

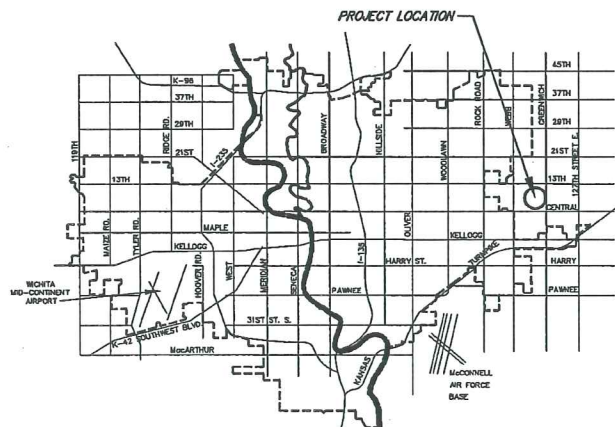
# SANITARY SEWER EXTENSION TO SERVE LOT 1, BLOCK 1, FLIGHT SAFETY 2ND ADDITION PRIVATE PROJECT NO. 1936 PPS (607861)

## GENERAL NOTES

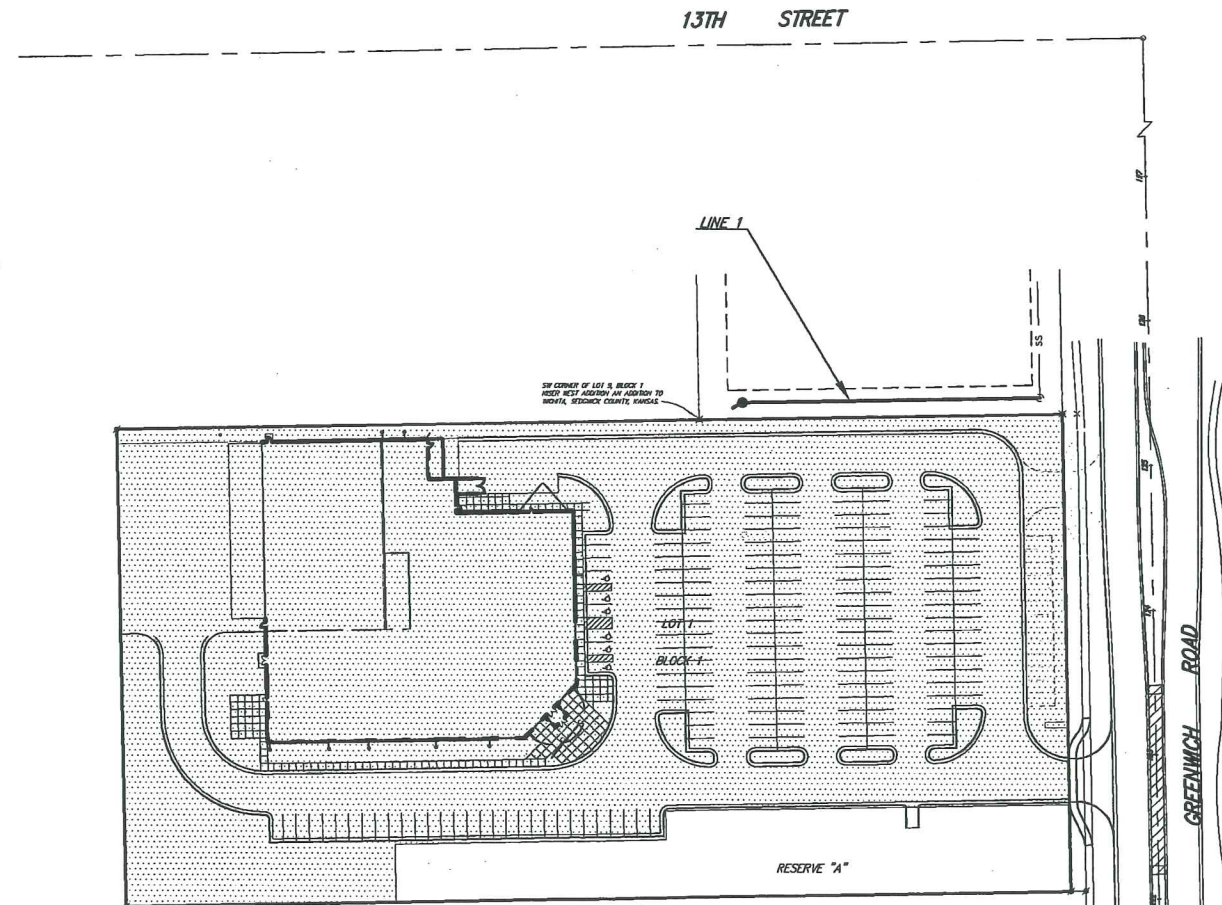
- Contractor will be required to provide a minimum advance notice of seventy-two (72) hours to utility companies prior to starting any excavation as follows:  

