, sheet no. 5

Construct 26 L.F. Reinf. Conc. Cradle on existing 18" SWS See detail, sheet no. 5

Remove and replace 260 L.F. Concrete Pavement

Remove and replace 635 L.F. Concrete Pavement.

RR Mile Post 305

207'

600.02' - 48" Pipe

359.55' - 48" Pipe

℄ 11th. Street, Sta. 225+86.53= (Back) ℄ Washington

℄ 11th. Street, Sta. 229+21.51= ℄ Wabash

℄ 11th. Street, Sta. 232+52.58= ℄ Ohio, Sta. 240+14.92

*STEEL CASING SIZES
58" I.D. (Min.) for 48" D.I. Waterline (0.844" wall thickness)
64" I.D. (Min.) for 48" PCCP Waterline (0.938" wall thickness)
56" I.D. (Min.) for 48" Steel Waterline (0.813" wall thickness)

Unless noted otherwise, elevations shown are top of pipe.

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5035	1,692,344.7366	1,651,535.9250
5036	1,692,353.1539	1,652,135.8830
5037	1,692,359.1941	1,652,495.3863

(5000) = WATERLINE COORDINATE POINT NUMBER

1 - Denotes Horizontal Control Point See sheet 4 for Coordinates and Description

DI and ST - RJ
PCCP - RJ

Match Line
8" Sanitary Sewer ℄ = 1103.3 ±
4" Gasline Steel Gasline
2" Waterline
12" SWS ℄ = 1111.0 ±
8" Sanitary Sewer ℄ = 1108.4 ±
Existing Ground
Waterline Deflection
4" Gasline
8" SWS ℄ = 1102.1 ±
Flushing Hydrant Assembly
8" Sanitary Sewer ℄ = 1096.5 ±
4" Gasline
18" SWS ℄ = 1110.0 ±
8" Waterline
90° Bend Top Pipe = 1111.7
Steel Casing
Top of Proposed 48" Waterline

VERTICAL DEFLECTION TABLE
Δ31 = 00°59'23"
Δ32 = 00°59'36"

116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00

125 120 115 110 105 100 95 90 85 80

10800 +23.64 10800 +23 10805 +21.65 10805 +00 10805 +80.00 10805 +33.21

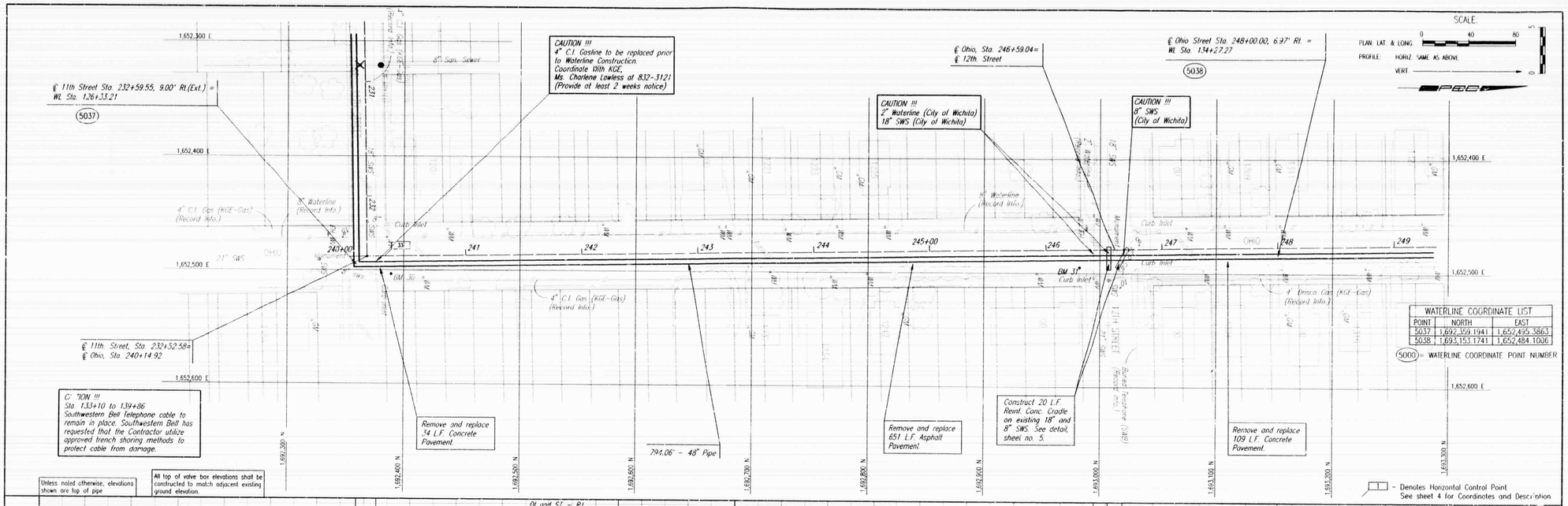
DGNR MJK OPR IDS SCALE 1=40.00
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CITY OF WICHITA, KANSAS
MICHAEL L. LUDWIG, P.E. CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

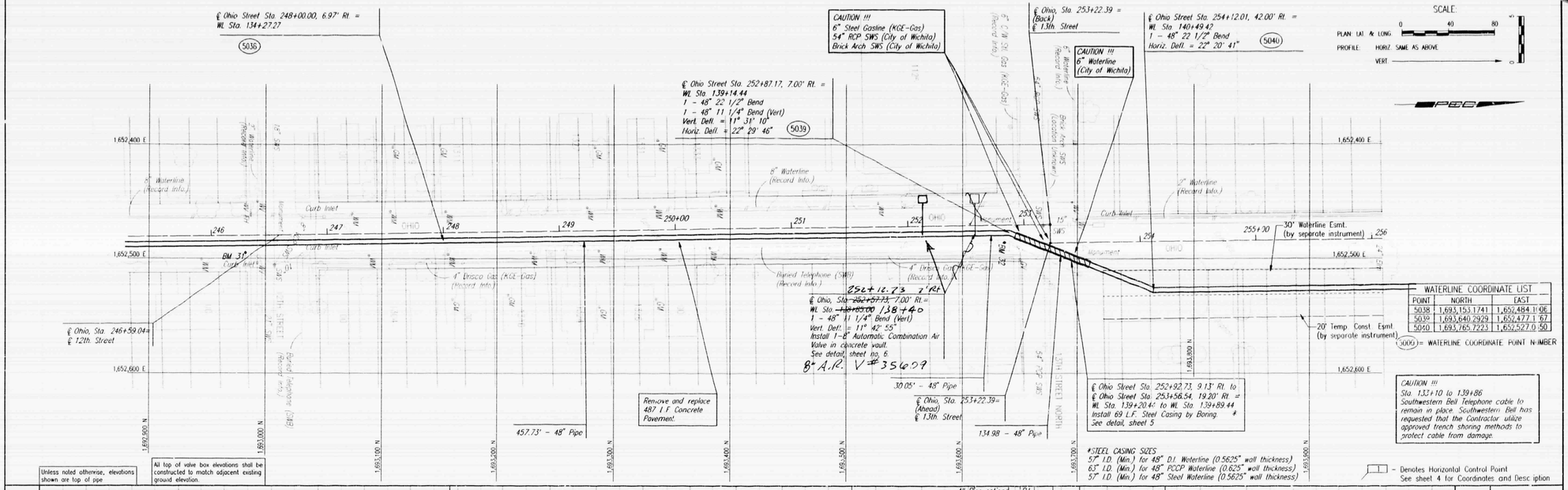
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEER WICHITA, KANSAS
Designed By MDK Job No. 34-96151
Drawn By JM Date APRIL 1997
Sheet 24 of 41

MICHAEL D. KELLY 13944 9/10/96 KANSAS PROFESSIONAL ENGINEER

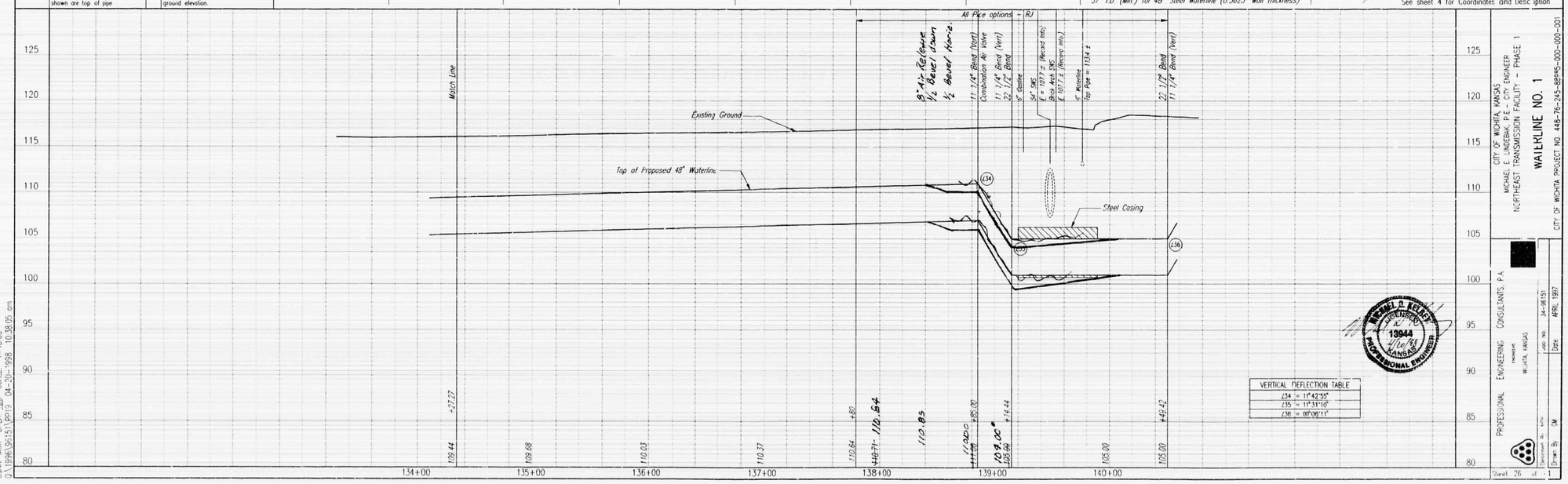
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WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5038	1,693,153.1741	1,652,484.1106
5039	1,693,640.2929	1,652,477.1167
5040	1,693,765.7223	1,652,527.0150



VERTICAL DEFLECTION TABLE

∠34	= 11°42'55"
∠35	= 11°31'10"
∠36	= 00°06'11"

MICHAEL A. KELLY LICENSED 13944 KANSAS PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEERING CONSULTANTS, P.A. WICHITA, KANSAS

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-8895-000-001

Job No. 34-96151
Date APRIL 1997
Designed RL KMW
Drawn BS DM
Sheet 26 of 1

DSNR MDK OPER JDS SCALE 1=40.00
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℄ Ohio, Sta. 253+22.39= (Back) ℄ 13th. Street

℄ Ohio Street Sta. 254+12.01, 32.00' Rt. = Wt. Sta. 140+49.42

(5040)

℄ Ohio Street Sta. 258+11.29, 42.00' Rt. =
Wt. Sta. 144+48.70 Bk.=
Wt. Sta. 144+52.07 Ahd.
1 - 48" 45° Bend
1 - 48" 11 1/4° Bend
Horiz. Defl. = 56° 15' 00"
Install 1-8" Automatic Combination Air Valve in concrete vault. See detail, sheet no. 6.

(5041)

B-A-R. ✓#35610

℄ Ohio, Sta. 259+83.26= ℄ 14th. Street, Sta. 270+00.00

SCALE:
PLAN: LAT & LONG 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

PEC

1,652,400 E

1,652,500 E

1,652,600 E

Barry Sauers Field (Platted as Washington Ave. Addition)

Madras Park (Platted as Sand Lake Addition)

(Platted as Valley Park Skelly Grove Addition)

8" C.I.W. Gas (Abandoned) (Record Info.)

6" Waterline (Record Info.)

Back 4x4 SMS

2" Waterline (Record Info.)

Curb Inlet

OHIO

253

15" SMS

254

255+00

30' Waterline Esmt. (by separate instrument)

256

257

258

259

Monument

2" Waterline (Record Info.)

4" Frisco Gas (WCF Gas) (Record Info.)

℄ Ohio, Sta. 253+22.39= (Ahead) ℄ 13th. Street

20' Temp. Const. Esmt. (by separate instrument)

Remove and replace 23 L.F. Asphalt Pavement with Curb.

399.28' - 48" Pipe

Remove and replace 22 L.F. Asphalt Pavement with Curb.

