

**GENERAL NOTES:**

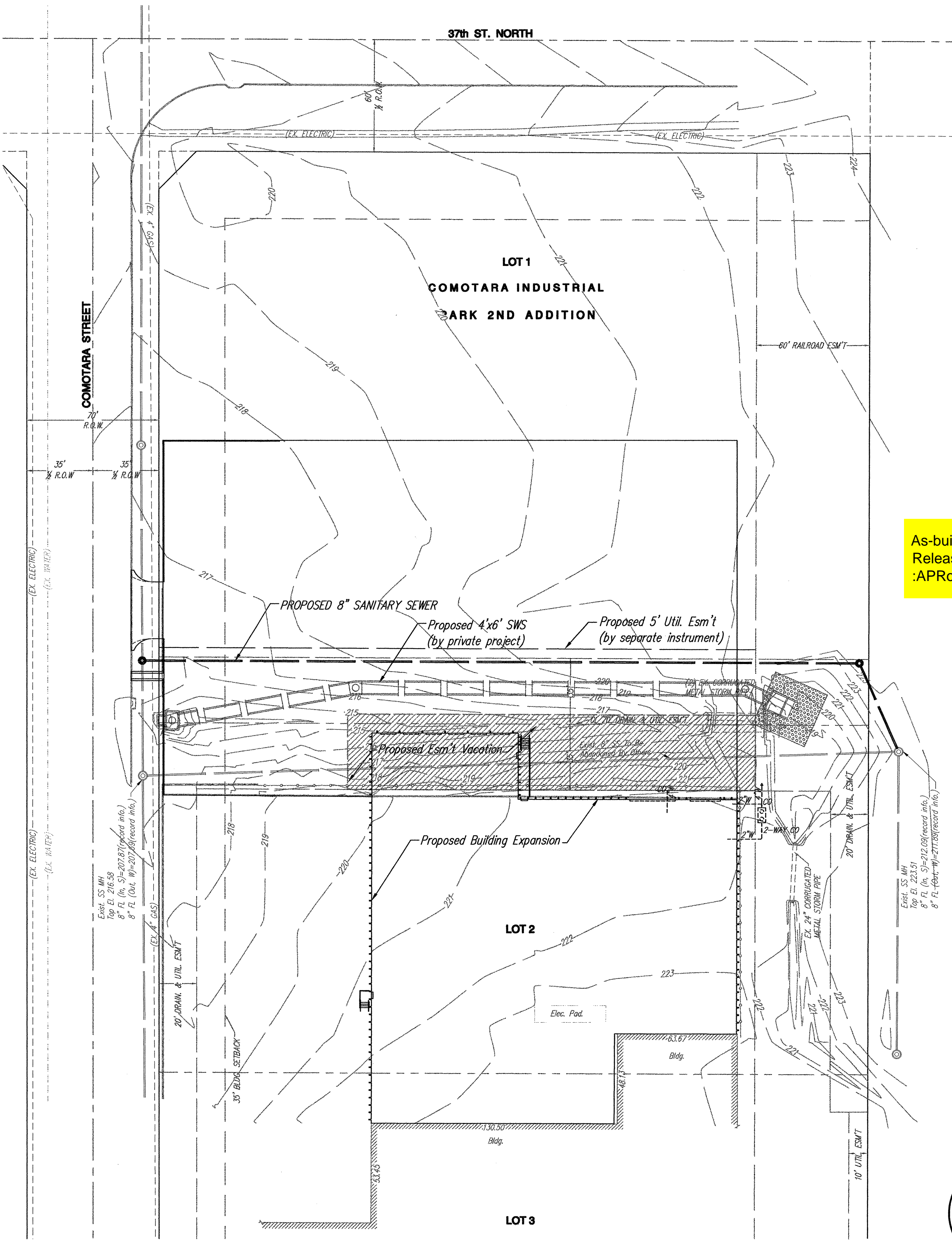
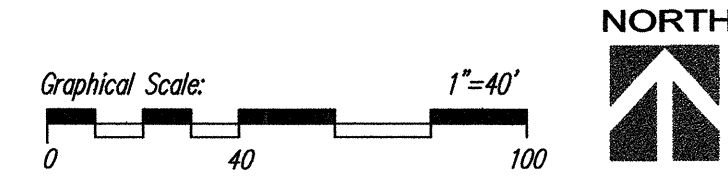
- UNLESS SHOWN OR STATED OTHERWISE ON THESE DRAWINGS, MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WICHITA STANDARD SPECIFICATIONS.
- ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY EIGHT HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:  
KANSAS ONE-CALL.....687-2470
- THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:  
COX COMMUNICATIONS.....262-0661  
KANSAS GAS SERVICE.....832-3122  
AQUILA NETWORKS.....841-1608  
WESTAR ENERGY.....261-6251  
AT&T.....1-800-870-8390  
CITY OF WICHITA WATER DEPARTMENT.....268-4555  
CITY OF WICHITA SEWER DEPARTMENT.....268-4555
- 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.
- EACH BIDDER SHALL VISIT THE SITE OF THE PROJECT BEFORE SUBMITTING THE PROPOSAL FOR THIS WORK, SO THAT HE WILL BE FULLY INFORMED OF THE EXISTING FIELD CONDITIONS AND THE OBSTACLES WHICH MAY BE ENCOUNTERED.
- ANY EXCESS EXCAVATION OR 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.
- THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES, AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES. WHERE EXISTING SIGNS, FENCES, MAILBOXES, ETC. CONFLICT WITH THE PROPOSED WORK HEREIN, THEY SHALL BE REMOVED AND REPLACED OR RESET. WHERE EXISTING ENTRANCE PIPES AND DRAINAGE PIPES CONFLICT WITH THE PROPOSED WORK HEREIN, THEY SHALL BE REMOVED AND SALVAGED FOR THE OWNER, OR DISPOSED OF IN ACCORDANCE WITH GENERAL NOTE NUMBER 7. THE REMOVAL OF AND REPLACEMENT OF ALL THE AFOREMENTIONED ITEMS, SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION."
- POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE WAYS SHALL BE MAINTAINED.
- EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST AVAILABLE INFORMATION. IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLE MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES AND CABLES. ANY UTILITIES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- UNDERGROUND UTILITY SERVICES 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 LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR THEIR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATION. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING SANITARY SEWER AT THE CONNECTIONS TO VERIFY PIPE SIZE, PIPE TYPE, AND THE HORIZONTAL AND VERTICAL LOCATIONS. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY PLAN MODIFICATIONS MAY BE MADE.
- THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION, TYPE, SIZE, AND CLASS OF EXISTING STORM WATER LINES PRIOR TO CONSTRUCTION. EXISTING STORM WATER LINE LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL MAKE ADJUSTMENTS AS REQUIRED AND APPROVED BY THE CITY ENGINEER. PROVISIONS FOR AND INSTALLATION OF PIPE ADAPTERS, SHORT SECTIONS OF PIPE, COUPLERS, AND CONC. COLLARS SHALL BE CONSIDERED AS SUBSIDIARY TO OTHER PAY ITEMS OF WORK.
- THE 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 PERFORMED WITHOUT INSPECTION IS SUBJECT TO BE UNCOVERED FOR INSPECTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING EXISTING PROPERTY IRONS AND RIGHT-OF-WAY MONUMENTS. THE CONTRACTOR SHALL BE REQUIRED TO REESTABLISH ANY PROPERTY IRONS OR RIGHT-OF-WAY MONUMENTS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS OR MONUMENTS SHALL BE REESTABLISHED BY A LICENSED SURVEYOR IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO SITE CLEARING & RESTORATION.
- NOTIFY WESTAR ENERGY TO ARRANGE FOR APPROPRIATE SAFETY PRECAUTIONS BEFORE WORKING WITHIN 10 FEET OF AN OVERHEAD HIGH VOLTAGE LINE IN ACCORDANCE WITH THE OVERHEAD POWER LINE ACCIDENT PREVENTION ACT.
- EASEMENTS AND RIGHTS-OF-WAY PROVIDED BY THE OWNER FOR THE PROJECT ARE SHOWN IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF ANY ADDITIONAL TEMPORARY CONSTRUCTION EASEMENTS OR RIGHT-OF-WAY THAT HE DESIRES TO USE IN COMPLETING THE WORK.
- ALL LANDSCAPE AREAS SHALL BE GRADED WITH TOPSOIL, MULCHED AND PLANTED AS SHOWN IN THE PLANS AND IN CONFORMANCE WITH LATEST "CITY OF WICHITA STANDARD SPECIFICATIONS". ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "LANDSCAPING BEDS".
- INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY THE PROJECT SPECIAL PROVISIONS. THE CONTRACTOR SHALL UTILIZE BARRICADES, SIGNS, GUARDS, AND FLAGMEN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN TO THE CITY FOR APPROVAL PRIOR TO BEGINNING WORK.
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC, UNLESS OTHERWISE APPROVED BY THE ENGINEER. PAVEMENT MARKINGS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND IN CONFORMANCE WITH LATEST "CITY OF WICHITA STANDARD SPECIFICATIONS". FULL TRAFFIC MAY NOT BE RESTORED (AND SUBSTANTIAL PROJECT COMPLETION ACHIEVED) UNTIL ALL PAVEMENT MARKINGS ARE IN PLACE. SHOULD CONSTRUCTION TIMING BE SUCH THAT RESTORATION OF TRAFFIC BECOMES NECESSARY DURING TEMPERATURES