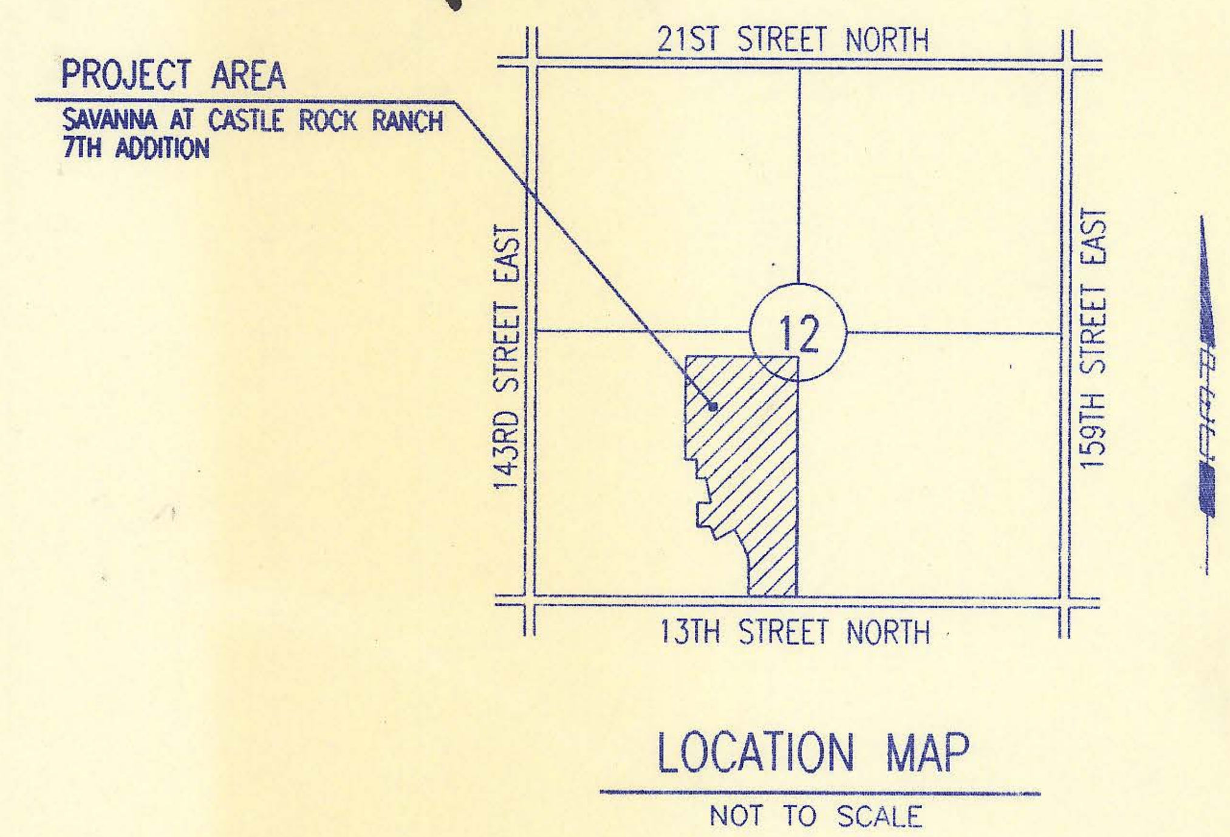
4MC- 109

BUREAU OF PUBLIC SERVICES

SEDGWICK COUNTY KANSAS



LOCATION MAP

NOT TO SCALE

INDEX OF SHEETS

CONSTRUCTION PLANS FOR

SANITARY SEWER IMPROVEMENTS

IN

SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

PART A: PHASE 1 SANITARY SEWER LATERALS
PART B: FORCE MAIN/PUMP STATION

TO SEDGWICK COUNTY, KANSAS

FEBRUARY 1995

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

RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
RES. ENG. DATE

APPROVED:

David C. Spears
DAVID C. SPEARS, P.E.
DIRECTOR OF PUBLIC SERVICES/COUNTY ENGINEER
DATE: 2/13/95

APPROVED:

[illegible]
CHAIRMAN, BOARD OF COUNTY COMMISSIONERS
DATE: 2/13/95

[illegible]
2-13-95

FILED IN THE OFFICE OF THE SEDGWICK COUNTY CLERK
[illegible]
COUNTY CLERK
DATE: 2/15/1995

4MC - 109

DSNR: RFJ OPER: JLM SCALE: 1 = 1
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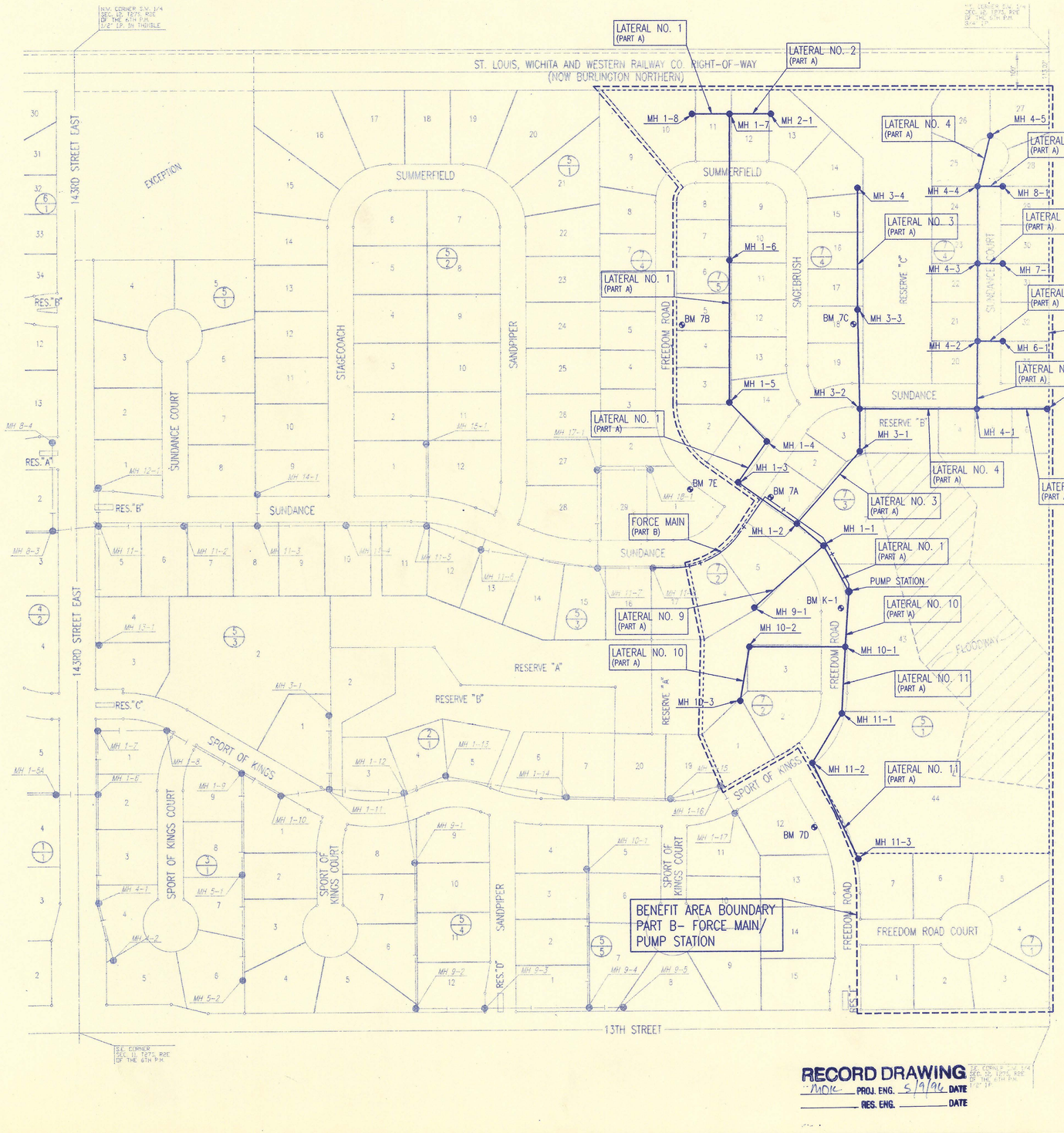

GENERAL NOTES

1. ALL ELEVATIONS SHOWN ARE USGS DATUM.
2. AT LEAST 72 HOURS PRIOR TO BEGINNING ANY EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT 687-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA: MULTIMEDIA CABLE TV, WICHITA WATER, SOUTHWESTERN BELL TELEPHONE, K G & E GAS, AND K G & E ELECTRIC.
3. THE BURIED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE LOCATIONS ONLY. IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLES MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES. ANY LINES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
4. AT LEAST 24 HOURS BEFORE CONNECTING NEW SEWER PIPE TO THE EXISTING SEWAGE SYSTEM, THE CONTRACTOR SHALL CONTACT THE SEDGWICK COUNTY EASTERN SEWER DISTRICT (733-0202). THE CONTRACTOR SHALL KEEP ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION. TO PREVENT WATER OR DEBRIS FROM ENTERING THE EXISTING SEWER, A MECHANICAL PLUG SHALL BE INSTALLED AND MAINTAINED TO ISOLATE THE EXISTING SEWER FROM THE NEW CONSTRUCTION UNTIL THE NEW CONSTRUCTION IS CLEANED, TELEVISED, AND HAS BEEN ACCEPTED. THE WATER USED FOR CLEANING SHALL NOT BE ADDED TO THE FLOW OF THE EXISTING SEWER. THE CLEANING OR OTHERWISE ACCUMULATED WATER SHALL BE PUMPED OR OTHERWISE REMOVED PRIOR TO TELEVISING.
5. ALL PIPE JOINTS SHALL BE LAID AND PUSHED 'FULL HOME', WITH THE 'BEVELED END OF THE SPIGOT MAKING FULL CONTACT WITH THE CHAMFERED AREA AT THE THROAT OF THE BELL OR SOCKET, WITH NO SEPARATION BETWEEN THEM. IF SEPARATION IS DETERMINED, THE PIPE SHALL BE EXCAVATED AND RE-LAID ACCORDING TO SPECIFICATIONS AT THE CONTRACTORS EXPENSE.
6. EXCESS EXCAVATED MATERIAL AND OTHER DEBRIS SHALL BE WASTED ON SITES TO BE PROVIDED BY THE CONTRACTOR AS APPROVED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
7. THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS TO PERMIT TRAFFIC THROUGH AND ACROSS CONSTRUCTION AT EXISTING ROADWAYS AT ALL TIMES. THE CONTRACTOR SHALL ERECT WARNING SIGNS, FLASHING LIGHTS, AND BARRICADES IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES TO ENSURE SAFETY AS DIRECTED IN THE GENERAL CONDITIONS. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
8. 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. PRIOR TO START OF CONSTRUCTION THE CONTRACTOR SHALL FLAG AND REFERENCE ALL PROPERTY CORNERS THAT MAY BE DISTURBED BY CONSTRUCTION OPERATIONS, AND VERIFY THESE IN THE FIELD IN THE PRESENCE OF THE ENGINEER AND THE CONTRACTOR'S SURVEYOR. AFTER CONSTRUCTION AND BEFORE THE FINAL INSPECTION, A LETTER SIGNED AND SEALED BY THE LICENSED LAND SURVEYOR CERTIFYING REPLACEMENT OF ALL DISTURBED PROPERTY CORNERS SHALL BE SUBMITTED TO THE ENGINEER.
9. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. WHERE EXISTING ENTRANCE PIPE, DRAINAGE PIPE, SIGNS, FENCES, ETC., CONFLICT WITH THE PROPOSED WORK HEREIN, THEY SHALL BE REMOVED AND REPLACED OR RESET UNLESS OTHERWISE INDICATED ON THE PLANS. THE REPLACEMENT OF ALL THE AFOREMENTIONED ITEMS, INCLUDING SEEDING, FERTILIZER, AND MULCHING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
10. 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 EASEMENTS OR RIGHTS-OF-WAY THAT HE DESIRES TO USE IN COMPLETING THE WORK.
11. POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE WAYS SHALL BE MAINTAINED.
12. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
13. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF 10 DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION IN THE VICINITY OF THE AFFECTED PROPERTY.
14. ALL TRENCH BACKFILL SHALL BE EITHER TYPE I OR TYPE III UNLESS NOTED OTHERWISE. TYPE I BACKFILL SHALL BE USED AT ALL EXISTING AND PROPOSED STREETS, SEE SHT. 7 OF 20.
15. THE CONTRACTOR SHALL ALSO CONTACT THE FOLLOWING AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION TO ADVISE THEM OF THE INTENDED WORK AND OF HIS PROPOSED SCHEDULE:

    SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
    1250 S. SENECA
    WICHITA, KS 67213
    MR. JIM WEBER
    (316) 383-7901
16. THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL OBTAIN THE CONCURRENCE OF THE ENGINEER BEFORE PROCEEDING WITH SUCH WORK.
17. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED, SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOODPLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT AND A FLOODPLAIN DEVELOPMENT PERMIT FROM SEDGWICK COUNTY. ANY MATERIALS DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIALS BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
18. 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 MIGHT BE ENCOUNTERED. UPON AWARD OF THE CONTRACT, THE CONTRACTOR WILL NOT BE GRANTED ANY ADDITIONAL COMPENSATION WITH REGARDS TO TIME AND MONEY FOR CONDITIONS THAT MAY HAVE BEEN EVALUATED DURING AN INSPECTION OF THE SITE.
19. ALL GRASSED AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE REPLANTED WITH GRASS AND FERTILIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR SUCH WORK. ALL COSTS FOR SEEDING AND FERTILIZING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
20. PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS IN PUBLIC RIGHT-OF-WAY WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO PRICE BID FOR PIPE IN PLACE.
21. APPROVED EXCESS EXCAVATED MATERIAL FROM CONSTRUCTION ACTIVITIES SHALL BE WASTED AT A LOCATION APPROVED BY THE DEVELOPER AND IN ACCORDANCE WITH NOTE 17.
22. THE CONTRACTOR SHALL NOT BURY MANHOLES THAT HAVE RIM ELEVATIONS WHICH ARE LOWER THAN EXISTING GROUND. THE GROUND SHALL BE GRADED AS INDICATED ON THE P/P SHEETS. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM SUCH MANHOLES.

BM K-1 – CHISELED "□" ON SOUTH END OF EAST HEADWALL RCB UNDER FREEDOM ROAD. 120± SOUTH OF THE SOUTHWEST CORNER OF LOT 7, BLOCK 3 IN SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION.
ELEV.= 1354.04

BM 7A – T-POST 25'± EAST OF THE WEST CORNER OF LOT 1, BLOCK 3 IN SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION, AT THE NORTHEAST CORNER OF SUNDANCE AND FREEDOM ROAD.
ELEV.= 1348.28

BM 7B – T-POST 15' NORTH AND 15' EAST OF THE SOUTHWEST CORNER OF LOT 5, BLOCK 5 IN SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION.
ELEV.=1351.21

BM 7C – RAILROAD SPIKE IN THE NORTH FACE OF 18" ELM IN NORTH-SOUTH WOVEN WIRE FENCE LINE. EAST SIDE OF LOT 18, BLOCK 4 IN SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION.
ELEV.= 1345.81

BM 7D – T-POST 10' WEST OF THE P.C. IN LOT 12, BLOCK 5 IN SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION. 70' NORTH AND 110' WEST OF THE NORTHWEST CORNER OF LOT 7, BLOCK 1 IN SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION. 190' SOUTH OF INTERSECTION SPORT OF KINGS AND FREEDOM ROAD.
ELEV.= 1351.37

BM 7E – T-POST 16' SOUTHWEST OF THE P.C. ON THE NORTHEAST SIDE OF LOT 1, BLOCK 4 IN SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION.
ELEV.= 1352.65

CHRISTOPHER R. YOUNG — LICENSED — 11315 — KANSAS — PROFESSIONAL ENGINEER — 2-14-95

No.	Revision	By	Date

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

KEY MAP

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

PART A & B

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

Designed by CRY, MDK	Job No. 34-94608-1	Sht. 2 of 20
Drawn by JLM	Date September 1994	

DSNR: RFJ OPER: JLM SCALE: 1 = 150
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SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

TO SEDGWICK COUNTY, KANSAS

PEC

SCALE: 1"=100'

