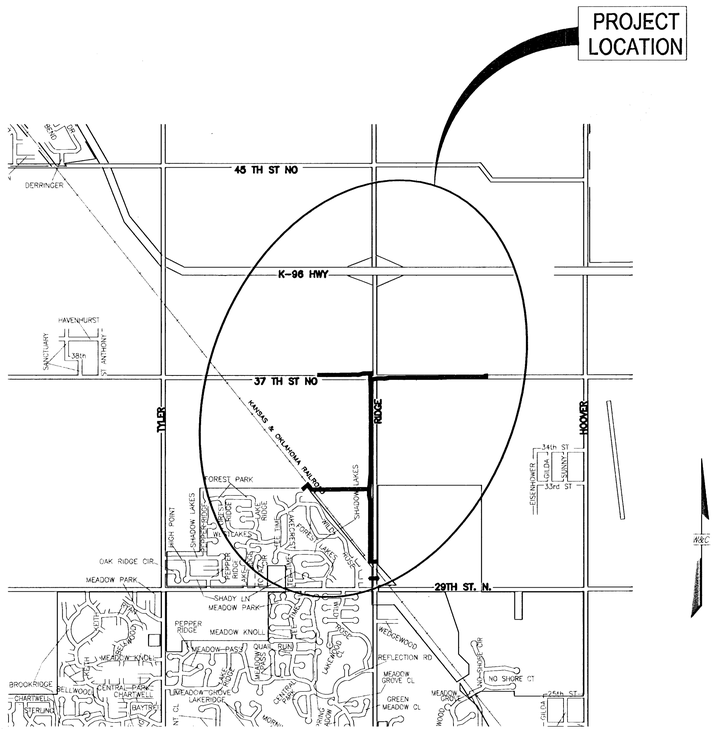
MAIN 19 SOUTHWEST INTERCEPTOR SEWER
PHASE 2
CITY OF WICHITA, KANSAS
NEIL D. CABLE, P.E. - CITY ENGINEER

CITY OF WICHITA



LOCATION MAP
NOT TO SCALE

Wildcat Construction, Inc. - Contractor
Shearer, City - Inspector
Released 3/19/04
As-Built
Stubs
.pdf by JOL 1/13/05

SHEET INDEX

1	TITLE, LOCATION MAP, SHEET INDEX & LEGEND
2	KEY MAP & GENERAL NOTES
3-9	PLAN & PROFILE LINE 1
10-11	PLAN & PROFILE LINE 2
12	PLAN & PROFILE LINE 3, 4, 5 & 6
13-14	PLAN & PROFILE LINE 7
15-16	MISCELLANEOUS MANHOLE DETAILS
17-19	EROSION CONTROL BMP DETAILS

LEGEND

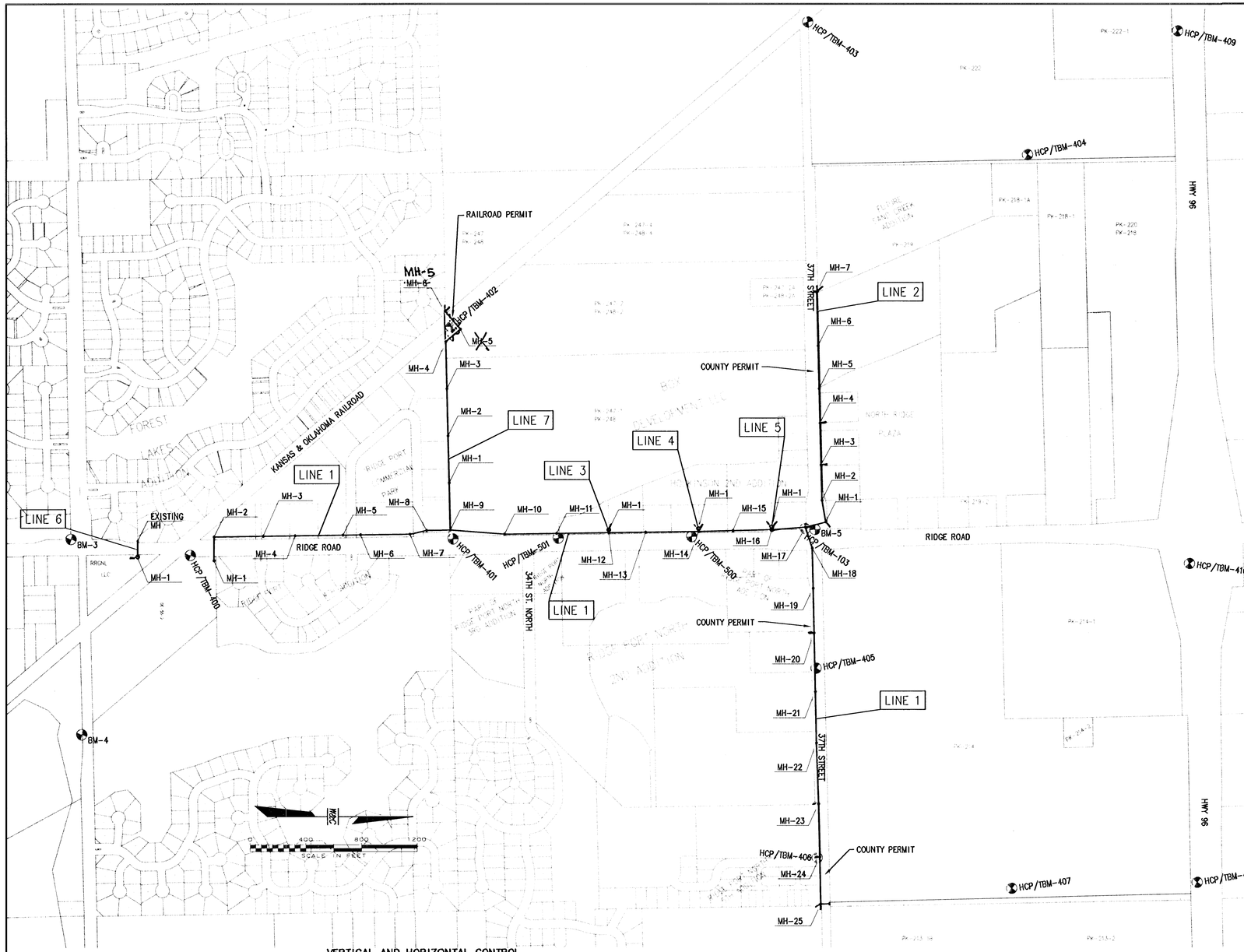
SYMBOL	DESCRIPTION
	BUILDING / STRUCTURE
	RAILROAD TRACKS
	EDGE OF PAVEMENT
	CURB AND GUTTER
	GRAVEL SURFACING
W	WATER LINE
W.M.	WATER METER
W.V.	WATER VALVE
F.H.	FIRE HYDRANT
G	GAS LINE
GAS REG.	GAS REGULATOR
G.V.	GAS VALVE
SWS	STORM WATER SEWER LINE
INLET	STORM WATER INLET
M.H.	MANHOLE
24" CMP	CULVERT PIPE
SS	SANITARY SEWER LINE
FM	SANITARY SEWER FORCE MAIN
T	UNDERGROUND TELEPHONE LINE
UGE	UNDERGROUND ELECTRIC LINE
OHE	OVERHEAD ELECTRIC LINE
FO	FIBER OPTIC LINE
	UTILITY POLE
	TELEPHONE PEDESTAL
D.M.	UTILITY DEADMAN/GUY WIRE
CATV	CABLE TELEVISION LINE
6" BUSH	BUSH
6" CEDAR / 6" DECD.	TREE
	TREE LINE EDGE
	SIGN POST
	ROADWAY GUARD RAIL
	STREAM FLOW DIRECTION
x 133.8	SPOT ELEVATION
BH-1	SOIL BORING LOCATION
	WOOD FENCE
	WROUGHT IRON FENCE
	BARBED WIRE FENCE
	CHAIN LINK FENCE
	PROPERTY LINE / RIGHT-OF-WAY LINE
	LOT LINE
	EASEMENT LINE (EXISTING)
	EASEMENT LINE (PROPOSED)
	TOP OF BANK
	FLOW LINE OF DITCH

OCA NO. ~~624052~~ 743990
CITY OF WICHITA
PROJECT NO. 468-83186
FEBRUARY 2003

DAVID W. HERBERGER LICENSED 16758 2-19-03 KANSAS PROFESSIONAL ENGINEER

WILSON & COMPANY
Engineers & Architects

P:\X1460002.Wichita\CADD\TITLE SHTS.dwg, WEST, 02/19/2003 02:27:57 PM



GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE NOTICE TO UTILITY COMPANIES A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, AS FOLLOWS:
   KANSAS ONE-CALL 687-2470
   THE CONTRACTOR SHALL NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY.

AQUILA NATURAL GAS	800-303-0357 OR 941-1608
SBC TELEPHONE CO.	800-870-8390 OR 268-2245
WESTAR ENERGY	383-8600 OR 261-6512
COX COMMUNICATIONS	262-0661 OR 262-4270
AT&T FIBER OPTIC	800-252-1133 OR 841-5867
KANSAS PIPELINE	800-467-2751 OR 832-1814
CITY OF WICHITA WATER & SEWER	262-6000 OR 268-4908
CITY OF WICHITA TRAFFIC ENG.	268-4446

2. 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. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY PIPELINE COMPANIES AT LEAST 72 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ACROSS AND/OR ADJACENT TO PIPELINES.
4. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION AND AGAIN 48 HOURS PRIOR TO WORKING ADJACENT TO PROPERTY.
5. CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING SHOWN 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 REESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS FLOW OF SEWAGE THROUGH CONSTRUCTION. CONTRACTOR'S PROPOSED METHOD FOR MAINTAINING SEWAGE FLOW SHALL BE APPROVED BY THE ENGINEER. COST OF MAINTAINING FLOW OF SEWAGE THROUGH CONSTRUCTION WILL NOT BE PAID FOR DIRECTLY AND THIS COST OF WORK SHALL BE CONSIDERED AS SUBSIDIARY TO OTHER PAY ITEMS OF WORK.
8. PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS IN PUBLIC RIGHT-OF-WAY AND DEDICATED EASEMENTS 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 SHALL COORDINATE WITH AND NOTIFY THE CITY OF SPRINKLER SYSTEMS WHICH ARE REQUIRED TO BE REPLACED. THE CITY SHALL BE RESPONSIBLE FOR REPLACING THESE PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS REMOVED BY THE CONTRACTOR FOR NEW CONSTRUCTION. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE.
9. MAILBOXES WITHIN THE LIMITS OF THE PROJECT SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AS APPROVED BY THE ENGINEER. CONTRACTOR WILL BE REQUIRED TO MAKE SATISFACTORY PROVISIONS FOR MAIL DELIVERY TO PROPERTIES AFFECTED BY THIS PROJECT DURING ITS CONSTRUCTION.
10. CONTRACTOR SHALL REMOVE AND RESET ALL FENCES AND SIGNS AS REQ'D FOR CONSTRUCTION. FENCES OR SIGNS WHICH ARE DAMAGED DURING CONSTRUCTION OR DEEMED UNSUITABLE FOR RE-USE BY THE ENGINEER SHALL BE REPLACED WITH NEW FENCE OR SIGN OF SAME TYPE. CONTRACTOR SHALL REMOVE AND REPLACE ALL PAVEMENT, CURBING, AND DRIVES THAT ARE NOT BORED AS REQ'D FOR CONSTRUCTION. CONTRACTOR SHALL COORDINATE THIS WORK WITH OWNER. ALL ITEMS OF WORK BEYOND 15 FEET OF MAIN OR OUTSIDE OF PUBLIC RIGHT-OF-WAY AND SEWER DEDICATED EASEMENTS WHICH ARE REQ'D TO BE REMOVED AND REPLACED OR RESET, SHALL BE CONSIDERED SUBSIDIARY TO THE OTHER PAY ITEMS OF WORK.
11. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.
12. ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOD AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SODDING AND/OR RESODDING. ALL SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR78 WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION.
13. THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
14. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
15. MANHOLES SHALL BE TYPE "P" MANHOLES. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
16. ALL EXISTING WATER LINES AS SHOWN ON PLANS ARE APPROXIMATED FROM RECORD INFORMATION. EXISTING WATER LINES WERE NOT LOCATED FOR THIS PROJECT.
17. CONTRACTOR TO MAINTAIN/PROVIDE ACCESS TO ALL BUSINESS & PROPERTIES THROUGHOUT CONSTRUCTION.
18. TESTING OF SEWERS AND MANHOLES SHALL BE CONDUCTED BY THE CONTRACTOR. ALL COST FOR THIS WORK SHALL BE SUBSIDIARY TO OTHER PAY ITEMS OF WORK.
19. CURLEX/EXCELSOR BLANKET OR APPROVED EQUAL SHALL BE INSTALLED AT ALL DISTURBED AREAS REQUIRING SEEDING FOR EROSION CONTROL BMP. INSTALLATION PER MANUFACTURERS RECOMMENDATION. EROSION CONTROL BMP'S SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
20. LINE 1 MH-1 TO MH-10 AND ALL OF LINE 7 SHALL BE THE FIRST PHASE OF THIS CONSTRUCTION. ALL OTHER PHASES OF CONSTRUCTION SHALL BE COORDINATED WITH THE CITY.

