STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	1	104

STATE OF KANSAS

DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED KELLOGG AVENUE (US-54) 111TH ST. W. SIGNAL REMOVAL

CITY OF WICHITA PROJECT NO. 472-85393 O.C.A. NO. 707136

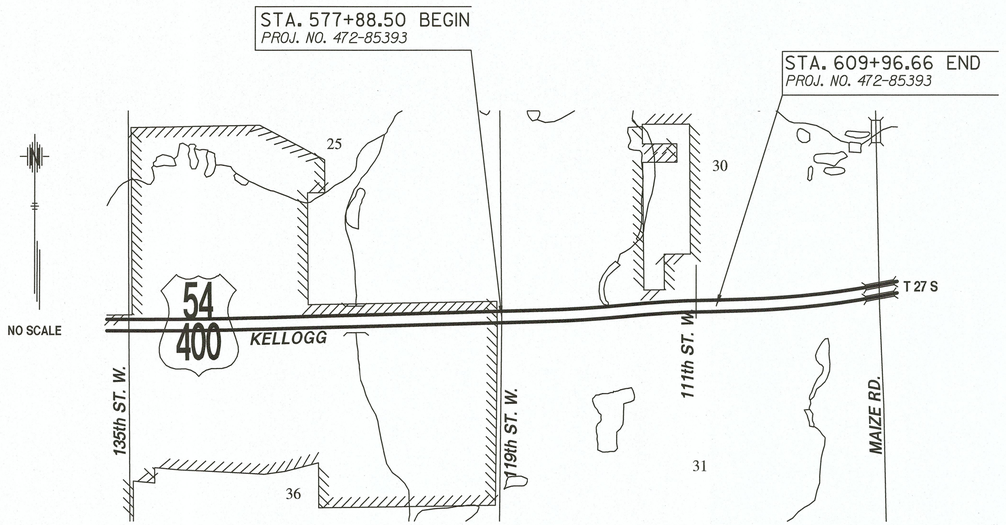
SEDGWICK COUNTY

CITY OF WICHITA

GRADING & CONCRETE PAVEMENT **707136**
SURFACING
SEEDING
SIGNING
PAVEMENT MARKING
TRAFFIC SIGNAL

INDEX OF SHEETS

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DESIGN DESIGNATION

AADT (2010)	= 40,600
AADT (2035)	= 74,700
DHV	= 11.0%
D	= 60%
T	= 5%
V	= 60 MPH
C of A	= PARTIAL
Clear Zone	= 30'

CONVENTIONAL SIGNS

COUNTY LINE
CITY LIMITS
STATE OR NATIONAL LINE
TOWNSHIP, SECTION or GRANT LINE
PROPERTY LINE
HIGHWAY FENCE
EXISTING FENCE
GUARDRAIL
CONSTRUCTION LIMITS
RIGHT OF WAY LINE
TRAVELED WAY
RAILROADS

CENTER LINE OF PROJECT (50 / 1)
TERRACE
CULVERTS
DROP INLET & STORM SEWER
ACCESS CONTROL
POWER POLE
TELEPHONE POLE
MARSH
HEDGE
TREES
PROFILE ELEVATION (1172.18)
STREAM or CREEK

GENERAL NOTES

ALL CONSTRUCTION WORK AND MATERIAL IN THIS PROJECT SHALL COMPLY WITH CITY OF WICHITA STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF CITY PROJECTS UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIAL PROVISIONS.

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. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

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. TREE REMOVAL, AS REQUIRED, WILL BE PAID FOR AS "SITE CLEARING".

RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR AND APPROVED AS NOTED BELOW.

ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

CONTRACTOR SHALL SATISFY HIMSELF OF SURFACE AND SUBSURFACE CONDITIONS PRIOR TO BIDDING.

FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY EXCAVATION WORK. CONTACT THE KANSAS ONE-CALL SYSTEM AT 316-687-2470 AT LEAST 48 HOURS IN ADVANCE TO REQUEST FIELD LOCATES. FOR UTILITIES THAT ARE NOT MEMBERS OF THE KANSAS ONE-CALL SYSTEM, CONTACT THOSE COMPANIES DIRECTLY.

CONTRACTOR IS RESPONSIBLE FOR PRESERVING EXISTING PROPERTY IRONS. RE-ESTABLISH ANY EXISTING PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY CONSTRUCTION OPERATIONS, OR WHICH ARE COVERED BY 12" OR MORE OF FILL MATERIAL BY THIS PROJECT. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS AND AT NO ADDITIONAL COST TO THE CITY.

THE WATER DEPARTMENT SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, WATER METER BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

WATER VALVES, METERS AND FIRE HYDRANTS SHALL BE ADJUSTED BY THE CONTRACTOR TO MEET FINAL GRADES, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL REMOVE EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION. SIGNS DAMAGED THRU NEGLIGENCE OF THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE CITY. THE CONTRACTOR SHALL STOCKPILE THE SIGNS ALONG THE R/W (AT A CENTRAL LOCATION) FOR REMOVAL BY CITY FORCES.

ALL EXISTING PAVEMENT AND CURB AND GUTTER WITHIN THE CONSTRUCTION LIMITS SHALL BE SAW CUT, FULL DEPTH, TO THE NEAT LINES SHOWN ON THE PLANS, OR TO THE NEAREST JOINT, AND REMOVED, UNLESS OTHERWISE NOTED. SAW CUTTING SHALL BE SUBSIDIARY TO THE BID ITEM "CONCRETE &/OR ASPHALT PAVEMENT REMOVED".

ALL RCB, STORMWATER SEWER AND WATERLINE EXCAVATION UNDER PROPOSED PAVEMENT SHALL BE SAND FILLED AND FLUSHED (JETTED AND VIBRATED) WITH WATER PER REQUIREMENTS LISTED IN THE STANDARD SPECIFICATIONS FOR THE CITY OF WICHITA, UNLESS FLOWABLE FILL OR OTHER IMPROVED BACKFILL MATERIAL IS OTHERWISE SPECIFIED. THE SAND FILL SHALL BE BROUGHT UP UNIFORMLY TO AN ELEVATION 12 INCHES ABOVE THE TOP OF THE PIPE OR 2 FEET BELOW THE BOTTOM OF PROPOSED PAVEMENT, WHICHEVER IS HIGHER. ALL COSTS FOR SAND FILLING AND FLUSHING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "FILL, SAND (FLUSHED AND VIBRATED)". THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID PER LINEAR FOOT OF TRENCH FILLED REGARDLESS OF THE TRENCH DEPTH AND/OR PIPE SIZE UNLESS INDICATED OTHERWISE BY THE PLANS OR CONTRACT.

ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO MAKE CONNECTIONS TO EXISTING PIPE OR EXISTING SMALL STRUCTURES SHALL NOT BE PAID FOR DIRECTLY; BUT SHALL BE SUBSIDIARY TO OTHER ITEMS OF THE CONTRACT.

COLIN K. COSTLEY LICENSED 19762 TRANSISTOR PROFESSIONAL ENGINEER

Construction Traffic Notes

TRAFFIC TO BE CARRIED THROUGH CONSTRUCTION ON US-54. FOR TRAFFIC HANDLING AND CONSTRUCTION SEQUENCE SEE SH. NO. 56

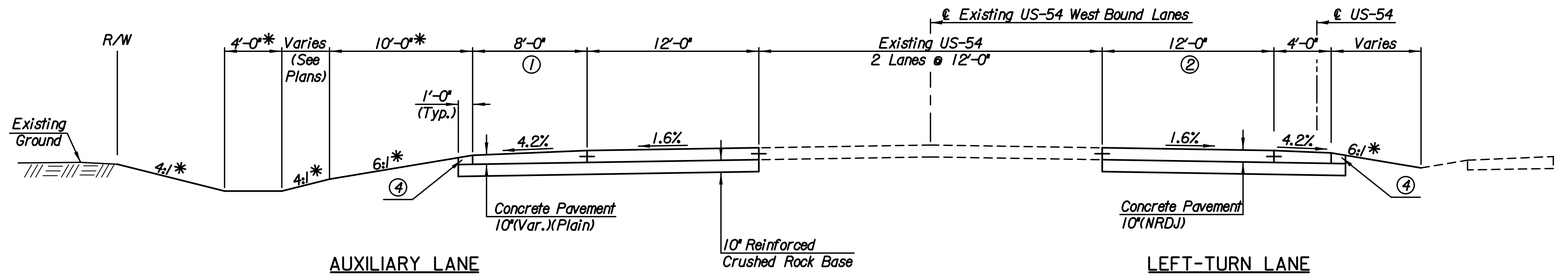
PLANS PREPARED BY:

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

DATE	BY

SURVEY
CADD TECHNICIAN
DESIGNERS
CHECKED

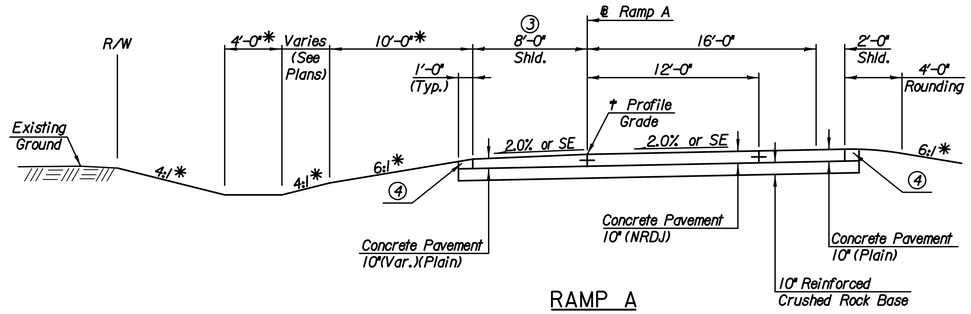
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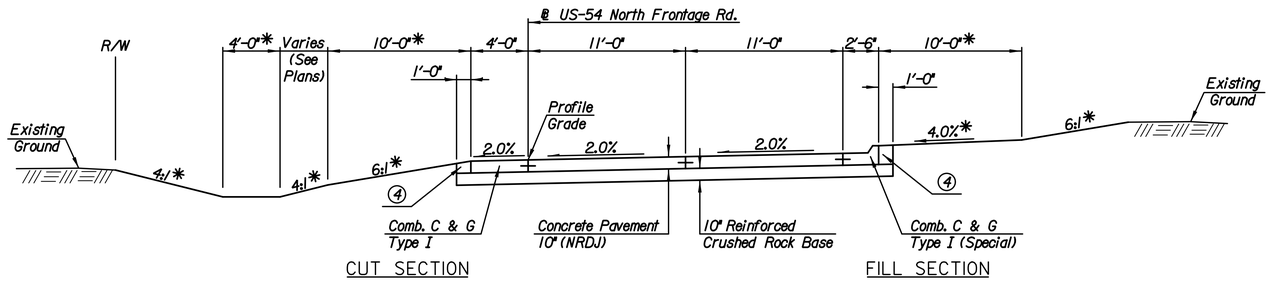
AUXILIARY LANE
Sta. 582+03.25 to Sta. 599+88.25

LEFT-TURN LANE
Sta. 583+07.50 to Sta. 591+00.00

US-54 TYPICAL SECTION



RAMP A



CUT SECTION

FILL SECTION

NORTH FRONTAGE RD. TYPICAL SECTION
Sta. 601+95.00 to Sta. 605+37.60

① Varies from 6'-0" @ Sta. 582+03.25 to 8'-0" @ Sta. 583+00

② Varies from 12'-0" @ Sta. 588+00 to 0'-0" @ Sta. 591+00

③ Varies from 8'-0" @ Sta. 599+50 to 10'-0" @ Sta. 600+50

④ Backfill/Backfill behind Curb. Quantities for this work are included in the Earthwork Summary Table.

† Point of Superelevation Rotation.

* Dimensions and slopes for standard ditches and fills. See Plan and Cross-Sections for variations.

No.	Revision	By	Date

111th St. West Signal Removal

US-54
TYPICAL SECTIONS

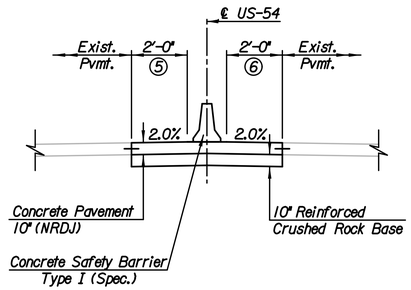
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

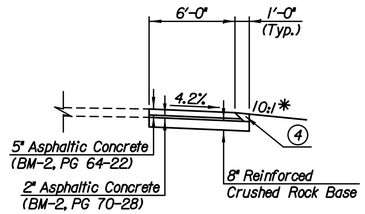
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Drawn by	CP	Date	Jan., 2018

Sht. 2 of 104

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US-54 CONCRETE SAFETY BARRIER TYPICAL



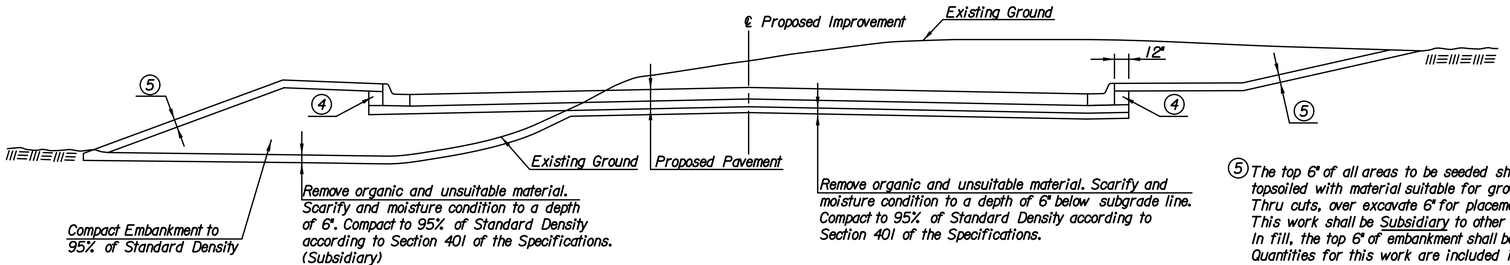
6' MEDIAN SHOULDER TYPICAL

④ Backfill/Backfill behind Curb. Quantities for this work are included in the Earthwork Summary Table.

⑤ 13'-10½" from Sta. 601+30 to Sta. 604+88.75

⑥ Varies from 12'-0¼" @ Sta. 604+88.75 to 10'-0" @ Sta. 606+00
10'-0" from Sta. 606+00 to Sta. 609+05

* Dimensions and slopes for standard ditches and fills.
See Plan and Cross-Sections for variations.



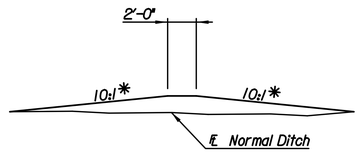
IN FILL

COMPACTION DIAGRAM

Note: All embankment, including sideroads and driveways shall be compacted.

IN CUT

⑤ The top 6" of all areas to be seeded shall be topsoiled with material suitable for growth of vegetation. Thru cuts, over excavate 6" for placement of topsoil. This work shall be Subsidiary to other earthwork items. In fill, the top 6" of embankment shall be topsoil. Quantities for this work are included in the contract bid items for earthwork. No measurement or payment will be made for material required to replace material excavated during stripping operations.



DITCH PLUG

No.	Revision	By	Date

111th St. West Signal Removal

US-54
TYPICAL SECTIONS

GARY JANZEN, P.E.–CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 3 of 104
Drawn by	CP	Date	Jan., 2018	

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AT&T
Wichita Central Unit
154 N. Broadway, Rm. 210
Wichita, Ks. 67202
Jason Edwards (316) 268-2008

City of Goddard
1206 S. 199th St. W.
Goddard, Ks. 67052
City Clerk Office (316) 794-2441
Justin Constantino

Cox Communications
901 George Washington Blvd.
Wichita, Ks. 67211
James Walburn (316) 260-7491

Kansas Gas Service
1021 E. 26th St. N.
Wichita, Ks. 67219
Jim Coe (316) 832-3126

Semcrude, LP (Rose Rock Midstream Crude,
L.P & White Cliffs Pipelines)
3030 NW Expressway, Suite 1100
Oklahoma City, OK 73112
David Young (620) 727-2173

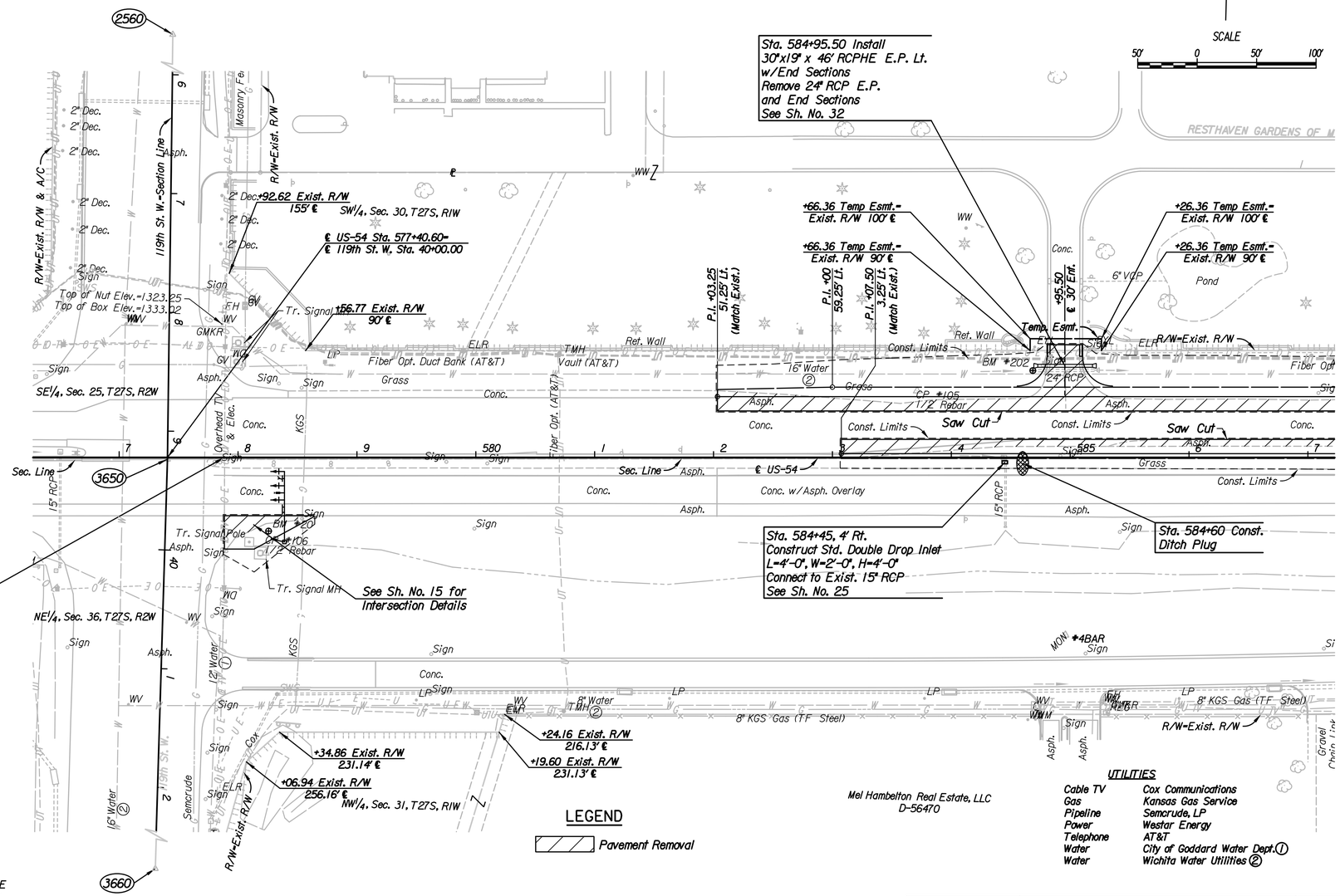
Westar Energy
1900 E. Central (3rd Floor)
Wichita, Ks. 67201
Zach Laws (316) 261-6264

Wichita Public Schools
U.S.D. 259
3850 N. Hydraulic
Wichita, Ks. 67219
Shane Schumacher (316) 973-2230

Wichita Storm Water Management (Storm Sewer)
455 N. Main (8th Floor - City Hall)
Wichita, Ks. 67202
Joe Hickle (316) 268-4307
Wichita Water Utilities (San. Sewer)
455 N. Main (8th Floor - City Hall)
Wichita, Ks. 67202
LaDonna Lawrenz (316) 268-4329

Wichita Water Utilities (Water)
455 N. Main (8th Floor - City Hall)
Wichita, Ks. 67202
Greg Lolley (316) 268-4334

OFFICE LOCATION
℄ P.O.T. Sta. 577+40.60
1. Not Set



UTILITIES

Cable TV	Cox Communications
Gas	Kansas Gas Service
Pipeline	Semcrude, LP
Power	Westar Energy
Telephone	AT&T
Water	City of Goddard Water Dept.①
Water	Wichita Water Utilities②

E1/4 Cor. Sec. 25, T27S, R2W (2560)
1. Found 60d nail in 3/4" iron pipe over stone, ℄ 119th St. W.
2. 60d nail/washer top fence line post — 66.39' NE
3. 3 nails south face fence corner post — 41.08' E
4. 3 nails east face fence brace post — 40.35' WSW
5. Ctr drive ✚1200 S 119th St. W. — 35.10' S

SE Cor. Sec. 25, T27S, R2W (3650)
1. Found 5/8" rebar in thimble
2. 60d nail/washer SE face power pole — 100.37' SW
3. 3 nails south face power pole — 107.13' NW
4. 3 nails south face power pole — 106.34' NE
5. 3 nails north face power pole — 128.58' SE

BM✚20 Found C.O.W. Standard Disk on Southeast corner of 119th St. W and Kellogg, between Eastbound Kellogg and Kellogg Drive South Access Road. +/- 85' East of ℄ 119th St. W. +/- 3' South of the South asphalt shoulder of East bound Kellogg. Benchmark from PEC Job ✚ 60X-08313-042.
61.86' Rt. ℄ Sta. 578+25.67 NGVD29 Elev.=1333.50

E1/4 Cor. Sec. 36, T27S, R2W (3660)
1. Found 1/2" iron pipe in thimble
2. 3 nails south face power pole — 42.03' E
3. 3 nails NW face power pole — 78.17' NNE
4. 3 nails NE face power pole — 60.37' NNW
5. Ctr. drive to house ✚1958 — 33.79' S

BM✚202 Square cut on the top of the West end of 24" RCE running under the West entrance to Resthaven Cemetery. +/- 28' West of the ℄ of the West Entrance to cemetery. +/- 24' North of the North edge of asphalt shoulder of Westbound Kellogg.
73.20' Lt. ℄ Sta. 584+68.61 NGVD29 Elev.=1330.89

No.	Revision	By	Date

111th St. West Signal Removal

PLAN
STA. 577+00 TO STA. 587+00

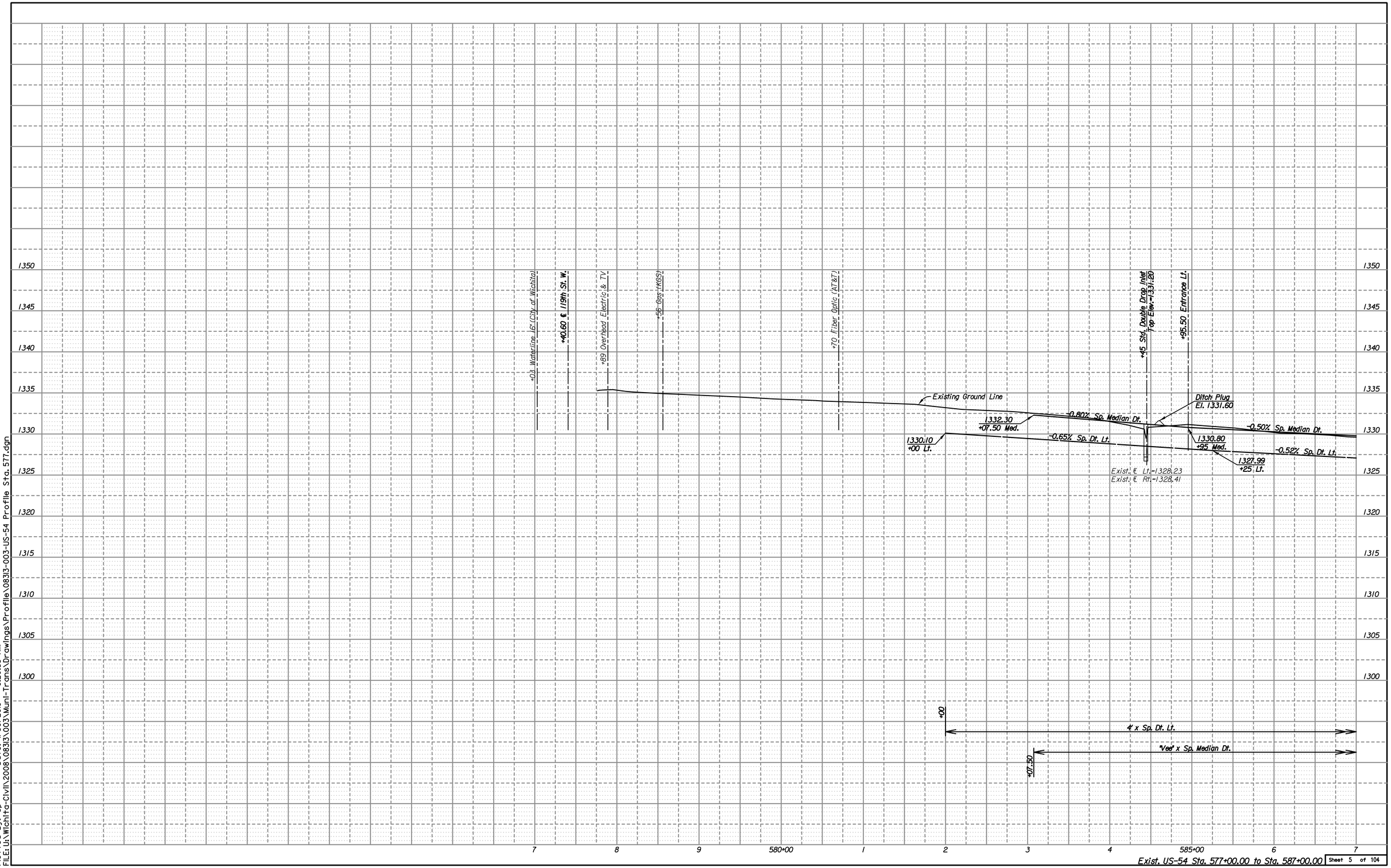
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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 4 of 104

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Exist. US-54 Sta. 577+00.00 to Sta. 587+00.00

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Sta. 593+64 Install
30"x19" x 47' RCPHE E.P. Lt.
w/End Sections
Remove 24" RCP E.P.
and End Sections
See Sh. No. 32

Sta. 593+59.76' Lt.
Relocate Exist. Water Meter to
Sta. 593+46.116' Lt.
Reuse Exist. Meter Box, Setter & Meter
Reconnect 1" Service line
with Shark-bite Connector.
Proposed Top of Box Elev.=1327.30
See Sh. No. 28

CAUTION!!!
Fire Hydrant

Sta. 593+15.78' Lt.
Adjust Valve Box
from Elev. 1326.01
to Elev. 1324.07

Sta. 590+16.25 Install
30"x19" x 46' RCPHE E.P. Lt.
w/End Sections
Remove 24" RCP E.P.
and End Sections
See Sh. No. 32

Sta. 594+94 Install
30"x19" x 48' RCPHE E.P. Lt.
w/End Sections
Remove 24" RCP E.P.
and End Sections
See Sh. No. 32

@ Ramp A
Sta. 596+65 Install
30"x19" x 44' RCPHE E.P. Lt.
w/End Sections
Remove 24" CMP E.P.
and End Sections
See Sh. No. 32

C100 Curve Data
P.I. Sta. 597+30.22 (Bk.)=
P.I. Sta. 597+30.04 (Ahd.)
Δ=05° 52' 35" (Lt.)
R=2,050.00'
T=105.22'
L=210.26'
E=2.70'
Super= 5.0%

@ Ramp A Sta. 600+86, 24' Lt.
Adjust SS Manhole
from Elev. 1328.85
to Elev. 1327.75
Manhole Cover & Frame
Gasketed & Bolted
See Sh. No. 27

@ Ramp A Sta. 599+40 to Sta. 599+60
Install 20 L.F. Concrete Ditch Lining
See Sh. No. 15 & 29

CAUTION!!!
Ex. Curb Inlet

CAUTION!!!
Ex. RCB

Sta. 601+60 Install
Impact Attenuator
(TAU-II)(TL3)
See Sh. No. 30

ENS OF MEMORY ADDITION

BRADY ADDITION

Hyberabad Express, LLC
D-731-UP

SCI Kansas Funeral Services, Inc.
D-61683

Brady Nursery, Inc.
D-41859

Out of the Box Investments, LLC
D-64828

Lawrence & Delroy Smith Living Trust
D-38829

Pinecrest Invest
D-626-

SW¼, Sec. 30, T27S, R1W

NW¼, Sec. 31, T27S, R1W

@ US-54 North Frontage Rd.

@ US-54 South Frontage Rd.

@ Ramp A

@ N. Fr. Rd. P.C. Sta. 593+63.73=
@ US-54 Sta. 593+59.30, 82.98' Lt.

@ Ramp A P.C. Sta. 595+65.00=
@ US-54 Sta. 595+65.00, 51.25' Lt.

@ Ramp A P.C. Sta. 596+25.00=
@ US-54 Sta. 596+25.00, 51.25' Lt.

@ Ramp A P.T. Sta. 598+35.26=
@ US-54 Sta. 598+34.89, 62.02' Lt.

@ Ramp A P.I. +50
10' Lt.

@ Ramp A P.I. +50
8' Lt.

@ S. Fr. Rd. P.C. Sta. 599+21.63=
@ US-54 Sta. 599+15.24, 117.62' Rt.

@ Ramp A P.C. Sta. 600+55.66=
@ N. Fr. Rd. Sta. 600+66.45, 11.35' Rt.

@ Ramp A P.T. Sta. 601+92.16=
@ N. Fr. Rd. Sta. 601+95.00, 6' Rt.

P.I. +00
3.25' Lt.

P.I. +00
15.25' Lt.

P.I. +50
9.25' Lt.

P.I. +88.25
39.25' Lt.

+30
15.25' Lt.

+30
3.38' Rt.

+16.25
@ 30' Ent.

+64
@ 30' Ent.

+94
@ 30' Ent.

+65
@ 30' Field Ent.

+45.36 Temp Esmt.=
Exist. R/W 100' @

+45.36 Temp Esmt.=
Exist. R/W 90' @

+96.48 Exist. R/W
120.07' @

+85.36 Temp Esmt.=
Exist. R/W 100' @

+85.36 Temp Esmt.=
Exist. R/W 90' @

Temp. Esmt.

+05.36 Exist. R/W
90.07' @

+50.57 Exist. R/W
140.11' @

+50.46 Exist. R/W
120.12' @

+26.94 Exist. R/W
215.51' @

+94.94 Exist. R/W
215.87' @

+44.94 Exist. R/W
219.93' @

+04.94 Exist. R/W
220.02' @

+54.94 Exist. R/W
219.94' @

+01.42 Exist. R/W
175' @

+31.40 Exist. R/W
154.95' @

+17.89 Exist. R/W
129.92' @

BM #201

BM #203

CP #104
1/2 Rebar

CP #103
1/2 Rebar

Saw Cut

Conc. Safety Barrier
Type I (Spec.)

Conc. w/Asph. Overlay

Const. Limits

Sec. Line

Fiber Opt. Duct Bank (AT&T)

16" Water

8" Water

8" KGS Gas (TF Steel)

8" PVC

12" CMP

24" RCP

15" RCP

2-19"x30" RCPHE

27"x42" RCPHE

Undg. Cable TV (Cox)

Wrought Iron Fence

Chain Link Fence

Wood Fence

Cable Fence

Ret. Wall

Conc. Ret. Wall

6' VCP

Pond

Pool

Bldg.

Green House

Transformer

Tire Racks

Metal F

F.F.=1,333.16

F.F.=1,331.15

F.F.=1,331.11

F.F.=1,330.0

5' Chain Link Fence

R/W=Exist. R/W

Grass

Asph.

Conc.

Sign

Gravel

Grass

Tr

Z

C101 Curve Data
P.I. Sta. 601+29.05 (Bk.)=
P.I. Sta. 601+28.97 (Ahd.)
Δ=04° 50' 23" (Rt.)
R=1,500.00'
T=63.39'
L=126.70'
E=1.34'
Super= N.C.