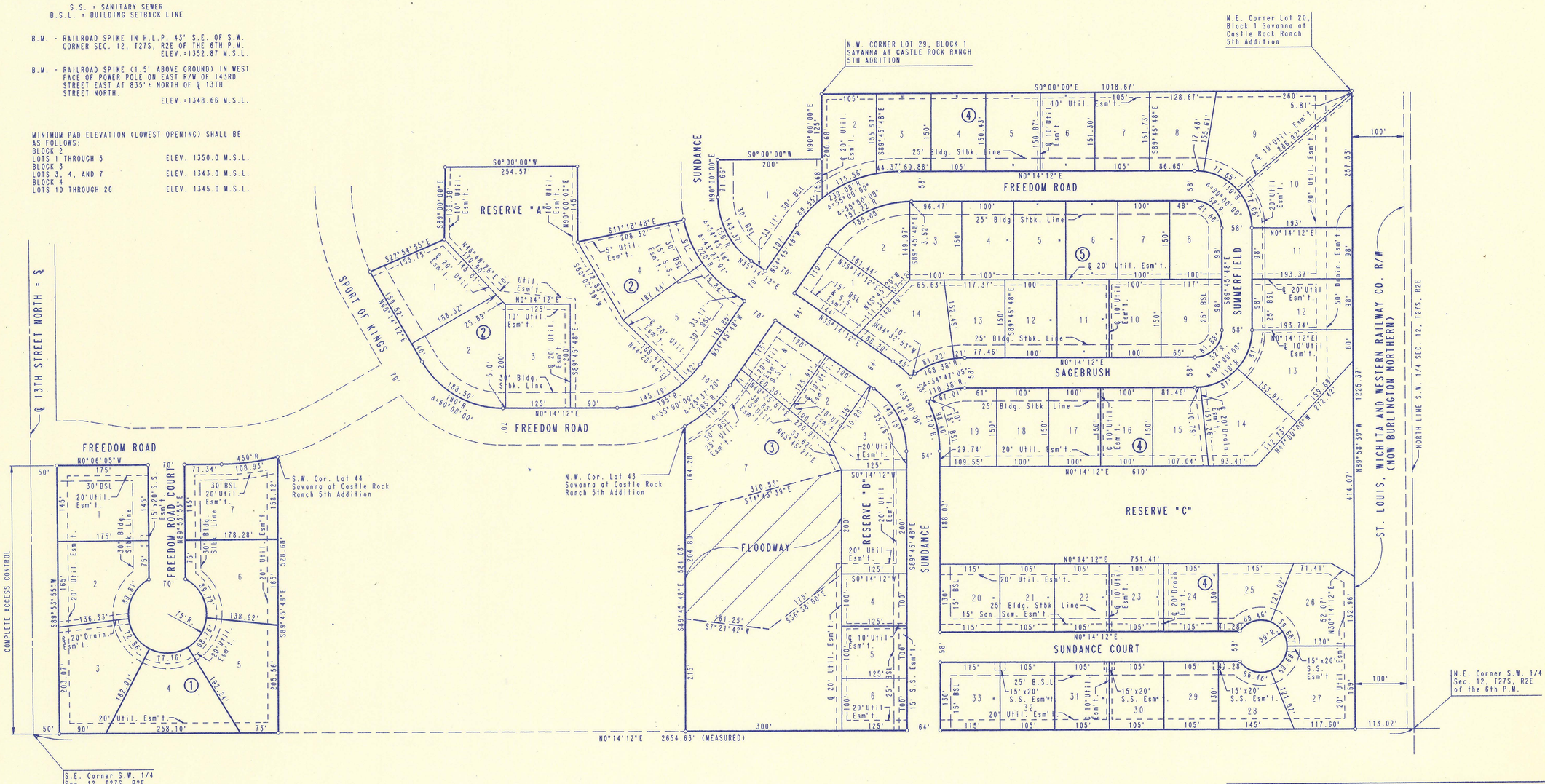
S.S. = SANITARY SEWER
B.S.L. = BUILDING SETBACK LINE

B.M. - RAILROAD SPIKE IN H.L.P. 43' S.E. OF S.W. CORNER SEC. 12, T27S, R2E OF THE 6TH P.M.
ELEV.=1352.87 M.S.L.

B.M. - RAILROAD SPIKE (1.5' ABOVE GROUND) IN WEST FACE OF POWER POLE ON EAST R/W OF 143RD STREET EAST AT 835'± NORTH OF ℄ 13TH STREET NORTH.
ELEV.=1348.66 M.S.L.

MINIMUM PAD ELEVATION (LOWEST OPENING) SHALL BE AS FOLLOWS:

BLOCK 2	
LOTS 1 THROUGH 5	ELEV. 1350.0 M.S.L.
BLOCK 3	
LOTS 3, 4, AND 7	ELEV. 1343.0 M.S.L.
BLOCK 4	
LOTS 10 THROUGH 26	ELEV. 1345.0 M.S.L.



PLAN	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK NO.____		
ALIGNMENT CHECKED		
RT. OF WAY CHECKED		

DRAWING NAME: 14-94608-1 SAV7 PLAT
LOCATION AREA: 299
CENTER COORDINATES:
ROTATION ANGLE:
DATE LAST WORKED ON: NOV. 29, 1994

No.	Revision	By	Date

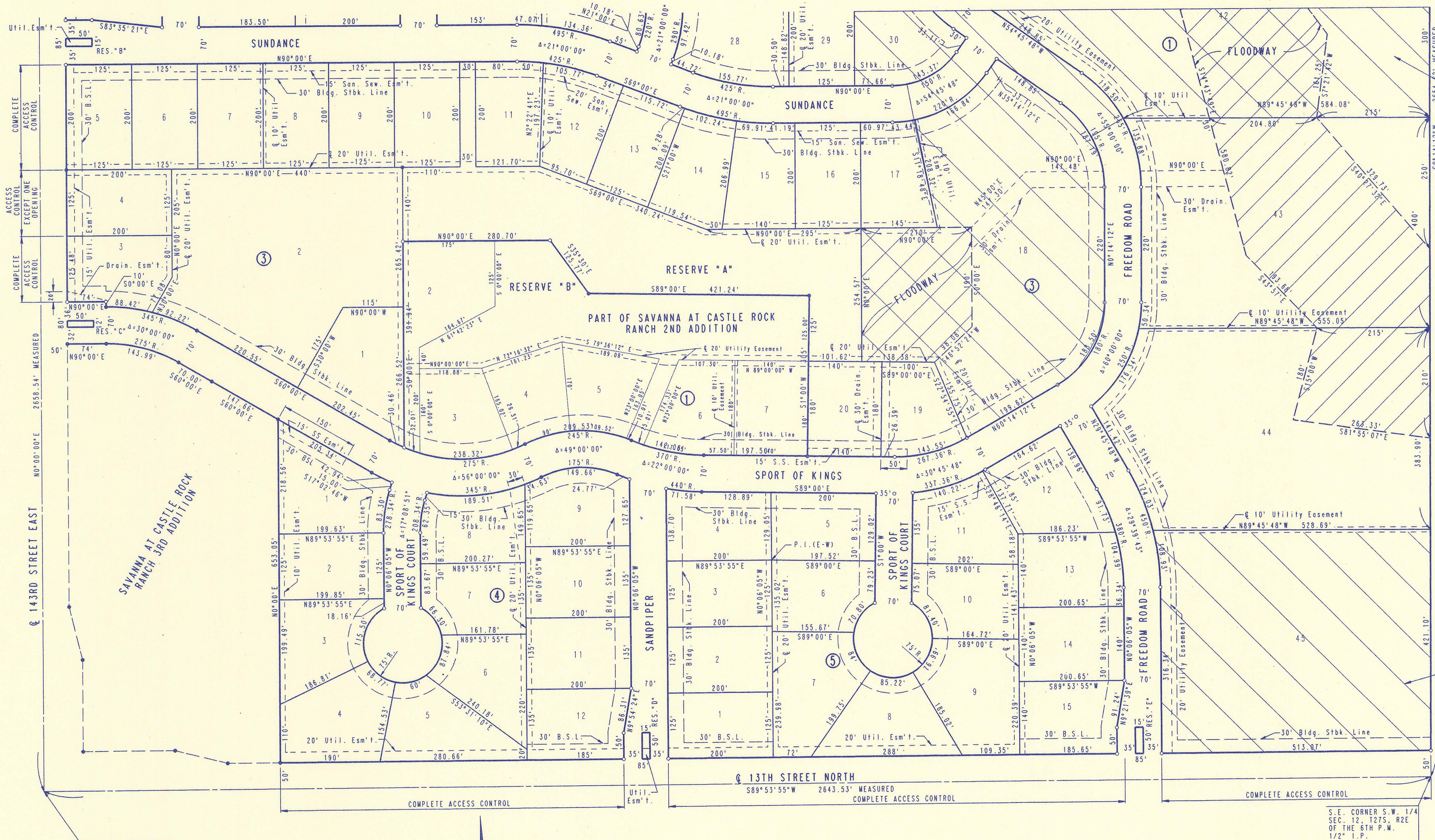
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

PLAT

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

Designed by	Job No.	Sht. 3 of 20
Drawn by	Date	

SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION
TO SEDGWICK COUNTY, KANSAS



REPLATTED AS SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

SCALE: 1"=100'

○ = 3/4" IRON SET

● = IRON FOUND

B.S.L. = BUILDING SETBACK LINE
S.S. = SANITARY SEWER

B.M. - RAILROAD SPIKE IN H.L.P. 43' S.E. OF S.W. CORNER SEC. 12, T27S, R2E OF THE 6TH P.M.
ELEV.=1352.87 M.S.L.

B.M. - RAILROAD SPIKE (1.5' ABOVE GROUND) IN WEST FACE OF POWER POLE ON EAST R/W OF 143RD STREET EAST AT 835'± NORTH OF ℄ 13TH STREET NORTH.
ELEV.=1348.66 M.S.L.

▨ FLOODWAY

MINIMUM PAD ELEVATION (LOWEST OPENING) SHALL BE AS FOLLOWS:

BLOCK 1	
LOT 38	ELEV. 1346 M.S.L.
LOT 39	ELEV. 1344 M.S.L.
LOTS 40 AND 41	ELEV. 1343 M.S.L.
LOT 42	ELEV. 1342 M.S.L.
LOTS 43 AND 44	ELEV. 1341 M.S.L.
BLOCK 3	
LOTS 11 THROUGH 15	ELEV. 1356 M.S.L.
LOTS 16 THROUGH 20	ELEV. 1350 M.S.L.

PLAN		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		

DRAWING NAME: 34-94608-2 SAV5 PLAT
LOCATION: E4 #302
CENTER COORDINATES:
ROTATION ANGLE:
DATE LAST WORKED ON: NOV.29, 1994
EN - RFJ

No.	Revision	By	Date

SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION

PLAT

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

Designed by	Job No.	Sht. 4 of 20
Drawn by	Date	

SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

TO SEDGWICK COUNTY, KANSAS

SCALE: 1" = 100'

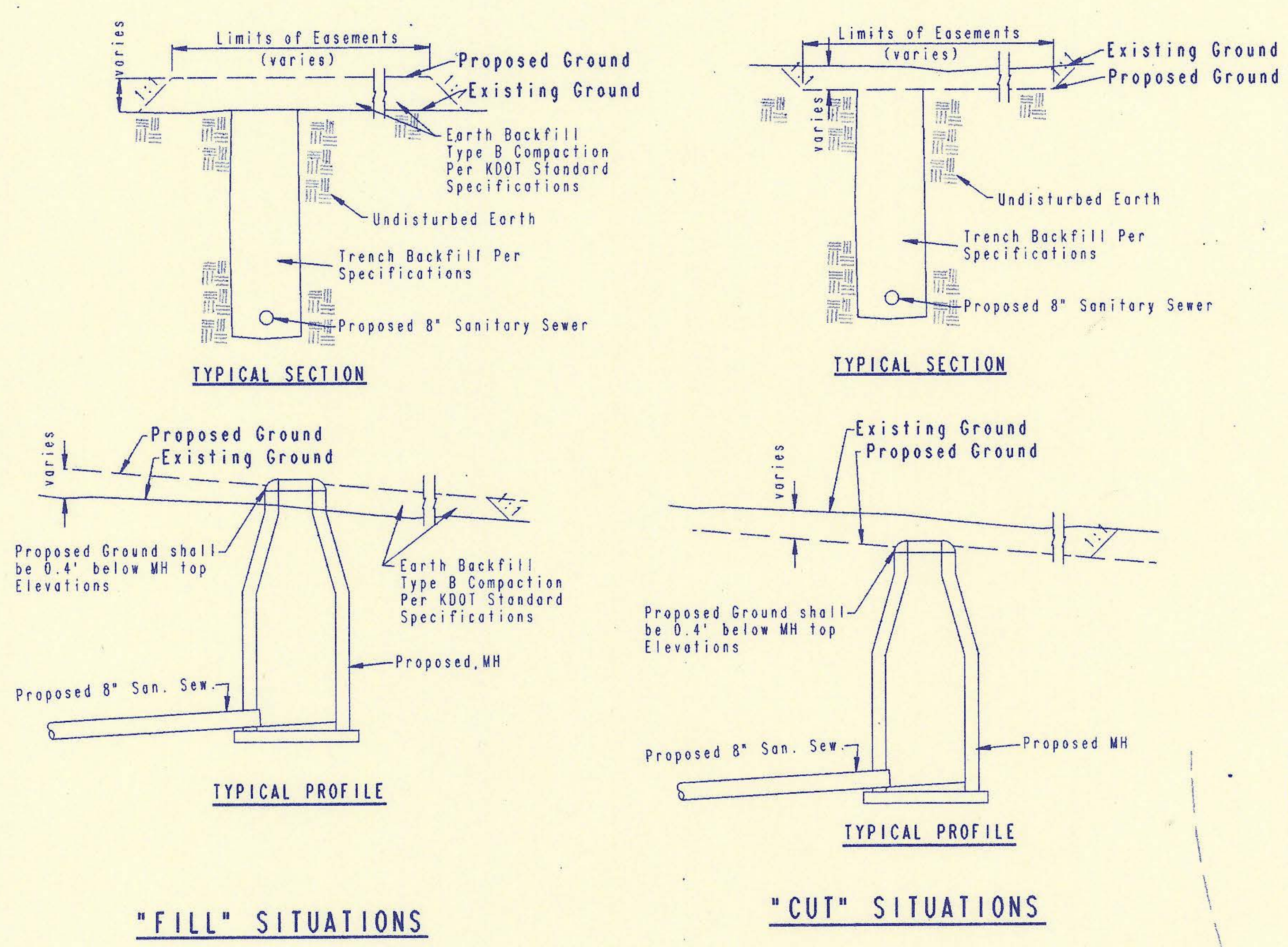
S.S. = SANITARY SEWER
B.S.L. = BUILDING SETBACK LINE

B.M. - RAILROAD SPIKE IN H.L.P. 43' S.E. OF S.W. CORNER SEC. 12, T27S, R2E OF THE 6TH P.M. ELEV. = 1352.87 M.S.L.

B.M. - RAILROAD SPIKE (1.5' ABOVE GROUND) IN WEST FACE OF POWER POLE ON EAST R/W OF 143RD STREET EAST AT 835' ± NORTH OF ℄ 13TH STREET NORTH. ELEV. = 1348.66 M.S.L.

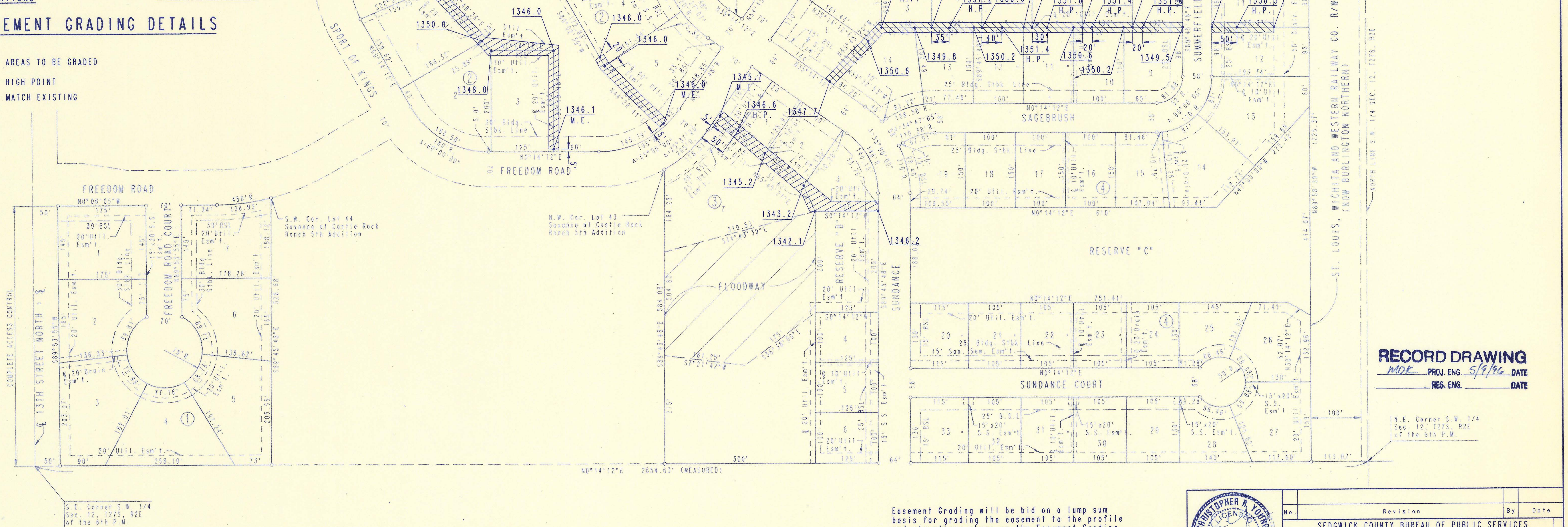
MINIMUM PAD ELEVATION (LOWEST OPENING) SHALL BE AS FOLLOWS:

BLOCK 2	
LOTS 1 THROUGH 5	ELEV. 1350.0 M.S.L.
BLOCK 3	
LOTS 3, 4, AND 7	ELEV. 1343.0 M.S.L.
BLOCK 4	
LOTS 10 THROUGH 26	ELEV. 1345.0 M.S.L.



