FHWA REG. NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-87 K-8014-01	2002	1	21

PROJ. NO. 15-87 K-8014-01

STATE OF KANSAS

DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED

CITY PROJECT #472 83363

OCA #706815

K-15 FROM 31ST STREET SOUTH TO I-135

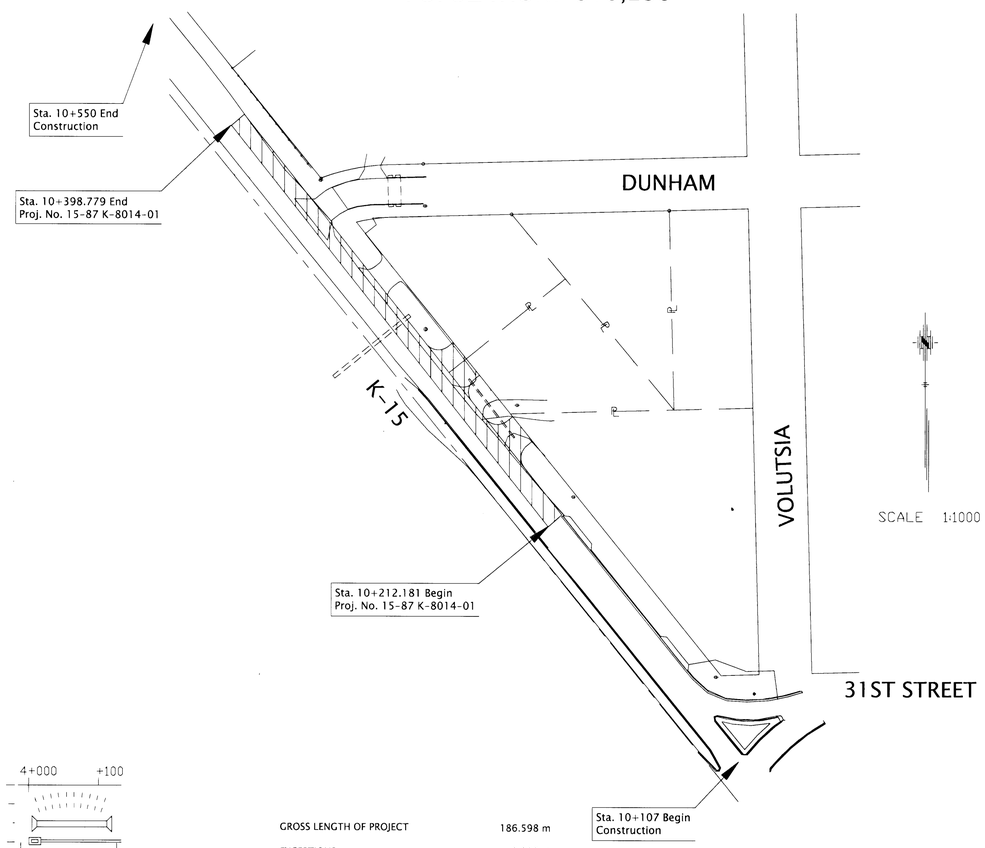
WICHITA, SEDGWICK COUNTY

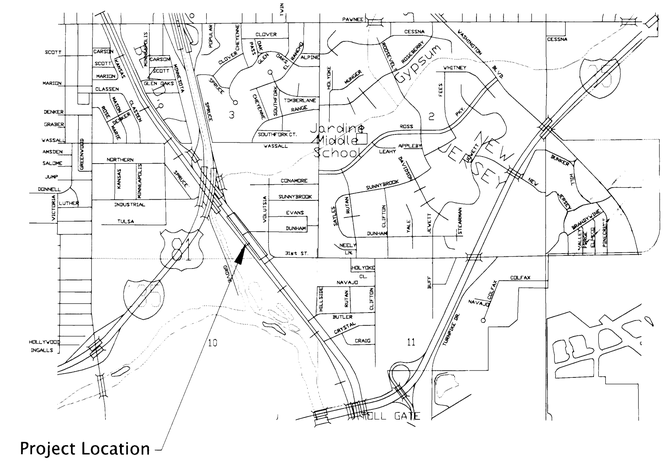
POPULATION: 310,238

GRADING
SURFACING
SODDING
SIGNING
EROSION CONTROL

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	Title Sheet
2	Typical Sections
3-4	Plan Sheets
5	Sewer Profile
6-7	Drainage Structure Details
8	Concrete End Sections
9	Erosion Control
10-15	Traffic Control
16	Summaries of Quantities - Signs
17	Summaries of Quantities
18-21	Cross Sections
R-1	RESURFACING COVER SHEET
R-2	RESURFACFING TYPICAL SECTION AND GENERAL NOTES





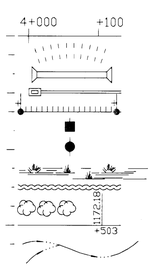
LOCATION MAP

DESIGN DESIGNATION

AADT (2003)	=	38,200
AADT (2023)	=	51,000
DHV	=	10%
D	=	60%
T	=	3%
V	=	80 k/hr.
CONTROL OF ACCESS	=	NONE
CLEAR ZONE	=	6.5 m

CONVENTIONAL SIGNS

COUNTY LINE	CENTER LINE OF PROJECT
CITY LIMITS	TERRACE
STATE OR NATIONAL LINE	CULVERTS
TOWNSHIP, SECTION or GRANT LINE	DROP INLET & STORM SEWER
PROPERTY LINE	ACCESS CONTROL
HIGHWAY FENCE	POWER POLE
EXISTING FENCE	TELEPHONE POLE
GUARD FENCE	MARSH
CONSTRUCTION LIMITS	HEDGE
RIGHT OF WAY LINE	TREES
TRAVELED WAY	PROFILE ELEVATION
RAILROADS	STREAM or CREEK



GROSS LENGTH OF PROJECT	186.598 m
EXCEPTIONS	0.000 m
ADDITIONS	0.000 m
NET LENGTH OF PROJECT	186.598 m
NET LENGTH OF BRIDGES	0.000 m
NET LENGTH OF ROAD	186.598 m

KDOT METRIC

All dimensions shown without a SI suffix are in millimeters. All elevations shown are in meters.

PREPARED & SUBMITTED BY

SCHWAB-EATON, P.A.
WICHITA, KANSAS

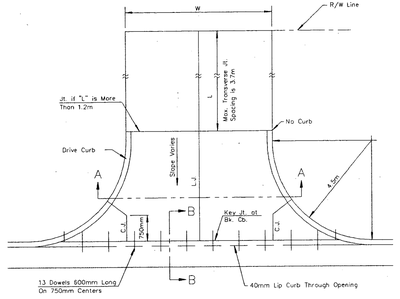
JOHN DAVID SCHMIDT
LICENSED
15404
4-16-04
KANSAS
PROFESSIONAL ENGINEER

APPROVED - DATE 4-21-04

James L. Armour

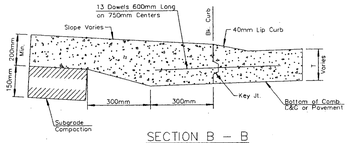
JAMES L. ARMOUR, P.E.
CITY ENGINEER
PROJECT NO. 472 83363

FUNCTIONAL SEC. NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-87 K-8014-01	2002	2	21



ENTRANCE DETAILS

Not To Scale

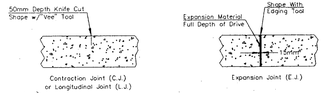


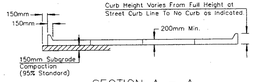
SECTION B – B

Not To Scale

NOTES

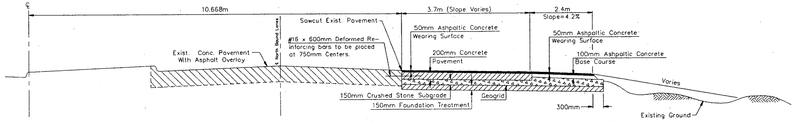
1. ONE LONGITUDINAL JOINT SHALL BE CONSTRUCTED ALONG THE CENTERLINE OF DRIVES HAVING A "W" DIMENSION OF 7.4 m OR LESS. TWO LONGITUDINAL JOINTS SHALL BE CONSTRUCTED WITH EQUAL SPACINGS NOT TO EXCEED 3.0 m FOR DRIVES WITH A "W" DIMENSION GREATER THAN 7.4 m.
2. DOWEL BARS SHALL BE OMITTED FROM THE KEYED CONSTRUCTION JOINT ALONG THE BACK OF THE STREET CURB LINE WHEN DRIVEWAYS ARE CONSTRUCTED IN CONJUNCTION WITH NEW CONCRETE PAVEMENT CONSTRUCTION.
3. 15 mm EXPANSION JOINTS SHALL BE INSTALLED ALONG THE PROPERTY LINE WHEN DRIVE CONSTRUCTION ALONG THIS LINE ABUTS CONCRETE PARKING LOTS OR CONCRETE DRIVE EXTENSION.
4. ALL DRIVEWAYS SHALL BE A MINIMUM OF 200 mm IN THICKNESS AND SHALL BE WITHOUT REINFORCEMENT. DRIVEWAYS MAY BE CONSTRUCTED THICKER THAN 200mm AND THEY MAY BE REINFORCED WITH 150 mm X 300mm MW25 X MW25 WELDED WIRE FABRIC WHEN PROPERLY AUTHORIZED BY THE PROPERTY OWNER WITH THE ENGINEER'S CONCURRENCE.





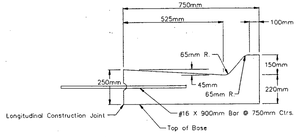
SECTION A – A

Not To Scale

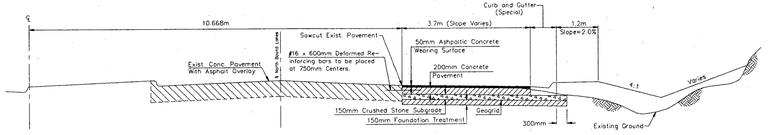


Shoulder Section

Sta. 10+360.825 to Sta. 10+398.779



Curb and Gutter (Special)



Curb and Gutter Section

Sta. 10+212.181 to Sta. 10+340.599

CITY OF WICHITA
TYPICAL SECTIONS
WICHITA, KANSAS

PROJECT NO. 01W002
REVISED: DATE:

CHECKED BY: CM

DRAWN BY: DJC

DATE: OCTOBER 7, 2002

SHEET NUMBER: 2

TOTAL SHEETS: 21

FEDERAL AID PROJ. NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	13-07 K-8014-01	2002	3	21

P.O.T. Sta. 10+036.050

1. Flush with Surface
2. Spk. B Washer Top Guard Rail — 15.20m S.W.
3. Spk. B 2 Washer Top Guard Rail — 18.80m W.
4. Spk. Top Guard Rail — 20.59m N.N.E.

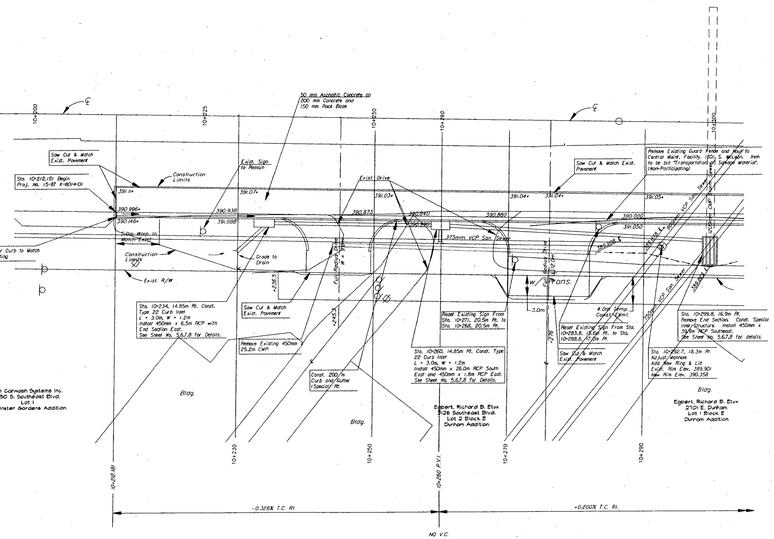
P.O.T. Sta. 10+286.057

1. Flush with Ground
2. Spk. B 1 Washer Top Guard Rail — 17.59m E.
3. Spk. B 1 Washer Top Guard Rail — 21.22m N.
4. Spk. 2 Washer Top Guard Rail — 15.76m W.S.W.