UTILITIES	
Cable TV	Cox Communications
Gas	Kansas Gas Service
Power	Westar Energy
Telephone	AT&T
Sanitary Sewer	Wichita Water Utilities
Water	Wichita Water Utilities

LEGEND

Pavement Removal

BM #21 Square cut in center of the West edge ditch inlet in median of Kellogg. +/- 40' West of the East entrance to Resthaven Cemetery. Benchmark from PEC Job # 60X-08313-042.
0.05' Lt. ℄ Sta. 589+63.68 NGVD29 Elev.=1328.17

BM #201 Found Square cut on the Southeast corner of concrete storm sewer box on North side of Kellogg and East of dirt drive East of motel. +/- 83' East of ℄ dirt drive. +/- 45' North of the North shoulder of Westbound Kellogg.
93.28' Lt. ℄ Sta. 597+46.38 NGVD29 Elev.=1327.62

BM #203 Found C.O.W Standard Disk in the center of the North headwall of RCB running under Kellogg, on the East side of Resthaven Cemetery. +/- 44' North of the North edge of asphalt shoulder on Kellogg. +/- 131' Southwest of the Southwest building corner of the "White Glove Motel."
93.77' Lt. ℄ Sta. 592+39.61 NGVD29 Elev.=1327.68

SCALE
50' 0 50' 100'

No.	Revision	By	Date

111th St. West Signal Removal

PLAN
STA. 587+00 TO STA. 603+00

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 6 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/30/2018 8:20:55 AM
FILE: U:\Wichita-Civil\2008\08313\003\Mun1-Trans\Drawings\Plan\08313-003-Plan Sta. 587.dgn

1350
1345
1340
1335
1330
1325
1320
1315
1310
1305
1300

+65 15" RCP

+16.25 Entrance Lt.

+39 3-8'x3' RCB

151 Unkn. TV (Con.)

+64 Entrance Lt.

+94 Entrance Lt.

+29 15" RCP

+13 15" RCP

+50 15" RCP

1329.28
+00 Med.

1327.79
+64.50 Med.

-0.50% Sp. Median Dt.

-0.90% Sp. Median Dt.

-0.52% Sp. Dt. Lt.

1325.00
+00 Lt.

-1.40% Sp. Dt. Lt.

1323.60
+00 Lt.

1323.85
+70 Lt.

+0.50% Sp. Dt. Lt.

1325.33
+65 Lt.

Existing Ground Line

Exist. ℄ Lt.=1325.45
Exist. ℄ Rt.=1325.81

Exist. ℄ Lt.=1322.92
Exist. ℄ Rt.=1323.53

Exist. ℄ Lt.=1324.85
Exist. ℄ Rt.=1324.45

Exist. ℄ Lt.=1325.04
Exist. ℄ Rt.=1325.01

Exist. ℄ Lt.=1325.73
Exist. ℄ Rt.=1325.58

+00

+70

+65

4' x Sp. Dt. Lt.

4' x Sp. Dt. Lt.

"Vee" x Sp. Median Dt.

+64.50

7 8 9 590+00 1 2 3 4 595+00 6 7 8 9 600+00 1 2 3

Exist. US-54 Sta. 587+00.00 to Sta. 603+00.00

Sheet 7 of 104

Plotted By: cp
Date: 1/30/2018 8:20:55 AM
FILE: U:\Wichita-Civil\2008\083I3\003\Munl-Trans\Drawings\Profile\083I3-003-US-54 Profile Sta. 587.dgn

OFFICE LOCATION
℄ P.C. Sta. 624+10.53
I. Not Set

SCALE
50' 0 50' 100'

+26.67 Exist. R/W-
1/4℄ 160.11'℄
+26.57 Exist. R/W-
1/4℄ 142.11'℄
℄ N. Fr. Rd.
Sta. 604+18, 12' Lt.
Adjust San. Sewer MH
from Elev. 1330.27
to Elev. 1329.75
+98.77 Exist. R/W
142.11'℄
+98.66 Exist. R/W
140.11'℄
N. Fr. Rd. +90.4' Lt.
3000
See Sh. No. 15 for
Intersection Details
℄ North Frontage Rd. Sta. 604+65.59=
℄ 111th St. Sta. 60+00.00
℄ US-54 Sta. 604+60.87, 103.25' Lt.
℄ N. Fr. Rd. P.T. Sta. 605+92.52=
℄ US-54 Sta. 605+87.30, 103.74' Lt.
+89.83 Exist. R/W
160.09'℄
+89.72 Exist. R/W
140.09'℄
+86.46 Exist. R/W
139.93'℄
R/W-Exist. R/W
R/W-Exist. R/W
111th St. W.
1/4 Section Line
2- 3'x3' Boulders
BBJ, LLC
D-57-UP
BBJ, LLC
D-38716
Stevens 3rd Addition, LLC
D-38717
D-38714
Grass
F.F.=1,332.87
Wood Fence
Prop. Iron
(5/8" Armstrong)
SE1/4, Sec. 30, T27S, R1W
Chain Link
Gravel
Asph.
Post
Light Base
Sign
Fiber Opt. Duct Bank (AT&T)
Undg. Cable TV (Cox)
Duct Bank
EMH (Abandoned)
Undg. Elec. (Westar)
8" KGS Gas (TF Steel)
27"x42" RCPHE
15" RCP
18" RCP
Const. Limits
Conc.
Conc. Barrier
CP #102
1/2 Rebar
CP #101
1/2 Rebar
BM #R22
BM #R23
Tr. Signal Pole
Tr. Signal MH
Saw Cut
℄ US-54 North Frontage Rd.
℄ US-54 South Frontage Rd.
℄ US-54
Conc. w/Asph. Overlay
Conc. Safety Barrier
Type I (Spec.)
Sta. 609+96.66 END
PROJECT No. 472-85393
℄ US-54 P.C. 611+27.17
℄ N. Fr. Rd. P.I. +37.60 24' Rt.
℄ S. Fr. Rd. P.C. +01 24.5' Lt.
℄ S. Fr. Rd. P.T. +86.65 24.5' Lt.
℄ S. Fr. Rd. P.C. +91 50.60' Lt.
℄ S. Fr. Rd. P.I. +37.60 50.60' Rt.
+00 51' Lt.
+88.75 5.25' Lt.
+88.75 3.38' Lt.
+30.25 52.75' Lt.
+88.75 3.38' Rt.
+88.75 43.40' Rt.
+00 11.38' Rt.
+05 11.38' Rt.
+05 3.38' Rt.
+96.66 3.38' Lt.
+96.66 3.38' Rt.
3140
3150
3100
605
610
6
7
8
9
1
2
3
4
5
Sec. Line
Chain Link
Fence
Gate
Post
Fiber Opt. (AT&T)
Metal Fence
Racks
MON. WELL
MON. WELL SS
GMKR
TMH
TMKR
Fiber Opt. Duct Bank (AT&T)
Undg. Elec. (Westar)
Undg. Cable TV (Cox)
Wichita Family Church, Inc.
D-38834
BBJ, LLC
D-38836
M & E Properties,
D-38835
NE1/4, Sec. 31, T27S, R1W
D-38334-I
D-38836-I
+85.89 Exist. R/W
129.64'℄
F.=1,330.01
+95.89 Exist. R/W
139.90'℄
+65.89 Exist. R/W
139.91'℄
Crest Investments, LLC
D-626-UP
D-627-UP
1/4 Sec. Line
111th St. W.
15" CMP
12'X30" CMP
F.F.=1,332.04
WICKES ADDITION
HORTON ADDITION
Z

UTILITIES

Cable TV	Cox Communications
Gas	Kansas Gas Service
Power	Westar Energy
Telephone	AT&T
Water	Wichita Water Utilities

LEGEND
Pavement Removal

Ctr. Sec. 30, T27S, R1W (3000)
1. Found 1/2" square bar W. side 30" hedge tree
2. PK nail east face light pole 34.53' N
3. 3 nails south face power pole 37.50' W
4. SW cor. Conc. drive to house #11126 44.90' NNE
5. Ctr. asphalt road 21.33' N

BM#R22 Found C.O.W. Standard Disk in Southeast corner concrete base to traffic signal pole on the Northwest corner of Kellogg and 111th St. W. Benchmark from PEC Job # 60X-08313-042. 66.29' Lt. ℄ Sta. 603+86.19 NGVD29 Elev.=1330.35

Ctr. Sec. 31, T27S, R1W (3100)
1. Not Found

S1/4Cor. Sec. 30, T27S, R1W (3140)
1. Found 3/4" bolt in lead plug
2. 60d nail NE face light pole 76.14' SE
3. NE corner concrete slab 99.06' SSE
4. 60d nail/washer west face light pole 65.90' NW
5. City of Wichita BM Disc 45.44' W

BM#R23 Square Cut in center front of storm sewer inlet on North side Westbound Kellogg. +/- 700' East of 111th St. W. Benchmark from PEC Job # 60X-08313-042 64.02' Lt. ℄ Sta. 611+79.75 NGVD29 Elev.=1333.35

SE Cor. Sec. 30, T27S, R1W (3150)
1. Found 3/8" Pin ℄ Maize Rd.
2. Nail and cap SW face light pole. 71.25' WSW
3. Chiseled "+" NE corner signal base 70.15' SW
4. Mason Nail & Shiner N face power pole 69.75' SE
5. N Rail EW RR tracks. 130.63' S

No.	Revision	By	Date

111th St. West Signal Removal

PLAN
STA. 603+00 TO STA. 612+00

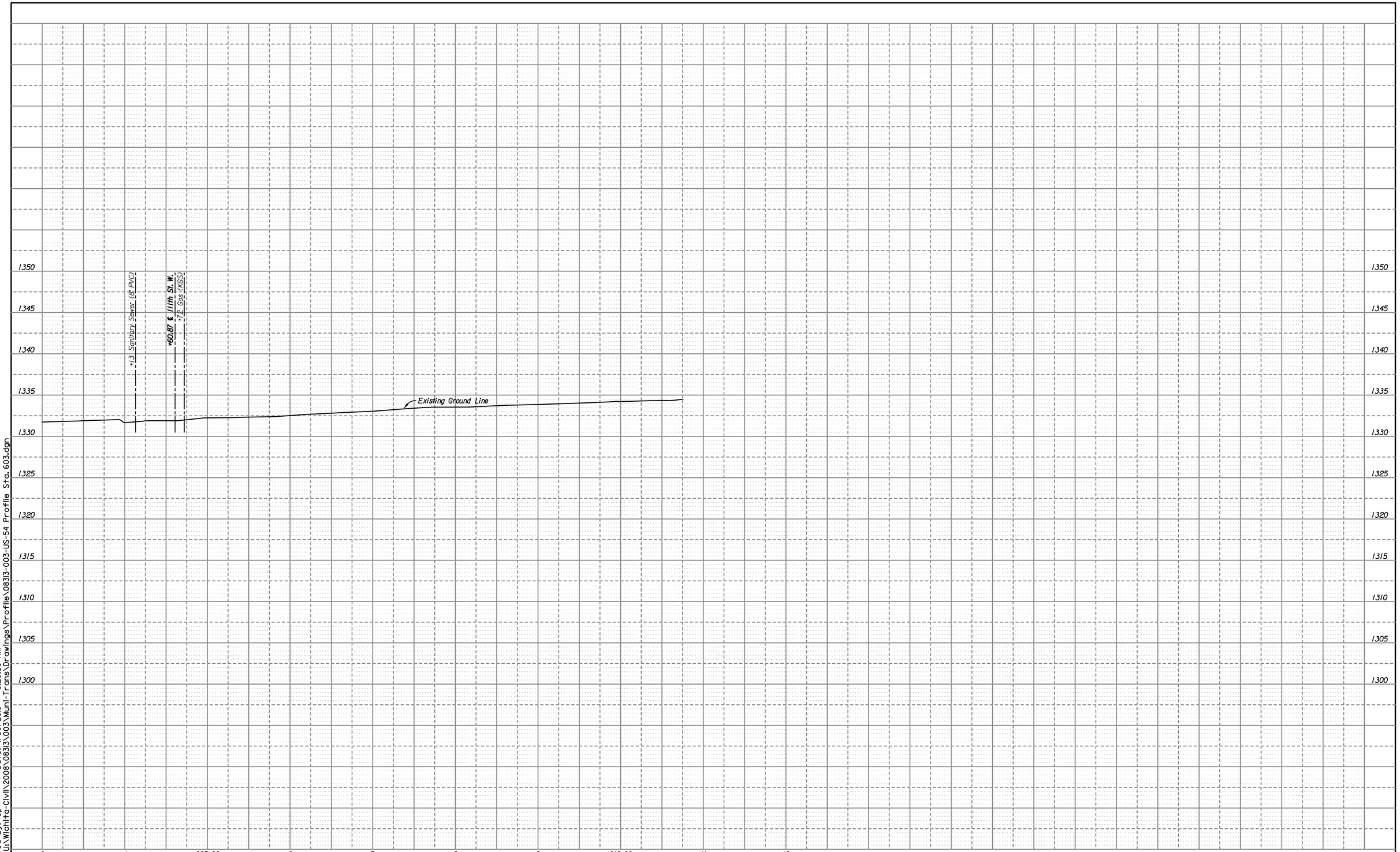
GARY JANZEN, P.E.–CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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303 SOUTH TOPEKA WICHITA, KS 67202
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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

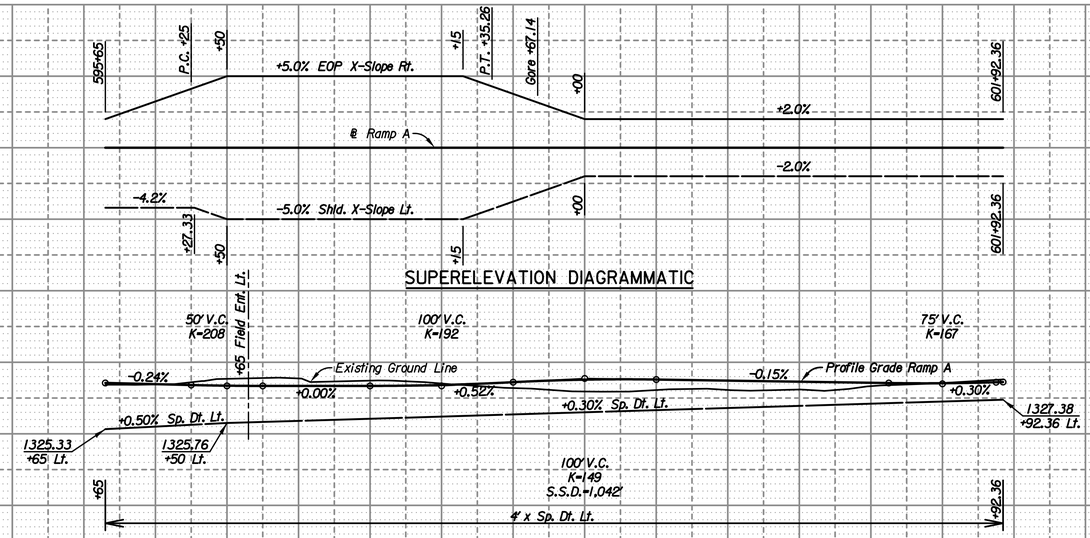
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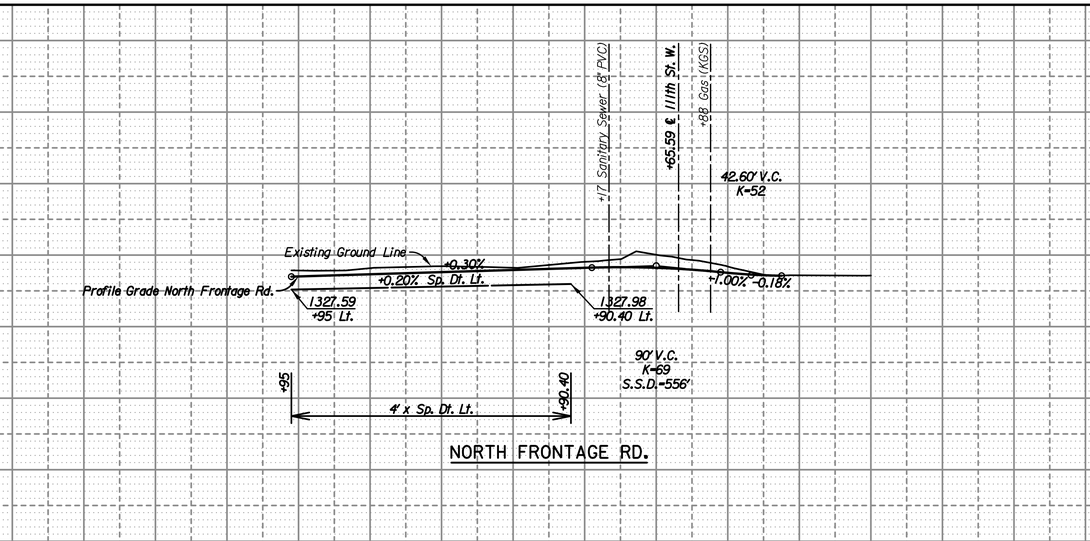


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Date: 1/30/2018 8:20:58 AM

Exist. US-54 Sta. 603+00.00 to Sta. 612+00.00



Ramp A Sta. 595+65.00 to Sta. 601+92.36



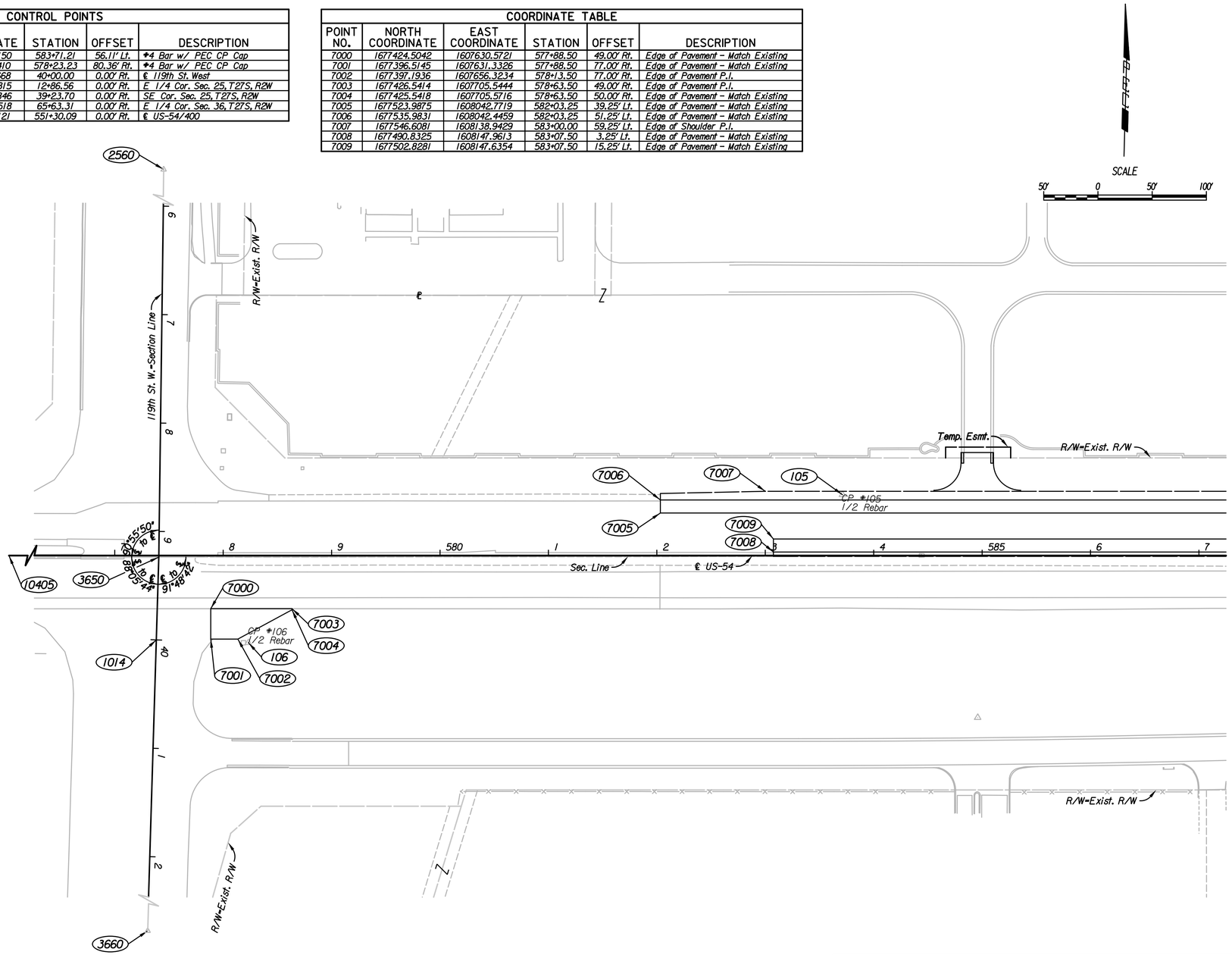
North Frontage Rd. Sta. 601+95.00 to Sta. 605+37.60

Sheet 10 of 104

Plotted By: cp Date: 1/30/2018 8:20:59 AM
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CONTROL POINTS					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
105	1677545.4070	1608210.2150	583+71.21	56.11' Lt.	#4 Bar w/ PEC CP Cap
106	1677364.1000	1607666.1410	578+23.23	80.36' Rt.	#4 Bar w/ PEC CP Cap
1014	1677394.3953	1607581.1668	40+00.00	0.00' Rt.	℄ 119th St. West
2560	1680107.5748	1607544.0815	12+86.56	0.00' Rt.	E 1/4 Cor. Sec. 25, T27S, R2W
3650	1677470.6969	1607581.3846	39+23.70	0.00' Rt.	SE Cor. Sec. 25, T27S, R2W
3660	1674831.0991	1607573.8518	65+63.31	0.00' Rt.	E 1/4 Cor. Sec. 36, T27S, R2W
10405	1677401.2755	1604971.8121	551+30.09	0.00' Rt.	℄ US-54/400

COORDINATE TABLE					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
7000	1677424.5042	1607630.5721	577+88.50	49.00' Rt.	Edge of Pavement – Match Existing
7001	1677396.5145	1607631.3326	577+88.50	77.00' Rt.	Edge of Pavement – Match Existing
7002	1677397.1936	1607656.3234	578+13.50	77.00' Rt.	Edge of Pavement P.I.
7003	1677426.5414	1607705.5444	578+63.50	49.00' Rt.	Edge of Pavement P.I.
7004	1677425.5418	1607705.5716	578+63.50	50.00' Rt.	Edge of Pavement – Match Existing
7005	1677523.9875	1608042.7719	582+03.25	39.25' Lt.	Edge of Pavement – Match Existing
7006	1677535.9831	1608042.4459	582+03.25	51.25' Lt.	Edge of Pavement – Match Existing
7007	1677546.6081	1608138.9429	583+00.00	59.25' Lt.	Edge of Shoulder P.I.
7008	1677490.8325	1608147.9613	583+07.50	3.25' Lt.	Edge of Pavement – Match Existing
7009	1677502.8281	1608147.6354	583+07.50	15.25' Lt.	Edge of Pavement – Match Existing



Plotted By: cp Date: 1/29/2018 5:25:46 PM
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No.	Revision	By	Date

111th St. West Signal Removal

COORDINATE GEOMETRY PLAN STA. 577+00 TO STA. 587+00

GARY JANZEN, P.E.–CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

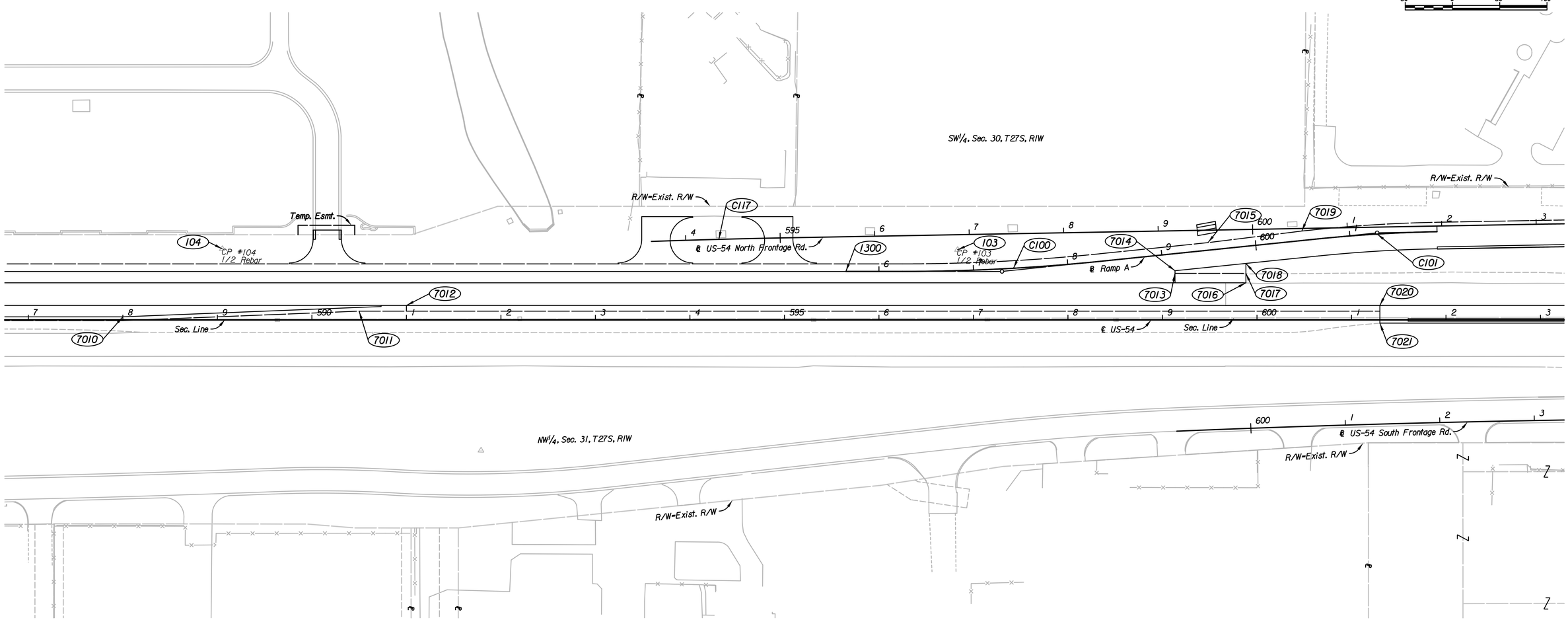
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PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 11 of 104

CONTROL POINTS					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
103	1677599.0740	1609521.2020	596+83.17	74.15' Lt.	#4 Bar w/ PEC CP Cap
104	1677578.8560	1608743.5010	589+05.21	75.06' Lt.	#4 Bar w/ PEC CP Cap
1300	1677572.9724	1609403.6935	595+65.00	0.00' Rt.	℄ Ramp A

COORDINATE TABLE					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
7010	1677504.2103	1608640.2796	588+00.00	3.25' Lt.	Edge of Pavement P.I.
7011	1677516.9989	1608890.0244	590+50.00	9.25' Lt.	Edge of Shoulder P.I.
7012	1677524.3548	1608939.8429	591+00.00	15.25' Lt.	Edge of Pavement - Match Existing
7013	1677580.4327	1609751.8693	599+13.25	49.25' Lt.	Edge of Shoulder P.I.
7014	1677583.1750	1609751.7948	599+12.18	18.00' Rt.	Edge of Pavement P.I.
7015	1677613.8492	1609785.9337	599+50.00	8.00' Lt.	Edge of Shoulder P.I.
7016	1677572.4736	1609827.1133	599+88.25	39.25' Lt.	Edge of Pavement - Match Existing
7017	1677582.4699	1609826.8416	599+88.25	49.25' Lt.	Edge of Shoulder - Match Existing
7018	1677592.9288	1609826.5574	599+87.58	18.00' Rt.	Edge of Pavement
7019	1677628.7691	1609884.8346	600+50.00	10.00' Lt.	Edge of Shoulder P.I.
7020	1677552.3328	1609969.4629	601+30.00	15.25' Lt.	Edge of Pavement - Match Existing
7021	1677533.7147	1609969.9688	601+30.00	3.38' Rt.	Edge of Pavement - Match Existing



CURVE DATA													
NO.	Δ	R	T	L	E	P.C. COORDINATES NORTH	P.C. COORDINATES EAST	P.I. COORDINATES NORTH	P.I. COORDINATES EAST	P.T. COORDINATES NORTH	P.T. COORDINATES EAST	C.C. COORDINATES NORTH	C.C. COORDINATES EAST
C100	05°52'35" Lt.	2050.00'	105.22'	210.26'	2.70'	1677574.6022	1609463.6713	1677577.4603	1609568.8535	1677591.0725	1609673.1903	1679623.8458	1609407.9870
C101	04°50'23" Rt.	1500.00'	63.39'	126.70'	1.34'	1677620.8796	1609901.6606	1677629.0799	1609964.5158	1677631.9481	1610027.8388	1676133.4845	1610095.7117
C117	00°59'06" Rt.	8300.00'	71.35'	142.69'	0.31'	1677599.1031	1609197.2064	1677603.5560	1609268.4126	1677606.7843	1609339.6848	1669315.2855	1609715.2482

No.	Revision	By	Date

111th St. West Signal Removal

COORDINATE GEOMETRY PLAN STA. 587+00 TO STA. 603+00

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

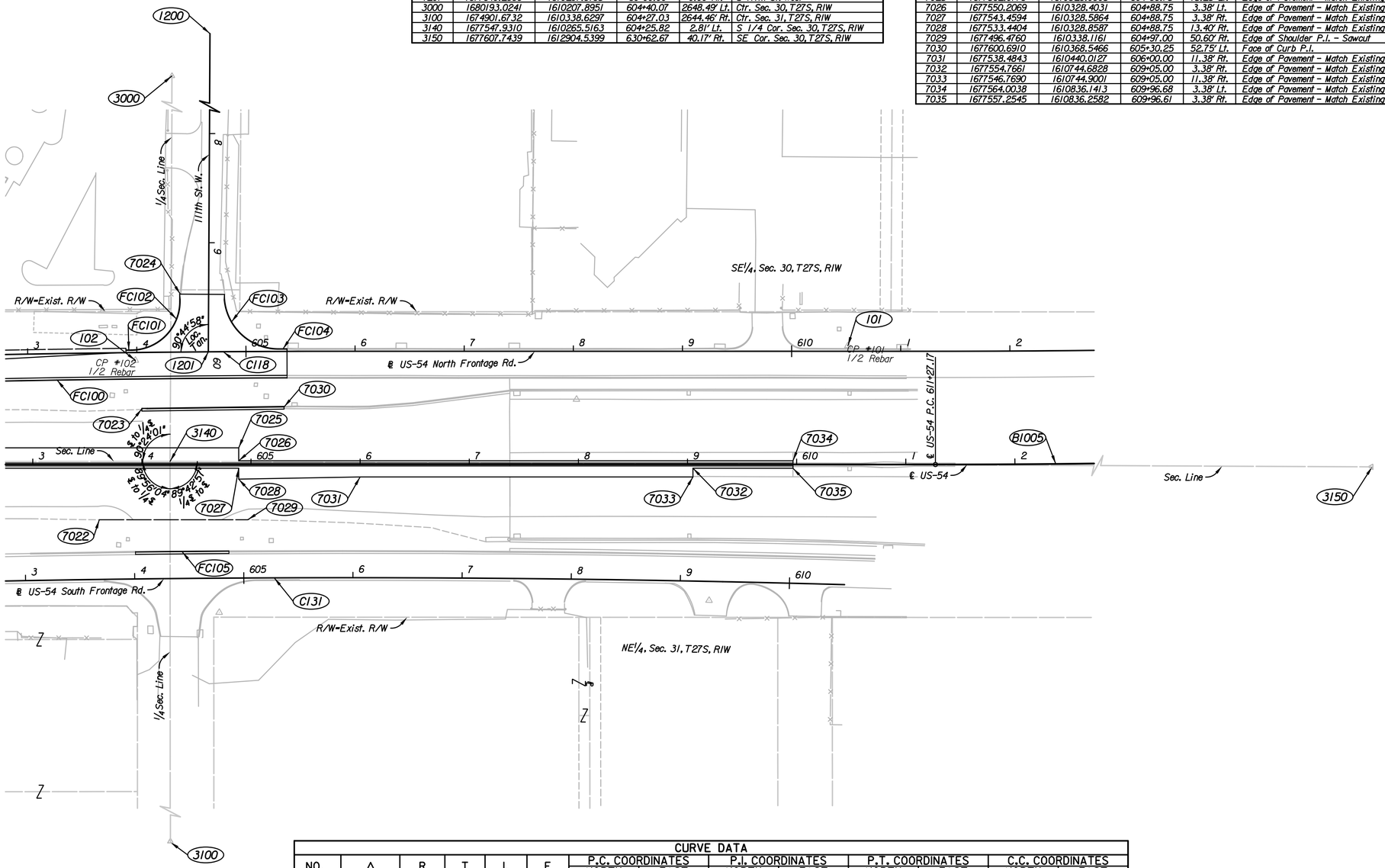
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PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 12 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:25:46 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Geometry\08313-003-Geometry Sta. 587.dgn

CONTROL POINTS					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
101	1677670.8140	1610883.5800	610+47.00	108.86' Lt.	#4 Bar w/ PEC CP Cap
102	1677639.6940	1610231.2630	603+94.08	95.47' Lt.	#4 Bar w/ PEC CP Cap
1200	1678449.0991	1610280.3933	52+00.00	0.00' Rt.	℄ 111th St. West
1201	1677649.2888	1610297.8165	60+00.00	0.00' Rt.	℄ 111th St. West
3000	1680193.0241	1610207.8951	604+40.07	2648.49' Lt.	Ctr. Sec. 30, T27S, R1W
3100	1674901.6732	1610338.6297	604+27.03	2644.46' Rt.	Ctr. Sec. 31, T27S, R1W
3140	1677547.9310	1610265.5163	604+25.82	2.81' Lt.	S 1/4 Cor. Sec. 30, T27S, R1W
3150	1677607.7439	1612904.5399	630+62.67	40.17' Rt.	SE Cor. Sec. 30, T27S, R1W