PROHIBITING THE INSTALLATION OF THERMOPLASTIC MARKINGS, THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY MARKINGS UNTIL SUCH TIME THAT THERMOPLASTIC MARKINGS MAY BE PROPERLY INSTALLED. EXCEPT FOR THE MATERIAL REQUIREMENT, TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED EQUIVALENT, IN EVERY MANNER (I.E. DIMENSION, FREQUENCY, SPACING, ETC.), TO THE PERMANENT MARKING LAYOUT. THE COST FOR TEMPORARY PAVEMENT MARKINGS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM FOR "PAVEMENT MARKINGS."
- 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 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 WILL BE CONSIDERED SUBSIDIARY TO THE REMOVAL OF THE SURFACE OR PAVEMENT.
- ANY STREET CURBS OR OTHER EXISTING PAVING IMPROVEMENTS, DAMAGED BY THE CONTRACTOR SHALL BE REPLACED IN KIND TO THE NEAREST EXISTING CONSTRUCTION POINT OR TO LIMITS APPROVED BY THE CITY ENGINEER.
- ALL DRIVEWAY CONSTRUCTION WILL MEET CITY OF WICHITA STANDARDS. RRICA
- ALL IRRIGATION, LANDSCAPING, AND FENCING DISTURBED DURING CONSTRUCTION SHALL BE REMOVED AND RESET IN KIND, BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT HOURS TO THE AFFECTED PROPERTY OWNERS PRIOR TO BEGINNING CONSTRUCTION. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION."
- THE CONTRACTOR SHALL MINIMIZE SEWER SERVICE INTERRUPTIONS TO PROPERTY OWNERS WITHIN THE PROJECT AREA. ANY PROPERTY OWNERS WHO WILL HAVE SERVICE INTERRUPTED SHALL BE GIVEN WRITTEN NOTICE AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE. NO PROPERTY OWNERS SHALL HAVE THEIR WATER SERVICE INTERRUPTED FOR MORE THAN A FOUR (4) HOUR PERIOD.
- THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES (BMP'S) TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, OR ANY OTHER DRAINAGE FEATURE. THE CITY OF WICHITA STANDARD DETAILS FOR SOIL EROSION BMP'S ARE A PART OF THIS SET OF PLANS AND ARE INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF SOIL EROSION PROTECTION WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL BID THE PROJECT ACCORDINGLY. BMP'S SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS BY THE CONTRACTOR. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY SOIL EROSION BMP'S DAMAGED OR DESTROYED DURING THE CONSTRUCTION PROCESS.
- NEW SANITARY SEWER SERVICES SHALL BE PROVIDED ALONG THE PROPOSED ALIGNMENT, AS DIRECTED BY THE CONSTRUCTION ENGINEER. EXISTING SERVICE LINES TO BE ABANDONED SHALL BE CUT AND CAPPED.

