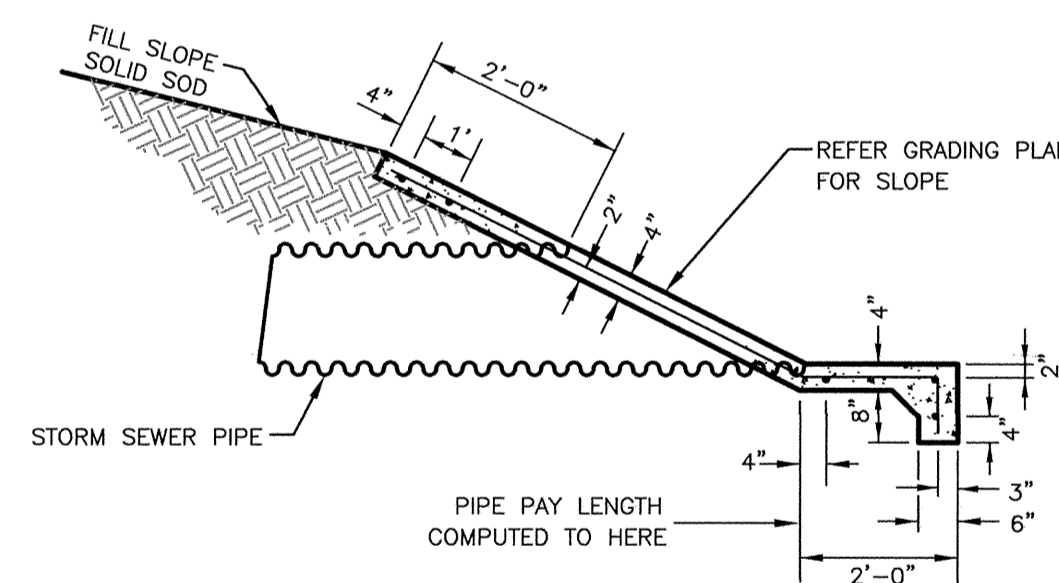


BACKFILL DESCRIPTION	BEDDING MATERIALS							
	NON-PAVED AREAS				PAVED AREAS (See Note 9)			
	CORRUGATED ALUMINUM	STEEL	CONCRETE	HDPE	CORRUGATED ALUMINUM	STEEL	CONCRETE	HDPE
FINAL BACKFILL	EXCAVATED MATERIAL	EXCAVATED MATERIAL	EXCAVATED MATERIAL	EXCAV. MAT.	SBM	SBM	SBM	SBM
SELECT BACKFILL	EXCAVATED MATERIAL	EXCAVATED MATERIAL	EXCAVATED MATERIAL	EXCAV. MAT.	SBM	SBM	SBM	SBM
INITIAL BACKFILL	SAND	SAND	SELECT FILL	SAND	SBM	SBM	SBM	SBM
HAUNCHING	SBM	SBM	SELECT FILL	SBM	SBM	SBM	SBM	SBM
BEDDING	SEE NOTE 5				SEE NOTE 5			