COORDINATE TABLE					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
7022	1677492.7818	1610202.1663	603+61.00	50.60' Rt.	Edge of Shoulder P.I. - Sawcut
7023	1677595.4036	1610238.3922	604+00.00	51.00' Lt.	Face of Curb P.I.
7024	1677701.4254	1610270.6746	59+47.28	26.00' Rt.	Face of Curb P.I.
7025	1677562.0776	1610328.0805	604+88.75	15.25' Lt.	Edge of Pavement - Match Existing
7026	1677550.2069	1610328.4031	604+88.75	3.38' Lt.	Edge of Pavement - Match Existing
7027	1677543.4594	1610328.5864	604+88.75	3.38' Rt.	Edge of Pavement - Match Existing
7028	1677533.4404	1610328.8587	604+88.75	13.40' Rt.	Edge of Pavement - Match Existing
7029	1677496.4760	1610338.1161	604+97.00	50.60' Rt.	Edge of Shoulder P.I. - Sawcut
7030	1677600.6910	1610368.5466	605+30.25	52.75' Lt.	Face of Curb P.I.
7031	1677538.4843	1610440.0127	606+00.00	11.38' Rt.	Edge of Pavement - Match Existing
7032	1677554.7661	1610744.6828	609+05.00	3.38' Rt.	Edge of Pavement - Match Existing
7033	1677546.7690	1610744.9001	609+05.00	11.38' Rt.	Edge of Pavement - Match Existing
7034	1677564.0038	1610836.1413	609+96.68	3.38' Lt.	Edge of Pavement - Match Existing
7035	1677557.2545	1610836.2582	609+96.61	3.38' Rt.	Edge of Pavement - Match Existing



CURVE DATA												
NO.	Δ	R	T	L	E	P.C. COORDINATES		P.I. COORDINATES		P.T. COORDINATES		C.C. COORDINATES	
						NORTH	EAST	NORTH	EAST	NORTH	EAST	NORTH	EAST
B1005	23°21'27" Lt.	12139.08'	2509.18'	4948.67'	256.61'	1677564.1747	1610966.6819	1677632.3318	1613474.9375	1678689.3415	1615750.6181	1689698.7789	1610636.9470
C118	01°02'13" Rt.	16507.91'	149.38'	298.75'	0.68'	1677642.4111	1610126.2352	1677649.1704	1610275.4633	1677653.2281	1610424.7893	1661151.4126	1610873.1949
C131	03°58'05" Rt.	16300.43'	564.67'	1128.90'	9.78'	1677413.6734	1609758.3925	1677452.2921	1610321.7448	1677451.8340	1610886.4190	1661151.4126	1610873.1949
C1003	24°03'20" Lt.	6875.50'	1464.92'	2886.67'	154.33'	1677599.0348	1612249.5713	1677638.8265	1613713.9478	1678272.0745	1615034.9241	1684472.0002	1612062.8115
FC100	00°50'47" Rt.	16483.91'	121.74'	243.48'	0.45'	1677618.4350	1610127.3212	1677623.9443	1610248.9369	1677627.6560	1610370.6208	1661151.4126	1610873.1949
FC101	00°01'06" Rt.	16509.91'	2.65'	5.30'	0.00'	1677648.4837	1610222.3009	1677648.5881	1610224.9468	1677648.6916	1610227.5928	1661151.4126	1610873.1949
FC102	89°00'25" Lt.	45.00'	44.23'	69.91'	18.10'	1677648.6916	1610227.5928	1677650.4210	1610271.7857	1677694.6372	1610270.8225	1677693.6572	1610225.8331
FC103	90°31'32" Lt.	50.00'	50.46'	79.00'	21.04'	1677702.2966	1610310.6651	1677651.8477	1610311.7641	1677653.4095	1610362.2008	1677703.3855	1610360.6533
FC104	00°01'35" Rt.	16509.91'	3.82'	7.63'	0.00'	1677653.4095	1610362.2008	1677653.5276	1610366.0144	1677653.6439	1610369.8281	1661151.4126	1610873.1949
FC105	00°18'02" Rt.	16324.93'	42.81'	85.63'	0.06'	1677463.9029	1610236.0981	1677465.5738	1610278.8798	1677467.0202	1610321.6697	1661151.4126	1610873.1949

SCALE
50' 0 50' 100'

No.	Revision	By	Date

111th St. West Signal Removal

COORDINATE GEOMETRY PLAN STA. 603+00 TO STA. 612+00

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 13 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:25:47 PM
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Curve No. FC100

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH	EAST	NORTH	EAST	
8000	602+89.60	77.04' Lt.	1677618.4357	1610127.3212	1677610.4439	1610127.6832	P.C.
8001	604+11.32	78.79' Lt.	1677623.4951	1610248.9540	1677615.5008	1610249.2569	½Pt.
8002	605+33.06	79.65' Lt.	1677627.6560	1610370.6208	1677619.6597	1610370.8647	P.T.

Curve No. FC101

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH	EAST	NORTH	EAST	
8003	603+90.00	2.00' Lt.	1677648.4837	1610222.3009	1677656.4774	1610221.9855	P.C.
8004	603+92.65	2.00' Lt.	1677648.5878	1610224.9469	1677656.5817	1610224.6327	½Pt.
8005	603+95.30	2.00' Lt.	1677648.6916	1610227.5928	1677656.6855	1610227.2800	P.T.

Curve No. FC102

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH	EAST	NORTH	EAST	
8005	603+95.30	2.00' Lt.	1677648.6916	1610227.5928	1677656.6855	1610227.2800	P.C.
8006	604+26.81	14.94' Lt.	1677662.8208	1610258.6069	1677668.3028	1610252.7804	½Pt.
8007	59+54.07	26.00' Rt.	1677694.6372	1610270.8225	1677694.4630	1610262.8244	P.T.

Curve No. FC103

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH	EAST	NORTH	EAST	
8008	59+47.28	14.00' Lt.	1677702.2966	1610310.6651	1677702.4708	1610318.6632	P.C.
8009	604+89.77	120.29' Lt.	1677667.1103	1610326.2424	1677672.9144	1610331.7481	½Pt.
8010	605+25.34	105.62' Lt.	1677653.4095	1610362.2008	1677661.4057	1610361.9532	P.T.

Curve No. FC104

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH	EAST	NORTH	EAST	
8010	605+25.34	105.62' Lt.	1677653.4095	1610362.2008	1677661.4057	1610361.9532	P.C.
8011	605+29.15	105.64' Lt.	1677653.5271	1610366.0144	1677661.5234	1610365.7687	½Pt.
8012	605+32.97	105.65' Lt.	1677653.6439	1610369.8281	1677661.6402	1610369.5842	P.T.

Curve No. FC105

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH	EAST	NORTH	EAST	
8013	603+94.13	80.39' Rt.	1677463.9029	1610236.0981	1677471.8968	1610235.7859	P.C.
8014	604+36.95	79.94' Rt.	1677465.5177	1610278.8819	1677473.5124	1610278.5906	½Pt.
8015	604+79.76	79.60' Rt.	1677467.0202	1610321.6697	1677475.0157	1610321.3995	P.T.

Plotted By: cp Date: 1/29/2018 5:25:48 PM
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No.	Revision	By	Date

111th St. West Signal Removal

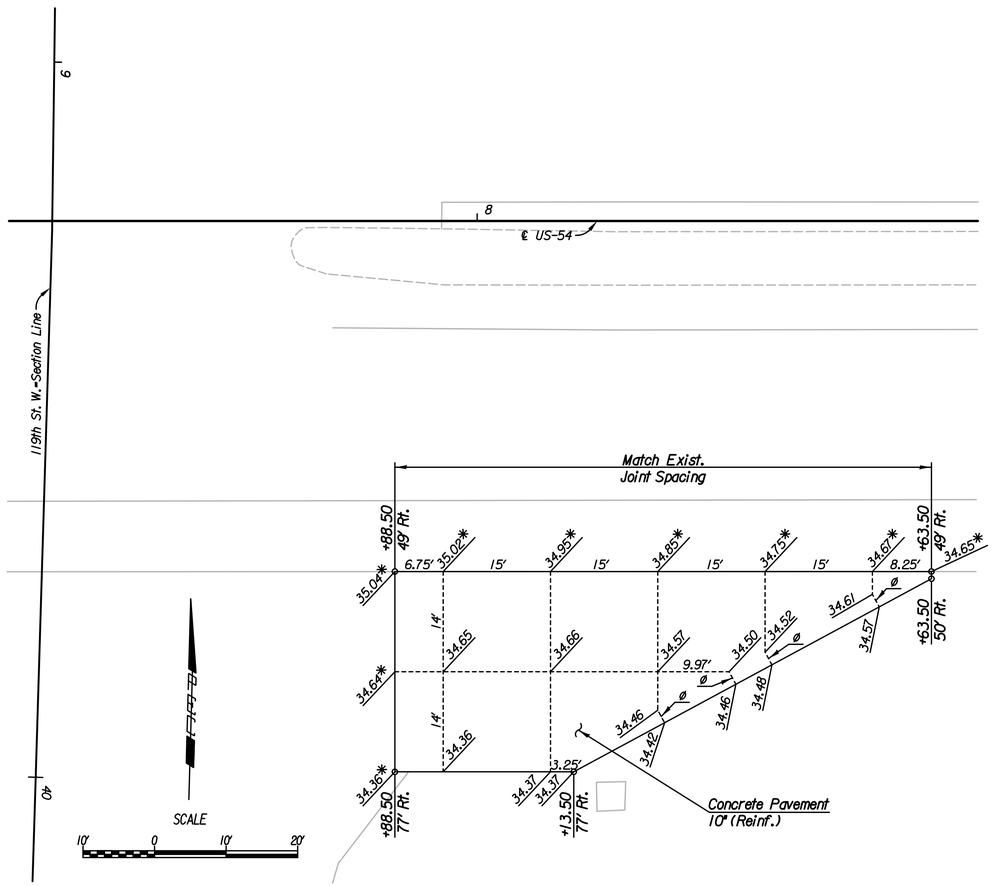
CURVE STAKE-OUT TABLES

GARY JANZEN, P.E.–CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

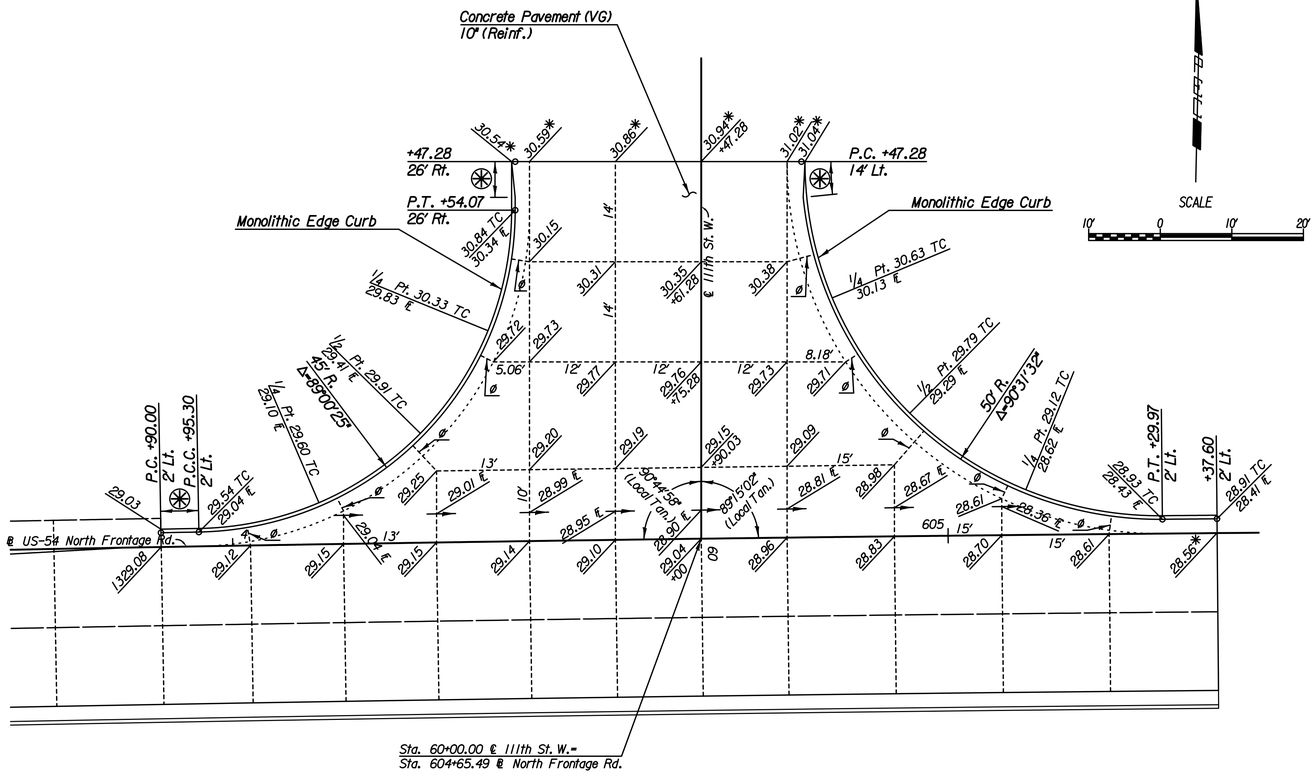
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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

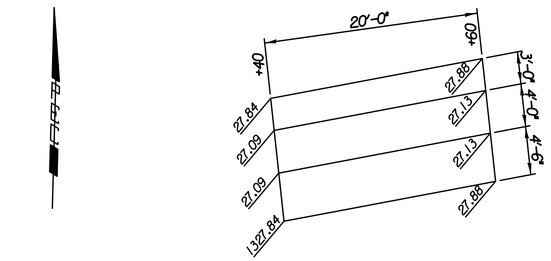
Sht. 14 of 104

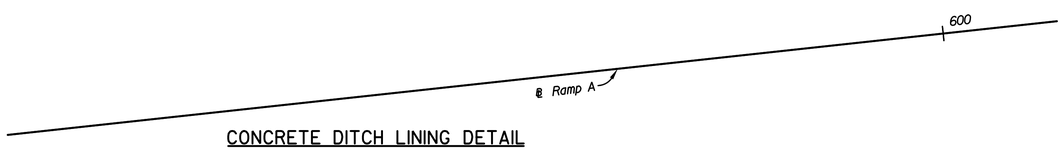


119TH ST. INTERSECTION



111TH ST. INTERSECTION





CONCRETE DITCH LINING DETAIL

LEGEND

*	Match Existing
ø	Omit Dowels or Tie Bars
L.J.	Longitudinal Joint (L.J.)
----------	Contraction Joint (C.J.)
E.J.	Expansion Joint
⊛	5' transition from full height curb to no curb.

See Sh. No. 23 for Valley Gutter Details.

No.	Revision	By	Date

111th St. West Signal Removal

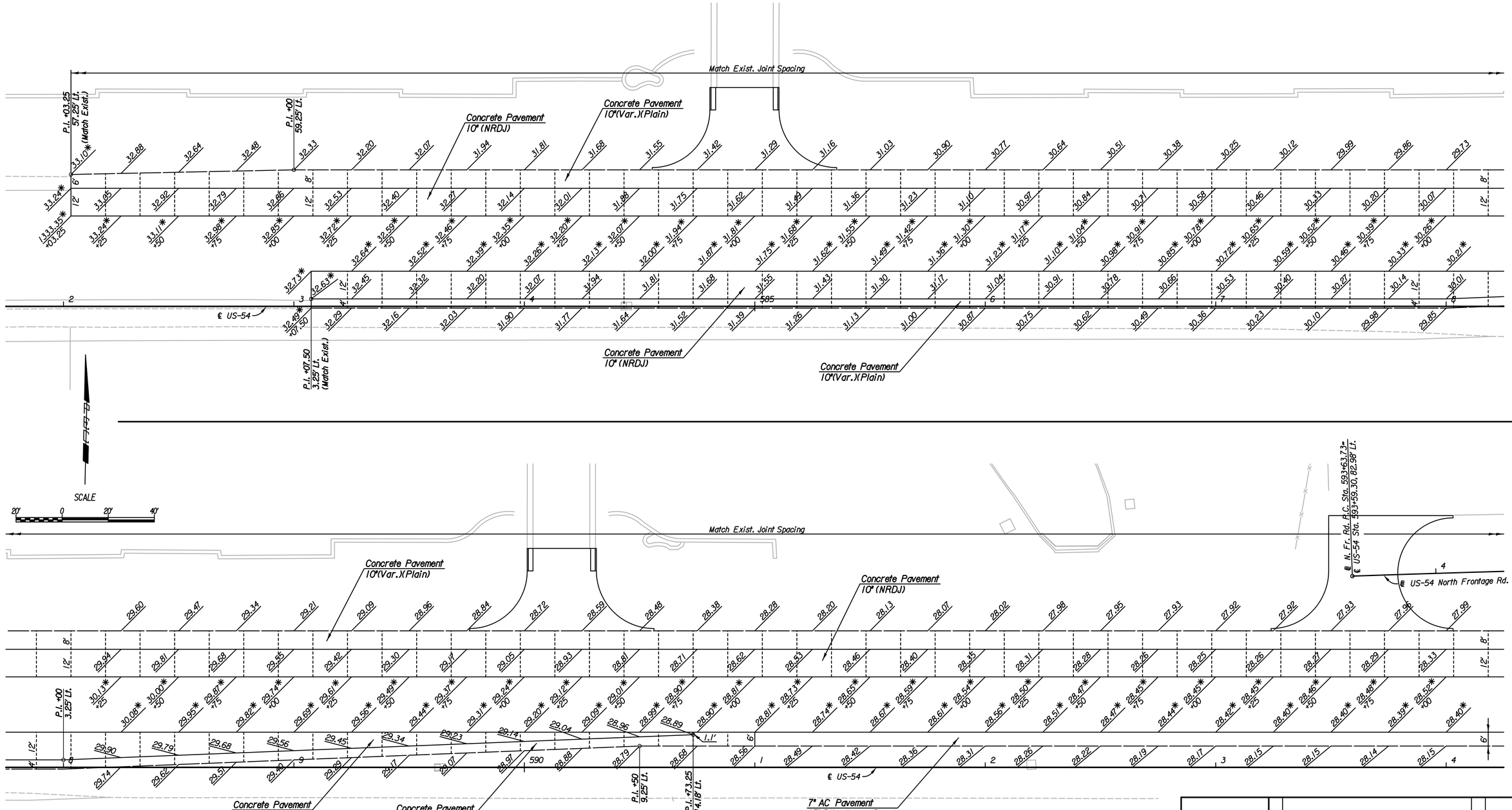
INTERSECTION DETAILS
111TH ST. WEST, 119TH ST. WEST

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CITY OF WICHITA PROJECT NO. 472-85393

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Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:25:48 PM
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LEGEND

* Match Existing

L.J. Longitudinal Joint (L.J.)

Contraction Joint (C.J.)

E.J. Expansion Joint

No.	Revision	By	Date

111th St. West Signal Removal

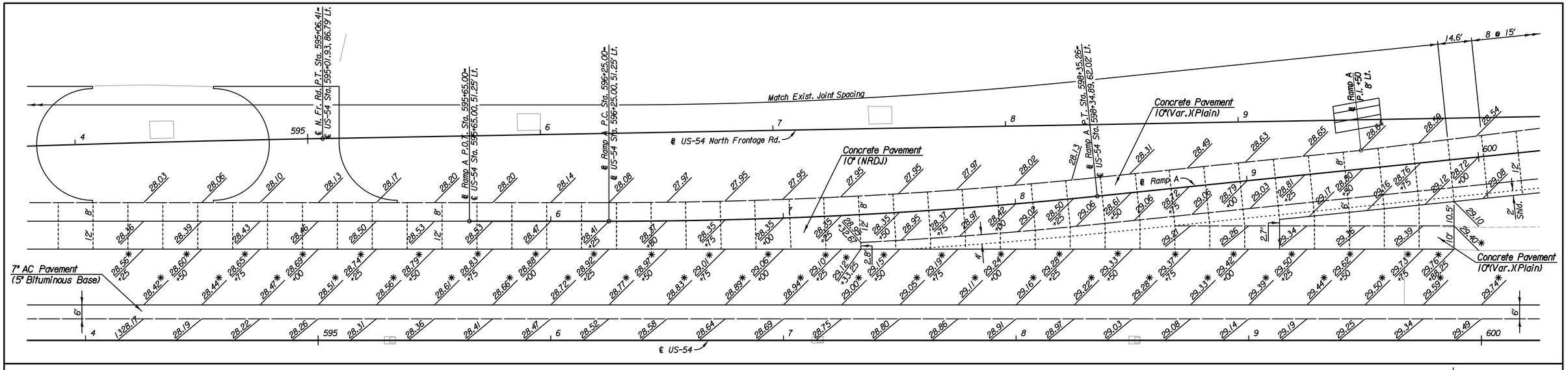
PAVING PLAN
STA. 582+00 TO STA. 594+00

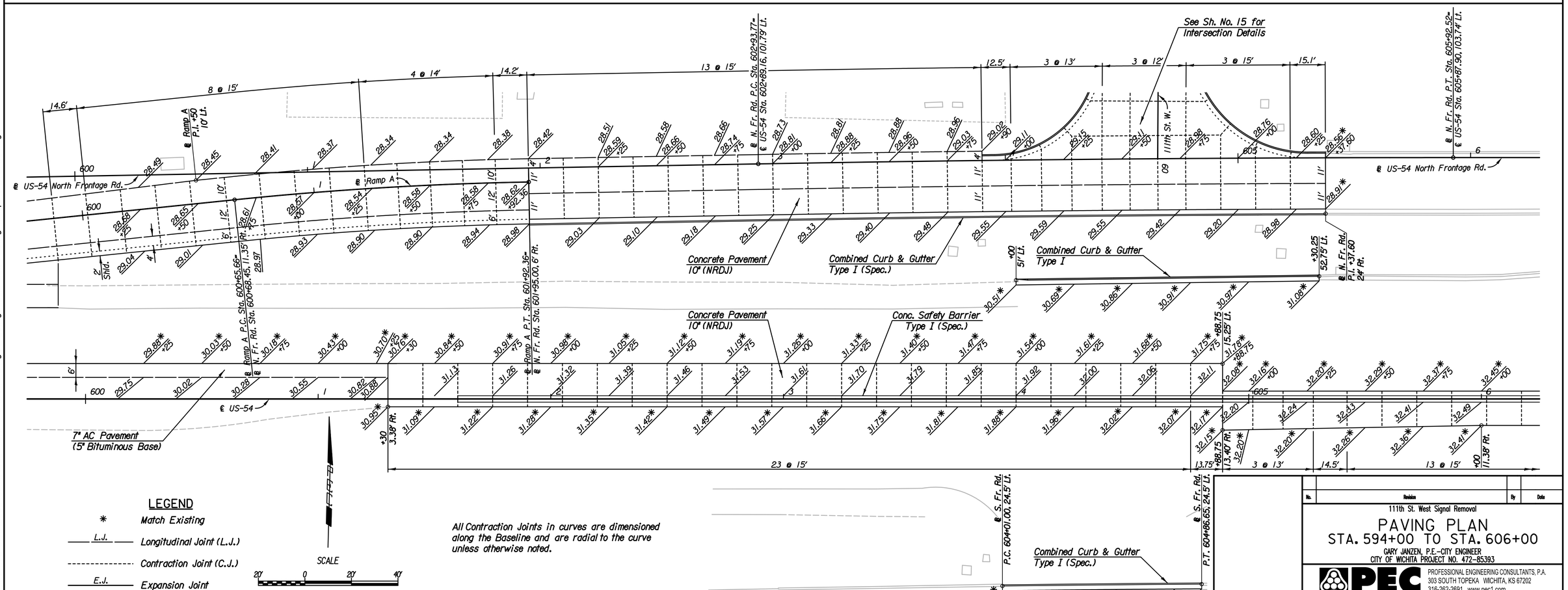
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Designed by	CKC	Job No.	08313-003	Sht. 16 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:25:49 PM
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LEGEND

- * Match Existing
- L.J. — Longitudinal Joint (L.J.)
- Contraction Joint (C.J.)
- E.J. — Expansion Joint

SCALE
20' 0 20' 40'

All Contraction Joints in curves are dimensioned along the Baseline and are radial to the curve unless otherwise noted.

No.	Revision	By	Date

111th St. West Signal Removal

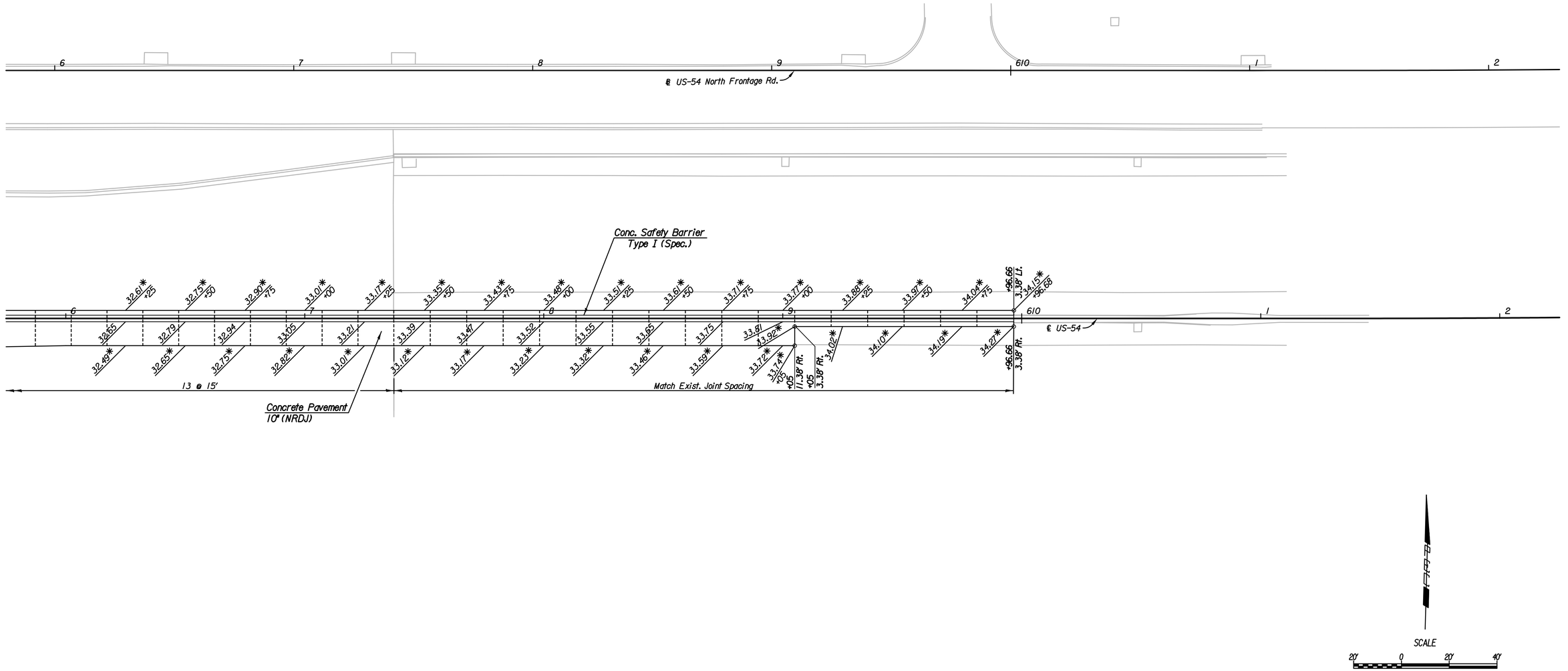
PAVING PLAN
STA. 594+00 TO STA. 606+00

GARY JANZEN, P.E.–CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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Designed by	CKC	Job No.	08313-003	Sht. 17 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:25:50 PM
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LEGEND

*	Match Existing
L.J.	Longitudinal Joint (L.J.)
	Contraction Joint (C.J.)
E.J.	Expansion Joint

No.	Revision	By	Date

111th St. West Signal Removal

PAVING PLAN
STA. 606+00 TO STA. 612+00

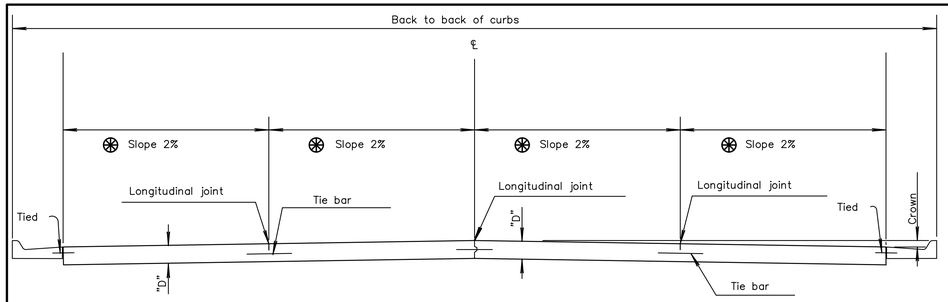
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CITY OF WICHITA PROJECT NO. 472-85393

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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

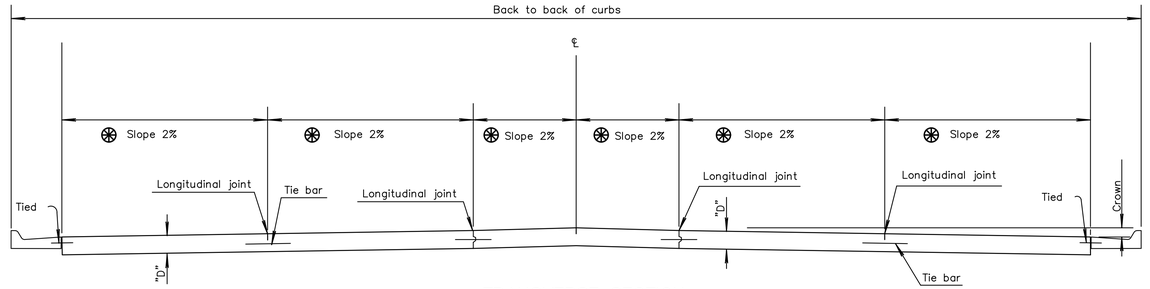
Sht. 18 of 104

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For Curb & Gutter details
See Standard Drawing PV–101.

TRANSVERSE SECTION
(4 – LANE WITH CURB & GUTTER)



TRANSVERSE SECTION
(5 – LANE WITH CURB & GUTTER)

❋ Normal cross slopes. See Typical Section or Cross Sections for variations.

GENERAL NOTE

Epoxy coat all deformed tie bars. Patch any damage to the epoxy coating in accordance with the Standard Specifications.

Use billet steel Grade 40 reinforcing for deformed tie bars THAT require bending, may or may not be epoxy coated.

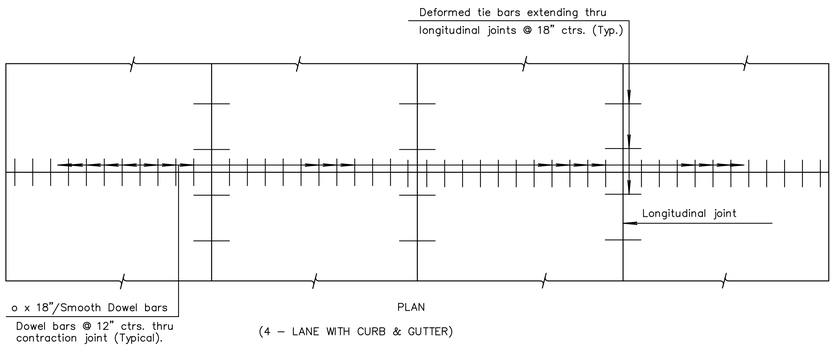
Place pressure relief joint at the end of the bridge approach pavement slab (no bars through joint). For details of pressure relief joint see KDOT Standard Drawing RD712.

Use load transfer devices as shown in details at all construction joints on mainline pavement unless otherwise noted.

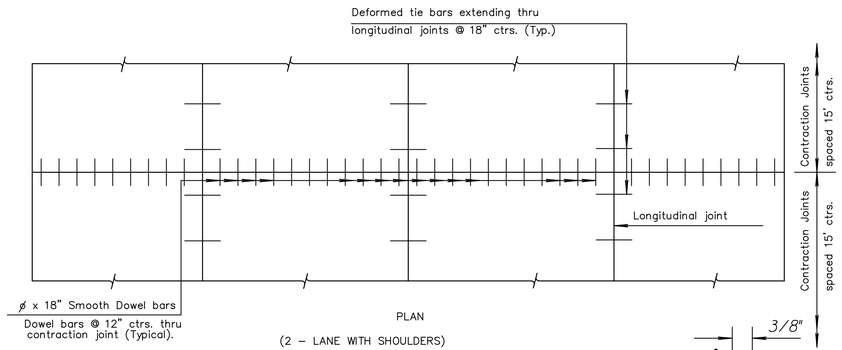
◆ Fill all sawed joints on the project in accordance with the Standard Specifications.