20' Temp. Const. Esmt. (by separate instrument)

30' Waterline Esmt. (by separate instrument)

Iron Pipe

BM 34

Curb Inlet

34

Ø4.24

14th STREET

272

1,693,600 N

1,693,700 N

1,693,800 N

1,693,900 N

1,694,000 N

1,694,100 N

1,694,200 N

1,694,300 N

1,694,400 N

1,694,500 N

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5040	1,693,765.7223	1,652,527.0450
5041	1,694,164.9719	1,652,522.4251

(5000) - WATERLINE COORDINATE POINT NUMBER

MICHAEL D. KOLARY LICENSED 13944 KANSAS PROFESSIONAL ENGINEER

1 - Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation

All Pipe options - RJ

DI and ST - RJ
PCCP - RJ

Match Line

45° Bend
11 1/4° Bend
Combination Air Valve

Existing Ground

Top of Proposed 48" Waterline

(36)

(38)

105.00 +49.42
105.27
105.63
106.09 +00 107.92
107.04 +50
108.38 +00 109.25
109.39
110.01 +45.71 Bk=
+52.07 Ahd

VERTICAL DEFLECTION TABLE
∠36 = 11°15'02"
∠38 = 00°57'39"

125 120 115 110 105 100 95 90 85 80

140+00 141+00 142+00 143+00 144+00

DWG. NO. GFB 105 SCALE 1-40 2c
D. NAME \s151\GFB105_04-19-1938_091611..dgn

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
WICHITA, KANSAS

Designed By MDK | Job No. 34-96151
Drawn By DM | Date APRIL 1997

Sheet 27 of 41

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SCALE:
PLAN, LAT. & LONG: 0 40 80
PROFILE: HORZ. SAME AS ABOVE
VERT.

℄ Ohio, Sta. 259+83.26=
℄ 14th. Street, Sta. 270+00.00

℄ 14th Street Sta. 273+54.79, 28.00' Rt. =
WL Sta. 148+32.46
1 - 48" 11 1/4° Bend
Horiz. Defl. = 11° 07' 01" (5042)

℄ 14th Street Sta. 276+74.19, 28.09' Rt. =
WL Sta. 151+52.67
1 - 48" 22 1/2° Bend
Horiz. Defl. 22° 30' 00" (5043)

℄ 14th Street Sta. 279+15.40, 15.40' Rt.(Ext.)
WL Sta. 154+20.83
1 - 48" 45° Bend
1 - 48" 11 1/4° Bend
Horiz. Defl. = 55° 00' 00" (5044)

℄ Ohio Street Sta. 258+11.29, 42.00' Rt. =
WL Sta. 144+48.70 Bk.=
WL Sta. 144+52.07 Ahd. (5041)

CAUTION !!!
36" San. Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 36" San. Sewer
10' each way from crossing

CAUTION !!!
18" SWS
(City of Wichita)

Remove and reset Guard Posts

Remove and replace 65 L.F. Asphalt Pavement with Curb.

Construct 30 L.F. Reinf. Conc. Cradle on existing 18" SWS. See detail, sheet no. 5

50' Waterline Esmt. (by separate instrument)

Remove and replace 9 L.F. Concrete Sidewalk

Remove and replace RCP as required.

20' Temt. Const. Esmt. (by separate instrument)

380.39' - 48" Pipe

320.21' - 48" Pipe

267.96' - 48" Pipe

℄ 14th Street Sta. 275+42.33, 28.00' Rt. =
WL Sta. 150+20.00
1 - Flushing Hydrant Assembly
See detail, sheet no. 5

CLOW FH # 10759
6" CLOW V # 35611

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5041	1,694,164.9719	1,652,522.4251
5042	1,694,379.9511	1,652,836.2419
5043	1,694,608.4547	1,653,060.5579
5044	1,694,856.9513	1,653,160.8064

(5000) = WATERLINE COORDINATE POINT NUMBER

1 - Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe.

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

DI and ST - RJ | PCCP - RJ | All pipe options - RJ | PCCP - RJ | DI and ST - RJ | PCCP - RJ

Match Line

Existing Ground

Top of Proposed 48" Waterline

-0.610 %
-3.75 %
+3.75 %
+1.11 %

18" SWS ℄ = 1412.40
36" San. Sewer ℄ = 1040.5

11 1/4° Bend
1/2 Bevel down
1/2 Bevel / Horiz. Flushing Hydrant Assembly
1° Bevel up
22 1/2° Bend
15" RCP SWS ℄ = 1412.40
1/2 Bevel
45° Bend
11 1/4° Bend

VERTICAL DEFLECTION TABLE
∠38 = 00°57'39"
∠39 = 00°51'28"
∠40 = 01°20'45"
∠41 = 01°04'55"

	144+00	145+00	146+00	147+00	148+00	149+00	150+00	151+00	152+00	153+00	154+00
Station	110.00	109.75	108.09	107.19	108.47	107.33	107.46	107.50	106.00	101.50	101.50
	+52.07 Ahd =	+80	+40	+32.46	+20.00	+80.00	+61.67	+40	+40	+20.83	
	-48.70 Bk	109.75	108.09	107.19	106.84	107.46	107.50	106.00	104.23	102.25	101.50
			107.28		107.07		102.25		102.25		
					102.86				104.23		
									107.90		
										108.18	
											109.27
											109.50

Existing Ground
Top of Proposed 48" Waterline

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 449-78-245-89385-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
WICHITA, KANSAS

Designed By: MCH | Job No. 34-98151
Drawn By: DM | Date: APRIL 1997

Sheet 28 of 41

DGN: MCH OPER: TDS SCALE: 1"=40.00
O:\1998\34151\PF21 04-20-1998 10:39:59 am

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SCALE:
0 40 80
PLAN: LAT. & LONG.
PROFILE: HORIZ. SAME AS ABOVE
VERT.

Remove and replace 4 L.F. Concrete Sidewalk

℄ 14th Street Sta. 279+15.40, 71.79' Rt.(Ext.) = Wl. Sta. 154+20.63

(5044)

℄ 14th Street Sta. 279+55.23, 124.11' Rt. = Wl. Sta. 154+75.00
Install 1-8" Automatic Combination Air Valve in concrete vault.
See Detail, sheet no. 6. 8" A.R.V. #35612

℄ 15th Street Sta. 281+58.12, 138.23' Rt. to ℄ 15th Street Sta. 282+12.77, 125.79' Rt. = Wl. Sta. 155+00 to Wl. Sta. 155+58
Install 58.00 L.F. Steel Casing by Open cut.*

℄ 15th Street Sta. 282+19.43, 124.33' Rt. = Wl. Sta. 155+65.00
1 - 48° 11 1/4° Bend (Vert)
Vert. Defl. = 11° 36' 42"

℄ 15th Street Sta. 282+43.85, 118.99' Rt. = Wl. Sta. 155+90.00
1 - 48° 11 1/4° Bend (Vert)
1 - 48° 22 1/2° Bend (Vert)
Vert. Defl. = 32° 35' 33"

℄ 15th Street Sta. 282+53.62, 116.83' Rt. = Wl. Sta. 156+00.00
1 - 48° 45° Bend (Vert)
Vert. Defl. = 45° 00' 00"

℄ 15th Street Sta. 283+12.22, 103.96' Rt. = Wl. Sta. 156+60.00
1 - 48° 22 1/2° Bend (Vert)
Vert. Defl. = 21° 48' 05"
1 - Flushing Hydrant Assembly
See detail, sheet no. 5.
CLOW FH. #10760
6" CLOW V = 35613
62.5' S N. R.O.W.
80.5' N S R.O.W.

℄ 15th Street Sta. 283+64.97, 92.36' Rt. to ℄ 15th Street Sta. 284+11.83, 82.09' Rt. = Wl. Sta. 157+14 to Wl. Sta. 157+62
Install 48.00 L.F. Steel Casing by Open cut.*

℄ 15th Street Sta. 283+81.06, 93.24' Rt. = Wl. Sta. 157+30.00
1 - 48° 22 1/2° Bend (Vert)
Vert. Defl. = 21° 32' 37"
1 - 8" Air Release Assembly
See detail, sheet no. 6.

℄ 15th Street Sta. 286+83.56, 22.45' Rt. = Wl. Sta. 160+40.00
Install 1-8" Automatic Combination Air Valve in concrete vault.
See Detail, sheet no. 6.
8" A.R.V. #35614

℄ 15th Street Sta. 287+35.08, 14.00' Rt. = Wl. Sta. 160+92.79
1 - 48° 11 1/4° Bend
Horiz. Defl. = 12° 06' 20"

(5046)

℄ 15th Street North, Sta. 287+17.89= (Ahead)
℄ New York Ave.

CAUTION !!!
54" San. Sewer (City of Wichita)
Contractor shall Concrete Encase Existing 54" San. Sewer 10' each way from crossing

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5044	1,694,856.9513	1,653,160.8062
5046	1,695,008.4955	1,653,815.6591

(5000) = WATERLINE COORDINATE POINT NUMBER

CAUTION !!!
15" CMP SWS (City of Wichita)

CAUTION !!!
Bridge Columns

CAUTION !!!
12" CMP SWS (City of Wichita)

CAUTION !!!
Bridge Columns

Temp. Const. Esmt. (by separate instrument)

30' Waterline Esmt. (by separate instrument)

20' Temp. Const. Esmt. (by separate instrument)

54.37' - 48" Pipe
90.01' - 48" Pipe
25.60' - 48" Pipe (Vert)
14.14' - 48" Pipe (Vert)
60.00' - 48" Pipe
53.85' - 48" Pipe (Vert)
382.79' - 48" Pipe

Construct 20 L.F. Reinf. Conc. Cradle on existing 15" SWS See detail, sheet no. 5.

Construct 20 L.F. Reinf. Conc. Cradle on existing 12" SWS See detail, sheet no. 5.

Remove and replace 8 L.F. Asphalt Pavement

Remove and replace 34 L.F. Gravel Road.

*STEEL CASING SIZES
57" I.D. (Min.) for 48" D.I. Waterline (0.5625" wall thickness)
67" I.D. (Min.) for 48" PCCP Waterline (0.625" wall thickness)
57" I.D. (Min.) for 48" Steel Waterline (0.5625" wall thickness)

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

Unless noted otherwise, elevations shown are top of pipe

*NO SPECIAL OR ADDITIONAL PAYMENT WILL BE MADE FOR CROSSING THE CANAL

DUCTILE IRON PIPE OPTION
Use Pressure Class 250(min.) from Sta. 154+75 to 158+00 (Subsidiary to the price bid for pipe in place.)

[1] - Denotes Horizontal Control Point See sheet 4 for Coordinates and Description



VERTICAL DEFLECTION TABLE

∠41 =	01°04'55"
∠42 =	01°05'33"
∠43 =	11°36'42"
∠44 =	11°36'33"
∠45 =	45°00'00"
∠46 =	21°48'05"
∠48 =	21°37'40"
∠49 =	00°10'25"
∠50 =	01°38'31"

MICHAEL D. KELLEY LICENSED 13944 STATE OF KANSAS PROFESSIONAL ENGINEER

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEAU, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE I

WATERLINE NO. 1

WICHITA PROJECT NO. 448-76-245-85585-000-000-001

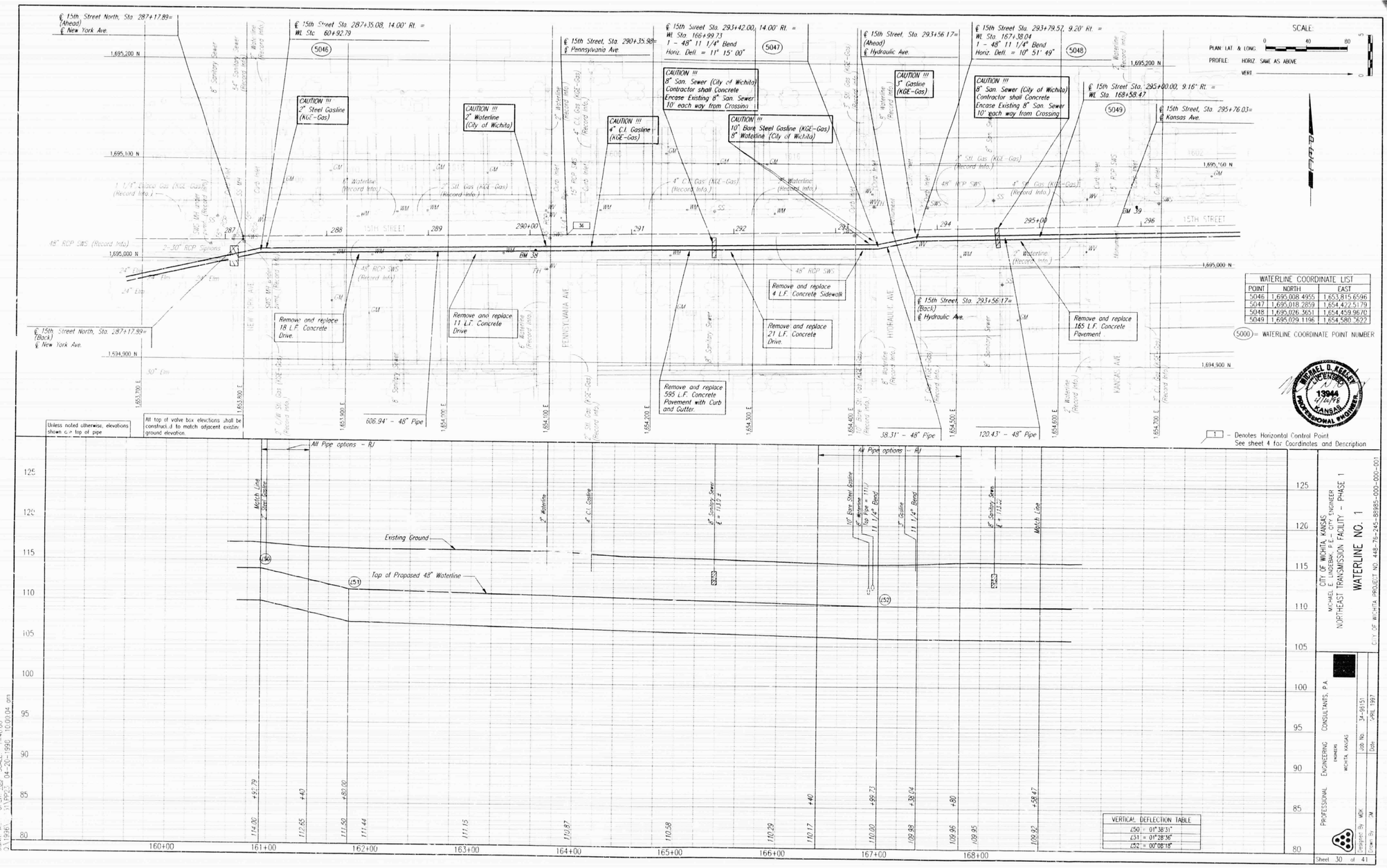
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
CHANUTE KANSAS WICHITA, KANSAS

Job No 34-96151
Date APRIL 1997
Designed By MDK
Drawn By GM

Sheet 29 of 41

DSNR: MDK OPER: IDS SCALE: 1=40.00
(\\1296\96151***) 04-20-1998 10:41:01 am

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€ 15th Street Sta. 295+00.00, 9.16' Rt. = Wt. Sta. 168+58.47

(5049)

€ 15th Street, Sta. 295+76.03= € Kansas Ave.