VERTICAL AND HORIZONTAL CONTROL

HCP/TBM-103
SET 5/8" REBAR W/ CAP 5.8' W
YELLOW REFLECTOR ON SOUTH SIDE
OF PP ±6' ABOVE GROUND 37.7' NNE
TOP CENTER OF T-PED 40.0' NNW
N-19498.86, E-12880.374, EL.-146.93

HCP/TBM-400
SET #5 REBAR
POWER POLE 9.65' NE
GUY ANCHOR 15.05' SE
END OF CURB & GUTTER (BOC) 23.30' W
N-15088.94, E-13070.377, EL.-140.79

HCP/TBM-401
SET 5/8" REBAR
FENCE CORNER POST 22.00' WSW
SW COR. CONC. BRIDGE RAIL 11.30' NE
N. END WROUGHT IRON FENCE 54.75' NW
N-16969.25, E-12954.432, EL.-143.32

HCP/TBM-402
SET 5/8" REBAR
FENCE END POST 60.70' SE
N. RAIL 50.70' SW
N-16954.97, E-11433.715, EL.-140.54

HCP/TBM-403
SET 5/8" REBAR
RR CROSSING 42.90' W
FIBER OPTIC METER 5.70' NW
℄ OF 37TH. STREET 23.40' S
N-19518.23, E-9249.1952, EL.-149.42

HCP/TBM-404
SET 5/8" REBAR
SOUTH END OF NORTH-SOUTH
FENCE 59.5' ENE
N-21094.94, E-10199.385, EL.-143.92

HCP/TBM-405
SET 5/8" REBAR
PHONE PEDESTAL 67.8' ESE
POWER POLE 205.8' WSW
CENTER OF GRAVEL DRIVEWAY 24.5' W
N-19557.34, E-13880.50, EL.-145.33

HCP/TBM-406
FOUND REBAR W/ YELLOW CAP (BAUGHMAN LS 68)
SOUTH END OF NORTH-SOUTH FENCE 19.6' N
POWER POLE 139.4' WNW
SOUTH EDGE OF 37TH ST. NORTH 40' N
N-19585.35, E-15240.283, EL.-143.84

HCP/TBM-407
SET 5/8" REBAR
NORTH-SOUTH FENCE LINE 139' E
EVERGREEN ROW 20' S
N-20980.71, E-15459.418, EL.-147.73

HCP/TBM-408
SET 1/2" REBAR
EAST-WEST FENCE LINE 42.6' S
SOUTH EDGE K-96 HWY 7.4' N
FENCE CORNER (E-W-S) 155.4' SE
N-22310.76, E-15416.225, EL.-151.24

HCP/TBM-409
SET 1/2" REBAR
NO REFERENCES AVAILABLE
N-22172.19, E-9313.2441, EL.-152.42

HCP/TBM-410
SET 1/2" REBAR
NO REFERENCES AVAILABLE
N-22255.94, E-13129.67, EL.-162.73

HCP/TBM-500
SET 5/8" REBAR
NW COR. OF CURB INLET 44.00' SSE
TO ℄ OF RIDGE ROAD 33.30' E
PK NAIL IN E. FACE OF LIGHT POLE 25.20' NNW
N-18683.1470, E-12937.75, EL.-142.74

HCP/TBM-501
SET 5/8" REBAR
SW COR. OF CURB INLET 11.30' NNW
PK NAIL & WASHER IN E. FACE OF LIGHT POLE 27.50' SSW
TO ℄ OF RIDGE ROAD 35.60' E
N-17725.3420, E-12948.8580, EL.-141.94

BENCHMARK DATUM: CITY OF WICHITA

BM-3 CITY OF WICHITA BENCHMARK DISK AT THE SW/COR. OF RIDGE ROAD AND 29TH. STREET NORTH INTERSECTION.
ELEVATION: 139.15

BM-4 CITY OF WICHITA BENCHMARK DISK AT THE SW/COR. OF RIDGE ROAD AND 29TH STREET NORTH AND LOCATED ½ MILE EAST OF RIDGE ROAD.
ELEVATION: 141.07

BM-5 SQUARE CUT OF SE/COR. OF SOUTH HEADWALL AT THE SOUTH SIDE OF 37TH STREET NORTH AND 70', MORE OR LESS WEST OF RIDGE ROAD.
ELEVATION: 144.12

NO.	REVISION	DATE	BY

DAVID W. HERBERGER LICENSED Date Number 16758 2-12-03 KANSAS PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186

KEY MAP AND GENERAL NOTES

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB
DRAWN	MEK
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	2

WILSON & COMPANY
WICHITA, KANSAS

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THIS AREA MAY BE UNDER DEVELOPMENT. FIELD CHECK EXISTING CONDITIONS & UTILITIES BEFORE BEGINNING CONSTRUCTION.

KANSAS & OKLAHOMA RAILROAD

CAUTION!!!! 4" GAS

50' WATER ESM'T

40' ACCESS ESM'T

NOTE: SEWER SERVICE PIPING MAY EXIST.

INSTALL 355.0 LF 24" PIPE

INSTALL 275.0 LF 24" PIPE

35' DRAINAGE & UTILITY ESM'T

STA 1+70.0 MH-2
N = 15260.16 E = 12938.38
CONST TYPE P MH, 5' DIA

2ND ADDITION

RIDGE PORT

COMMERCIAL PARK

NOTE: SEWER SERVICE PIPING MAY EXIST.

INSTALL 296.2 LF 24" PIPE

INSTALL 3.8 LF 24" PIPE

20' UTILITY ESM'T

W. 33RD N.

2+00 LINE 1 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 LINE 1 11+00 12+00

91°10'38"

EDGE OF PAVEMENT

INSTALL 170.0 LF 24" PIPE

BITUMINOUS

CAUTION!!!! 20" WATER

EDGE OF PAVEMENT

RIDGE ROAD

CONTRACTOR SHALL PROTECT ADJACENT SS MANHOLES AND PIPE FROM ANY MOVEMENT OR DISTURBANCE (TYP.)

STA ~~5+25.0~~ 5+17.0 MH-3
N = 15615.13 E = 12933.51
CONST TYPE P MH, 5' DIA

NOTE: SEWER SERVICE PIPING MAY EXIST.

STA 8+00.0 MH-4
N = 15890.10 E = 12929.75
CONST TYPE P MH, 5' DIA

STA ~~10+96.2~~ 10+98.2 MH-5
N = 16186.28 E = 12925.69
CONST TYPE P MH, 5' DIA

60' R/W

60' R/W

STA 0+30.0 TO STA 1+50.0
INSTALL 120 LF 42" MIN STEEL CASING PIPE BY BORING

25' UTILITY ESM'T

POINT CORNER
SOUTH SIDE FENCE
EL. 1236.37

91°10'37"

MATCH LINE STA 11+00.0

WHEN DIRECTED BY THE ENGINEER, CORE INTO EXISTING MH AND INSTALL 14.50 LF 10" SEWER PIPE (NW) AT FL EL.122.04. USE AN APPROVED WATER-TIGHT FLEXIBLE GASKET WITH NON-SHRINK GROUT TO PROVIDE A WATER-PROOF CONNECTION. RESHAPE MH INVERT AS REQUIRED TO PROVIDE SMOOTH FLOW. CONTRACTOR TO PROVIDE TEMP. PLUG (SE).

WEST WIND BAY

INSTALL 14.5 LF 10" PIPE CONNECT TO EXIST. MH

15' PROPOSED SANITARY SEWER ESM'T

STA 0+00.0 MH-1
BEGIN SEWER LINE 1
N = 15259.00 E = 13108.36
CONST. TYPE P MH 5' DIA
24" STUB AND PLUG (S)

PROPOSED SEWER BY OTHERS

10' UTILITY ESM'T

10' UTILITY ESM'T

RIDGE PORT 4TH ADDITION

WEST WIND BAY

SCALE IN FEET

160

LINE 1

160

STA 0+00.0 MH-1 TOP EL 140.3

STA 1+70.0 MH-2 TOP EL 143.2

STA ~~5+25.0~~ 5+17.0 MH-3 TOP EL 143.0

STA 8+00.0 MH-4 TOP EL 143.0

STA ~~10+96.2~~ 10+98.2 MH-5 TOP EL 142.9

+10 10" SS

+18 UGT

+36 20" WATER

CL RIDGE RD

+36 4" AQUILA GAS

+52 UGT

PROPOSED GROUND BY OTHERS

EXISTING GROUND

+91 SS RISER PROPOSED BY OTHERS

EXISTING SEWER 10' RT. (TYP.)

MATCH LINE STA 11+00.0

SCALE IN FEET

FL OUT 119.19 (S)
FL IN 119.29 (W)
FL IN 121.50 (NW)

170.0 LF 24" PIPE @ 0.200%

FL 119.49

FL OUT 119.63 (E)
FL IN 119.73 (N)

FL 119.75

FL 119.83

~~347.0~~ 355.0 LF 24" PIPE @ 0.080%

FL 119.91

FL 119.99

FL 120.01

~~283.0~~ 275.0 L.F. 24" PIPE @ 0.080%

FL 120.07

FL 120.15

FL 120.23

FL 120.31

~~298.2~~ 296.2 LF 24" PIPE @ 0.080%

FL 120.39

1.8
3.8 LF 24" PIPE @ 0.080%

FL 120.47

0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50 7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00

160 155 150 145 140 135 130 125 120 115 110

NO.	REVISION	DATE	BY

DAVID W. HERBERGER LICENSED PROFESSIONAL ENGINEER
No. 16758
2-19-03
KANSAS

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE I PLAN & PROFILE
STA. 0+00.0 TO STA 11+00.0

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB
DRAWN	MEK
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	3

WILSON & COMPANY
WICHITA, KANSAS

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THIS AREA MAY BE UNDER DEVELOPMENT. FIELD CHECK EXISTING CONDITIONS & UTILITIES BEFORE BEGINNING CONSTRUCTION.

THIS AREA MAY BE UNDER DEVELOPMENT. FIELD CHECK EXISTING CONDITIONS & UTILITIES BEFORE BEGINNING CONSTRUCTION.

W. 33RD N.

NORTHWIND

LINE 7

BIG SLOUGH

RIDGE ROAD BITUMINOUS

RIDGE ROAD BITUMINOUS

BAY

20' UTILITY ESM'T

PROPOSED 8" WATER BY OTHERS

PROPOSED 8" SAN. SEWER BY OTHERS

INSTALL 116.2 LF 24" PIPE

STA 12+16.2 MH-6
N = 16306.26 E = 12924.05
CONST TYPE P MH, 5' DIA

INSTALL 360.4 LF 24" PIPE

30' DRAINAGE & UTILITY ESM'T

NOTE ! SEWER SERVICE PIPING MAY EXIST.

INSTALL 122.3 LF 24" PIPE

STA 15+76.6 MH-7
N = 16666.62 E = 12919.12
CONST TYPE P MH, 5' DIA

STA 11+07.0 TO STA 12+07.0
INSTALL 100.0 LF 42" MIN STEEL CASING PIPE BY BORING

STA 15+88.0 TO STA 16+88.0
INSTALL 100.0 LF 42" MIN. STEEL CASING PIPE BY BORING

70' R/W

20' UTILITY ESM'T

PROPOSED 8" WATER BY OTHERS

PROPOSED 8" SAN. SEWER BY OTHERS

PROPOSED 48" STORM SEWER BY OTHERS

STA 16+98.9 MH-8
N = 16786.01 E = 12892.44
CONST TYPE P MH, 5' DIA

INSTALL 165.0 LF 24" PIPE

PROPOSED 25' SANITARY SEWER ESM'T

20' DRAINAGE EASEMENT

PROPOSED 20' SANITARY SEWER ESM'T

PROPOSED 30' SANITARY SEWER ESM'T

STA 18+63.9 MH-9 LINE 1
STA 0+00.0 LINE 7
N = 16951.00 E = 12890.19
CONST TYPE P MH, 5' DIA

STA 19+40.0 TO STA 20+80.0
INSTALL 140.0 LF 42" MIN STEEL CASING BY BORING

INSTALL 386.1 LF 24" PIPE

REMOVE AND RESET 30 LF FENCE AS REQ'D

MATCH LINE STA 11+00.0

MATCH LINE STA 22+50.0

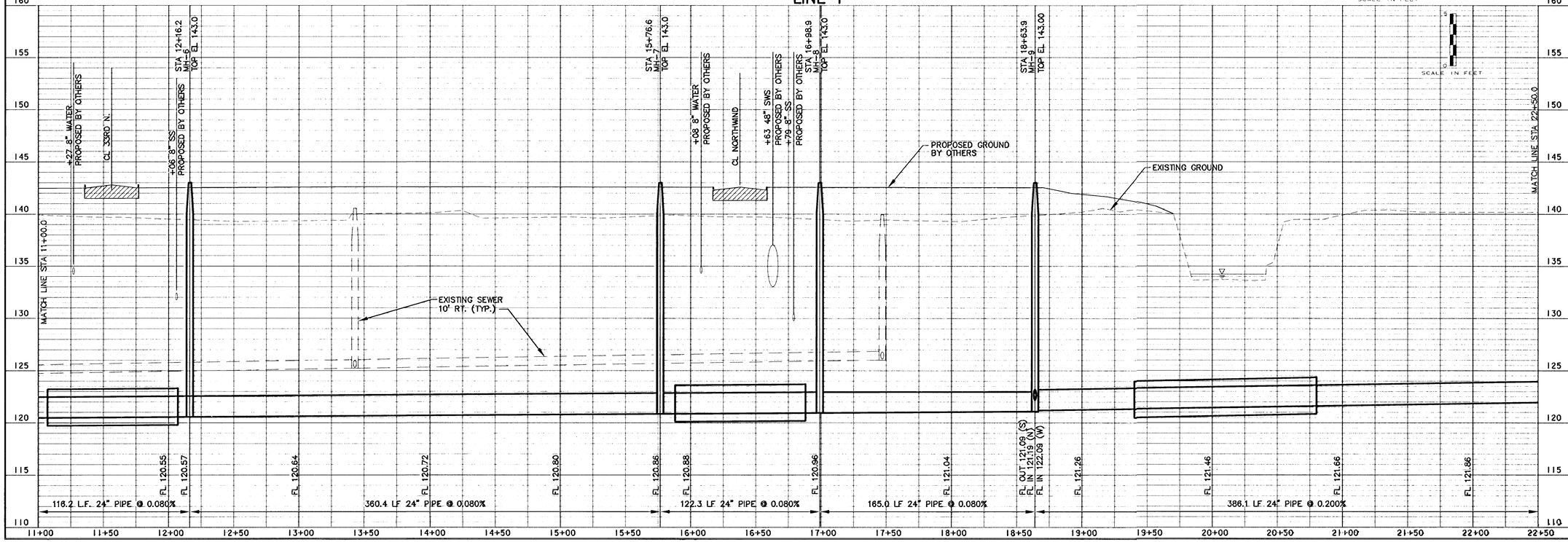
168°11'7"