Shape all keyed joints similar to section of recessed form leg as shown on this sheet.

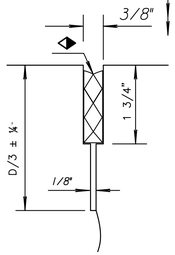
Evenly space tie bars along the length of slab with no tie bar within 12" of contraction joint. All longitudinal joints are tied.



PLAN
(4 – LANE WITH CURB & GUTTER)

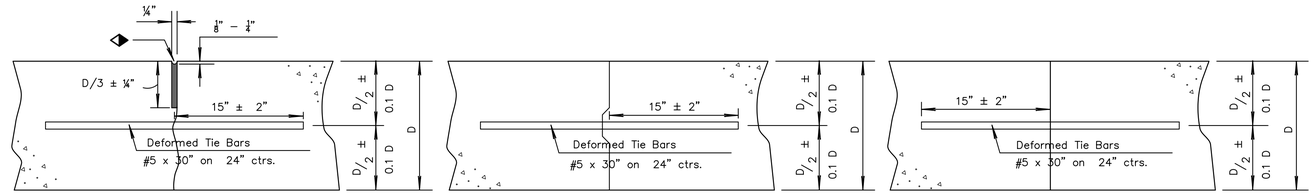


PLAN
(2 – LANE WITH SHOULDERS)



Ψ DETAIL OF SEALED CONTRACTION JOINT SAWCUT

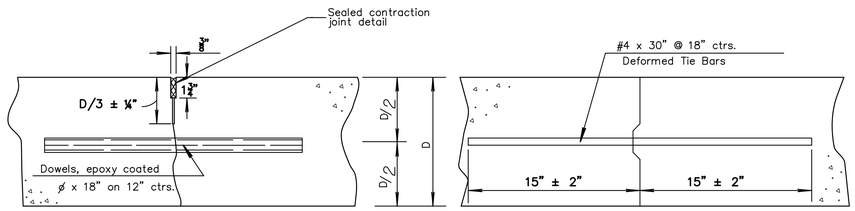
Make an initial $\frac{1}{8}$" saw cut(D/3 ± $\frac{1}{4}$" depth); the second $\frac{3}{8}$" saw cut is a separate operation done after concrete has gained sufficient strength to avoid spalling as determined by the Engineer.



Tied Non–Keyed | Tied Keyed Construction | Tied Butt Construction

Note: For longitudinal construction joints the contractor has the option of using either the keyed or butt type. Place deformed tie bars mid–depth of the shoulder.

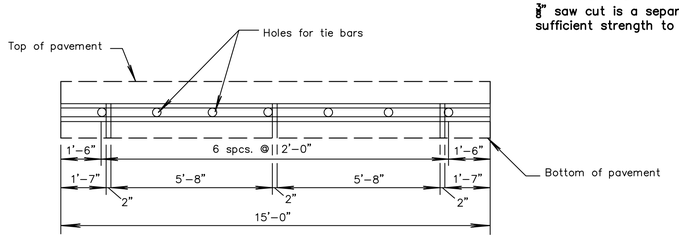
LONGITUDINAL JOINTS



Ψ Contraction | Construction

TRANSVERSE JOINTS

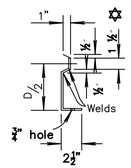
Note: Construct contraction joints at plan locations or at the Engineer's direction. When necessary to interrupt continuous placement for a substantial length of time or at the end of a day's paving, the Contractor has the option of ending placement at a contraction joint or with a construction joint located a minimum of five (5) feet from a contraction joint. Construct either joint type by placing a header at the end of the pour or by paving past the joint location. After the concrete has hardened, saw joint and drill holes for tie bars or dowels.



METAL STRIP FOR
LONGITUDINAL CONSTRUCTION JOINT

To be used only against forms, do not extend through contraction joints. For automated placement tie bars are spaced at uniform 24" centers.

✡ Use snap–in leg or other approved design in lieu of welded leg.



SECTION OF
RECESSED
FORM LEG

DOWEL SIZE	
D (in.)	Diameter
6 < D < 9	1"
9 ≤ D < 11	1 1/4"
D ≥ 11	1 1/2"

PAVEMENT DEPTH
D=10"

REVISED: NOVEMBER 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

CONCRETE PAVEMENT DOWEL JOINTED NON-REINFORCED

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

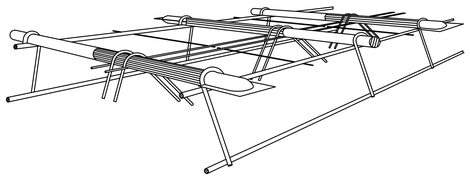
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
19 of 104

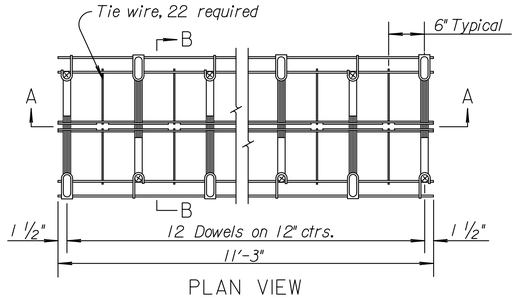
PV–141

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U:\Wichita–Civil\2008\08313\003\Mun–Trans\Drawings\Standards\08313–003–PV–141 Conc Pvmt Dowel Jointed Non Reinforced

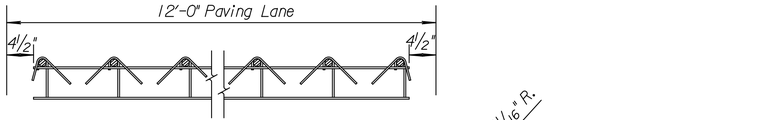
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KANSAS	472-85393	2018	20	104



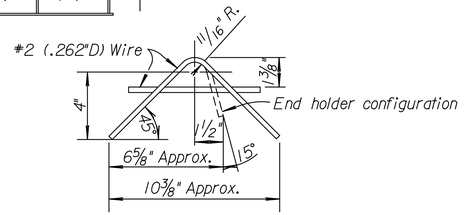
PERSPECTIVE VIEW

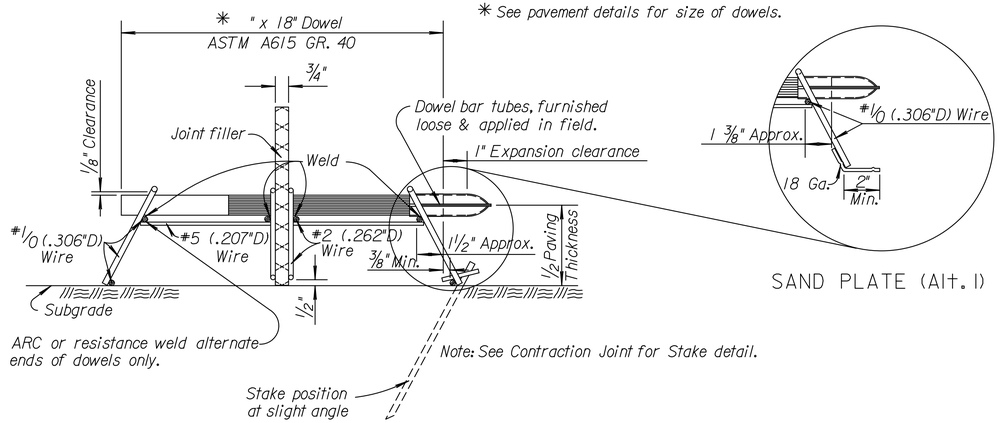


PLAN VIEW



SEC. A-A





* See pavement details for size of dowels.

SAND PLATE (Alt. I)

SEC. B-B

EXPANSION JOINT

GENERAL NOTE

Coat each dowel bar with an epoxy coating that meets the standard specifications. Uniformly apply the powdered epoxy costing according to accepted practices and the coating manufacturer's recommendations. The coating need not be applied to the end faces of the bars and will not be required within 2" of the end which will be fixed in the supporting bracket by welding.

Cut the dowel bars to length in such a manner to result in no appreciable deformation of the ends.

Dowel Baskets

Wire sizes shown are minimum required.

Stake baskets to subgrade as shown. Use ramset or similar type fastener with clip when subgrade condition requires it.

Sides held together with tie wire, allowing quick separation of sides and insertion of expansion material, provided in the field.

Use one length of Preformed Expansion Joint filler (Type B), or other approved material as determined by the Engineer, cut to fit crown and subgrade for each lane of pavement as expansion joint filler.

Stretch a string line between the pavement forms along the center line of the joint.

Visually inspect bond breaker was applied to the dowel bars in accordance with KDOT's Stanard Specifications prior to placing concrete pavment.

Carefully level the entire joint assembly so that the dowels are parallel to the slab surface and free to slide in the dowel holders. Replace any coating scraped off the dowels during assembly.

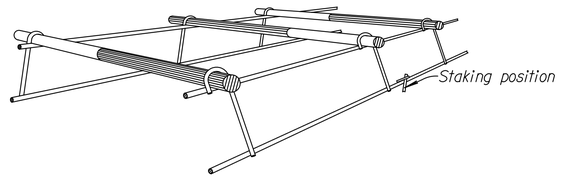
Check each completed contraction joint assembly to be certain the vertical plane of the joint will be perpendicular to the finished surface of the slab and at a right angle with the center line of the slab unless otherwise shown on the plans. Check the dowels to be certain they are level and will remain in a position parallel with the finished surface of the slab.

Place concrete over and adjacent to the joint in accordance with the requirements of the Standard Specifications.

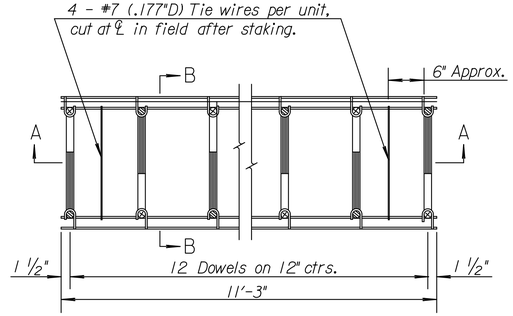
After completion of machine finishing, floating, and straight edging the surface, carefully remove the concrete over the filler and edge the joint with an edger of the proper size.

Install expansion joint material in the field.

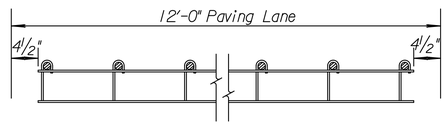
Alternative designs may be used in lieu of the type shown as approved by the Engineer.



PERSPECTIVE VIEW

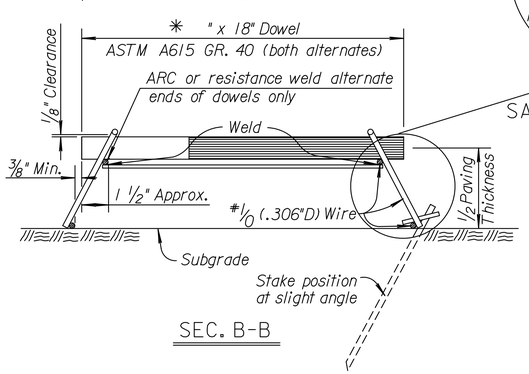


PLAN VIEW

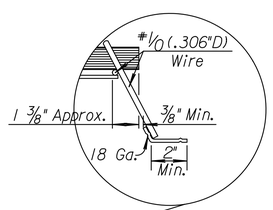


SEC. A-A

* See pavement details for size of dowels.

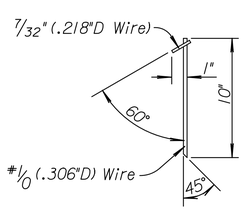


SEC. B-B



SAND PLATE (Alt. I)

CONTRACTION JOINT



STAKE DETAIL

(6 Pieces minimum required)

GENERAL NOTE

Coat each dowel bar with an epoxy coating that meets the standard specifications. Uniformly apply the powdered epoxy costing according to accepted practices and the coating manufacturer's recommendations. The coating need not be applied to the end faces of the bars and will not be required within 2" of the end which will be fixed in the supporting bracket by welding.

Cut the dowel bars to length in such a manner to result in no appreciable deformation of the ends.

Dowel Baskets

Wire sizes shown are minimum required.

Stake baskets to subgrade as shown. Use ramset or similar type fastener with clip when subgrade condition requires it.

Stretch a string line between the pavement forms along the center line of the joint. Carefully mark the position of the joint so the saw cut will coincide with the center line of the joint.

Visually inspect bond breaker was applied to the dowel bars in accordance with KDOT's Stanard Specifications prior to placing concrete pavment.

Carefully level the entire joint assembly so that the dowels are parallel to the slab surface and free to slide in the dowel holders. Replace any coating scraped off the dowels during assembly.

Check each completed contraction joint assembly to be certain the vertical plane of the joint will be perpendicular to the finished surface of the slab and at a right angle with the center line of the slab unless otherwise shown on the plans. Check the dowels to be certain they are level and will remain in a position parallel with the finished surface of the slab.

Place concrete over and adjacent to the joint in accordance with the requirements of the Standard Specifications.

Alternative designs may be used in lieu of the type shown as approved by the Engineer.

NO.	DATE	REVISIONS	BY	APP'D
9	6-3-15	Rem. Opt., Mechanical Placement	T.T.R.	S.W.K.
8	2-15-06	Chg. Grade 60 to Grade 40 Steel	S.W.K.	J.O.B.
7	5- 5-04	Revision on Epoxy coating	S.W.K.	J.O.B.
6	4- 9-03	Rev. General Note on Epoxy coating	R.J.S.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

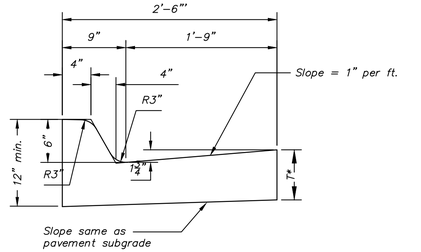
CONTRACTION & EXPANSION JT. DOWEL ASSEMBLIES

RD735

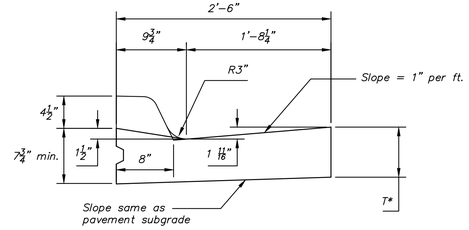
FHWA APPROVAL	3-30-16	APP'D.	SCOTT W. KING
DESIGNED	DETAILED	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. Hecht

Plotted : 29-JAN-2018 17:21
Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-rd735.dgn

TYPE 1
(Arterial curb)

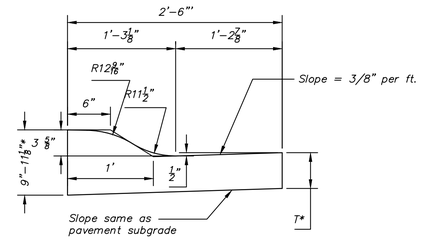


Combined Curb & Gutter (6")

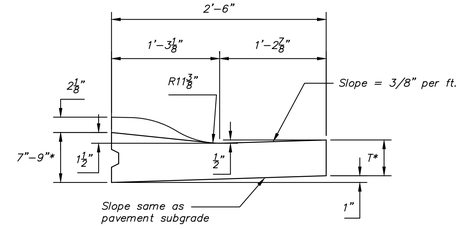


Combined Curb & Gutter (1 1/2")

TYPE 2
(Roll curb)

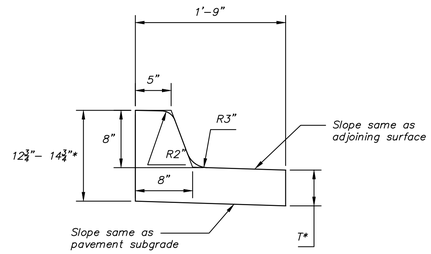


Combined Curb & Gutter (3 5/8")

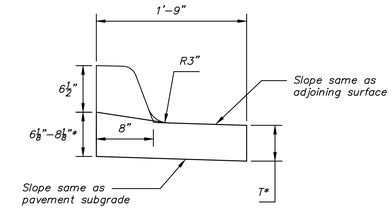


Combined Curb & Gutter (1 1/2")

TYPE 3
(Median curb)

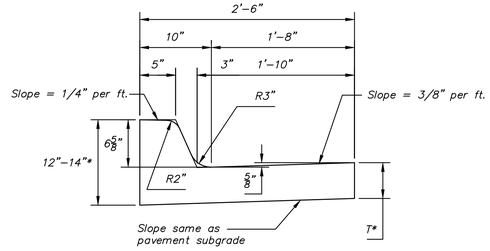


Combined Curb & Gutter (8")

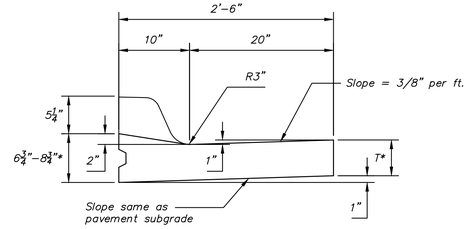


Combined Curb & Gutter (1 1/2")

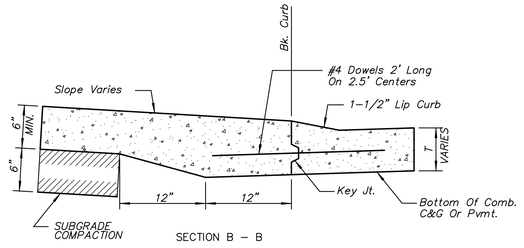
TYPE 4
(Residential curb)



Combined Curb & Gutter (6 5/8")



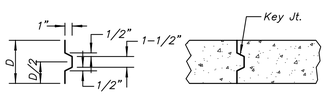
Combined Curb & Gutter (1 1/2")



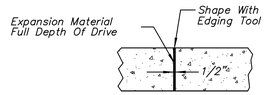
SECTION B – B

BACK OF CURB DETAIL

T* = Thickness of curb to adjust with pavement thickness



ALT. LONGITUDINAL CONSTRUCTION JOINT



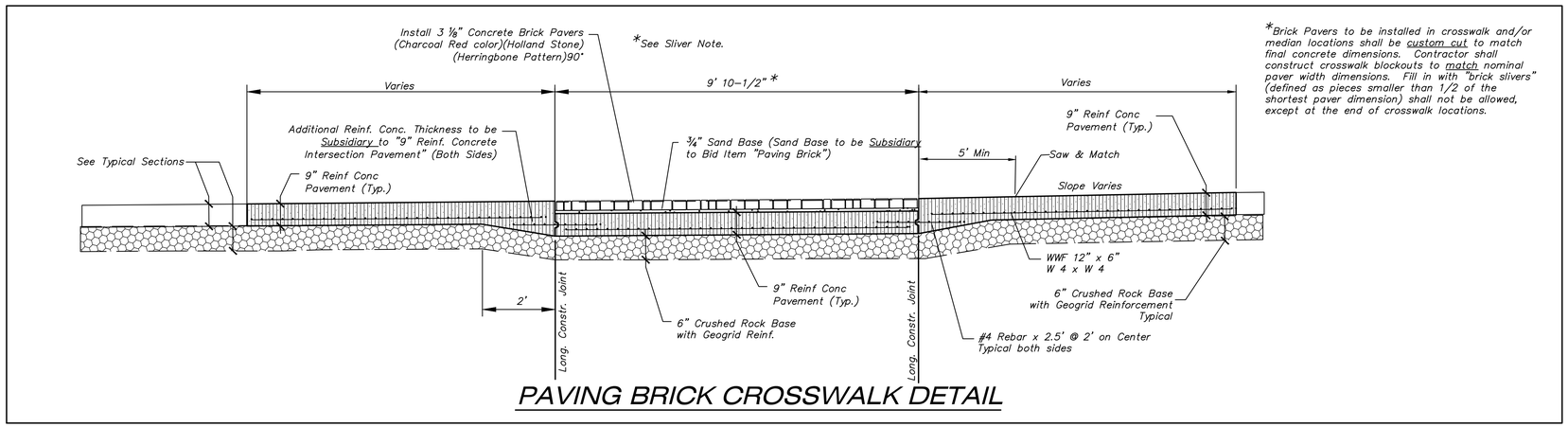
EXPANSION JOINT (E.J.)

GENERAL NOTES

1. Expansion (isolation) joints shall be constructed a maximum of 300' apart and at all PIs, PCs, cul–de–sac quadrants, and ends of returns.

2. Contraction joints shall be constructed a minimum of 12' apart.

3. Joint sealer shall be required at all joints on arterial and industrial streets and at intersections on residential streets.



*Brick Pavers to be installed in crosswalk and/or median locations shall be custom cut to match final concrete dimensions. Contractor shall construct crosswalk blackouts to match nominal paver width dimensions. Fill in with "brick slivers" (defined as pieces smaller than 1/2 of the shortest paver dimension) shall not be allowed, except at the end of crosswalk locations.

PAVING BRICK CROSSWALK DETAIL

REVISED: OCTOBER 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

CURB & GUTTER & PAVING BRICK CROSSWALK DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

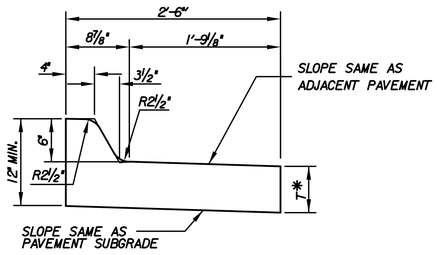
SHEET
21 of 104

PV–101

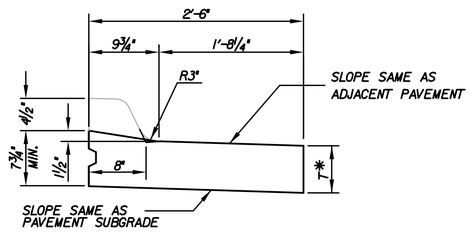
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U:\Wichita–Civil\2008\08313\003\Mun–Trans\Drawings\Standards\08313–003–PV–101 C & G–Paving Brick Crosswalk

TYPE I (SPECIAL)

(ARTERIAL CURB)



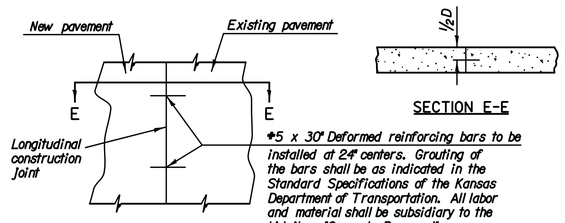
COMBINED CURB & GUTTER (6")



COMBINED CURB & GUTTER (11/2")

T* - THICKNESS OF CURB TO ADJUST WITH PAVEMENT THICKNESS

See Sheet No. 21 for additional curb and gutter notes and details.



#5 x 30" Deformed reinforcing bars to be installed at 24" centers. Grouting of the bars shall be as indicated in the Standard Specifications of the Kansas Department of Transportation. All labor and material shall be subsidiary to the bid item "Concrete Pavement".

METHOD OF TYING PAVEMENT TO EXISTING PAVEMENT

PAVEMENT WIDENING

No.	Revision	By	Date

111th St. West Signal Removal

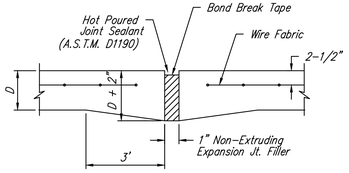
MISCELLANEOUS PAVING DETAILS

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

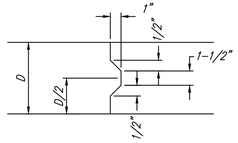
Designed by	CKC	Job No.	08313-003	Sht. 22 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:25:51 PM
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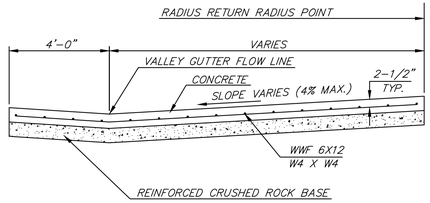


EXPANSION JOINT

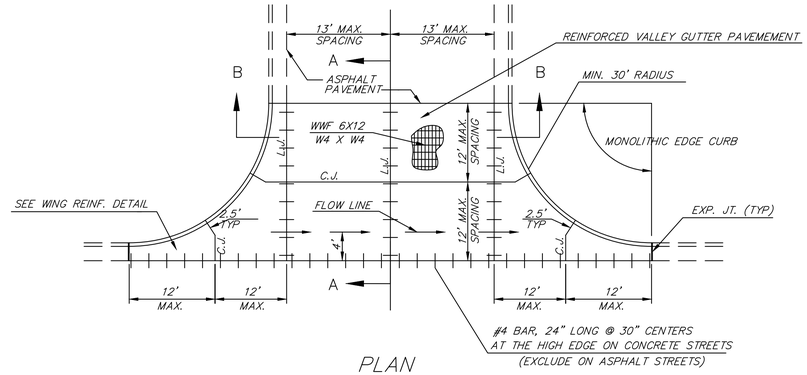
NOTE: Extra Thickness to be Subsidiary to Price of Square Yards Pavement



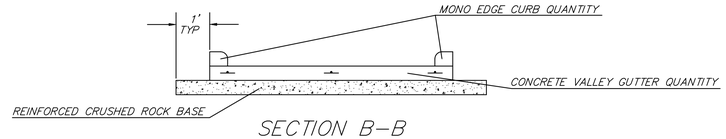
KEYWAY DETAIL



SECTION A-A

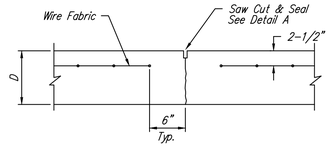


PLAN

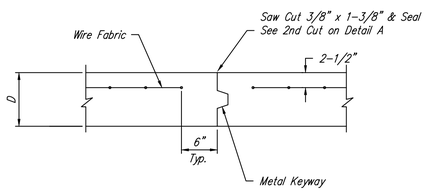


SECTION B-B

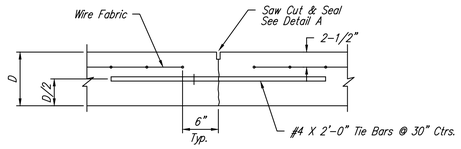
REINFORCED VALLEY GUTTER DETAIL



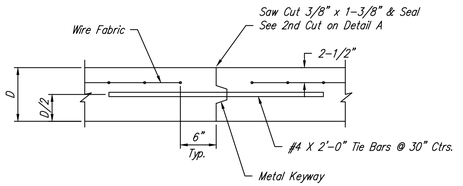
CONTRACTION JOINT DETAIL (C.J.)



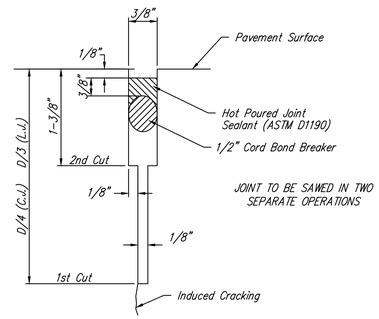
OPTIONAL CONTRACTION JOINT



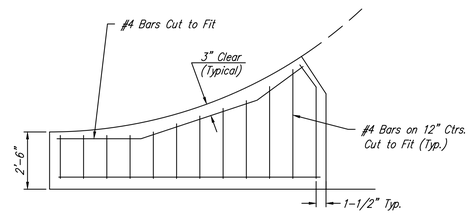
LONGITUDINAL JOINT DETAIL (L.J.)



OPTIONAL LONGITUDINAL JOINT DETAIL (L.J.)



SAW JOINT DETAIL
(DETAIL A)



WING REINFORCING DETAIL

REVISION MAY 2017	SECTION B-B, ROCK EXTENDED ONE FOOT BEYOND PAVEMENT

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

VALLEY GUTTER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

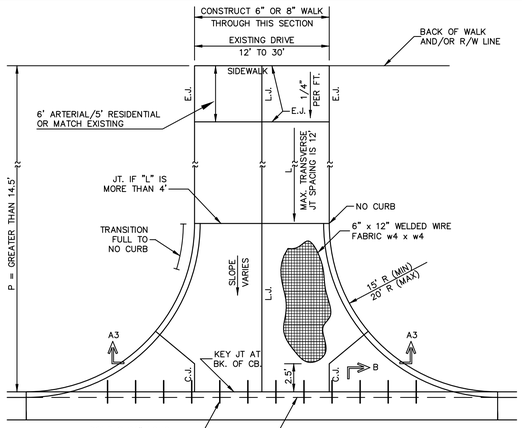
PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

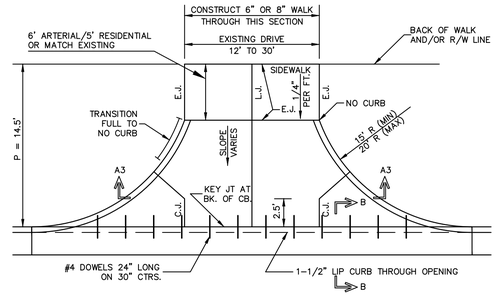
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

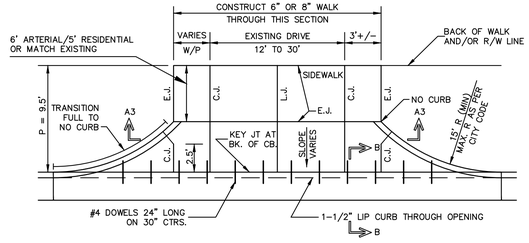
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23 of 104

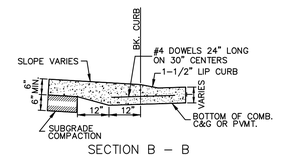
PV-109

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Plot Scale 1:1 01-29-2018 5:39:06 PM by CP
U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-PV-109 VALLEY GUTTER



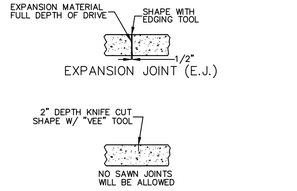




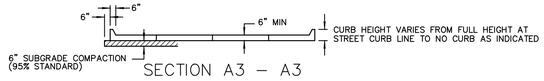


SECTION B – B

ALT. LONGITUDINAL CONSTRUCTION JOINT

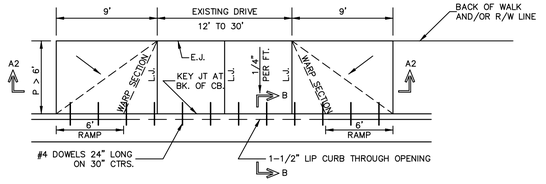


BACK OF CURB DETAIL



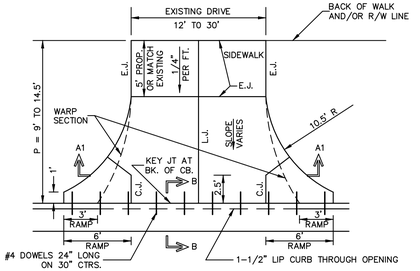
SECTION A3 – A3

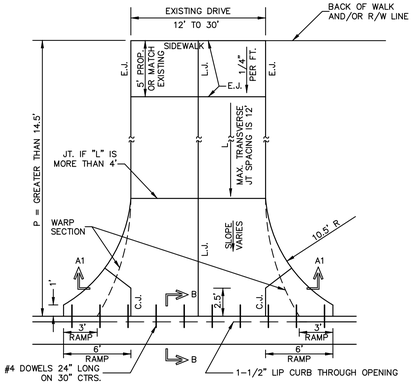
FULL RADIUS DRIVES (ARTERIAL/COLLECTOR DRIVEWAY)

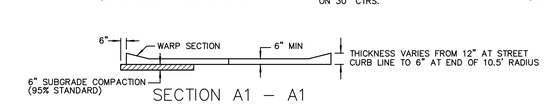


SECTION A2 – A2

FULL RAMP DRIVES (P = 4.0' & 6.5')







SECTION A1 – A1

RADIUS RAMP DRIVES (RESIDENTIAL DRIVEWAY)

GENERAL NOTES

1. DRIVEWAY CONSTRUCTION DETAILED ON THIS SHEET IS FOR USE WITH FULL HEIGHT STREET CURBS AND IN AREAS WITHOUT FULL WALK CONSTRUCTION IN THE PARKING. SEE OTHER DETAIL SHEETS FOR DRIVEWAY CONSTRUCTION WITH ROLL CURB AND/OR FULL WALK.
2. ONE LONGITUDINAL JOINT SHALL BE CONSTRUCTED ALONG THE CENTERLINE OF DRIVES HAVING A WIDTH DIMENSION OF 24' OR LESS. TWO LONGITUDINAL JOINTS SHALL BE CONSTRUCTED WITH EQUAL SPACINGS NOT TO EXCEED 10' FOR DRIVES WITH A WIDTH DIMENSION GREATER THAN 24'.
3. DRIVEWAY WIDTH DENOTED AS WIDTH ON THE DETAIL DRAWINGS SHALL BE A MINIMUM OF 12' AND A MAXIMUM OF 30'. THE MAXIMUM OPENING FOR RADIUS TYPE DRIVES WITH CURBS THROUGH THE RADIUS SHALL NOT EXCEED 52' AT THE STREET CURB LINE.
4. CONTRACTION JOINT SPACING IN THE DRIVEWAY WALK SECTION SHALL BE A MINIMUM OF 3' AND A MAXIMUM OF 6' AND ARE TO BE EQUALLY SPACED WITHIN THIS RANGE. WALK SECTION SHALL BE CONSTRUCTED TO THE SAME THICKNESS AS THE DRIVEWAY.
5. ADDITIONAL THICKNESS OF DRIVE AS INDICATED IN THE DRAWINGS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE DRIVEWAY CONSTRUCTION.
6. ONE HALF INCH EXPANSION JOINTS SHALL BE INSTALLED WHEREVER DRIVE CONSTRUCTION ABUTS SIDEWALK. ONE HALF INCH EXPANSION JOINTS SHALL ALSO BE INSTALLED ALONG THE PROPERTY LINE AND/OR BACK OF WALK LINE WHEN DRIVE CONSTRUCTION ALONG THIS LINE ABUTS CONCRETE PARKING LOTS OR CONCRETE DRIVE EXTENSION.
7. DRIVEWAYS ONLY ON RESIDENTIAL PROPERTIES ONLY CAN BE CONSTRUCTED WITH 6" IN THICKNESS AND CAN BE WITHOUT REINFORCEMENT.
8. ALL DRIVEWAYS TO NONRESIDENTIAL PROPERTY SHALL BE A MINIMUM OF 8" IN THICKNESS AND SHALL HAVE REINFORCEMENT WITH 6"x12", W4xW4.