EASEMENT GRADING DETAILS

- (hatched) = AREAS TO BE GRADED
- H.P. = HIGH POINT
- M.E. = MATCH EXISTING



RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
RES. ENG. DATE

Easement Grading will be bid on a lump sum basis for grading the easement to the profile and elevations shown on the Easement Grading Plan (this sheet). Approximate quantities of earthwork for easement grading are shown below. These approximate quantities are given for information only. The Contractor should verify the quantities when preparing the proposal.

Cut 250 C.Y. (Approximate)
Fill 1500 C.Y. (Approximate)

CHRISTOPHER R. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 2-14-95

No.	Revision	By	Date

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

EASEMENT GRADING PLAN
SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

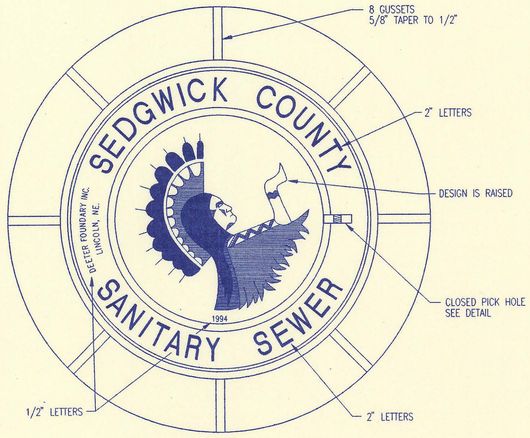
PART A

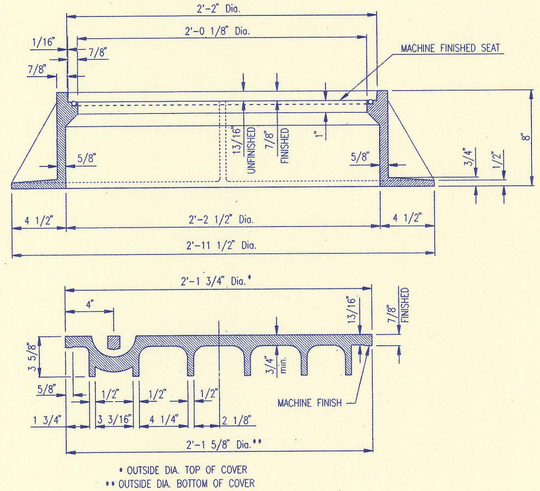
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by CRY, MDK	Job No. 34-94608-1	Sht. 5 of 20
Drawn by DEP, TDS	Date November 1994	

PLAN	CHECKED	CHECKED	BY	DATE

DRAWING NAME: 34-94608-1 SS ESMTGRD
LOCATION: E4 DWG.# 296
CENTER COORDINATES:
ROTATION ANGLE:
DATE LAST WORKED ON: NOV. 30, 1994
SPECIAL INSTRUCTIONS:





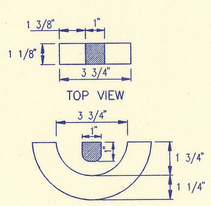
* OUTSIDE DIA. TOP OF COVER
** OUTSIDE DIA. BOTTOM OF COVER

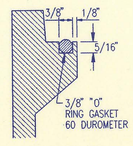
MANHOLE FRAME AND COVER

(TOTAL WEIGHT = 430 LBS.)

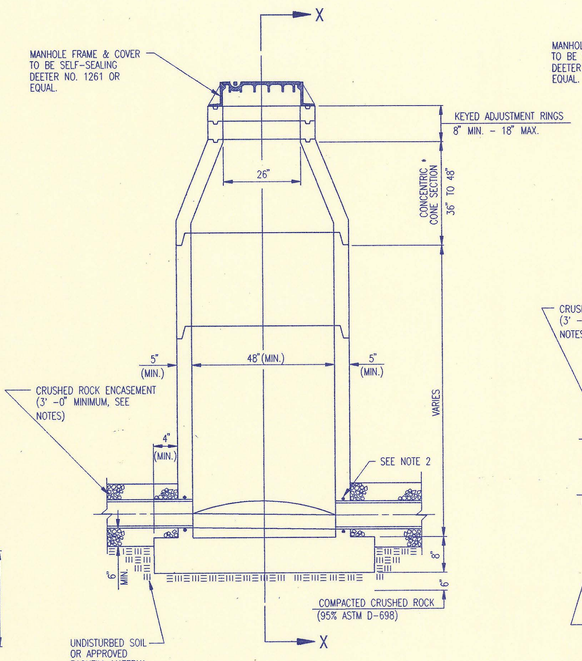
MANHOLE FRAME AND COVER NOTES

1. CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
2. CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS AND ALL BURRS SHALL BE GROUND SMOOTH. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY ± 1/16" PER FOOT.
3. NO OTHER LETTERING OR MARKINGS OTHER THAN THOSE DETAILED ON PLAN WILL BE PERMITTED ON CASTINGS.
4. CASTINGS MUST BE DOMESTICALLY MANUFACTURED IN THE UNITED STATES OF AMERICA.
5. THE FRAMES AND COVERS SHALL BE FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES SO FITTING PARTS WILL NOT RATTLE OR ROCK UNDER TRAFFIC.
6. MANHOLE CASTINGS SHALL BE SELF-SEALING DEETER FOUNDRY INC. NO. 1261 OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED IN THE SPECIAL CONDITIONS. (MINIMUM WT. = 430 LBS.) ALL MANHOLE CASTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICES BID FOR THE VARIOUS MANHOLE TYPES.
7. THE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO MANUFACTURE. THE ENGINEER SHALL RETAIN THE RIGHT TO REJECT CASTINGS NOT CONFORMING TO THE SPECIFICATIONS OR THE APPROVED SHOP DRAWINGS.
8. THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED CONTINUOUS "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME (PER DETAIL). THE "O" RING GASKET SHALL BE FACTORY INSTALLED IN THE MANHOLE FRAME WITH 100% SILICON SEALANT-DOW CORNING OR EQUAL.

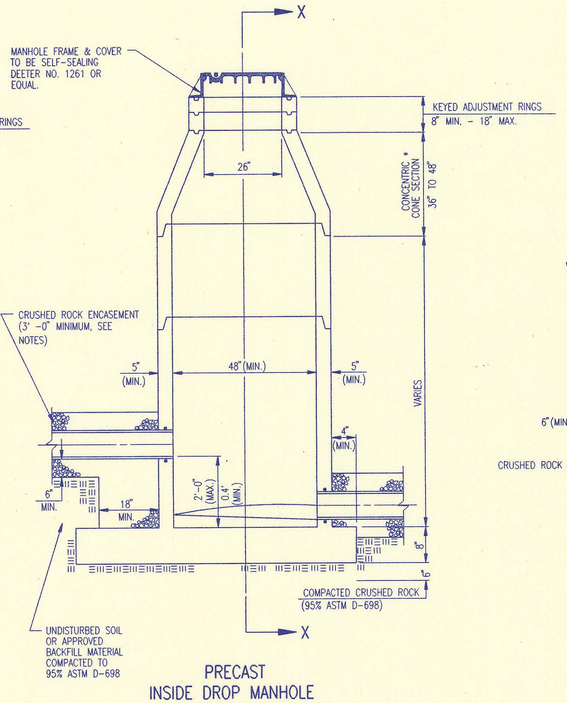




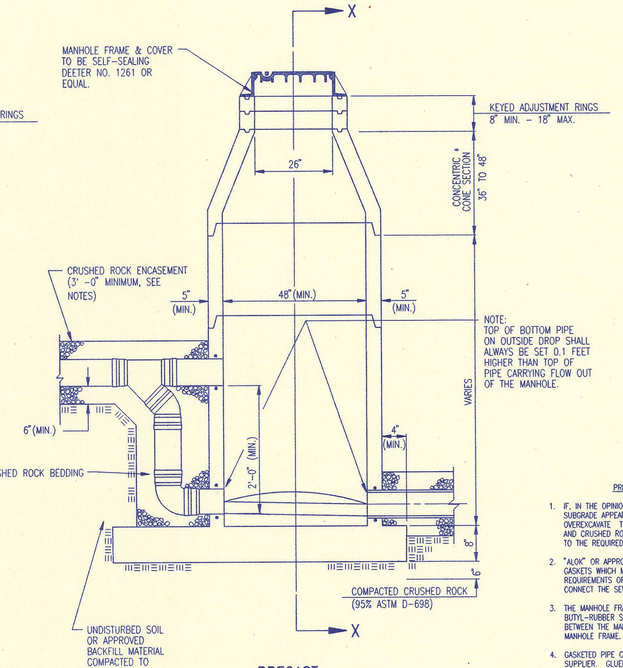
FRAME GROOVING DETAIL
(TYPICAL ALL MANHOLES)



PRECAST
STANDARD MANHOLE
TYPE "A"

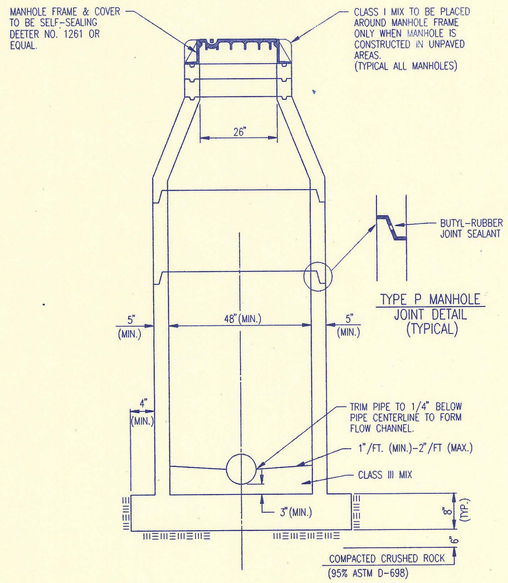


PRECAST
INSIDE DROP MANHOLE
TYPE "B"

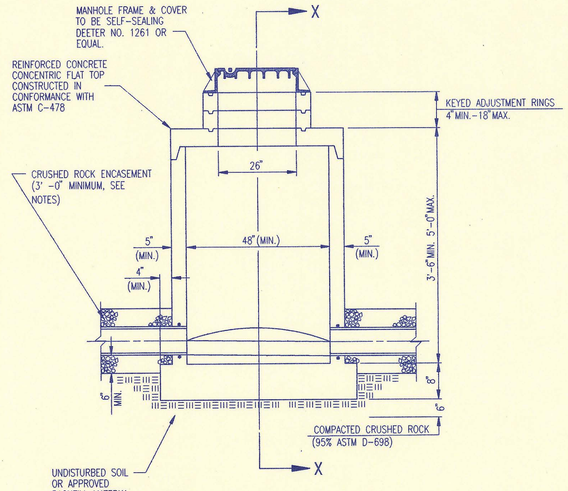


PRECAST
OUTSIDE DROP MANHOLE
TYPE "C"

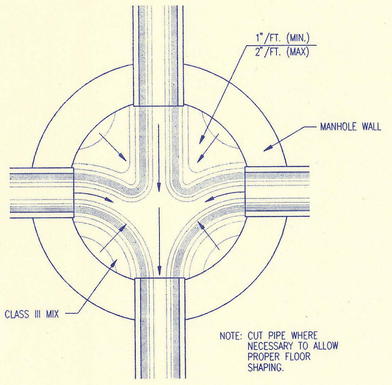
* ECCENTRIC CONE SECTION SHALL BE USED WHERE INDICATED ON THE PLANS.



SECTION X
(TYPICAL)



PRECAST
SHALLOW MANHOLE
TYPE "D"



TYPICAL MANHOLE
FLOOR SHAPING

PRECAST MANHOLE NOTES

1. IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL OVEREXCAVATE TO A SUITABLE SUBGRADE CONDITION AND CRUSHED ROCK SHALL BE PLACED AND COMPACTED TO THE REQUIRED GRADE.
2. "A-LOK" OR APPROVED EQUAL FLEXIBLE WATER-STOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO CONNECT THE SEWER TO THE MANHOLE WALL.
3. THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER SEALANT TO PROVIDE WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING AND THE MANHOLE FRAME.
4. GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER. GLUED OR CEMENTED CAPS WILL NOT BE ACCEPTED.
5. ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
6. 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.
7. MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5' INSIDE DIAMETER (MIN.).
8. INSIDE DIAMETER OF FIVE-FOOT DIAMETER PRECAST MANHOLES SHALL REMAIN CONSTANT TO THE LOCATION OF THE REDUCING FLAT TOP WHICH CONNECTS THE FOUR-FOOT DIAMETER CONE SECTION TO THE FIVE-FOOT DIAMETER MANHOLE BARREL.
9. MANHOLES SHALL BE SUPPLIED WITH PRECAST BASE SECTIONS UNLESS OTHERWISE APPROVED. ALL PRECAST CONCRETE MANHOLE SECTIONS AND BASES SHALL CONFORM TO THE LATEST REVISION OF ASTM C478 AS MODIFIED BY THE SPECIFICATIONS.
10. WHERE MANHOLE STUBS ARE SHOWN ON THE PLANS, THE STUB SHALL EXTEND AT LEAST 5 FEET FROM THE INSIDE WALL OF THE MANHOLE.
    4" STUBS SHALL BE SET AT 2.0% GRADE.
    6" STUBS SHALL BE SET AT 1.0% GRADE.
11. MANHOLE SECTIONS SHALL BE SUPPLIED WITH RECESSED LIFTING EYES. LIFTING EYE RECESSES SHALL BE GROUTED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THRU THE MANHOLE WALL WILL NOT BE ACCEPTED.
12. WHERE A-LOK GASKETS ARE REQUIRED, THE CONTRACTOR SHALL UTILIZE A CRUSHED ROCK BEDDING MATERIAL. THE ROCK BEDDING MATERIAL SHALL EXTEND TO 3 FEET FROM THE MANHOLE WALL AND SHALL BE COMPACTED IN PLACE FROM THE BOTTOM OF THE DISTURBED AREA TO 1 FOOT ABOVE THE TOP OF PIPE. THE CRUSHED ROCK WHICH IS PLACED BELOW THE PIPE BEDDING ZONE SHALL BE COMPACTED TO 95% ASTM D-698(MIN).
13. WHERE MANHOLES ARE TO BE BUILT OVER EXISTING SANITARY SEWER LINES, SEWER PIPES SHALL BE SUPPORTED WITH CLASS I CONCRETE ENCASEMENT A MINIMUM OF 3 FEET OUTSIDE THE MANHOLE WALL.
14. CRUSHED ROCK SHALL MEET THE REQUIREMENTS FOR GRANULAR BEDDING MATERIAL, AS OUTLINED IN THE SPECIFICATIONS.

No.	Revision	By	Date
5	Change concrete encasement to crushed rock encasement	RJ	3/9/94
4	Precast Bases, Precast Manhole Notes, Manhole Frame and Cover Notes, Keyed Adjustment Rings, and Class I mix at concrete encasement and field cap.	RJ	8/27/93
3	All Manholes self-sealing/MH Cover	RJ	1/25/93
2	Modified pipe connection note	RJ	6/01/92
1	Manhole Frame and Cover Note 1	RJ	7/16/91

PRECAST
MANHOLE DETAILS

ADOPTED AS STANDARD DESIGN SEPTEMBER, 1989
BY
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

DSNR: RFJ OPER: JLM SCALE: 1 = 1
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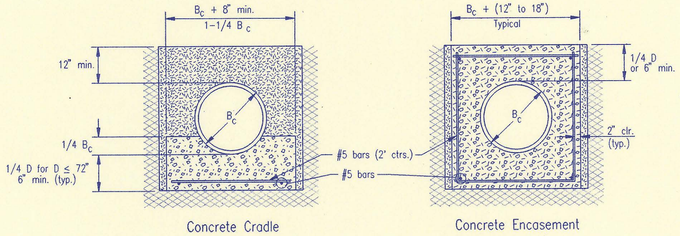
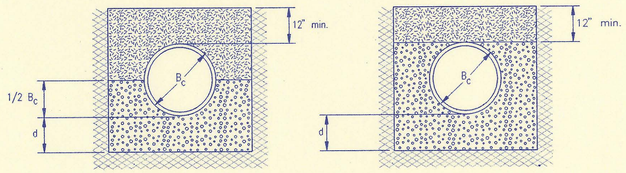
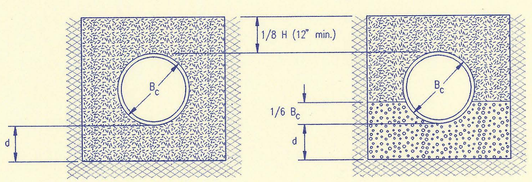


CLASS A



CLASS B



CLASS C

PIPE ZONE BACKFILLING

B_c =	Outside Pipe Diameter
H =	Backfill from Top of Pipe to Existing Ground
D =	Inside Pipe Diameter
d =	Depth of Bedding Material Below Pipe
=	Granular Bedding Material or Sand-Gravel Bedding
=	Compacted Embedment
=	Concrete

Depth of Bedding Material Below Pipe		
D	d(min) Soil	d(min) Rock
27" & smaller	4"	6"
30" to 60"	5"	9"
66" & larger	6"	12"

Granular Bedding Material shall be an approved material consisting of durable crushed rock conforming with the requirements of the latest revision of ASTM C-33 Size No. 67 (3/4" to No. 4); to be placed in not more than 6" layers and compacted by slicing with a shovel or vibrating. Soundness, abrasion, and absorption limits shall be as required for coarse aggregates in Section 03010-Concrete Work in the specifications.