Kansas One-Call	687-2470 or 811
-----------------	-----------------
- The Contractor must notify the following in case of an emergency:  

Cox Communications	262-0661
Kansas Gas Service	383-8600
Wester	383-8600
AT&T	1-800-286-8313
City of Wichita Water Utility	262-6000
City of Wichita Sewer Maintenance	262-6000
- 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, represent the best information obtainable for design. Location information 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.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved.
- All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps permitting regulations. Any material buried or stockpiled beyond approved of Engineers construction limits would require additional archeological investigations unless buried in a previously approved borrow location.
- 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.
- The Contractor shall be responsible for preserving property irons. The Contractor will 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.



VICINITY MAP



## BENCH MARK

BENCH MARK: CITY OF WICHITA BENCH MARK AT GREENWICH AND 9TH STREET NORTH 47.60 FEET EAST OF THE CENTERLINE OF GREENWICH AND 4.00 FEET SOUTH OF THE 1/2 SECTION LINE ELEVATION = 1389.18 (NGVD29)  
  
ON-SITE BENCH MARK: CHISELED SQUARE ON THE TOP OF CURB ON THE WEST SIDE OF GREENWICH, 2,145 FEET SOUTH OF THE CENTERLINE OF 13TH STREET NORTH ELEVATION = 1391.88 (NGVD29)

## INDEX OF SHEETS

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| C2-2. | TITLE SHEET                       |
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| C2-4. | TYPE 'P' MANHOLE DETAIL           |
| C2-9. | HORIZONTAL & VERTICAL CONTROL MAP |

SCALE: 1" = 60'

APPROVED AS NOTED  
BY CITY ENGINEER OF WICHITA

Sanitary Sewers *Julianne Kellman 11-25-08*

Storm Sewers \_\_\_\_\_

Driveway Approaches \_\_\_\_\_

Water Mains \_\_\_\_\_

Paving \_\_\_\_\_

NOTE TO CONTRACTORS

Inspection and testing for this project are to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection, nor shall any work be commenced without written authorization by the City Engineer.

Date Released: 03/04/2009  
:APR 03/06/2009

**IMPROVEMENT DISTRICT**  
**CITY OF WICHITA, KANSAS**  
**JAMES L. ARMOUR, P.E. - CITY ENGINEER**

AS-BUILT PLANS  
CONTRACTOR: McCullough  
EXCAVATION  
  
INSPECTOR: TIM KELLY  
RUGGLES + BOHM P.A.  
  
PDF BY: MLP 3-3-09  
RUGGLES + BOHM P.A.

**Ruggles & Bohm, P.A.**  
Engineering, Surveying, Land Planning  
924 North Main (316) 264-8008  
Wichita, Kansas 67203 (316) 264-4621 fax  
www.tbkansas.com E-mail: info@tbkansas.com

CONSULTING ENGINEERS

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1225 NORTH PRICE ROAD  
SUITE 100 WICHITA, KS 67202  
TEL: (316) 827-5181

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ARCHITECT

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FAX: (316) 977-7310

PROPOSED MAINTENANCE FACILITY FOR:

**FlightSafety**  
WICHITA, KANSAS

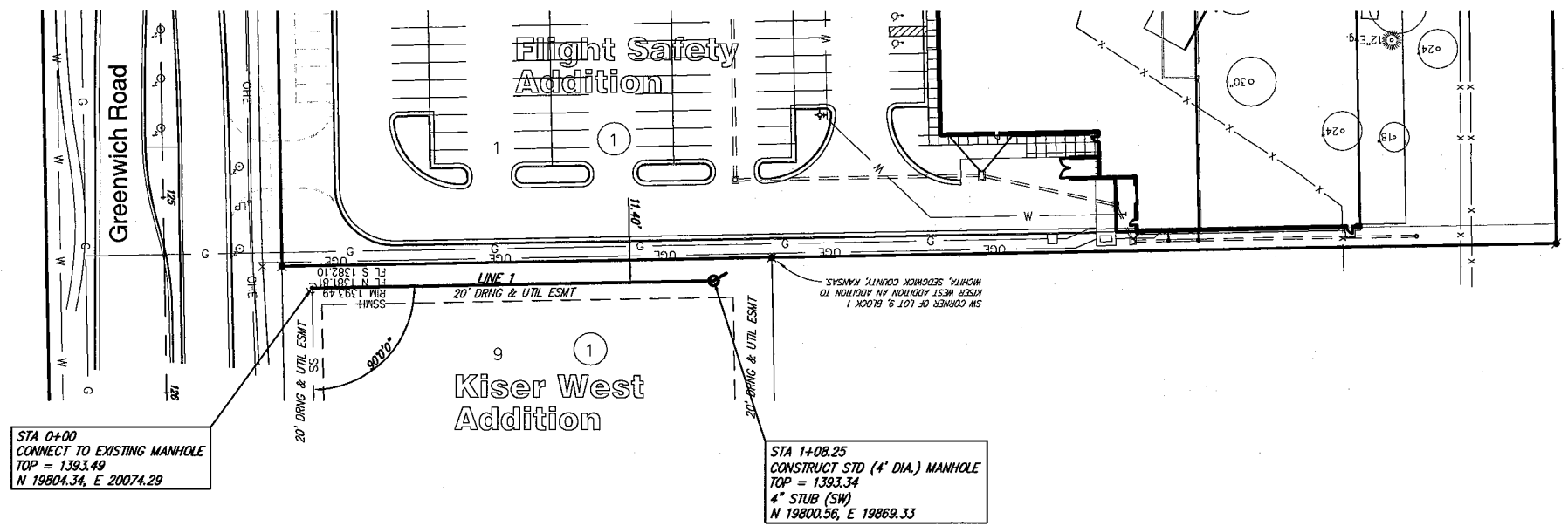
SS COVER SHEET

JOB NO: SJ0811  
DRAWN BY: MLP  
ISSUE DATE: DATE 11-25-08

REVISIONS

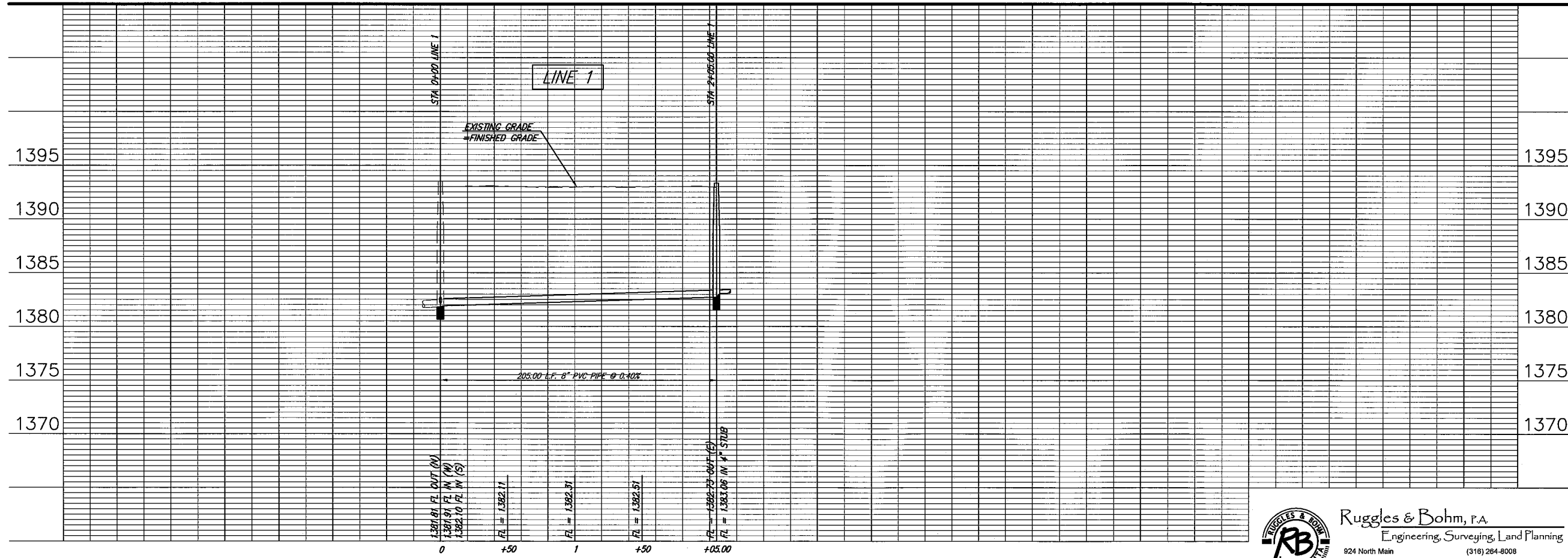
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3	REV-3
4	REV-4
5	REV-5