REVISED: NOVEMBER 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD DRIVE ENTRANCES FULL HEIGHT CURB

CITY ENGINEER
GARY JANZEN, P.E.

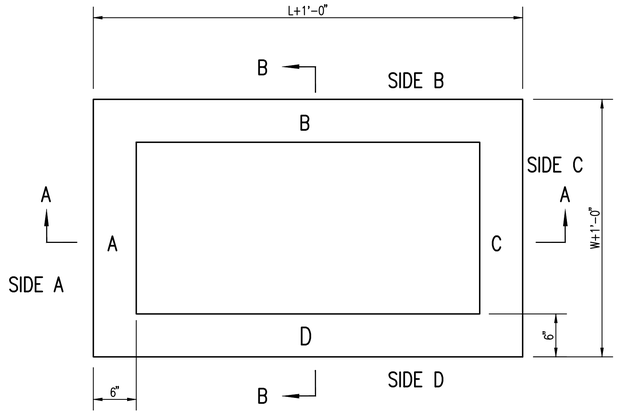
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472-85393	707136	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

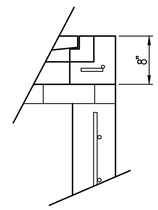
SHEET
24 of 104

PV-126

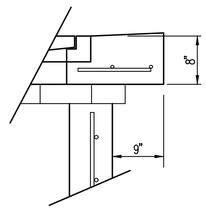
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TOP VIEW

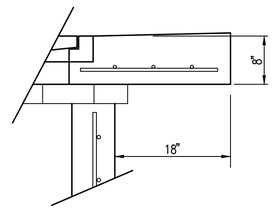


FLUSH STYLE TOP
NO APRON



9" APRON

* APRON TO EXTEND ON ALL 4 SIDES OF INLET.
DESIGNER TO DESIGNATE APRON SIZE.



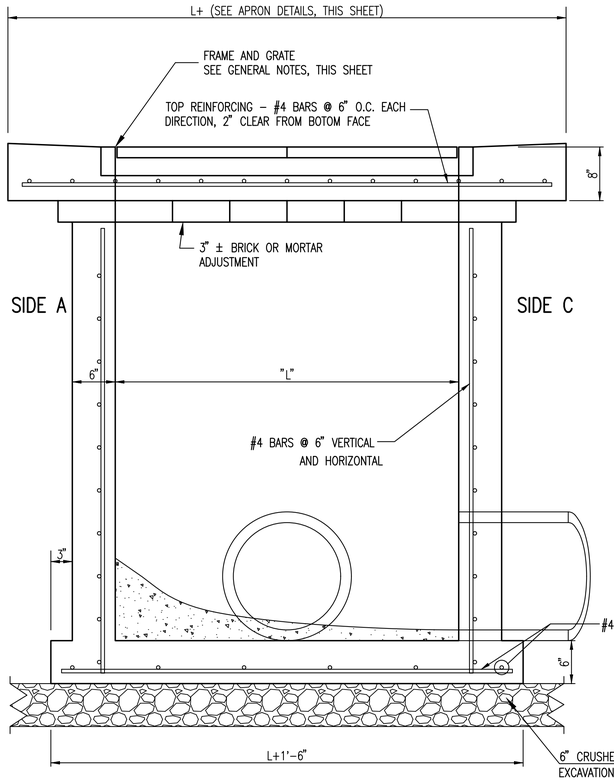
18" APRON

W=2' and L=2' for SINGLE DROP INLET
W=2' and L=4' for DOUBLE DROP INLET

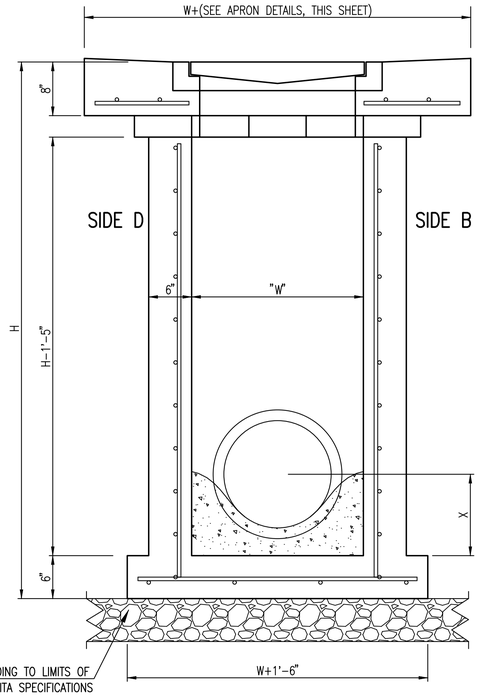
The structure(s) on this detail sheet are designed for HS-20 loading at these specific dimensions only. If larger dimensions are required, the ENGINEER shall provide a project specific structure design for approval by the City Engineer's office.

GENERAL NOTES

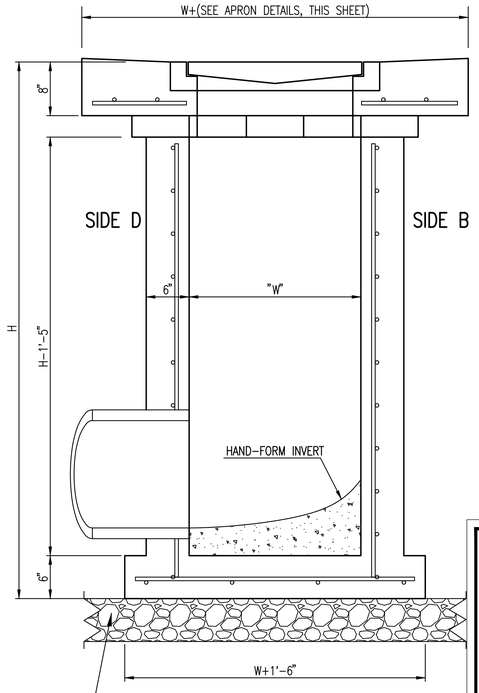
1. GRATE FRAME TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
3. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
4. INLET FRAME AND GRATE TO BE DEETER #2433, EJIW #5391-Z1 OR APPROVED EQUAL FOR 2'x2' SINGLE DROP INLET AND DEETER #2434, EJIW #5391 Z3 OR APPROVED EQUAL FOR 2'x4' DOUBLE DROP INLET.
5. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.



SECTION "A-A"



SECTION "B-B"
END OUTLET



6" CRUSHED ROCK BASE BEDDING TO LIMITS OF EXCAVATION PER CITY OF WICHITA SPECIFICATIONS

SECTION "B-B"
SIDE OUTLET

REVISED: MARCH 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

SINGLE/DOUBLE
DROP INLET

CITY ENGINEER
GARY JANZEN, P.E.

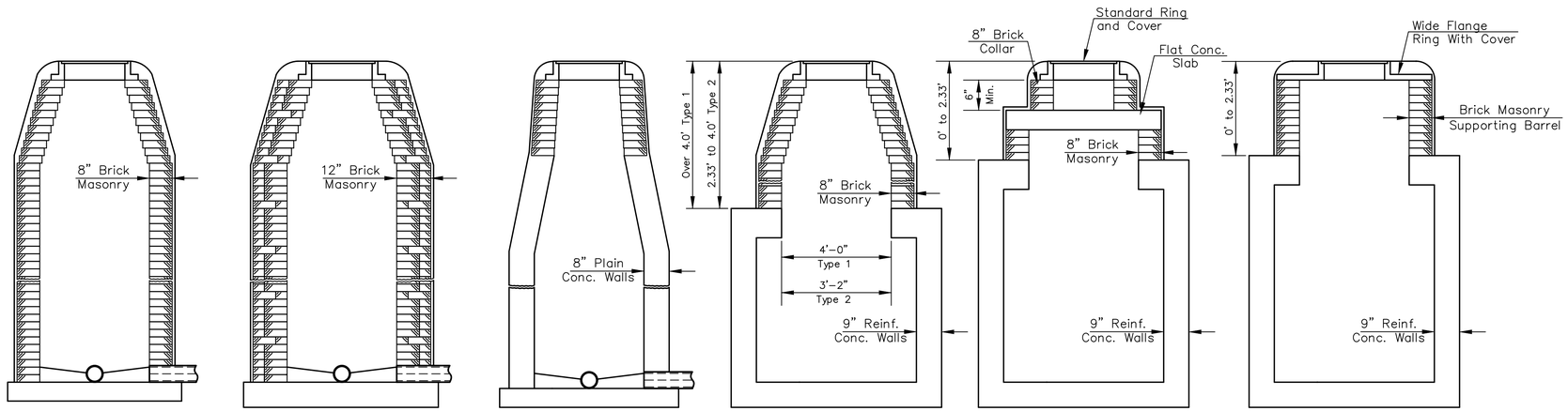
PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
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SW-201

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TYPE A
Single Wall Masonry

TYPE B
Double Wall Masonry

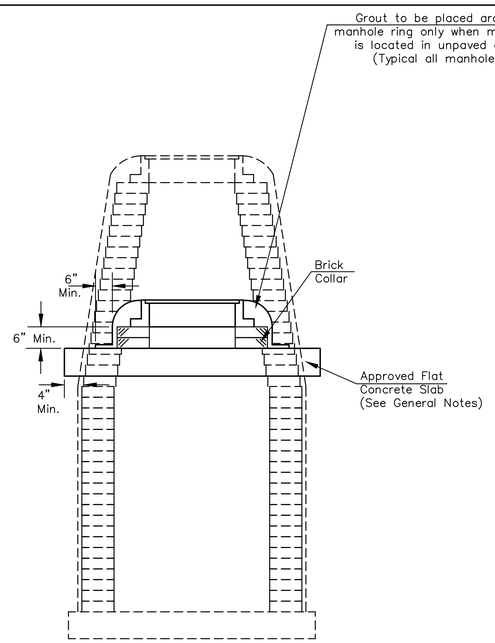
TYPE C & D
Cast in Place
(Type D is plastic lined & has brick draw)

TYPE 1 & 2
Reinforced Concrete

TYPE 3
Reinforced Concrete

TYPE 4
Reinforced Concrete
(Wide Flange Ring)

DEFINITION SKETCHES – CITY OF WICHITA STANDARD MANHOLES

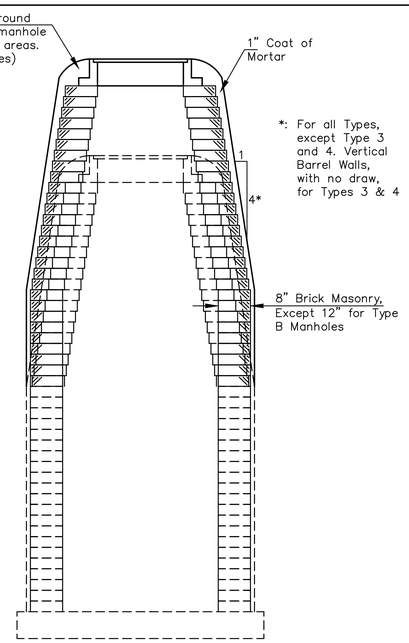


DOWNWARD ADJUSTMENT
(GREATER THAN 12")

All Types

THE APPROPRIATE PORTIONS OF THE DRAW AND BARREL OF TYPE A, B, C, D, 1 AND 2 MANHOLES SHALL BE REMOVED. A FLAT CONCRETE SLAB SHALL BE PLACED AND THE RING AND COVER RESET. ALL WORK AND MATERIALS SHALL CONFORM TO THE DETAILS SHOWN AND THE GENERAL NOTES.

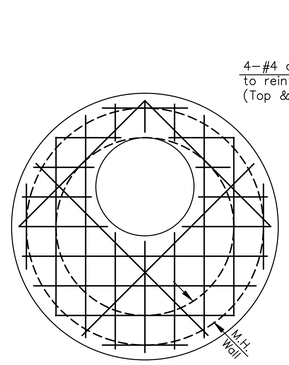
COURSES OF BRICK BARREL SUPPORTING THE WIDE FLANGE RING FOR TYPE 4 MANHOLES AND FLAT CONCRETE SLAB FOR TYPE 3 MANHOLES SHALL BE REMOVED AS NECESSARY PRIOR TO RESETTING THE WIDE FLANGE RING OR FLAT CONCRETE SLAB AND RING. ALL WORK AND MATERIALS SHALL CONFORM TO THE DETAILS SHOWN AND THE GENERAL NOTES.



UPWARD ADJUSTMENT
(GREATER THAN 12")

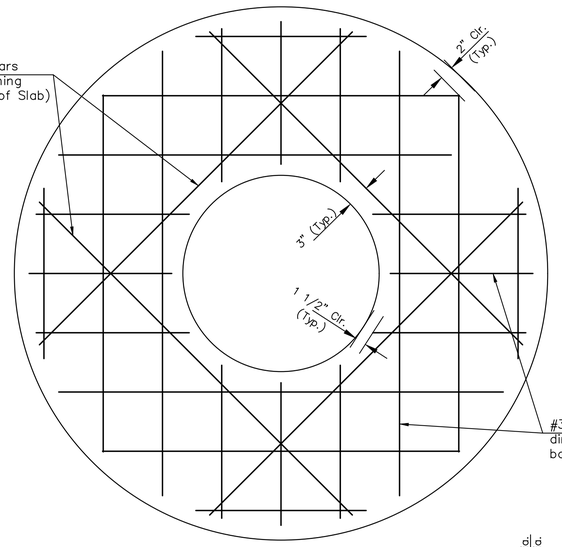
All Types

THE ENTIRE DRAW OF TYPES A, B, C, D, 1 AND 2 MANHOLES SHALL BE REMOVED, THE MANHOLE BARREL RAISED THE APPROPRIATE AMOUNT, A NEW DRAW CONSTRUCTED, AND THE RING AND COVER RESET. THE UPPER PORTION OF TYPE 3 MANHOLES SHALL BE REMOVED TO THE BOTTOM OF THE FLAT CONCRETE SLAB, THE BRICK MASONRY BARREL SUPPORTING THE SLAB SHALL BE RAISED THE APPROPRIATE AMOUNT, AND THE SLAB AND RING AND COVER RESET. THE WIDE FLANGE RING AND COVER OF TYPE 4 MANHOLES SHALL BE REMOVED, THE BRICK MASONRY BARREL SUPPORTING THE RING SHALL BE RAISED THE APPROPRIATE AMOUNT AND THE RING AND COVER RESET. ALL WORK REQUIRED FOR A GREATER THAN TWELVE INCH (12") UPWARD ADJUSTMENT OF ANY MANHOLE SHALL BE ACCOMPLISHED WITH BRICK MASONRY IN ACCORDANCE WITH THE DETAILS SHOWN AND THE GENERAL NOTES.

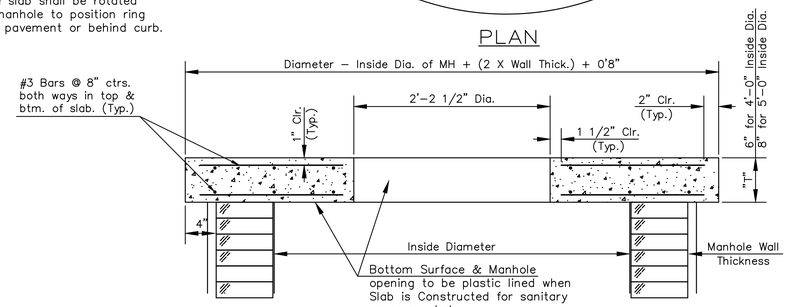


* PLAN
ALTERNATE OPENING
LOCATION

*: To be used only if necessary to keep ring and cover from conflicting with curb or combined curb and gutter. Flat concrete slab shall be rotated on existing manhole to position ring and cover in pavement or behind curb.



PLAN



SECTION A–A

FLAT CONCRETE SLAB DETAILS

GENERAL NOTES

MANHOLES DESIGNATED FOR ADJUSTMENT SHALL BE RAISED OR LOWERED AS NECESSARY SUCH THAT THE CASTING WILL CONFORM TO THE REQUIRED ELEVATION. TOPS OF STORM OR SANITARY SEWER MANHOLES LOCATED IN PAVED AREAS SHALL BE SET FLUSH WITH THE PAVEMENT. TOPS OF SANITARY SEWER MANHOLES LOCATED IN GRASSED AREAS SHALL BE SET FOUR TENTHS OF ONE FOOT (0.40') HIGHER THAN THE FINISHED GRADE. TOPS OF STORM SEWER MANHOLES LOCATED IN GRASSED AREAS SHALL BE SET FLUSH WITH THE FINISHED GRADE. TOPS OF STORM OR SANITARY SEWER MANHOLES LOCATED IN UNPAVED TRAVEL WAYS SHALL BE SET SIX INCHES (6") BELOW FINISHED GRADE.

THE NEW TOP SPECIFIED ON THE PLANS WAS ESTABLISHED FROM THE BEST INFORMATION AVAILABLE AT THE TIME THE PLANS WERE PREPARED. THE ACTUAL TOP ELEVATION SHALL BE VERIFIED OR ESTABLISHED, IN THE FIELD, BY THE ENGINEER AT THE TIME THE ADJUSTMENT IS MADE. NO ADJUSTMENT IN BID PRICE SHALL BE MADE FOR A CHANGE IN TOP ELEVATION DEEMED NECESSARY BY THE ENGINEER.

THE ADJUSTMENT OF ALL MANHOLES WHICH ARE TO BE LOWERED OR RAISED TWELVE INCHES (12") OR LESS SHALL BE ACCOMPLISHED BY REMOVING THE EXISTING RING AND COVER AND REMOVING OR ADDING THE APPROPRIATE COURSE(S) OF BRICK AND REPLACEMENT OF THE RING AND COVER. ALL WORK SHALL BE IN ACCORDANCE WITH NOTES BELOW.

ALL UPWARD OR DOWNWARD ADJUSTMENT IN EXCESS OF TWELVE INCHES (12") SHALL BE IN ACCORDANCE WITH DETAILS AND NOTES SHOWN ON THIS SHEET.

NEW BRICK USED IN THE ADJUSTMENT OF MANHOLES SHALL CONFORM TO THE REQUIREMENTS SPECIFIED FOR GRADE MS IN A.S.T.M. C32–73 OR GRADE SW IN A.S.T.M. C62–69. BRICK SHALL HAVE NOMINAL DIMENSIONS WHICH WILL PERMIT THE ADJUSTED PORTION TO MATCH THE DIMENSIONS OF THE WALLS OF THE STRUCTURE BEING ADJUSTED. UNDAMAGED EXISTING BRICK, SALVAGED AS PART OF EXISTING MANHOLE ADJUSTMENT(S), FOR THIS PROJECT, MAY BE REUSED IN COMPLETING ADJUSTMENT(S) IF THOROUGHLY CLEANED OF EXISTING MORTAR AND IF APPROVED AS TO SUITABILITY BY THE ENGINEER.

ALL BRICK SHALL BE LAID WITH SHOVE JOINTS. PORTLAND CEMENT MORTAR, AS SPECIFIED BELOW, SHALL BE USED IN LAYING THE BRICK. THE ENTIRE OUTSIDE SURFACE OF THE MANHOLES, ADJUSTED WITH BRICK, SHALL BE PLASTERED WITH A MINIMUM OF ONE INCH (1") OF THE CEMENT MORTAR. ALL CONTACT SURFACES BETWEEN BRICK MASONRY, FLAT CONCRETE SLABS (IF REQUIRED), AND CAST IRON RINGS SHALL BE SEALED WITH A LAYER OF THE CEMENT MORTAR. BACKFILL OF ADJUSTED SECTIONS SHALL NOT BE ACCOMPLISHED UNTIL THE MORTAR HAS CURED FOR TWENTY–FOUR (24) HOURS.

MORTAR USED IN ADJUSTMENT OF MANHOLES SHALL CONTAIN EIGHT (8) SACKS OF PORTLAND CEMENT PER CUBIC YARD, FINE AGGREGATE, AND SUFFICIENT WATER TO PRODUCE A WORKABLE AND PLASTIC MIX OF SUCH CONSISTENCY AS TO PERFORM PROPERLY THE FUNCTION OF MASONRY CONSTRUCTION.

CEMENT USED FOR MORTAR SHALL BE TYPE I COMPLYING WITH THE REQUIREMENTS OF THE LATEST REVISION OF A.S.T.M. DESIGNATION C–150.

FINE AGGREGATE USED FOR MORTAR SHALL MEET THE REQUIREMENTS FOR TYPE FA–A, DIVISION 1102, OF THE "STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION," KANSAS DEPARTMENT OF TRANSPORTATION, 1980 EDITION.

WATER USED FOR MORTAR SHALL MEET THE REQUIREMENTS OF DIVISION 2401, OF THE MENTIONED STANDARD SPECIFICATIONS.

AN APPROVED TYPE OF FLAT CONCRETE SLAB, CONFORMING TO THE REQUIREMENTS OF A.S.T.M. C–478, SHALL BE USED TO SUPPORT THE MANHOLE RING AND COVER WHERE IT IS NECESSARY TO LOWER MANHOLES MORE THAN TWELVE INCHES (12"). ALL SURFACES OF THE FLAT CONCRETE SLAB, FOR SANITARY SEWER MANHOLES, WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE PROTECTED BY A PLASTIC LINING. A MINIMUM SIX INCH (6") BRICK COLLAR CONFORMING TO THE SAME TYPE OF CONSTRUCTION AS SPECIFIED ABOVE SHALL BE INSTALLED BETWEEN THE MANHOLE RING AND THE FLAT CONCRETE SLAB TO FACILITATE MINOR ADJUSTMENTS IN ELEVATION.

PLASTIC LINING REQUIRED FOR FLAT CONCRETE SLABS, TO BE PLACED IN CONNECTION WITH THE ADJUSTMENT OF SANITARY SEWER MANHOLES, MAY BE AMER–PLATE T–LOCK LINER PLATE, B.F. GOODRICH LOK–RIB KOROSEAL, OR AN APPROVED EQUAL. THE PLASTIC LINING MANUFACTURER'S RECOMMENDATIONS FOR INSTALLING, SEALING JOINTS, TESTING AND INSPECTION OF THE LINING SHALL BE CONSIDERED AS INCORPORATED IN AND FORMING A PART OF THESE SPECIFICATIONS. THREE (3) COPIES OF THE PLASTIC LINING MANUFACTURER'S RECOMMENDATIONS FOR LINING INSTALLATION SHALL BE FURNISHED TO THE ENGINEER FOR APPROVAL PRIOR TO THE FABRICATION OF ANY FLAT SLABS REQUIRING PLASTIC LINING.

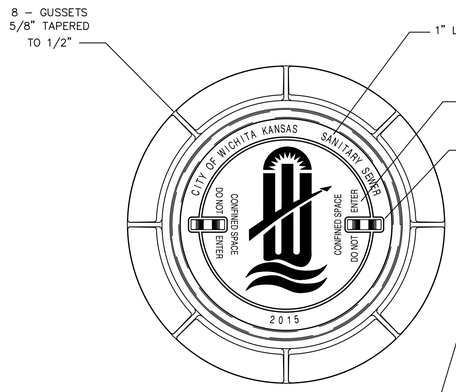
THE CITY OF WICHITA
CITY ENGINEER'S OFFICE
CITY HALL – SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268–4501
(316) 268–4114 FAX

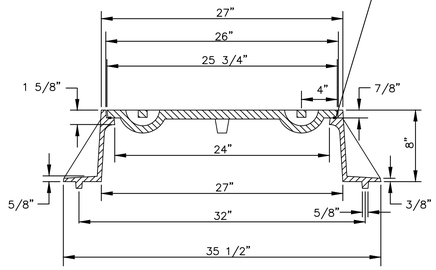
MANHOLE ADJUSTMENT DETAILS

JAMES L. ARMOUR, P.E. – CITY ENGINEER

PROJECT NUMBER	OCA NO.
472–85393	707136
DATE: MAR 96	SHEET 26 OF 104

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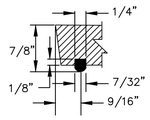


STANDARD MANHOLE FRAME & COVER

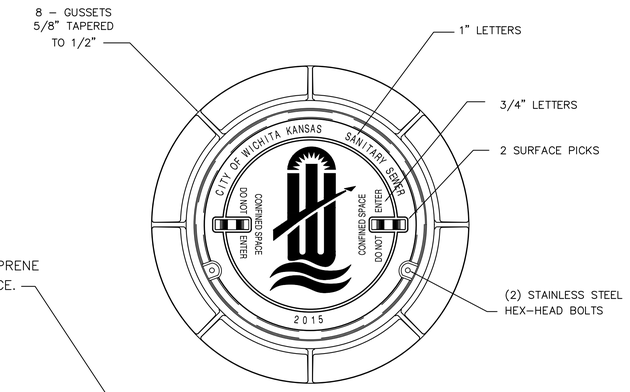
DEETER #1261 OR EJIW #1936–Z1

NOTE:

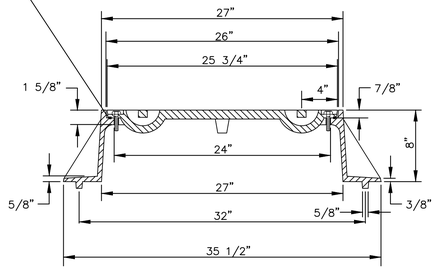
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.



O–RING DETAIL



ALL LIDS TO BE FURNISHED WITH O–RING/NEOPRENE GASKET GLUED IN THE COVER BEARING SURFACE.

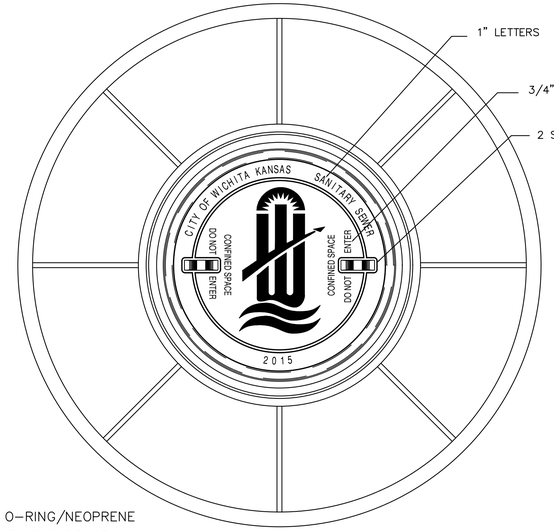


BOLT DOWN MANHOLE FRAME & COVER

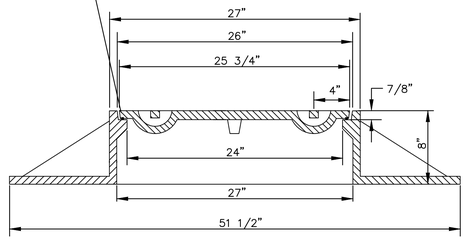
DEETER #1261 OR EJIW #1936–Z1

NOTE:

1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.



ALL LIDS TO BE FURNISHED WITH O–RING/NEOPRENE GASKET GLUED IN THE COVER BEARING SURFACE.



WIDE FLANGED FRAME & COVER

DEETER #1261A

NOTE:

1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

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 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 BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDARY 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.

3. 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 CIRCUM–FERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

4. 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"IIN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SANITARY SEWER".
THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN WITH CITY OF WICHITA 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.

REVISED: MARCH 2016

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

MANHOLE
FRAME AND COVER
(SANITARY SEWER)

CITY ENGINEER
GARY JANZEN, P.E

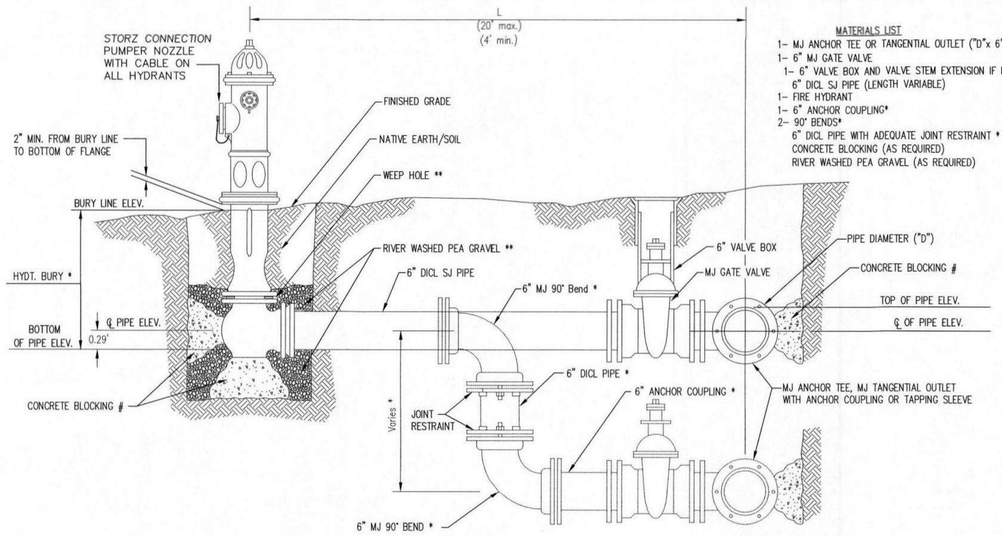
PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
27 of 104

SS-102

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U:\Wichita-Civil\2008\08313\003\Muni-Trades\Drawings\Standards\08313-003-SS-102 MH Frame and Cover SS



MATERIALS LIST
1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D"x 6")
1- 6" MJ GATE VALVE
1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED *
6" DICL SJ PIPE (LENGTH VARIABLE)
1- FIRE HYDRANT
1- 6" ANCHOR COUPLING*
2- 90° BENDS*
6" DICL PIPE WITH ADEQUATE JOINT RESTRAINT *
CONCRETE BLOCKING (AS REQUIRED)
RIVER WASHED PEA GRAVEL (AS REQUIRED)

* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2-MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DICL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, OR SIMILAR RESTRAINT BETWEEN 90° BENDS TO SECURE ALL FITTINGS DURING TESTING AND OPERATION. THE CONTRACTOR SHALL PROVIDE A VALVE STEM EXTENSION PER DETAIL THIS SHEET.

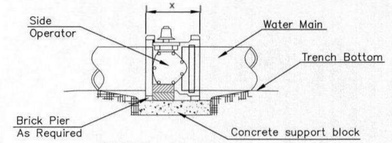
** CAUTION: WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

FIRE HYDRANT ASSEMBLY

PER CITY OF WICHITA SPECIFICATIONS

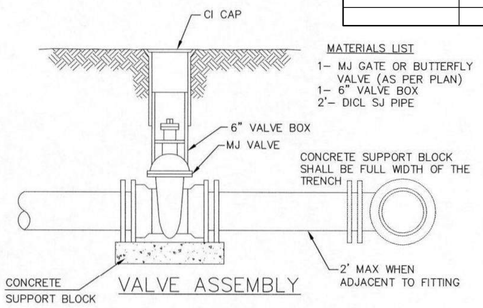
FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*



NOTES

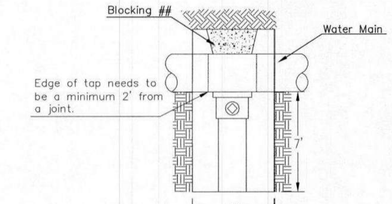
1. This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
2. 6" Valve Box and Cover required per City of Wichita Std. Specifications.
3. Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



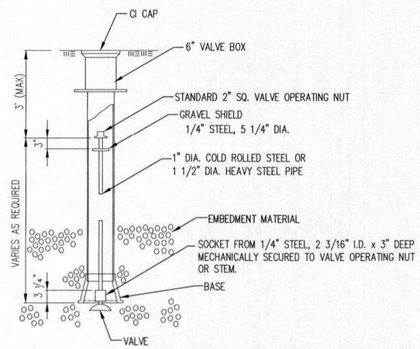
MATERIALS LIST
1- MJ GATE OR BUTTERFLY
VALVE (AS PER PLAN)
1- 6" VALVE BOX
2'- DICL SJ PIPE

VALVE ASSEMBLY



CITY TAP

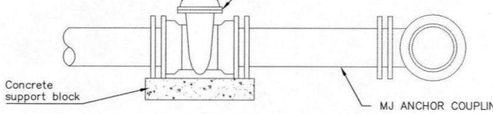
When the City of Wichita makes tap, blocking is to be done by Contractor



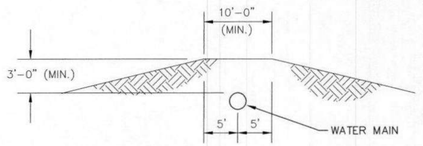
VALVE STEM EXTENSION DETAIL

NOTE: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.