BM #16 "+" Cut S.E. Cor. Conc. Pipe Base 31.188m Rt. Sta. 10+129.074 Elev. = 391.187

* Match Existing

SCALE 1:200



FHWA REG. NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-97 K-8014-01	2002	4	21

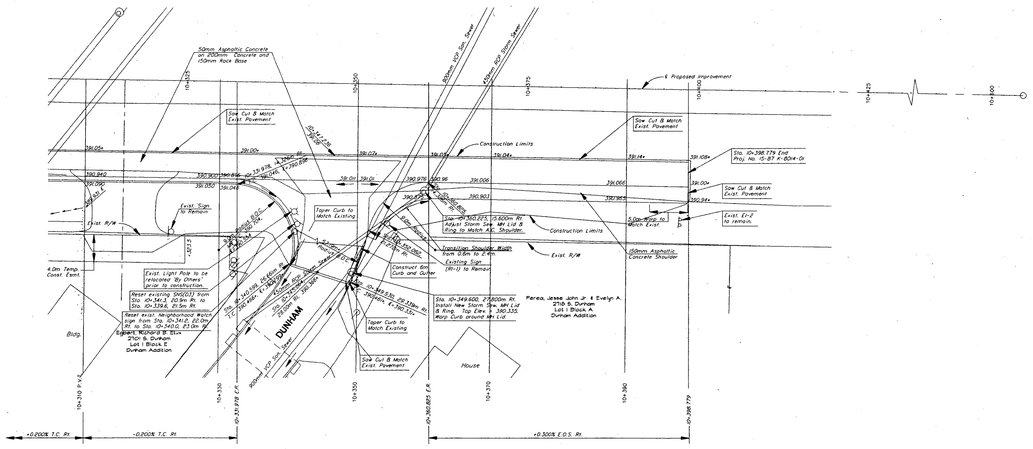
SCALE 1:200

P.O.T. Sta. 10+606.057

1. Flush with Ground
2. Spk. 1 Washer — 3.44m E.
3. Spk. 2 Washer — 6.59m N.
4. Spk. 1 Washer — 14.20m S.W.

BM #15A. Spk. Step South Side P.P. 46.146m Rt. Sta. 10+326.256 Elev. = 390.799

• Match Existing


50mm Asphaltic Concrete on 200mm Concrete and 150mm Rock Base
Saw Cut & Match Exist. Pavement
Proposed 100 Dia. Sewer
Proposed 100 Dia. Sewer
℄ Proposed Improvement
Construct Limits
Sta. 10+398.779 End Proj. No. 15-97 K-8014-01
Exist. Sign To Remain
Exist. R/W
Taper Curb to Match Existing
Sta. 10+302.075, 5.600m Rt. Adjust Storm Sew. MH Lid & Ring to Match AC Shoulder.
Construct Limits
Exist. Ef-2 to remain.
Transition Shoulder Width from 0.5m to 2.4m
Exist. R/W
50mm Asphaltic Concrete Shoulder
4.0m Temp. Const. Easm.
Exist. Light Pole to be relocated By Others Prior to construction.
Reset existing SN(D3) from Sta. 10+341.3 10.5m Rt. to Sta. 10+339.8, 11.5m Rt.
Reset exist. Neighborhood Watch sign from Sta. 10+341.0, 22.0m Rt. to Sta. 10+339.8, 21.0m Rt.
Construct Mailbox @ Sta. 27th St. Dunham Lot 1 Block E Dunham Addition.
Construct Grn. Curb and Gutter
Existing Sign (Rr-1) to Remain
Sta. 10+349.600, 27.600m Rt. Install New Storm Sew. MH Lid & Ring. Top Elev. = 390.335 Keep Curb around MH Lid
Perez, Jesse John Jr. & Evelyn A. 278 S. Dunham Lot 1 Block A Dunham Addition
DUNHAM
Taper Curb to Match Existing
Saw Cut & Match Exist. Pavement
House
Bldg.
10+310 P.V.C.
10+330
10+350
10+370
10+390
10+425
10+450
10+475
10+500
10+525
10+550
10+575
10+600
10+625
10+650
10+675
10+700
10+725
10+750
10+775
10+800
10+825
10+850
10+875
10+900
10+925
10+950
10+975
11+000
11+025
11+050
11+075
11+100
11+125
11+150
11+175
11+200
11+225
11+250
11+275
11+300
11+325
11+350
11+375
11+400

FHWA REC NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-87 K-8014-01	2002	5	21

SCALES:
IM = 200M HOR
IM = 10M VER

393
392
391
390
389
388

Existing Ground

Proposed Grade

Sta. 10+207.16 ft
Elev. 1,426.27 ft
Rt. Offset 2.00 ft

Sta. 10+307.16 ft
Elev. 1,426.27 ft
Rt. Offset 2.00 ft

Sta. 10+406.16 ft
Elev. 1,426.27 ft
Rt. Offset 2.00 ft

Sta. 10+307.16
Rt. @ 11.00

3.00 Width
Rt. @ 2.00 ft

4.00 Width
Rt. @ 1.00 ft

3.00 Width
Rt. @ 0.00 ft

Rt. Vert. Curve
Length = 100.00 ft
(Tangent Grade)

Rt. Vert. Curve
Length = 100.00 ft
(Tangent Grade)

Rt. = 1,426.27
Rt. Grad. = 0.00%

Rt. = 1,426.27
Rt. Grad. = 0.00%

Rt. = 1,426.27
Rt. Grad. = 0.00%

Rt. = 1,426.27
Rt. Grad. = 0.00%

10+200
10+225
10+250
10+275
10+300
10+325
10+350

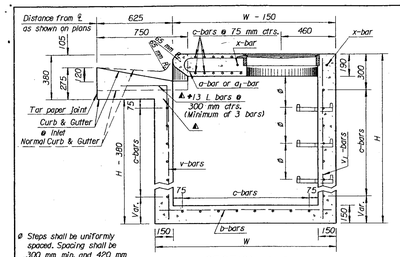
CITY OF WICHITA
KANSAS STATE HIGHWAY 15
WICHITA, KANSAS

Schwab-Eaton, P.A.
CONSULTING ENGINEERS AND LANDSCAPE ARCHITECTS
3835 West Pawnee, Suite 2 Wichita, Kansas 67213

PROJECT NO. GW002
REVISED: DATE:
DRIVEWAY 4/14/04
10-2716

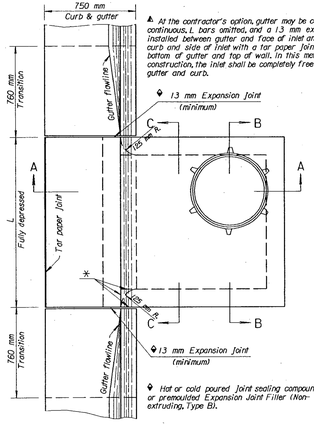
CHECKED BY: CM
DRAWN BY: MCO
DATE: MARCH 2004
SHEET NUMBER: 5
TOTAL SHEETS: 21

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	15-87 K-8014-01	2002	6	21

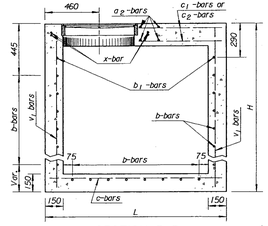


SECTION A-A

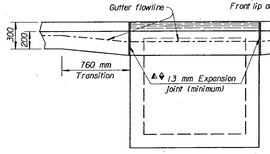
@ Steps shall be uniformly spaced. Spacing shall be 300 mm min. and 420 mm max.



PLAN

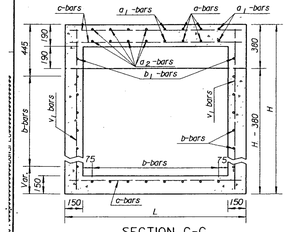


SECTION B-B



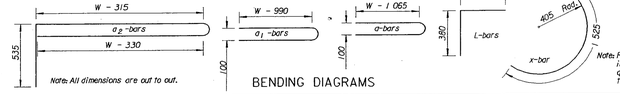
ELEVATION

STEP DETAILS



SECTION C-C

Note: Transition gutter from normal depth of 150 mm to 235 mm at inlet in 760 mm. Curb and Gutter sections shall be shaped as shown where required by the installation of curb inlets. This work will be subsidiary to other bid items.



Note: All dimensions are out to out.

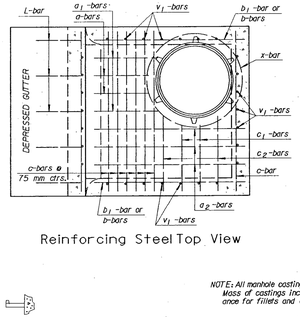
BENDING DIAGRAMS

Note: Reinforcing steel for L bars is not included in the steel quantity and is subsidiary to the other inlet items.

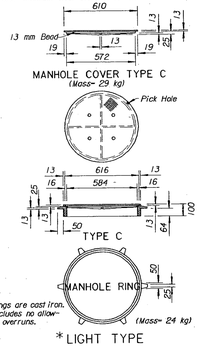
At the contractor's option, gutter may be constructed continuous. L bars omitted, and a 13 mm expansion joint installed between gutter and face of inlet and between curb and side of inlet with a tar paper joint between bottom of gutter and top of wall. In this method of construction, the inlet shall be completely free of the gutter and curb.

GENERAL NOTES

Use Class A Concrete throughout. All exposed edges shall be finished with an edging tool.
At the contractor's option Class A Concrete (AE) or mix used in concrete pavement may be used throughout.
In general, pipes will enter and leave manhole at various positions. Where possible bend bars around pipes.
Floor of manhole to be shaped as shown in various "EXAMPLES" on Standard Drawing RD730 SI.
Manhole opening and steps, where used, shall be placed to afford easy access to top of shaped invert. Top reinforcing bars to be adjusted accordingly.
All castings shall be gray iron and shall comply with the KDOT Standard Specifications.
No deductions in concrete quantities shall be made for pipe openings or additions to concrete quantities shall be made for shaping floor of manholes.
When directed by the Engineer, the top of the inlet shall be sloped slightly to approximately fit the ground line or other conditions.
Dimensions and mass of cast iron as shown on this sheet are minimum. Larger dimensions and/or greater mass of cast iron may be used.
Steps shall be installed in all storm sewer inlets when specified in the plans or when "H" is equal to or greater than 1.8 m. Steps shall comply with the KDOT Standard Specification.
No reduction in concrete quantities shall be made for pipe openings.
When directed by the Engineer, a small opening in the back of the inlet shall be provided in order to drain a low area.
Reinforcing bars shall extend through the opening. No reduction in concrete quantities will be made for this opening.
No addition in concrete quantities shall be made for shaping floor of inlet.
No reduction in pay length of curb, gutter, or curb & gutter will be made through the inlet area.
The mass of castings includes no allowance for fillets and overruns.
Curb and Gutter sections shall be shaped as shown where required by the installation of curb inlets. This work shall be subsidiary to other bid items.
See sheet entitled "Reinforcing Steel for Inlets and Manholes" for details and quantities.
For additional notes and details on Light Type Cast Iron Manhole Cover and Ring Type C, and Cast Iron Steps, see Standard Drawing RD730 SI "Reinforced Concrete Manhole".
All reinforcing steel shall be @13 at 150 mm centers except where noted. Minimum clear distance to reinforcement shall be 40 mm.



Reinforcing Steel Top View



NOTE: All manhole castings are cast iron. Mass of castings includes no allowance for fillets and overruns.

*LIGHT TYPE MANHOLE COVER & RING

*Rings with four equally spaced lugs will be permitted.

NO.	DATE	REVISIONS	BY	APP'D
3				
2	12-16-97	Revised step spacing	R.J.S.	J.D.B.
1	1-27-97	Revised Rebar Designation	R.J.S.	J.D.B.

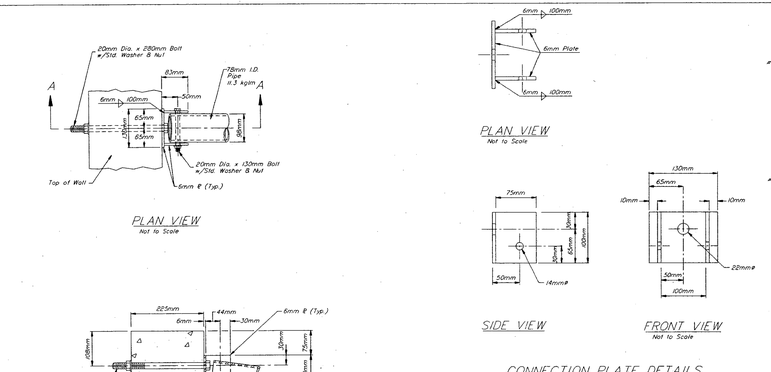
KANSAS DEPARTMENT OF TRANSPORTATION

TYPE 22 CURB INLET

RD748 SI

FINAL APPROVAL	C.E. 38	APP'D: James S. Brewer	
DESIGN CK.	DETAILS CK.	QUANTITIES	TRACED Bowser
CLERK CK.	DETAIL CK.	QUAN CK.	TRACE CK. Smith

FEDERAL AID PROJ. NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-97 & 8014-01	2002	7	21



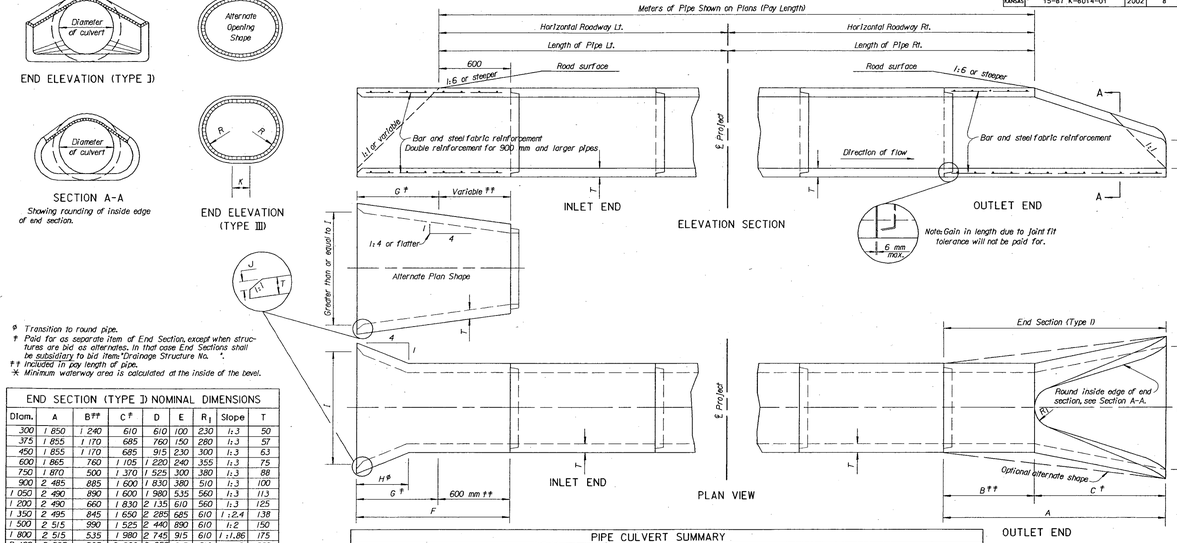
CITY OF WICHITA
INLET STRUCTURE AND DETAILS
WICHITA, KANSAS

Schwab-Eaton, P.A.
CONSULTING ENGINEERS AND ARCHITECTS
2820 West Kiellor Suite E, Wichita, Kansas 67204

PROJECT NO. 0W002
REVISED: DATE:

CHECKED BY: CM
DRAWN BY: DJC
DATE: SEPTEMBER 2002
SHEET NUMBER: 7
TOTAL SHEETS: 21

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	15-87 K-8014-01	2002	8	21



✱ Transition to round pipe.
† Paid for as separate item of End Section, except when structures are bid as alternates, in that case End Sections shall be subsidiary to bid item "Drainage Structure No. ".
†† Included in pay length of pipe.
✳ Minimum waterway area is calculated at the inside of the bevel.