174°53'39"

60' R/W

75' R/W

LINE 1



DAVID W. HERBERGER LICENSED PROFESSIONAL ENGINEER 16788 2-19-03 KANSAS

NO.	REVISION	DATE	BY

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE 1 PLAN & PROFILE
STA. 11+00.0 TO STA. 22+50.0
NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB

DRAWN: MEK/KMD
DATE: FEBRUARY 2003
FILE NO.: X1460002
SHEET NO.: 4

WILSON & COMPANY
WICHITA, KANSAS

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MATCH LINE STA 22+50.0

INSTALL 4.1 LF 24" PIPE

STA 22+54.1 MH-10 N = 17340.10 E = 12919.59 CONST TYPE P MH, 5' DIA

PROVIDE TEMP. SUPPORT FOR UTILITY POLES AND PROTECT DEADMAN, AS REQ'D COORDINATE W/ OWNER (TYP.)

INSTALL 374.5 LF 24" PIPE

PROPOSED 30' SANITARY SEWER ESM'T

REMOVE AND RESET 260 LF FENCE, AS REQ'D

REMOVE AND RESET COMMERCIAL SIGN STRUCTURE COORDINATE W/ OWNER

REMOVE AND RESET COMMERCIAL SIGN STRUCTURE COORDINATE WITH OWNER

REMOVE AND REPLACE 215 LF ASPHALT PAVEMENT AND CURBING COORDINATE W/ OWNER

RECONSTRUCT LANDSCAPING BED COORDINATE W/ OWNER

CAUTION!!! UNDERGROUND ELECTRIC

REMOVE AND REPLACE 53 LF DRIVEWAY 58 LF FLOWABLE FILL

INSTALL 374.6 LF 24" PIPE

10' UTILITY ESM'T

20' SANITARY SEWER ESM'T

10' SANIT. SEWER SERVICE ESM'T

PROPOSED SANITARY SEWER ESM'T

REMOVE AND RESET LIGHT POLES COORDINATE W/ OWNER

STA 26+28.6 MH-11 N = 17714.56 E = 12914.45 CONST TYPE P MH, 5' DIA

PROTECT TRANSFORMER AND FIRE HYDRANT

STA 30+03.2 MH-12 LINE 1
STA 0+00.0 LINE 3
N = 18089.14 E = 12909.31
CONST TYPE P MH
OUTSIDE DROP, 5' DIA
REMOVE EXISTING MH

REMOVE AND RESET COMMERCIAL SIGN STRUCTURE COORDINATE W/ OWNER

INSTALL 265.0 LF 24" PIPE

CAUTION!!! UNDERGROUND ELECTRIC

CAUTION!!! 8" WATER

REMOVE AND REPLACE 46 LF DRIVEWAY 50 LF FLOWABLE FILL

INSTALL 131.8 LF 24" PIPE

STA 32+68.2 MH-13 N = 18354.11 E = 12905.67 CONST TYPE P MH, OUTSIDE DROP 5' DIA MH, RECONNECT EXIST. 8" SEWER (W). TOP TO MATCH PAVEMENT SURFACE. REMOVE EXIST. MH & 8" PVC PIPE (N & S)

CAUTION!!! UNDERGROUND ELECTRIC

MATCH LINE STA 34+00.0

RIDGE ROAD BITUMINOUS

LINE 1

LINE 3

BOX DEVELOPMENT L.C. PK-247-1

SCHELLENBURGER

HOSKINSON 2ND ADDITION

DUSTBUSTERS, INC.

RIDGE PORT NORTH 3RD ADDITION

RIDGE PORT NORTH 2ND ADDITION

RIDGE PORT

RES A

SCALE IN FEET

NO.	REVISION	DATE	BY

DAVID W. HERBERGER LICENSED 16750 2-19-03 KANSAS PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE I PLAN & PROFILE
STA. 22+50.0 TO STA. 34+00.0

NEIL D. CABLE P.E., CITY ENGINEER

LINE 1

STA 22+54.1 MH-10 TOP EL 142.8

STA 26+28.6 MH-11 TOP EL 145.5

STA 30+03.2 MH-12 TOP EL 145.6

STA 32+68.2 MH-13 TOP EL 143.7

EXISTING GROUND

+29 UGE

CL DRIVE

+86 8" SS

+50 UGE

+53 8" WATER

CL DRIVE

+88 UGT

REMOVE EXISTING SEWER (TYP.)

58.0 LF FLOWABLE FILL

50.0 LF FLOWABLE FILL

MATCH LINE STA 34+00.0

FL OUT 121.97 (S)
FL IN 122.07 (N)
4.1 LF 24" PIPE @ 0.200%

FL 122.00
FL 122.08
FL 122.17
FL 122.25
FL 122.27
FL 122.33
FL 122.41
FL 122.49
FL 122.57 (N/S)
FL IN 133.50 (W)
FL IN 123.90 (W)
FL 122.65
FL 122.73
FL 122.78 (N/S)
FL IN 133.00 (W)
FL IN 124.11 (W)
FL 122.81
FL 122.89

374.5 LF 24" PIPE @ 0.080%
374.6 LF 24" PIPE @ 0.080%
265.0 LF 24" PIPE @ 0.080%
131.8 LF 24" PIPE @ 0.080%

DESIGN	DWH
CHECKED	WOB
DRAWN	MEK/KMD
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	5

WILSON & COMPANY WICHITA, KANSAS

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MATCH LINE STA 34+00.0

STA 36+48.2 MH-14 LINE 1
STA 0+00.0 LINE 4
N = 18734.07 E = 12900.46
CONST TYPE P MH
OUTSIDE DROP 5' DIA

INSTALL 248.2 LF
24" PIPE

PROPOSED SANITARY SEWER ESM'T

LINE 4

PROVIDE TEMP. SUPPORT FOR ADJACENT COMMERCIAL SIGN STRUCTURE, AS REQ'D, COORDINATE W/ OWNER

INSTALL 251.8 LF
24" PIPE

10' UTILITY ESM'T

REMOVE EXIST. MH
ABANDON AND PLUG
EXIST. 8" SEWER (E)
REMOVE 8" PVC PIPE (N&S)

REMOVE AND REPLACE
48 LF DRIVEWAY
52 LF FLOWABLE FILL

INSTALL 274.1 LF
24" PIPE

STA 41+74.1 MH-16
N = 19259.78 E = 12887.28
CONST TYPE P MH
OUTSIDE DROP 5' DIA

REMOVE AND REPLACE
16 LF GRAVEL DRIVEWAY

10' UTILITY ESM'T

LINE 5

20' SANITARY SEWER ESM'T

STA 44+15.0 MH-17
N = 19500.01 E = 12869.27
CONST TYPE P MH
OUTSIDE DROP 5' DIA
RECONNECT EXIST. 8" SEWER (W)
REMOVE EXIST. MH

INSTALL 240.9 LF
24" PIPE

20' SANITARY SEWER ESM'T

LINE 2

CAUTION!!!!
4" GAS

INSTALL 135.0 LF
18" PIPE

34+00 LINE 1 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 LINE 1 44+00

179°20'59" 177°8'58" 98°37'57" 45°00'00"

60' R/W 60' R/W 75' R/W 75' R/W

REMOVE EXIST. MH
AND 8" PVC PIPE (N&S)

STA ~~38+00.0~~ 38+95.0 MH-15
N = 18985.75 E = 12894.15
CONST TYPE P MH, 5' DIA

REMOVE EXIST. MH
AND 8" PVC PIPE (N&S)

PROVIDE TEMP. SUPPORT FOR ADJACENT UTILITY POLE, AS REQ'D DURING BORE AND JACK COORDINATE W/ OWNER

STA 44+42.0 TO STA 46+08.0
INSTALL 166 LF 32" MIN STEEL CASING PIPE BY BORING

RIDGE ROAD BITUMINOUS

SEC. CORNER NW COR. NW 1/4, SEC. 34 TWP-26-S, R-1-W

ABANDON AND PLUG
EXIST. 8" SEWER (W)

MATCH LINE STA 45+50.0

RESERVE A RIDGE PORT NORTH 2ND ADDITION

HOSKINSON 2ND ADDITION RIDGE PORT NORTH ADDITION

0 40 80 120
SCALE IN FEET

LINE 1

STA 36+48.2 MH-14 TOP EL 146.3

STA ~~38+00.0~~ 38+95.0 MH-15 TOP EL 146.5

STA 41+74.1 MH-16 TOP EL 146.5

STA 44+15.0 MH-17 TOP EL 147.2

EXISTING GROUND

REMOVE EXIST. SEWER (TYP.)

52.0 LF FLOWABLE FILL

℄ DRIVE

℄ GRAVEL DRIVE

℄ RIDGE RD.

+58 4" AQUILA GAS

+80 24" RCP

MATCH LINE STA 45+50.0

FL 122.97
FL 123.05
FL 123.08 (N)(S)
FL IN 131.49 (W)
FL IN 124.41 (W)
FL 123.12
FL 123.20
FL 123.28
FL 123.36
FL 123.44
FL 123.50 (N)(S)
FL IN 132.50 (W)
FL IN 124.83 (W)
FL 123.52
FL 123.60
FL 123.68
FL OUT 123.69 (S)
FL IN 124.19 (E)
FL IN 124.19 (N)
FL IN 137.63 (W)
FL IN 125.02 (W)
FL 124.53

248.2 LF 24" PIPE @ 0.080%
~~251.8~~ 246.8 LF 24" PIPE @ 0.080%
~~274.1~~ 279.1 LF 24" PIPE @ 0.080%
240.9 LF 24" PIPE @ 0.080%
135.0 LF 18" PIPE @ 0.400%

160 155 150 145 140 135 130 125 120 115 110

34+00 34+50 35+00 35+50 36+00 36+50 37+00 37+50 38+00 38+50 39+00 39+50 40+00 40+50 41+00 41+50 42+00 42+50 43+00 43+50 44+00 44+50 45+00 45+50

NO.	REVISION	DATE	BY

DAVID W. HERBERGER
LICENSED
16750
2-19-03
KANSAS
PROFESSIONAL ENGINEER

WILSON & COMPANY

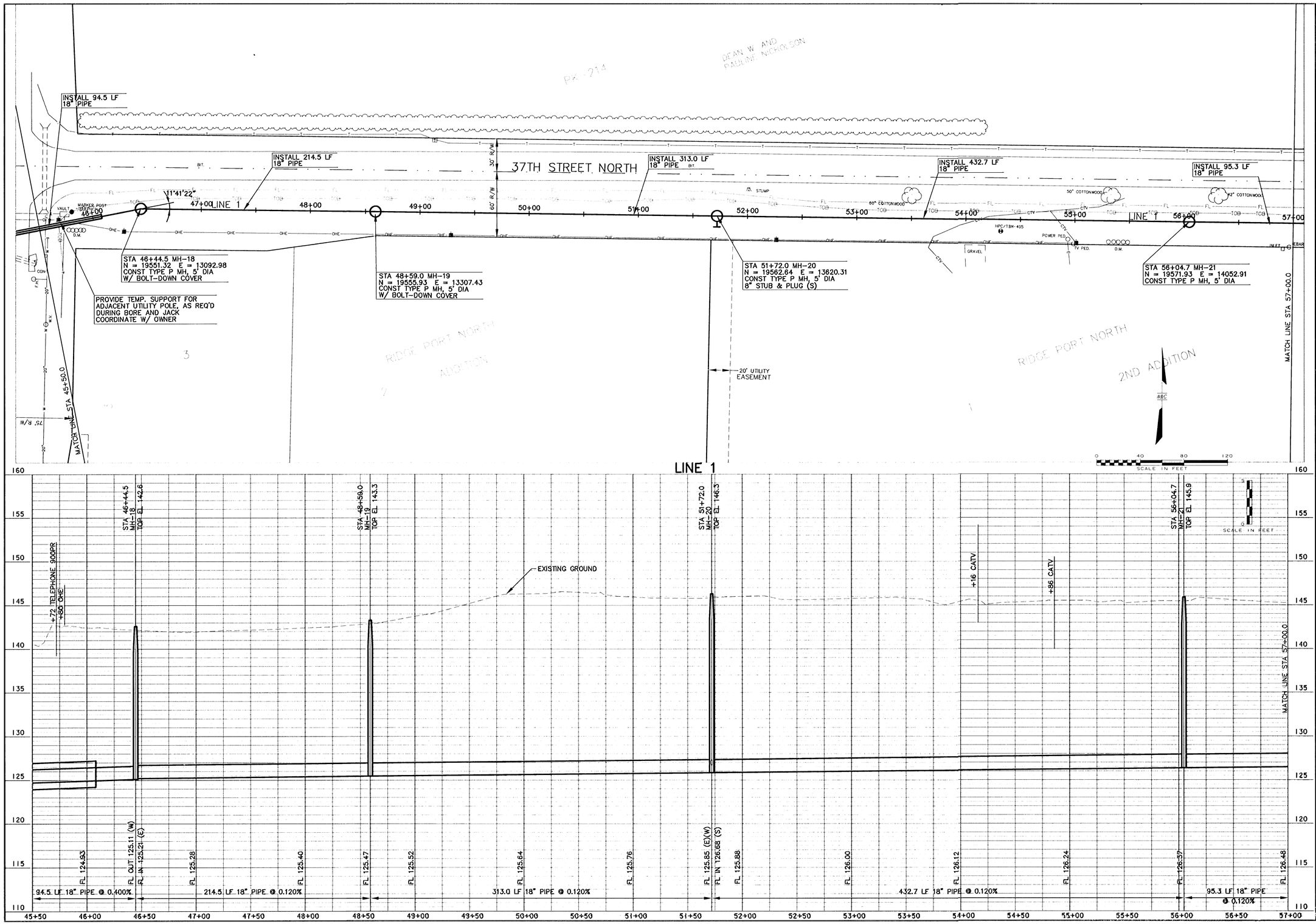
CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE 1 PLAN & PROFILE
STA. 34+00.0 TO STA. 45+50.0