SHEET NUMBER  
C2-2



STA 0+00  
CONNECT TO EXISTING MANHOLE  
TOP = 1393.49  
N 19804.34, E 20074.29

STA 1+08.25  
CONSTRUCT STD (4' DIA.) MANHOLE  
TOP = 1393.34  
4" STUB (SW)  
N 19800.56, E 19869.33



**Ruggles & Bohm, P.A.**  
Engineering, Surveying, Land Planning  
924 North Main (316) 264-8008  
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www.rbkansas.com E-mail: info@rbkansas.com

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WICHITA, KANSAS 67203  
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WWW.RBKANSAS.COM

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ST. LOUIS, MISSOURI 63104  
P: (314) 997-7310  
F: (314) 997-7310  
WWW.MURPHYCOMPANY.COM

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WWW.CFP-USA.COM

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PROPOSED MAINTENANCE FACILITY FOR:  
**FlightSafety**  
INTERNATIONAL  
WICHITA, KANSAS

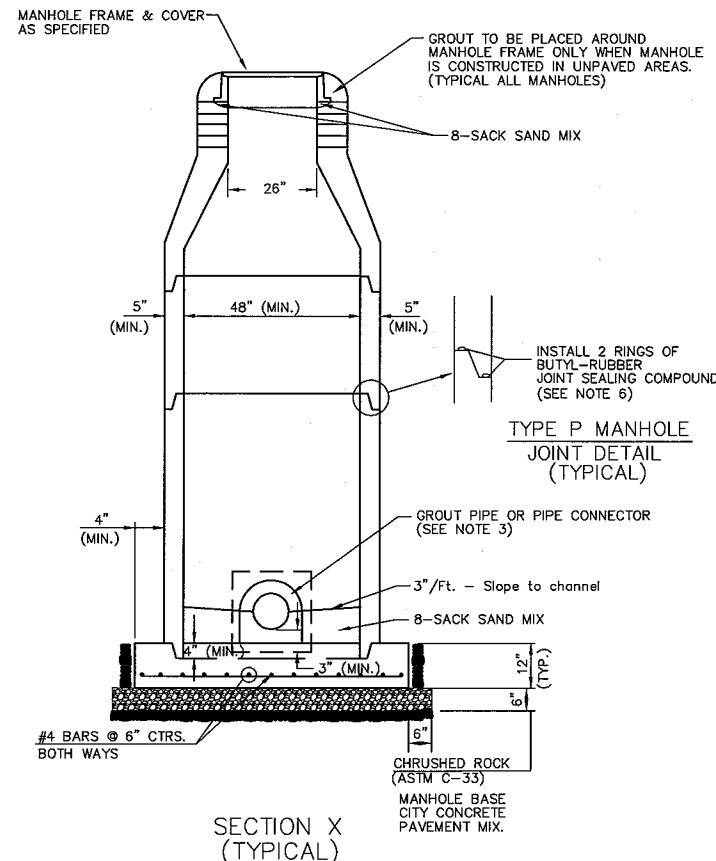
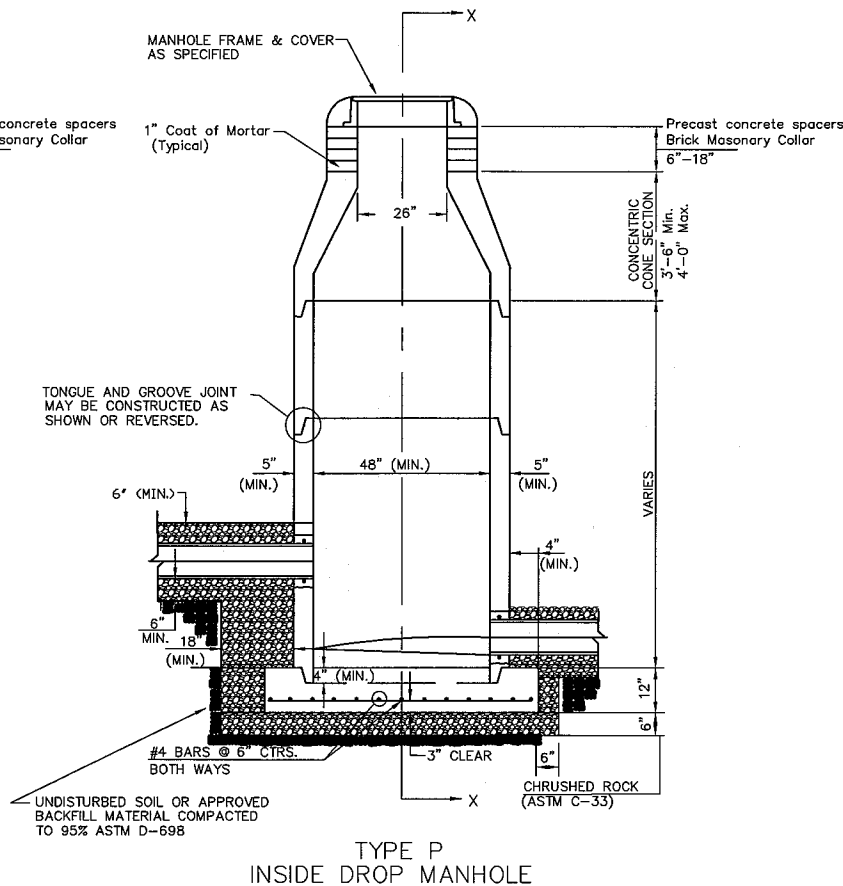
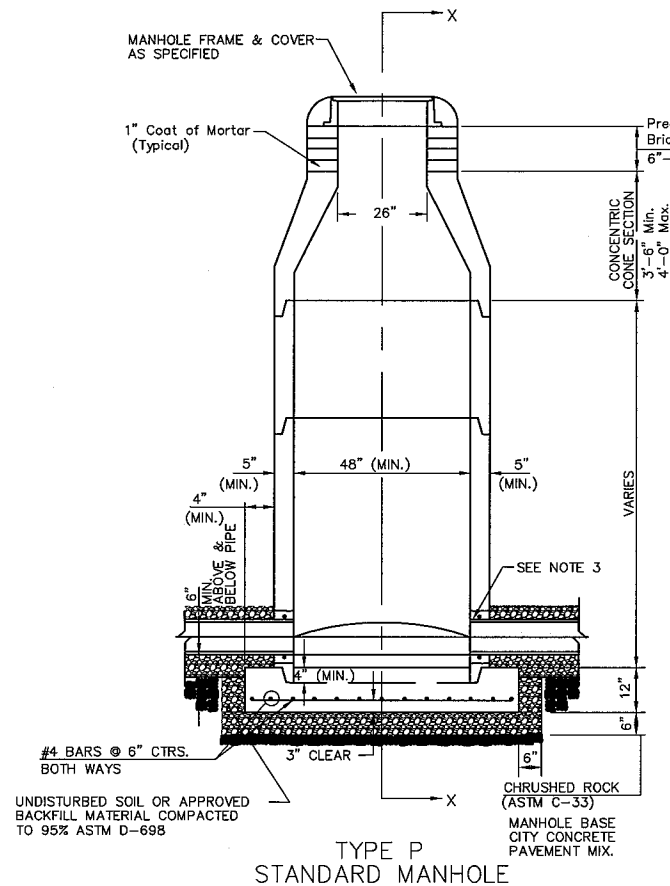
SS PLAN & PROFILE