END SECTION (TYPE I) NOMINAL DIMENSIONS

Diam.	A	B ✱✱	C †	D	E	R_1	Slope	T
300	1 850	1 240	610	610	100	230	1:3	50
375	1 855	1 170	685	760	150	280	1:3	57
450	1 855	1 170	685	915	230	300	1:3	63
600	1 865	760	1 105	1 220	240	355	1:3	75
750	1 870	500	1 370	1 525	300	380	1:3	88
900	2 485	885	1 600	1 830	380	510	1:3	100
1 050	2 490	890	1 600	1 980	535	560	1:3	113
1 200	2 490	660	1 830	2 135	610	560	1:3	125
1 350	2 495	645	1 650	2 285	685	610	1:2.4	138
1 500	2 515	590	1 525	2 440	890	610	1:2	150
1 800	2 515	535	1 980	2 745	915	610	1:1.86	175
2 100	2 835	535	2 300	3 050	915	610	1:1.6	200

SIDE TAPERED INLET SECTION (TYPE III)-NOMINAL DIMENSIONS

Diam.	Min. W.W. ✳ Area m^2	F	G	H	I	J	K	R	T
600	0.42	1 295	685	435	800	38	200	300	75
750	0.65	1 460	850	545	1 005	51	255	375	88
900	0.94	1 625	1 015	650	1 200	51	300	450	100
1 050	1.27	1 790	1 180	760	1 405	64	355	525	113
1 200	1.66	1 955	1 345	865	1 605	76	405	600	125
1 350	2.11	2 120	1 510	980	1 810	89	460	675	138
1 500	2.60	2 285	1 675	1 090	2 010	102	510	750	150
1 800	3.74	2 615	2 005	1 310	2 410	127	610	900	175
2 100	5.09	2 945	2 335	1 535	2 810	152	710	1 050	200

Dimensions for alternate shapes shall be equal to or greater than those shown in the table, unless otherwise shown.

PIPE CULVERT SUMMARY

Station	Location	Type	Size	Crown Grade Elev.	Flow line		Horizontal Roadway		Degree of Rotation	Length of Pipe		Meters of Pipe	End Sects. Type I		Type III		Type IV	
					LT.	RT.	LT.	RT.		LT.	RT.		LT.	RT.	LT.	RT.	LT.	RT.

Note: The culverts listed on this sheet may or may not indicate that the culvert installed will be reinforced concrete, steel, or aluminum.

NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

CONCRETE END SECTIONS FOR CONCRETE PIPES TYPE I & SIDE TAPERED INLET SECTION (TYPE III)

RD712 SI

FIRST APPROVAL	4-5-94	APP'D:	JOHNA. G. Brewer
DESIGNED:	DETAILED:	QUANTITIES:	TRAVIS Brewer
DESIGN CK.	DETAIL CK.	DRAWN:	TRAVIS DK. SMITH

FHWA REG NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-87 K-8014-01	2002	9	21

GENERAL NOTES:

1. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF BMP'S WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.

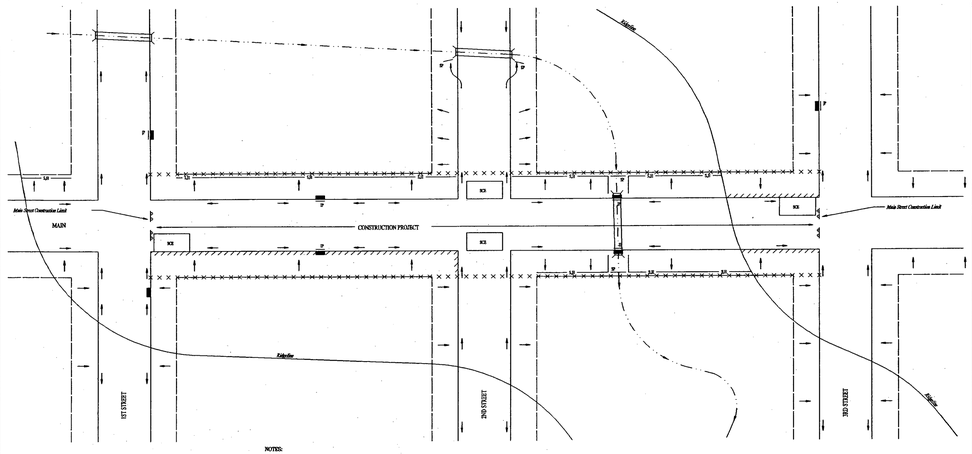
2. BMP'S MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS.

3. IF THE PROJECT WILL DISTURB 5 ACRES OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE BMP'S SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.

4. FOR PROJECTS DISTURBING LESS THAN 5 ACRES, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION.

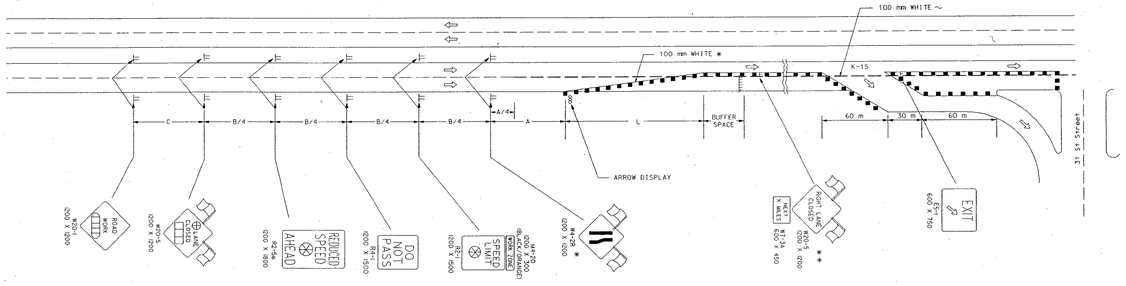
5. FAILURE TO USE AND MAINTAIN BMP'S IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.

6. THE APPLICATION OF BMP'S SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT BMP OTHER THAN THOSE SHOWN. BMP'S, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.


Main Street Construction Limit
MAIN
CONSTRUCTION PROJECT
SE
SE
SE

FORM 1 REVISION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-81 K-8014-01	2002	10	21

REFER TO STD. TE7105I FOR ADDITIONAL INFORMATION ON TRAFFIC CONTROL SIGNS AND SIGN SPACING.
REFER TO STD. TE7025I FOR INFORMATION ON TAPERS AND CHANNELIZING DEVICES.
REFER TO STD. TE7005I FOR LENGTH OF BUFFER SPACE.



LEFT-SIDE SIGNS SHALL BE OMITTED FOR A FOUR-LANE UNDIVIDED HIGHWAY.

* FOR LEFT LANE CLOSURES USE W4-2L AND YELLOW EDGE LINE ALONG CHANNELIZING DEVICES.

** THE W20-5 (RIGHT LANE CLOSED) AND W7-3A (NEXT X MILES) SIGNS SHOULD BE PLACED AT 3.2 KILOMETER INCREMENTS ON A PROJECT OF 6.4 KILOMETERS OR LONGER.

~ 100 mm WHITE BROKEN LINE TO BE PAINTED ON AFTER CONSTRUCTION AS TEMPORARY PAVEMENT MARKING. PERMANENT MARKING WILL BE DONE 'BY OTHERS' WITH THE MILL AND OVERLAY PROJECT FOR THIS STRETCH OF HIGHWAY. ITEM TO BE BID 'LUMP SUM STRIPING'.

A TRAILER OR TRUCK WITH AN ARROW DISPLAY MAY BE USED DURING DAYTIME IN PLACE OF THE ARROW DISPLAY. THE TRUCK SHOULD BE LOCATED BETWEEN THE BUFFER SPACE AND THE WORK AREA.

■ Channelizing Devices
ıılı Type III Barricades
(AHEAD, 1500 FT Or 1 MILE
⊗ Speed To Be Determined By The Engineer
(AHEAD, 4000 FT, 1500 FT Or ½MILE
⊕ RIGHT OR LEFT
X Length To The Nearest Whole Mile

NO.	DATE	REVISION	BY	APPD
3				
2				
1	9-26-02	REMOVED D20-1SERIES, ADDED W20-5 AND W7-3A	MJK	S.A.B.

KANSAS DEPARTMENT OF TRANSPORTATION
TYPICAL TRAFFIC CONTROL
FOUR-LANE HIGHWAY
ONE LANE CLOSED

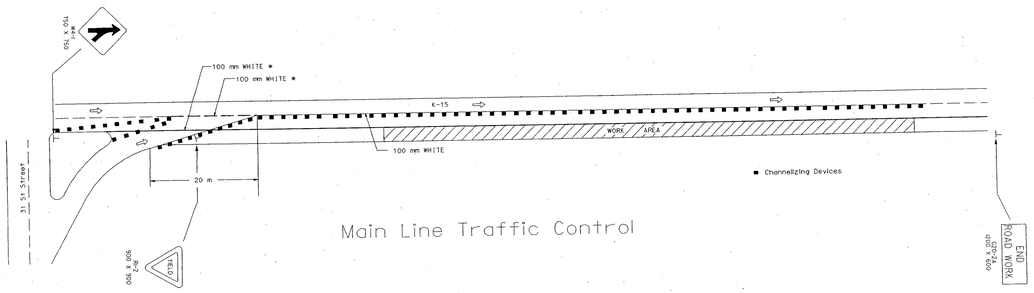
~~TE7045I~~ 9/1/00

FORM APPROVAL 9-10-02 APPD MICHAEL F. MEANDERS
DESIGNED T.E.K. DETAILED E.A.H. QUANTITIES TRACED
DESIGN CK. DETAIL CK. QUAN. CK. TRACE CK.

Input Data : "kdesign/07/te7045i.dgn"

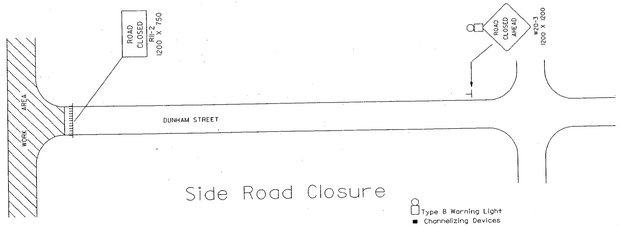
FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-87 K-8014-01	2002	100	21

REFER TO STD. TE7005I FOR ADDITIONAL INFORMATION ON TRAFFIC CONTROL SIGNS AND SIGN SPACING.
REFER TO STD. TE7025I FOR INFORMATION ON TAPERS AND CHANNELIZING DEVICES.



Main Line Traffic Control

ADVANCED SIGNING INCLUDING THE CLOSURE OF THE RIGHT THROUGH LANE (K-15) SHALL BE AS SHOWN ON SHEETS 10-15 AND SHALL BE IN PLACE THROUGHOUT CONSTRUCTION OF THIS PROJECT.
CONTRACTOR SHALL BE REQUIRED TO MAINTAIN ACCESS TO ALL PROPERTIES ADJACENT TO K-15 AT ALL TIMES.



Side Road Closure

Type B Warning Light
Channelizing Devices

* 100 mm WHITE BROKEN LINE TO BE PAINTED AFTER CONSTRUCTION AS TEMPORARY PAVEMENT MARKING. PERMANENT MARKING WILL BE DONE 'BY OTHERS' WITH THE MILL AND OVERLAY PROJECT FOR THIS STRETCH OF HIGHWAY. ITEM TO BE BID 'LUMP SUM STRIPING'.

NO.	DATE	REVISION	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL

FHWA APPROVAL | APPD
DESIGNED | DETAILED | QUANTITIES | TRACED
DESIGN CK. | DETAIL CK. | QUAN. CK. | TRACE CK.

Job Date 1 8/8/2001 7:16:28 AM

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-87 X-8014-01	2002	11	21

1. MUTCD COMPLIANCE
   ALL TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION AND MAINTENANCE SHALL COMPLY WITH THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS. WHENEVER THE TRAFFIC CONTROL STANDARDS CONFLICT WITH THE MANUAL, THE STANDARDS SHALL GOVERN.

2. DESIGN SPEED
   TRAFFIC CONTROL SHOULD BE DESIGNED AND INSTALLED USING THE POSTED SPEED OF THE ROADWAY PRIOR TO WORK STARTING.

3. CLEAR ZONE
   WHENEVER PRACTICAL, ALL CONSTRUCTION EQUIPMENT (INCLUDING VEHICLES), MATERIALS, AND DEBRIS SHALL BE STORED OUT OF THE CLEAR ZONE. WHERE THIS CANNOT BE ACHIEVED, THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNS, OBJECT IDENTIFIERS, AND/OR BARRICADES AS DESIGNATED BY THE ENGINEER. TRAFFIC CONTROL DEVICES NEEDED FOR THIS CONDITION SHALL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.

4. MINIMUM LANE WIDTHS
   LANE WIDTHS SHALL BE A MINIMUM OF 3.4 m (MEASURED BETWEEN CENTERLINES OF PAVEMENT MARKINGS) OR AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. A LANE WIDTH LESS THAN 3.4 m MAY REQUIRE RESTRICTED ROADWAY WIDTH SIGNING.

5. FLAGGER
   A MINIMUM OF ONE FLAGGER SHALL BE STATIONED WITHIN EACH MULTI-LANE ROADWAY WORK AREA WHERE WORK IS IN A CLOSED LANE ADJACENT TO TRAFFIC AND NOT SEPARATED BY CONCRETE SAFETY BARRIER.

6. PAVEMENT MARKING
   (A) TYPE I TAPE IS TO BE APPLIED TO A FINAL SURFACE (NEW PAVEMENT OR ANY SURFACE THAT WILL REMAIN WHEN THE PROJECT IS COMPLETE) AS A TEMPORARY MARKING WHEN THE TEMPORARY MARKINGS WILL BE REMOVED. WHEN TYPE I TAPE IS SPECIFIED, ONLY TYPE I TAPE WILL BE ALLOWED.