**BENCHMARK:**

- CITY OF WICHITA BENCHMARK LOCATED APPROX. 0.5 MILES EAST OF ROCK ROAD ON 37TH STREET NORTH, EAST OF THE NORTHEAST BOLT BASE OF WEST SIGNAL CONTROL, ON THE SOUTH SIDE OF 37TH STREET. ELEV. = 224.66

**HORIZONTAL COORDINATE CONTROL:**

- NORTHWEST CORNER OF LOT 1 OF "COMOTARA INDUSTRIAL PARK 2nd ADDITION", (3" IRON PIPE) N=10,942,537, E=-5,000,000
- SOUTHWEST CORNER OF LOT 5 OF "COMOTARA INDUSTRIAL PARK 2nd ADDITION", (3" IRON PIPE) N=10,000,000, E=-5,000,000

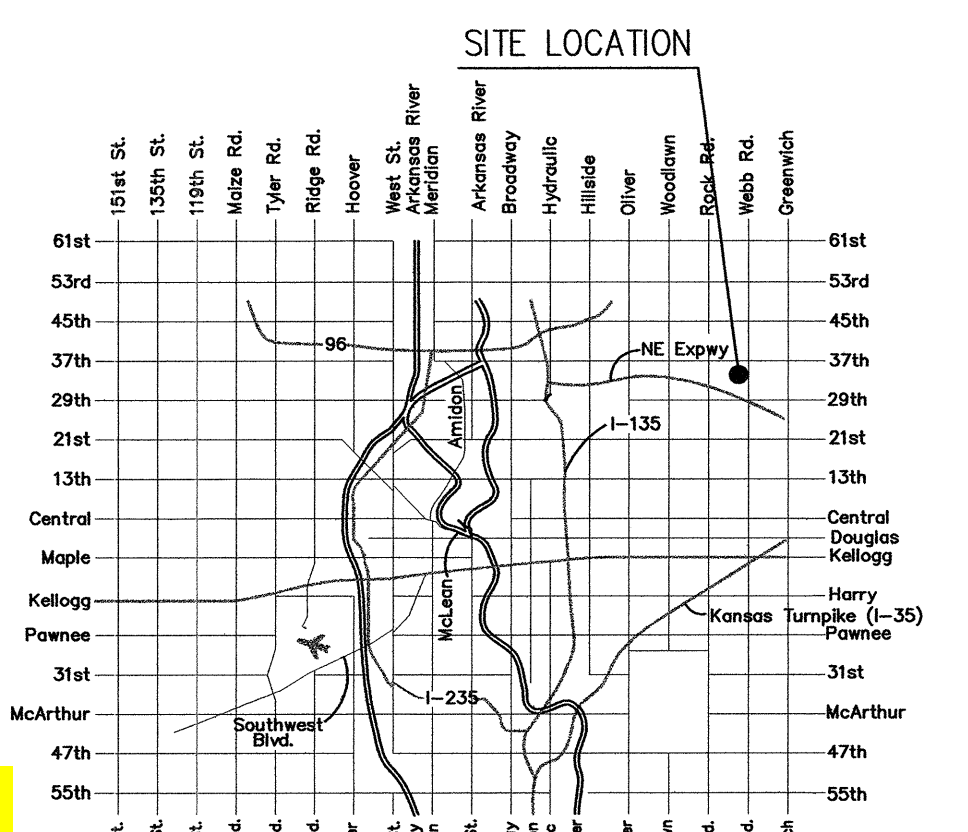


**8" SANITARY SEWER IMPROVEMENTS  
TO SERVE  
COMOTARA INDUSTRIAL PARK 2ND ADDITION**  
A portion of Lots 1 and 2  
(SE Corner of 37th St. N. and Comotara St.)  
  
Private Project No. 2015 PPS 607861  
  
**City of Wichita**  
Sedgwick County, Kansas  
JAMES L. ARMOUR, PE, CITY ENGINEER

**INDEX OF SHEETS:**

TITLE SHEET & GENERAL NOTES.....	SS1.1
8" SANITARY SEWER PLAN & PROFILE.....	SS1.2
PRECAST MANHOLE DETAILS.....	SS1.3
MANHOLE FRAME AND COVER DETAILS.....	SS1.4

**VICINITY MAP:**



As-built  
Release Date: 01/26/2010  
:APRosas 01/26/2010

**As-Built Plans**  
Contractor: Dondlinger & Sons Construction Co. Inc.  
Inspector: Dustin Billingsley, Young & Associates, P.A.  
.pdf by: DSB 1-25-10

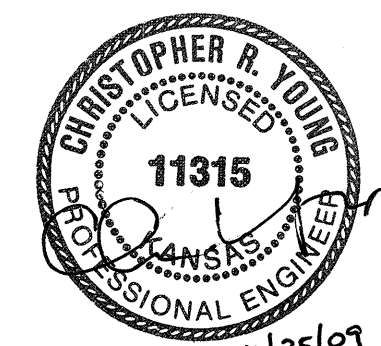
APPROVED AS NOTED  
BY CITY ENGINEER OF WICHITA,  
BY WICHITA WATER & SEWER DEPARTMENT

Public Works  
Water & Sewer Julianne Kollman 12-10-09

**NOTE TO CONTRACTORS**

Public Property:  
Inspection and testing for the storm sewer is 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 Professional Engineer Licensed in the state of Kansas. 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. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).