Sand-Gravel Bedding Material - sand-gravel mix meeting Type UD-1 of the 1990 Kansas Standard Specifications for State Road and Bridge Construction.

Compacted Embedment shall be an approved sand material free from debris, organic material, and stones with 100% passing the 3/4" sieve to be placed in uniform layers not more than 6" thick and compacted to 95 percent maximum density as determined by ASTM D698. Granular Bedding Material may be substituted for all or part of Compacted Embedment Materials.

Class A "Concrete Cradle" and/or Class A "Concrete Encasement" is not required unless specified on the plans. However, where unexpected trench conditions exist or improper trenching is performed Class A Bedding may be required as determined by the Engineer.

Class B Bedding shall be used for all flexible pipe.

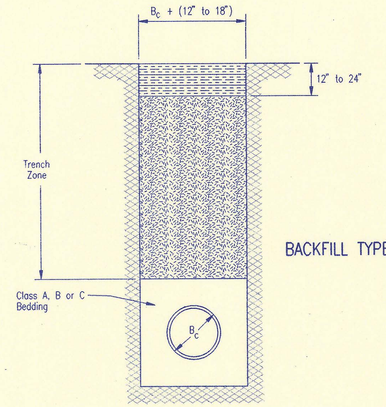
a. Class B Normal Bedding shall be used for PVC Pipe unless wet conditions are encountered.

b. Class B Improved Bedding shall be used for other flexible pipe, and for PVC pipe in wet conditions.

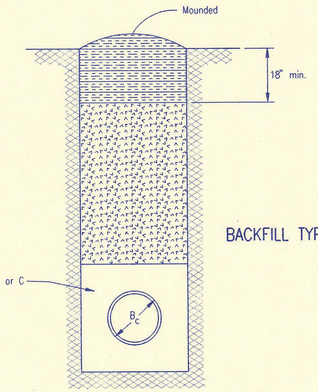
Class C Bedding shall be used for all rigid pipe.

a. Class C Ordinary Bedding shall be used for all rigid pipe unless wet conditions are encountered.

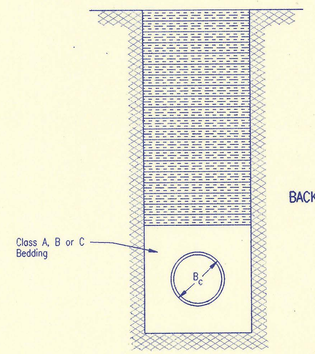
b. Class C Improved Bedding shall be used for wet conditions existing in the trench, as directed by the Engineer, at no additional cost to the Owner. The dimensions shall be equal to that required for "rock" excavation (see specifications).



BACKFILL TYPE I



BACKFILL TYPE II



BACKFILL TYPE III

TRENCH ZONE BACKFILLING

B_c =	Outside Pipe Diameter
=	Compacted Granular Backfill
=	Uncompacted Earth Backfill
=	Compacted Earth Backfill

Compacted Granular Backfill material shall be an approved sand material free from debris, organic material and stones with 100% passing the 3/4" sieve and not more than 15% passing a No. 200 sieve; to be jetted and mechanically vibrated into place and compacted to 95% density as determined by ASTM D698.

Uncompacted Earth Backfill material may be natural soil free from large clods or stones, brush, roots more than 2 inches in diameter, debris, and junk. Flooding with water shall be provided as directed by the Engineer.

Compacted Earth Backfill shall consist of material existing prior to trenching or selected material as directed by the Engineer, and shall be compacted to 90% density as determined by ASTM D698.

Backfill: Backfill material and compaction requirements shall conform to either Type I, Type II or Type III as specified in the plans. One years maintenance will be required on all backfill.

Backfilling Through Rock: Backfilling through rock shall be performed as specified in the paragraph Backfill above, except that the Pipe Zone is increased to provide eighteen (18) inches of cover over the pipe. When approved by the Engineer the remainder of the backfill may be excavated rock provided the excavated rock has been broken up so that earth and rock will thoroughly mix and not result in voids around the larger pieces of rock. Any excess rock remaining after the trench has been backfilled shall be removed or wasted as directed by the Engineer.

Backfilling Under Pavement: Backfilling under existing or proposed pavement shall be performed as Backfill Type I to a level of two (2) feet from the bottom of the pavement. The remainder of the trench shall be backfilled with selected material, sufficiently damp to be properly compacted in layers not exceeding six (6) inches in depth, compaction shall be performed with mechanical tampers and continued until a relative density of 100 percent of standard density, in conformance with ASTM D698 is attained.

Backfilling Under Gravel Streets: Where the trench crosses or is in existing gravel surfaced streets, the backfill shall be compacted as provided in the paragraph "Backfilling Under Pavement".

No.	Revision	By	Date
2	Revised compaction designation-Backfilling under pavement	RJ	9/28/94
1	Revised compaction designation	RJ	3/9/94

BACKFILL DETAILS

ADOPTED AS STANDARD DESIGN SEPTEMBER, 1989
BY
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

PLAN | CHECKED | CHECKED | BY | DATE

SNR: RFJ OPER: JLM SCALE: 1 = 1
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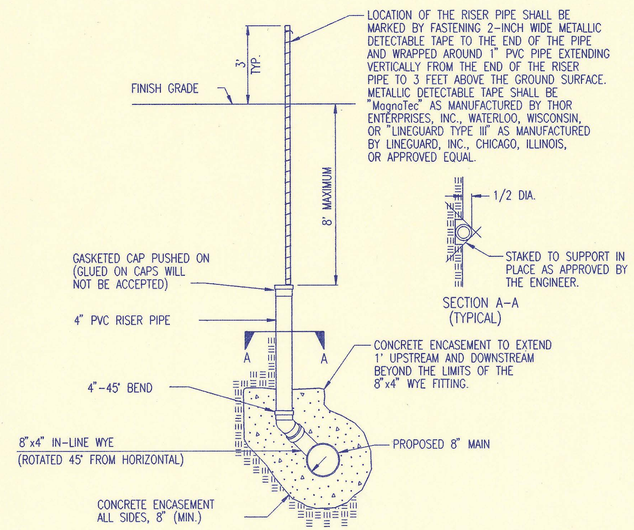
SEWER SERVICE TABLE										
LOCATION						FOR INFORMATION ONLY		RECORD INFORMATION (TO BE COMPLETED BY PROJECT INSPECTOR)		
NO.	TYPE	LOT NO.	BLOCK NO.	LATERAL NO.	STATION/ DIRECTION	APPROXIMATE LENGTH 4" PIPE		DISTANCE FROM NEAREST MANHOLE UPSTREAM	DISTANCE FROM NEAREST MANHOLE DOWNSTREAM	NO.
1	8" x 4" WYE	1	5	1	~~4+75~~/Lt.	4+69	10'	97.08' To MH 1-4	39' To MH 1-3	1
2	8" x 4" WYE	14	5	1	~~6+23~~/Rt.	6+31	9'	81.37' To MH 1-5	65' To MH 1-4	2
3	8" x 4" WYE	2	5	1	~~6+86~~/Lt.	6+88	10'	30.37' To MH 1-5	116' To MH 1-4	3
4	8" x 4" WYE	3	5	1	~~7+47~~/Lt.	7+53	10'	343.28' To MH 1-6	41' To MH 1-5	4
5	8" x 4" WYE	13	5	1	~~8+18~~/Rt.	8+15	9'	281.28 To MH1-6	103' To MH1-5	5
6	8" x 4" WYE	4	5	1	~~8+43~~/Lt.	8+42	10'	254.28 To MH1-6	130' To MH1-5	6
7	8" x 4" WYE	12	5	1	~~9+30~~/Rt.	9+31	10'	166' To MH1-6	218.28' To MH1-5	7
8	8" x 4" WYE	5	5	1	~~9+45~~/Lt.	9+43	10'	154' To MH1-6	230.28' To MH1-5	8
9	8" x 4" WYE	11	5	1	~~10+25~~/Rt.	10+34	10'	73' To MH1-6	311.28' To MH1-5	9
10	8" x 4" WYE	6	5	1	~~10+40~~/Lt.	10+37	10'	60' To MH1-6	324.28' To MH1-5	10
11	8" x 4" WYE	1	3	3	~~0+50~~/Lt.	0+54	9'	205.17' To MH 3-1	54' To MH 1-2	11



WYE SERVICE CONNECTION

SEE SEWER SERVICE TABLE FOR LOCATIONS (TO BE USED WHERE PROPOSED SEWER MAIN IS > 16' BELOW PROPOSED GROUND OR AS SHOWN IN THE PLANS)

RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
_____ RES. ENG. _____ DATE

CHRISTOPHER A. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 2-14-95

No.	Revision	By	Date

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

SERVICE CONNECTION DETAILS

PHASE 1- SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

PART A

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

Designed by CRY, MDK	Job No. 34-94608-1	SM. 8 of 20	
Drawn by B.Baktha	Date October 1994		

DSNR: RFJ OPER: JLM SCALE: 1 = 1
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SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

ALL PIPE INSTALLED IS PVC PIPE.

RECORD DRAWING
MOK PROJ. ENG. 5/9/96 DATE
RES. ENG. DATE

CHRISTOPHER R. YOUNG
LICENSED
11315
KANSAS
PROFESSIONAL ENGINEER
2-14-95

LATERAL NO. 1

PROFILE	BY	DATE
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PART A

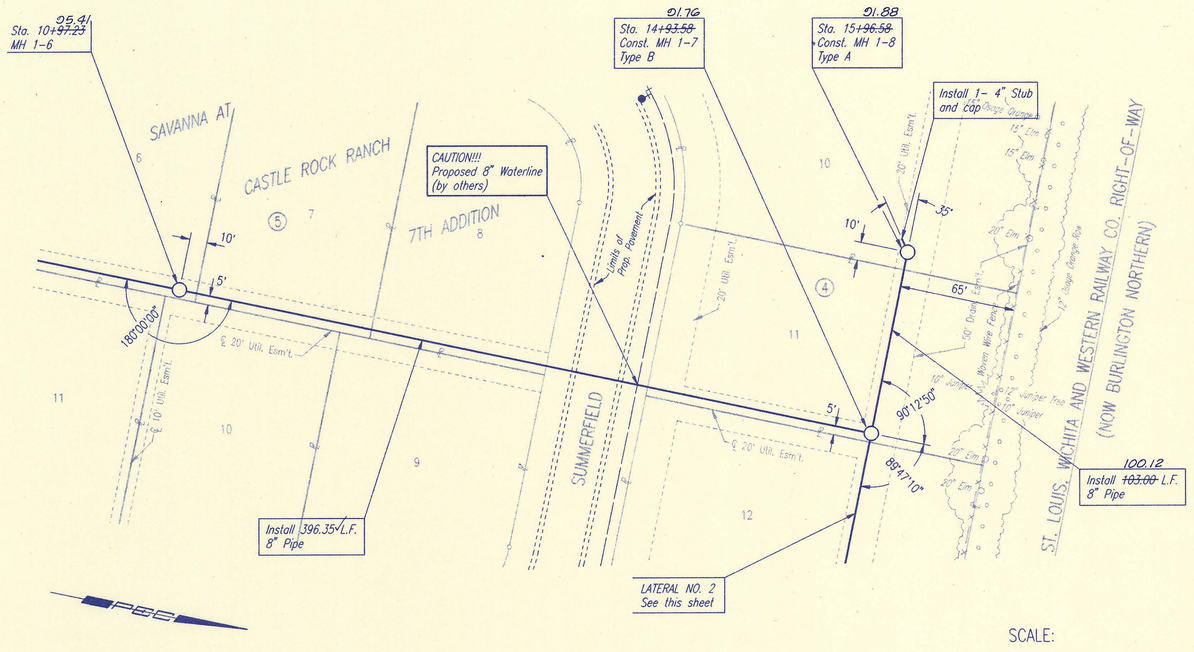
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

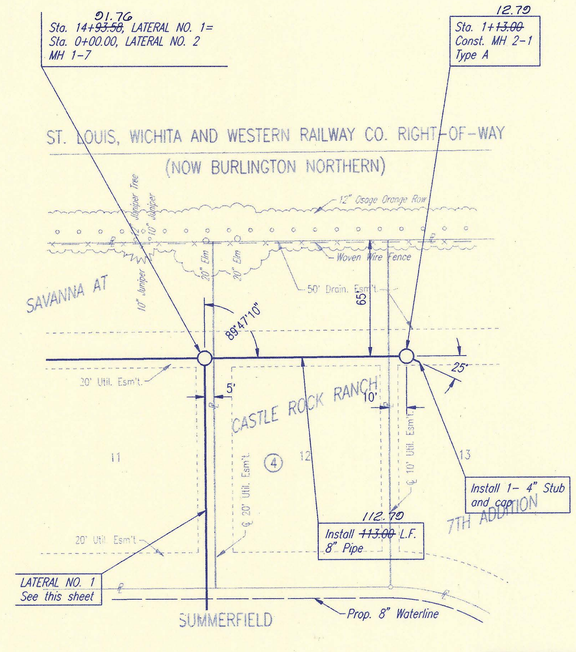
LATERAL NO. 1

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Designed By	CRY, MDK	Job No.	34-94608-1
Drawn By	JLM	Date	October 1994





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ALL PIPE INSTALLED IS PVC PIPE.

SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

RECORD DRAWING

MDK PROJ. ENG. 5/9/96 DATE

REG. ENG. DATE

CHRISTOPHER R. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 2-14-95

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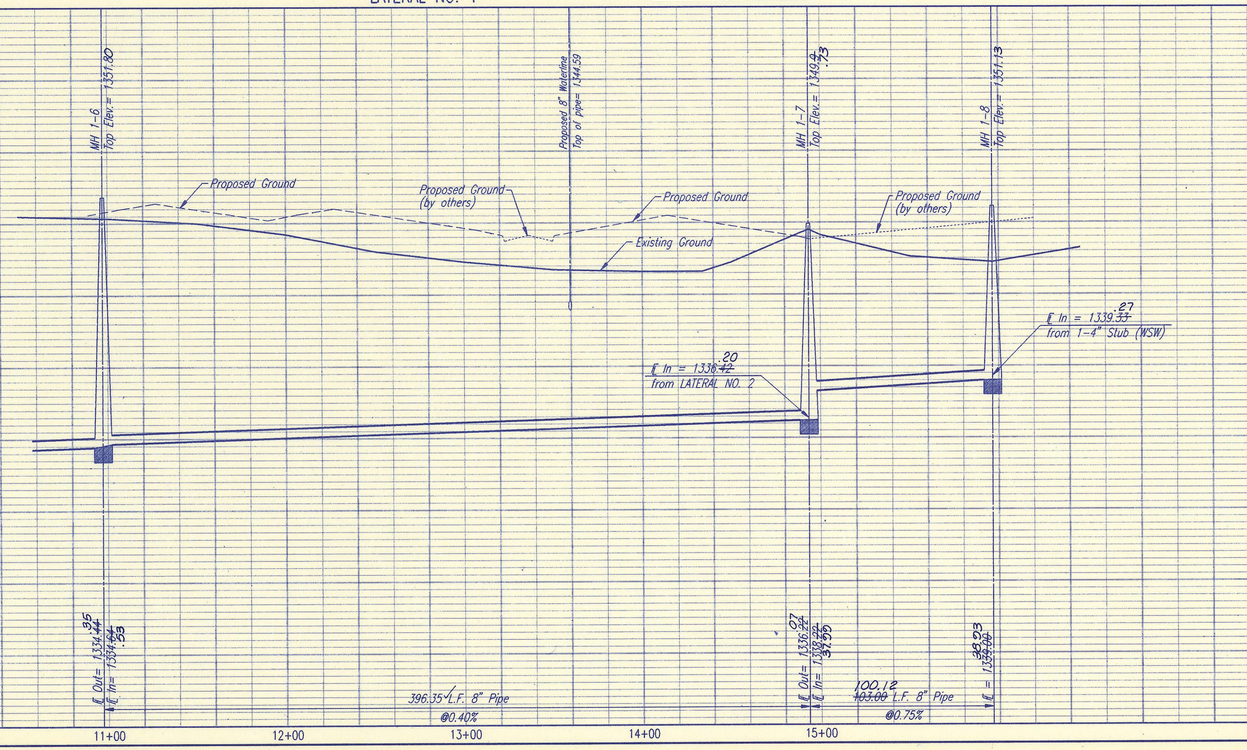