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB
DRAWN	MEK/KMD
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	6

WILSON & COMPANY
WICHITA, KANSAS

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NO.	REVISION	DATE	BY

DAVID W. HERBERGER LICENSED PROFESSIONAL ENGINEER 16758 2-19-03 KANSAS

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE 1 PLAN & PROFILE
STA. 45+50.0 TO STA. 57+00.0

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB
DRAWN	MEK/KMD
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	7

WILSON & COMPANY
WICHITA, KANSAS

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INSTALL 304.7 LF 18" PIPE

INSTALL 400.0 LF 18" PIPE

REMOVE AND RESET 379 LF OF FENCE, AS REQ'D

REMOVE AND REPLACE 15 LF GRAVEL DRIVE

INSTALL 393.1 LF 18" PIPE

INSTALL 52.2 LF 18" PIPE

37TH STREET NORTH

LINE 1

57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00 68+00

30' R/W

60' R/W

64' R/W

BIT. GRAVEL CONC. W.V. FL TOB TOE TCB TOT FL TOL

48" COTTONWOOD 42" COTTONWOOD

STA 60+04.7 MH-22
N = 19580.51 E = 14452.82
CONST TYPE P MH, 5' DIA
10" STUB & PLUG (S)

STA 64+04.7 MH-23
N = 19595.09 E = 14852.55
CONST TYPE P MH, 5' DIA
10" STUB & PLUG (S)

STA 67+97.8 MH-24
N = 19603.49 E = 15245.58
CONST TYPE P MH, 5' DIA
10" STUB & PLUG (S)

REMOVE AND REPLACE
60 LF DRIVEWAY
64 LF FLOWABLE FILL

REMOVE AND RESET
30 LF OF FENCE, AS REQ'D

REMOVE AND RESET
30 LF OF FENCE, AS REQ'D

REMOVE AND RESET
30 LF OF FENCE, AS REQ'D

PROPOSED 20' UTILITY ESM'T

20' DRAINAGE AND UTILITY ESM'T

5' WALL ESM'T

PROVIDE TEMP. SUPPORT FOR ADJACENT UTILITY POLES, AS REQ'D COORDINATE WITH OWNER (TYP.)

MATCH LINE STA 57+00.0

MATCH LINE STA 68+50.0

RIDGE PORT NORTH 2ND ADDITION

RIDGE PORT

CULTIVATED FIELD

DEAN W. AND PAULINE NICHOLSON

EARL J. AND BETTY L. SMITH

D-1078-UP

PK-214

SCALE IN FEET

LINE 1

CL GRAVEL DRIVE

64.0 LF FLOWABLE FILL

STA 60+04.7 MH-22 TOP EL 145.9

STA 64+04.7 MH-23 TOP EL 145.8

CL GRAVEL DRIVE

EXISTING GROUND

+57 OHE

STA 67+97.8 MH-24 TOP EL 144.4

MATCH LINE STA 68+50.0

160 155 150 145 140 135 130 125 120 115 110

FL 126.60 FL 126.72 FL 126.85 FL 126.86 FL 127.08 FL 127.20 FL 127.33 (EXIST) FL IN 128.00 (S) FL 127.44 FL 127.56 FL 127.68 FL 127.80 (EXIST) FL IN 128.47 (S)

304.7 LF 18" PIPE @ 0.120%

400 LF 18" PIPE @ 0.120%

393.1 LF 18" PIPE @ 0.120%

52.2 LF 18" PIPE @ 0.120%

57+00 57+50 58+00 58+50 59+00 59+50 60+00 60+50 61+00 61+50 62+00 62+50 63+00 63+50 64+00 64+50 65+00 65+50 66+00 66+50 67+00 67+50 68+00 68+50

SCALE IN FEET

NO. | REVISION | DATE | BY

DAVID W. HERBERGER
LICENSED
No. 16758
2-19-03
KANSAS
PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE I PLAN & PROFILE
STA. 57+00.0 TO STA. 68+50.0

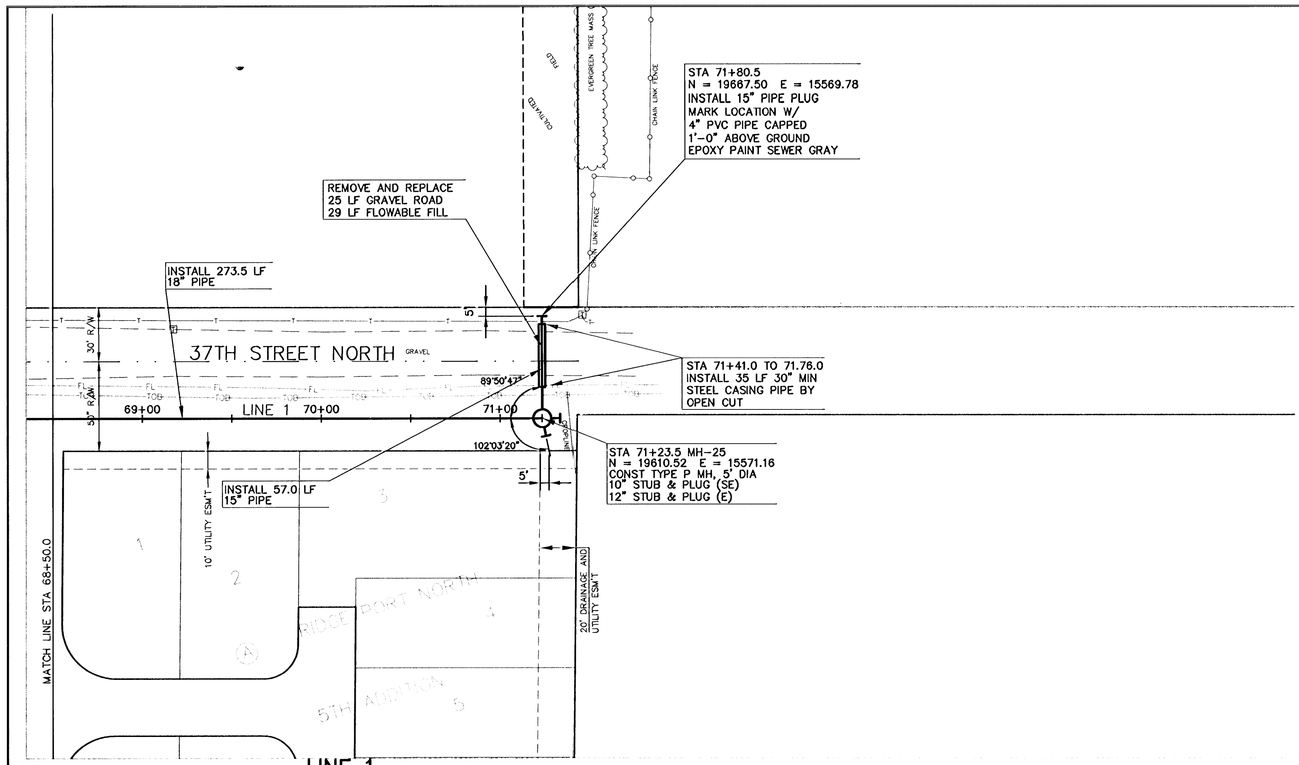
NEIL D. CABLE P.E. - CITY ENGINEER

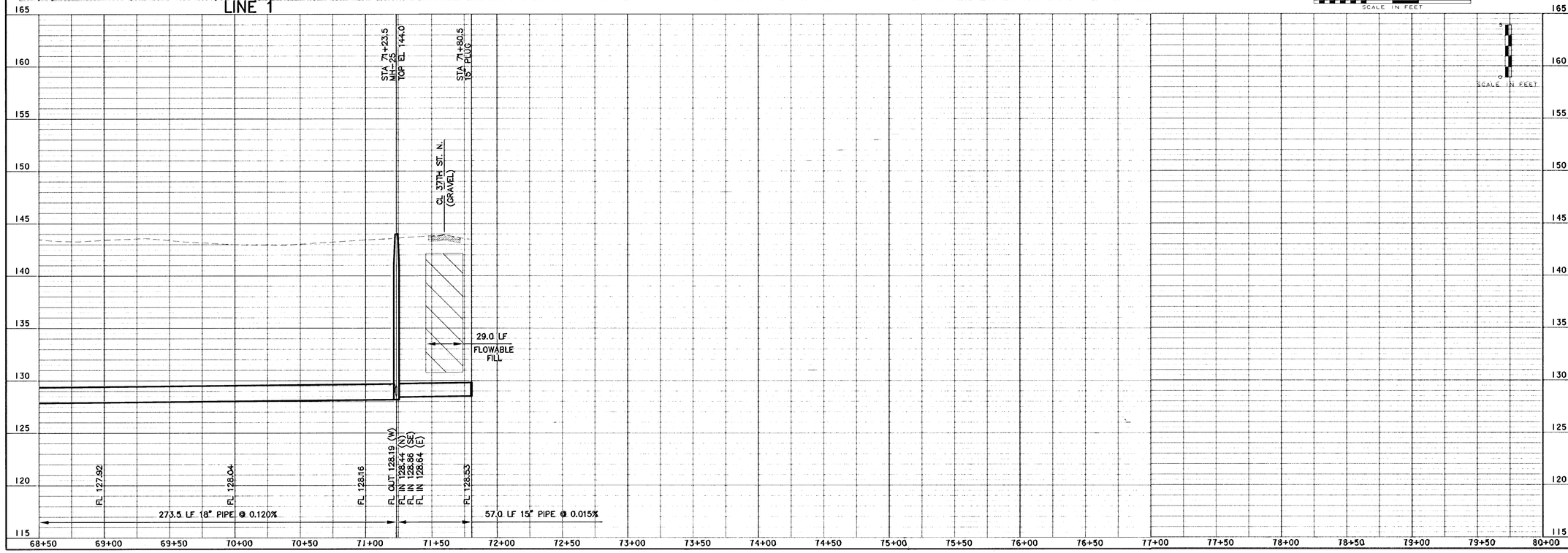
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DWH	WOB

DRAWN: MEK/KMD
DATE: FEBRUARY 2003
FILE NO: X1460002
SHEET NO: 8

WILSON & COMPANY
WICHITA, KANSAS

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NO.	REVISION	DATE	BY

DAVID W. HERBERGER
LICENSED
No. 16758
2-19-03
KANSAS
PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE I PLAN & PROFILE
STA. 68+50.0 TO STA. 71+80.5

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
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DRAWN	MEK/KMD
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	9

WILSON &COMPANY
WICHITA, KANSAS

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STA 44+15.0 MH-17 LINE 1
STA 0+00.0 LINE 2
N = 19500.01 E = 12869.27

STA 0+48.0 TO STA 1+24.0
INSTALL 76 LF 32" MIN
CASING PIPE BY BORING

STA 3+08.2 MH-2
N = 19619.46 E = 12677.81
CONST TYPE P MH, 5' DIA
W/ BOLT-DOWN COVER

INSTALL 254.6 LF
18" PIPE

INSTALL 300.0 LF
18" PIPE

INSTALL 237.1 LF
18" PIPE

INSTALL 157.3 LF
18" PIPE

INSTALL 150.9 LF
18" PIPE

STA 1+50.9 MH-1
N = 19646.46 E = 12832.79
CONST TYPE P MH, 5' DIA
W/ BOLT-DOWN COVER
10" STUB & PLUG (NE)

STA 5+62.8 MH-3
N = 19613.12 E = 12423.24
CONST TYPE P MH, 5' DIA
W/ BOLT-DOWN COVER
8" STUB & PLUG (N)