JOB NO : SJ0811  
DRAWN BY : MLP  
ISSUE DATE : 11-25-08

REVISIONS  $\Delta$   
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2 REV-2  
3 REV-3  
4 REV-4  
5 REV-5

SHEET NUMBER  
C2-3

# SEWER APPURTENANCES DETAILS



GENERAL NOTES

PRECAST MANHOLE NOTES

- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN 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 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
- EXTERIOR MANHOLE WALLS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
- JOINT SEALING COMPOUND SHALL BE PER 804.4 OF STANDARD SPECIFICATIONS.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
- 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.
- LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
- 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.

- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 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.
- 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. 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.
- 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.

- 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.
- THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' REGARDLESS OF PIPE SIZE. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- 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.
- 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.
- WALL THICKNESS SHALL BE 1" GREATER THAN MANHOLE DIAMETER IN FEET.
- THE FULL DIAMETER OF THE MANHOLE SHALL EXTEND THE ENTIRE DEPTH OF THE MANHOLE TO THE CONE SECTION. NO REDUCTION IN MANHOLE DIAMETER WILL BE ALLOWED.

 = CRUSHED ROCK

 = UNDISTURBED SOIL

CRUSHED ROCK USED FOR ENCASEMENT AND BEDDING SHALL CONFORM TO ASTM C-33, GRADATION NO. 67, AND SHALL MEET ALL REQUIREMENTS FOR PORTLAND CEMENT CONCRETE PAVEMENT COARSE AGGREGATE, SECTION 406.2, CITY OF WICHITA STANDARD SPECIFICATIONS. ALL CRUSHED ROCK FOR BEDDING AND ENCASEMENT SHALL EXTEND TO THE LIMITS OF THE MANHOLE EXCAVATION.

CONSULTING ENGINEERS

ELECTRICAL  
PLUMBING  
FIRE PROTECTION

CONTRACTOR

ARCHITECT

PROPOSED MAINTENANCE FACILITY FOR:



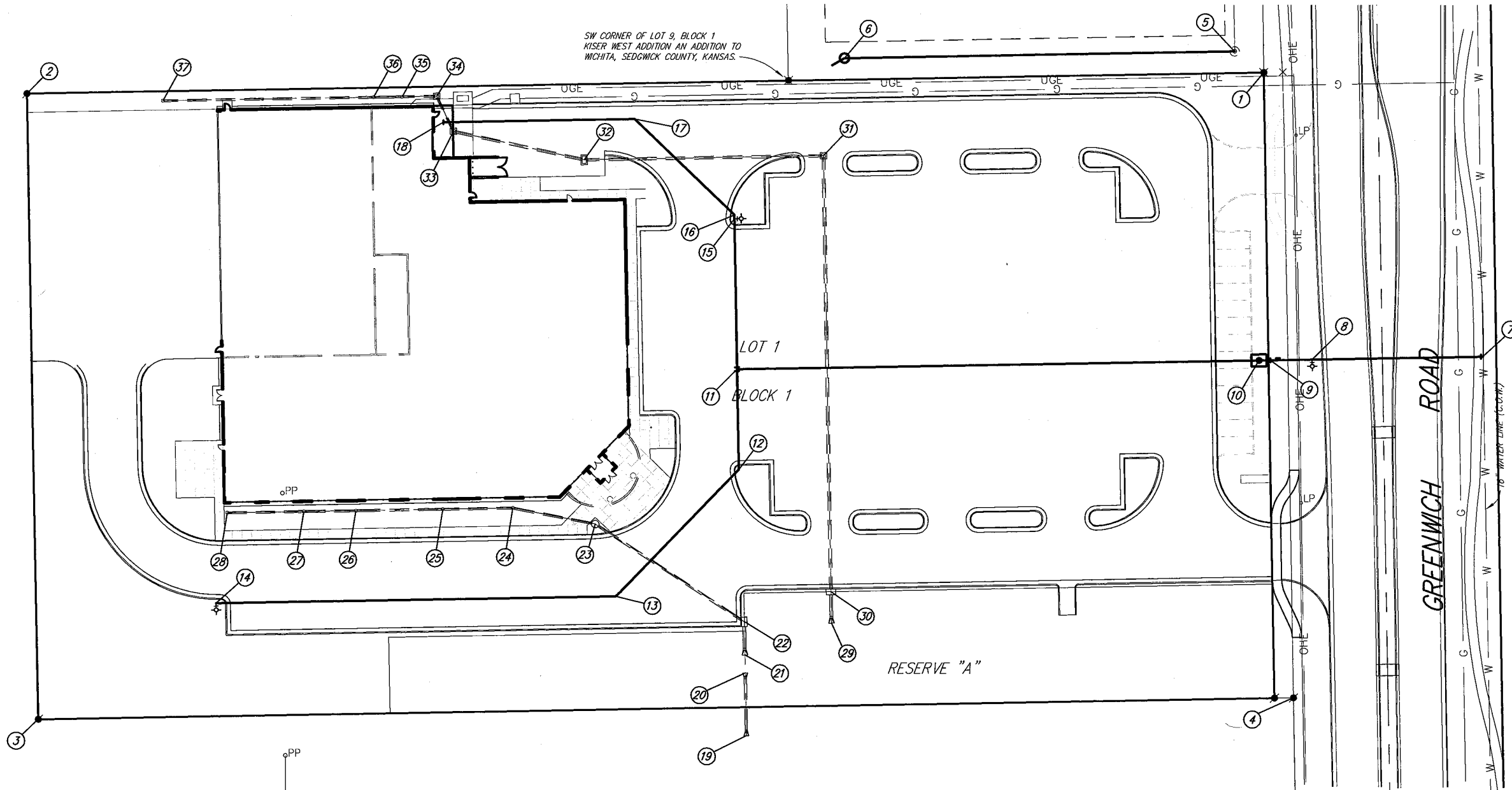
WICHITA, KANSAS

SS TYPE P MH

JOB NO : SJ0811  
DRAWN BY : MLP  
ISSUE DATE : 11-25-08

REVISIONS	DATE
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2 REV-2	
3 REV-3	
4 REV-4	
5 REV-5	

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C2-4



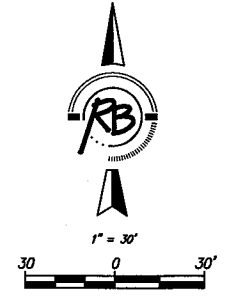
SW CORNER OF LOT 9, BLOCK 1  
KISER WEST ADDITION AN ADDITION TO  
WICHITA, SEDGWICK COUNTY, KANSAS.

CONTROL POINTS			
CONTROL NO.	DESCRIPTION	NORTHING	EASTING
1	5/8" REBAR W/ MKE CAP	19793.19	20089.66
2	NW COR. LOT, BLOCK 1 FLIGHTSAFETY ADD.	19781.23	19439.72
3	SW COR. LOT, BLOCK 1 FLIGHTSAFETY ADD.	19451.28	19445.81
4	1/2" REBAR W/ R&B CAP	19463.47	20105.70

SANITARY SEWER POINTS			
CONTROL NO.	DESCRIPTION	NORTHING	EASTING
5	STA. 0+00, EX. MANHOLE	19804.34	20074.29
6	STA. 1+08.25, STD. MANHOLE	19800.56	19869.33