€ 15th Street, Sta. 299+45.99= € Minneapolis Ave.

CAUTION !!!
8" Waterline (City of Wichita)
8" Gasline (KGE-Gas)
8" San. Sewer (City of Wichita)
Contractor shall Concrete Encase Existing 8" San. Sewer, 10' each way from Crossing

€ 15th Street Sta. 304+00.00, 9.13' Rt. = Wt. Sta. 177+58.47

(5050)

€ 15th Street, Sta. 303+16.05= € Minnesota Ave.

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0 5

1,695,200 N
1,695,100 N
1,695,000 N
1,694,900 N

8" Sanitary Sewer
15" RCP SWS
48" RCP SWS
2" Waterline (Record Info.)
4" Stl. Gas (KGE Gas) (Record Info.)
2" Stl. Gas (KGE Gas) (Record Info.)
8" Waterline (Record Info.)
4" Cl. Gas (KGE-Gas) (Record Info.)
2" Gasline (KGE-Gas) (Record Info.)
4" Bare Steel Gas (KGE-Gas) (Record Info.)
Curb Inlet
Manhole
Match Line
Fire Hydrant
Gate Valve
Monument

295+00 296 297 298 299 300+00 301 302 303 304 305+00

BM 39
BM 40

15TH STREET NORTH
KANSAS AVE.
MINNEAPOLIS AVE.
MINNESOTA AVE.

CAUTION !!!
2" Waterline (City of Wichita)
3" C.I. Gasline (KGE-Gas)
Gasline to be replaced prior to Waterline Construction.
Coordinate With KGE,
Ms. Charlene Lowless at 832-3121
(Provide at least 2 weeks notice)

Remove and replace 900 L.F. Concrete Pavement.

900.00' - 48" Pipe

CAUTION !!!
2" Waterline (City of Wichita)
4" Bare Steel Gasline (KGE-Gas)

WATERLINE COORDINATE LIST

POINT	NORTH	EAST
5049	1,695,029.1196	1,654,580.3622
5050	1,695,049.7053	1,655,480.1280

(5000) = WATERLINE COORDINATE POINT NUMBER

1 – Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

MICHAEL D. REINERT
REGISTERED
No. 13944
11/16/98
KANSAS
PROFESSIONAL ENGINEER

DI and St. - RJ
PCCP - RJ

Match Line
8" Waterline
3" Gasline
Top Pipe = 1126.± 8" Waterline
5" Gasline
8" Sanitary Sewer ℄ = 112.50
5" Waterline
4" Bare Steel Gasline
Match Line

Existing Ground
Top of Proposed 48" Waterline

(53)

125 120 115 110 105 100 95 90 85 80

+58.47 109.92 109.91 109.86 109.81 109.76 109.72 109.67 109.62 109.57 109.5- +58.47 109.50

168+00 169+00 170+00 171+00 172+00 173+00 174+00 175+00 176+00 177+00

VERTICAL DEFLECTION TABLE
(53) = 00°16'10"

DGN#: MON OPER: JDS SCALE 1=40.00
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CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION MAIN - PHASE 1

WATERLINE NO. 1

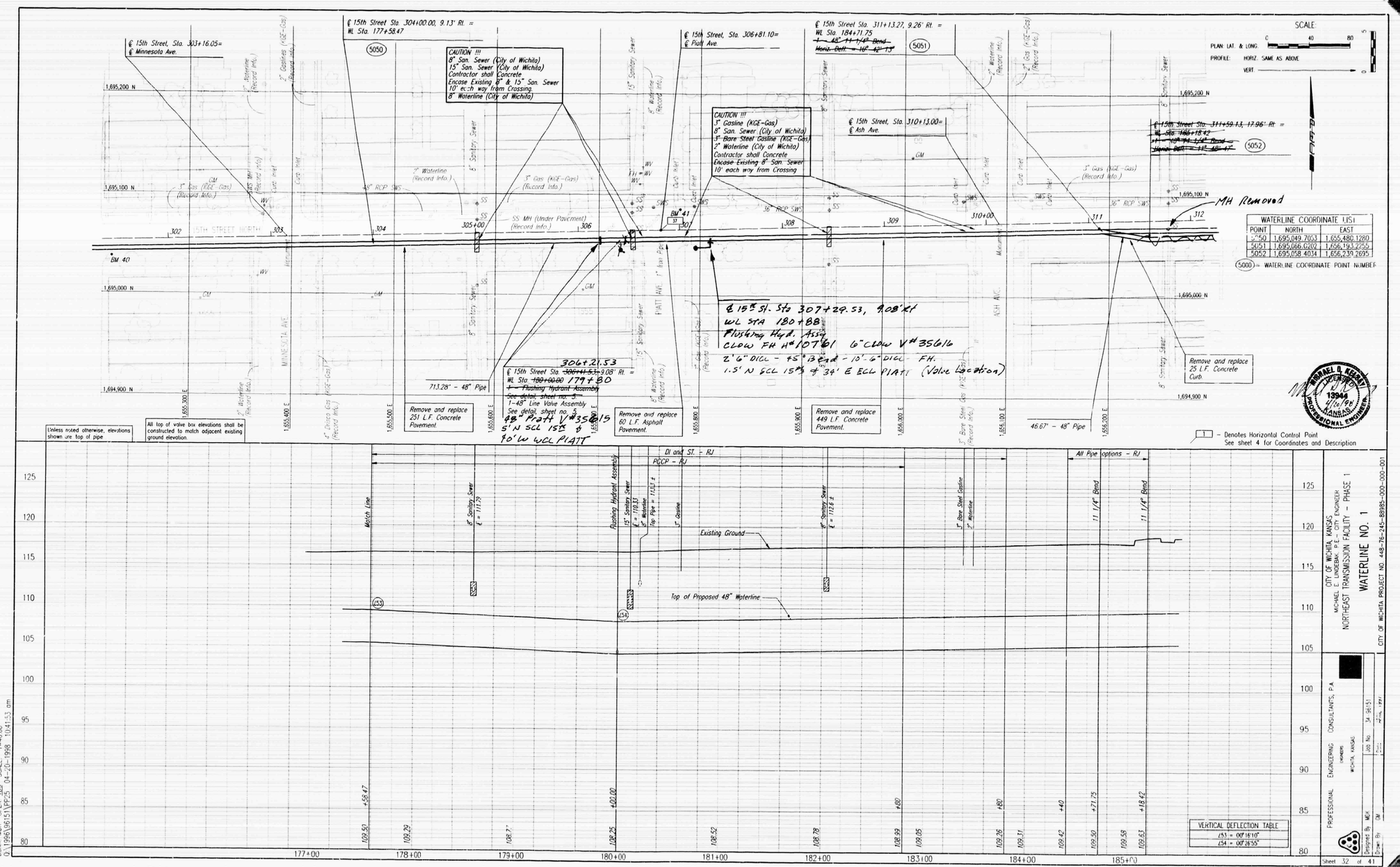
CITY OF WICHITA PROJECT NO. 448-71 45-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
WICHITA, KANSAS

Designed by: MDR
Drawn by: DM
Job No. 34-98151
Date APRIL 1997

Sheet 31 of 41

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℄ 15th Street Sta. 311+59.13, ~~1796' Rt.~~ 9' Rt =
Wt. Sta. 185+18.42

℄ 15th Street, Sta. 310+13.00=
℄ Ash Ave

CAUTION !!!
8" Sanitary Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing

℄ 15th Street, Sta. 313+44.01=
℄ Madison Ave

CAUTION !!!
2" Waterline (City of Wichita)
2" Gasline (KGE-Gas)
8" San. Sew. (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing

℄ 15th Street Sta. 316+75.01, 8.00' Rt. =
Wt. Sta. 190+34.38
Horiz. Defl. Waterline 1° 04' 39" Right
Vert. Defl. 0° 10' 03"

℄ 15th Street, Sta. ~~316+75.00~~=
℄ Spruce Ave.

℄ 15th Street Sta. 320+50.00, 8.00' Rt. =
Wt. Sta. 194+09.38

CAUTION !!!
2" Waterline (City of Wichita)
8" San. Sew. (City of Wichita)
15" SWS (City of Wichita)
2" Waterline (City of Wichita)
4" Coated Steel Gasline (KGE-Gas)
15" SWS (City of Wichita)

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0

1,695,200 N
1,695,100 N
1,695,000 N
1,694,900 N
1,656,100 E
1,656,200 E
1,656,300 E
1,656,400 E
1,656,500 E
1,656,600 E
1,656,700 E
1,656,800 E
1,656,900 E
1,657,000 E
1,657,100 E

310+00 311 312 313 314 315+00 316 317 318 319 320+09

15TH STREET NORTH

55 MH Removed

BM 42 BM 43

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5052	1,695,058.4034	1,656,239.2695
5053	1,695,080.1892	1,656,754.7714
5054	1,695,088.9744	1,657,129.6673

(5000) = WATERLINE COORDINATE POINT NUMBER

Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing

Construct 20 L.F.
Reinf. Conc. Cradle
on existing 15" SWS
See detail, sheet no. 5

Construct 20 L.F.
Reinf. Conc. Cradle
on existing 15" SWS
See detail, sheet no. 5

Remove and replace
168 L.F. Concrete
Pavement ~~with Curb
and Gutter~~

Remove and replace
613 L.F. Concrete
Pavement.

Remove and replace
26 L.F. Asphalt
Pavement

Remove and replace
24 L.F. Concrete
Pavement

515.96' - 48" Pipe

375.00' - 48" Pipe

MICHAEL D. KELSEY
13944
4/20/98
KANSAS
PROFESSIONAL ENGINEER

1 – Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless not...l otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

All Pipe options – RJ

Match Line
8" Sanitary Sewer
E= 1119.22
(5053)

8" Waterline
2" Gasline

8" Sanitary Sewer
E= 1122.55
(5053)

Deflect Waterline
2" Waterline
(55)

8" Sanitary Sewer
E= 1135.6 ±
(5053)

15" SWS
E= 1116.41
2" Waterline
4" Coated Steel Gasline
15" SWS
E= 1119.68
Match Line

Existing Ground

Top of Proposed 48" Waterline

130 125 120 115 110 105 100 95 90 85

VERTICAL DEFLECTION TABLE
(55) = 00°10'03"

185+00	+18.42	186+00	+60	187+00	188+00	189+00	190+00	+34.38	191+00	192+00	193+00	194+00
109.63		109.74	109.85	110.11	110.38	110.64	110.91	111.00	111.37	111.92	112.46	113.04 / 113.09

CITY OF WICHITA, KANSAS
MICHAEL D. KELSEY, P.E. CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY – PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-89385-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
DENVER WICHITA, KANSAS
Designed By MDK Job No. 34-98151
Drawn By GM Date APRIL 1997
Sheet 33 of 41

DGN: WDK CHK: IDS SCAL: 1"=40.00
D:\99W\98151\P26 04-19-1998 09:18:58 am

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℄ 9th Street Sta. 113+78.28, 7.00' Rt.=
Wt. Sta. 47+55.21 (Back) =
Wt. Sta. 47+88.91 (Ahead) =

(5015) Added half barrel
Raised pipe 18"

CAUTION !!!
Telephone Line
℄ 9th Street Sta. 115+01 to 116+67
Telephone Line to be removed and reset by SWB. Coordinate with SWB, Mr. Greg Sharpe at 268-2245. (Provide at least 2 weeks notice)

℄ 9th Street Sta. 118+90.00, 7.11' Rt.=
Wt. Sta. 53+00.65
1 = 48° 11 1/4" Bend
Horiz. Defl. = 11° 15' 00"

(5016)

℄ 9th St., Sta. 118+35.33=
℄ Jefferson

CAUTION !!!
Buried Telephone (SWB)
8" San. Sewer (City of Wichita)
Contractor shall Concrete Encase existing 8" San. Sewer 10' each way from Crossing

CAUTION !!!
2" Waterline (City of Wichita)

℄ 9th Street Sta. 119+56.66, 6.00' Lt.=
Wt. Sta. 53+68.59
1 = 48° 11 1/4" Bend
Horiz. Defl. = 11° 07' 48"

(5017)

℄ 9th Street Sta. 122+50.00, 6.09' Lt.=
Wt. Sta. 56+61.94

(5018)

CAUTION !!!
8" SWS (City of Wichita)
2" Waterline (City of Wichita)
15" SWS (City of Wichita)

1,691,200 N

℄ 9th Street, Sta. 113+52.98

PROPOSED 8" WATERLINE (C.O.W. Proj. No. 448-89196)

PROPOSED 8" WATERLINE (C.O.W. Proj. No. 448-89196)

1,691,100 N

1,691,000 N

1,690,900 N

1,691,209 N

1,691,100 N

1,691,000 N

1,690,900 N

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0 5

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5015	1,691,091.3756	1,645,792.0348
5016	1,691,099.7218	1,646,303.7062
5017	1,691,114.0610	1,646,370.1143
5018	1,691,119.4597	1,646,663.4106

(5000) = WATERLINE COORDINATE POINT NUMBER

CAUTION !!!
Sta. 49+31 to 53+01 and
Sta. 54+35 to 59+86
Southwestern Bell Telephone cable to remain in place. Southwestern Bell has requested that the Contractor utilize approved trench shoring methods to protect cable from damage.