MATERIALS LIST
1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1-MJ ANCHOR COUPLING (12" OR SMALLER)
1-6" VALVE BOX
CONCRETE SUPPORT BLOCK SHALL BE
FULL WIDTH OF THE TRENCH

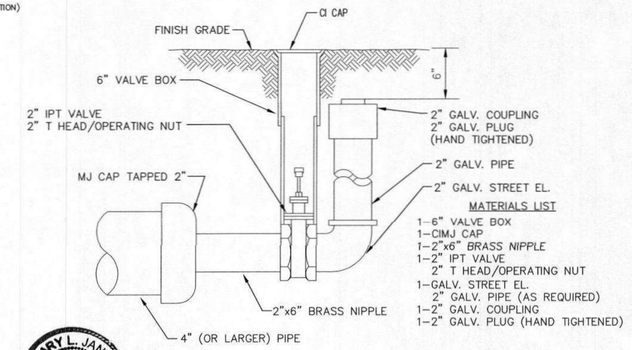


ANCHORED VALVE ASSEMBLY



PROTECTIVE FILL DETAIL

MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



2" BLOWOFF ASSEMBLY

TRACER WIRE

Conductive type pipe locator/tracer wire shall be install to locate all waterline pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. A waterproof connector shall be used at splice locations. A complete list of approved tracer wire and waterproof connectors can be found on the City of Wichita's website at www.wichita.gov.

WIRE

The tracer wire shall be Blue No. 12 AWG CCS with 45 mil HDPE insulation. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom of the test station for all wires. Wire connectors shall be installed per manufacturer recommendations. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

TEST STATIONS

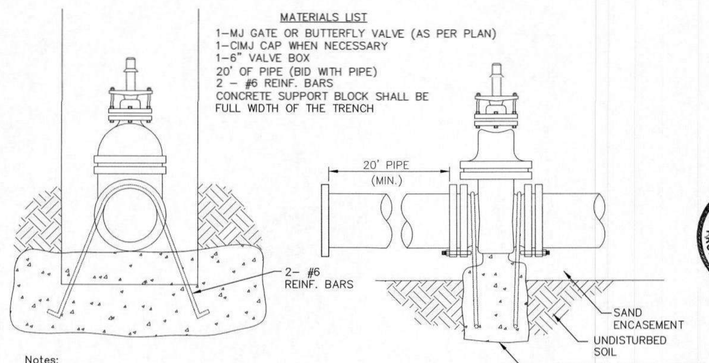
*The test station for fire hydrant application shall be a 1" "conduiet" style station as manufactured by AGRA Industries with a removable solid cover having a single lead extending from the face or approved equal. The "conduit" style test station shall be attached to a 1" rigid galvanized conduit with a minimum length of 36" and plastic end bushing. The flush style shall have the word "WATER" stamped or molded into the lid. The test station for valve applications shall be a 2" flush style test station with wire connector on lid. Model # T2PH7B1LP Handley Industries or CD14*TP SnakePit as manufactured by Copperhead Industries or approved equal. The flush style shall have the word "WATER" stamped or molded into the lid. All test stations shall be manufactured using molded blue tops or sufficiently coated with blue enamel paint. The tracer wire and the anode wire shall be install to allow 12" of wire within the test station. The location of all test stations shall be recorded, and shown in the as-built drawings. Flush style test stations shall not be installed in pavement or sidewalk unless approved by the Engineer. Contractor shall extend tracer wire & move flush mount test station to nearest location out of pavement or sidewalk.*

ANODES

The anodes shall be 3 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to 12 AWG CCS which shall be extended to the test station.

TRACER WIRE DETAIL

COST IS SUBSIDIARY TO PIPE INSTALLATION



Notes:
1. Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
2. The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.
3. All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

THRUST AT VALVES	
VALVE	THRUST AT 150 #/in²
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

ANCHORED VALVE ASSEMBLY, SPECIAL

GARY L. JANZEN
LICENSED
16294
PROFESSIONAL ENGINEER
KANSAS
10/27/16

REVISED: OCTOBER 2016

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD WATER ASSEMBLY DETAIL

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

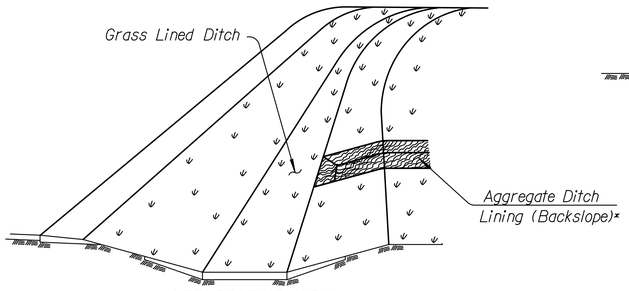
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
28 of 104

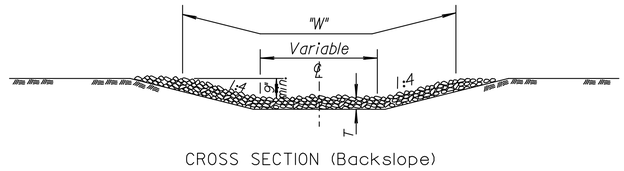
WL-101

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U:\Wichita-Civil\2008\08313\003\Mark-Ups\Drawings\Standards\08313-003-WL-101 Std Water Assembly Details

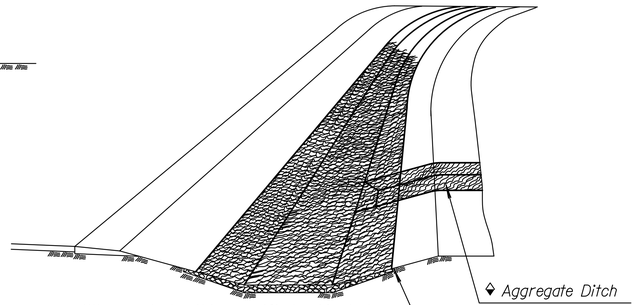
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	29	104



PERSPECTIVE VIEW
(Backslope Dt. Lining without Highway Dt. Lining)



CROSS SECTION (Backslope)



PERSPECTIVE VIEW

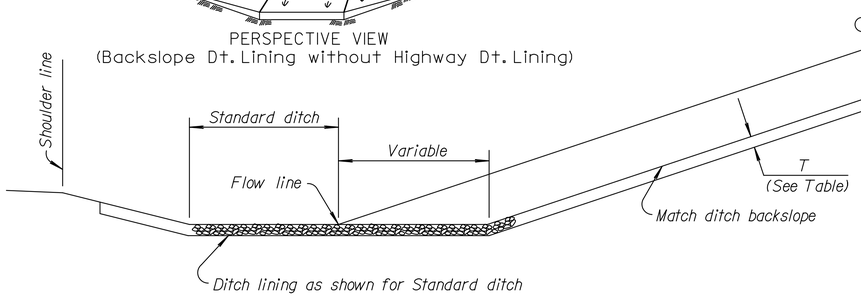
GENERAL NOTE

All work and materials required for this construction shall be paid for by the ton of "Aggregate Ditch Lining (D_{50})".

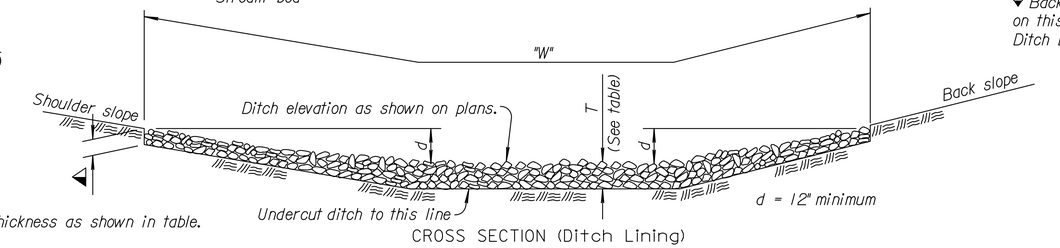
Dumped aggregate shall be spread in reasonable conformity with the ditch section as shown and as directed by the Engineer.

Aggregate Ditch Lining shall be measured and paid for by the ton in the vehicle at the location designated by the Engineer and shall be full compensation for excavation for undercutting, furnishing, hauling, placing and maintaining the material as specified to complete the work.

The weight of the aggregate is based on a standard density of 120 PCF. When the standard density of the material is more or less than 120 PCF, the thickness may vary correspondingly.



LONGITUDINAL SECTION (Backslope)



CROSS SECTION (Ditch Lining)

◭ *Feather edges to nominal thickness as shown in table.*

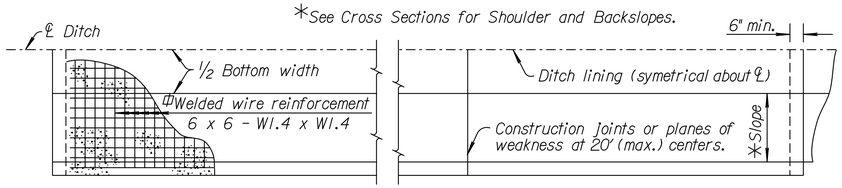
♦ *Backslope aggregate ditch lining, constructed as indicated on this sheet, shall be paid for by the ton of "Aggregate Ditch Lining (D_{50})."*

			QUANTITIES FOR TYPICAL 10' DITCH with 6:1 shoulder slope & 4:1 backslope			
D_{50}	T	◭	*Approx. Excavation per Station (cu.yd.)*			
			d = 1.0	d = 2.0	d = 3.0	d = 4.0
4"	12"	8"	68	99	130	161
6"	18"	12"	102	148	195	241

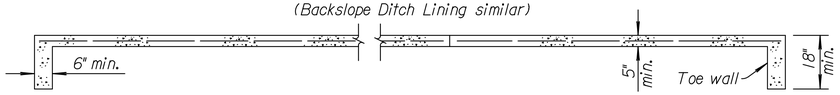
Note: Quantities provided for information only.

AGGREGATE DITCH LINING (D_{50})

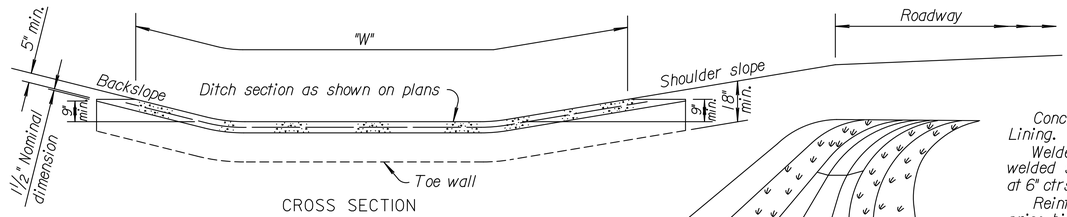
*See Cross Sections for Shoulder and Backslopes.



HALF PLAN
(Backslope Ditch Lining similar)



LONGITUDINAL SECTION



CROSS SECTION

GENERAL NOTE

Concrete Grade 3.0 shall be used in Concrete Ditch Lining.

Welded wire reinforcement shall be of the electrically welded square mesh type with No. W1.4 wires spaced at 6" ctrs. each way.

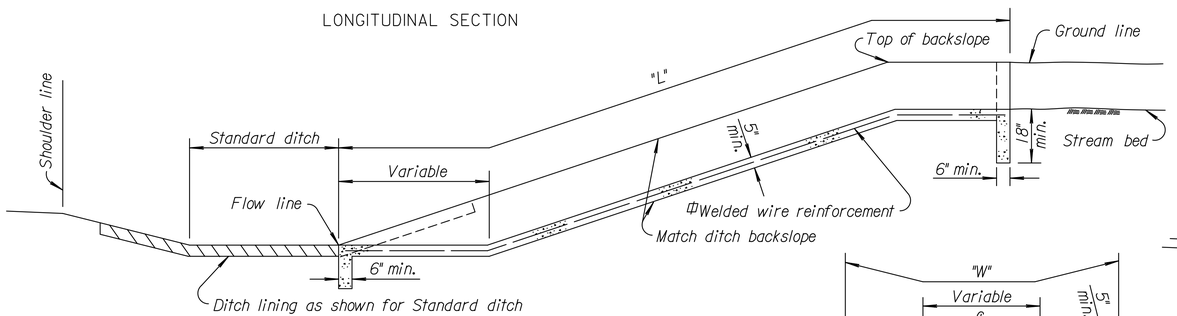
Reinforcement as shown is included in the unit price bid for "Concrete Ditch Lining".

Measurements of Concrete Ditch Lining shall be in sq. yds. of outside surface area. Add 1'-6" times "W" for each toewall.

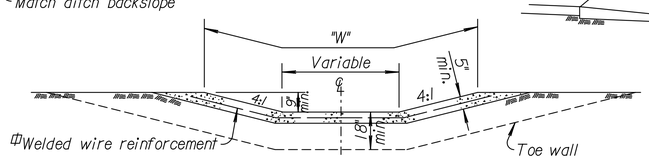
The exact location and dimensions may be adjusted, if required, by the Engineer at the time of construction.

Longitudinal construction joints may be constructed at the Contractor's option.

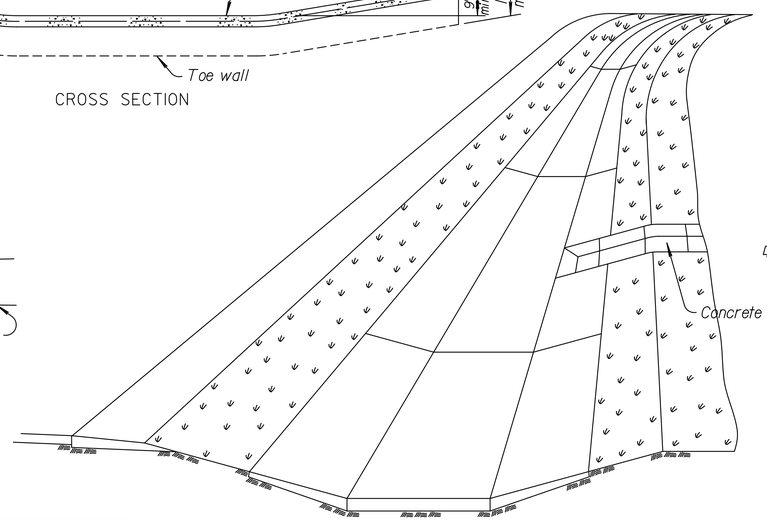
Φ *Welded wire can be substituted with macro fiber reinforcement. See Standard Specifications for macro fiber and application rate requirements.*



LONGITUDINAL SECTION (Backslope)



CROSS SECTION (Backslope)



PERSPECTIVE VIEW

CONCRETE DITCH LINING

NO.	DATE	REVISIONS	BY	APP'D
9	8-1-12	Revised General Note	S.W.K.	J.O.B.
8	3-20-08	Rev. agg. edge thickness and quant.	S.W.K.	J.O.B.
7	11-07-07	Revised aggregate to 120 PCF	S.W.K.	J.O.B.
6	3-22-05	Changed conc. grade, reinforcing	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

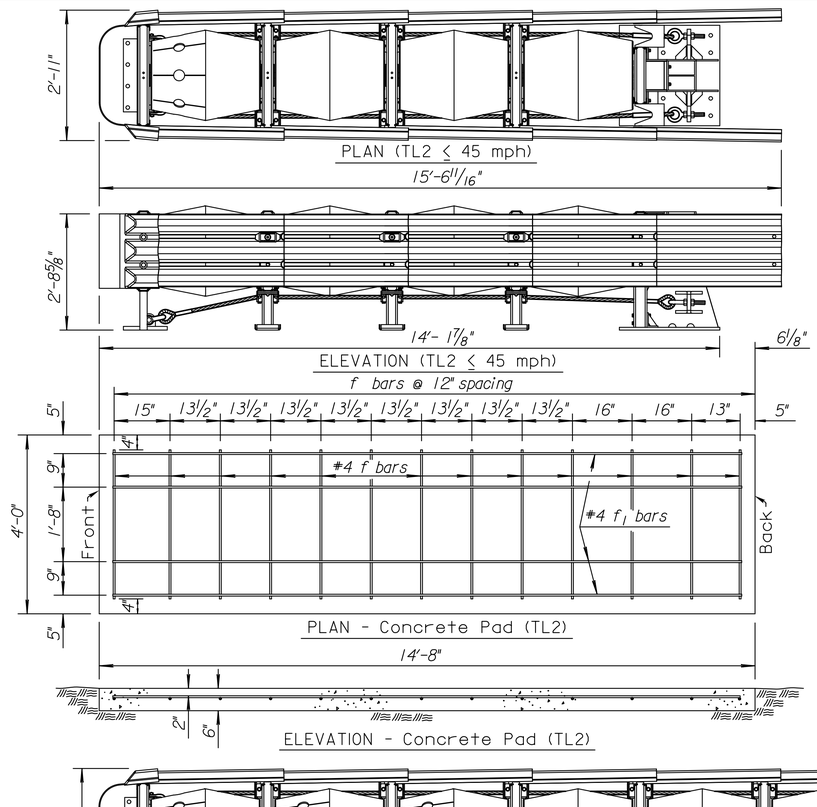
DITCH LINING

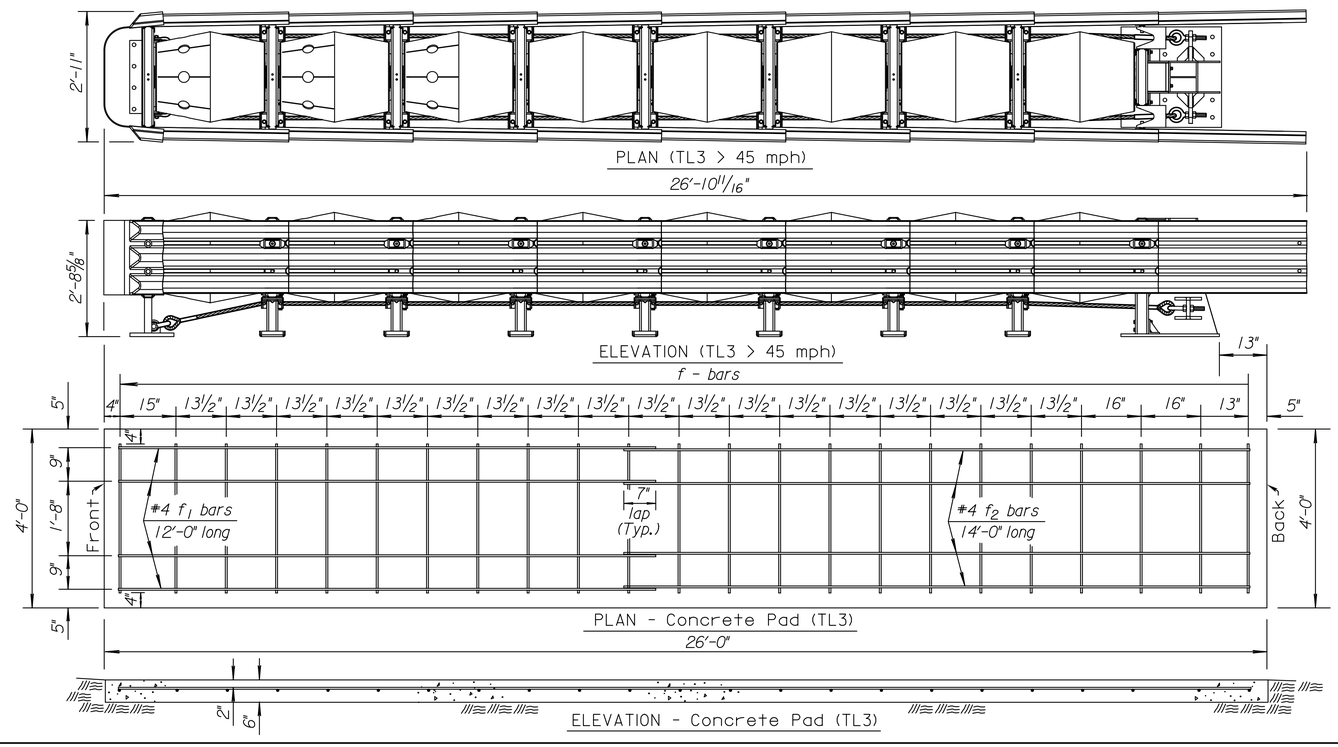
RD502

FHWA APPROVAL	9-10-12	APP'D. James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King

Plotted : 29-JAN-2018 17:21
Drawn By : cp
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STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	30	104





BILL OF MATERIALS			
Conc. Pad TAU-II (TL2)			
Bar	*No.*	*Length*	
f	*13*	*3'-4"*	
f1	*4*	*13'-8"*	
Conc. Gr. 4.0			*1.1 Cu.Yd.*
Reinf. Steel			*65 lbs.*

NOTE: ALL REINFORCING BARS ARE SIZE #4.

BILL OF MATERIALS			
Conc. Pad TAU-II (TL3)			
Bar	*No.*	*Length*	
f	*23*	*3'-4"*	
⚠ *f1*	*4*	*12'-0"*	
⚠ *f2*	*4*	*14'-0"*	
Conc. Gr. 4.0			*2 Cu.Yds.*
Reinf. Steel			*120 lbs.*

NOTE: ALL REINFORCING BARS ARE SIZE #4.

⚠ *A solid bar 25'-3" long may be substituted for the f1 & f2.*

GENERAL NOTES

Details shown on this sheet of TAU-II TL2 & TL3 are for Information Only and may not be an exact detail of TAU-II TL2 & TL3. See the manufacturer's Installation Manual furnished to the Engineer for details of components and installation for the TAU-II TL2 & TL3.

Concrete shall have a minimum compressive strength of 4,000 p.s.i.

Maximum cross-slope is 8.0%. If cross-slope varies more than 2% over the length of the system, the concrete pad will require leveling.

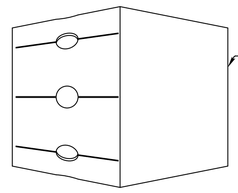
The installation area should be free from elevated objects or depressions.

The TAU-II TL2 & TL3 system should be approximately parallel with the barrier or ℄ of merging barriers.

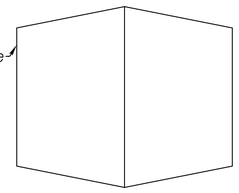
The unit shown on this sheet abuts a barrier up to 24" wide. The TAU-II TL2 & TL3 can be connected to permanent or temporary F-Shape Barrier or Guardrail. Refer to the manufacturer's Installation Manual for these connections along with other connections. A barrier that is greater than 24" wide requires a Wide TAU-II, not shown.

All work and material required for installation of this attenuator shall be paid under the bid item "Impact Attenuator (TL2 or TL3)".

For temporary installations, the unit can be placed on a 8" Asphalt Pad. All work and material to install and remove the unit will be paid under the bid item "Traffic Control".



PLAN
(Module Type A)



PLAN
(Module Type B)

NO.	DATE	REVISIONS	BY	APP'D
1	11-16-09	Revised Temporary Bld Item	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

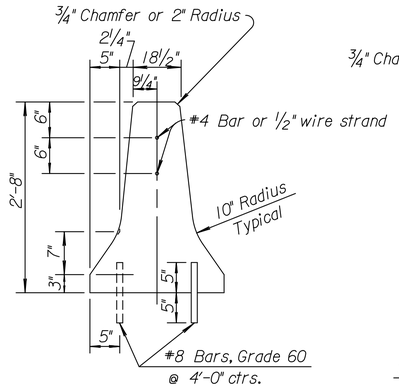
IMPACT ATTENUATOR TAU-II (TL2 & TL3)

~~RD62~~

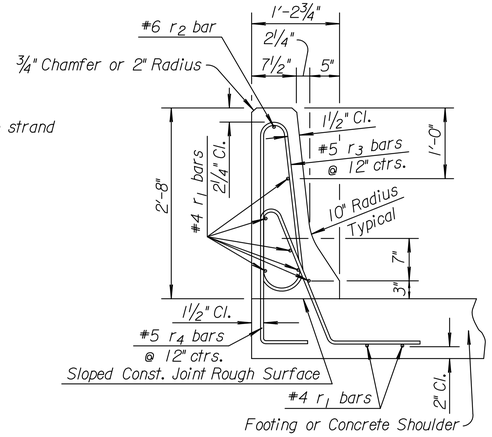
FHWA APPROVAL	12-18-09	APP'D. James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King

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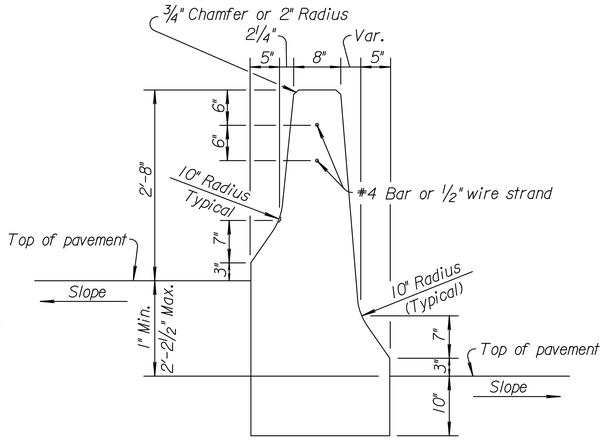
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	31	104



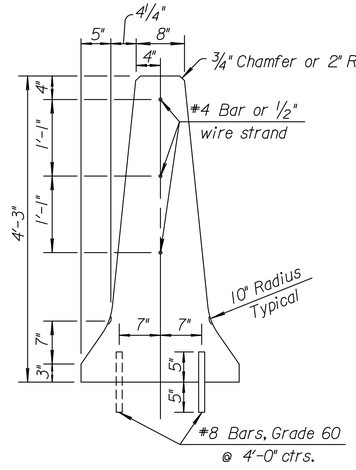
TYPE I (SPEC.)



TYPE II

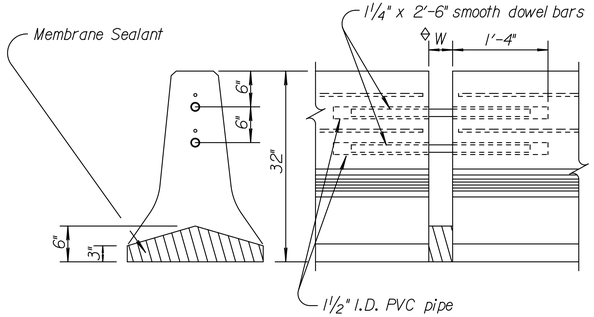


TYPE III



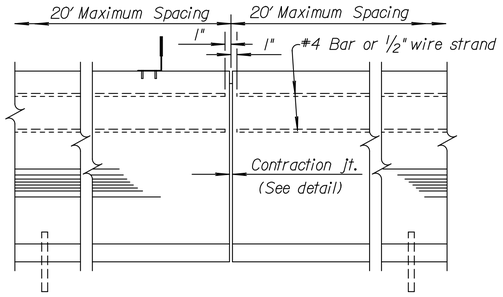
TYPE IV

◊ W= Formed Concrete Opening Size - See "Temperature Expansion/Pressure Relief Joint Width Table", Standard Drawing RD712.

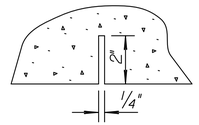


PRESSURE RELIEF/EXPANSION JOINT (Bridge Ends)

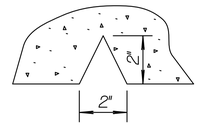
Pressure relief joint will match relief joint in bridge approach slab.
Dowel bar placement shown (Type I) is typical to all barrier types. Adjust reinforcing steel at barrier ends to avoid PVC pipe and smooth dowel location.



CONTRACTION JOINT DETAIL



OPTION A



OPTION B

CONTRACTION JOINT DETAIL

GENERAL NOTE

Use Concrete Grade 3.0 (AE) or Concrete Pavement Mix (Contractor's Option).

Construct drainage slots where specified in the plans, inlet locations or Engineer's direction.

Use epoxy coated reinforcing steel, Grade 60. See details for spacing, keep a minimum reinforcing steel clear distance of 1 1/2".

Payment for all reinforcing bars, joint material, median barrier filler material, reflectors and supporting materials, associated work, etc., is Subsidiary.

The section furnished must generally comply with the dimensions shown. Requests for minor variations in section geometry may be submitted for review.

Permanent Concrete barriers are cast in place or slip formed construction only. Precast barriers are not permitted.

CONSTRUCTION JOINTS

Place Joint Material (Nonextruding, Type B) where shown for structures and at the end of day construction joint.

CONTRACTION JOINTS

Form or saw Contraction Joints on 20' centers maximum. Where barrier is on or adjacent to concrete pavement space joints to match contraction joints and definite transverse cracks in the pavement. Contraction joints not to exceed 20' centers.

BARRIER BASE

Where barrier base is not paved full width, place barrier on a 10" x 2'-0" bed of Concrete Grade 3.0, or the mix used in concrete pavement or asphalt base course (Contractor's option, Engineer approval) to assure proper alignment.

APPROACH SLAB EXPANSION/PRESSURE RELIEF JOINT

Install Membrane Sealant expansion Joint material with a lubricant adhesive, cut to the shape shown. Construct Joint to match pressure relief joint of concrete pavement approach slabs.

See Standard Drawing RD712 for Expansion/Pressure Relief Joint details.

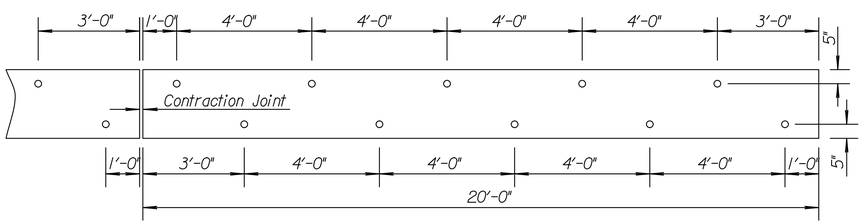
See standard specifications to cut and epoxy coat dowel bars.

Coat approximately three- fifths length of each dowel bar with hard grease prior to installation.

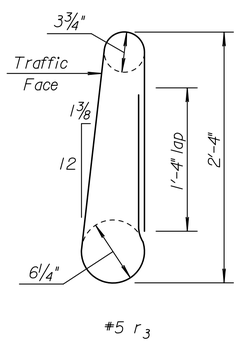
Work and materials required for installation of Joint material is subsidiary to Concrete Safety Barrier and conforms to standard specifications.

DELINEATION

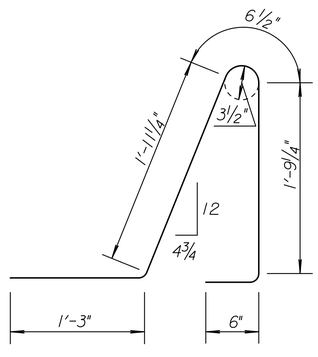
See Standard Drawing RD624 for details of barrier delineation.



DOWEL PLACEMENT DETAIL
(TYPE I & IV)



#5 r3



#5 r4

BENDING DIAGRAMS

Note: All dimensions are out to out of bars.