WATERLINE POINTS				
CONTROL NO.	DESCRIPTION	NORTHING	EASTING	
7	STA. 0+00, CONNECTION POINT LINE 1	19643.41	20205.39	
8	STA. 0+90, FIRE HYDRANT ASS'Y LINE 1	19641.74	20115.41	
9	STA. 1+12, 8" ANCHOR VALVE LINE 1	19641.34	20093.42	
10	STA. 1+18, 8" DD CHECK VALVE LINE 1	19641.23	20087.42	
11	STA. 3+89.44, 8" MJ TEE LINE 1	19636.16	19813.03	
12	STA. 4+42.28, 8" 45° BEND, LINE 1	19583.34	19814.00	
13	STA. 5+35.24, 8" 45° BEND, LINE 1	19516.40	19749.49	
14	STA. 7+45.57, FIRE HYDRANT ASS'Y LINE 1	19512.52	19539.20	
15	STA. 0+79.43, FIRE HYDRANT ASS'Y LINE 2	19717.58	19811.56	
16	STA. 0+81.43, 8" 45° BEND, LINE 2	19717.58	19811.53	
17	STA. 1+54.45, 8" 45° BEND, LINE 2	19768.25	19758.95	
18	STA. 2+54.82, 2" BLOWOFF ASS'Y, LINE 2	19766.40	19658.60	

SWD POINTS				
CONTROL NO.	DESCRIPTION	NORTHING	EASTING	
19	STA. 0+00, 15" END SECTION LINE 1	19443.16	19818.03	
20	STA. 0+33, 15" END SECTION LINE 1	19476.15	19817.42	
21	STA. 0+42.53, 18" END SECTION LINE 1	19485.68	19817.24	
22	STA. 0+60, 4" CURB INLET LINE 1	19503.14	19816.92	
23	STA. 1+53.54, STD. MH LINE 1	19554.53	19738.76	
24	STA. 1+97.58, 24" DRAIN BASIN, LINE 1	19562.91	19695.52	
25	STA. 2+34.66, 24" DRAIN BASIN, LINE 1	19562.23	19658.44	
26	STA. 2+80.33, 24" DRAIN BASIN LINE 1	19561.38	19612.78	
27	STA. 3+07.66, 24" DRAIN BASIN LINE 1	19560.88	19585.46	
28	STA. 3+48.16, 24" DRAIN BASIN, LINE 1	19560.13	19544.96	
29	STA. 0+00, 18" END SECTION, LINE 2	19502.53	19862.94	
30	STA. 0+16.46, 4" CURB INLET, LINE 2	19518.99	19862.64	
31	STA. 2+46.46, 2'x2' DROP INLET, LINE 2	19748.95	19858.39	
32	STA. 3+72.14, 2'x4' DROP INLET, LINE 2	19746.63	19732.73	
33	STA. 4+42.58, 2'x2' DROP INLET, LINE 2	19761.61	19663.90	
34	STA. 4+63.19, 2'x2' DROP INLET, LINE 2	19780.20	19655.01	
35	STA. 4+81.36, 24" DRAIN BASIN, LINE 2	19779.86	19636.84	
36	STA. 4+93.36, 24" DRAIN BASIN, LINE 2	19779.59	19621.85	
37	STA. 6+07.19, 24" DRAIN BASIN, LINE 2	19777.54	19511.04	



BENCH MARK: CITY OF WICHITA BENCH MARK  
AT GREENWICH AND 9TH STREET NORTH  
47.60 FEET EAST OF THE CENTERLINE OF GREENWICH  
AND 4.00 FEET SOUTH OF THE 1/2 SECTION LINE  
ELEVATION = 1389.18 (NGVD29)

ON-SITE BENCH MARK: CHISELED SQUARE ON THE TOP  
OF CURB ON THE WEST SIDE OF GREENWICH, 2,145 FEET  
SOUTH OF THE CENTERLINE OF 13TH STREET NORTH  
ELEVATION = 1391.88 (NGVD29)

**CONSULTING ENGINEERS**

**ELECTRICAL:**  
KISER ELECTRIC  
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F: 314-963-0201

**PLUMBING:**  
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1233 NORTH PRICE ROAD  
ST. LOUIS, MISSOURI 63102  
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**FIRE PROTECTION:**  
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**ARCHITECT**

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WWW.GMATEBITION.COM

PROPOSED MAINTENANCE FACILITY FOR:

**FlightSafety**  
INTERNATIONAL

WICHITA, KANSAS

HORIZ. & VERT. CTL.

JOB NO :  
SJB011

DRAWN BY :  
MLP

ISSUE DATE :  
DATE 11-25-08

REVISIONS	
1	REV-1
2	REV-2
3	REV-3
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SHEET NUMBER  
C2-9