   TYPE II TAPE IS TO BE APPLIED TO A SURFACE THAT IS TO BE REMOVED OR COVERED BY FUTURE CONSTRUCTION.

   TYPE II TAPE (REMOVAL REQUIRED) IS TO BE APPLIED TO A SURFACE THAT IS TO BE REMOVED OR COVERED BY FUTURE CONSTRUCTION, BUT ON WHICH THE MARKINGS MUST BE REMOVED TO ALLOW FOR A DIFFERENT TRAFFIC CONTROL PATTERN PRIOR TO THE REMOVAL OR COVERING OF THE SURFACE.

   TYPE IIA TAPE MAY BE APPLIED AS TEMPORARY BROKEN LINES ON INTERMEDIATE BITUMINOUS SURFACES ONLY.

   WHEN TYPE II, TYPE II (REMOVAL REQUIRED), OR TYPE IIA TAPE IS SPECIFIED, THE CONTRACTOR HAS THE OPTION TO USE EITHER TYPE I OR TYPE II TAPE.

   IF RECOMMENDED BY THE MANUFACTURER, USE A PRIMER TO PRECONDITION THE PAVEMENT SURFACE.

   (B) ALL CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED AND ALL TRANSITION TAPERS, CROSSOVERS, AND EDGE LINES ALONG CHANNELIZING DEVICES SHALL BE MARKED WITH SOLID 100mm WIDE PAVEMENT MARKING WHEN THE WORK WILL OCCUPY A LOCATION MORE THAN THREE DAYS.

   WHEN LINE MASKING TAPE IS SPECIFIED TO TEMPORARILY COVER EXISTING PAVEMENT MARKINGS, ONLY LINE MASKING TAPE WILL BE ALLOWED. WHEN EXISTING PAVEMENT MARKING REMOVAL IS SPECIFIED, THE CONTRACTOR HAS THE OPTION TO EITHER REMOVE THE EXISTING PAVEMENT MARKING OR APPLY LINE MASKING TAPE.

7. FIRST MODULE OF IBS:
   THE FIRST MODULE OF EACH INERTIAL BARRIER SYSTEM (IBS) SHALL HAVE A MINIMUM OF 0.175 SQ m OF FLUORESCENT ORANGE PRISMATIC GRADE RETROREFLECTIVE SHEETING FACING TRAFFIC. EITHER A VERTICAL RECTANGLE OR DIAMOND SHAPE MAY BE USED.

8. TRUCK-MOUNTED ATTENUATOR (TMA):
   THE CONTRACTOR HAS THE OPTION TO USE A TMA ON A PROTECTION VEHICLE OR AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE HASH MARKINGS ON THE BACK OF THE TMA SHALL BE BLACK AND YELLOW STRIPES.

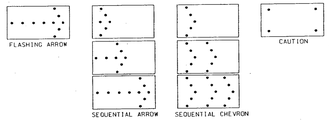
9. PEDESTRIAN AND WORKER SAFETY:
   EVERY EFFORT SHOULD BE MADE TO SEPARATE PEDESTRIANS AND WORKERS FROM ADJACENT TRAFFIC. PEDESTRIANS SHOULD NOT BE LED INTO DIRECT CONFLICTS WITH WORK SITE VEHICLES, EQUIPMENT, OR MAINLINE TRAFFIC MOVING THROUGH OR AROUND THE WORK SITE. PEDESTRIANS SHOULD BE PROVIDED WITH A SAFE, CONVENIENT TRAVEL PATH. WORKERS SHOULD BE TRAINED IN HOW TO WORK NEXT TO TRAFFIC IN A WAY THAT MINIMIZES THEIR VULNERABILITY.

10. NCHRP REPORT 350 CRASHWORTHY REQUIREMENTS:
    TRAFFIC CONTROL DEVICES SHALL MEET THE EVALUATION CRITERIA IN NCHRP REPORT 350 AS SUPPLEMENTED BY FHWA MEMORANDUM "IDENTIFYING ACCEPTABLE HIGHWAY SAFETY FEATURES, DATED JULY 25, 1997 (AVAILABLE ON THE INTERNET AT http://safety.fhwa.dot.gov/fourthlevel/pro_res_road_pol.htm).

    THE CONTRACTOR SHALL:
    1) CERTIFY THAT ALL CATEGORY 1 DEVICES (AS DEFINED IN THE FHWA MEMORANDUM) WERE PURCHASED PRIOR TO OCTOBER 1, 1998; OR IF THE DEVICES WERE PURCHASED AFTER OCTOBER 1, 1998, INCLUDE A COPY OF THE MANUFACTURER'S SELF-CERTIFICATION THAT THEY ARE NCHRP REPORT 350 COMPLIANT.
    2) CERTIFY THAT ALL CATEGORY 2 DEVICES (AS DEFINED IN THE FHWA MEMORANDUM) WERE PURCHASED PRIOR TO OCTOBER 1, 2000; OR IF THE DEVICES WERE PURCHASED AFTER OCTOBER 1, 2000, INCLUDE A COPY OF THE ENTIRE FHWA ACCEPTANCE LETTER FOR EACH OF THE DEVICES THAT ARE NCHRP REPORT 350 COMPLIANT.
    3) CERTIFY THAT THE TRUCK MOUNTED ATTENUATORS (TMA'S)(WHICH ARE DEFINED AS CATEGORY 3 DEVICES BY THE FHWA MEMORANDUM) WERE PURCHASED PRIOR TO OCTOBER 1, 1998, AND INCLUDE A COPY OF THE ENTIRE FHWA ACCEPTANCE LETTER STATING THAT THE TMA'S ARE NCHRP REPORT 350 COMPLIANT; OR IF THE DEVICES WERE PURCHASED AFTER OCTOBER 1, 1998, INCLUDE A COPY OF THE ENTIRE FHWA'S ACCEPTANCE LETTER STATING THAT THE TMA'S ARE NCHRP REPORT 350 COMPLIANT.

    ALL CATEGORY 1 & 2 DEVICES PURCHASED PRIOR TO THE ABOVE DATES MAY BE USED UNTIL THE END OF THEIR SERVICEABLE LIVES OR JANUARY 1, 2002, WHICHEVER COMES FIRST. TMA'S PURCHASED PRIOR TO OCTOBER 1, 1998, MAY BE USED UNTIL THE END OF THEIR SERVICEABLE LIVES.

ARROW DISPLAYS



ARROW DISPLAY ELEMENTS SHALL BE CAPABLE OF A MINIMUM 50 PERCENT DIMMING FROM THEIR FULL-RATED LAMP VOLTAGE. FULL LAMP VOLTAGE SHOULD BE USED FOR DAY AND DIMMED MODE SHALL BE USED FOR NIGHT. AN ARROW DISPLAY IN THE CAUTION MODE SHALL BE USED ONLY FOR SHOULDER WORK OR ROADSIDE WORK NEAR THE SHOULDER.

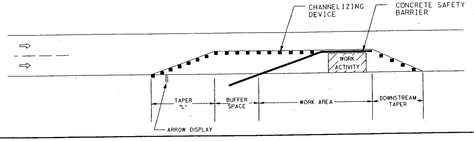
BUFFER SPACE:

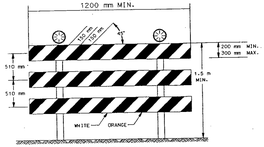
SPEED (MPH) ✱	20	25	30	35	40	45	50	55	60	65	70
LENGTH (m)	10	15	25	35	50	65	85	100	125	150	175

NEITHER WORK ACTIVITY NOR STORAGE OF EQUIPMENT, VEHICLES, OR MATERIAL SHOULD OCCUR IN THE BUFFER SPACE. WHEN A PROTECTION VEHICLE IS PLACED IN ADVANCE OF THE WORK SPACE, ONLY THE SPACE UPSTREAM OF THE VEHICLE CONSTITUTES THE BUFFER SPACE.

✱ POSTED SPEED PRIOR TO WORK STARTING

IF TEMPORARY CONCRETE SAFETY BARRIER IS USED TO SEPARATE APPROACHING TRAFFIC FROM THE WORK ACTIVITY, THE BARRIER SHALL BE CONSIDERED PART OF THE WORK AREA. A FULL LANE WIDTH SHOULD BE AVAILABLE THROUGHOUT THE LENGTH OF THE BUFFER SPACE. FOR EXAMPLE:





TYPE III BARRICADE WITH LIGHTS

BARRICADES:
WHEN CLOSING A ROAD, TYPE III BARRICADES SHALL BE PLACED END-TO-END TO SUFFICIENTLY COVER THE ROADWAY. WHEN AUTHORIZED ACCESS MUST BE ALLOWED, THE BARRICADES SHALL BE LONGITUDINALLY STAGGERED TO MAINTAIN THE APPEARANCE OF A CLOSED ROADWAY. IF THE ACCESS IS FOR CONSTRUCTION VEHICLES, THE BARRICADES SHALL BE REALIGNED TO DENY ANY ACCESS WHEN THE CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY. IF THE ACCESS IS FOR LOCAL TRAFFIC, THE BARRICADES SHALL REMAIN LONGITUDINALLY STAGGERED AND A SECOND LINE OF END-TO-END BARRICADES SHALL BE PLACED AT THE WORK AREA TO CLOSE THE ROAD.

FOR WOODEN BARRICADES, NOMINAL LUMBER DIMENSIONS WILL BE SATISFACTORY.

THE ENTIRE AREA OF BARRICADE RAILS, BOTH FRONT AND BACK, SHALL BE FULLY REFLECTORIZED WITH TYPE III HIGH PERFORMANCE RETROREFLECTIVE SHEETING.

THE STRIPES SHALL SLOPE DOWNWARD TO THE SIDE TRAFFIC IS TO PROCEED OR TOWARD THE CENTER OF THE ROADWAY AT ROAD CLOSURES.

SIGNS MOUNTED ON TYPE III BARRICADES SHOULD NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

A MINIMUM OF TWO TYPE A LIGHTS SHALL BE USED AT EACH LOCATION WHERE A TYPE III BARRICADE OR BARRICADES ARE USED. A LIGHT SHALL BE MOUNTED ON THE OUTSIDE CORNER OF THE END BARRICADES WHEN MORE THAN ONE BARRICADE IS USED.

WARNING LIGHTS SHALL COMPLY WITH THE CURRENT ITE PURCHASE SPECIFICATIONS FOR FLASHING AND STEADY BURN WARNING LIGHTS. THE LENS SHALL BE A MINIMUM OF 175 mm IN DIAMETER AND BE MOUNTED AT A MINIMUM HEIGHT OF 1.5 m.

TYPE A LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE MAINTAINED SO AS TO BE CAPABLE OF BEING VISIBLE ON A CLEAR NIGHT FROM A DISTANCE OF 1000 m.

NO.	DATE	REVISION	BY	APPD
3				
2				
1				

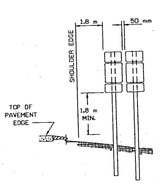
KANSAS DEPARTMENT OF TRANSPORTATION

GENERAL TRAFFIC CONTROL

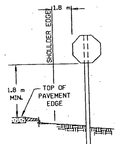
TE700S1 9/1/00

FHWA APPROVAL	DATE	APPD. WITHOUT F. NOTATION	
STATE ENGINEER	DETAILED: D.A.H.	CHECKED:	TRACED
DESIGN ENGINEER	DETAIL CK.	DRAWN CK.	TRACE CK.

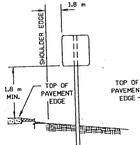
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	5-87 K-1034-01	2002	14	8



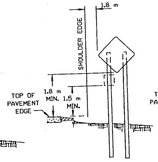
SHOULDER INSTALLED ROUTE MARKER DIRECTIONAL SIGNS



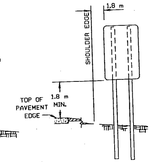
SHOULDER INSTALLED STOP SIGN



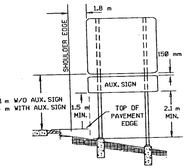
SHOULDER INSTALLED SIGN



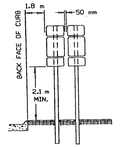
SHOULDER INSTALLED DIAMOND SIGN WITH OR WITHOUT AUX. SIGN



SHOULDER INSTALLED SPEED LIMIT SIGN



SHOULDER INSTALLED SIGN WITH OR WITHOUT AUX. SIGN



SHOULDER INSTALLED ROUTE MARKER DIRECTIONAL SIGNS

DESIRABLE LOCATIONS FOR MAINLINE SIGNING

LATERAL AND LONGITUDINAL LOCATION

THE LATERAL DISTANCE FOR ADVANCE GUIDE, EXIT DIRECTION, SUPPLEMENTAL, MILEAGE, AND GENERAL MOTORIST SIGNS SHALL BE 12 m TO 18 m FROM PAVEMENT EDGE TO NEAR EDGE OF SIGN WITH A MINIMUM OF 3 m FROM THE OUTSIDE EDGE OF SIGN TO THE RIGHT OF WAY LINE. THE MINIMUM DISTANCE BETWEEN THESE SIGNS SHALL BE APPROXIMATELY 250 m . THE LONGITUDINAL ADJUSTMENT FROM PLAN STATION FOR ALL ABOVE MENTIONED SIGNS WITH THE EXCEPTION OF EXIT DIRECTION AND MILEAGE SIGNS SHALL BE DETERMINED BY THE ENGINEER. THE LONGITUDINAL ADJUSTMENT FROM PLAN STATION FOR THE EXIT DIRECTION SIGN SHALL NOT EXCEED 30 m . THE LONGITUDINAL ADJUSTMENT FROM PLAN STATION FOR THE MILEAGE SIGN SHALL NOT EXCEED 800 m .

THE LATERAL DISTANCE FOR THE MERGE SIGN SHOULD BE THE NORMAL SHOULDER INSTALLATION WITH THE LONGITUDINAL ADJUSTMENT FROM PLAN STATION NOT TO EXCEED 15 m .