CITY OF WICHITA PRIVATE PROJECT NO.:  
2015 PPS 607861



**UTILITY NOTES:**  
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES, CALL 1-800-344-7233.

**YOUNG & ASSOCIATES, P.A.**  
Professional Civil Engineering Consultants  
100 S. Georgie, Derby, KS 67037  
tele: (316)788-2552 fax: (316)788-4408  
email: engineering@ynpca.com

8" SANITARY SEWER - TITLE SHEET AND GENERAL NOTES

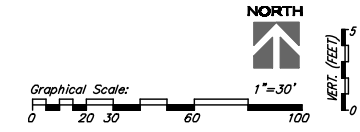
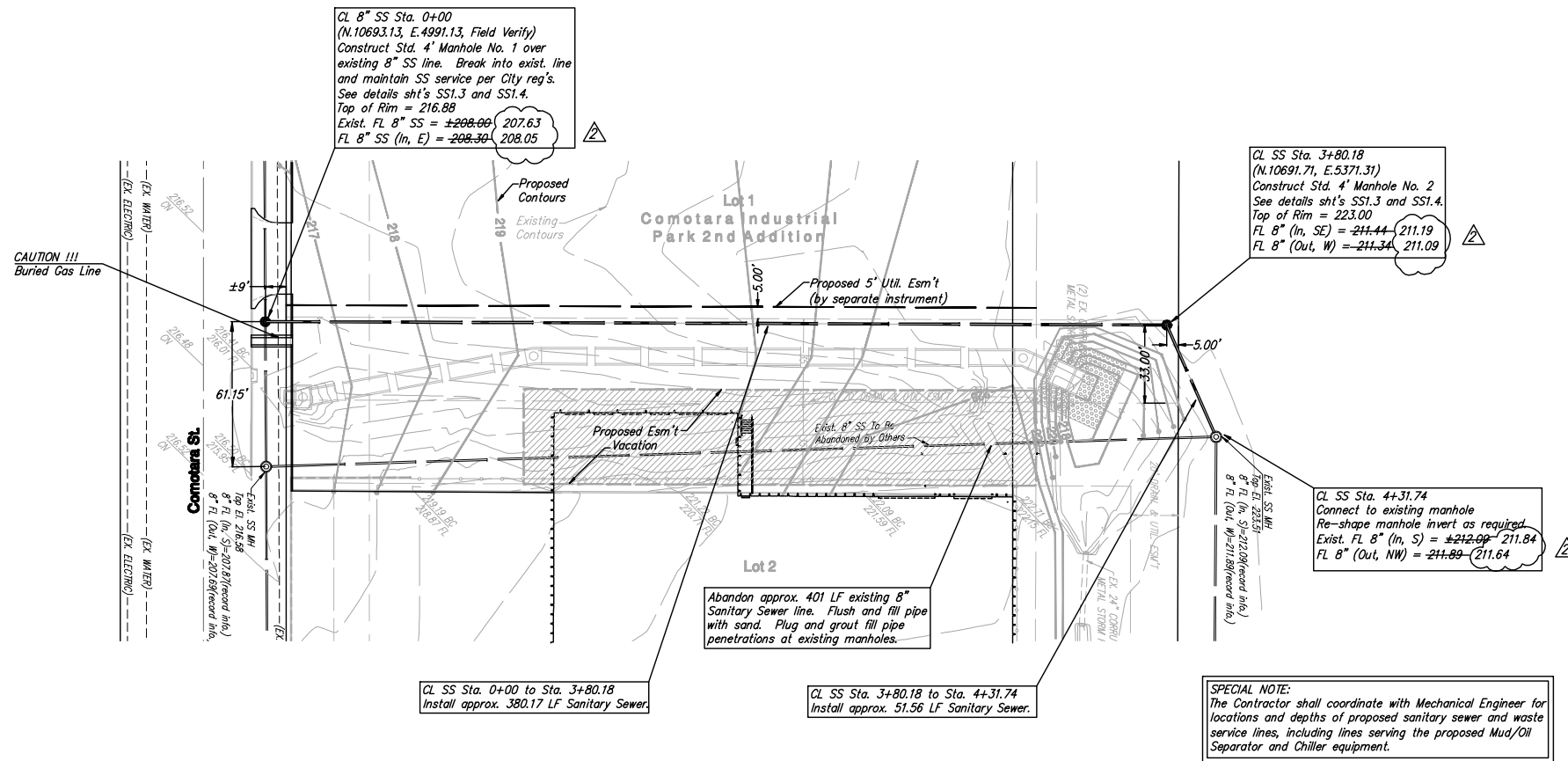
HOUSE OF SCWAN  
COMOTARA INDUSTRIAL PARK 2ND ADDITION  
CITY OF WICHITA, SEDGWICK COUNTY, KANSAS