NO.	DATE	REVISIONS	BY	APP'D
5	4-28-11	Rev. I,II,III & IV dimen. & notes	S.W.K	J.O.B.
4	5-28-09	Revised Type III dimensions	S.W.K	J.O.B.
3	1-10-07	Changed bituminous to asphalt	S.W.K	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

PERMANENT CONCRETE SAFETY BARRIER TYPE I,II,III &IV (F-SHAPE)

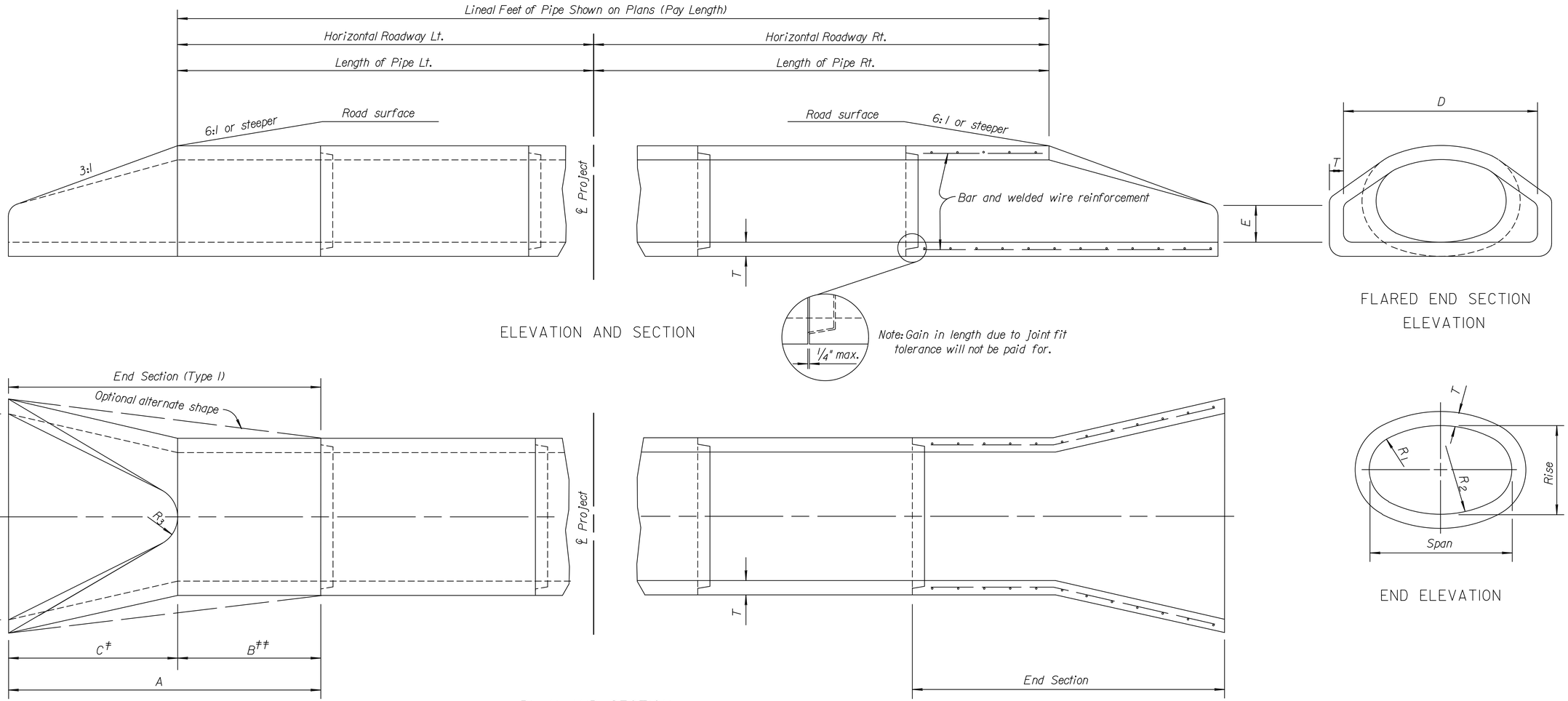
~~RD625~~

FHWA APPROVAL	5-26-11	APP'D. James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King

Drawn By : cp
Plotted : 29-JAN-2018 17:21
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-rd625.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	32	104

Note to Designer: KDOT Pipe Policy provides guidance in identifying the prohibited and/or restricted uses of CSP, ACSP, PEP, PVCP, CAP & RCP. Provide end sections of the same type and coating as the pipe. Exceptions to this are noted in the Standard Specifications. Refer to the KDOT Design Manual, Volume I (Part C), Road Section, "Elements of Drainage & Culvert Design" for structural pipe design information which includes: corrugations, sizes, gauges, maximum/minimum fill heights and classes of pipe.



ELEVATION AND SECTION

Note: Gain in length due to joint fit tolerance will not be paid for.

FLARED END SECTION ELEVATION

PLAN AND SECTION

END ELEVATION

END SECTION (TYPE I) NOMINAL DIMENSIONS

Bid Designation Sq. Ft.	Equiv. Dia. (in.)	Min. W.W. Area Sq. Ft.	Span	Rise	Overall Length A	Barrel Length B ‡‡	C ‡	D	E	R_1	R_2	R_3	T
1.0 or 1.5	18"	1.8	23"	14"	6'-0"	3'-9"	2'-3"	3'-0"	8"	6"	20"	6"	2 3/4"
2.0,2.5 or 3.0	24"	3.3	30"	19"	6'-0"	2'-9"	3'-3"	4'-0"	8 1/2"	8 1/4"	26 1/4"	7"	3 1/4"
4.0	27"	4.1	34"	22"	6'-0"	2'-2"	3'-10"	4'-6"	9"	9 1/4"	29 17/32	8"	3 1/2"
5.0	30"	5.1	38"	24"	6'-0"	1'-6"	4'-6"	5'-0"	9 1/2"	10 1/4"	32 3/4"	9"	3 3/4"
6.0	33"	6.3	42"	27"	6'-0"	1'-3"	4'-9"	5'-6"	10 3/8"	11 7/16"	36 3/16"	10 1/2"	3 3/4"
7.0	36"	7.4	45"	29"	8'-0"	3'-0"	5'-0"	6'-0"	11 1/4"	12 1/4"	39 1/4"	12"	4 1/2"
8.5	39"	8.8	49"	32"	8'-0"	3'-0"	5'-0"	6'-3"	12"	13 9/16"	42 21/32	12 1/2"	4 3/4"
10.0	42"	10.2	53"	34"	8'-0"	3'-0"	5'-0"	6'-6"	15 3/4"	14 3/4"	46"	13"	5"
11.0 or 12.5	48"	12.9	60"	38"	8'-0"	3'-0"	5'-0"	7'-0"	21"	16 1/2"	51 3/4"	14"	5 1/2"
14.0 or 16.5	54"	16.6	68"	43"	8'-0"	3'-0"	5'-0"	7'-6"	25 1/2"	18 21/32	58 13/32	16"	6"

‡ Paid for as separate item of "End Sections".
‡‡ Included in pay length of pipe.

Design of end section shall conform to standard reinforced concrete horizontal elliptical pipe. Slight variations in the dimensions specified will be allowed.

Note: Reinforced concrete pipe extensions are based on the surveyed end of pipe. Replacement of any additional pipe length required due to the removal of the existing end section will not be paid for directly, but will be subsidiary to the bid item "Removal of Existing Structures".

NO.	DATE	REVISIONS	BY	APP'D
4	5-17-13	Added Note, Pipe Extenstions Subsidiary	S.W.K.	J.O.B.
3	4-18-08	Added ref. to KDOT Pipe Policy	S.W.K.	J.O.B.
2	4- 6-05	Revised reinforcement callout	S.W.K.	J.O.B.
1	6-16-95	Revised table & labeling	R.J.S.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

CONCRETE END SECTION FOR REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE TYPE I

RD663

FHWA APPROVAL	9-4-14	APP'D. Jame O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King

Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-rd663.dgn
Plotted : 29-JAN-2018 17:21

PIPE CULVERT SUMMARY

LOCATION	STATION	SIDE	TYPE	MATERIAL	SIZE	CROWN GRADE	FLOWLINE		HORIZ. ROADWAY		DEGREE OF	PIPE LENGTH		LINEAR FT. OF PIPE	END SECTIONS	
							LT.	RT.	LT.	RT.		LT.	RT.		LT.	RT.
US-54	584+95.50	Lt.	Entrance	RCPHE	30"x19"	1330.91	1328.33	1328.03	16.31	16.31	0°	22.75	23.25	46.0	1	1
US-54	590+16.25	Lt.	Entrance	RCPHE	30"x19"	1328.28	1325.55	1325.31	16.23	16.23	0°	22.50	23.50	46.0	1	1
US-54	593+64.00	Lt.	Entrance	RCPHE	30"x19"	1327.35	1324.20	1324.44	15.72	15.64	1°Rt.	25.00	24.00	49.0	1	1
US-54	594+94.00	Lt.	Entrance	RCPHE	30"x19"	1327.94	1324.85	1325.10	15.96	16.41	1°Rt.	25.00	25.00	50.0	1	1
Ramp A	596+65.00	Lt.	Entrance	RCPHE	30"x19"	1327.89	1325.72	1325.94	17.52	18.00	1°30' Rt.	22.25	21.75	44.0	1	1

CURB AND GUTTER (L.F.)

LOCATION	STATION TO STATION		SIDE	TYPE I	TYPE I (SPEC.)
				6"	6"
US-54	604+00.00	605+30.25	Lt.	130.27	
N. Fr. Rd.	601+95.00	605+37.57	Rt.		342.22
S. Fr. Rd.	604+01.00	604+86.50	Lt.		85.63
Totals				130.27	427.85

REINFORCED CRUSHED ROCK BASE

LOCATION	STATION TO STATION		8" RCRB QUANTITY (S.Y.)	10" RCRB QUANTITY (S.Y.)
US-54	577+88.50	578+63.50		166.67
US-54	582+03.25	595+65.00		3166.67
US-54	583+07.50	591+00.00		1302.50
US-54	591+00.00	601+30.00	801.11	
US-54	601+30.00	609+96.68		1505.83
US-54	604+00.00	605+30.25		50.66
Ramp A	595+65.00	601+92.36		2065.06
North Fr. Rd.	601+95.00	605+37.60		1078.51
South Fr. Rd.	604+01.00	604+86.50		33.30
111th St. W.	59+47.28	60+00.00		274.63
Totals			801.11	9643.83

REMOVAL OF EXISTING STRUCTURES (FOR INFORMATION ONLY)

LOCATION	STATION	SIDE	REMARKS
US-54	584+96	Lt.	24" RCP and End Sections
US-54	584+45	Rt.	Inlet
US-54	590+16	Lt.	24" RCP and End Sections
US-54	593+44	Lt.	24" RCP and End Sections
US-54	594+84	Lt.	24" RCP and End Sections
US-54	596+64	Lt.	Entrance and 24" CMP and End Sections
US-54	609.73	℄	Impact Attenuator

A.C. PAVEMENT 7" (5" BIT. BASE)(BM-2)

LOCATION	STATION TO STATION		QUANTITY (S.Y.)
US-54	590+73.25	601+30.00	686.67
Total			686.67

DRIVEWAY ENTRANCES (MEASURED QTY.)

LOCATION	STATION	SIDE	RADIUS (FT)	W (FT.)	P (FT.)	CONC. PVMT. (8")(REINF.)(S.F.)
US-54	584+95.50	Lt.	25.00	30	35.75	1390.75
US-54	590+16.25	Lt.	25.00	30	35.75	1390.75
US-54	593+64.00	Lt.	25.00/24.00	30	50.00	1954.35
US-54	594+94.00	Lt.	24.00/25.00	30	50.00	1954.35
Totals						6690.20

CONCRETE DITCH LINING

LOCATION	STATION TO STATION		SIDE	LENGTH (FT.)	WIDTH (FT.)	QUANTITY (S.Y.)
Ramp A	599+40.00	599+60.00	Lt.	20.00	11.50	29.39
Totals						29.39

CONCRETE PAVEMENT 10" VAR. (PLAIN)

LOCATION	STATION TO STATION		QUANTITY (S.Y.)
US-54	582+03.25	595+65.00	1199.69
US-54	583+07.50	590+73.25	359.37
US-54	599+13.25	599+88.25	138.36
US-54	601+30.00	609+96.68	1505.85
Ramp A	595+65.00	601+92.36	600.51
North Fr. Rd.	601+95.00	603+90.00	86.67
Totals			3890.45

VALLEY GUTTERS

LOCATION	STATION TO STATION		CONC. PVMT. (VG) 10" (REINF.) (S.Y.)	EDGE CURB TYPE I(6")
111th St. W.	59+47.28	60+00.00	375.41	168.62
Total			375.41	168.62

TEMPORARY 7" A.C. PAVEMENT (W/3" RCRB)

LOCATION	STATION TO STATION		QUANTITY (S.Y.)
US-54	585+31.50	590+73.25	379.00
US-54	601+30.00	601+34.00	2.67
Totals			381.67

CONCRETE PAVEMENT (10") (NRDJ)

LOCATION	STATION TO STATION		QUANTITY (S.Y.)
US-54	577+88.50	578+63.50	158.33
US-54	582+03.25	595+65.00	1815.67
US-54	583+07.50	590+73.25	855.08
Ramp A	595+65.00	601+92.36	1233.90
North Fr. Rd.	601+95.00	605+37.60	837.07
Totals			4900.05

MANHOLE ADJUSTED, SANITARY SEWER

LOCATION	STATION	OFFSET (FT.)	SIDE	ELEVATION		QUANTITY (EACH)	REMARKS
				FROM	TO		
Ramp A	600+86	24	Lt.	1328.85	1327.75	1	Sealed Cover
North Fr. Rd.	604+18	12	Lt.	1330.27	1329.75	1	
Totals						2	

VALVE BOX ADJUSTED, WATER

LOCATION	STATION	SIDE	ELEVATION		QUANTITY (EACH)
			FROM	TO	
US-54	593+15	78' Lt.	1326.01	1324.07	1
Total					1

No.	Revision	By	Date

111th St. West Signal Removal

SUMMARY OF QUANTITIES

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 33 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:25:52 PM
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SUMMARY OF EARTHWORK QUANTITIES

STAGE	LOCATION	STATION TO STATION		EXCAVATION (C.Y.)	EXCAVATION V.M.F.	BORROW EXCAVATION (CONTRACTOR FURNISHED) (C.Y.)	BORROW EXCAVATION (CONTRACTOR FURNISHED) V.M.F.	FILL (C.Y.)	BACKFILL (C.Y.)	THRU EARTH CUTS EXCAVATION (C.Y.)	THRU EARTH CUTS FILL (C.Y.)	WASTE (C.Y.)
1	119th St. West U-Turn Pavement	577+88.50	578+63.50	56	0.80	—	0.80	13	1	28	28	39
	US-54 Median Shoulder	585+31.50	601+34.00	612	0.80	—	0.80	11	37	274	274	552
2	US-54 Auxilary Lane, Ramp A, N. Fr. Rd.	582+03.25	604+53.49	3275	0.80	—	0.80	709	32	1045	1045	2349*
3	US-54 Left-Turn Lane	583+07.50	591+00.00	248	0.80	—	0.80	24	4	68	68	213
	111th St. West Intersection	604+53.49	605+37.60	179	0.80	—	0.80	3	17	78	78	154
5	US-54 Median CSB	601+30.00	609+96.61	591	0.80	—	0.80	0	0	260	260	591
6	US-54/Fr. Rds. C&G	603+94.13	605+32.98	25	0.80	173*	0.80	38	120	9	9	—
Totals				4986		173*		798	211	1762	1762	3898

Note: Fill, Backfill, and Compaction Thru Cuts are paid for as "Fill, Compacted (95% Density)". Total Amount = 2771 CY.

* 173 Cu. Yds. to be hauled in from Stage 2 - US-54 Auxilary Lane/Ramp A/N. Fr. Rd. Balance Sta. 582+03.25 to Sta. 604+53.49. Paid for as "Excavation".

RECAPITULATION OF QUANTITIES

ITEM	QUANTITY	UNIT
LUMP SUM BID ITEMS - PAVING (707136)		
Mobilization	1	Lump Sum
Re-Mobilization	1	Lump Sum
Field Office & Laboratory (Type A)	1	Each
Site Clearing	1	Lump Sum
Site Restoration	1	Lump Sum
Removal of Existing Structures	1	Lump Sum
Transportation of Salvaged Material	1	Lump Sum
Concrete &/or Asphalt Pavement Removed	6041	Sq. Yd.
Excavation	6921	Cu. Yd.
Fill, Compacted (95% Density)	2771	Cu. Yd.
MEASURED QUANTITY BID ITEMS - PAVING (707136)		
Concrete Pavement 10" (NRDJ)	4900	Sq. Yd.
Concrete Pavement 10" Var. (Plain)	3890	Sq. Yd.
Concrete Pavement (VG) 10" (Reinf)	375	Sq. Yd.
AC Pavement 7" (5" Bit Base)(BM-2)	687	Sq. Yd.
Crushed Rock Base 8", Reinforced	801	Sq. Yd.
Crushed Rock Base 10", Reinforced	9644	Sq. Yd.
Concrete C & G, Comb. Type 1 (6" & 1-1/2")	130	L.F.
Concrete C & G, Comb. Type 1 (8" & 1-1/2") (Special)	428	L.F.
Concrete Curb, Mono Edge (6" & 1-1/2")	169	L.F.
Concrete Safety Barrier (Type I) (Special)	837	L.F.
Impact Attenuator (TL-3)	1	Each
Concrete Driveway 8" (Reinforced)	6690	Sq. Ft.
Concrete Ditch Lining	29	Sq. Yd.
AC Pvmt 7" (5" Bit Base), Temp for Widening (w/3" Crushed Rock Base)	382	Sq. Yd.
Fence (Termporary Construction)	50	L.F.
Valve Box Adjusted, Water	1	Each
Water Meter Relocation	1	Each
Manhole Adjusted, Sanitary Sewer	2	Each
MEASURED QUANTITY BID ITEMS - DRAINAGE (707136)		
Inlet, Drop (Double)	1	Each
Pipe, Entrance 30"x19" (RCPHE)	235	L.F.
Pipe, End Section 30"x19" (RCHE)	10	Each
LUMP SUM BID ITEMS - TRAFFIC (707136)		
Signing	1	Lump Sum
Pavement Marking	1	Lump Sum
Traffic Signal Removal (111th St. W. & Kellogg)	1	Lump Sum
Traffic Signal Modification (119th St. W. & Kellogg)	1	Lump Sum
Traffic Control	1	Lump Sum
MEASURED QUANTITY BID ITEMS - TRAFFIC (707136)		
Sign, Electronic Portable Messsage	100	Day
LUMP SUM BID ITEMS - LANDSCAPING (707136)		
Seeding	1	Lump Sum
MEASURED QUANTITY BID ITEMS - BMP'S (707136)		
BMP, Curb Inlet Protection	10	Each
BMP, Back of Curb Protection	900	L.F.
BMP, Silt Fence	675	L.F.
BMP, Construction Entrance	1	Each

See Sh. No. 41 for Landscaping
See Sh. No. 44 for Traffic Signal Removal (111th St. W. & Kellogg)
See Sh. No. 45-46 for Traffic Signal Modification (119th St. W. & Kellogg)
See Sh. No. 48 for Summary of Pavement Marking
See Sh. No. 52 for Sign Assembly Tables
See Sh. No. 77 for Traffic Control

No.	Revision	By	Date

111th St. West Signal Removal

RECAPITULATION OF QUANTITIES

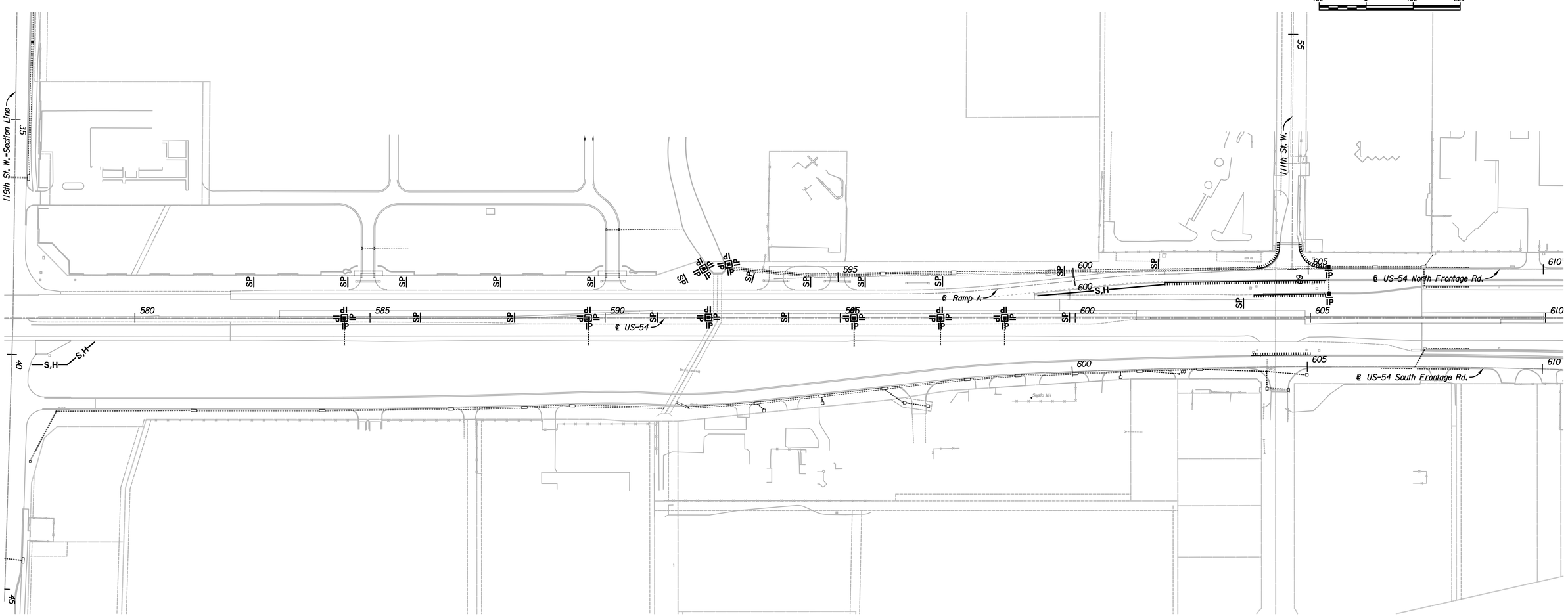
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 34 of 104

Plotted By: cp Date: 1/29/2018 5:25:52 PM
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LEGEND

- Storm Water Inlet
- IP — Inlet Protection
- —S,H— Silt Fence or Haybale BMP
- SP — Stream Protection
- Back of Curb Protection

No.	Revision	By	Date

111th St. West Signal Removal

SWPPP PLAN

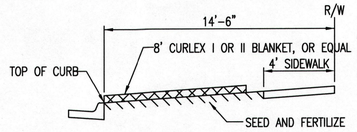
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

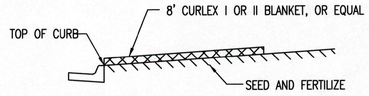
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Drawn by	CP	Date	Jan., 2018

Sht. 35 of 104

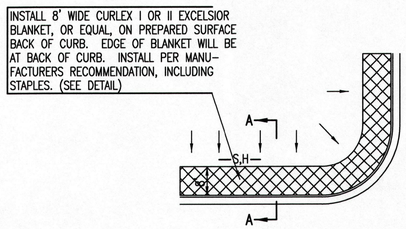
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SECTION B-B



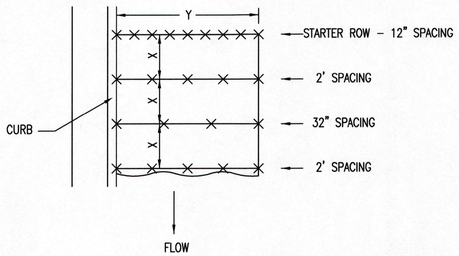
SECTION A-A



GENERAL NOTES

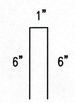
1. EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
2. EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
3. AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

BACK OF CURB PROTECTION DETAIL



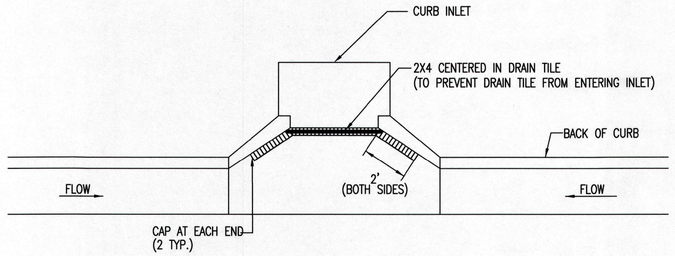
STAPLE PATTERN

NOTES: USE 6" SEAM OVERLAP
(X & Y = RECOMMENDED BY MANUFACTURE)



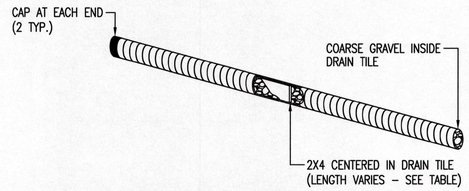
STAPLE

DETAILS FOR APPROVED EROSION CONTROL MAT

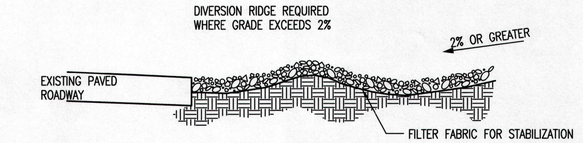


NOTE:
PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

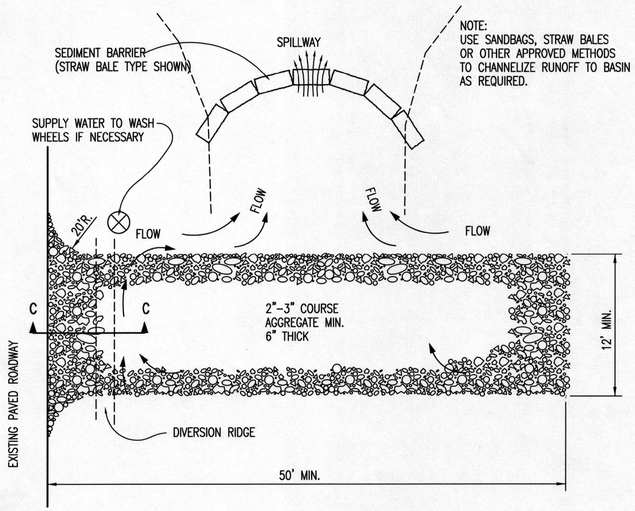
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

GENERAL 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.

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED 16204 KANSAS PROFESSIONAL ENGINEER
05/30/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

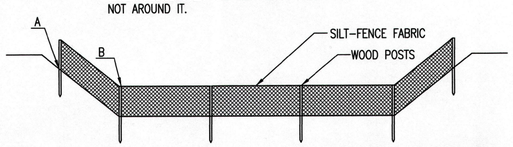
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
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SW-501

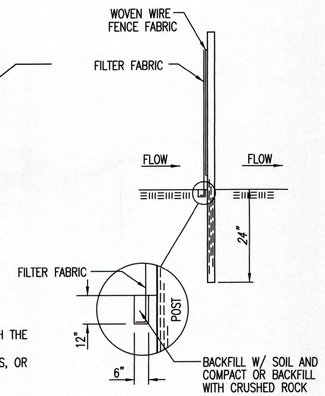
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D:\Wichita-Sonn (2085) (8815) (002)\Main Trips\Drawings\Standards\08313-003-SW-501-Back of Curb Prot, Curb Inlet Prot and Const. Entr

NOTE: POINT A MUST BE HIGHER THAN POINT B SO THAT WATER FLOWS OVER THE SILT FENCE FABRIC AND NOT AROUND IT.



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 FAR 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.
SILT FENCE DITCH 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 GRADE (%)	DITCH 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.

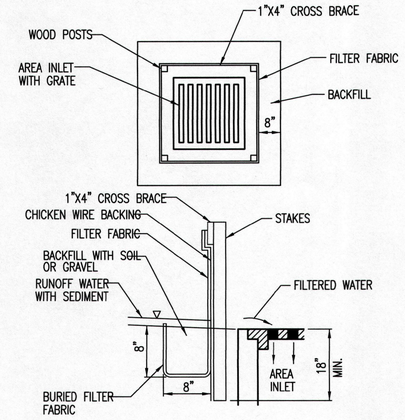
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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?



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 BARRIER FOR 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.

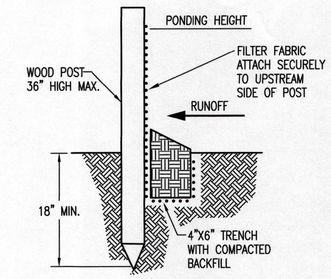
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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?



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, NAILS, 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?

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED 16294 PROFESSIONAL ENGINEER KANSAS
05/31/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

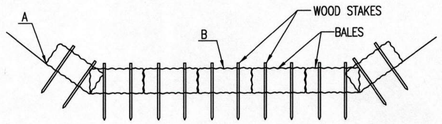
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
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37 of 104

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Plot Scale 1:1 01-30-2018 8:48:23 AM by CP
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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.
STRAW BALE DITCH 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".

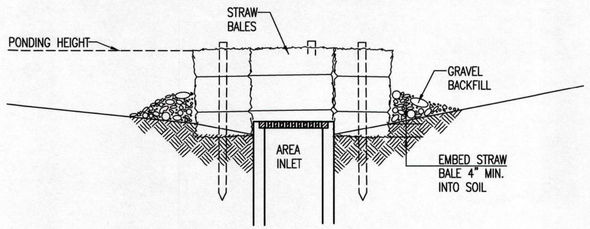
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

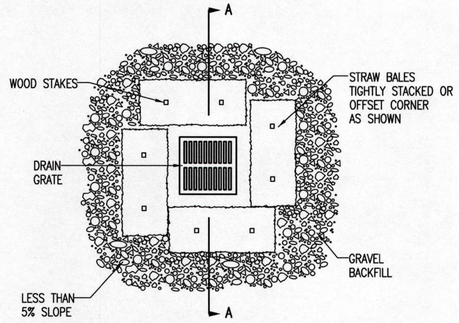
INSPECTION AND MAINTENANCE:

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.
TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

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.

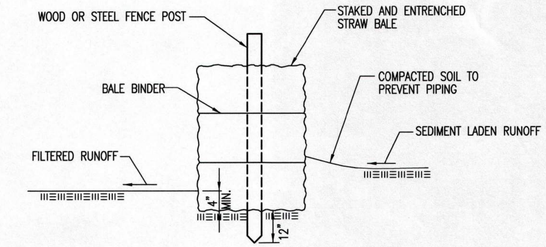
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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 AND/OR WATER DAMAGE?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



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.
TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

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 PRACTICAL, 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?

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED 16294 PROFESSIONAL KANSAS ENGINEER
05/30/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
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SW-503

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GENERAL NOTES

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

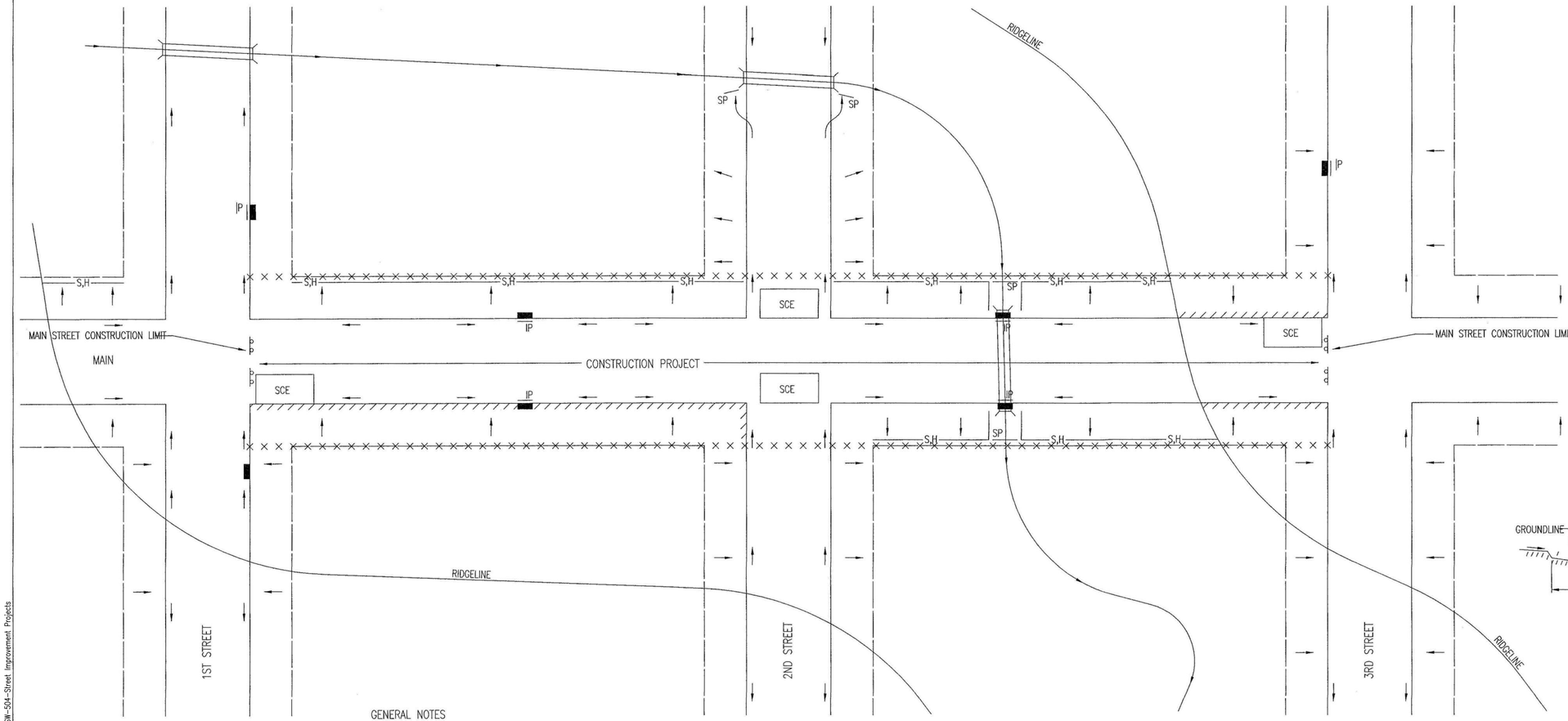
2. EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.

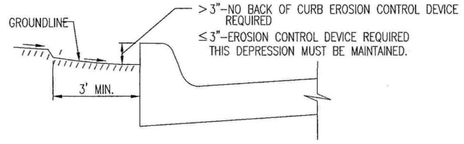
3. IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.

4. FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.

5. FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES 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 EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.