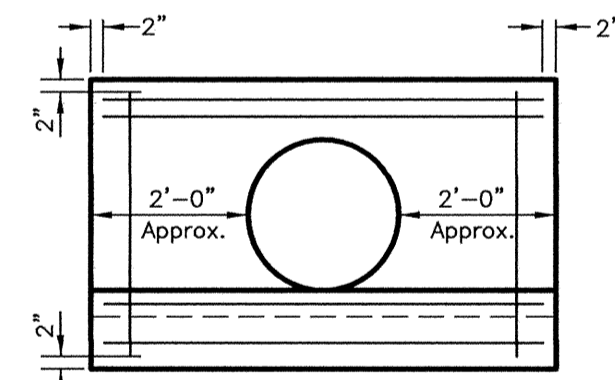
- NOTES:
- INSTALLATION AND BACK FILLING SHALL MEET MANUFACTURERS RECOMMENDATIONS.
 - SELECT FILL CONSISTS OF EXCAVATED MATERIALS CONTAINING NO MATERIAL LARGER THAN 50 MM (2") DIAMETER.
 - STANDARD BEDDING MATERIAL (SBM) SHALL CONFORM TO KDOT TYPE AB-3 AGGREGATE BASE OR FLOWABLE FILL OR APPROVED EQUAL.
 - COMPACTION REQUIREMENTS: 95% MAXIMUM STANDARD PROCTOR DENSITY.
 - IF TRENCH IS DRY BEDDING SHALL BE 152 MM (6") SAND OR TYPE AB-3 AGGREGATE BASE, AND IF WET SHALL BE NO. 57 OR NO. 67 ROCK PER ASTM D448.
 - NO WATER JETTING ALLOWED.
 - IN SANDY NON-PAVED AREAS, SAND CAN BE USED FOR ALL BACKFILL.
 - FOR CONCRETE PIPE IN NON-PAVED AREAS, SAND CAN BE USED FOR ALL BACKFILL IF THE CONCRETE PIPE USES RUBBER O-RING JOINTS.
 - THE BACKFILL MATERIAL SHALL EXTEND A MINIMUM OF 2- FEET BEHIND THE BACK OF CURB, OR THE EDGE OF PAVEMENT WHERE NO CURB EXISTS.
 - ADDITIONAL BEDDING MAY BE REQUIRED FOR SOFT SOIL AND SHALLOW GROUNDWATER CONDITIONS.

(METRIC UNITS ARE IN MM WITH ENGLISH UNITS IN PARENTHESIS, UNLESS INDICATED OTHERWISE.)