PROJECT NO. 10C094/2/5  
DATE: NOVEMBER 11, 2004  
REVISED: NOVEMBER 23, 2004

SHEET  
**SS1.1**  
OF 4 SHEETS

**MCCULLOGGAGE VAN SICKLE & PERRY CORPORATION**

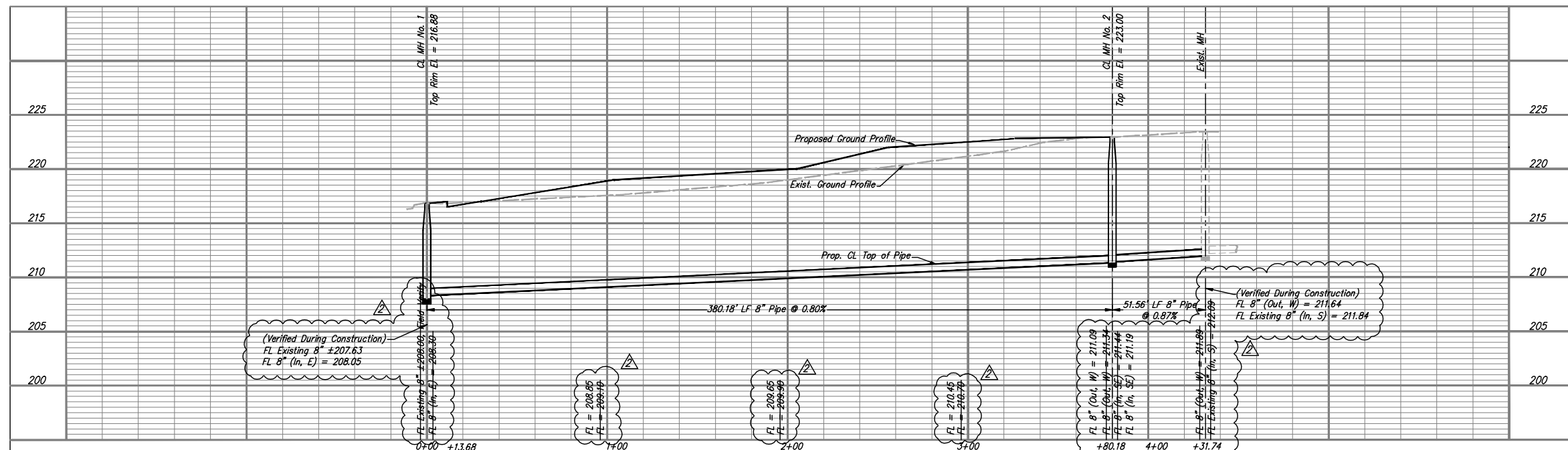
ARCHITECTS • PLANNERS  
LANDSCAPE ARCHITECTS • REGISTERED  
128 S. WASHINGTON, WICHITA, KANSAS 67202  
P.O. BOX 3048 WICHITA, KANSAS 67201  
PH. 316.262.0451 • FAX 316.262.5465



- SPECIAL NOTES:**
1. THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND SEDIMENT DISCHARGE IN ALL DISTURBED AREAS OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, AND EQUIPMENT, AND LABOR TO CONSTRUCT, OPERATE AND MAINTAIN TEMPORARY EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. THIS WORK SHALL BE PAID FOR AS "SEEDING AND EROSION CONTROL".
  2. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING BURIED UTILITY LINES PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER.
  3. ALL EXISTING RIP-RAP WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED AND RE-INSTALLED TO NEW LOCATIONS SHOWN. ANY EXCESS RIP-RAP MATERIAL SHALL BE SALVAGED AND DELIVERED TO THE CITY OF DERBY AT HIGH PARK.