CAUTION !!!
Telephone MH (SWB)
Buried Telephone (SWB)

Remove and replace 115 L.F. Asphalt Pavement.

511.74' - 48" Pipe

Remove and replace 764 L.F. Concrete Pavement.

67.94' - 48" Pipe

CAUTION !!!
2" Gasline (KGE-Gas)
2" Waterline (City of Wichita)
8" San. Sewer (City of Wichita)
Contractor shall Concrete Encase Existing 8" San. Sewer 10' each way from Crossing

293.35' - 48" Pipe

Construc 20 L.F. Reinf. Conc. Cradle on existing 8" and 15" SWS. see detail, sheet no. 5.

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

[1] – Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

DI and ST – RJ
PCCP – RJ
All Pipe Options – RJ

Existing Ground

Conduit parallel to Proposed Waterline

Top of Proposed 48" Waterline

VERTICAL DEFLECTION TABLE
∠22 = 00°00'54"
∠23 = 00°07'54"

MICHAEL D. KELBER
No. 13044
04/19/96
KANSAS
PROFESSIONAL ENGINEER

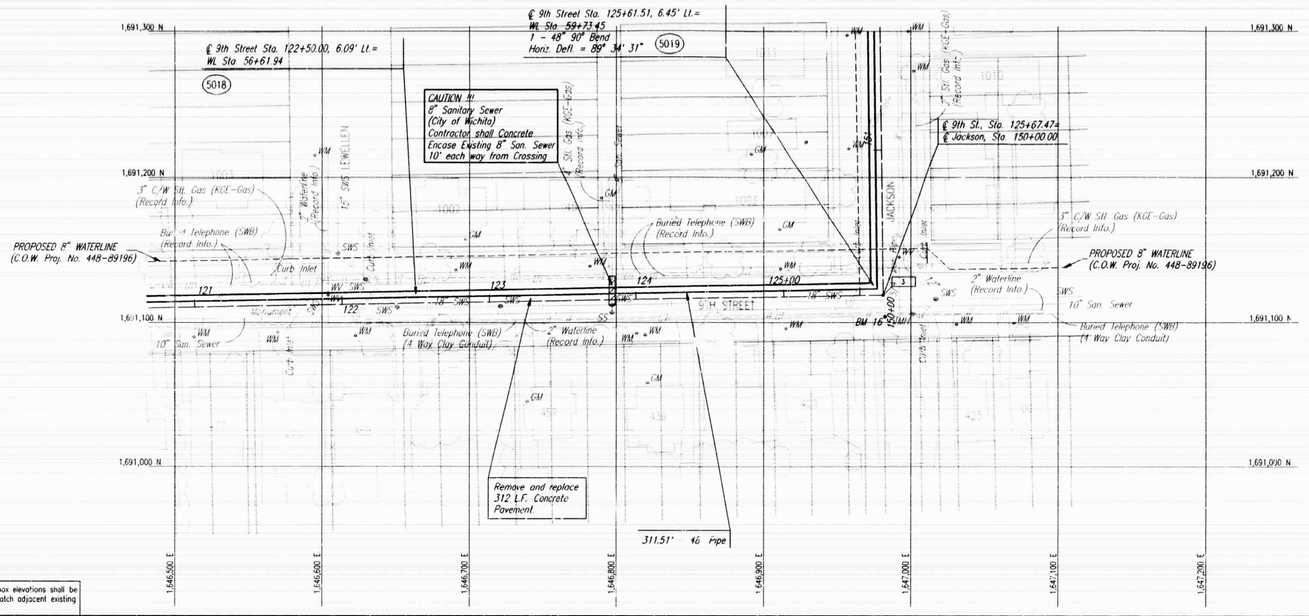
CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. – CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY – PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
WICHITA, KANSAS
Job No. 34-96151
Date APRIL 1997
Designed By MDK
Drawn By CM

Sheet 15 of 41

DGN: MDK CPER TDS SCALE 1=40.00
S:\1996\96151\PLAN\08 04-19-1996 10:10:05 am

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SCALE:
PLAN, LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5018	1,691,119.4597	1,646,663.4105
5019	1,691,125.1928	1,646,974.8699

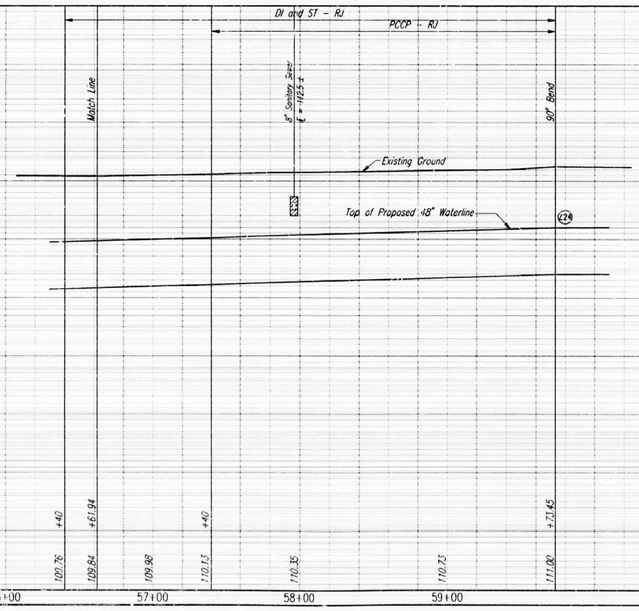
(5000) = WATERLINE COORDINATE POINT NUMBER

CAUTION !!!
Sta. 54+35 to 59+86
Southwestern Bell Telephone cable to remain in place. Southwestern Bell has requested that the Contractor utilize approved trench shoring methods to protect cable from damage.

1 - Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe.

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.



VERTICAL DEFLECTION TABLE
℄24 = 00°10'52"

MICHAEL D. KEELER LICENSED 13944 7/10/98 KANSAS PROFESSIONAL ENGINEER

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-889895-000-000-201

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
WICHITA, KANSAS
Designed By MDK
Drawn By CM
Job No. 34-6151
Date APRIL 1997

Sheet 16 of 41

DSNR MDK OPER IDS SCALE 1=40.00
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℄ 9th Street Sta. 125+61.51, 6.45' Lt.=
WL Sta. 59+73.45
(5019)

4" Stl. Gas (KGE-Gas)
(Record Info.)

℄ Jackson Sta. 154+70.00, 6.00' Lt.=
WL Sta. 64+37.04
1 - 48° 11 1/4° Bend
Horiz. Defl. = 11° 15' 00"
(5020)

℄ Jackson Sta. 155+35.35, 7.00' Rt.=
WL Sta. 65+03.68
1 - 48° 11 1/4° Bend
Horiz. Defl. = 11° 15' 00"
(5021)

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

CAUTION !!!
Buried Telephone Cables (SWB)
12" SWS (City of Wichita)
3" Steel Gasline (KGE-Gas)

CLOW FA # 10756
6" CLOW V# 33599

℄ Jackson Sta. 154+39.60, 6.00' Lt.=
WL Sta. 60+06.64
1 - Flushing Hydrant Assembly
See detail, sheet no. 5

CAUTION !!!
6" Waterline (City of Wichita)
8" Bore Steel Gasline (KGE-Gas)

PROPOSED 8" WATERLINE
(C.O.W. Proj. No. 448-89196)

2" Waterline
(Record Info.)

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5019	1,691,125.1928	1,646,974.8699
5020	1,691,588.7548	1,646,969.7745
5021	1,691,654.2492	1,646,982.0503

(5000) = WATERLINE COORDINATE POINT NUMBER

CAUTION !!!
Sta. 54+35 to 59+86
Southwestern Bell Telephone cable to remain in place. Southwestern Bell has requested that the Contractor utilize approved trench shoring methods to protect cable from damage.

Construct 20 L.F. Reinf. Conc. Cradle on existing 12" SWS. See detail, sheet no. 5

Remove and Reset 68 L.F. Brick Pavement.

Remove and replace 32 L.F. Concrete Pavement.

Remove and replace 431 L.F. Concrete Pavement.

463.59' - 48" Pipe

66.64' - 48" Pipe

PROPOSED 8" WATERLINE
(C.O.W. Proj. No. 448-89196)

1,646,800 E
1,646,900 E
1,647,000 E
1,647,100 E

1,691,000 N
1,691,100 N
1,691,200 N
1,691,300 N
1,691,400 N
1,691,500 N
1,691,600 N
1,691,700 N
1,691,800 N

1 - Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

PCCP - RJ
DI and ST - RJ
All Pipe options - RJ

Match Line
12" SWS
2" Bell Telephone
3" Gasline
Trapped 8" Waterline
Top Pipe El=1160
Flushing Hydrant Assembly
(24)

Existing Ground
Top of Proposed 48" Waterline

11 1/4° Bend
2" Waterline
Top Pipe = 1154.2
3" Bore Steel Gasline
11 1/4° Bend

VERTICAL DEFLECTION TABLE
∠24 = 00°10'-2"

Station	Offset	Elevation
59+00	+21.45	111.00
60+00	+06.64	111.01
		111.01
61+00	+00	111.07
62+00	+00	111.11
63+00	+80	111.13
		111.18
64+00	+80	111.23
	+37.04	111.24
65+00	+03.68	111.26
		111.30

MICHAEL D. KEARNEY
LICENSED
13944
JANUARY
PROFESSIONAL ENGINEER

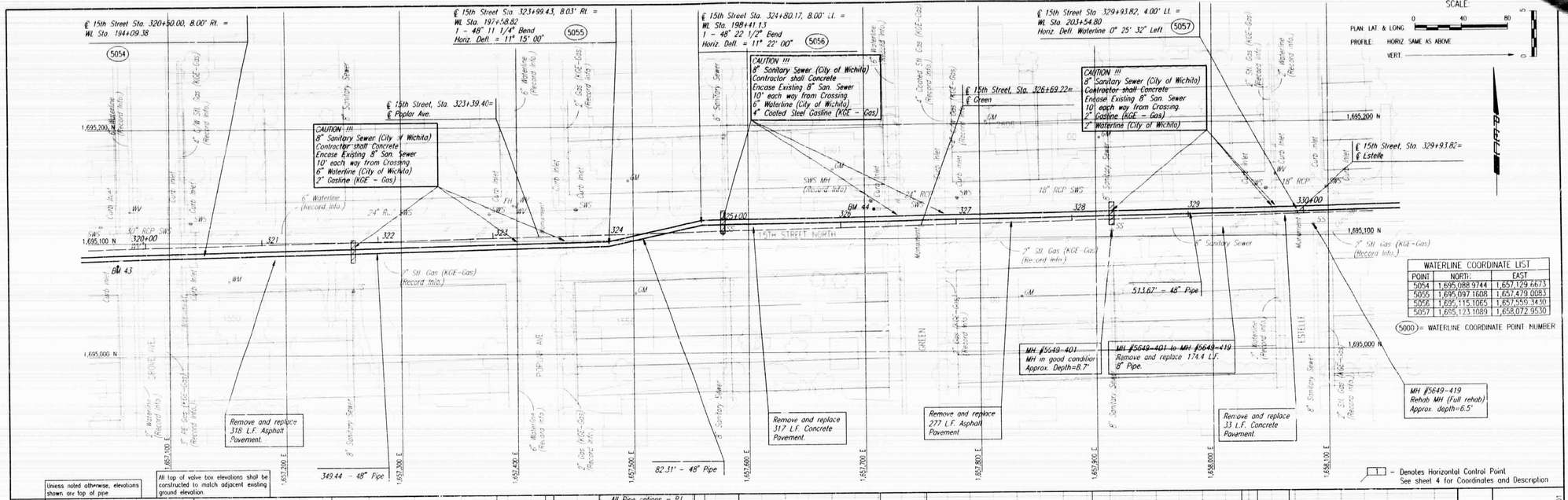
CITY OF WICHITA, KANSAS
MICHAEL E. UNGERAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-215-88985-000-000-001