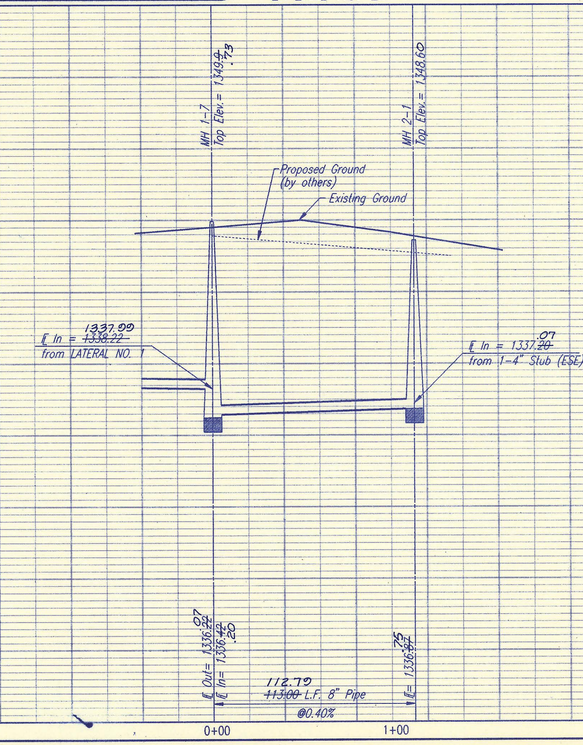

PART A

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

LATERAL NO. 1 AND 2

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Job No. 34-94608-1
Date October 1994
Designed By CRY, MDK
Drawn By JLM
Sheet 10 of 20

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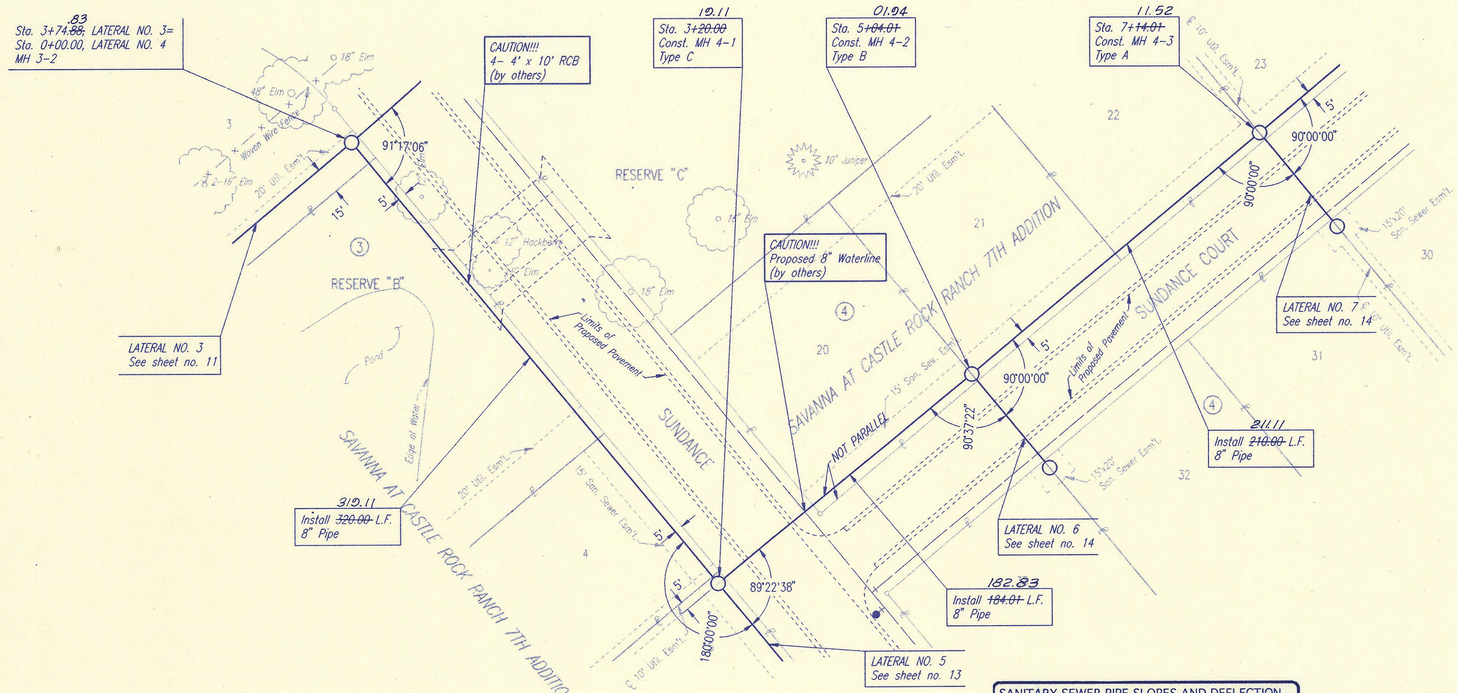

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ALL PIPE INSTALLED IS PVC PIPE.

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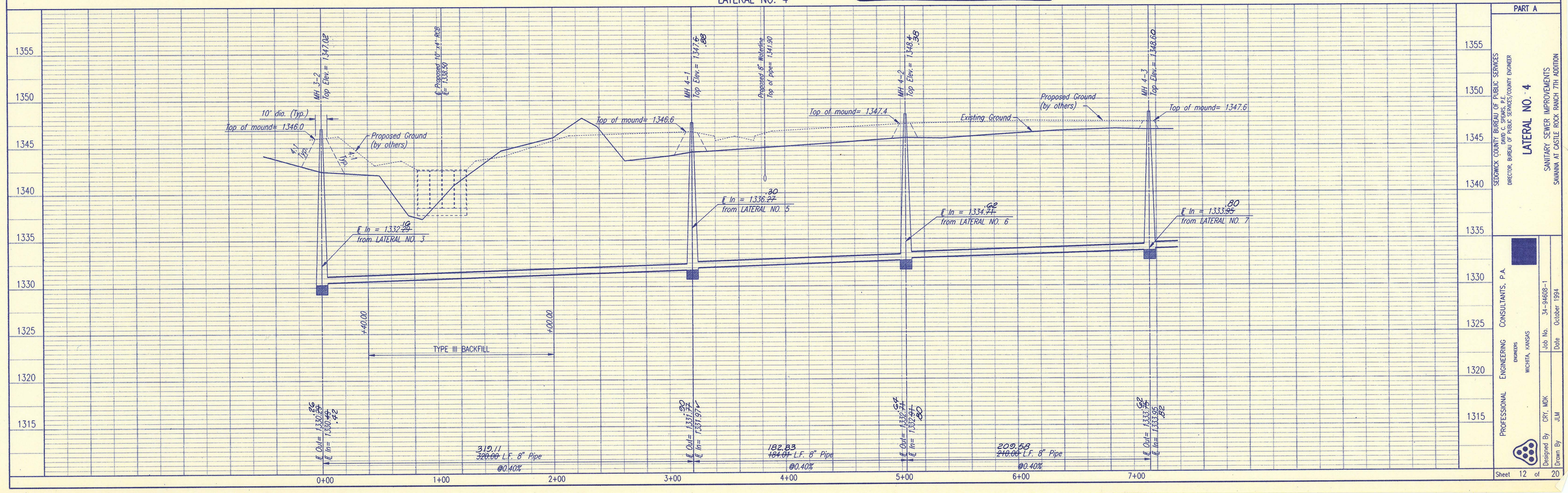
_____ RES. ENG. _____ DATE

CHRISTOPHER A. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 7-15-95

LATERAL NO. 4



PART A

SEDGWICK COUNTY, BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

LATERAL NO. 4

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Job No. 34-94608-1
Date October 1994
Designed By CRY, MDK
Drawn By JLM

Sheet 12 of 20

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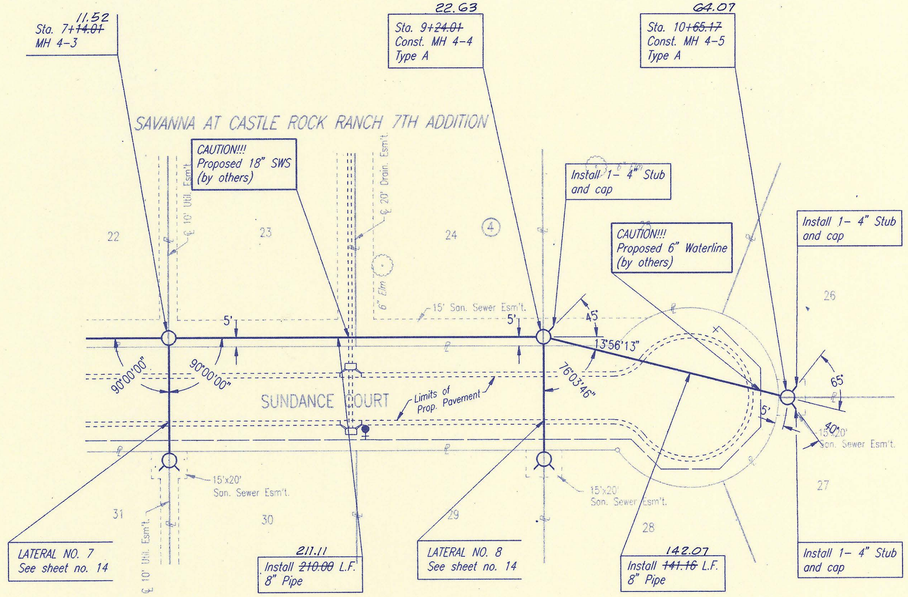

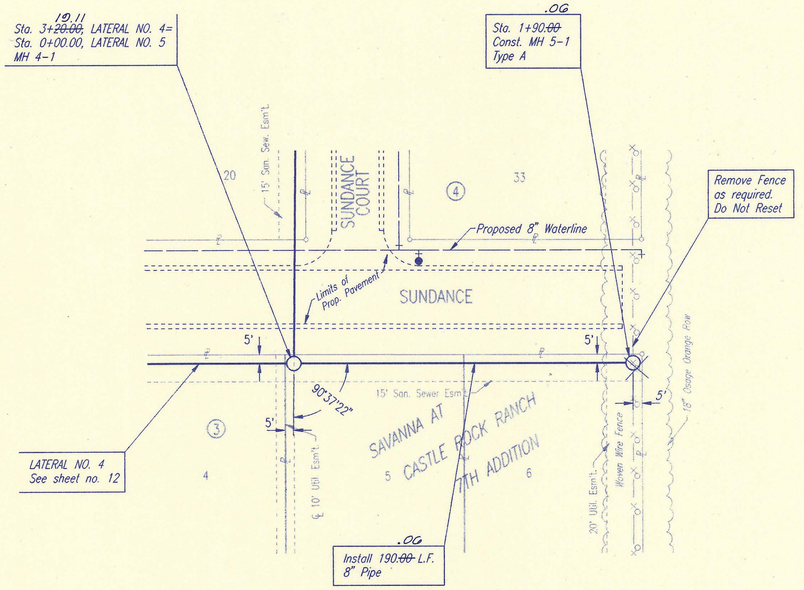

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SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

ALL PIPE INSTALLED IS PVC PIPE.

RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
REG. ENG. DATE

CHRISTOPHER R. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER

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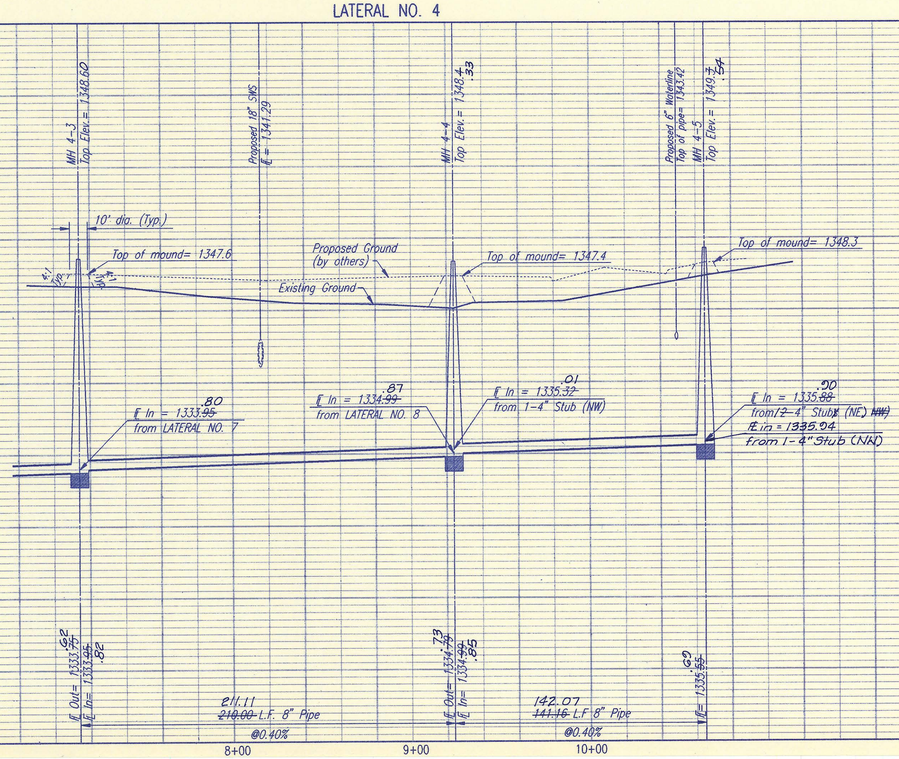
LATERAL NO. 4



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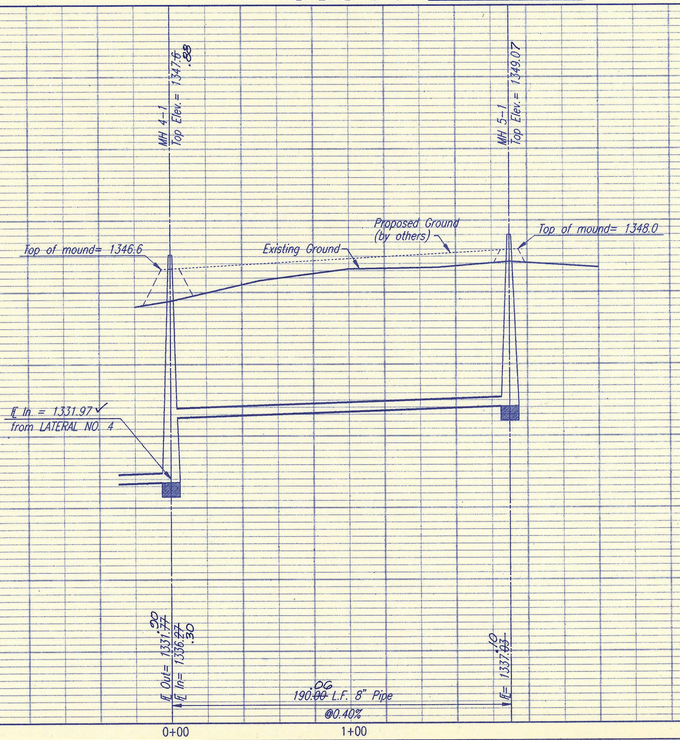

PART A

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

LATERAL NO. 4 AND 5

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Job No. 34-94608-1
Date October 1994
Designed By CRY, MDK
Drawn By JLM

Sheet 13 of 20

PSNR: RFJ OPER: JLM SCALE: 1 = 40
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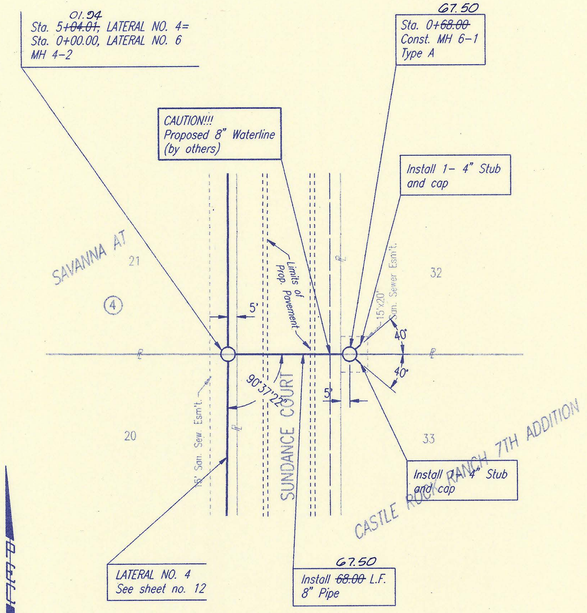
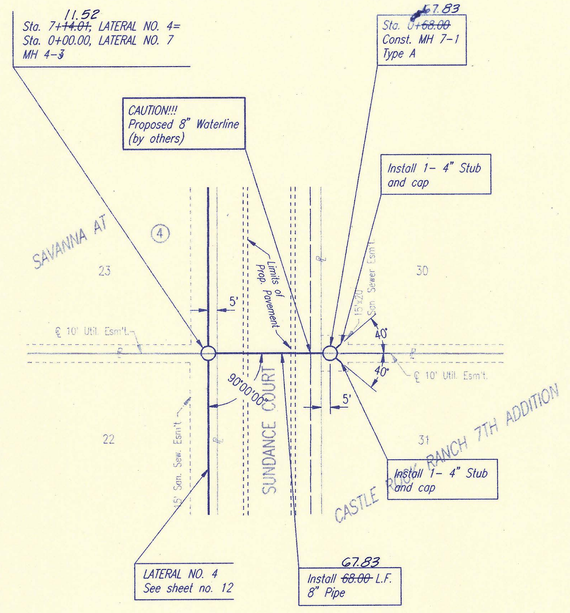
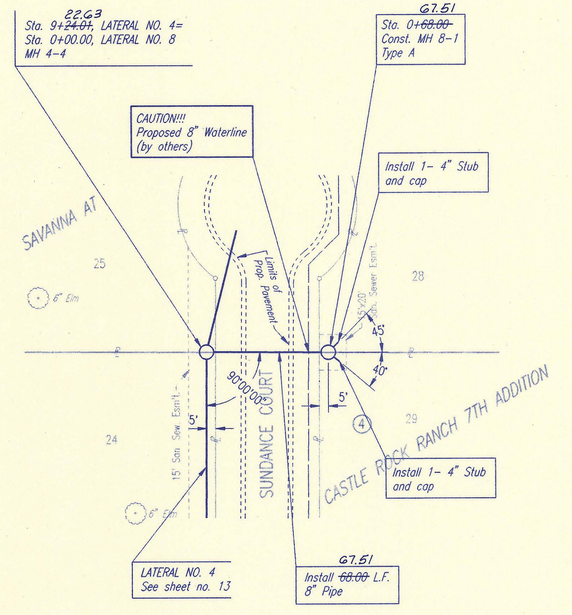






SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

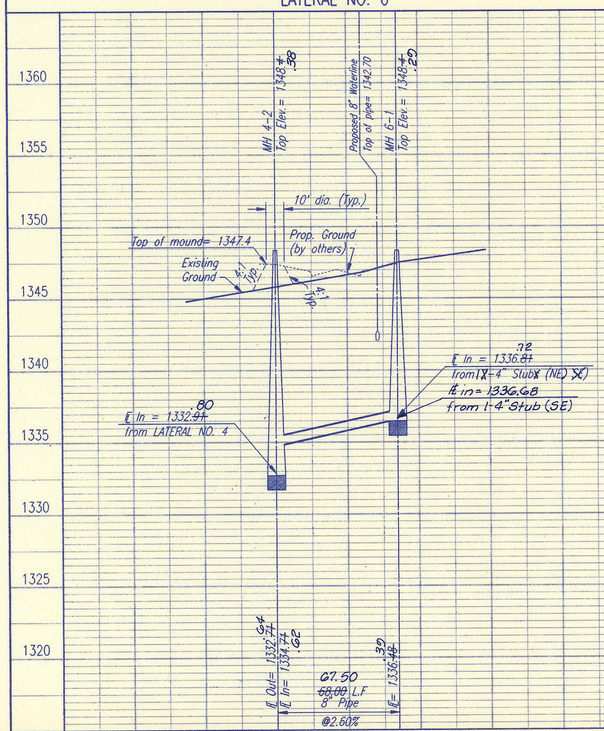
SCALE:
PLAN: LAT. & LONG. 40 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 5 0

ALL PIPE INSTALLED IS PVC PIPE.

RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
RES. ENG. DATE

CHRISTOPHER R. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 2-29-96

LATERAL NO. 6



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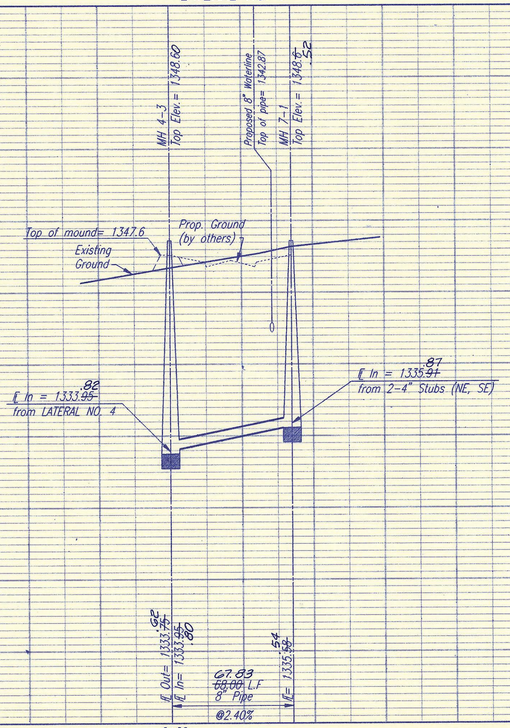

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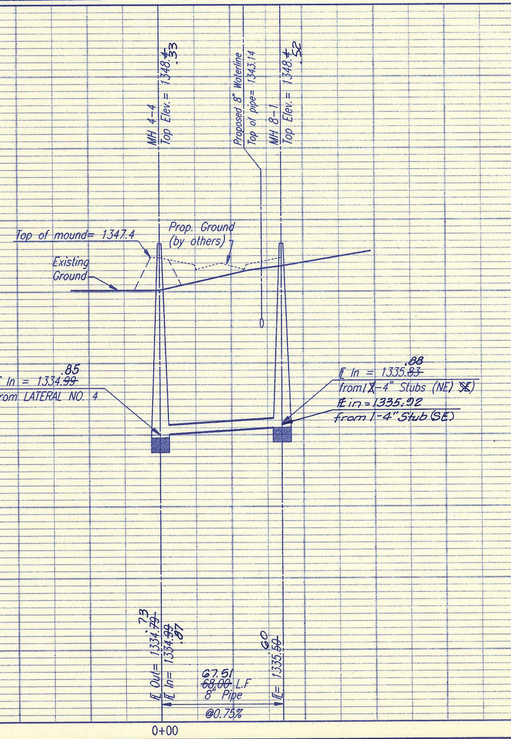

PART A

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
WORK UNDER THE DIRECTION OF COUNTY ENGINEER
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

LATERAL NO. 6, 7, AND 8

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Job No. 34-94608-1
Date October 1994
Designed By CRY, MDK
Drawn By JLM

Sheet 14 of 20

DSNR: RFJ OPER: JLM SCALE: 1 = 40
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RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
RES. ENG. DATE

CHRISTOPHER R. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 2-14-95

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

* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 18" STEEL ENCASEMENT TO VERIFY ITS HORIZONTAL AND VERTICAL LOCATION. THE PIPE LOCATION SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

ALL PIPE INSTALLED IS PVC PIPE.

SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

LATERAL NO. 9

LATERAL NO. 10

PLAN	CHECKED	BY	DATE

PROFILE	CHECKED	BY	DATE

DSNR: RFJ OPER: JLM SCALE: 1 = 40
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PART A

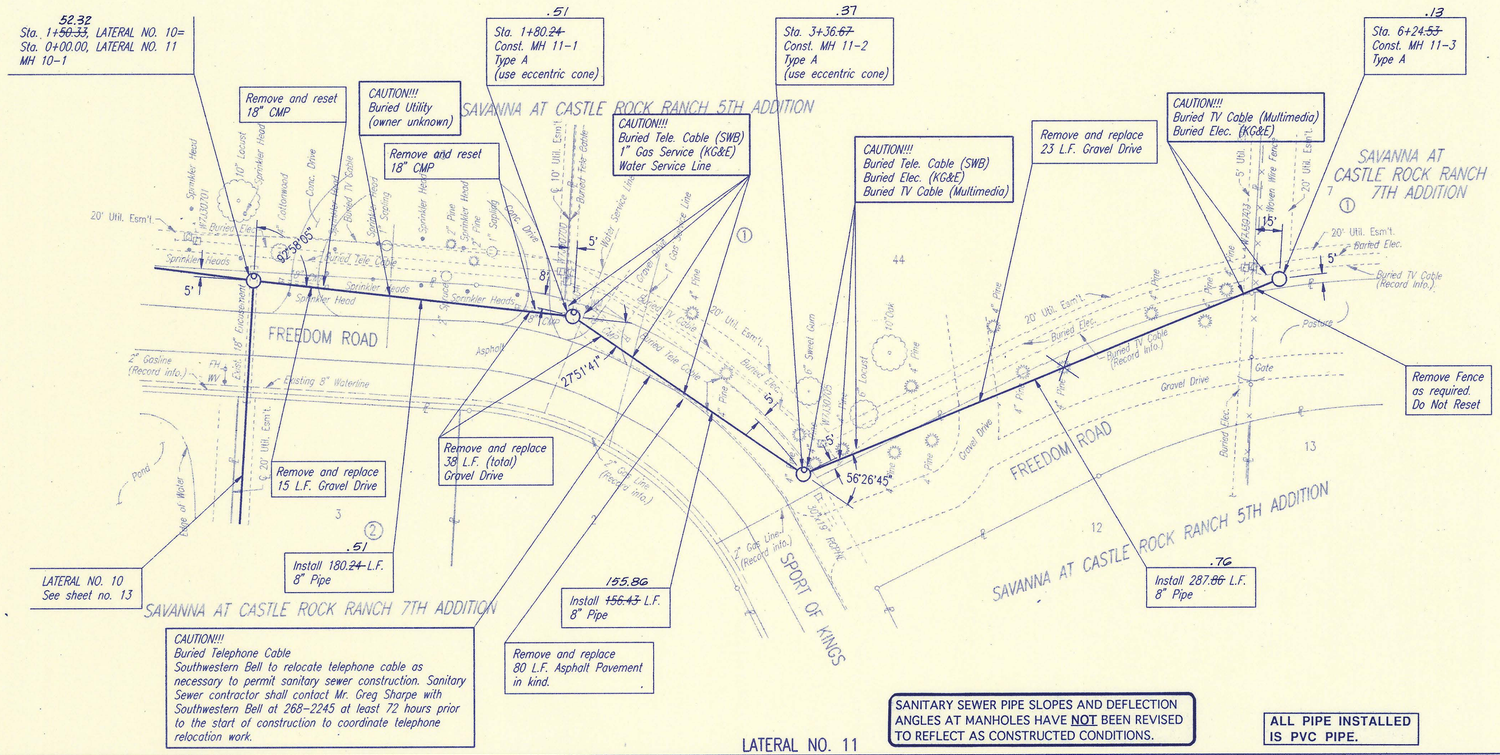
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

LATERAL NO. 9 AND 10

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Job No.	34-94608-1
Date	October 1994
Designed By	CRY, MDK
Drawn By	JLM



LATERAL NO. 11

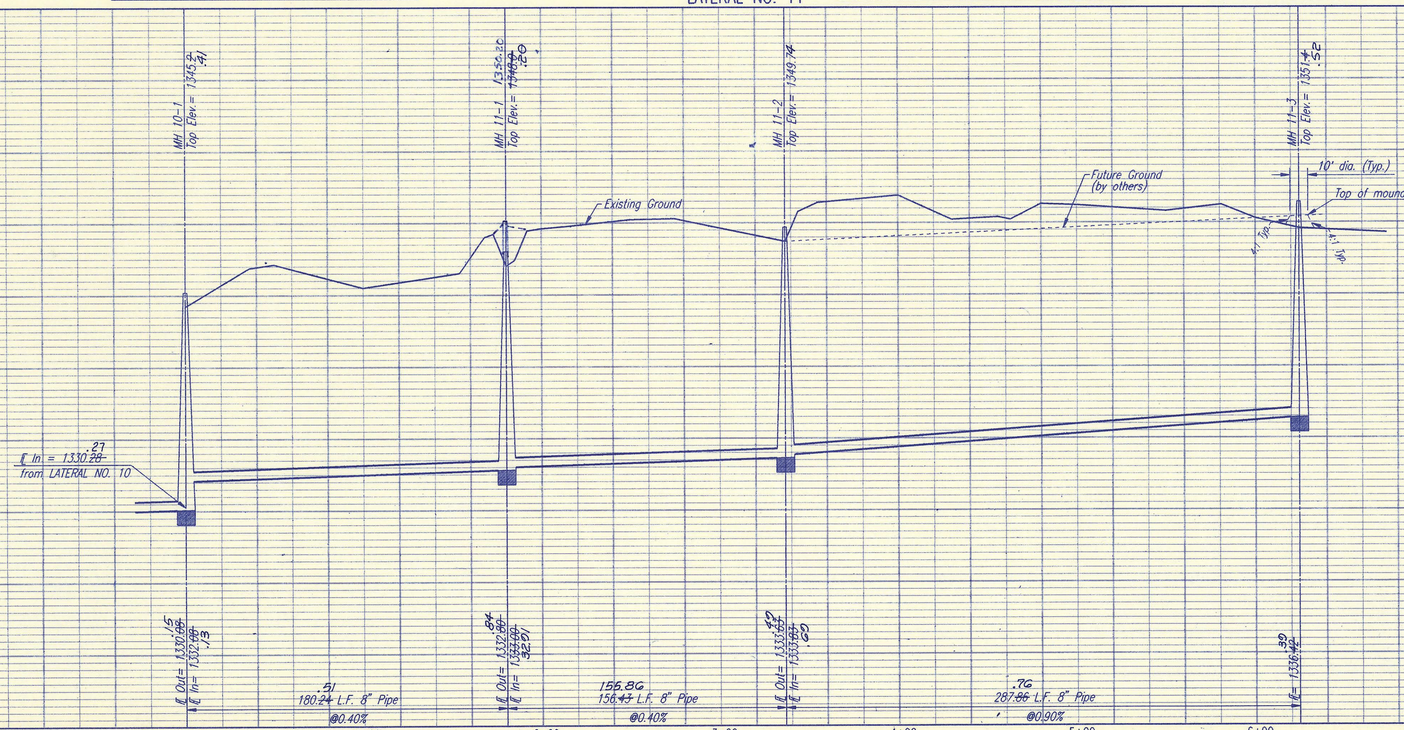
SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

ALL PIPE INSTALLED IS PVC PIPE.

RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
GESS. ENG. DATE

CHRISTOPHER R. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 5-14-95

PART A



SEDGWICK COUNTY, BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

LATERAL NO. 11
SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Job No. 34-94608-1
Date October 1994
Designed By CRY, MDK
Drawn By JLM

Sheet 16 of 20

PLAN — CHECKED — CHECKED — BY — DATE

PROFILE — CHECKED — CHECKED

DSNR: RFJ OPER: JLM SCALE: 1 = 40
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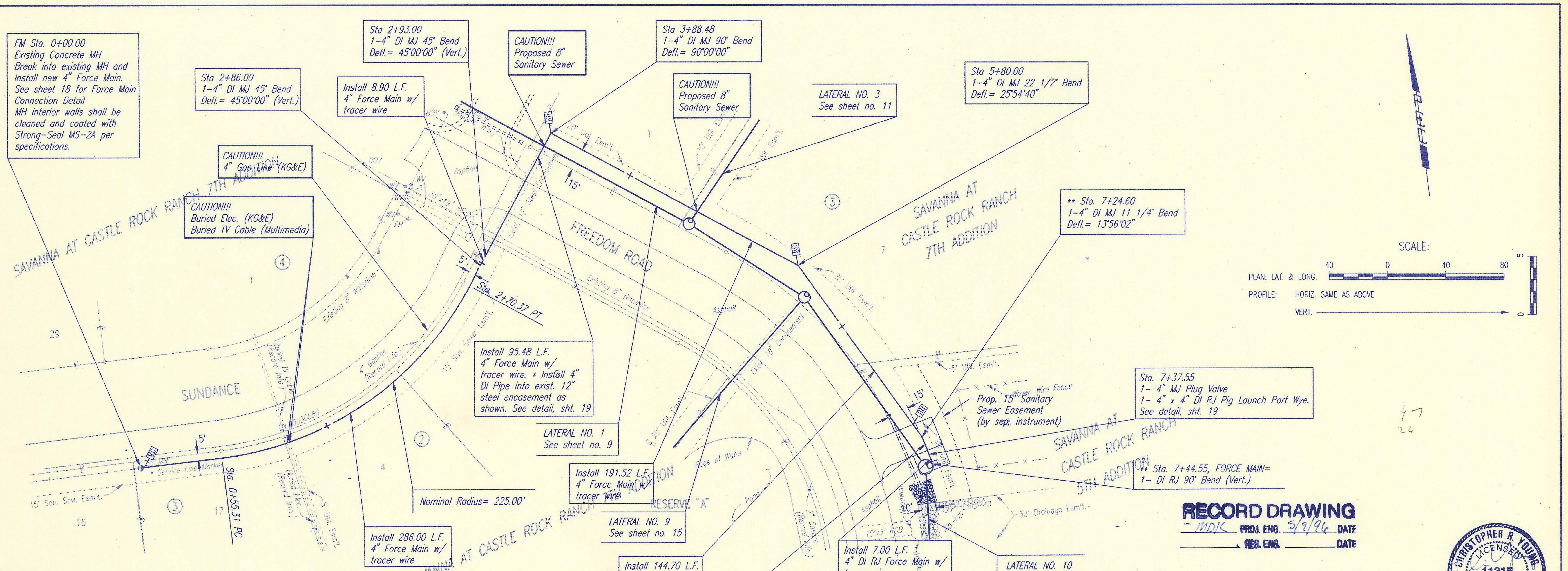

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PLAN: LAT. & LONG. 40 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT. 5 0

RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
RES. ENG. DATE

CHRISTOPHER R. YOUNG — LICENSED 11315 — KANSAS — PROFESSIONAL ENGINEER — 2-13-95

* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 12" STEEL ENCASEMENT TO VERIFY ITS HORIZONTAL AND VERTICAL LOCATION. THE PIPE LOCATION SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

DESIGNATES LOCATION FOR FORCE MAIN WARNING SIGN. (3 required this sheet) SEE DETAIL, SHEET NO. 18

FORCE MAIN

Unless noted otherwise, elevations shown are top of pipe

** THE CONTRACTOR SHALL RESTRAIN ALL PIPE JOINTS AND FITTINGS IN PLACE FROM STA. 7+24.60 TO 7+44.55. THE USE OF RODS AND/OR RESTRAINED JOINT PIPE SHALL BE SUMITTED TO THE ENGINEER FOR APPROVAL. ALL BENDS SHALL BE RESTRAINED BY CONCRETE THRUST BLOCKS OR OTHER APPROVED METHODS.