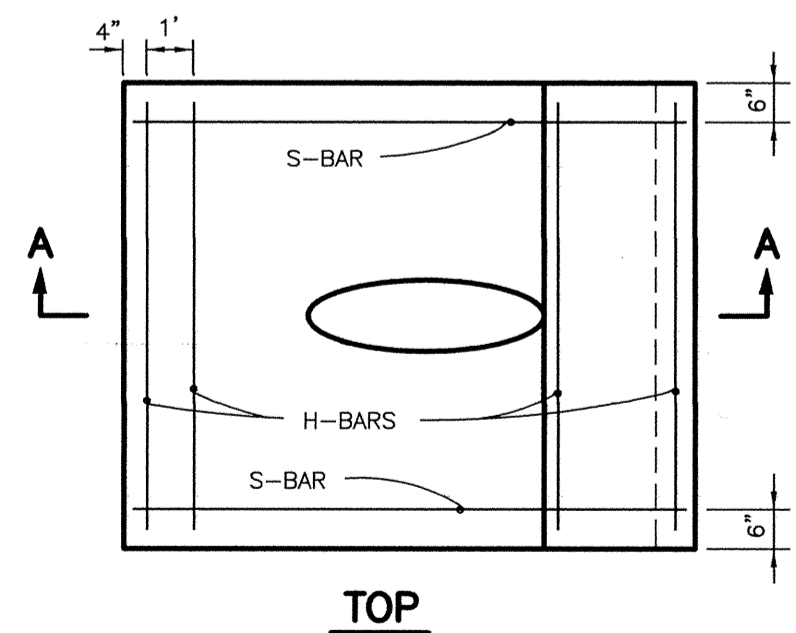
STORM SEWER PIPE TRENCHING AND BEDDING



SEC. A-A



END

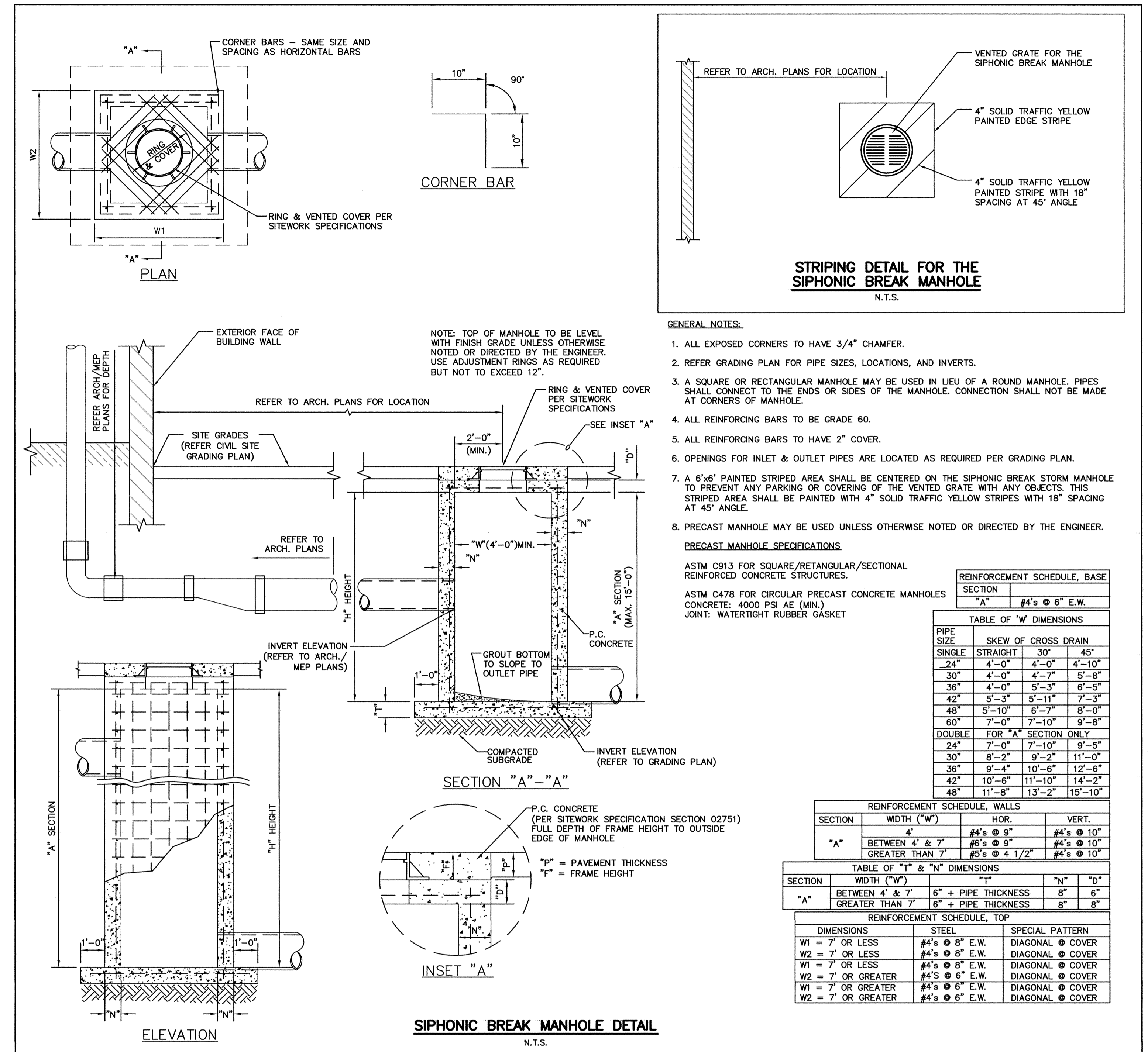


TOP

CLASS "A" CONCRETE SLOPE WALL DETAIL
N.T.S.

NOTE:

- SLOPE OF PIPE SHALL BE SHOP CUT. TWO COATS OF COLD GALVANIZED WILL BE APPLIED TO CUT EDGES OF STEEL PIPE. COSTS OF CUTTING AND GALVANIZED SHALL BE INCLUDED IN PRICE BID FOR PIPE.
- REINFORCED STEEL SHALL BE NO. 4 DEFORMED BARS. COST OF STEEL SHALL BE INCLUDED IN PRICE BID FOR CLASS "A" CONCRETE.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OR SUPPLEMENTAL SPECIFICATIONS.



SIPHONIC BREAK MANHOLE DETAIL
N.T.S.

STRIPING DETAIL FOR THE SIPHONIC BREAK MANHOLE
N.T.S.