STA 8+62.8 MH-4
N = 19605.65 E = 12123.33
CONST TYPE P MH, 5' DIA
W/ BOLT-DOWN COVER
8" STUB & PLUG (N)

171°17'46"
9°48'30"
171°0'
171°32'48"

37TH STREET NORTH
RIDGE ROAD
LINE 1
LINE 2
MATCH LINE STA 11+00.0
20' SANITARY SEWER ESM'T
15' UTILITY ESM'T
10' UTILITY ESM'T
20' UTILITY ESM'T
15' UTILITY ESM'T
10' UTILITY ESM'T
GUARD POST
GRAVEL
CULTIVATED FIELD
PROP. CORNER
MARKER POST GAS LINE
BILLBOARD
CURB INLET
CONC. HEADWALL
PK-247-1 & PK-248-1 BOX DEVELOPMENT LLC
HOSKINSON 2ND ADDITION
NORTH RIDGE PLAZA
SCALE IN FEET

LINE 2

STA 0+00 MH-17 LINE 1 TOP EL 147.2
STA 1+50.9 MH-1 TOP EL 143.3
STA 3+08.2 MH-2 TOP EL 142.6
STA 5+62.8 MH-3 TOP EL 142.7
STA 8+62.8 MH-4 TOP EL 142.6
+37 OHE
+44 UGT
CL 37TH ST. N. (GRAVEL)
EXISTING GROUND
MATCH LINE STA 11+00.0

FL OUT 123.69 (S)
FL IN 124.19 (E)
FL IN 124.19 (N)
FL IN 137.63 (W)
FL IN 125.02 (W)
FL 124.31
FL OUT 124.37 (E)
FL IN 125.27 (W)
FL IN 125.04 (NE)
FL 124.52
FL 124.66
FL 124.77
FL 124.89
FL 124.97 (E)(W)
FL IN 125.80 (N)
FL 125.01
FL 125.13
FL 125.25
FL 125.33 (E)(W)
FL IN 126.16 (N)
FL 125.57
FL 125.49
FL 125.61

150.9 LF 18" PIPE @ 0.120%
157.3 LF 18" PIPE @ 0.120%
254.6 LF 18" PIPE @ 0.120%
300.0 LF 18" DIA @ 0.120%
237.1 LF 18" PIPE @ 0.120%

160 155 150 145 140 135 130 125 120 115 110

-0+25 0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50 7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+25

NO.	REVISION	DATE	BY

DAVID W. HERBERGER
LICENSED
16788
2-19-03
KANSAS
PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE 2 PLAN & PROFILE
STA. 0+00.0 TO STA. 11+00.0
NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB
DRAWN	MEK/KMD
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	10

WILSON & COMPANY
WICHITA, KANSAS

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MATCH LINE STA 11+00.0

INSTALL 9.3 LF 18" PIPE

STA 11+09.2 MH-5
N = 19599.51 E = 11876.99
CONST TYPE P MH, 5' DIA
W/ BOLT-DOWN COVER

INSTALL 307.9 LF 18" PIPE

STA 14+17.1 MH-6
N = 19591.84 E = 11569.22
CONST TYPE P MH, 4' DIA
W/ BOLT-DOWN COVER

REMOVE AND REPLACE 23 LF GRAVEL DRIVEWAY

INSTALL 390.4 LF 18" PIPE

STA 18+07.5 MH-7
N = 19582.12 E = 11178.93
CONST TYPE P MH, 5' DIA
W/ BOLT-DOWN COVER
8" STUB & PLUG (S)
10" STUB & PLUG (W)
15" STUB & PLUG (NW)

37TH STREET NORTH

LINE 2

BIG SLOUGH

BOX DEVELOPMENT LLC

MICHAEL W. & ANN L. POPP PK-247-2 & PK-248-2

MIKE & LAURA POPP PK-247-2A & PK-248-2A

MICHAEL W. & ANN L. POPP PK-247-5 & PK-248-5

STEVEN D. & DEBORAH S. CAMP PK-247-4 & PK-248-4

RESERVE A

RITCHIE INVESTMENT CO., INC. PK-219

(PROPOSED SAND CREEK ADDITION)

15' UTILITY ESM'T

10' UTILITY ESM'T

BARB WIRE FENCE

CHAIN LINK FENCE

MAIL BOX

18" COTTONWOOD

36" COTTONWOOD

CULTIVATED FIELD

GRAVEL

RCP

SCALE IN FEET 0 40 80 120

LINE 2

STA 11+09.2 MH-5 TOP EL 142.4

STA 14+17.1 MH-6 TOP EL 142.4

STA 18+07.5 MH-7 TOP EL 142.7

CL GRAVEL DRIVE

CL BIG SLOUGH

EXISTING GROUND

FL 125.63

FL 125.74

FL 125.86

FL 125.98

FL 126.00

FL 126.10

FL 126.22

FL 126.34

FL OUT 126.47 (E)
FL IN 127.14 (W)
FL IN 127.30 (S)
FL IN 126.72 (NW)

9.3 LF 18" PIPE @ 0.120%

307.9 LF 18" PIPE @ 0.120%

390.4 LF 18" PIPE @ 0.120%

SCALE IN FEET 0 5

160 155 150 145 140 135 130 125 120 115 110

11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50 15+00 15+50 16+00 16+50 17+00 17+50 18+00 18+50 19+00 19+50 20+00 20+50 21+00 21+50 22+00 22+50

NO.	REVISION	DATE	BY

DAVID W. HERBERGER
LICENSED
16758
2-19-03
KANSAS
PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE 2 PLAN & PROFILE
STA. 11+00.00 TO STA. 18+07.5

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB

DRAWN MEK/KMD

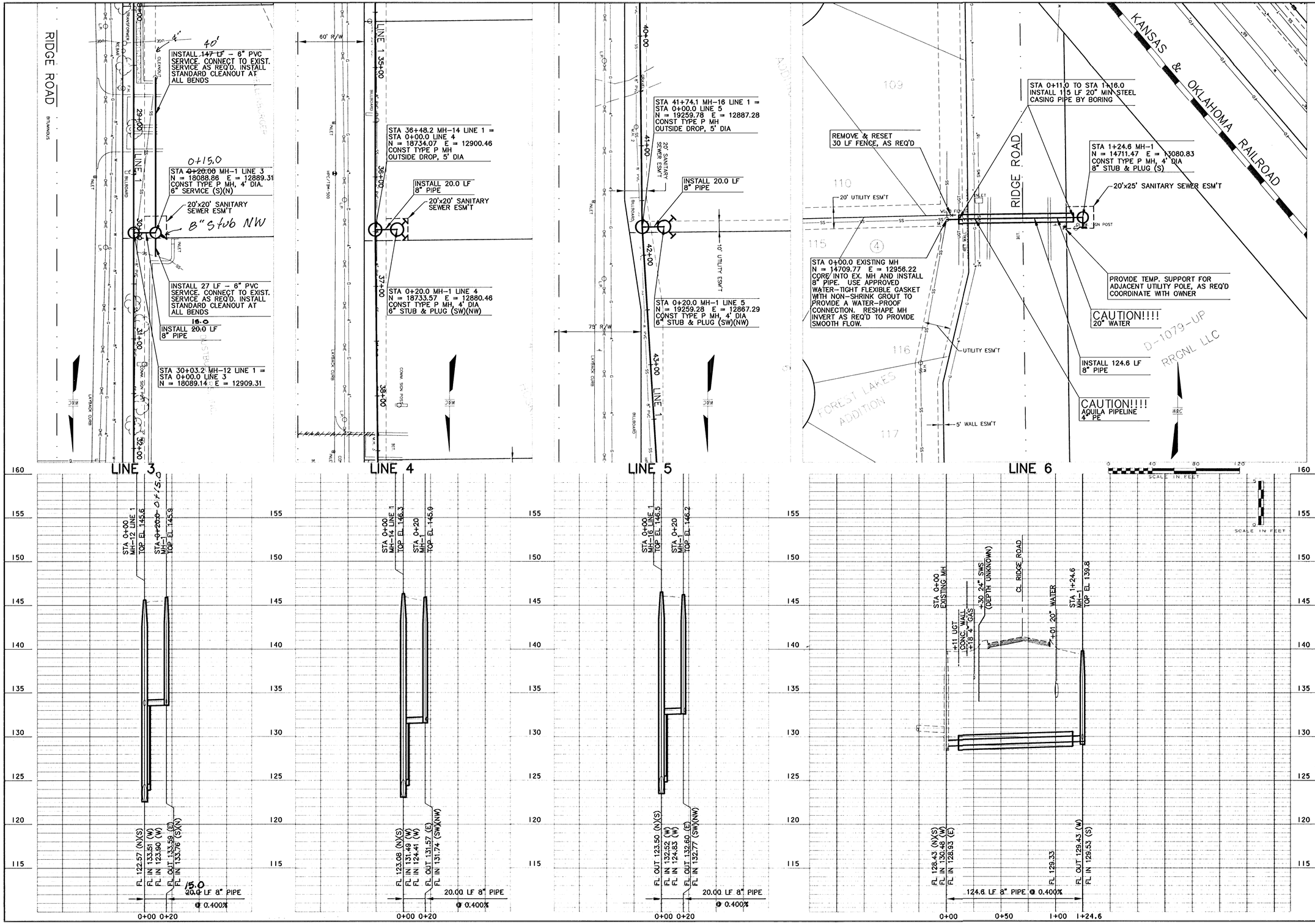
DATE FEBRUARY 2003

FILE NO. X1460002

SHEET NO. 11

WILSON & COMPANY
WICHITA, KANSAS

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NO.	REVISION	DATE	BY

DAVID W. HERBERGER LICENSED 16758 2-19-03 KANSAS PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINES 3, 4, 5 & 6
STA. 0+00.0 TO 0+20.0 & STA. 0+00.0 TO 1+24.6

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB
DRAWN	MEK/KMD
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	12

WILSON & COMPANY WICHITA, KANSAS

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NORTHWIND

25' PROPOSED SANITARY SEWER ESM'T

LINE 1

INSTALL 337.6 LF 12" PIPE

20' DRAINAGE & UTILITY ESM'T

89°23'50"

LINE 7

INSTALL 337.6 LF 12" PIPE

INSTALL 337.6 LF 12" PIPE

INSTALL 112.2 LF 12" PIPE

15' DRAINAGE & UTILITY ESM'T

20' PROPOSED SANITARY SEWER ESM'T

30' PROPOSED SANITARY SEWER ESM'T

LINE 1 STA 18+63.9 MH-9
LINE 7 STA 0+00
N = 16951.00 E = 12890.19
CONST TYPE P MH, 5' DIA

STA 3+37.6 MH-1
N = 16942.83 E = 12552.68
CONST TYPE P MH, 4' DIA

STA 6+75.2 MH-2
N = 16934.66 E = 12215.18
CONST TYPE P MH, 4' DIA

STA 10+12.8 MH-3
N = 16926.49 E = 11877.68
CONST TYPE P MH, 4' DIA

THIS AREA MAY BE UNDER DEVELOPMENT. FIELD CHECK EXISTING CONDITIONS & UTILITIES BEFORE BEGINNING CONSTRUCTION.

MATCH LINE STA 11+25.0

RIDGE PORT COMMERCIAL PARK

CULTIVATED FIELD

PK-247-1
BOX DEVELOPMENT, LLC

SCALE IN FEET 0 40 80 120

LINE 7

STA 0+00 MH-9 LINE 1 TOP EL 143.0

STA 3+37.6 MH-1 TOP EL 142.7

STA 6+75.2 MH-2 TOP EL 142.8

STA 10+12.8 MH-3 TOP EL 143.0

EXISTING GROUND

FL OUT 121.09 (S)
FL IN 121.19 (N)
FL IN 122.09 (W)

FL 122.29 | FL 122.49 | FL 122.69 | FL 122.77 | FL 122.89 | FL 123.09 | FL 123.29 | FL 123.45 | FL 123.50 | FL 123.70 | FL 123.90 | FL 124.10 | FL 124.13 | FL 124.30

337.6 LF 12" PIPE @ 0.200%
337.6 LF 12" PIPE @ 0.200%
337.6 LF 12" PIPE @ 0.200%
112.2 LF 12" PIPE @ 0.200%

155 / 150 / 145 / 140 / 135 / 130 / 125 / 120 / 115 / 110

0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50 7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00

NO.	REVISION	DATE	BY

DAVID W. HERBERGER
LICENSED
16758
2-19-03
KANSAS
PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE 7 PLAN & PROFILE
STA. 0+00.0 TO STA. 11+25.0

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB

DRAWN: MEK/KMD
DATE: FEBRUARY 2003
FILE NO: X1460002
SHEET NO: 13

WILSON & COMPANY
WICHITA, KANSAS

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MATCH LINE STA 11+25.0

RIDGE PORT COMMERCIAL PARK

WILD ROSE CT.

FOREST LAKES ADDITION

STA 13+50.3 MH-4
N = 16918.33 E = 11540.23
CONST TYPE P MH, 4' DIA

15' DRAINAGE & UTILITY ESM'T

CAUTION!!!!
66" WATER

CAUTION!!!!
AT&T FIBER OPTIC

20' UTILITY ESM'T

INSTALL 170.0 LF
12" PIPE

PROPOSED SANITARY SEWER ESM'T

5' WALL ESM'T

LINE 7 12+00 13+00 New alignment

4' North of Plan Location

STA ~~16+57.9 MH-6~~ 15+69 MH-5
N = 16913.04 E = 11321.58
CONST TYPE P MH, 4' DIA
10" STUB & PLUG (W)(NW)

INSTALL 225.3 LF
12" PIPE

128°59'18"

86°0'42"

CULTIVATED FIELD

PK-247-1
BOX D DEVELOPMENT LLC.