THE ROUTE MARKER ASSEMBLY AND SPEED LIMIT SIGNS SHALL BE 12 m TO 18 m FROM PAVEMENT EDGE TO NEAR EDGE OF SIGN WITH A MINIMUM OF 3 m FROM THE OUTSIDE EDGE OF SIGN TO THE RIGHT OF WAY LINE. THE MINIMUM DISTANCE BETWEEN THESE TWO SIGNS SHALL BE APPROXIMATELY 300 m . THE LONGITUDINAL ADJUSTMENT FROM PLAN STATION TO BE DETERMINED BY THE ENGINEER. WHEN USED IN AN INTERCHANGE AREA, THESE SIGNS SHOULD BE THE NORMAL SHOULDER INSTALLATION WITH THE LONGITUDINAL ADJUSTMENT FROM PLAN STATION NOT TO EXCEED 15 m .

DESIRABLE LOCATIONS FOR RAMP SIGNING

LATERAL AND LONGITUDINAL LOCATION

THE LATERAL LOCATION FOR ALL SIGNS SHALL BE THE NORMAL SHOULDER INSTALLATION. THE LONGITUDINAL ADJUSTMENT FROM THE PLAN STATION TO BE DETERMINED BY THE ENGINEER.

DESIRABLE LOCATIONS FOR SIDE ROAD SIGNING

LATERAL AND LONGITUDINAL LOCATION

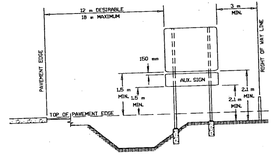
THE LATERAL LOCATION FOR ALL SIGNS, EXCEPT THE E4-1a SIGN, SHALL BE THE NORMAL SHOULDER INSTALLATION. THE LATERAL LOCATION FOR THE E4-1a SIGN SHALL BE 2# FROM PAVEMENT EDGE TO NEAR EDGE OF SIGN. THE LONGITUDINAL ADJUSTMENT FROM PLAN STATION FOR ALL SIGNS TO BE DETERMINED BY THE ENGINEER. WHEN THERE IS NO SHOULDER, THE VERTICAL CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE TRAVELING SURFACE SHALL BE AT LEAST 1.8 m, WITH A MINIMUM LATERAL CLEARANCE OF 3.6 m .

VARIATION OF SIGN MOUNTING HEIGHT AND LATERAL CLEARANCE

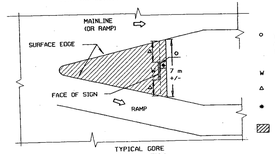
IN BUSINESS, COMMERCIAL, AND RESIDENTIAL DISTRICTS WHERE PARKING AND/OR PEDESTRIAN MOVEMENT IS LIKELY TO OCCUR OR WHERE THERE ARE OTHER OBSTRUCTIONS TO VIEW, THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN SHALL BE AT LEAST 2.1 m WITH A MINIMUM LATERAL CLEARANCE OF 600 mm .

ERECTION OF SIGNS BEHIND GUARD FENCE

GUARD FENCE IS TO BE UTILIZED AS MUCH AS POSSIBLE FOR FINAL PLACEMENT OF SIGNS, USING THE LONGITUDINAL LOCATION CRITERIA FOR THE SIGNS IDENTIFIED ABOVE. ANY SIGN MAY BE ADJUSTED FROM THE PLAN STATION TO BE ERECTED BEHIND GUARD FENCE. NO SIGNS SHALL BE LOCATED BETWEEN 30 m IN ADVANCE OF THE NOSE OF THE GUARD FENCE AND 15 m BEHIND THE THE NOSE OF THE GUARD FENCE. IN NO CASE IS THE ROADSIDE END OF THE SIGN(S) TO EXTEND BEYOND THE BACK SIDE OF THE GUARD FENCE AND NO POST SHALL BE LOCATED CLOSER THAN 1.5 m FROM THE FACE OF THE GUARD FENCE.

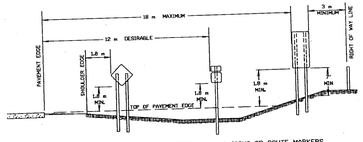


OFFSET INSTALLED SIGN WITH OR WITHOUT AUXILIARY SIGN

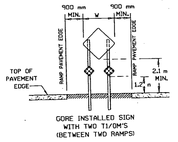


TYPICAL GORE SIGN LOCATION

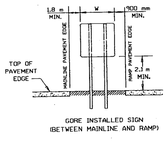
- ○ THE STATION SHOWN ON THE PLAN SHEETS IS AN APPROXIMATED STATION. THE LONGITUDINAL ADJUSTMENT FROM PLAN STATION TO BE DETERMINED BY THE ENGINEER.
- W SIGN WIDTH
- △ FOR LATERAL POSITIONING, SEE SKETCHES OF GORE INSTALLED SIGN
- ● MIN. OF 900 mm CLEAR DISTANCE
- ▨ PAVED AREA



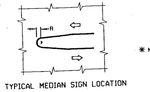
MAINLINE INSTALLED REGULATORY SIGNS, WARNING SIGNS OR ROUTE MARKERS



GORE INSTALLED SIGN WITH TWO T1/OM'S (BETWEEN TWO RAMPS)

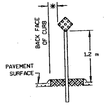


GORE INSTALLED SIGN (BETWEEN MAINLINE AND RAMP)

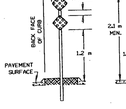


TYPICAL MEDIAN SIGN LOCATION

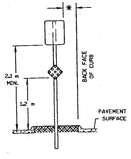
✱ NOTE: A RAISED MEDIAN INSTALLED SIGN SHALL NOT EXTEND BEYOND THE BACK FACE OF CURB. NORMAL CLEARANCE SHOULD BE 600 mm FROM SIGN EDGE TO BACK FACE OF CURB.



MEDIAN INSTALLED ONE T1/OM



MEDIAN INSTALLED TWO T1/OM



MEDIAN INSTALLED SIGN WITH ONE T1/OM

NO.	DATE	REVISION	BY	APP'D
3				
2				
1	9-9-96	CHANGED GUARD FENCE NOTE	TCP	WAB

KANSAS DEPARTMENT OF TRANSPORTATION
TYPICAL HEIGHTS, LATERAL LOCATIONS, AND LONGITUDINAL ADJUSTMENTS FOR SIGN INSTALLATION (US OR K-ROUTE)

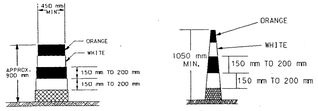
TE410A51

9-1-94

FORM APPROVAL	8-1-96	APP'D	MANAGER, R. BLANKENSHIP		
ESTIMATED	96	DETAILED	KS	SUBMITTED	TRAFFIC 96
DESIGN CH.		DETAIL CH.		DRAFT CH.	TRAFFIC CH.

CAD DRAWING
DO NOT WRITE IN THIS SPACE

FORM NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-87 K-8014-01	2002	12	21

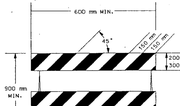


DRUM

TRIM LINE CHANNELIZER

DRUMS AND TRIM LINE CHANNELIZERS SHALL BE RETROREFLECTORIZED FULL CIRCUMFERENCE WITH AT LEAST TWO ORANGE AND TWO WHITE 150 mm TO 200 mm WIDE STRIPES. ADDITIONAL STRIPES MAY BE NON-REFLECTIVE. IF THERE ARE NON-REFLECTIVE SPACES BETWEEN ADJACENT STRIPES, THEY SHALL BE NO MORE THAN 50 mm WIDE.

ALL RETROREFLECTIVE STRIPES ON DRUMS SHALL BE TYPE III HIGH PERFORMANCE SHEETING. THE WHITE STRIPES ON TRIM LINE CHANNELIZERS SHALL BE TYPE III HIGH PERFORMANCE SHEETING. THE ORANGE STRIPES ON TRIM LINE CHANNELIZERS SHOULD BE FLUORESCENT ORANGE PRISMATIC SHEETING; HOWEVER, TRIM LINE CHANNELIZERS PURCHASED PRIOR TO NOVEMBER 1, 2000, MAY HAVE STRIPES OF ORANGE TYPE III HIGH PERFORMANCE SHEETING, PROVIDED THE DEVICES ARE SPACED ACCORDING TO THE CHART BELOW. PROJECTS LET AFTER JANUARY 1, 2002, WILL REQUIRE THAT THE ORANGE STRIPES ON ALL TRIM LINE CHANNELIZERS BE FLUORESCENT ORANGE PRISMATIC SHEETING.



TYPE II BARRICADE

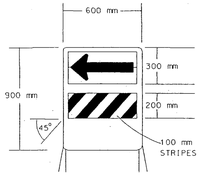
FOR WOODEN BARRICADES, NOMINAL LUMBER DIMENSIONS WILL BE SATISFACTORY.

FOR RAILS LESS THAN 900 mm LONG, 100 mm WIDE STRIPES MAY BE USED.

THE ENTIRE AREA OF BARRICADE RAILS, BOTH FRONT AND BACK, SHALL BE FULLY REFLECTORIZED WITH TYPE III HIGH PERFORMANCE RETROREFLECTIVE SHEETING.

BARRICADES USED ON ROADWAYS WITH SPEED LIMITS OF 45 MPH OR MORE SHALL HAVE A MINIMUM OF 0.175 SQ m OF RETROREFLECTIVE AREA FACING TRAFFIC.

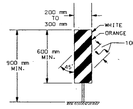
THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



DIRECTION INDICATOR BARRICADE

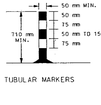
THE ARROW PANEL SHALL BE BLACK ON FLUORESCENT ORANGE PRISMATIC GRADE SHEETING. THE STRIPES SHALL BE ORANGE AND WHITE TYPE III HIGH PERFORMANCE RETROREFLECTIVE SHEETING SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS.

THE DIRECTION INDICATOR BARRICADE SHOULD BE USED IN SERIES TO DIRECT THE MOTORIST INTO THE INTENDED LANE OF TRAVEL.
THE ARROW PANEL SHOULD NOT BE VISIBLE TO OPPOSING TRAFFIC.

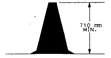


VERTICAL PANEL

THE ENTIRE AREA OF VERTICAL PANELS, BOTH FRONT AND BACK, SHALL BE FULLY REFLECTORIZED WITH TYPE III HIGH PERFORMANCE RETROREFLECTIVE SHEETING. VERTICAL PANELS USED ON ROADWAYS WITH A SPEED LIMIT OF OF 45 MPH OR GREATER SHALL HAVE A MINIMUM OF 0.175 SQ m OF RETROREFLECTIVE AREA FACING TRAFFIC. THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TUBULAR MARKERS



ORANGE CONES

CONES MAY BE USED AS CHANNELIZING DEVICES FOR DAYTIME OPERATIONS ONLY. THEY WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE SUBSIDIARY TO OTHER TRAFFIC CONTROL BID ITEMS. THE ENGINEER MAY REQUIRE THAT CONES BE SUPPLEMENTED BY OTHER TRAFFIC CONTROL DEVICES IN CERTAIN SITUATIONS SUCH AS OPEN TRENCHES.

CHANNELIZER PLACEMENT:

(A) THE SPACING BETWEEN DEVICES IN THE TAPER SHOULD NOT EXCEED A DISTANCE IN METERS EQUAL TO 0.3 TIMES THE POSTED SPEED LIMIT IN MPH PRIOR TO WORK STARTING.

(B) THE SPACING BETWEEN DEVICES IN THE WORK ZONE SHOULD NOT EXCEED A DISTANCE IN METERS OF 0.6 TIMES THE POSTED SPEED LIMIT IN MPH PRIOR TO WORK STARTING.

(C) WHERE EXISTING CONDITIONS WARRANT, THE ENGINEER MAY REQUIRE A DECREASE IN THE SPACING STIPULATED ABOVE. WHEN TRAFFIC CONTROL IS BID LUMP SUM, ADDITIONAL DEVICES WILL BE PAID FOR AS EXTRA WORK.

(D) CHANNELIZING DEVICES SHALL BE PLACED FOR OPTIMUM VISIBILITY, NORMALLY AT RIGHT ANGLES TO THE TRAFFIC FLOW.

(E) CHANNELIZING DEVICES PLACED ALONG SHOULDER EDGES OR IN DROPOFFS SHALL HAVE A MINUMUM OF 600 mm FROM THE TOP OF THE CHANNELIZING DEVICE TO THE TOP OF THE PAVEMENT.

LOCATION / ITEM	CROSS-OVERS	DIMENSIONS	TANGENTS	TAPERS	RAMPS	HEAD TO HEAD	OBJECT IDENTIFIER	
DRUMS	YES	YES	YES	YES	YES	(1)	YES	
TRIM LINES	(2)	(2)	(2)	(2)	(2)	(1,2)	YES	
PORTABLE VERTICAL PANELS	(3)	(3)	(3)	(3)	(3)	(1,3)	YES	
DIRECTION INDICATOR BARRICADE	NO	NO	NO	YES	NO	NO	NO	
TYPE IIBARRICADE	(3)	(3)	(3)	(3)	NO	NO	YES	
PORTABLE TUBULAR MARKERS	NO	NO	YES	NO	YES	(1)	NO	
FIXED TUBULAR MARKERS	(4)	(4)	(4)	(4)	(4)	YES	NO	
FIXED VERTICAL PANELS	(4)	(4)	(4)	(4)	(4)	(4)	YES	

(1) Not allowed on freeways or expressways, or for durations of more than three days.

(2) Place at normal spacing if sheeted with fluorescent orange prismatic sheeting. Place at $\frac{1}{2}$ spacing in tapers but pay at the rate of one device per full space if orange stripes are Type III high performance sheeting. Intermixing of trim line channelizers with fluorescent orange and orange Type III high performance sheeting is not allowed.

(3) Slashes must slope down toward direction traffic is to pass.

(4) Fixed tubular markers or Vertical Panels may be substituted for any of the above situations with the approval of the Engineer.