PLAN	CHECKED	CHECKED	BY	DATE

PROFILE	CHECKED	CHECKED	BY	DATE

DSNR: RFJ OPER: JLM SCALE: 1 = 40
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PART B

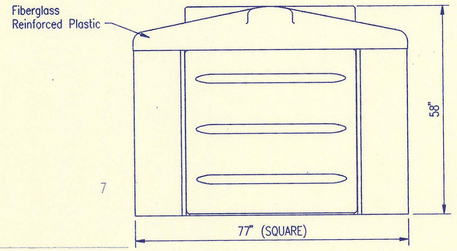
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

FORCE MAIN

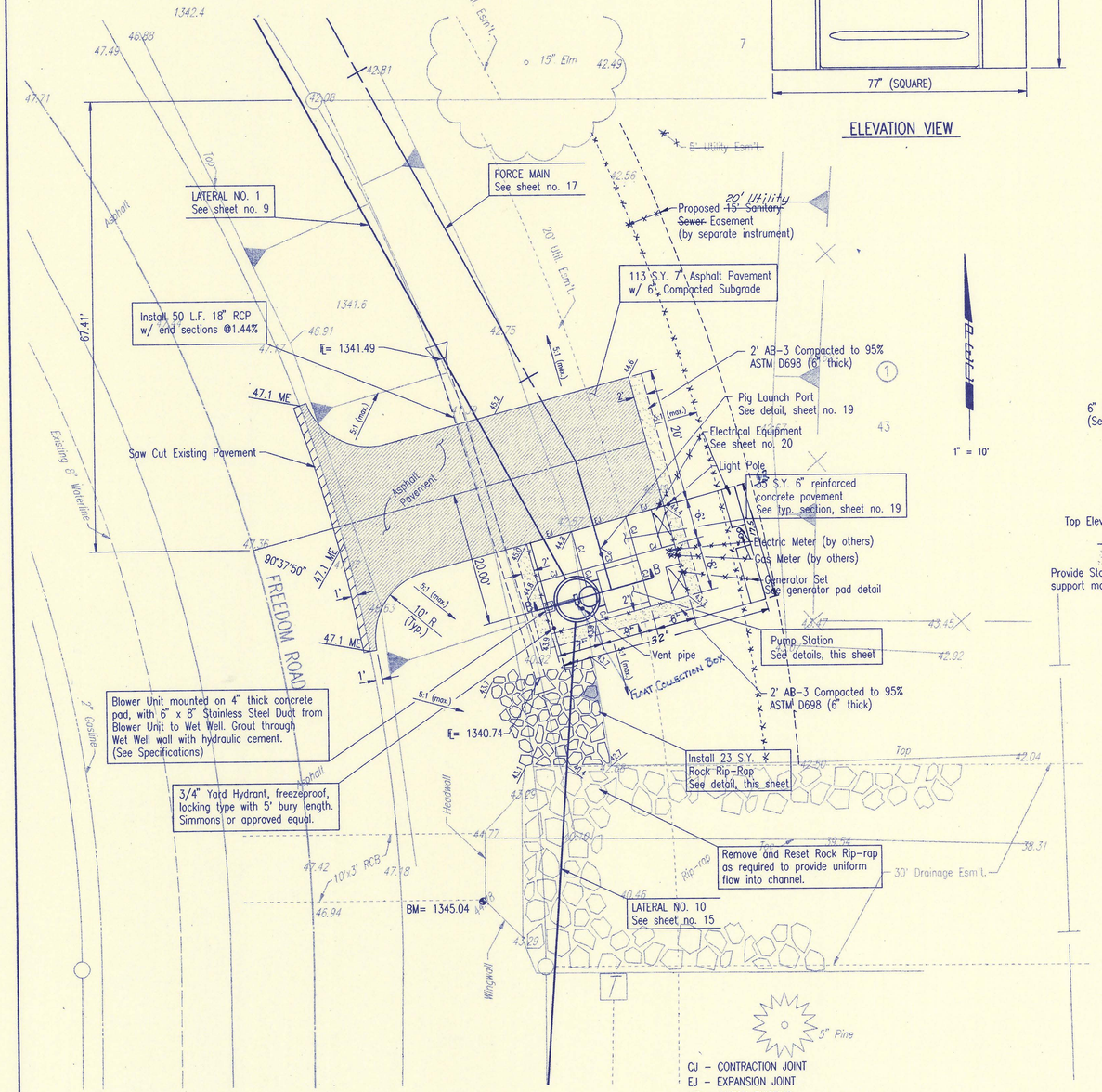
SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Job No.	34-94608-1
Date	October 1994
Designed By	CRY, MDK
Drawn By	JLM

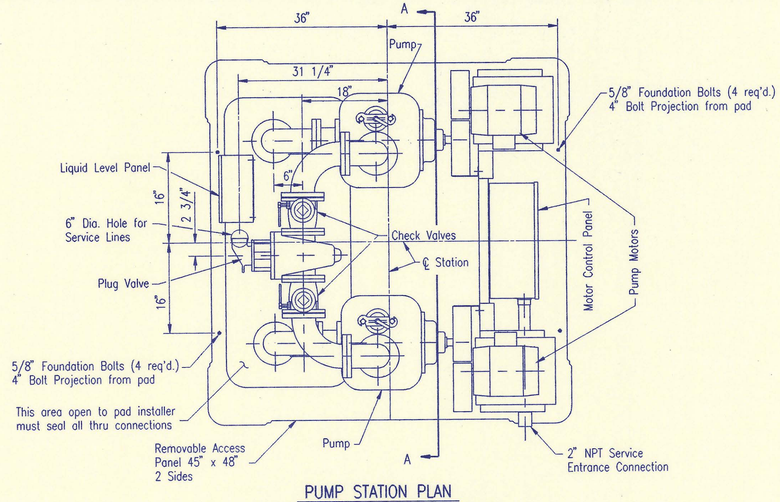


ELEVATION VIEW



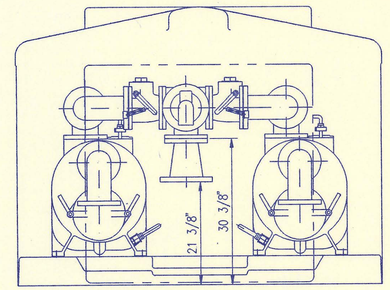
SITE PLAN

1" = 10'

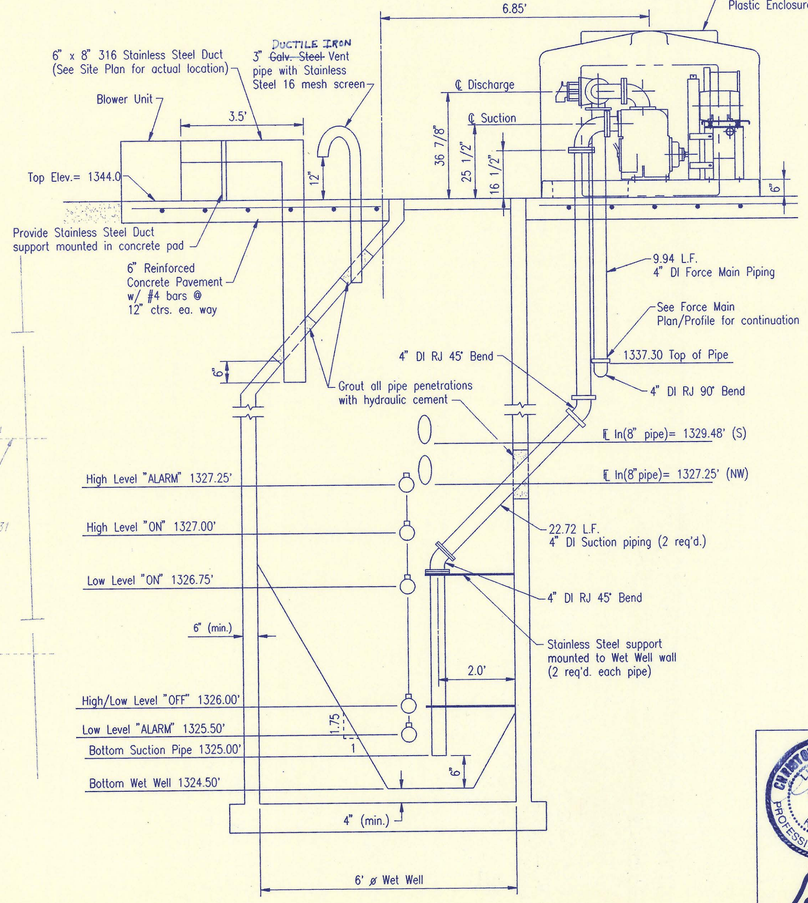


PUMP STATION PLAN

CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH THE EQUIPMENT SUPPLIER FOR THE PUMP STATION



SECTION A-A



SECTION B-B

PUMP STATION NOTES

1. THE PRICE BID FOR FURNISHING AND INSTALLING THE PUMP STATION AND WET WELL WITH STANDBY EMERGENCY POWER AND MISCELLANEOUS APPURTENANCES COMPLETE IN PLACE SHALL INCLUDE ALL COSTS FOR FURNISHING AND INSTALLING THE PUMP STATION AND STANDBY EMERGENCY POWER AS INDICATED IN THE PLANS COMPLETE IN PLACE AND IN OPERATION. THIS PRICE SHALL INCLUDE THE COST OF CONSTRUCTING AND/OR INSTALLING COMPACTED SUBGRADE, CONCRETE AND ASPHALT PAVEMENT, ELECTRICAL CONDUIT, ELECTRICAL WIRING, DISCONNECT SWITCH, FINISHED GRADING, AND ANY OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK AND PLACE THE LIFT STATION INTO SATISFACTORY OPERATION. WET WELL CONSTRUCTION SHALL MEET THE REQUIREMENTS AS SHOWN ON THE PRECAST MANHOLE DETAIL SHEET AND SPECIFIED, UNLESS OTHERWISE SHOWN.
2. THE CONTRACTOR SHALL COORDINATE WITH KG&E GAS COMPANY TO EXTEND GAS SERVICE TO THE LIFT STATION SITE. LOCATION OF GAS METER SHALL BE ACCEPTABLE TO THE SEDGWICK COUNTY EASTERN SEWERAGE DISTRICT. ALL COSTS INCURRED TO EXTEND GAS SERVICE TO THE SITE SHALL BE BORNE BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL COORDINATE WITH KG&E/ELECTRIC COMPANY TO EXTEND ELECTRICAL SERVICE TO THE LIFT STATION SITE. LOCATION OF ELECTRIC METER SHALL BE ACCEPTABLE TO THE SEDGWICK COUNTY EASTERN SEWERAGE DISTRICT. THE CONTRACTOR SHALL VERIFY THE ELECTRICAL SERVICE REQUIREMENTS THAT WILL BE PROVIDED BY KG&E. ALL COSTS INCURRED TO EXTEND ELECTRIC SERVICE TO THE SITE SHALL BE BORNE BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL CONTACT MR. HENRY SMITH WITH THE WICHITA WATER TRANSMISSION AND DISTRIBUTION DEPARTMENT AT 268-4908 TO COORDINATE THE CONSTRUCTION OF THE WATER SERVICE LINE AND TO DETERMINE THE EXACT LOCATION OF THE WATER METER. THE CONTRACTOR SHALL ALSO CONTACT THE CITY OF WICHITA WATER DEPARTMENT BUSINESS OFFICE AT 268-4365 TO COORDINATE OBTAINING WATER SERVICE TO THE SITE. A SERVICE FEE MUST BE PAID BY THE CONTRACTOR PRIOR TO OBTAINING SERVICE. ALL COSTS INCLUDING THE SERVICE FEE. TO EXTEND WATER SERVICE TO THE SITE SHALL BE BORNE BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL COORDINATE WITH SW BELL TO EXTEND PHONE SERVICE LINE TO THE LIFT STATION SITE FOR THE TELEPHONE DIALER. ALL COSTS INCURRED TO EXTEND PHONE SERVICE TO THE SITE SHALL BE BORNE BY THE CONTRACTOR.
6. UNLESS OTHERWISE NOTED, ALL FORCE MAIN PIPING SHALL BE DUCTILE IRON TO 5' OUTSIDE STRUCTURES. ALL INTERIOR PIPING SHALL BE FLANGED JOINT DUCTILE IRON PIPE.
7. PIPE PENETRATIONS THRU THE WET WELL AND CONCRETE PAD SHALL BE GROUTED WATER TIGHT WITH HYDRAULIC CEMENT WITH WATER STOP GASKETS AS REQUIRED. WET WELL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SEDGWICK COUNTY STANDARD DETAILS FOR MANHOLE CONSTRUCTION.
8. INTERIOR OF WET WELL SHALL BE COATED WITH ~~STRONG SEAL MS-2A~~ SEWPER COAT TO A MINIMUM THICKNESS OF 3/8". ALL INTERIOR SURFACES SHALL BE WATER BLASTED WITH A MINIMUM PRESSURE OF 1200 PSI AT 30 GPM PRIOR TO COATING.
9. THE CONTRACTOR SHALL INSTALL 3/4" TYPE K COPPER TUBING PER ASTM B-88-49 SERVICE PIPE FROM METER TO YARD HYDRANT.
10. THE CONTRACTOR SHALL VACUUM TEST THE COMPLETED WET WELL PER THE SPECIFICATIONS.
11. THE CONTRACTOR SHALL SEED ALL AREAS DISTURBED BY CONSTRUCTION PER SPECIFICATIONS.

RECORD DRAWING

MDK PROJ. ENG. 5/9/96 DATE

_____ RES. ENG. _____ DATE

CHRISTOPHER R YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 2-14-95

No.	Revision	By	Date

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

PUMP STATION & DETAILS

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Designed by CRY, MDK	Job No. 34-94608-1	Sht. 18 of 20
Drawn by JLM	Date November 1994	

OPER: JLM SCALE: 1 = 1
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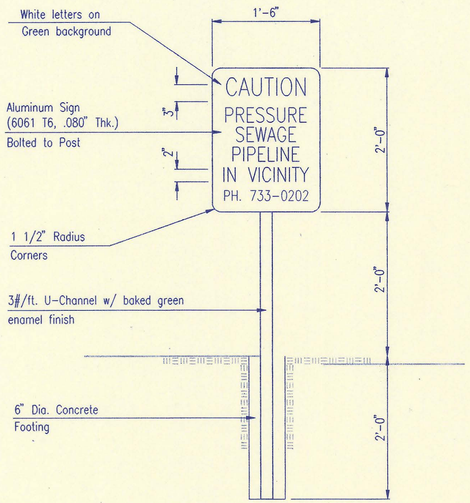
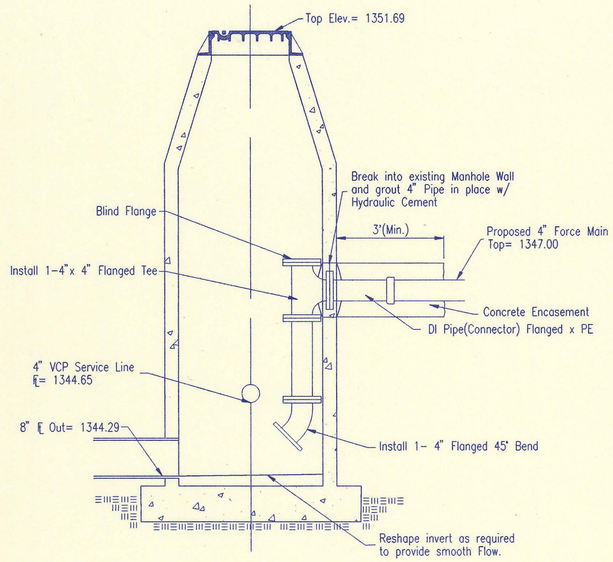


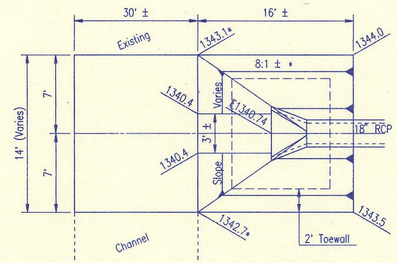
METAL WARNING SIGN DETAIL

SCALE: 1"=1'-0"



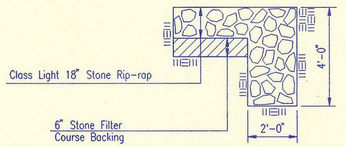
FORCE MAIN CONNECTION DETAIL
STA. 0+00.00

ALL INTERIOR FITTINGS SHALL BE FLANGED OR RESTRAINED JOINT.