20' PROPOSED SANITARY SEWER ESM'T

KANSAS & OKLAHOMA RAILROAD

STA 15+00.0 TO STA 16+52.0
INSTALL 152.0 LF 24" MIN STEEL CASING PIPE BY BORING

INSTALL 137.6 LF
12" PIPE

STA 14+87.9 MH-5
N = 17023.16 E = 11451.09
CONST TYPE P MH, 4' DIA

50' WATER ESM'T

100' R/W

PK-247-2
MICHAEL W. & ANN L. POPE

PK-249-2
R&R REALTY LLC

SCALE IN FEET
0 40 80 120

LINE 7

EXISTING GROUND

STA 13+50.3 MH-4 TOP EL 143.1

STA 14+87.9 MH-5 TOP EL 143.2

STA ~~16+57.9~~ 15+69 MH-6 TOP EL 143.2

+23 66" WATER

+53 FIBER OPTIC

CL RAILROAD

FL 124.50

FL 124.70

FL OUT 124.81 (E)
FL IN 124.91 (NW)

~~FL 125.01~~

FL OUT 125.19 (SE)
FL IN 125.29 (SW)

FL 125.51

~~FL 125.63~~ 125.92 (NE)
FL IN ~~125.83~~ 126.09 (W)(NW)

226.3 LF 12" PIPE @ 0.200%

~~137.6 LF 12" PIPE @ 0.200%~~

218.7
~~170.0~~ LF 12" PIPE @ ~~0.200%~~ 0.04627%

11+25 11+50 12+00 12+50 13+00 13+50 14+00 14+50 15+00 15+50 16+00 16+57.9

155 150 145 140 135 130 125 120 115 110

NO.	REVISION	DATE	BY

DAVID W. HERBERICH
LICENSED
16758
2-19-03
KANSAS
PROFESSIONAL ENGINEER

WILSON & COMPANY

CITY OF WICHITA, KANSAS
MAIN 19 SW INTERCEPTOR SEWER PHASE 2
468-83186
LINE 7 PLAN & PROFILE
STA. 11+25.0 TO STA. 16+57.9

NEIL D. CABLE P.E. - CITY ENGINEER

DESIGN	CHECKED
DWH	WOB
DRAWN	MEK/KMD
DATE	FEBRUARY 2003
FILE NO.	X1460002
SHEET NO.	14

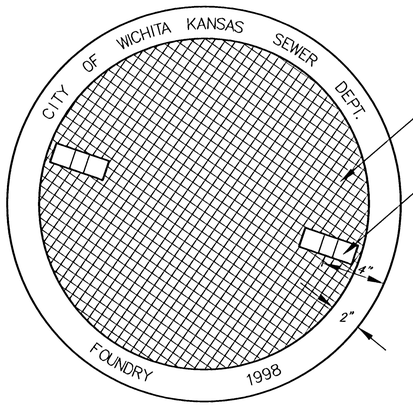
WILSON & COMPANY
WICHITA, KANSAS

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MANHOLE FRAME AND COVER DETAIL

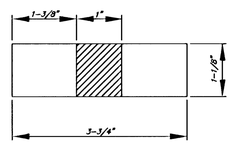
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

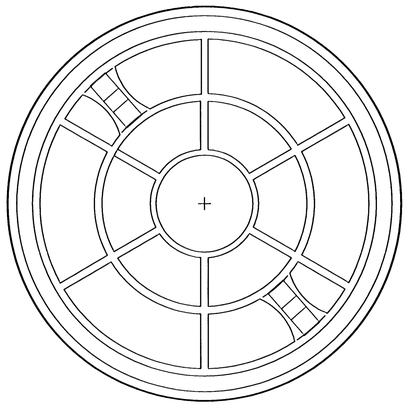


TOP VIEW

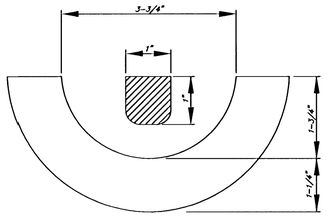
PICKHOLE DETAIL



TOP VIEW

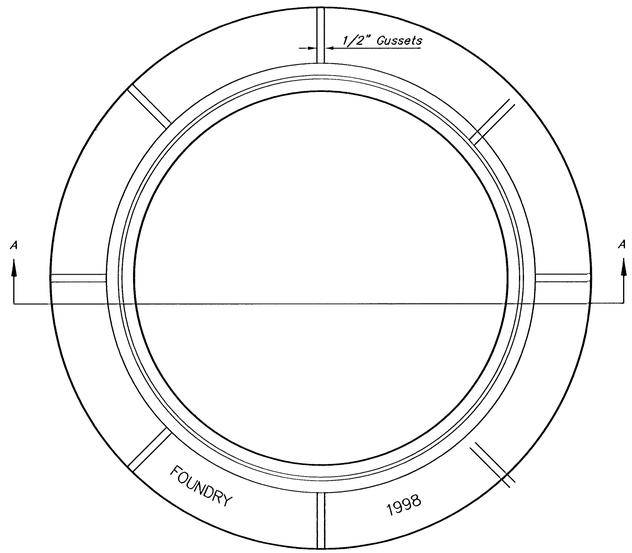


BOTTOM VIEW

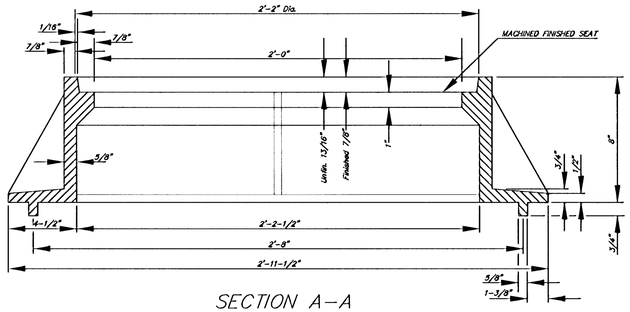


SECTION VIEW

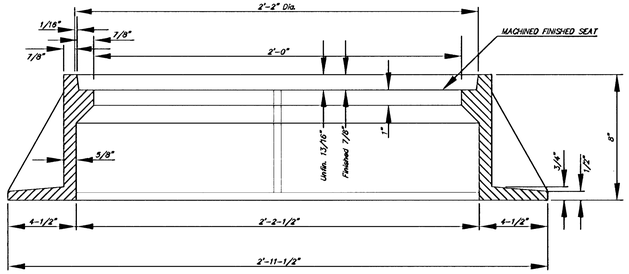
MANHOLE FRAME
Weight = 240 Lbs.



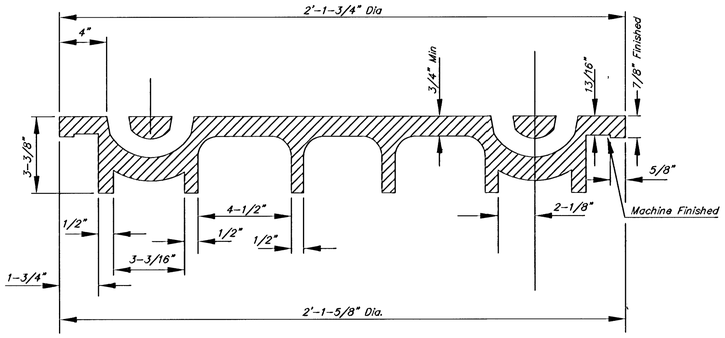
TOP VIEW



SECTION A–A
MUD RING



SECTION A–A



SECTION VIEW

GENERAL NOTES

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

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

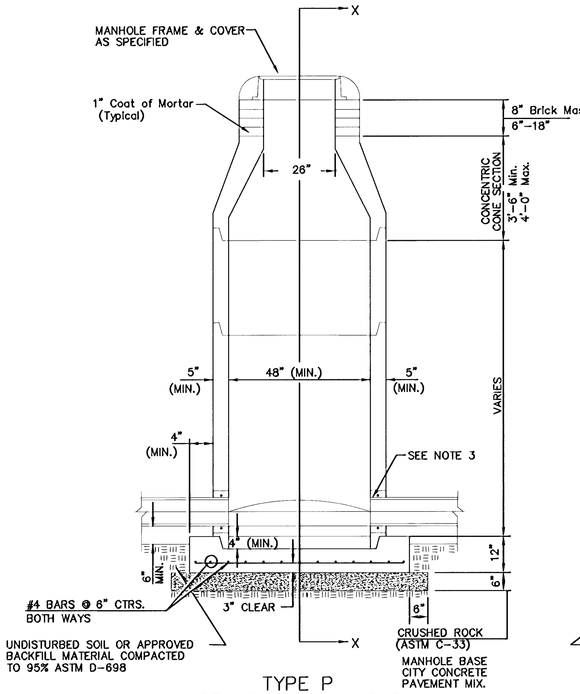
MANHOLE FRAME AND COVER

NEIL D. CABLE P.E. – CITY ENGINEER

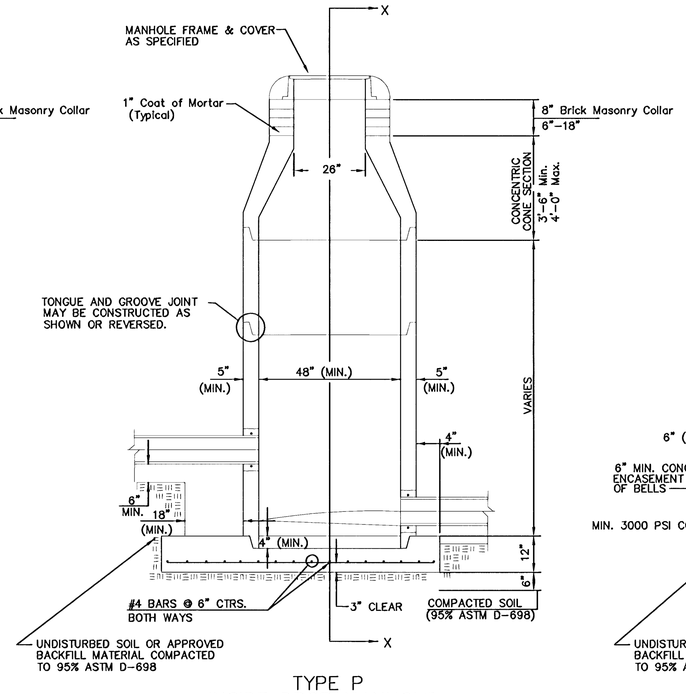
PROJECT NUMBER	INDEX CODE
468-83186	624054
DATE: FEB 2003	SHEET 15

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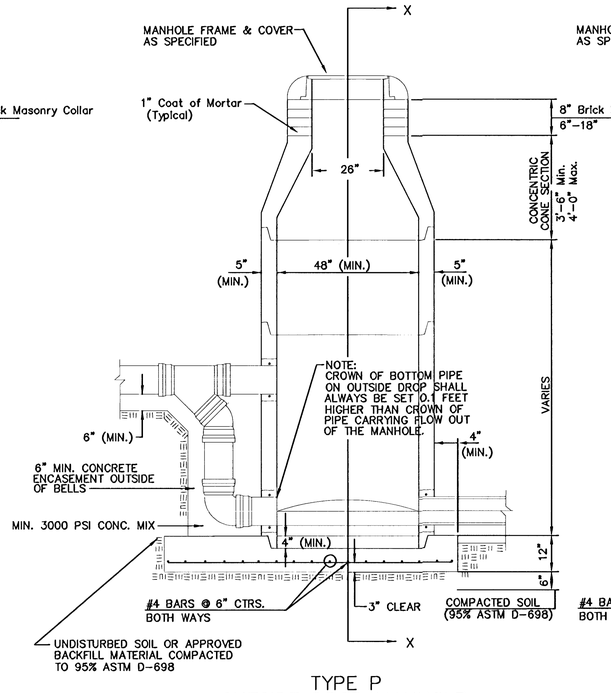
SEWER APPURTENANCES DETAILS



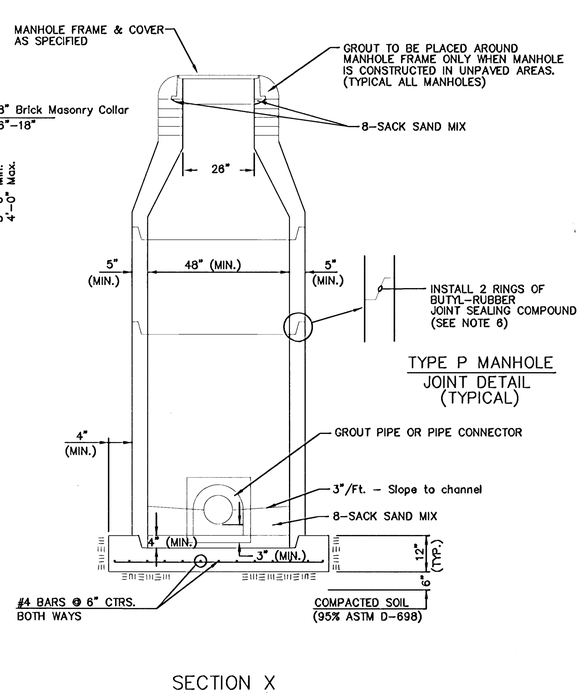
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 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 TNEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)~~

5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER AND WHERE DEPTH FROM MANHOLE COVER TO THE INVERT OF LOWEST PIPE IS 20' OR MORE, 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 GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NON-SHRINK 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 DRAWNG. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWNG.
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 (SEE NOTE 10).
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.
19. CRUSHED ROCK CONFORMING TO ASTM C-33 WITH A GRADATION OF NO. 67 SHALL BE INSTALLED AT THE BASE OF THE MANHOLE TO A DEPTH OF NO LESS THAN 6", AND SHALL EXTEND NO LESS THAN 6" OUTSIDE THE DIAMETER OF THE CONCRETE FLOOR OF THE MANHOLE.