TAPER FORMULAS:

$L = WS$ FOR SPEEDS OF 45 MPH OR MORE

$L = WS^2/60$ FOR SPEEDS OF 40 MPH OR LESS

WHERE: L = MINIMUM LENGTH OF TAPER IN METERS
S = NUMERICAL VALUE OF POSTED SPEED PRIOR TO WORK STARTING IN MPH
W = WIDTH OF OFFSET IN METERS

NO.	DATE	REVISION	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

CHANNELIZING DEVICES

TE7025I 9/1/00

DESIGN APPROVAL			DATE	Michael F. McKenzie	
DESIGNED	T.P.K.	DETAILED	B.A.C.	QUANTITIES	TRACED
DESIGN EN.		DETAIL EN.		Quant. EN.	TRACE EN.

DGN: 15K7-1_ 0000001/MLC000000

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	15-87 K-8014-01	2002	13	21

GENERAL NOTES

1. MAINTENANCE:
   THE CONTRACTOR SHALL MAINTAIN ALL SIGNS AND DEVICES IN THEJR PROPER POSITION AND CLEAN OR REPLACE ANY DAMAGED OR ILLEGIBLE SIGN OR DEVICE AS DIRECTED BY THE ENGINEER.

2. EXISTING SIGNS:
   IF EXISTING SIGNS THAT ARE TO REMAIN (WHETHER DENOTED ON THE PLANS OR NOT) INTERFERE WITH CONSTRUCTION WORK. THE CONTRACTOR SHALL REMOVE. STORE. AND RESET THE SIGNS. THIS SHALL BE SUBSIDIARY TO OTHER TRAFFIC CONTROL BID ITEMS. SIGNING DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

3. CONFLICTING SIGNS AND SIGNS NOT IN USE:
   SIGNS THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN OR DO NOT APPLY TO THE TRAFFIC OPERATIONS SHALL BE IMMEDIATELY REMOVED. TURNED SO NOT VISIBLE TO TRAFFIC FROM ANY DIRECTION. OR COMPLETELY COVERED WITH ADEQUATE OPAQUE WATERPROOF MATERIAL. TAPE SHALL NOT BE APPLIED TO THE FACE OF THE SIGN. SIGNS NOT IN USE FOR A PERIOD LONGER THAN TWO WEEKS SHALL BE REMOVED. UNLESS OTHERWISE APPROVED BY THE ENGINEER.

4. TEMPORARY AND POST MOUNTED SIGNS:
   TRAFFIC CONTROL SIGNS THAT ARE ANTICIPATED TO REMAIN IN PLACE FOR 3 DAYS OR LESS ARE CONSIDERED "TEMPORARY". TEMPORARY SIGNS SHALL BE MOUNTED AT A MINIMUM HEIGHT OF 300 mm. TRAFFIC CONTROL SIGNS IN PLACE FOR OVER 3 DAYS ARE REQUIRED TO BE MOUNTED ON WOOD POSTS 89 mm X 89 mm MIN.). OR EQUIVALENT APPROVED BY KDOT BUREAU OF TRAFFIC ENGINEERING. AT A MINIMUM HEIGHT OF 1.5 m. A MINIMUM OF 1050 mm OF THE WOOD POST MUST BE BELOW THE GROUND SURFACE WITH ADEQUATE BACKFILL AND COMPACTION.

5. SHEETING:
   ALL ORANGE SIGNS SHALL BE RETROREFLECTORIZED WITH FLUORESCENT ORANGE PRISMATIC GRADE SHEETING. ALL OTHER SIGNS SHALL BE RETROREFLECTORIZED WITH TYPE III HIGH PERFORMANCE SHEETING OF STANDARD COLORS.

6. ROLL-UP SIGNS:
   ROLL-UP SIGNS MAY BE USED FOR TEMPORARY WARNING SIGNS. THEY MUST BE FLUORESCENT ORANGE PRISMATIC GRADE RETROREFLECTIVE SIGNS OF OPAQUE MATERIAL. MESH SIGNS ARE NOT ALLOWED.

7. SIGNS INVOLVING SPEEDS:
   THE M4-20(WORK ZONE). R2-1(SPEED LIMIT). R2-5E(REDUCED SPEED AHEAD) SHOULD BE USED ONLY IF THE ENGINEER DETERMINES THAT A REDUCED SPEED IS REQUIRED THROUGHOUT THE PROJECT.

   THE M4-20(WORK ZONE) AND R2-1(SPEED LIMIT) SHALL BE INSTALLED THROUGHOUT THE LENGTH OF THE PROJECT AS DIRECTED BY THE ENGINEER AND BE PAID FOR AT THE "EACH PER DAY" BID FOR THE SIZE OF SIGN USED.

   FOR SPEEDS OF 30 MPH OR LESS ON TURNS OR REVERSE TURNS. USE THE W1-1 (TURN) OR W1-3(REVERSE TURN). RESPECTIVELY. FOR SPEEDS OF 35 MPH OR MORE ON CURVES OR REVERSE CURVES. USE THE W1-2(CURVE) OR W1-4(REVERSE CURVE) RESPECTIVELY.
   THE W13-1(MPH) IS TO BE ELIMINATED IF THE ADVISORY SPEED IS WITHIN 5 MPH OF THE SPEED LIMIT.

8. OBJECT MARKING:
   WHERE PERMANENT TYPE 3 OBJECT MARKERS ARE NOT ALREADY IN PLACE. ORANGE AND WHITE FIXED VERTICAL PANELS SHALL BE ERECTED TO DELINEATE EXPOSED BRIDGE ENDS.

9. SIGNS CONTROLLING WORK AREA:
   THE G20-2A(END ROAD WORK) SHOULD BE PLACED 150 m FROM THE END OF THE ACTUAL WORK AREA. NOT NECESSARILY AT THE EXTREME LIMITS OF THE PROJECT.

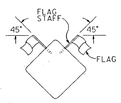
   WHERE TWO WORK AREAS ARE LESS THAN 1.6 km APART IN RURAL AREAS OR 0.4 km APART IN URBAN AREAS. THE G20-2A(END ROAD WORK) FOR THE FIRST WORK AREA AND THE W20-1(ROAD WORK) FOR THE SECOND WORK AREA SHOULD BE ELIMINATED.

   THE G20-1(ROADWORK NEXT X MILES) IS TO BE USED IF THE PROJECT EXCEEDS 3.2 km. THE LENGTH SHOWN AS "X" SHALL BE TO THE NEAREST WHOLE MILE.

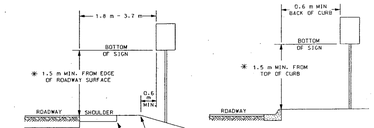
   WHERE THE ROAD IS OPEN BEYOND THE POINT OF CLOSURE. EITHER THE R11-3 (ROAD CLOSED __ MILES AHEAD LOCAL TRAFFIC ONLY) OR THE R11-4 (ROAD CLOSED TO THRU TRAFFIC) SHOULD BE SUBSTITUTED FOR THE R11-2(ROAD CLOSED).

10. WARNING LIGHTS ON SIGNS:
    WARNING LIGHTS SHALL COMPLY WITH THE CURRENT I.T.E. PURCHASE SPECIFICATIONS FOR FLASHING AND STEADY BURN WARNING LIGHTS. TYPE B HIGH INTENSITY LIGHTS ARE TO BE USED ON CONSTRUCTION WARNING SIGNS AS DIRECTED BY THE ENGINEER.

    THEY SHALL NOT BE INSTALLED ON SIGNS MOUNTED LESS THAN 1.5 m HIGH ON TEMPORARY SUPPORTS. THEY SHALL BE MAINTAINED SO THAT THEY ARE CAPABLE OF BEING VISIBLE ON A SUNNY DAY FROM A DISTANCE OF 300 m WHEN VIEWED WITHOUT THE SUN DIRECTLY ON OR BEHIND THE DEVICE.



TWO (2) 450 mm x 450 mm FLUORESCENT RED-ORANGE FLAGS ARE TO BE ATTACHED IN THE POSITION SHOWN ON THE W1-1(TURN). W1-2(CURVE). W1-3(REVERSE TURN). W1-4(REVERSE CURVE). W3-3(SIGNAL AHEAD). W4-2(LANE REDUCTION). W20-4(ONE LANE ROAD). W20-5(LANE CLOSED). W20-7A(FLAGGER). AND W20-7B(BE PREPARED TO STOP) SIGNS AND ANY OTHER ACTION SIGNS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE FLAGS AND STAFFS ARE TO BE ATTACHED IN SUCH A MANNER THAT THE SIGN WILL NOT BE OBSCURED. THE FLAGS MAY BE EITHER A CLOTH OR VINYL MATERIAL. THE FLAGS SHALL BE SUBSIDIARY TO THE CONSTRUCTION SIGN BID ITEMS.



* NOTE: A. IN BUSINESS. COMMERCIAL. AND RESIDENTIAL DISTRICTS. THE DISTANCE BETWEEN THE BOTTOM OF THE SIGN AND THE TOP OF THE NEAR EDGE OF THE TRAVEL WAY SHALL BE AT LEAST 2.1 m.

B. LARGE SIGNS HAVING AN AREA EXCEEDING 5 SQUARE METERS THAT ARE INSTALLED ON MULTIPLE BREAKAWAY POSTS SHALL BE MOUNTED A MINIMUM OF 2.1 m ABOVE THE GROUND

C. THE HEIGHT TO THE BOTTOM OF THE SECONDARY SIGN MOUNTED BELOW ANOTHER SIGN MAY BE 0.3 m LESS THAN THE APPROPRIATE HEIGHT SPECIFIED ABOVE

HEIGHT AND LATERAL DIMENSIONS FOR POST MOUNTED SIGNS
(ALL SIGNS LEFT IN PLACE OVER 3 DAYS)

SIGN LAYOUT INFORMATION

	STD. SIZE	EXPWY/FREEWAY
W20-7b (BLACK/ORANGE) 1200 mm x 1200 mm	175 C	200 C
	175 C	200 C
	175 C	400 E
	100 C	200 C
	100 C	200 D
R2-5e (BLACK/WHITE)	600 X 900	1200 X 1800
WORK ZONE M4-20 (BLACK/ORANGE)	75 C 600 X 150	150 C 1200 X 300

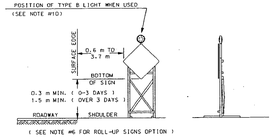
TEXT DIMENSIONS ARE IN mm- SERIES "C" FONT

ADVANCE WARNING SIGN SPACING (IN METERS):

	A	B	C
URBAN (40 MPH OR LOWER)	*60*	*60*	*60*
URBAN (45 MPH OR HIGHER)	*115*	*115*	*115*
RURAL	*150*	*150*	*150*
EXPRESSWAY/FREEWAY	*300*	*525*	*800*

THE SPACING BETWEEN ANY SIGNS MAY BE ADJUSTED AS APPROVED BY THE ENGINEER IN ORDER TO MAXIMIZE VISIBILITY.

IN NO CASE SHALL THE SPACING BETWEEN ANY SIGNS BE LESS THAN 30 m.



HEIGHT AND LATERAL DIMENSIONS FOR SIGNS MOUNTED ON SKIDS OR OTHER MOVABLE MOUNTS

NO.	DATE	REVISION	BY	APPR.
3				
2				
1	6-11-01	REDUCED MOUNTING HEIGHT	J.M	S.A.B

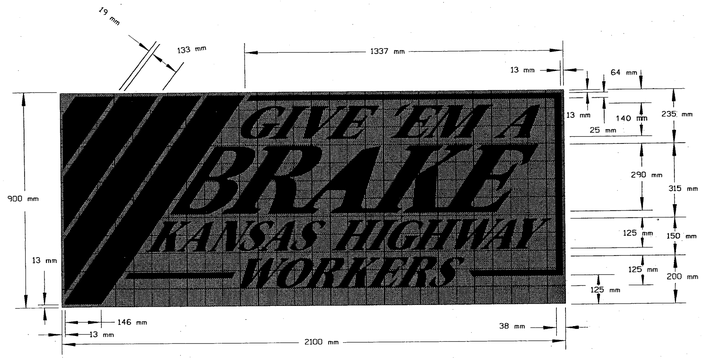
KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS

TE7105I 9/1/00

FHWA APPROVAL	6-26-01		APPD.	WICHAE P. MOLEFOE	
DESIGNED L.E.P.	DETAILED R.A.M.		QUANTITIES		TRACED
DESIGN CK.	DETAIL CK.		SIGNS CK.		TRACE CK.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	H-87 K-8044-01	2002	15	21

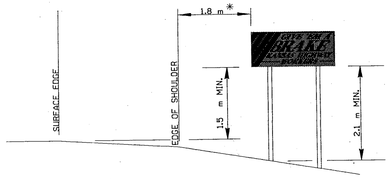


FONT : GARTH GRAPHIC
SLANT : 35° (from vertical)
SPACING: 100% (EXCEPT "BRAKE")

I104
1 square =75 mm

COLORS:

BACKGROUND	- BLACK	KANSAS HIGHWAY	- ORANGE
GIVE 'EM A	- WHITE	WORKERS	- ORANGE
BRAKE	- WHITE	BORDER	- WHITE
		STRIPES	- ORANGE



* If there is no shoulder, the sign shall be placed 1.8 m-3.7 m from the surface edge. If the sign is located in a business, commercial, or residential area where parking and/or pedestrian movement is likely to occur, the minimum lateral clearance from the surface edge of 1.8 m may be reduced to 0.6 m. If there is no feasible location, the sign may be eliminated with the approval of the Engineer.

In business, commercial, and residential districts, the distance between the bottom of the sign and the top of the near edge of traveled way shall be at least 2.1 m.

HEIGHT AND LATERAL PLACEMENT

GENERAL NOTES

The sign blank material shall be aluminum, wood, or fiberglass reinforced plastic.

The orange portion of the I104 sign shall be fluorescent orange prismatic grade retroreflective sheeting. The white portion shall be white Type III high performance retroreflective sheeting.

The signs are to be erected to yield upon impact. Guy wires and tie-downs are not allowed.

Typically, there are to be two informational signs erected per project: one for each direction of traffic.