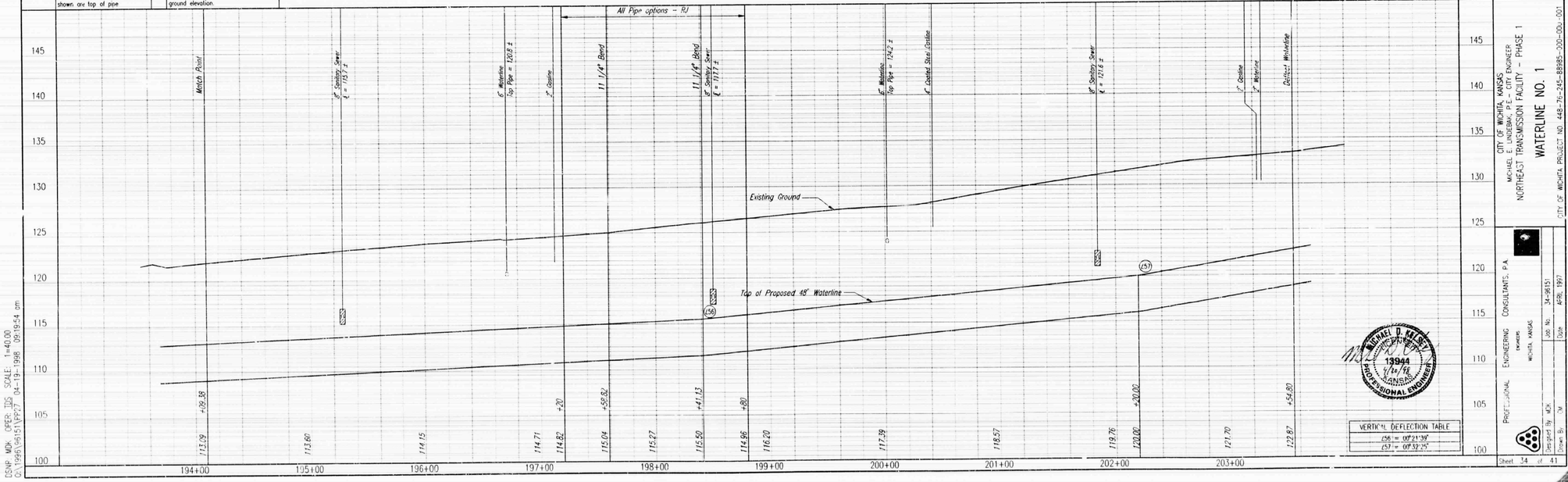
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
DENVER, WICHITA, KANSAS
Designed By: MDK
Drawn By:
Job No. 34-96151
APRIL 1997

Sheet 17 of 41

DGN: MDK DATE TOS SCALE: 1=40.00
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DSNP: MDK OPER: IDS SCALE: 1=40.00
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PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
DENVER WICHITA KANSAS
Job No. 34-96151
Date APRIL 1997
Designed by MDK
Drawn By JM

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-88985-200-00-001

Sheet 14 of 41

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℄ 15th Street Sta. 329+93.82, 4.00' Lt. =
Wt. Sta. 203+54.80

MH #5649-450
Reconstruct Standard MH
Approx. depth= 8.0'

MH #5649-420 to MH #5649-450
Remove and replace 399 L.F. 8" Pipe

℄ 15th Street, Sta. 329+93.82=
℄ Estelle

MH #5649-419

MH #5649-420
Rehab MH (Full rehab)
approx. depth = 6.1'

℄ 15th Street Sta. 330+40.92, 4.00' Lt. =
Wt. Sta. 204+01.89
1 - Purging Hydrant Assembly
See detail, sheet no. 5
CLOW PH #10762
6"CLOW V#35617

℄ 15th Street Sta. 333+28.29(Back), 4.00' Lt. =
Wt. Sta. 206+89.26
1 - 48" 11 1/4° Bend
Horiz. Defl. = 11° 15' 00"

CAUTION !!!
2" Gasline (KGE - Gas)
2" Waterline (City of Wichita)
8" San. Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing

℄ 15th Street, Sta. 333+28.29=
(Back)
℄ Volutsia

334.46' - 48" Pipe

℄ 15th Street Sta. 333+70.50, 7.00' Lt. =
Wt. Sta. 207+32.21
1 - 48" 11 1/4° Bend
Horiz. Defl. = 11° 16' 20"

℄ 15th Street, Sta. 333+28.29=
(Ahead)
℄ Volutsia

CAUTION !!!
4" Coated Steel Gasline (KGE - Gas)
6" Waterline (City of Wichita)

MH #5649-421
MH in good condition
approx. depth=7.1'

42.95' - 48" Pipe

CAUTION !!!
8" San. Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing.
2 1/2" Waterline (City of Wichita)
2" Gasline (KGE - Gas)

Remove and replace
995 L.F. Concrete
Pavement.

MH #5649-419 to MH #5649-423
Remove and replace approx. 988
L.F. 8" Pipe.

MH #5649-441
Abandon existing dead end MH
approx. depth= 6.0'
Construct Standard MH
approx. 16' South of
existing MH in 16th Street
approx. depth=7.0'

Remove MH

617.09' - 48" Pipe

℄ 15th Street Sta. 339+87.60, 7.00' Lt. =
Wt. Sta. 213+49.30
Horiz. Defl. Waterline 0° 02' 34" Left

CAUTION !!!
8" San. Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing.
8" Waterline (City of Wichita)

MH #5649-422
Reconstruct Standard MH,
Construct outside drop
for line from East -
approx. depth= 7.6

MH #5649-423
Rehab MH
(re-use Ring & Lid)
approx. depth= 5.1'

BM 46

5TH STREET NORTH

ERIE AVE

CHATEAUA

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE HORIZ. SAME AS ABOVE
VERT. 0 5

WATERLINE COORDINATE LIST

POINT	NORTH	EAST
5057	1,695,123.1089	1,658,077.9530
5058	1,695,130.8039	1,658,407.3290
5059	1,695,140.1496	1,658,449.2479
5060	1,695,154.1091	1,659,066.1845

(5000) = WATERLINE COORDINATE POINT NUMBER

MICHAEL D. KEPLEY
LICENSED
13944
4/24/98
KANSAS
PROFESSIONAL ENGINEER

1 - Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

All Pipe options - RJ

Match Line
Purging Hydrant Assembly
2" Gasline
8" Sanitary Sewer
L = 139.4 ±
11 1/4° Bend
4" Coated Steel Gasline
6" Waterline
Top Pipe = 134.2 ±
11 1/4° Bend
8" Sanitary Sewer
L = 134.5 ±
2 1/2" Waterline
2" Gasline
8" Sanitary Sewer
L = 139.4 ±
4" Waterline
Top Pipe = 140.4 ±
Match Line

Existing Ground
Top. of Proposed 48" Waterline

VERTICAL DEFLECTION TABLE

∠58 =	00°21'10"
∠59 =	01°55'45"

Station	Offset	Elevation
203+00		122.87
	+54.80	
204+00		123.83
	+01.89	125.87
205+00		125.97
206+10		128.10
	+40	128.95
207+00		130.00
	+89.26	130.16
	+32.21	130.65
208+00		131.37
	+80	131.68
209+00		133.19
210+00		134.71
211+00		136.22
212+00		137.74
213+00		139.25
	+49.30	140.00

155 150 145 140 135 130 125 120 115 110

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-75-245-88585-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
OWNER
WICHITA, KANSAS

Designed By	MDK	Job No. 34-98151
Drawn By	DM	Date APRIL 1997

Sheet 35 of 41

DGN: MDK OPER: TDS SCALE: 1=40.00
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℄ 15th Street Sta. 339+87.60, 7.00' Lt. =
WL Sta. 213+49.30

(5060)

CAUTION !!!
2" Gasline (KGE – Gas)
8" San. Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewers
10' each way from Crossing
8" Waterline (City of Wichita)
8" San. Sewer (City of Wichita)
2" Gasline (KGE – Gas)

MH #5649-426
Rehab MH (full rehab)
approx. depth= 9.3'

CLOW FH # 10763
6" CLOW V# 35618
2" CLOW V# 35619

℄ 15th Street Sta. 347+00.00, 3.57' Lt. =
WL Sta. 220+61.77
1 – 48° 11 1/4" Bend
Horiz. Defl. = 11° 15' 00"
1-Furying Hydrant Assembly
See detail, sheet no. 5.
1-2" Air Release Assembly
See detail, sheet no. 6.

(5061)

℄ 15th Street, Sta. 346+50.83=
(Ahead)
℄ Hillside Ave.

CAUTION !!!
8" San. Sewer (City of Wichita)
2" Gasline (KGE – Gas)
12" Waterline (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing

CAUTION !!!
Buried Telephone
(SWB)

℄ 15th Street Sta. 347+74.29, 10.95' Rt. =
WL Sta. 221+37.46
1 – 48° 22 1/2" Bend
Horiz. Defl. = 11° 06' 42"

(5062)

CAUTION !!!
8" San. Sewer (City of Wichita)
Contractor shall Concrete
Encase Existing 8" San. Sewer
10' each way from Crossing

℄ 15th Street Sta. 349+00.00, 10.84' Rt. =
WL Sta. 222+63.17

(5063)

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0 5

℄ 15th Street, Sta. 350+10.71=
℄ Holyoke Ave.

1,695,300 N
1,695,200 N
1,695,100 N
1,695,000 N

340+00 341 342 343 344 345+00 346 347 348 349 350+00

15TH STREET NORTH

BM #46
BM 47
BM 48
BM 49

MH #5649-423

MH #5649-424
Reconstruct Standard MH
Construct taste drop
for line from the North.
approx. depth=8.4'

MH #5649-425
Reconstruct Standard MH
(Re-use ring & lid)
approx. depth=7.5'

MH #5649-432
Rehab MH (full rehab)
Construct outside drop
for line from the north.
approx. depth=7.1'

MH #5649-423 to MH #5649-432
Remove and replace approx. 500
L.F. 8" Pipe.

Remove and replace
713 L.F. Concrete
Pavement.

712.47 – 48" Pipe

℄ 15th St. Sta 347+31.0
WL Sta 220+92.77
48° P-2-ft BFU.
V# 35620
14' N of 15th St. N. ℄
℄ 15th Street, Sta. 346+50.83= 59' E ECL Hillside
(Back)
℄ Hillside Ave.

75.69' – 48" Pipe

Remove and replace
201 L.F. Asphalt
Pavement with Curb
and Gutter.

125.71' – 48" Pipe

WATERLINE COORDINATE LIST

POINT	NORTH	EAST
5060	1,695,154.1091	1,659,066.1845
5061	1,695,170.7476	1,659,778.4624
5062	1,695,157.7181	1,659,857.0270
5063	1,695,160.3506	1,659,978.7109

(5000) = WATERLINE COORDINATE POINT NUMBER

1 – Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

MICHAEL D. KREGER
NUMBER
13944
4/20/98
REGISTERED
PROFESSIONAL ENGINEER

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

All Pipe options – RJ

Match Line

8" Sanitary Sewer E = 1418.2 ±
2" Gasline
8" Waterline Top Pipe = 1353.1 ±
8" Sanitary Sewer E = 1415.9 ±
2" Gasline
8" Sanitary Sewer E = 1412.8 ±
12" Waterline Top Pipe = 1361.1
Telephone
11 1/4° Bend
Furying Hydrant Assembly
& Air Release Assembly
11 1/4° Bend
Sanitary Sewer E = 1372.3 ±
Match Line

Existing Ground
Top of Proposed 48" Waterline

(59) (60) (61) (62)

+49.30 +20.00 +61.77 +57.46 +80 +20.00 +65.17

160.20 147.59 144.73 147.86 151.00 155.56 160.12 164.68 165.59 167.50 168.10 168.70 169.37 169.68 170.90 172.07

213+00 214+00 215+00 216+00 217+00 218 219+00 220+00 221+00 222+00

180 175 170 165 160 155 150 145 140 135

Location of Joints in Hillside

4.5' E WCL Hillside ℄
9.2' S NCL 15th St.

29.75' E WCL Hillside ℄
9.2' S NCL 15th St.

5.5' W ECL Hillside ℄
11.0' S NCL 15th St.