* Match Existing Channel

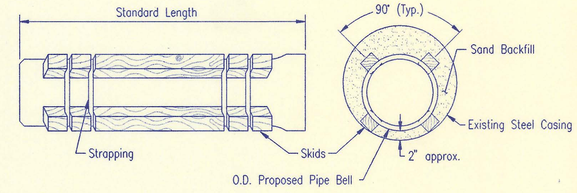
RIPRAP DETAIL



TYPICAL SECTION THRU TOEWALL

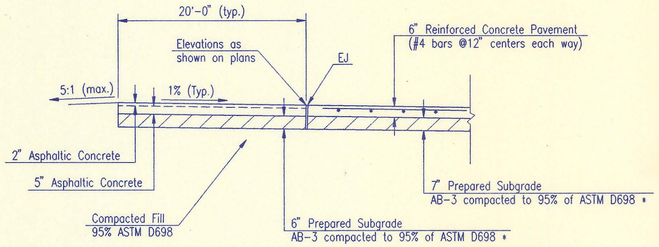
NOTES

1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE, NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED.
2. TOEWALLS SHALL BE INSTALLED ALONG ALL EDGES OF STONE RIPRAP.
3. GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED.



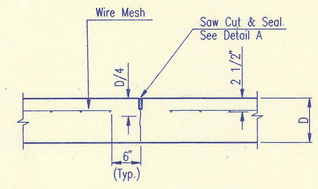
STEEL ENCASEMENT DETAIL

* Contractor shall trim and adjust skids, as required, to obtain the pipe elevations as shown in the plans.

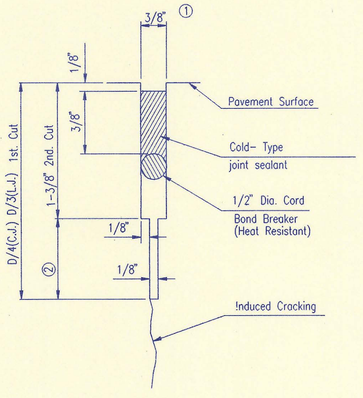


TYPICAL PAVEMENT SECTION

* AB-3 shall meet quality requirement for coarse aggregate for concrete, as shown in the specifications.



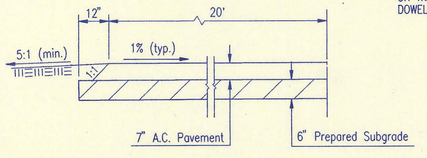
CONTRACTION JOINT DETAIL
REINFORCED PAVEMENT
(C.J.)



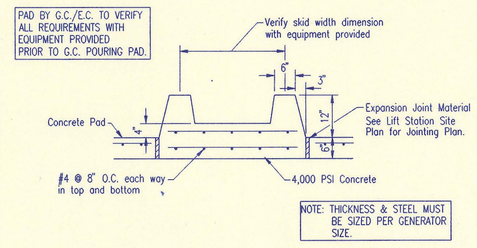
DETAIL A

① TO BE ACCOMPLISHED IN 2 CUTS FOR LONGITUDINAL JOINTS & CONTRACTION JOINTS. INITIAL CUT TO BE 1/8" WIDE.

② ELIMINATE BOTTOM OF CUT WHEN METAL KEYWAY IS USED AS PART OF LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT AND AT DOWELED CONSTRUCTION JOINT LOCATIONS.



PAVEMENT EDGE DETAIL



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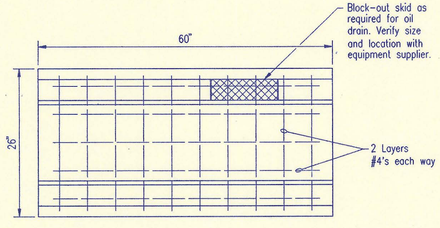
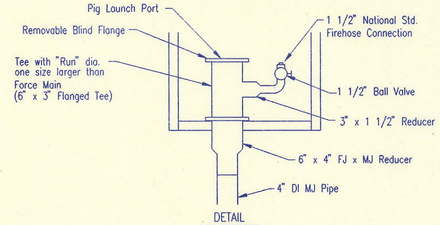
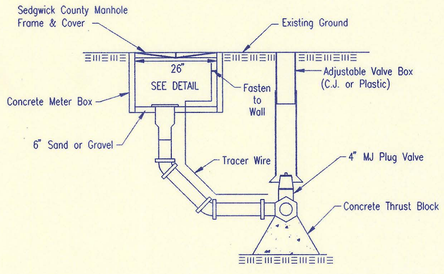


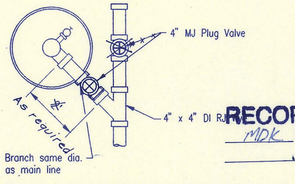
PLAN

ENGINE GENERATOR PAD DETAIL

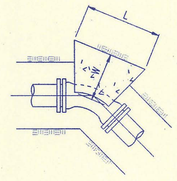


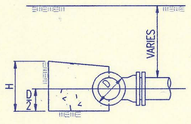
DETAIL





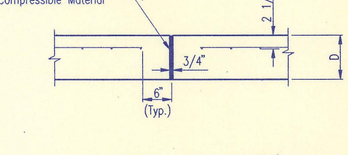
PIG LAUNCH/FLUSHING CONNECTION ASSEMBLY





ELEVATION

THRUST BLOCK DETAILS



EXPANSION JOINT DETAIL
(E.J.)

THRUST BLOCK SCHEDULE

LINE SIZE	FITTINGS & ANGLE	DIM. L	DIM. W	DIM. H
4"	90°	2	2	2
4"	45°	2	1.5	1.5
4"	22 1/2°	1.5	1.0	1.0
4"	11 1/4°	1.0	1.0	1.0

RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
RES. ENG. DATE

CHRISTOPHER R. YOUNG LICENSED 11315 KANSAS PROFESSIONAL ENGINEER 2-14-95

No.	Revision	By	Date

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

PUMP STATION & DETAILS

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

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

Designed by	CRY, MDK	Job No.	34-94608-1
Drawn by	JLM	Date	November 1994

Sht. 19 of 20

DSNR: REJ OPER: JLM SCALE: 1 = 1
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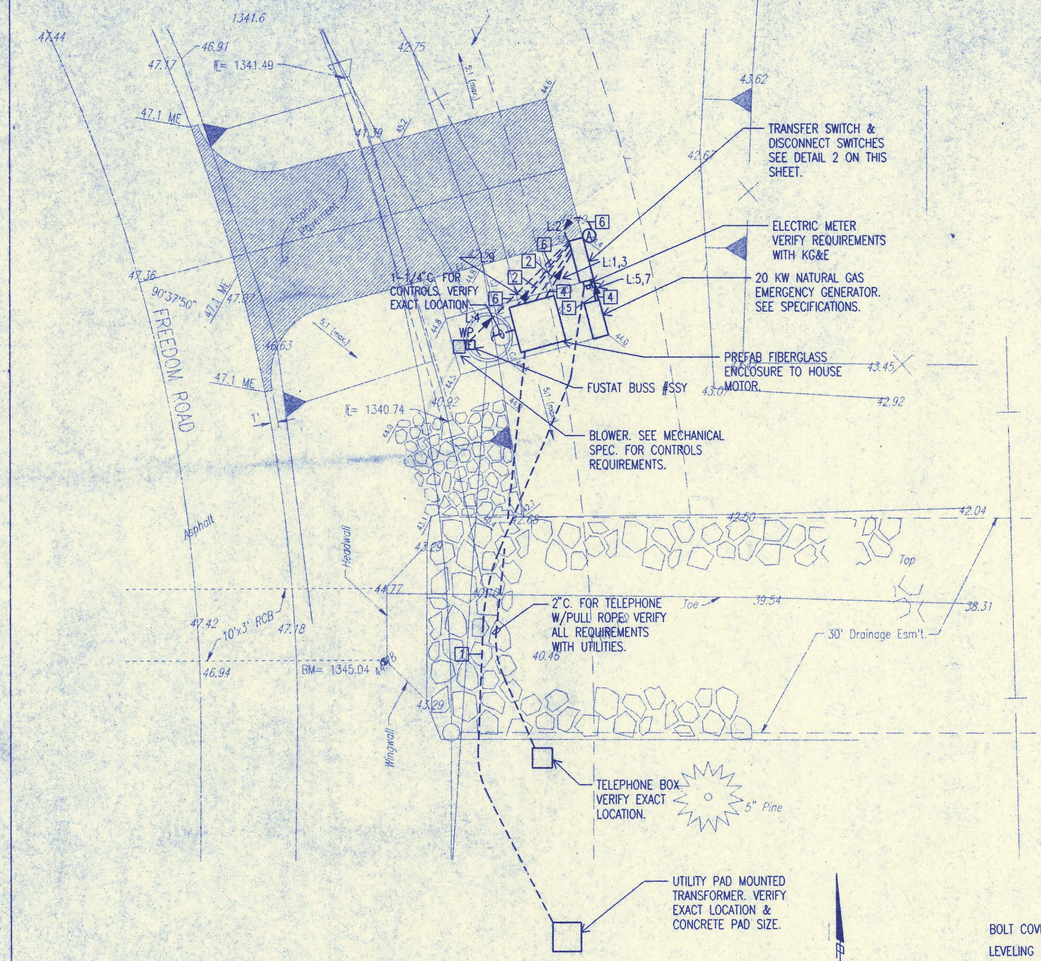


PUMP STATION ELECTRICAL PLAN & DETAILS

1" = 10'-0"

L

120/240 VOLTS, 1 PHASE, 3 WIRE
100 AMP MAIN BKR
22,000 AIC LABELED

SURFACE MOUNTED, W/GROUND BUS

CRC NO.	LOAD V. A.	LOAD TYPE	LOAD DESCRIPTION	P.	AMP SIZE	PHASE	AMP SIZE	P.	LOAD DESCRIPTION	LOAD TYPE	LOAD V. A.	CRC NO.
1	1500	HEA	HEATER	1	20	A	20	1	LIGHT POLE	LIT	300	2 ①
3	1000	LIT	LTS. & BLOWER	1	20	B	20	1	BLOWER	MSH	500	4 ②
5	850	MSH	GEN. HTR.	1	20	C	20	1	RECEPT.	REC	200	6
7	500	PUMP	GEN. CTRLS.	1	20	A	20	1	SPARE			8
9	500	PUMP	TELE. DAILER	1	20	B	20	1	SPARE			10
11			SPARE	1	20	C	20	1	SPARE			12

① VIA PHOTOCELL
② VIA TIME CLOCK

FEEDER SCHEDULE

DESIG.	EQUIPMENT SERVED	CONDUCTORS SETS	CONDUCTORS NO.	CONDUCTORS SIZE	GROUND SIZE PER SET	ISOLATED GROUND SIZE	CONDUIT SIZE PER SET
1	MAIN DISCONNECT	1	3	#4/0	#4	---	3"C.
2	P-1 OR P-2	1	2	#4	#4	---	2"C.
3	PANEL 'L'	1	3	#1	#8	---	1-1/2"C
4	--------	1	3	#12	#12	---	1/2"C.
5	--------	1	3	#1/0	#6	---	2"C.
6	--------	1	2	#12	#12	---	1/2"C.

LIGHTING FIXTURE SCHEDULE (P.E.C.)

FIXT. LTR.	MANUFACTURER	CATALOG NUMBER	LAMPS NO.	LAMPS TYPE	VOLTS	FINISH	MOUNTING	DIMENSIONS W	L	D	REMARKS
A	KIM	FM/CC25P/250MH120 A-30	1	250W MH	120	BRONZE	POLE				TYPE III, SEE NOTE (1)

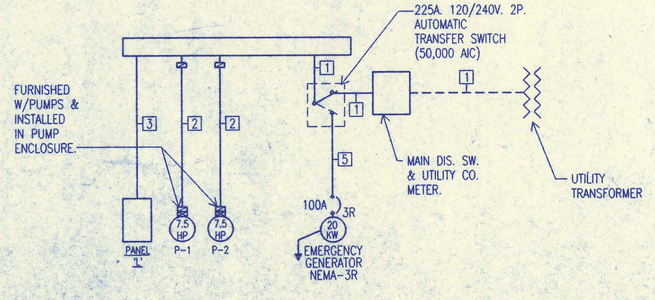
(1) PROVIDE KIM POLE #PRA (12' ROUND STRAIGHT STEEL W/PHOTOCELL). SEE POLE BASE DETAIL ON SHEET THIS SHEET. POLE BASES SHALL BE DESIGNED FOR 110 MPH WIND WITH 1.3 GUST FACTOR. FACTORY PAINTED TO MATCH FIXTURE.

GENERAL NOTES

1. REFER TO THE SPECIFICATIONS FOR DATA NOT ON THE DRAWINGS.
2. SEPARATE GREEN GROUND CONDUCTOR SHALL BE ROUTED IN ALL CIRCUITS WITH ALL PHASE CONDUCTORS.
3. ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) & THE AMERICANS WITH DISABILITIES ACT (ADA).

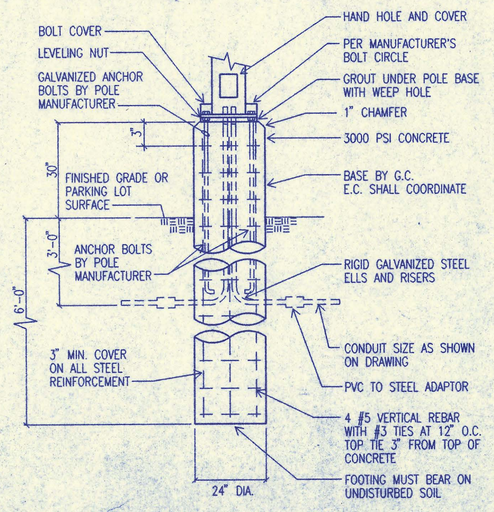
SYMBOL LIST

SYMBOL	DESCRIPTION	MOUNTING
(A)	LIGHT FIXTURE & FIXTURE LETTER	POLE
WP	WEATHERPROOF	
	DISCONNECT SWITCH	
	STARTER	
F	FUSTAT BUSS #SSY	
	CONDUIT RUN 2#12 & 1#12 GRD.-1/2"C.	EARTH/FLOOR
1	FEEDER DESIGNATION	



3 ELECTRICAL ONE LINE DIAGRAM

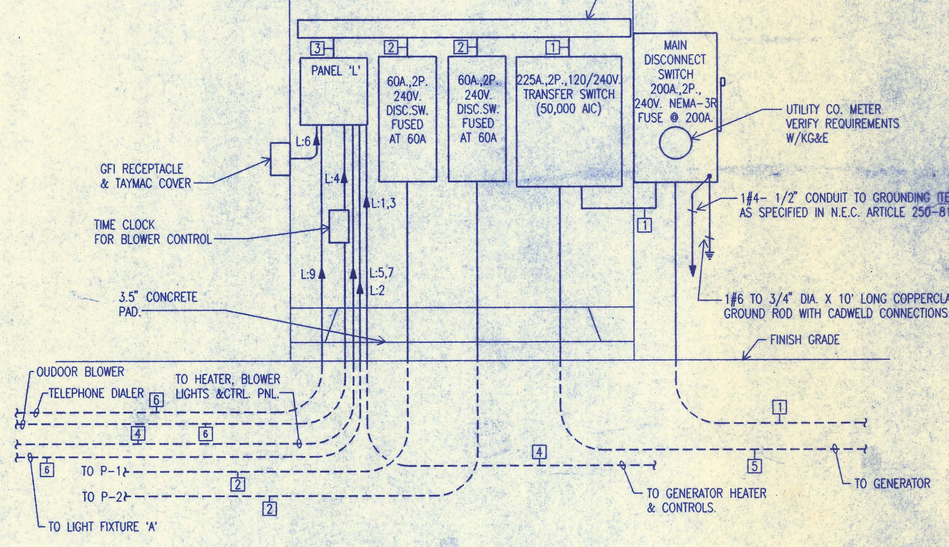
E1 E1 NO SCALE



1 POLE BASE DETAIL

E1 E1 NO SCALE (20' MAX. POLE)

HOFFMAN #A-727224ULP W/DRIP SHIELD KIT #A-DK72A AND #A-72P72 PANEL. FIELD PAINT WITH ANSI 61 GRAY ENAMEL MINIMUM OF (2) COATS REQUIRED. FIELD INSTALL DRIP SHIELD, STAINLESS STEEL HINGE PIN AND STAINLESS STEEL DOOR CLAMPING ASSEMBLIES PROVIDED WITH DRIP SHIELD KIT. ENCLOSURE TO BE DESIGNED TO RESIST 80 MPH WIND LOAD EXPOSURE C. PROVIDE ATTACHEMENT TO ROOF SLAB SUFFICIENT TO RESIST OVERTURNING. SUBMIT FOR APPROVAL.



2 ELECTRICAL RISER DIAGRAM

E1 E1 NO SCALE

RECORD DRAWING
MDK PROJ. ENG. 5/9/96 DATE
RES. ENG. DATE

No.	Revision	By	Date

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

ELECTRICAL PLAN & DETAILS

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 7TH ADDITION

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 S. TOPEKA
(316) 262-2691 WICHITA, KANSAS 67202 FAX (316) 262-3003

Designed by MMH | Job No. 34-94608-1 | SH. 20 of 20
Drawn by MMH | Date FEB. 1995

DSNR: REJ OPER: MMH SCALE: 1"=10'-0"
E:\94608\001\SAVE1 02-13-1995 13:46:28