- GENERAL NOTES:
- ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
 - REFER GRADING PLAN FOR PIPE SIZES, LOCATIONS, AND INVERTS.
 - A SQUARE OR RECTANGULAR MANHOLE MAY BE USED IN LIEU OF A ROUND MANHOLE. PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE MANHOLE. CONNECTION SHALL NOT BE MADE AT CORNERS OF MANHOLE.
 - ALL REINFORCING BARS TO BE GRADE 60.
 - ALL REINFORCING BARS TO HAVE 2" COVER.
 - OPENINGS FOR INLET & OUTLET PIPES ARE LOCATED AS REQUIRED PER GRADING PLAN.
 - A 6"x6" PAINTED STRIPED AREA SHALL BE CENTERED ON THE SIPHONIC BREAK STORM MANHOLE TO PREVENT ANY PARKING OR COVERING OF THE VENTED GRATE WITH ANY OBJECTS. THIS STRIPED AREA SHALL BE PAINTED WITH 4" SOLID TRAFFIC YELLOW STRIPES WITH 18" SPACING AT 45° ANGLE.
 - PRECAST MANHOLE MAY BE USED UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.

PRECAST MANHOLE SPECIFICATIONS
ASTM C913 FOR SQUARE/RECTANGULAR/SECTIONAL REINFORCED CONCRETE STRUCTURES.
ASTM C478 FOR CIRCULAR PRECAST CONCRETE MANHOLES
CONCRETE: 4000 PSI AE (MIN.)
JOINT: WATERTIGHT RUBBER GASKET

PIPE SIZE	REINFORCEMENT SCHEDULE, BASE SECTION			
	"A"	#4's @ 6" E.W.		
TABLE OF "W" DIMENSIONS				
PIPE SIZE	SKEW OF CROSS DRAIN			
	SINGLE	STRAIGHT	30°	45°
24"	4'-0"	4'-0"	4'-0"	4'-10"
30"	4'-0"	4'-0"	4'-3"	5'-8"
36"	4'-0"	5'-3"	6'-5"	
42"	5'-3"	5'-11"	7'-3"	
48"	5'-10"	6'-7"	8'-0"	
60"	7'-0"	7'-10"	9'-8"	
DOUBLE FOR "A" SECTION ONLY				
24"	7'-0"	7'-10"	9'-5"	
30"	8'-2"	9'-2"	11'-0"	
36"	9'-4"	10'-6"	12'-6"	
42"	10'-6"	11'-10"	14'-2"	
48"	11'-8"	13'-2"	15'-10"	

SECTION	WIDTH ("W")	REINFORCEMENT SCHEDULE, WALLS	
		HOR.	VERT.
"A"	4"	#4's @ 9"	#4's @ 10"
	BETWEEN 4' & 7'	#5's @ 9"	#4's @ 10"
	GREATER THAN 7'	#5's @ 4 1/2"	#4's @ 10"

SECTION	WIDTH ("W")	TABLE OF "T" & "N" DIMENSIONS	
		"T"	"N" "D"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8" 6"
	GREATER THAN 7'	6" + PIPE THICKNESS	8" 8"

DIMENSIONS	REINFORCEMENT SCHEDULE, TOP		SPECIAL PATTERN
	STEEL	"T"	
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL	COVER
W2 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL	COVER
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL	COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL	COVER
W1 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL	COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL	COVER

AS BUILTS
kemiller engineering
516 S. Market, Wichita, KS 67202 (316)264-0242

TERENCE L. HAYNES
KANSAS PROFESSIONAL ENGINEER
14583
NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK

MISCELLANEOUS STORM SEWER DETAILS
MARKET STORE #5860-00
HARRY STREET & WEBB ROAD WICHITA, KANSAS
SMC Consulting Engineers, P.C.
815 West Main - Oklahoma City, OK 73106
PH: 405-232-7715 Fax: 405-232-7859
KANSAS CERTIFICATE OF AUTHORIZATION NO. E-335 EXP. DEC. 2011

No.	Revision	By	Date
1	Revised per city's comments	KST	11/01/10
2	MM OTR REVIEW	KST	01/17/11
3	MM OTR	KST	01/31/11

DATE: 10/04/10 SCALE: NTS
DRAWN BY: KST PROJECT NO.: 4946.00 SHEET NO. C-9.7
ENGINEER: TERENCE L. HAYNES, P.E. #14583