VERTICAL DEFLECTION TABLE

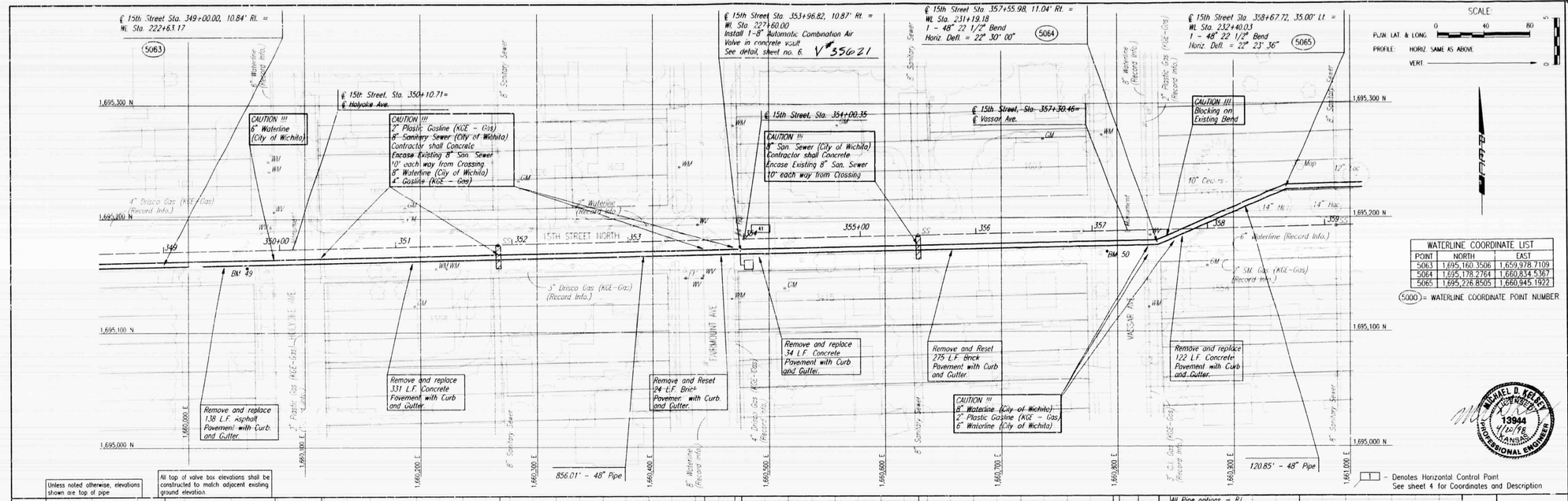
Δ59 =	00°55'43"
Δ60 =	00°29'07"
Δ61 =	01°42'22"
Δ62 =	01°56'17"

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. – CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY – PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245, 88185-1000-1001

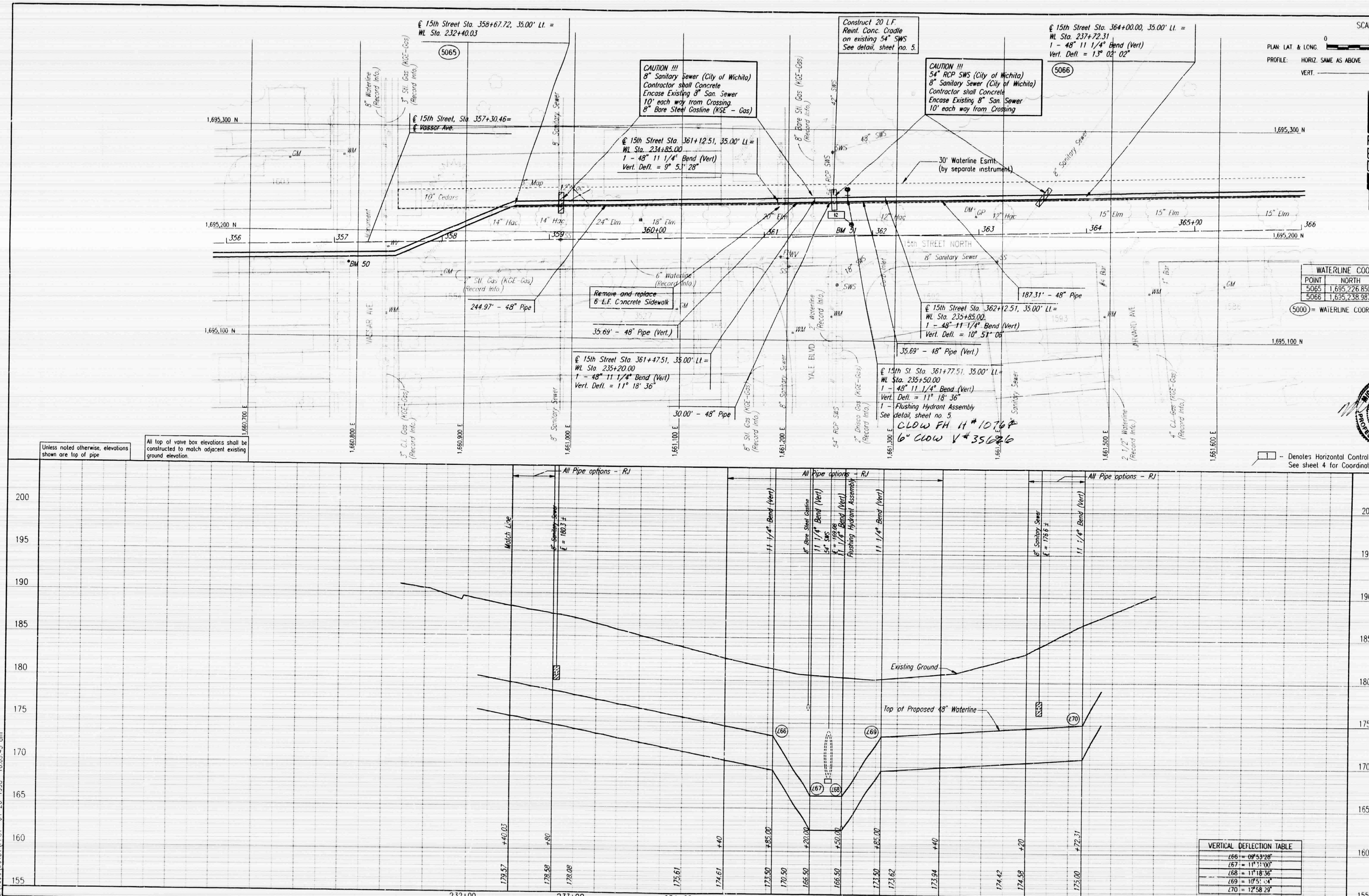
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
CHANUTE WICHITA, KANSAS
Designed By MDK
Drawn By CM
Job No. 34-96151
Date APRIL 1997
Sheet 36 of 41

DSN: ?? PK OPER: JGS SCALE: 1"=40.00'
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WATERLINE COORDINATE LIST

POINT	NORTH	EAST
5065	1,695,226.8505	1,660,945.1922
5066	1,695,238.9870	1,661,477.3302

VERTICAL DEFLECTION TABLE

∠66	= 09°53'28"
∠67	= 11°31'00"
∠68	= 11°18'36"
∠69	= 10°51'04"
∠70	= 12°58'29"

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-88985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Job No. 34-96151
Date APRIL 1997
Designed By MDK
Drawn By GM
Sheet 38 of 41

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℄ 15th Street Sta. 364+00.00, 35.00' Lt. =
Wt. Sta. 237+72.31
(5066)

℄ 15th Street Sta. 364+37.51, 35.00' Lt.=
Wt. Sta. 238+10.00
1 – 48" 11 1/4° Bend (Vert)
Vert. Defl. = 11° 15' 41"

30' Waterline Esmt.
(by separate instrument)

℄ 15th Street Sta. 370+29.62, 35.00' Lt. =
Wt. Sta. 244+01.93
1 – 48" 11 1/4° Bend
Horiz. Defl. = 11° 15' 00"
(5067)

CAUTION !!!
6" Waterline (City of Wichita)
4" Plastic Gasline (KGE-Gas)

℄ 15th Street Sta. 371+45.38, 7.00' Lt. =
Wt. Sta. 245+45.45
1 – 48" 11 1/4° Bend
Horiz. Defl. = 11° 15' 00"
(5068)

SCALE:
PLAN, LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0 20

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5066	1,695,238.9870	1,661,477.3362
5067	1,695,253.3428	1,662,106.78..7
5068	1,695,228.5596	1,662,248.1571

(5068) = WATERLINE COORDINATE POINT NUMBER

Remove and replace 52 L.F. Concrete Pavement.

1 – Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

Unless noted otherwise, elevations shown are top of pipe.

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

38.75' 48" Pipe

591.93' 48" Pipe

143.32' - 48" Pipe

All Pipe options - RJ

11 1/4° Bend (Vert)

11 1/4° Bend

6" Waterline
Top Pipe = 2004.0
4" Plastic Gasline

Existing Ground

Top of Proposed 48" Waterline

(170)

(171)

(172)

VERTICAL DEFLECTION TABLE
Δ70 = 12°58'29"
Δ71 = 11°15'41"
Δ72 = 01°54'20"

CITY OF WICHITA, KANSAS
MICHAEL L. PENNINGTON, P.E. ENGINEER
NORTHEAST TRANSMISSION FACILITY – PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-R9885-000-000-101

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS WICHITA, KANSAS
Job No. 34-98151
Date APRIL 1997
Designed By MDH
Drawn By GM

Sheet 39 of 41

DGN#: M2K_OPER_DGN SCALE 1:40.00
DWG: 98151\VP39 04-18-1998 03:32:34 pm

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℄ 15th Street Sta. 371+70.38, 7.00' Lt. = Wl. Sta. 245+45.45

℄ 15th Street Sta. 373+16.28, 7.00' Lt. = Wl. Sta. 246+91.35
1 - 48" 11 1/4° Bend
Horiz. Defl. = 11° 15' 00"

℄ Regents Lane Sta. ~~373+70.01~~ 373+B1.0 13.23' Lt. = Wl. Sta. 247+~~44.42~~ 53.44
1 - 48" ~~22 1/2° Bend~~ 22 1/2° Bend
Horiz. Defl. = 22° 30' 00" 11¼° Bend

℄ Regents Lane Sta. ~~374+51.55~~ 374+31.53 6.35' Lt. = Wl. Sta. ~~248+11.35~~ 247+93
1 - 48" 11 1/4° Bend
P.C. Curve No. 1 22½° Bend
Horiz. Defl. = 18° 32' 44"

CURVE NO. 1	
P.C. coords.	N-1,695,284.2829 E-1,662,504.0532
Center coords.	N-1,693,130.9015 E-1,665,425.0413
P.T. coords.	N-1,695,754.1414 E-1,662,917.4856
Radius	3,628.9424'
Arc length	626.6309'
Central angle	9° 53' 37"
Tangent length	314.0963'
Degree of curve	1° 34' 44"
External distance	13.5676'
Middle ordinate	13.5171'

CAUTION !!!
2" Waterline (City of Wichita)
4" Gasline (KGE - Gas)

CAUTION !!!
8" Sanitary Sewer (City of Wichita)
Contractor shall Concrete Encase Existing 8" San. Sewer 10' each way from Crossing.

℄ Regents Lane Sta. 380+45.25, 17.07' Lt. =
Wl. Sta. 254+10.18 See Below for #'s + Locations
Cut In 20" x 20" Tee*
3-20" MJ Butterfly Valves*
3-6" Valve Boxes*
Top of Valve Box El.= match existing
See detail, sheet no. 7.

*To be subsidiary to price bid for 20" x 20" Tee installation.

CAUTION !!!
4" Gasline (KGE - Gas)
8" Waterline (City of Wichita)

℄ Regents Lane Sta. 380+57.23, 4.75' Lt. =
Wl. Sta. 254+22.18
1- 48" x 20" Tee**
1- 20" Butterfly Valve** moved
1-6" Valve box**
Top of Valve Box El.= match existing
1- 48" Valve Assembly (NE)** not #'d
(Butterfly Valve) Removed in Phase 2A
Top of Valve Box El.= match existing
See detail, sheet no. 7.

**To be subsidiary to price bid for 48" x 20" Tee installation.

℄ Regents Lane Sta. 380+77.21, 4.70' Lt. =
Wl. Sta. 254+42.18
1- Flushing Hydrant Assembly not #'d
See detail, sheet no. 5. Removed in Phase 2A
1- 48" Plug

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0

WATERLINE COORDINATE LIST		
POINT	NORTH	EAST
5068	1,695,228.5596	1,662,248.1571
5069	1,695,231.8863	1,662,394.0190
5070	1,695,243.4248	1,662,445.8242
5071	1,695,284.2829	1,662,504.0532
5072	1,695,740.2796	1,662,903.0641

(5000) = WATERLINE COORDINATE POINT NUMBER

NOTE
The City of Wichita Water and Sewer Department records reflect that the 20" LJ Water Main in Shocker Drive was installed during the first 6 months of 1951. The pipe was apparently purchased from the Lockjoint Co. by the Wichita Water Co. and installed by C.S. Construction. No further details are available about the type of pipe used. The Contractor for this project shall excavate the 20" Water Main to determine the type of adapters required for connecting the new pipe and fittings. The Contractor shall schedule this excavation so that his pipe/fitting manufacturer's representative can be on site to observe the tie in to the existing pipe.
The Contractor shall backfill the excavation and provide a temporary driving surface until such time as the actual connection is started. All costs incurred for determining the appropriate adapters adapters required including backfilling and temporary driving surface shall be considered subsidiary to the price bid for pipe.

145.90' - 48" Pipe
53.07' - 48" Pipe
71.13' - 48" Pipe
606.63' - 48" Pipe
20.00' - 48" Pipe

℄ Regents Lane Sta. 380+40.60=
℄ Shocker Drive, Sta. 390+00.00

℄ Regents Lane Sta. 378+13.07, 5.39' Lt. =
Wl. Sta. 251+77.62
Install 1- 8" Automatic Combination Air Valve in concrete vault.
See detail, sheet no. 6. V#35622

Remove and replace Sta. Lt.: Asphalt Pavement with Curb and Gutter.