* 20. ALL INSIDE SURFACES OF CONCRETE MANHOLES WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE LINED WITH DURAPLATE PLASTIC LINER AS MANUFACTURED BY A-LOC PRODUCTS, INC. OR APPROVED EQUAL.

21. 5' DIAMETER MANHOLES SHALL MAINTAIN 5' DIAMETER FROM THE MANHOLE BASE TO THE CONE SECTION. REDUCTION OF THE MANHOLE DIAMETER FROM 5' TO 4' IS NOT ALLOWED.

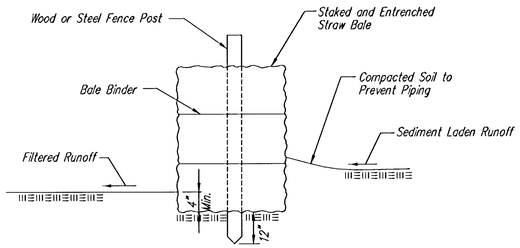
THE CITY OF WICHITA
CITY ENGINEER'S OFFICE
CITY HALL – SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
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STANDARD TYPE 'P' MANHOLES

NEIL D. CABLE P.E. – CITY ENGINEER

PROJECT NUMBER	INDEX CODE
468-83186	624054
DATE: FEB 2003	SHEET 16

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STRAW BALE BARRIERS

Material Specification:

Bale slope barriers may be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.

Placement:

A slope barrier should be used at the toe of a slope when a ditch does not exist. The slope barrier should be placed on nearly level ground 5' to 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out sediment.
When practicable, bale slope barriers should be placed along contours to avoid a concentration of flow.
Bale slope barriers can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the slope barrier will not likely follow contours.

Proper installation method:

Excavate a trench the length of the planned slope barrier that is 4" deep and a bale's width wide. Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil on the upslope side of the trench for later use.
Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the upslope side of the check and compact it. The compacted soil should be no more than 3" to 4" deep.

List of common placement/installation mistakes to avoid:

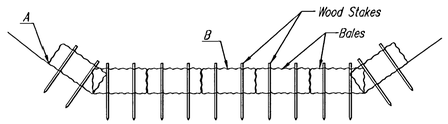
When practicable, do not place bale slope barriers across contours. Slope barriers should be placed along contours to avoid a concentration of flow. Concentrated flow over a slope barrier creates a scour hole on the downslope side of the barrier. The scour hole eventually undermines the bales and the barrier fails.
Do not place bale slope barriers in areas with shallow soils underlain by rock. If the barrier is not anchored sufficiently, it will wash out.
Bale slope barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

Bale slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Are there any points along the slope barrier where water is concentrating?
Does water flow under the slope barrier?
Does water flow through spaces between abutting bales?
Are any bales dislodged?
Are bales decomposing due to age and/or water damage?
Does sediment need to be removed from behind the slope barrier?

NOTE: Point A must be higher than Point B so that water flows over the bales and not around them.



STRAW BALE DITCH CHECKS

Material Specification:

Bale ditch checks may be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
Optional: The downstream scour apron should be constructed of a double-netted straw erosion-control blanket at least 6' wide.
Optional: The metal landscape staples used to anchor the erosion-control blanket should be at least 8" long.

Placement:

Bale ditch checks should be placed perpendicular to the flowline of the ditch.
The ditch check should extend far enough so that the ground level at the ends of the check is higher than the top of the lowest center bale. This prevents water from flowing around the check.
Checks should not be placed in ditches where high flows are expected. Rock checks should be used instead.
Bales should be placed in ditches with slopes of 6% or less. For slopes steeper than 6%, rock checks should be used.
The following table provides check spacing for a given ditch grade:

Ditch grade (%)	Check Spacing (feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

Proper installation method:

Excavate a trench perpendicular to the ditch flowline that is 4" deep and a bale's width wide. Extend the trench in a straight line along the entire length of the proposed ditch check. Place the soil on the upstream side of the trench-it will be used later.
Optional: On the downstream side of the trench, roll out a length of erosion-control blanket (scour apron) equal to the length of the trench. Place the upstream edge of the erosion-control blanket along the bottom upstream edge of the trench. The erosion control blanket should be anchored in the trench with one row of 8" landscape staples placed on 18" centers. The remainder of the erosion-control blanket (the portion that is not lying in the trench) will serve as the downstream scour apron. This section of the blanket should be anchored to the ground with 8" landscape staples placed around the perimeter of the blanket on 18" centers. The remainder of the blanket should be anchored using two evenly spaced rows of 8" landscape staples on 18" centers placed perpendicular to the flowline of the ditch.
Place the bales in the trench, making sure that they are butted tightly. Two stakes should be driven through each bale along the centerline of the ditch check, approximately 6" to 8" in from the bale ends. Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the upstream side of the check and compact it. The compacted soil should be no more than 3" to 4" deep and extend upstream no more than 24".

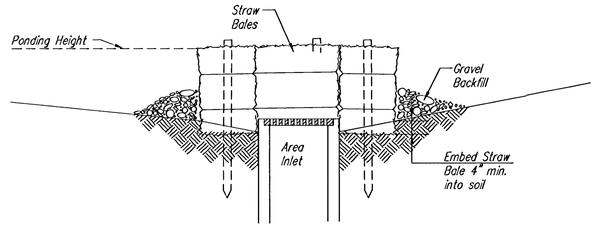
List of common placement/installation mistakes to avoid:

Do not place a bale ditch check directly in front of a culvert outlet. It will not stand up to the concentrated flow.
Do not place bale ditch checks in ditches that will likely experience high flows. They will not stand up to concentrated flow.
Follow prescribed ditch-check spacing guidelines. If spacing guidelines are exceeded, erosion will occur between the ditch checks.
Do not allow water to flow around the ditch check. Make sure that the ditch check is long enough so that the ground level at the ends of the check is higher than the top of the lowest center bale.
Do not place bale ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.
Bale ditch checks must be dug into the ground. Bales at ground level do not work because they allow water to flow under the check.

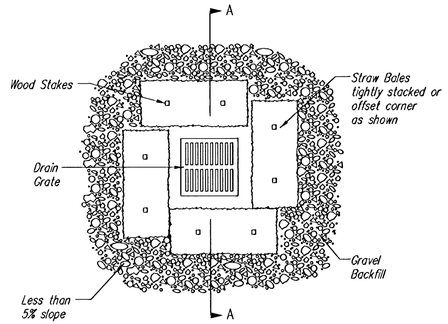
Inspection and Maintenance:

Bale ditch checks should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow around the ditch check?
Does water flow under the ditch check?
Does water flow through spaces between abutting bales?
Are any bales and/or scour aprons (optional) dislodged?
Are bales decomposing due to age and/or water damage?
Does sediment need to be removed from behind the ditch check?



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

Material Specification:

Bale area inlet barriers should be constructed of wheat straw, oat straw, prairie hay, or bromegrass hay that is free of weeds declared noxious by the Kansas State Board of Agriculture.
The stakes used to anchor the bales should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.

Placement:

Bale area inlet barriers should be placed directly around the perimeter of a drop inlet.
When a bale area inlet barrier is located near an inlet that has steep approach slopes, the storage capacity behind the barrier is drastically reduced. Timely removal of sediment must occur for a barrier to operate properly in this location.

Proper Installation Method:

Excavate a trench around the perimeter of the area inlet that is at least 4" deep by a bale's width wide.
Place the bales in the trench, making sure that they are butted tightly. Some bales may need to be shortened to fit into the trench around the area inlet. Two stakes should be driven through each bale, approximately 6" to 8" in from the bale ends.
Stakes should be driven at least 12" into the ground.
Once all the bales have been installed and anchored, place the excavated soil against the receiving side of the barrier and compact it. The compacted soil should be no more than 3" to 4" deep.
Note: When a bale area inlet barrier is placed in a shallow median ditch, make sure that the top of the barrier is not higher than the paved road. In this configuration, water may spread onto the roadway causing a hazardous condition.

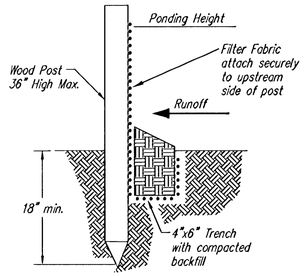
List of common placement installation mistakes to avoid:

Bales should be placed directly against the perimeter of the area inlet. This allows overtopping water to flow directly into the inlet instead of onto nearby soil causing scour.
Bale area inlet barriers must be dug into the ground. Bales at ground level do not work because they allow water to flow under the barrier.

Inspection and Maintenance:

Bale area inlet barriers should be inspected every 7 days and within 24 hours of a rainfall 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow under the area inlet barrier?
Does water flow through spaces between abutting bales?
Are any bales dislodged?
Are bales decomposing due to age andlor water damage?
Does sediment need to be removed from behind the area inlet barrier?



SILT FENCE BARRIERS

SILT FENCE BARRIERS

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
Silt fence fabric should be attached to the wooden posts with staples, wire, zip ties, or nails.

Placement:

A slope barrier should be used at the toe of a slope when a ditch does not exist. The slope barrier should be placed on nearly level ground 5' to 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out sediment.
When practicable, silt fence slope barriers should be placed along contours to avoid a concentration of flow.
Silt fence slope barriers can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the slope barrier will not likely follow contours.

Proper installation method:

Excavate a trench the length of the planned slope barrier that is 6" deep by 4" wide.
Make sure that the trench is excavated along a single contour. When practicable, slope barriers should be placed along contours to avoid a concentration of flow. Place the soil on the upslope side of the trench for later use.
Roll out a continuous length of silt fence fabric on the downslope side of the trench.
Place the edge of the fabric in the trench starting at the top upslope edge. Line all three sides of the trench with the fabric. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt-fence fabric should remain exposed.
Lay the exposed silt fence upslope of the trench to clear an area for driving in the posts.
Just downslope of the trench, drive posts into the ground to a depth of at least 18".
Place posts no more than 4' apart.
Attach the silt fence to the anchored post with staples, wire, zip ties, or nails.

List of common placement/installation mistakes to avoid:

When practicable, do not place silt fence slope barriers across contours. Slope barriers should be placed along contours to avoid a concentration of flow. When the flow concentrates, it overtops the barrier and the silt fence slope barrier quickly deteriorates.
Do not place silt-fence posts on the upslope side of the silt fence fabric. In this configuration, the force of the water is not restricted by the posts, but only by the staples (wire, zip ties, tiails, etc.). The silt fence will rip and fail.
Do not place silt fence slope barriers in areas with shallow soils underlain by rock. If the barrier is not sufficiently anchored, it will wash out.
Silt fence slope barriers must be dug into the ground-silt fence at ground level does not work because water will flow underneath.

Inspection and Maintenance:

Silt fence slope barriers should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Are there any points along the slope barrier where water is concentrating?
Does water flow under the slope barrier?
Do the silt fences sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the slope barrier?

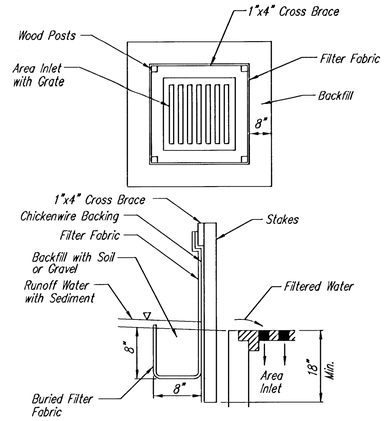
CITY OF WICHITA

SOIL EROSION BMP DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER	OCA NO.
468-83186	624054
DATE: FEB. 2003	SHEET 17

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SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The wire or polymeric mesh backing used to help support the silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
The material used to frame the tops of the posts should be 1" by 4" boards.
Silt fence fabric and support backing should be attached to the wooden posts and frame with staples, wire, zip ties, or nails.

Placement:

Place a silt fence drop inlet barrier in a location where it is unlikely to be overtopped.
Water should flow through silt fence, not over it. Silt fence barriers for area inlets often fail when repeatedly overtopped.
When used as a barrierfor area inlets, silt fence fabric and posts must be supported at the top by a wooden frame.
When a silt fence barrier for area inlets is located near an inlet that has steep approach slopes, the storage capacity behind the barrier is drastically reduced. Timely removal of sediment must occur for a barrier to operate properly in this location.

Proper installation method:

Excavate a trench around the perimeter of the area inlet that is at least 8" deep by 8" wide.
Drive posts to a depth of at least 18" around the perimeter of the area inlet.
The distance between posts should be 4' or less. If the distance between two adjacent corner posts is more than 4', add another post(s) between them.
Connect the tops of all the posts with a wooden frame made of 1" by 4" boards. Use nails or screws for fastening.
Attach the wire or polymeric-mesh backing to the outside of the post/frame structure with staples, wire, zip ties, or nails.
Roll out a continuous length of silt fence fabric long enough to wrap around the perimeter of the area inlet. Add more length for overlapping the fabric joint. Place the edge of the fabric in the trench, starting at the outside edge of the trench. Line all three sides of the trench with the fabric. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt fence fabric should remain exposed.
Attach the silt fence to the outside of the post/frame structure with staples, wire, zip ties, or nails. The joint should be overlapped to the next post.