Install signs a minimum of 75 m in advance of the Road Work Ahead sign. The Engineer may designate a more appropriate location if conditions dictate.

The informational signs are not to interfere with the traffic control signs for the project.

NO.	DATE	REVISION	BY	APPD
3				
2				
1	9-23-13	REDUCED MOUNTING HEIGHT	JM	S.A.B.

KANSAS DEPARTMENT OF TRANSPORTATION
DETAILS FOR
I104 ("GIVE 'EM A BRAKE") SIGN

TE 7251 9/1/00

FINAL APPROVAL	9-23-13		JAMES McDONALD P.E. MGR. ENGINEERING		
DESIGNED: L.E.A.	DETAILED: S.A.B.		QUANTITIES		TRACED
DESIGN CK.	DETAIL CK.		SIGNS CK.		TRACE CK.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	IS-87 K-8014-01	2002	16	21

SUMMARY OF QUANTITIES

REMOVAL AND RESETTING OF SIGNS ON PROJECT

EXISTING PLAN STATION NUMBER	NEW PLAN STATION NUMBER	SIGN TYPE	SIGN SIZE (mm)
10+283.8	10+283.8		
10+341.3	10+339.6	SNS(D3)	
10+341.2	10+340.0		

EXISTING PLAN STATION NUMBER	NEW PLAN STATION NUMBER	SIGN TYPE	SIGN SIZE (mm)

EXISTING PLAN STATION NUMBER	NEW PLAN STATION NUMBER	SIGN TYPE	SIGN SIZE (mm)

EXISTING PLAN STATION NUMBER	NEW PLAN STATION NUMBER	SIGN TYPE	SIGN SIZE (mm)

NOTE:

THE CONTRACT PRICE FOR THE BID ITEM 'REMOVAL AND RESETTING OF SIGNS' SHALL BE PAYMENT IN FULL FOR THE REMOVING AND RESETTING OF SIGNS AS SPECIFIED HEREIN. THE CONTRACT PRICE SHALL BE FULL COMPENSATION FOR REMOVING THE EXISTING SIGN FROM THE POST OR POSTS, STORING THE SIGN, TRANSPORTING THE SIGN TO THE NEW LOCATION, FURNISHING ALL BOLTS, NUTS, WASHERS, POST CLIPS, AND ATTACHMENTS, AND ATTACHING THE SIGN OR SIGN ASSEMBLIES TO THE POST OR POSTS AND ALL LABOR REQUIRED.

THE CONTACTOR SHALL BE HELD RESPONSIBLE FOR THE SATISFACTORY HANDLING OF SIGNS. ALL SIGNS WHICH ARE DAMAGED DURING REMOVAL, STORAGE, TRANSPORT, OR RESETTING, THUS IMPAIRING THEIR FUTURE USE, SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST TO KDOT.

NO.	DATE	REVISION	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES FOR REMOVAL AND RESETTING OF SIGNS

TE4635I 10-1-93

FINAL APPROVAL	10-25	UNITS	MARK A. DUNZWEILER		
DESIGNED SC	DETAILED	QUANTITIES		TRACED SC	
DESIGN CK	DETAIL CK.	DESIGN CK.		TRACE CK.	

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	14-87 K-8014-01	2022	17	21

CURB and GUTTER (Special)

STATION to STATION	SIDE	QUANTITY
10+212.2 to 10+332.0	Rt.	113.8 m
10+332.0 to 10+340.6	Rt.	12.2 m
10+349.5 to 10+352.0	Rt.	6.0 m
TOTALS		132 m

CONCRETE PAVEMENT (200 mm)

STATION to STATION	SIDE	QUANTITY
10+212.2 to 10+398.8	Rt.	847 sq m
TOTALS		847 sq m

SEWER MANHOLE ADJUST

STATION	SIDE	QUANTITY
10+292.7	18.3 m Rt.	1
10+349.6	27.8 m Rt.	1
10+360.2	16.6 m Rt.	1
TOTALS		3

CONCRETE DRIVE (200 mm)

CENTERLINE STATION	SIDE	QUANTITY
10+245.3	Rt.	73.5 sq m
10+278.0	Rt.	130.5 sq m
TOTALS		204.0 sq m

A.C. PAVEMENT (50 mm)

STATION to STATION	SIDE	QUANTITY
10+212.2 to 10+398.8	Rt.	847 sq m
TOTALS		847 sq m

A.C. PAVEMENT (150 mm) (Shoulder)

STATION to STATION	SIDE	QUANTITY
10+352.1 to 10+398.8	Rt.	110 sq m
TOTALS		110 sq m

REINF. CRUSHED STONE SUB. (150 mm)

STATION to STATION	SIDE	QUANTITY
10+212.2 to 10+398.8	Rt.	1000 sq m
TOTALS		1000 sq m

●REMOVAL OF EXISTING STRUCTURES

STATION to STATION	SIDE	TYPE	QUANTITY
10+244 to 10+269	Rt.	450mm Pipe	25 m
10+273 to 10+307	Rt.	Guard Fence	34 m
10+300	Rt.	1200mm End Section	1

● For Information Only

DRAINAGE STRUCTURES

STATION	SIDE	SIZE	TYPE	GRADE 28 CONC. m^3	REINF. STEEL kg	Pipe (m) 450 mm		Inlets (each) Type 22		Inlets (each) Special		End Sections (each) 450 mm		HEIGHT FILL m	CONC. PIPE AASHTO CLASS NO.	PIPE THICKNESS STEEL
10+234	Rt.		RCP			6.6						1		0.5		
10+234	Rt.	3.0mx1.2m														
10+250	Rt.		RCP			1.8		1				1		0.5		
10+250	Rt.		RCP			28.0								0.5		
10+250	Rt.	3.0mx1.2m	RCP					1								
10+398.8	Rt.		RCP			30.6				1				0.9		
10+398.8	Rt.	4.0mx1.8m														
TOTALS						74.2		2		1		2				

EARTHWORK

STATION to STATION	EXCAVATION COMMON m^3	EXCAVATION COMMON VMF	EXCAVATION ROCK m^3	EXCAVATION ROCK VMF	COMMON CON.TR. FUSH. ϕ m^3	COMPACTION TYPE AA MR- m^3	COMPACTION TYPE B MR- m^3	THROUGH CUTS NOT SUBGRADED COMMON EXC. m^3	THROUGH CUTS NOT SUBGRADED TYPE AA (MR-) m^3	* EMBANKMENT m^3 INITIAL CONSOL.	* EMBANKMENT m^3 SETTLEMENT	PLACING SELECT SOIL ▲ m^3
10+210.00 to 10+398.8	215.8	0.8	172.7	0.8	65		257.8					
TOTALS												

ϕ Assumed VMF for Contractor furnished excavation is 0.8. * Subsidiary (see General Note). ▲ See General note.

RECAPITULATION OF BRIDGE QUANTITIES

BRIDGE NUMBER	STATION	SEE SHEET NO.

RECAPITULATION OF ROAD QUANTITIES

ITEM	QUANTITY	UNIT
Site Preparation and Restoration	1	LS
Borrow Excavation (Contractor Furnished)	95	cu m
Excavation	216	cu m
Rock Excavation	930	sq m
AC Pavement (50mm)	847	sq m
AC Pavement (200mm)	847	sq m
Reinf. Crushed Stone Subgrade (150mm)	1000	sq m
AC Pavement (150mm) (Shoulder)	110	sq m
200mm Concrete Drive	204	sq m
Curb and Gutter (Special)	132	m
Inlet Curb (Type 22)	2	ea
SWS Pipe RCP 450mm	74.2	m
End Section 450mm RCP	2	ea
Special Inlet Structure	1	LS
Removal of Existing Structures	1	LS
Erosion Control (SMP)	1	LS
Traffic Control	1	LS
Signing	2	ea
Sewer MH Adjustment	1	ea
Sewer MH Adjustment (Non-Participating)	1	LS
Transportation of Salvage Material (Non-Participating)	1	LS

See Sheet R-1 For Additional Quantities

NO.	DATE	REVISIONS	BY	APPR.
1	8-30-05	Rev. Concrete from Grade to Grade.	KSJ	JDB
0	8-26-05	INITIAL	BF	APPR.

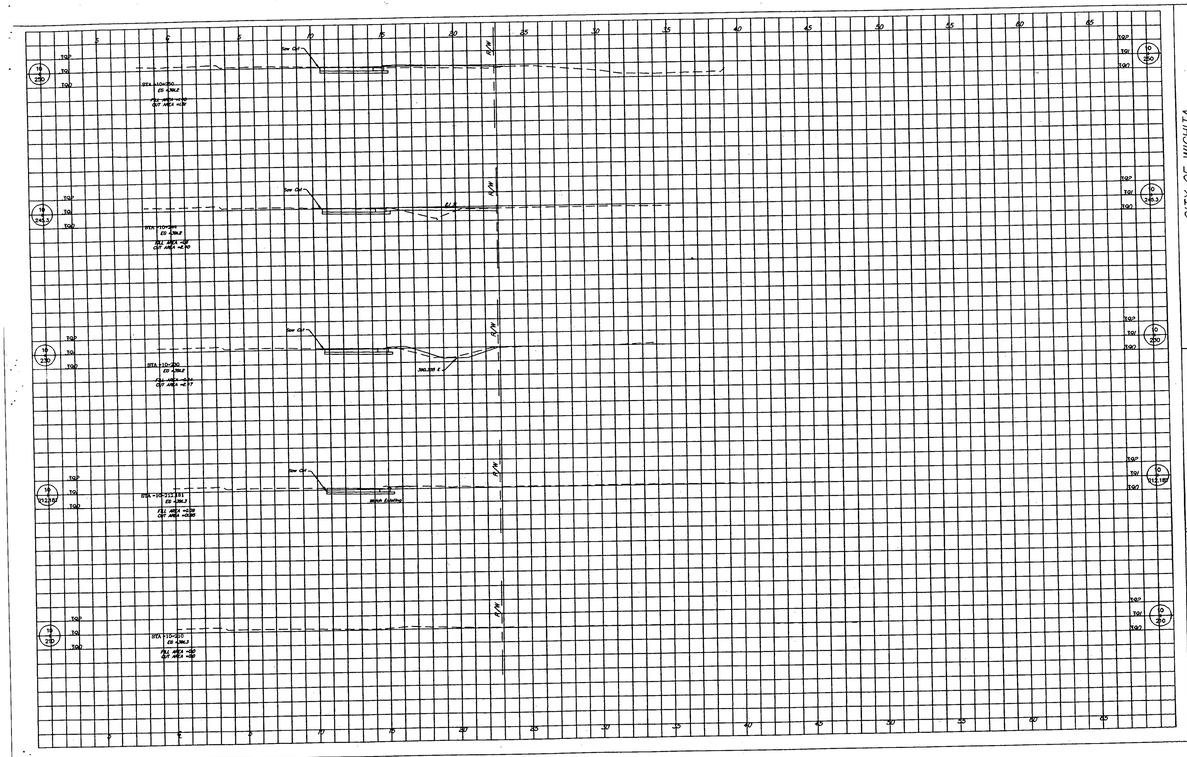
KANSAS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

RD500 SI

TYPE APPROVAL	8-26-05	APPR. James D. Bower	
DESIGN	INITIALS	QUANTITIES	TRACED Bowger
DESIGN CK.	INITIAL CK.	BUNA CK.	TRACE CK. Seitz

PROJECT TITLE: DRAINAGE ● CURVATURE ● SIGNS ● LINE STYLES ● TITLE BLOCKS ● PLOTTING SCALE ● PLOT DATE



CITY OF WICHITA

CROSS SECTIONS

WICHITA, KANSAS

Schaub-Tatro, P.A.
CIVIL ENGINEERS • LAND SURVEYORS
AND LANDSCAPE ARCHITECTS
8600 West Frazier, Suite 2, Wichita, Kansas 67204

PROJECT NO. CW0008
REVISED: DATE:

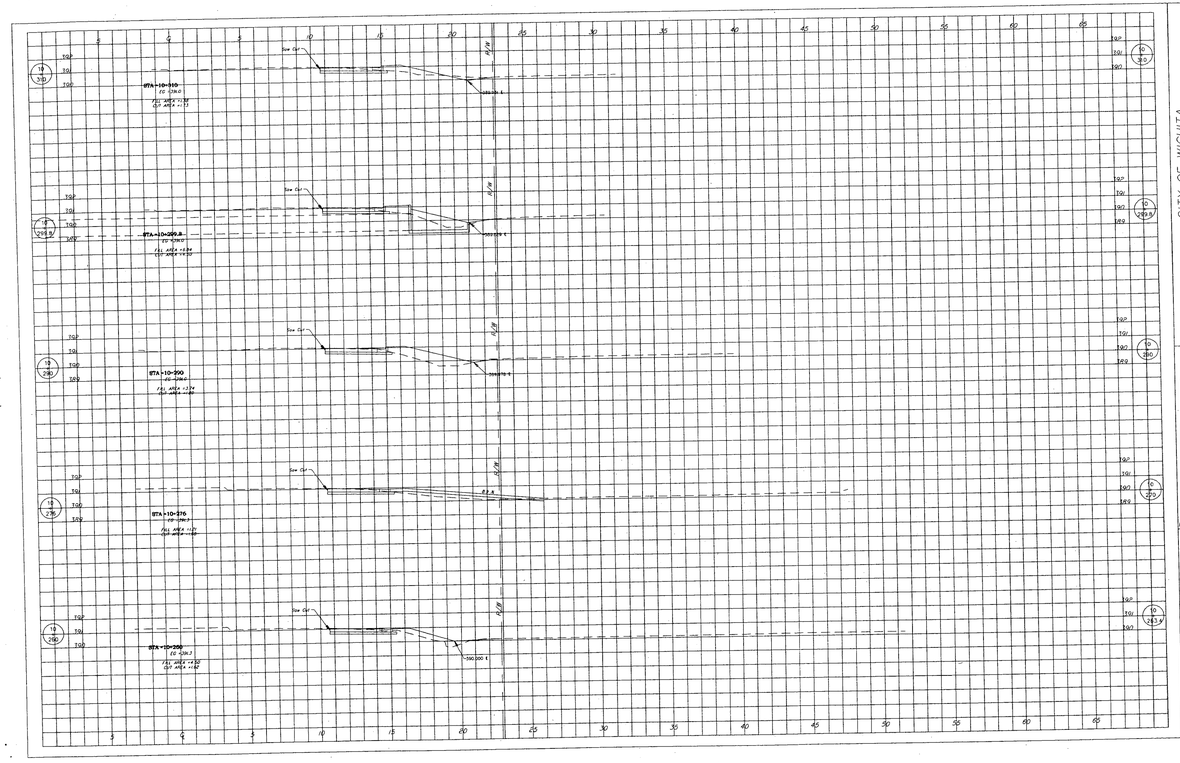
CHECKED BY: CM

DRAWN BY: DJC

DATE: SEPTEMBER 2002

SHEET NUMBER: 18

TOTAL SHEETS: 21

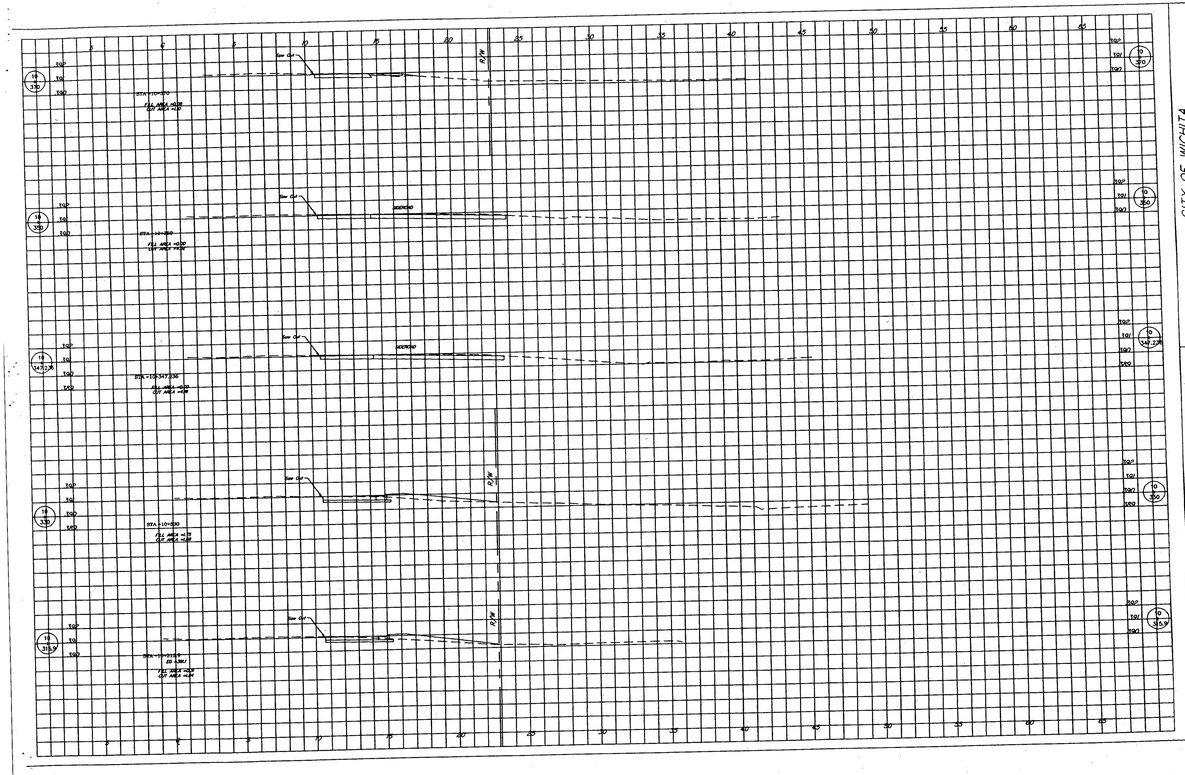


CITY OF WICHITA
CROSS SECTIONS
WICHITA, KANSAS

Schwab-Eaton, P.A.
CIVIL ENGINEERS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS
805 West Pawnee, Suite C, Wichita, Kansas 67212

PROJECT NO. 01W002
REVISED: DATE:

CHECKED BY: CM
DRAWN BY: DJC
DATE: MARCH, 2004
SHEET NUMBER: 19
TOTAL SHEETS: 21

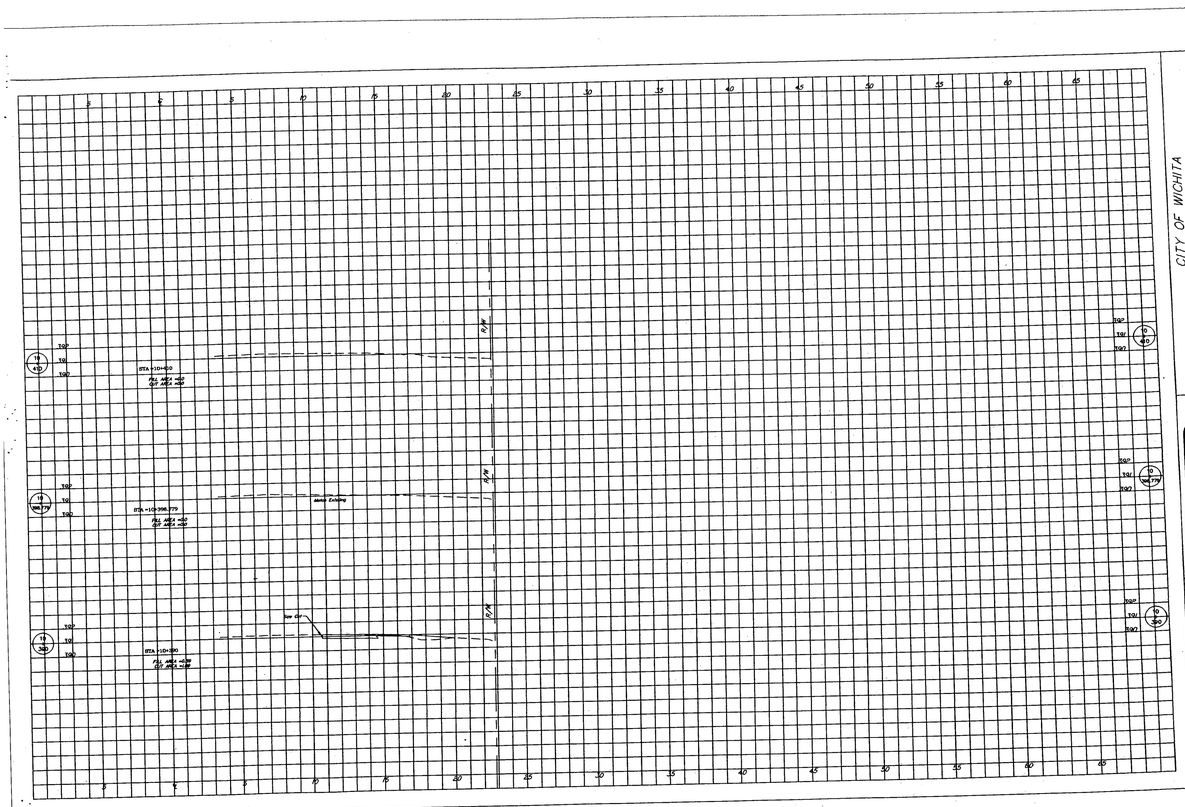


CITY OF WICHITA
CROSS SECTIONS
WICHITA, KANSAS

Schaub-Ratzlaff, P.A.
CIVIL ENGINEERS • LAND SURVEYORS
AND LANDSCAPE ARCHITECTS
855 West Francis, Suite 2 Wichita, Kansas 67206

PROJECT NO. 01-0002
REVISED: DATE:

CHECKED BY: CM
DRAWN BY: DJC
DATE: SEPTEMBER 2002
SHEET NUMBER: 20
TOTAL SHEETS: 21


5
10
15
20
25
30
35
40
45
50
55
60
65
RAM
RAM
RAM
RAM
TOP
TOP
TOP

FHWA REG. NO.	STATE	PROJECT NO.	YEAR	SHEET NUMBER	TOTAL SHEETS
7	KANSAS	15-87 K-8014-01-GI	2003	R-1	2

STATE OF KANSAS

DEPARTMENT OF TRANSPORTATION

RESURFACING

K-15 FROM KTA/I-35 TO I-135

Project No: 472-83363

O.C.A. No.: 706815

CITY OF WICHITA, SEDGWICK COUNTY, KANSAS

JIM ARMOUR, P.E. - ACTING CITY ENGINEER

INDEX OF SHEETS

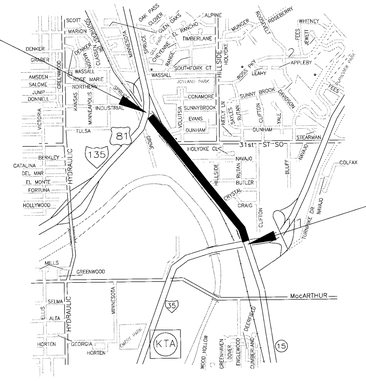
SHEET NO.: R-1 TITLE SHEET
R-2 TYPICAL SECTIONS AND GENERAL NOTES

COLD MILLING
ASPHALT OVERLAY
ASPHALT SHOULDER REPAIR
PAVEMENT MARKINGS
CONCRETE BASE REPAIR

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
1	50mm Nominal Cold Milling	30218	sq m
2	25mm Refl. Crack Reliief Overlay	1134	MT
3	50mm BMI-B (PG 70-28) Asphalt Overlay	4031	MT
4	150mm Asphalt Shoulder Repair (75m SC-II/75mm BC-I, PG 64-22) w/ 50mm Non-Reinf. Crushed Concrete Base	5961	sq m
5	100mm White Pavement Markings (Thermoplastic)	5378	m
6	100mm Yellow Pavement Markings (Thermoplastic)	3562	m
7	610mm White Pavement Markings (Thermoplastic)	31	m
8	8" Reinf. Concrete Base Repair	200	sq m
9	Sodding and Seeding	1	LS

STA. 1+890.729
PROJECT NO. 15-87-K-8014-01-GI
KLINK 1R RESURFACING @I-135



STA. 0+000
PROJECT NO. 15-87-K-8014-01-GI
KLINK 1R RESURFACING @ KTA/I-35

N
NO SCALE

DESIGN DESIGNATION

K-15

AADT (2002) = 32,900
Posted Speed Limit = 50 MPH (80 KPH)

GROSS LENGTH OF PROJECT	1782 m
EXCEPTIONS	0.00 m
ADDITIONS	0.00 m
NET LENGTH OF PROJECT	1782 m
GROSS LENGTH OF BRIDGES	0.00 m
GROSS LENGTH OF ROAD	1782 m

APPROVED - DATE

JIM ARMOUR, P.E.
ACTING CITY ENGINEER
CITY OF WICHITA, SEDGWICK COUNTY, KANSAS

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
455 N. MAIN, 7TH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4519 PHONE
(316) 268-4114 FAX

K-15
FROM I-135 TO KTA/135

JIM ARMOUR, P.E.-ACTING CITY ENGINEER

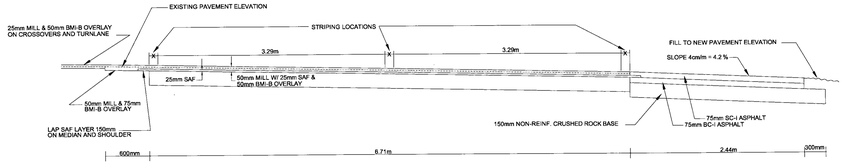
ENGINEER	DRAWN BY:
S. BREITENBACH	J. KALLMAN
PROJECT NUMBER	INDEX CODE
472-83363	706815
DATE NOV. 2003	SHEET R-1 OF 2

FHWA REG. NO.	STATE	PROJECT NO.:	YEAR	SHEET NUMBER	TOTAL SHEETS
7	KANSAS	87 K-8014-01-G	2003	R-2	2

K-15

K.T.A. TO NORTH LINE OF 31ST STREET SOUTH TYPICAL

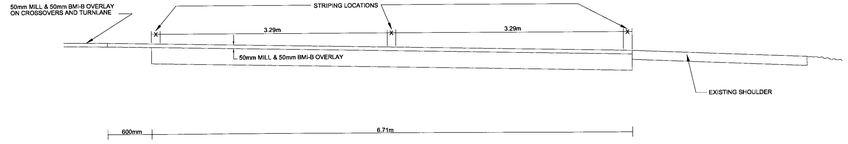
APPROXIMATE KLINK STATIONING 0+000 TO 1+240



K-15

NORTH LINE OF 31ST STREET SOUTH TO I-135 TYPICAL

APPROXIMATE KLINK STATIONING 1+240 TO 1+782



GENERAL NOTES:

ALL CONCRETE PAVEMENT REPAIR SHALL BE DONE IN ACCORDANCE WITH SECTION 511.3 OF THE CITY OF WICHITA STANDARD SPECIFICATIONS EXCEPT THAT ALL PAVEMENT SHALL BE REINFORCED WITH 6x6, W4xW4 WELDED WIRE FABRIC.

ALL ASPHALT SHOULDER REPAIR SHALL BE DONE IN ACCORDANCE WITH SECTION 405 OF THE CITY OF WICHITA STANDARD SPECIFICATIONS EXCEPT THAT THE BINDER SHALL BE PG64-22.

ALL ASPHALT WEARING SURFACE SHALL BE BMI-B WITH PG70-28 BINDER AND SHALL BE PAID IN METRIC TONS (MT).

KDOT PROJ. NO. 87 K-8014-01 GI

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL – SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4519 FAX

K-15 FROM KTA/I-35 TO I-135

J.W. ARMOUR, P.E.–ACTING CITY ENGINEER

ENGINEER: S. BREITENBACH	DRAWN BY: J. KALLMAN
PROJECT NUMBER: 472-83363	O.E.A.: 706815
DATE: NOV. 2003	SHEET R-2 OF 2