Unless noted otherwise, elevations shown are top of pipe

All top of valve box elevations shall be constructed to match adjacent existing ground elevation.

□ - Denotes Horizontal Control Point
See sheet 4 for Coordinates and Description

All Pipe options - RJ

Match Line
11 1/4° Bend
8" Sanitary Sewer ℄ = 2000.4
22 1/2° Bend
11 1/4° Bend
2" Waterline
4" Gasline
Combination Air Valve
Existing Ground
Top of Proposed 48" Waterline
4" Gasline
2" Waterline Top Pipe = 2120.4
Exist. 20" Waterline Top of Pipe = 212.39 ±
Flushing Hydrant End Line

VERTICAL DEFLECTION TABLE
∠73 = 01°20'54"
∠74 = 00°18'05"
∠75 = 01°25'24"

Valve Locations
20" Pratt V# 35623 (LW) 225
4.5' S NCL Regents +
6.0' W ECL Shocker Dr.
20" Pratt V# 35625 (L-S)
10.0' S NCL Regents
6.0' W ECL Shocker Dr.
20" Pratt V# 35624 (L-E)
5.5' S NCL Regents
5.0' W ECL Shocker Dr.

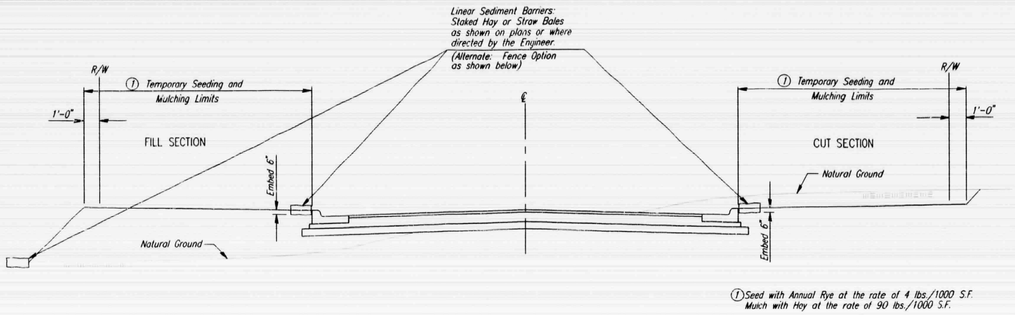
MICHAEL D. KELLEY LICENSED 13944 PROFESSIONAL ENGINEER KANSAS

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
WATERLINE NO. 1
CITY OF WICHITA PROJECT NO. 448-76-245-38985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS WICHITA, KANSAS
Designed By: MDK Job No. 34-98151
Drawn By: GM Date APRIL 1997
Sheet 40 of 41

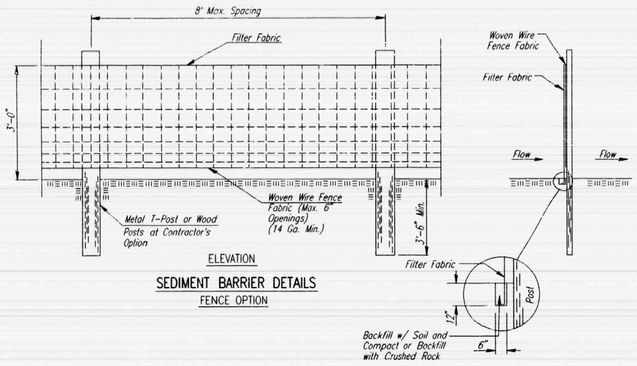
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2\1998\98151\P033 04-20-1998 11:25:50 a.m.

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① Seed with Annual Rye at the rate of 4 lbs./1000 S.F. Mulch with Hay at the rate of 90 lbs./1000 S.F.

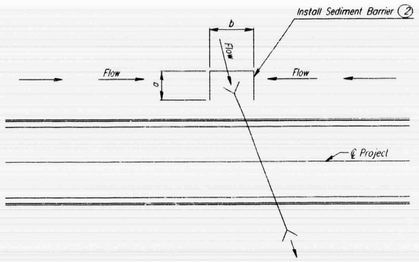
SEDIMENT CONTROL
CURB AND GUTTER STREET SECTION



ELEVATION

SEDIMENT BARRIER DETAILS
FENCE OPTION

ANCHOR TRENCH DETAIL



SEDIMENT CONTROL
TYPICAL CROSS ROAD PIPE LOCATION

② "a" Dimension = Ditch bottom width +10'
"b" Dimension = End Section or Headwall width +10'

1. SEDIMENT BARRIERS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ADDITIONAL SEDIMENT BARRIERS WILL BE INSTALLED AT LOCATIONS AS DIRECTED BY THE ENGINEER WITH NO ADJUSTMENT IN UNIT PRICE.

2. SEDIMENT BARRIERS SHALL BE ERECTED PRIOR TO THE COMMENCEMENT OF EARTHWORK OPERATIONS IN A GIVEN BASIN. REMOVAL AND DISPOSAL OF ACCUMULATED SILT AND DEBRIS AND/OR REMOVAL AND RECONSTRUCTION OF SEDIMENT BARRIERS WILL BE PERFORMED THROUGHOUT THE PROJECT LIFE WHEN DEBRIS REACHES ONE-THIRD THE FENCE HEIGHT OR AS DEEMED NECESSARY BY THE ENGINEER. SEDIMENT BARRIERS AND ACCUMULATED DEBRIS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AFTER TURF COVER HAS BEEN ESTABLISHED, UNLESS OTHER ARRANGEMENTS HAVE BEEN AGREED TO.

3. FILTER FABRIC FOR FENCE OPTION SEDIMENT BARRIERS SHALL BE RESISTANT TO ULTRAVIOLET LIGHT. MATERIALS MAY BE SUPPLIED BY THE FOLLOWING MANUFACTURERS:

MIRAFI, INC.	–	100X
HOECHST FIBERS INDUSTRIES	–	TREVIRA 1115
EXXON	–	TYPAR 3301 W

MATERIALS SUPPLIED BY THE ABOVE NAMED MANUFACTURERS SHALL BE ACCEPTED UPON VISUAL INSPECTION BY THE ENGINEER. OTHER COMPARABLE MATERIALS MAY BE USED IF APPROVED BY THE ENGINEER.

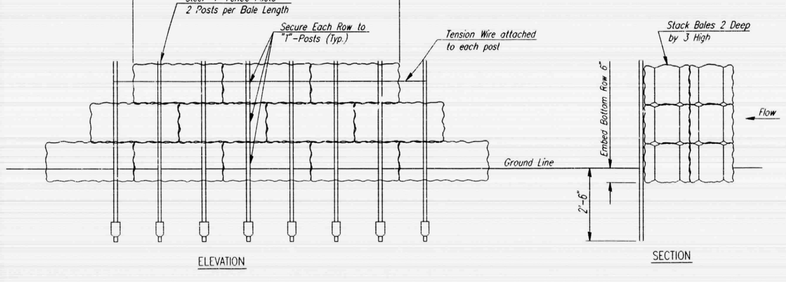
FILTER FABRIC SHALL BE ATTACHED TO FENCE FABRIC BY MEANS OF TIE WIRES OR HOG RINGS PRIOR TO ATTACHMENT OF FENCE/FABRIC COMBINATION ONTO THE POSTS.

4. BALES USED FOR SEDIMENT BARRIERS MAY BE EITHER HAY OR STRAW, PROVIDED THEY ARE SOUND AND INTACT.

5. TEMPORARY EROSION CONTROL BERMS AND/OR INTERCEPT DITCHES SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ADDITIONAL BERMS AND/OR DITCHES MAY BE REQUIRED AT NO ADJUSTMENT IN UNIT PRICE(S).

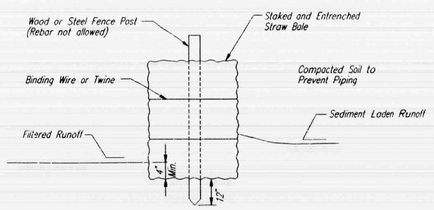
WHERE TEMPORARY EROSION CONTROL BERMS AND/OR INTERCEPT DITCHES ARE USED, ALL AREAS WHERE FLOW IS CONCENTRATED SHALL BE PROTECTED BY SILTATION BARRIERS PRIOR TO DISCHARGING INTO ANY DITCH, STORM SEWER, OR WATERCOURSE.

6. MEASUREMENT AND PAYMENT: THE ITEM "SEDIMENT BARRIERS" SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAL FOOT COMPLETE IN PLACE. SAID PRICE SHALL BE CONSIDERED FULL COMPENSATION FOR EXCAVATION, COMPACTION, BACKFILL, SEDIMENT AND DEBRIS REMOVAL AND DISPOSAL; AND ALL MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. RECONSTRUCTION OF EROSION CONTROL MEASURES WHICH ARE DESTROYED BY WIND, FLOOD, FIRE, OR BY THE ACTIONS OF THE CONTRACTOR OR OTHERS SHALL BE PERFORMED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST. WHERE ADJUSTMENTS IN QUANTITIES ARE REQUIRED BY FIELD CONDITIONS, THERE SHALL BY NO ADJUSTMENTS IN UNIT PRICE.

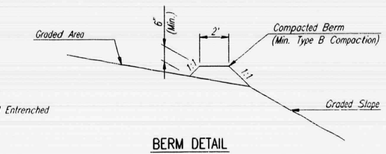


ELEVATION SECTION

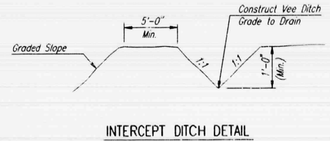
SEDIMENT BARRIER DETAILS
HAY/STRAW BALE OPTION



LINEAR SEDIMENT BARRIER



BERM DETAIL



INTERCEPT DITCH DETAIL

TEMPORARY EROSION CONTROL DETAILS FOR SLOPE PROTECTION

The Engineer may determine that the height of Berm or depth of Ditch should be increased over that shown if Drainage conditions are producing Slope Erosion.

MICHAEL D. KGLEY — 13944 — 4/20/98 — KANSAS — PROFESSIONAL ENGINEER

No.	Revision	By	Date

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1
EROSION CONTROL AND SEDIMENT BARRIER DETAILS
C.O.W. Proj. No. 448-76-245-88985-000-000-001

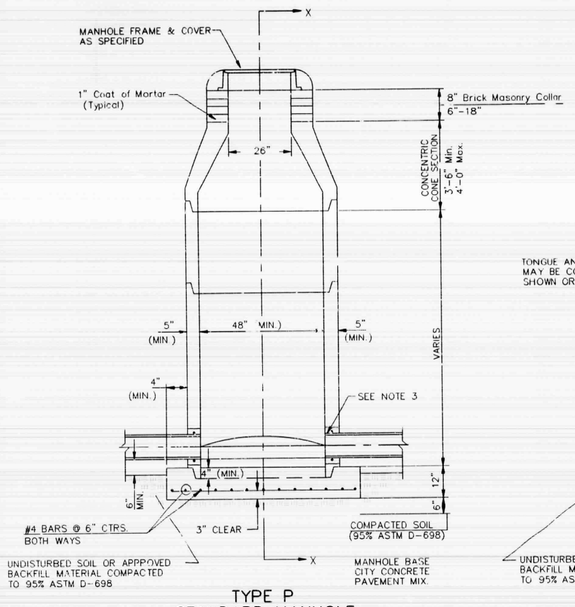
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by MDK	Job No. 34-96151	Sht. 41 of 41
Drawn by GM	Date April 1997	

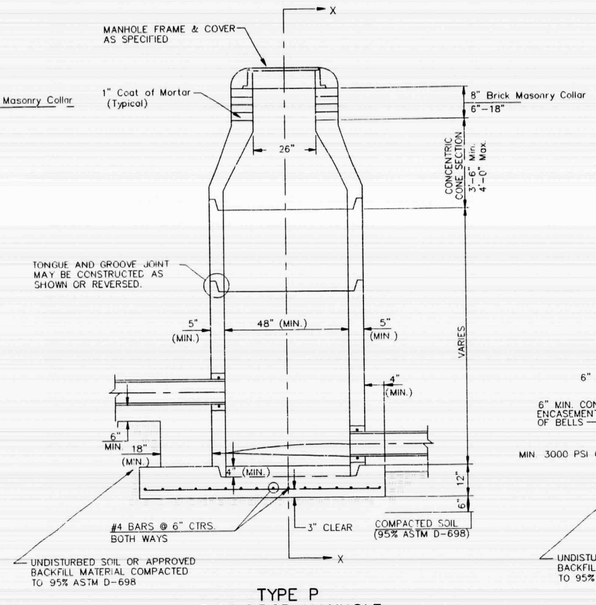
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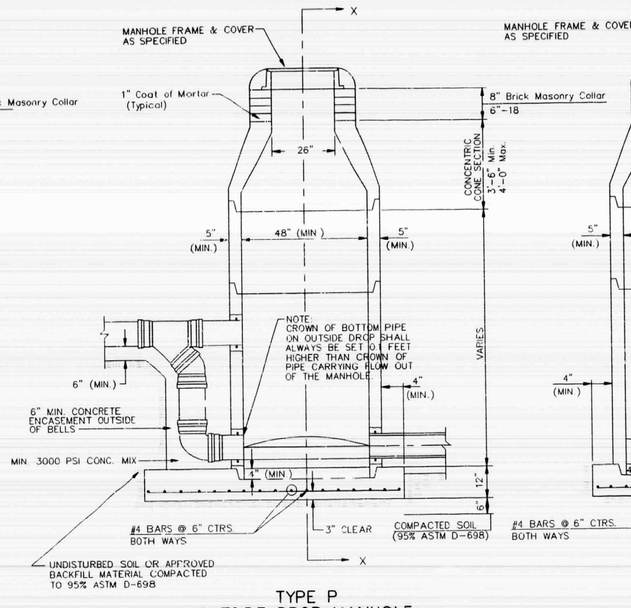
SEWER APPURTENANCES DETAILS