Note: When a silt fence barrier for area inlet is placed in a shallow median ditch, make sure that the top of the barrier is not higher than the paved road. In this configuration, water may spread onto the roadway causing a hazardous condition.

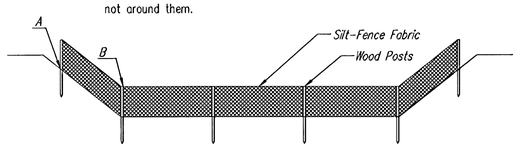
List of common placement/installation mistakes to avoid:

Water should flow through a silt fence barrier for area inlet-not over it. Place a silt fence barrier for area inlet in a location where it is unlikely to be overtopped. Silt fence barrier for area inlets often fail when repeatedly overtopped.
Do not place posts on the outside of the silt fence barrier for area inlet. In this configuration, the force of the water is not resisted by the posts, but only by the staples (wire, zip-ties, nails, etc.). The silt fence will rip and fail.
Do not install silt fence barrier for area inlets without framing the top of the posts.
The corner posts around area inlets are stressed in two directions whereas a normal silt fence is only stressed in one direction. This added stress requires more support.

Inspection and Maintenance:

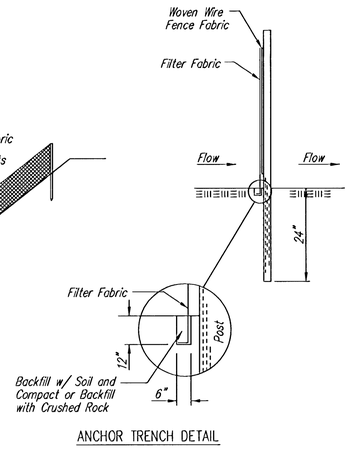
Silt fence barrier for area inlets should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow under the silt fence?
Does the silt fence sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the area inlet barrier?



ELEVATION

SILT FENCE DITCH CHECKS
(STREAM PROTECTION)



ANCHOR TRENCH DETAIL

Material Specification:

Silt fence fabric should conform to the AASHTO M288 96 silt fence specification.
The posts used to support the silt fence fabric should be a hardwood material with the following minimum dimensions: 2" square (nominal) by 4' long.
Silt fence fabric should be attached to the wooden posts with staples, wire, zip ties, or nails.

Placement:

Place silt fence in ditches where it is unlikely that it will be overtopped.
Water should flow through a silt fence ditch check, not over it. Silt fence ditch checks often fail when overtopped.
Silt fence ditch checks should be placed perpendicular to the flowline of the ditch.
The silt fence should extend for enough so that the ground level at the ends of the fence is higher than the top of the low point of the fence. This prevents water from flowing around the check.
Checks should not be placed in ditches where high flows are expected. Rock checks should be used instead.
Silt fence should be placed in ditches with slopes of 6% or less. For slopes steeper than 6%, rock checks should be used.

The following table provides check spacing for a given ditch grade:

Ditch Check Ditch grade (%)	Spacing Check Spacing (feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

Proper installation method:

Excavate a trench perpendicular to the ditch flowline that is at least 12" deep by 6" wide.
Extend the trench in a straight line along the entire length of the proposed ditch check.
Place the soil on the upstream side of the trench for later use.
Roll out a continuous length of silt fence fabric on the downstream side of the trench.
Place the edge of the fabric in the trench starting at the top upstream edge of the trench. Line two sides of the trench with the fabric as shown on detail. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt fence fabric should remain exposed.
Lay the exposed silt fence on the upstream side of the trench to clear an area for driving in the posts. Just downstream of the trench, drive posts into the ground to a depth of at least 24". Place posts no more than 4' apart.
Attach the silt fence to the anchored post with staples, wire, zip ties, or nails.

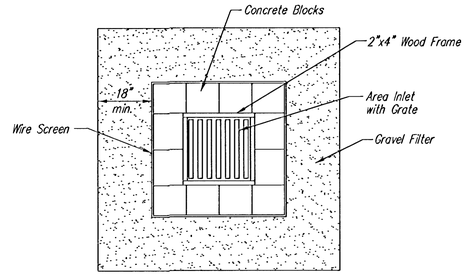
List of common placement/installation mistakes to avoid:

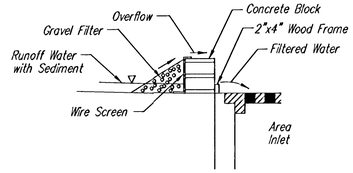
Water should flow through a silt fence ditch check-not over it. Place silt fence in ditches where it is unlikely that it will be overtopped. Silt fence installations quickly deteriorate when water overtops them.
Do not place silt fence posts on the upstream side of the silt fence fabric. In this configuration, the force of the water is not restricted by the posts, but only by the staples (wire, zip ties, nails, etc.). The silt fence will rip and fail.
Do not place a silt fence ditch check directly in front of a culvert outlet. It will not stand up to the concentrated flow.
Do not place silt fence ditch checks in ditches that will likely experience high flows. They will not stand up to concentrated flow.
Follow prescribed ditch check spacing guidelines. If spacing guidelines are exceeded, erosion will occur between the ditch checks.
Do not allow water to flow around the ditch check. Make sure that the ditch check is long enough so that the ground level at the ends of the fence is higher than the low point on the top of the fence.
Do not place silt fence ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.

Inspection and Maintenance:

Silt fence ditch checks should be inspected every 7 days and within 24 hours of a rainfall of 1/2" or more. The following is a list of questions that should be addressed during each inspection:

Does water flow around the ditch check?
Does water flow under the ditch check?
Does the silt fence sag excessively?
Has the silt fence torn or become detached from the posts?
Does sediment need to be removed from behind the ditch check?





CONCRETE BLOCK FILTER FOR AREA DRAIN
(INLET PROTECTION)

Gravel barriers provide little filtering of large inflow waters. However, when installed correctly and maintained, they can effectively treat low runoff flows.

Placement of gravel filters around area drains must be completed in a manner that will not cause local flooding.

Gravel filters can be used if the immediate and adjacent area to the area drain consists of soil or pavement.

Only gravel filters are to be installed on top of the pavement.

Instructions for Installing:

STEP 1: Place concrete blocks around the grate. The blocks can be stacked one or two high and should be supported by a 2"x4" board.
STEP 2: Wrap 1/2" mesh wire screen around the concrete blocks.
STEP 3: Place 1" to 1-1/2" diameter rock around the blocks and wire screen. Be sure the rock extends down from the top of the concrete block.
STEP 4: To prevent damage to vehicles, signs warning drivers about the structures may be necessary.

An alternative method is use of gravel bags that are supported to prevent collapsing.

Use of rock having diameters smaller than 1" may result in clogging of pores and reduce the amount of water flowing into an inlet.

Maintenance:

All gravel filters installed around area drains should be inspected and repaired after each runoff event. Sediment should be removed when material is within 3" of the top of any block. Periodically, the gravel should be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets after every runoff event.

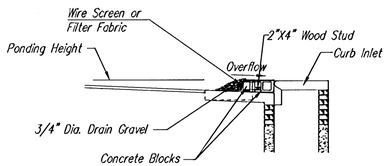
CITY OF WICHITA

SOIL EROSION BMP DETAILS

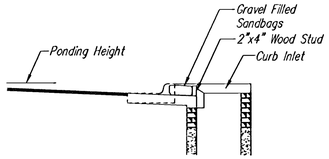
CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER	OCA NO.
468-83186	624054
DATE FEB. 2003	SHEET 18

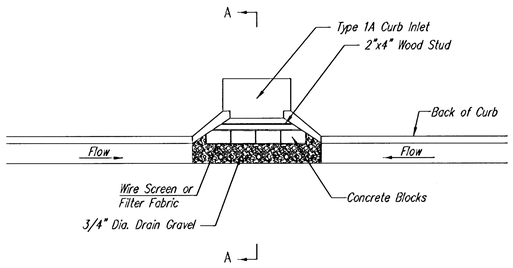
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SECTION A–A



SECTION B–B



CURB INLET GRAVEL FILTERS
(INLET PROTECTION–RESIDENTIAL STREETS ONLY)

NOTE: Other types of curb inlet protection may be approved by the city so long as equal protection is provided.

A gravel inlet filter shall be installed at sump locations on residential streets. This type of protection is not to be used on arterial or collector streets at any time that it would pose an undue traffic hazard.

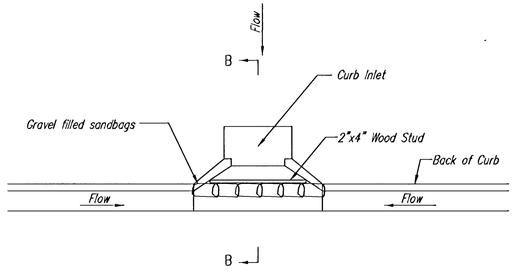
Instructions for Installing:

STEP 1: Place concrete blocks around the inlet as shown on drawing. Insert 2x4 board as shown.
STEP 2: Wrap 1/2" mesh wire screen around the concrete blocks.
STEP 3: Place 1" to 1-1/2" diameter rock around the blocks and wire screen. Be sure the rock extends down from the top of the concrete block.
STEP 4: To prevent damage to vehicles, signs warning drivers about the structures may be necessary. An alternative installation is the use of gravel bags supported by a 2"x4" board to prevent collapsing.

Use of rock with diameters smaller than 1" in the bag may result in clogging of pores and reduce the amount of water flowing into an inlet.

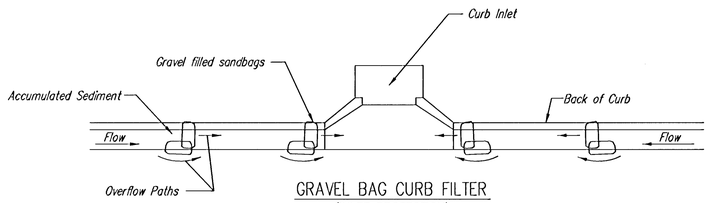
Maintenance:

All curb inlet gravel filters shall be inspected and repaired after each runoff event. Sediment deposits are to be removed once material is within 8 cm (3 inches) of the top of any block. Periodically, the gravel shall be raked to increase infiltration and filtering of runoff waters. Accumulated sediment is to be removed immediately from roads and streets.



CURB INLET SANDBAG FILTERS
(INLET PROTECTION)

NOTE: Other types of curb inlet protection may be approved by the City so long as equal protection is provided.



GRAVEL BAG CURB FILTER
(INLET PROTECTION)

NOTE: Place two or more sets of bags in a manner that results in maximum support. The flow line bag must be lower than top of curb.

CURB SEDIMENT TRAPS

When inlets are located on streets having a grade (i.e., sump conditions do not exist), installing gravel (or sand) bags in the gutter flow line to create small sediment traps can be considered. Gravel bags are recommended over sand bags to allow for drainage.

If the spacing between bags becomes too large, little sediment may be trapped. Spacing of bags should be completed using the table or graph that illustrates placement distances based upon street slope. When installed in the gutter, bag tops must be lower than the sidewalk.

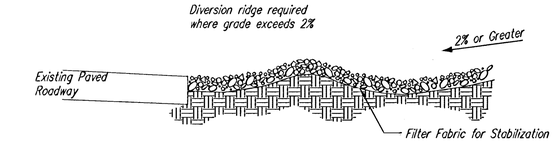
Spacing:

Gravel bags are to be placed according to street grades using the following table or graph that appears below.

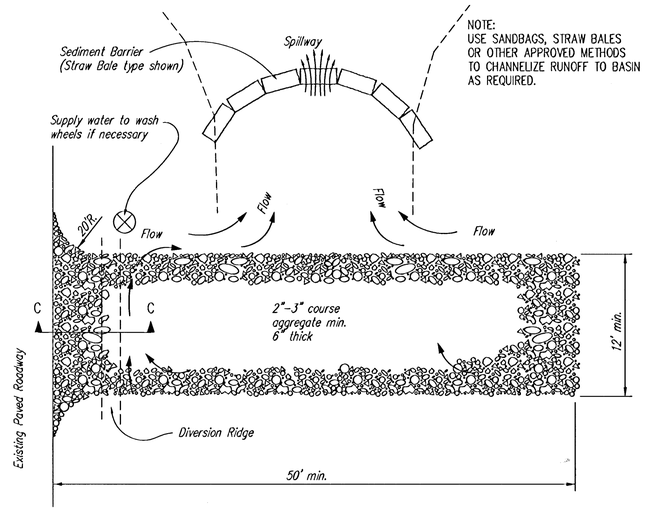
GRADE (%)	SPACING (FEET)
0.5	75
1.0	45
2.0	18
3.0	12
4.0	9
5.0	6

Maintenance:

Collected sediment shall be removed after every runoff event. Bags that are destroyed by vehicular traffic or through natural deterioration are to be immediately replaced.



SECTION C–C



STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
4. DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

CITY OF WICHITA

SOIL EROSION BMP DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER	OCA NO.
468-83186	624054
DATE: FEB. 2003	SHEET 19

18-05-03-12

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