**As-Built Drawing**  
1/25/10

**YOUNG & ASSOCIATES, P.A.**  
Professional Civil Engineering Consultants  
100 S. Georigle, Derby, KS 67037  
tel: (316) 788-2552 fax: (316) 788-4408 email: engineering@yngpa.com



**8\"/>**

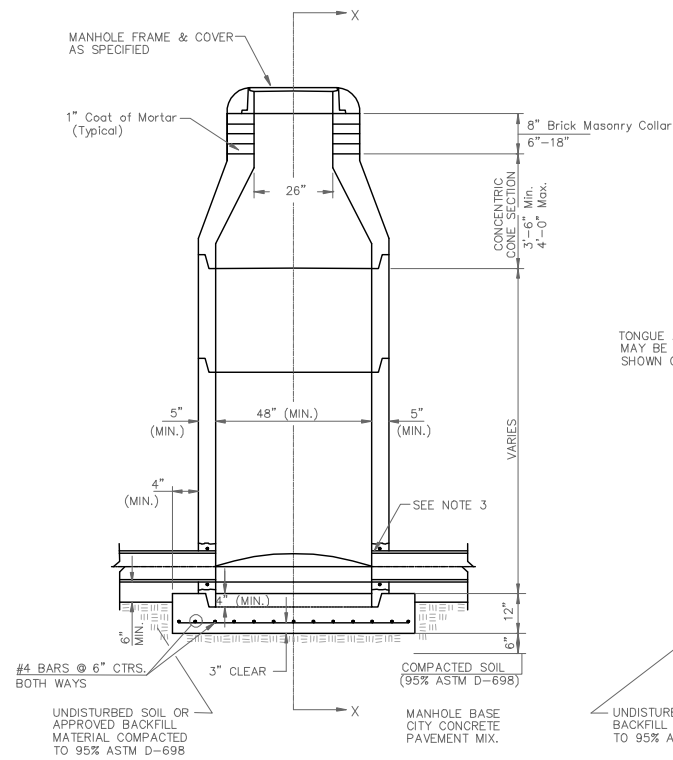
PROJECT NO. 104094/25  
DATE: NOVEMBER 11, 2004  
REVISED: NOVEMBER 29, 2004  
AS-BUILT: DECEMBER 11, 2004

SEBIST  
**SS1.2**  
Q 4 SEBIST

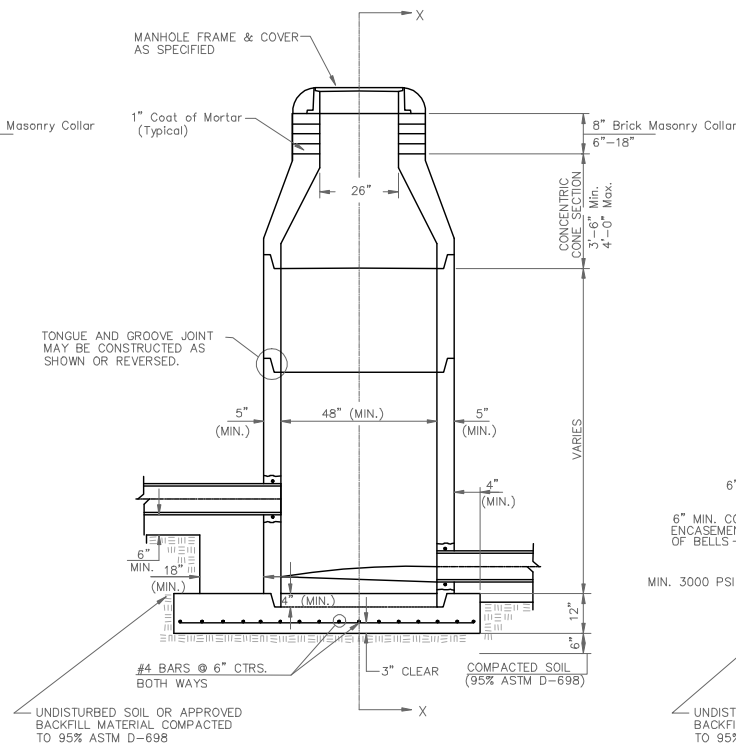
HOUSE OF SCWAN  
**COMOTARA INDUSTRIAL PARK 2ND ADDITION**  
CITY OF WICHITA, SEDGWICK COUNTY, KANSAS