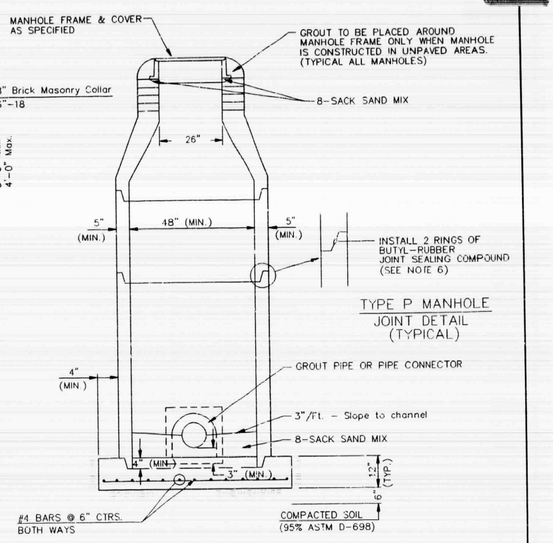
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF #4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

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THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4174 FAX

STANDARD TYPE 'P' MANHOLES

M. E. LINDEBAK P.E. - CITY ENGINEER

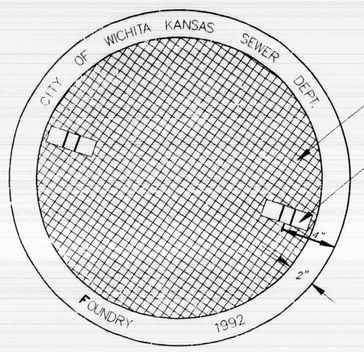
PROJECT NUMBER	INDEX CODE
448-88985	632.455
DATE: MAR 96	SHEET 41A OF 41

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MANHOLE FRAME AND COVER DETAIL

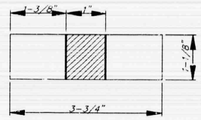
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

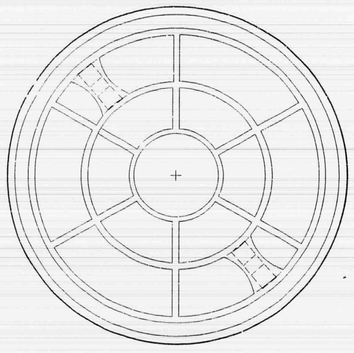


TOP VIEW

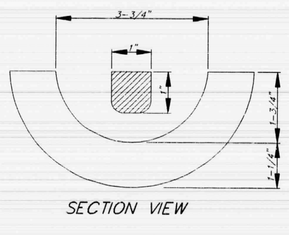
PICKHOLE DETAIL



TOP VIEW

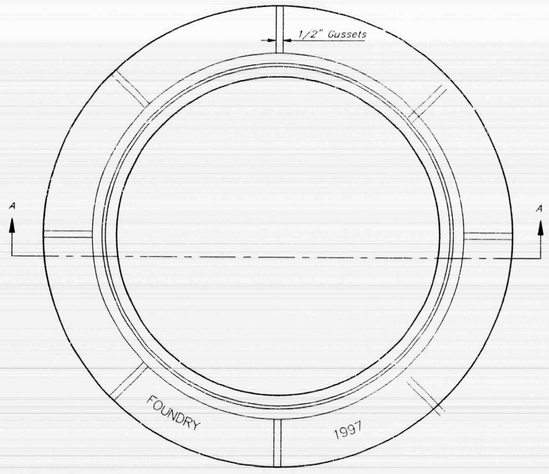


BOTTOM VIEW

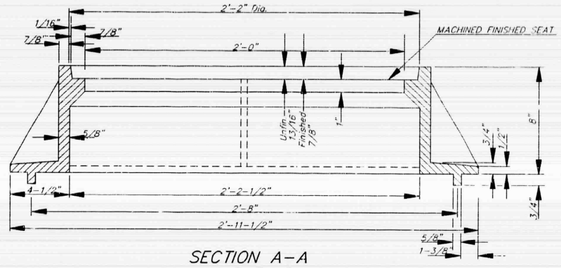


SECTION VIEW

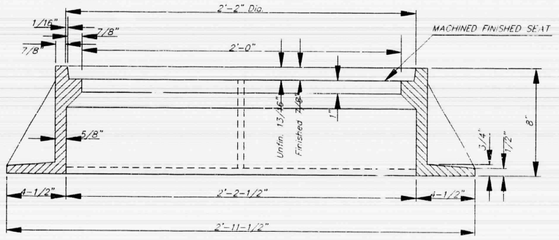
MANHOLE FRAME
Weight = 240 Lbs.



TOP VIEW



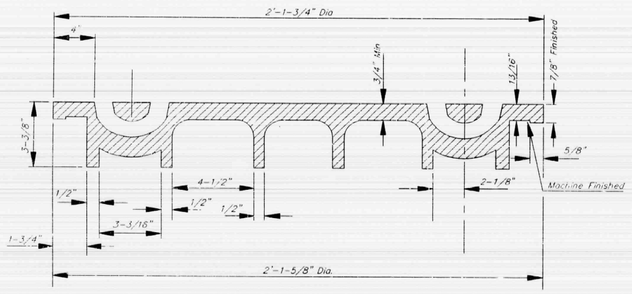
SECTION A-A
MUD RING



SECTION A-A

GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 240 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 420 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
3. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDARY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
4. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
5. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.



SECTION VIEW

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

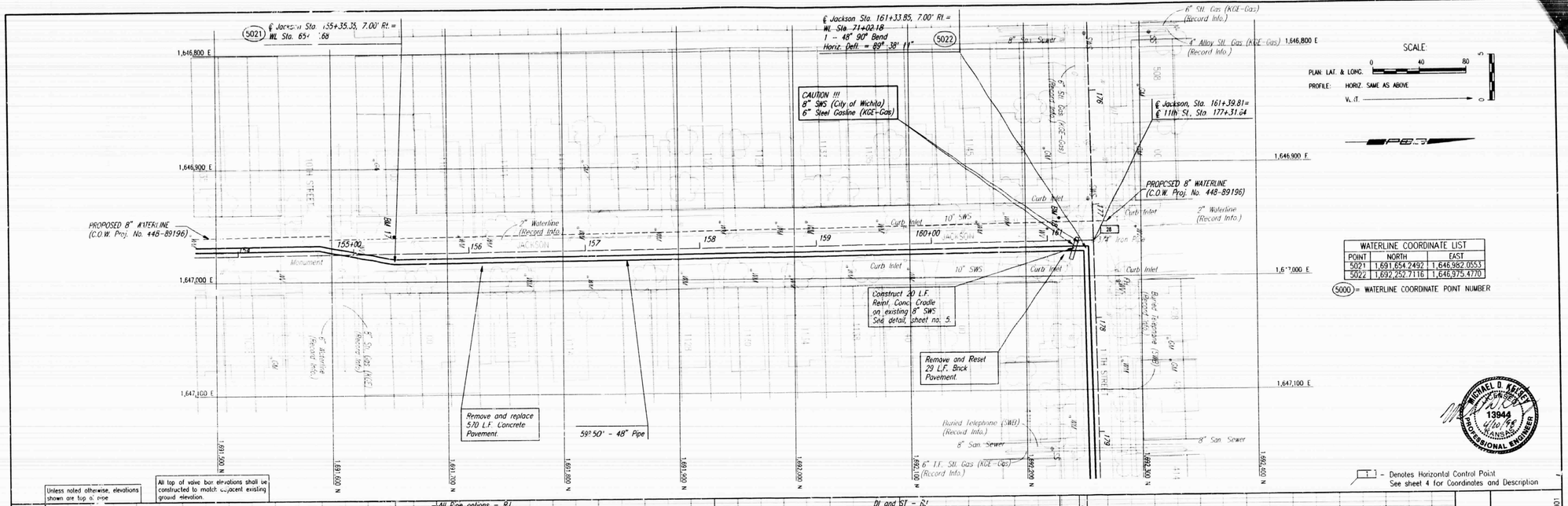
MANHOLE FRAME AND COVER

M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER	INDEX COST
448-88985	632455
DATE	SHEET 41R OF 41
MAR 96	

LOADED CITY LIMITS: LIMIT: (all LIM)
C:\(1995)\961\MHFRAME 04-19-1998 08:43:25 pm

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DSNR: WDK DPER: TCS SCALE: 1"=40.00
D:\1996\96-51\PP1 04-19-1998 09:12:32 am

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 1

WATERLINE NO. 1

CITY OF WICHITA PROJECT NO. 448-76-245-89985-000-000-001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed By WDK | Job No. 34-98151
Drawn By GM | Date APRIL 1997

Sheet 18 of 41

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HORIZONTAL CONTROL

Pt. #100
N= 1699983.4048 E= 1680680.9113
#4 Bar 40' West & 470' North of ℄ 21st St. & Webb Rd.
19.67' N. of ℄ joint to Conc. drive of Water Pump Station.
5.53' W. to the face of sidewalk.
7.48' E. to the W. back curb on Webb Rd.
470± S. to the ℄ of 21st St. North.

Pt. #101
N= 1698136.3029 E= 1680731.6517
#4 Bar 40' West & 1320' South of ℄ 21st St. & Webb Rd.
1.00' E. to the back of sidewalk on W. side of Webb Rd.
58.99' SSE to the NW chiseled "d"
4'± N. to the ℄ of a E-W hedge row.
52.00' NNE to a PK Nail in E. face of light pole.

BENCH MARKS

COW BM- BRASS DISC ON NE CORNER OF CONCRETE VAULT. 415' WEST OF THE CENTERLINE OF WEBB ROAD AND 77.2' NORTH OF THE CENTERLINE OF 21ST ST. NORTH.
ELEV.= 205.70

BM 2- CHIS. "d" ON THE NW CORNER OF CONCRETE BASE OF TRAFFIC POLE AT SW CORNER OF WEBB RD. AND 21ST ST. NORTH.
ELEV.= 204.11

BM 3- CHIS. "d" ON THE TOP WEST CURB OF WEBB ROAD, 87' SOUTH OF THE THIRD WOODEN POWER POLE SOUTH OF 21ST ST. NORTH.
ELEV.= 198.54

N-1699044.2988, E-1680643.6446=
℄ Webb Road, Sta. 4□+51.69, 86' Lt.=
WEBB RD. WL Sta. 0+00.00
Begin new 36" Water main installation.
1- 36" Cap
Stake end of pipe. See detail, this sheet.

CAUTION !!!
Buried Electric (KGE)
(To be relocated by KGE)

CAUTION!!!
Power Pole & Guy Wires (KGE-Elec.)
Pole to be restrained in place thru construction. Provide at least 2 weeks notice prior to start of construction, coordinate restraint with KGE-Electric.
Mr. Russ Chitwood at 261-6251.

N-1699417.7340, E-1680637.6900
℄ Webb Road, Sta. 49+25.17, 86' Lt.=
WEBB RD. WL Sta. 3+73.48
End new 36" Water main installation.
1- 36" Cap
Stake end of pipe. See detail, this sheet.

CAUTION !!!
Buried S.B.C. Telephone (SWB)

Proposed KGE- Electric line coordinate with KGE-Electric.
Mr. Russ Chitwood at 261-6251.

℄ Webb Road Sta. 50+00.00=
℄ 21st Street North, Sta. 20+00.00

SCALE:
PLAN: LAT. & LONG. 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

BURIED PIPE PLUG & MARKER DETAIL

(PLUGGING & STAMPING SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR SITE RESTORATION)

NOTE: CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH THE CONTRACTOR FOR THE WALGREENS SITE.

WEBB RD. WATERLINE

Unless noted otherwise, elevations shown are top of pipe

PLAN CHECKED CHECKED

PROFILE CHECKED CHECKED

BY DATE

DGN: MDK UPDR: JLM SCALE: 1=40.00
D:\1996\96151\003\Phase2\2C-WLPP08.DWG 01-24-2000 01:40:29 pm

Professional Engineering Consultants, P.A.
303 S. TOPEKA, WICHITA, KANSAS 67202
316 262 2691 • FAX 316 262 8403

Designed By MDK, KJW | Job No. 24-96151-3
Drawn By JLM | Date January 2000

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
NORTHEAST TRANSMISSION FACILITY - PHASE 2C

WEBB ROAD WATERLINE

CITY OF WICHITA PROJECT NO. 448-76-215-89985-006-000-001

Sheet 1 of 1

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