MOJUGAGE VAN SICKLE & PERRY CORPORATION

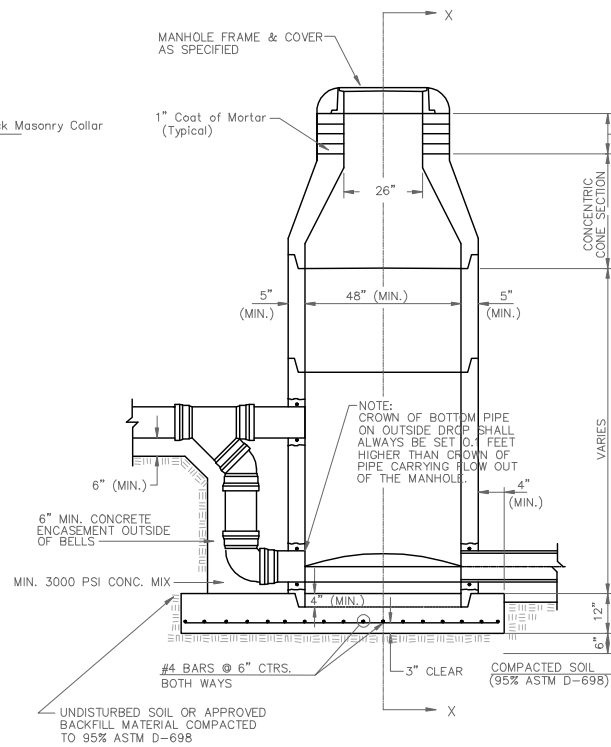
# SEWER APPURTENANCES DETAILS



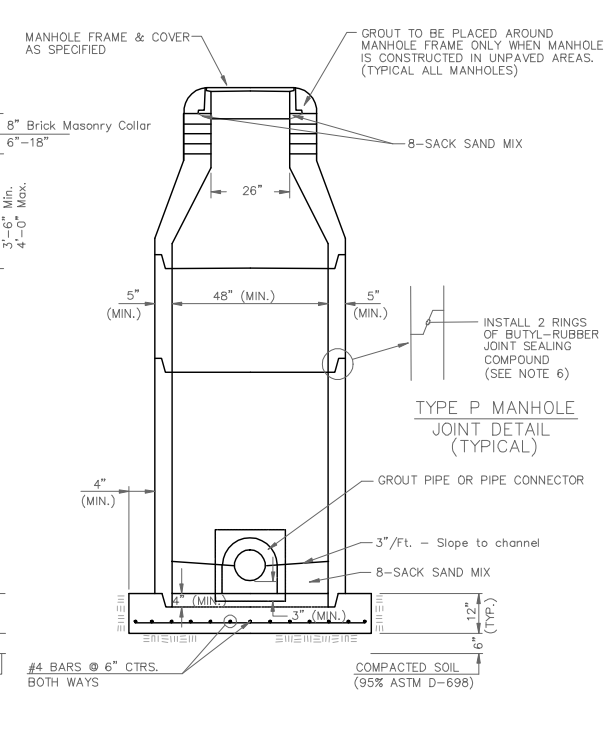
**TYPE P  
STANDARD MANHOLE**



**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 PIPE SHALL BE GROUDED 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.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNECC SERIES 66 HI-BUILD EPOXYLINE, 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 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.
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 GROUDED 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 GROUDED 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 CRAIDLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRAIDLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MAHOLE. THE CRAIDLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRAIDLE 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.

*Special Note:*  
Standard details for Type "P" Manholes shall be in accordance with the latest City of Wichita Standard Specifications for Construction of City Projects.

**As-Built Drawing  
1/25/10**

**YOUNG & ASSOCIATES, P.A.**  
Professional Civil Engineering Consultants  
100 S. George, Derby, KS 67037  
tele: (316)788-2552 fax: (316)788-4408 email: engineering@yngpa.com



**HOUSE OF SCHWAN ADDITION  
3636 NORTH COMOTARA  
WICHITA, KS**

PRECAST CONCRETE MANHOLE DETAILS

<b>109039</b>	
DATE:	11.12.08
REVISIONS	
Δ	12.11.2009 PERM RE-ISSUE

**SS1.3**