CURB BACKFILL DETAIL

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

LEGEND

- R-O-W LIMITS
- DRAINAGE FLOW PATH
- R/W LIMIT WITHIN CONSTRUCTION LIMIT
- STORM WATER INLETS
- IP — INLET PROTECTION
- S,H — SILT FENCE OR HAY BALE BARRIER
- SP — STREAM PROTECTION
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- BACK OF CURB PROTECTION

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.

2. THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.

3. EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.

4. INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.

5. EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.

6. STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.

7. ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.

8. THE CONTACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
   A. THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs – BACK OF CURB SEDIMENT BARRIER DETAILS)
   B. THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
   C. ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
   D. SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)

GARY L. JANZEN LICENSED 16294 KANSAS PROFESSIONAL ENGINEER
06/05/15

REVISION: JUNE 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STREET IMPROVEMENT PROJECTS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

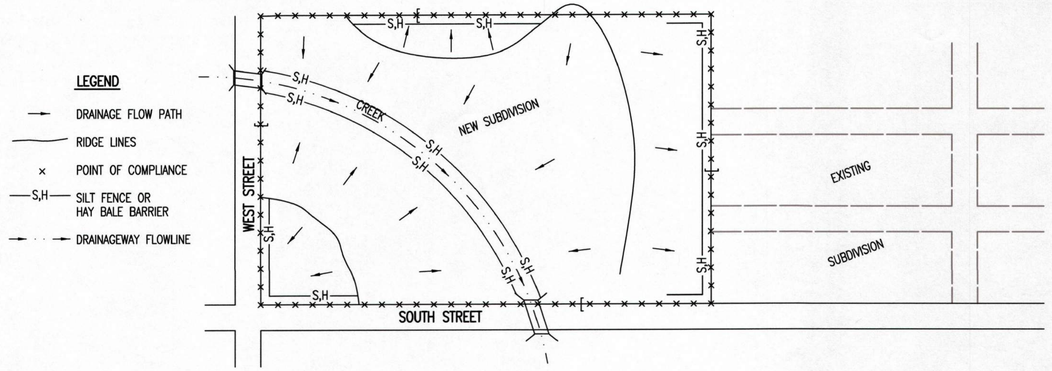
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
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SW-504

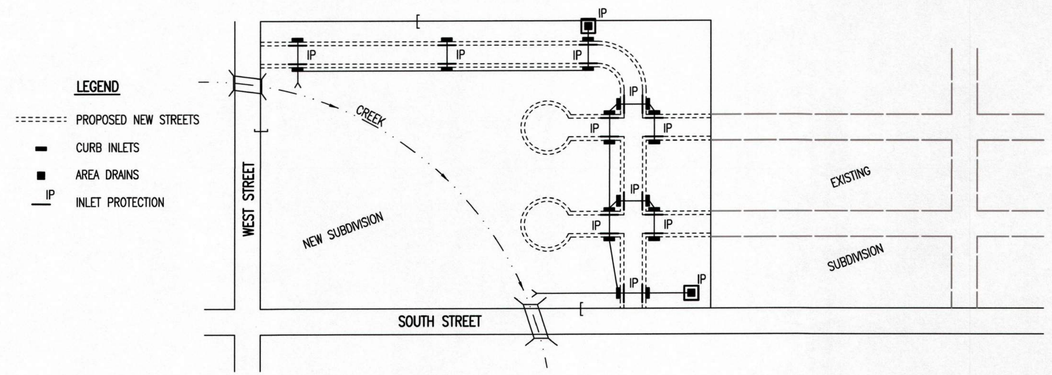
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PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



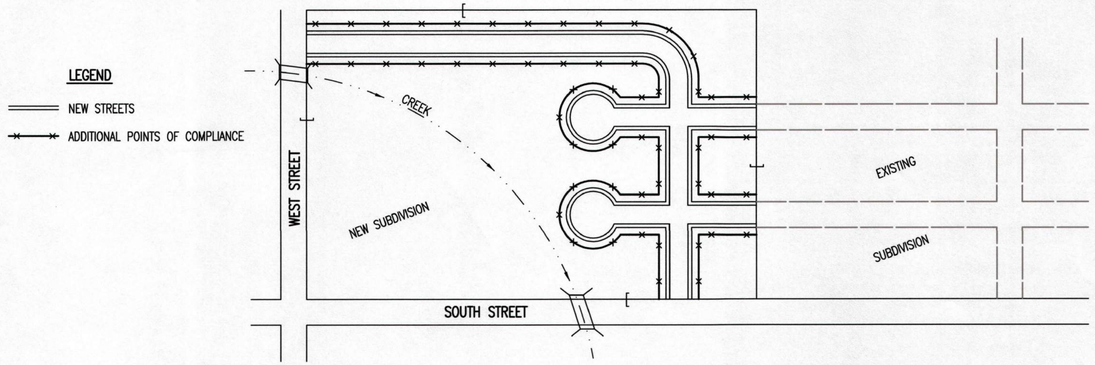
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
7. IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
8. WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

PHASE 2 – INSTALLATION OF STORM SEWER



1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
3. AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
4. CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 – STREET CONSTRUCTION.
5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
7. ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
8. ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

PHASE 3 – STREET CONSTRUCTION

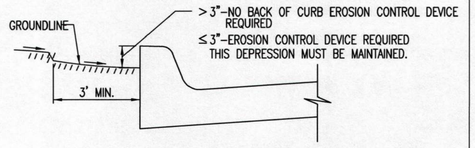


1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
2. CURB OPENING INLET PROTECTION:
   A. SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
   B. NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
3. EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
4. SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
4. PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
6. FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
7. FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
8. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
9. A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.

SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED 16294 KANSAS PROFESSIONAL ENGINEER
05/13/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS

CITY ENGINEER
GARY JANZEN, P.E.

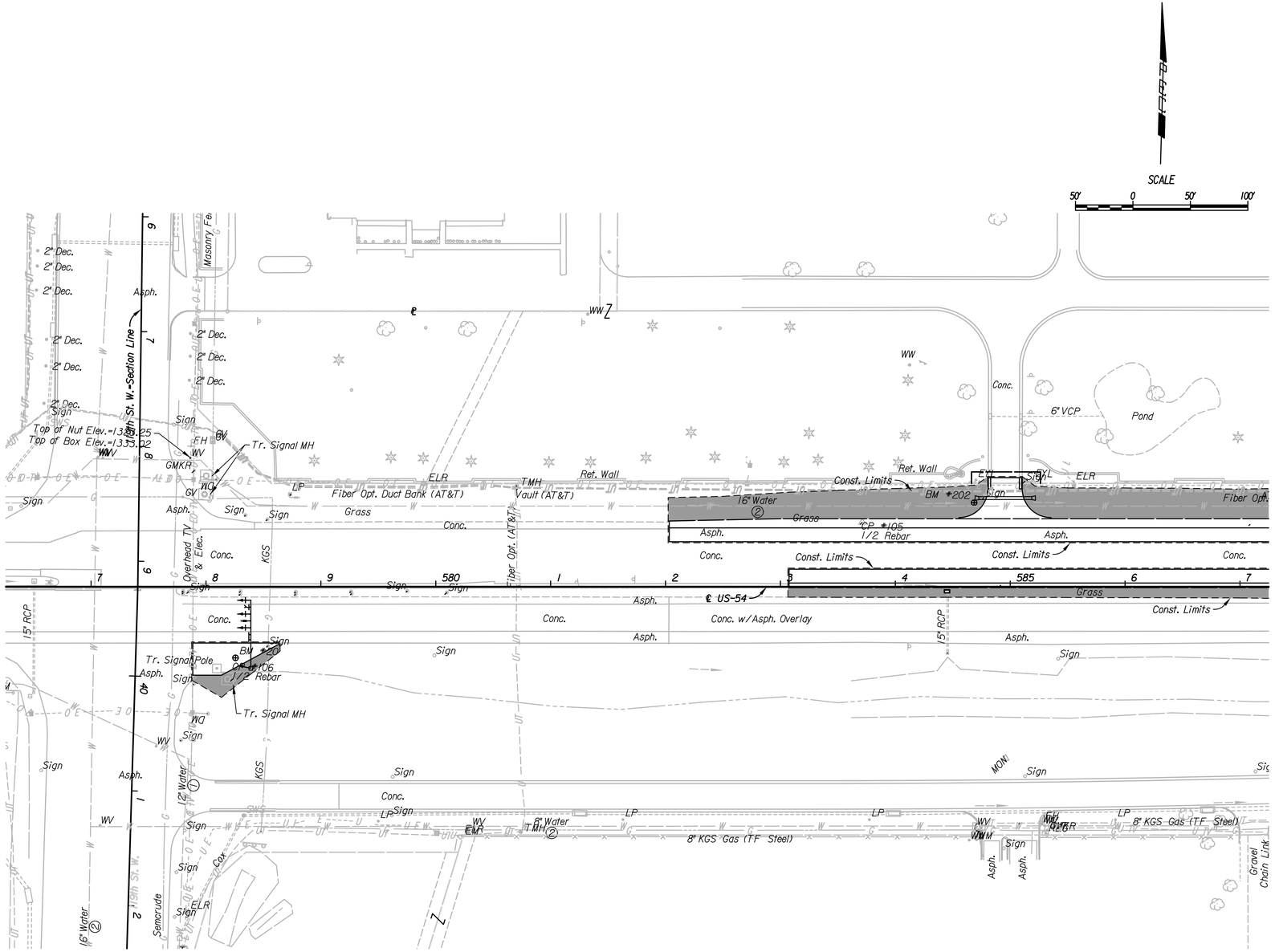
PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
40 of 105

SW-505

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Plotted: 01-30-2018 8:47:18 AM by CP
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LANDSCAPE QUANTITIES		
ITEM	QUANTITY	NOTES
SEEDING ◉	†9272 S.Y.	TO BE INSTALLED FROM EDGE OF PAVEMENT TO LIMITS OF CONSTRUCTION
		AT LOCATIONS SHOWN ON PLANS.

◉ SEED SHALL BE APPLIED IN ACCORDANCE WITH CITY OF WICHITA SPECIFICATIONS.

† QUANTITY SHOWN FOR INFORMATION ONLY. THE CONTRACTOR WILL BE REQUIRED TO SEED AND MAT ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION.

LEGEND

Seed

No.	Revision	By	Date

111th St. West Signal Removal

LANDSCAPE PLAN
STA. 577+00 TO STA. 587+00

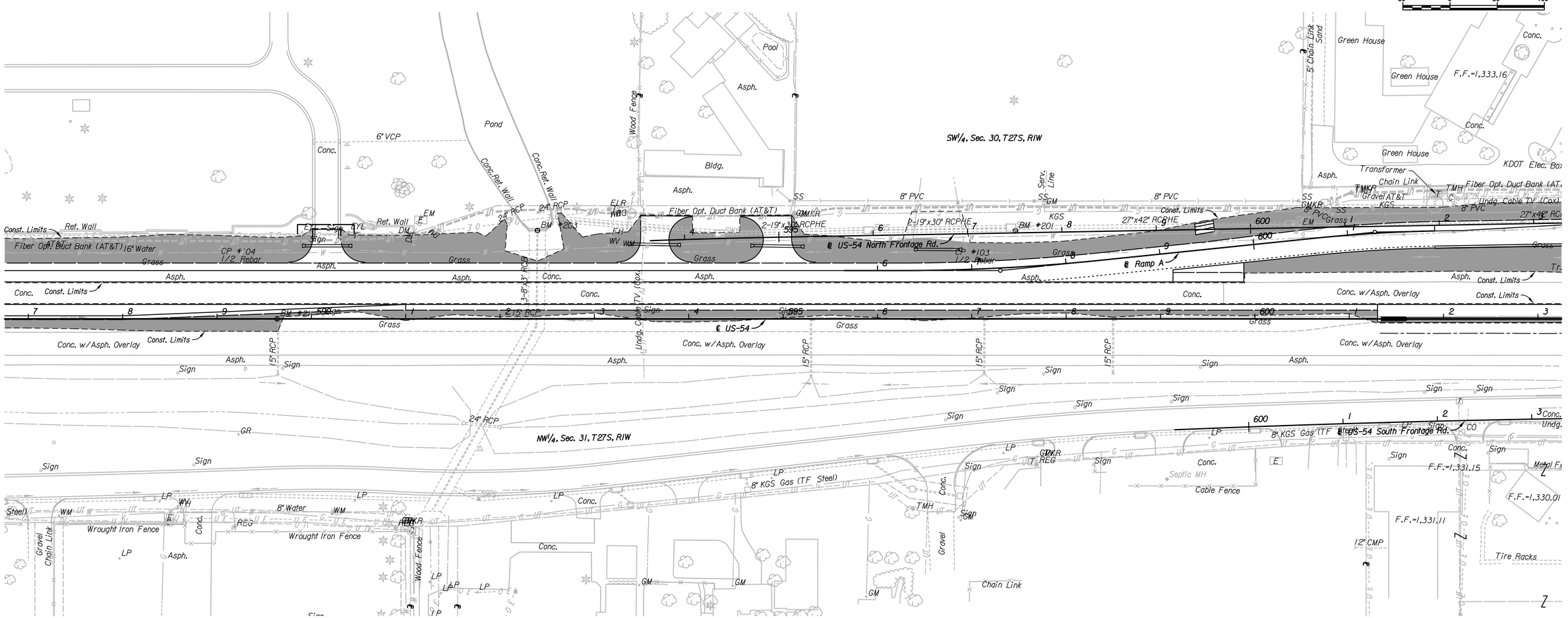
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 41 of 104

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LEGEND

Seed

No.	Revision	By	Date

111th St. West Signal Removal

LANDSCAPE PLAN
STA. 587+00 TO STA. 603+00

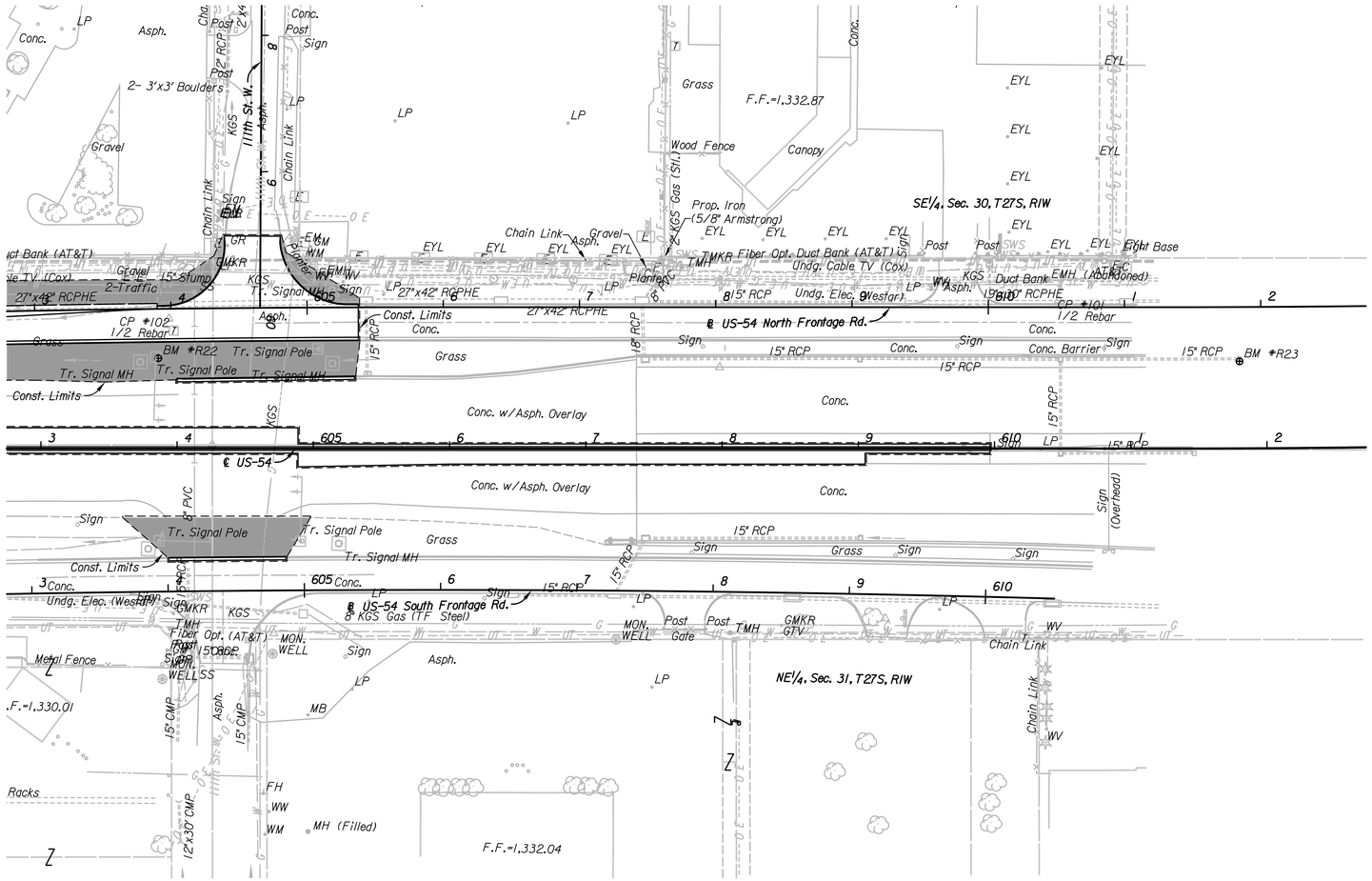
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Sht. 42 of 104

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LEGEND

Seed

No.	Revision	By	Date

111th St. West Signal Removal

LANDSCAPE PLAN
STA. 603+00 TO STA. 612+00

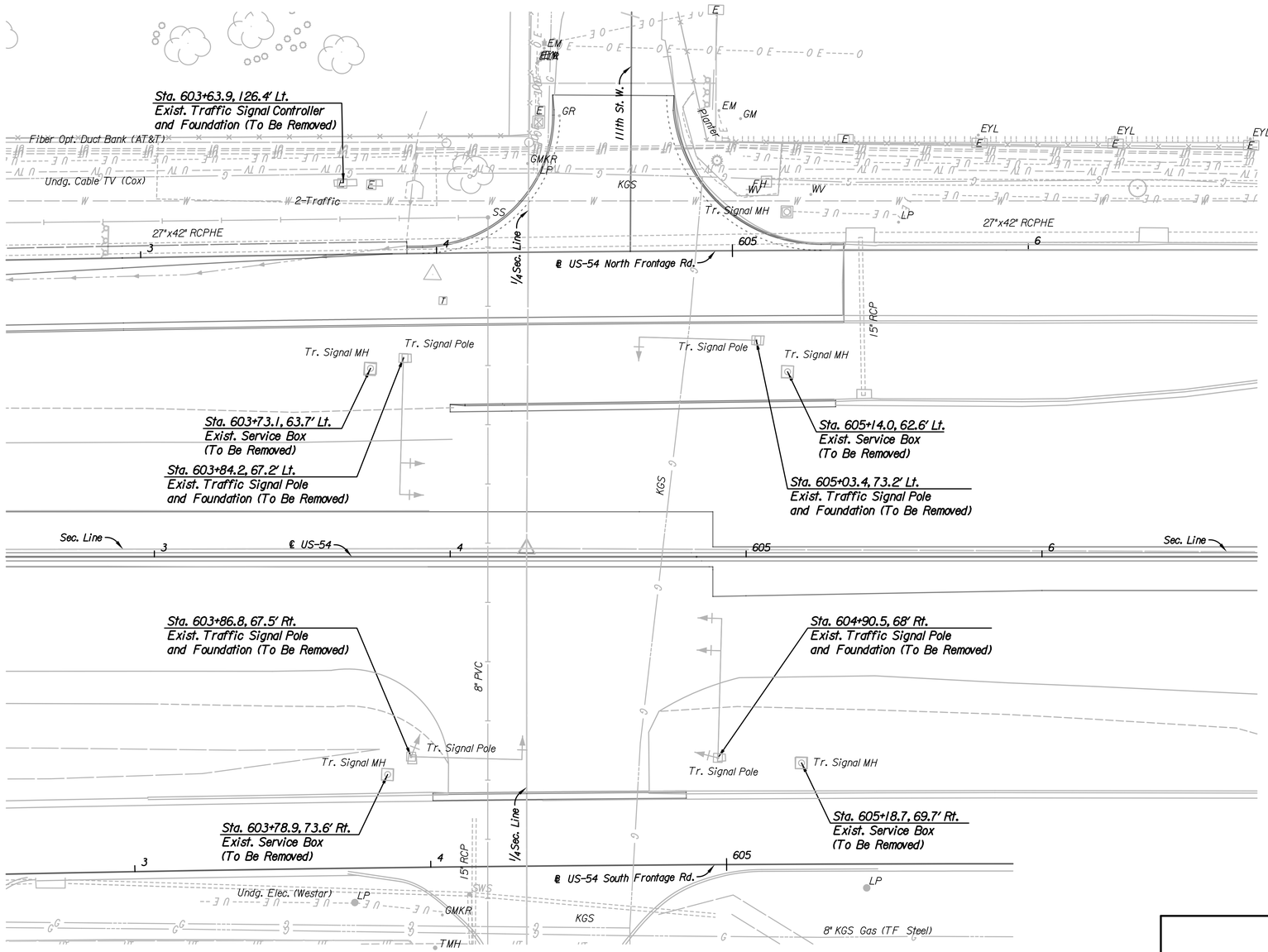
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CITY OF WICHITA PROJECT NO. 472-85393

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Drawn by	CP	Date	Jan., 2018

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GENERAL NOTES

All Stations/Offsets are from ℄ US-54 unless otherwise identified.

Utility locations are approximate. The Contractor shall be responsible for locating all underground utilities prior to construction.

Conduit to be abandoned in place.

Remove existing traffic signal foundations to a minimum of 1' below proposed construction.

All Salvageable Traffic Signal Equipment (Controller, Signal Poles, Pedestals, Signal Heads, etc.) removed with this project shall be delivered to the City of Wichita's Traffic Signal Supervisor at the Central Maintenance Facility, 1801 S. McLean Blvd.

No.	Revision	By	Date

111th St. West Signal Removal

TRAFFIC SIGNAL REMOVAL PLAN
111TH STREET AND US-54

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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Designed by	CKC	Job No.	08313-003	Sht. 44 of 104
Drawn by	CP	Date	Jan., 2018	

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DETECTOR SUMMARY (EXISTING)

CAMERA NO.	DETECTION ZONE	MODE	SIZE (LxW)	PHASE CALLED	PHASE EXTENDED	DELAY/ STRETCH TIMER	INITIAL SETTING (SEC.)
1	D3-2	Pulse	6x6	3	3	S	1
1	D3-3	Presence	70x6	3	3	-	-
1	D8-4	Pulse	6x6	8	8	S	1
1	D8-5	Presence	70x6	8	8	-	-
1	D8-9	Pulse	6x6	8	8	S	1
1	D8-10	Presence	70x6	8	8	-	-
1	D8-11	Presence	70x6	8	8	D	8
2	D1-2	Pulse	6x6	1	1	S	1
2	D1-3	Presence	100x6	1	1	-	-
2	D6-4	Pulse	6x6	6	6	S	1
2	D6-5	Presence	100x6	6	6	-	-
2	D6-9	Pulse	6x6	6	6	S	1
2	D6-10	Presence	100x6	6	6	-	-
3	D7-2	Pulse	6x6	7	7	S	1
3	D7-3	Presence	70x6	7	7	-	-
3	D7-5	Pulse	6x6	7	7	S	1
3	D7-6	Presence	70x6	7	7	-	-
3	D4-4	Pulse	6x6	4	4	S	1
3	D4-5	Presence	70x6	4	4	-	-
3	D4-9	Pulse	6x6	4	4	S	1
3	D4-10	Presence	70x6	4	4	-	-
3	D4-11	Presence	70x6	4	4	D	8
3	D4-12	Presence	24x6	4	4	D	8
4	D5-2	Pulse	6x6	5	5	S	1
4	D5-3	Presence	100x6	5	5	-	-
4	D2-4	Pulse	6x6	2	2	S	1
4	D2-5	Presence	100x6	2	2	-	-
4	D2-9	Pulse	6x6	2	2	S	1
4	D2-10	Presence	100x6	2	2	-	-
4	D2-11	Presence	100x6	2	2	D	8
4	D2-12	Presence	24x6	2	2	D	8
5	D3-1	Pulse	6x6	3	3	S	1
5	D8-1	Pulse	6x6	8	8	S	1
5	D8-2	Pulse	6x6	8	8	S	1
5	D8-3	Pulse	6x6	8	8	S	1
5	D8-6	Pulse	6x6	8	8	S	1
5	D8-7	Pulse	6x6	8	8	S	1
5	D8-8	Pulse	6x6	8	8	S	1
6	D1-1	Pulse	6x6	1	1	S	1
6	D6-1	Pulse	6x6	6	6	S	1
6	D6-2	Pulse	6x6	6	6	S	1
6	D6-3	Pulse	6x6	6	6	S	1
6	D6-6	Pulse	6x6	6	6	S	1
6	D6-7	Pulse	6x6	6	6	S	1
6	D6-8	Pulse	6x6	6	6	S	1
7	D7-1	Pulse	6x6	7	7	S	1
7	D7-4	Pulse	6x6	7	7	S	1
7	D4-1	Pulse	6x6	4	4	S	1
7	D4-2	Pulse	6x6	4	4	S	1
7	D4-3	Pulse	6x6	4	4	S	1
7	D4-6	Pulse	6x6	4	4	S	1
7	D4-7	Pulse	6x6	4	4	S	1
7	D4-8	Pulse	6x6	4	4	S	1
8	D5-1	Pulse	6x6	5	5	S	1
8	D2-1	Pulse	6x6	2	2	S	1
8	D2-2	Pulse	6x6	2	2	S	1
8	D2-3	Pulse	6x6	2	2	S	1
8	D2-6	Pulse	6x6	2	2	S	1
8	D2-7	Pulse	6x6	2	2	S	1
8	D2-8	Pulse	6x6	2	2	S	1

Detector Summary reflects initial operation.

PHASE TIMING

FUNCTION	PHASE							
	1	2	3	4	5	6	7	8
MINIMUM GREEN	7.0	12.0	7.0	10.0	7.0	12.0	10.0	7.0
MAXIMUM GREEN	34.0	42.0	28.0	32.0	34.0	42.0	32.0	28.0
YELLOW CHANGE	5.0	5.0	4.3	4.3	5.0	5.0	4.3	4.3
RED CLEAR	1.4	1.0	1.5	1.5	1.4	1.0	1.5	1.5
ADDED INITIAL	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MAXIMUM INITIAL	10.0	15.0	10.0	15.0	10.0	15.0	10.0	15.0

Phase Timing reflects initial operation.
Phases 2 & 6 to Dwell on Green.

CONSTRUCTION NOTES

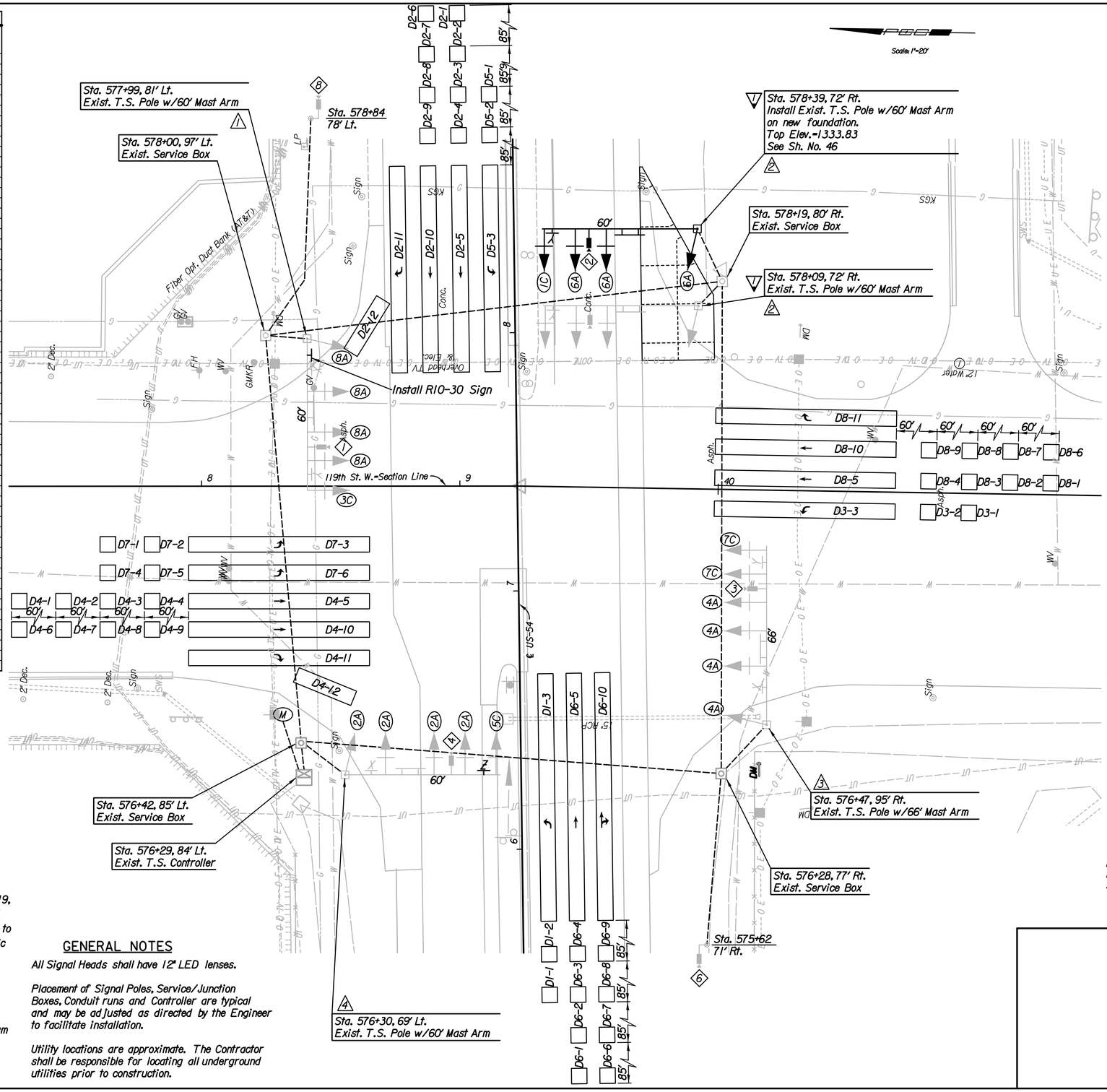
▽ *Contractor shall construct new Pole Footing #2 (Sta.578+39, 72' Rt.), and install new conduit from new Pole Footing #2 to existing Service Box #2 (Sta. 578+19, 80' Rt.). Contractor shall relocate existing Traffic Signal Pole #2 (with signal heads, detection camera, signs, etc.) to new Pole Footing #2. Contractor shall install new Traffic Signal Cable from Controller to new Signal Pole #2. Contractor shall remove existing signal cable from Controller to existing Pole #2, existing Pole Footing #2 and conduit between existing Pole Footing #2 and existing Service Box #2.*
Remove existing traffic signal foundation #1 to a minimum of 1' below proposed construction.

GENERAL NOTES

All Signal Heads shall have 12" LED lenses.

Placement of Signal Poles, Service/Junction Boxes, Conduit runs and Controller are typical and may be adjusted as directed by the Engineer to facilitate installation.

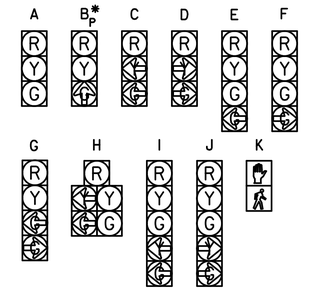
Utility locations are approximate. The Contractor shall be responsible for locating all underground utilities prior to construction.



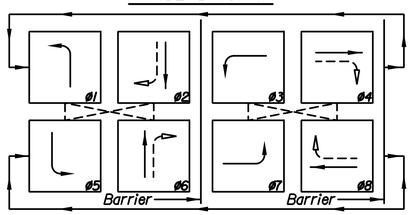
LEGEND

- 60' — Traffic Signal Pole with Mast Arm & Length
- Traffic Signal Head
- Traffic Signal Head with Backplate
- Traffic Signal Camera
- Light Pole w/Luminaire Arm and Traffic Signal Camera
- Pedestrian Signal Head
- Controller
- D(Phase)-# — Detector Zone
- Service Box (Pre-Fab)
- R3-5R Sign
- R10-10 Sign
- R3-6 Spec. (See Sh. No. 46)
- Rigid Galvanized Conduit (RGC)
- (2A) — Signal Phase & Head Arrangement
- △ — Signal Pole Reference Number
- ◇ — Traffic Signal Camera Reference Number
- Street Name Sign
- Luminaire with Arm
- (M) — Meter and Enclosure

SIGNAL HEADS



PHASE DIAGRAM



MOVEMENTS

- Protected Phase
- Permitted Phase

NOTE:
DOTTED LINES CONNECTING PHASES DENOTE NON-CONFLICTING SIGNAL PHASES THAT CAN OCCUR CONCURRENTLY.

No.	Revision	By	Date

111th St. West Signal Removal

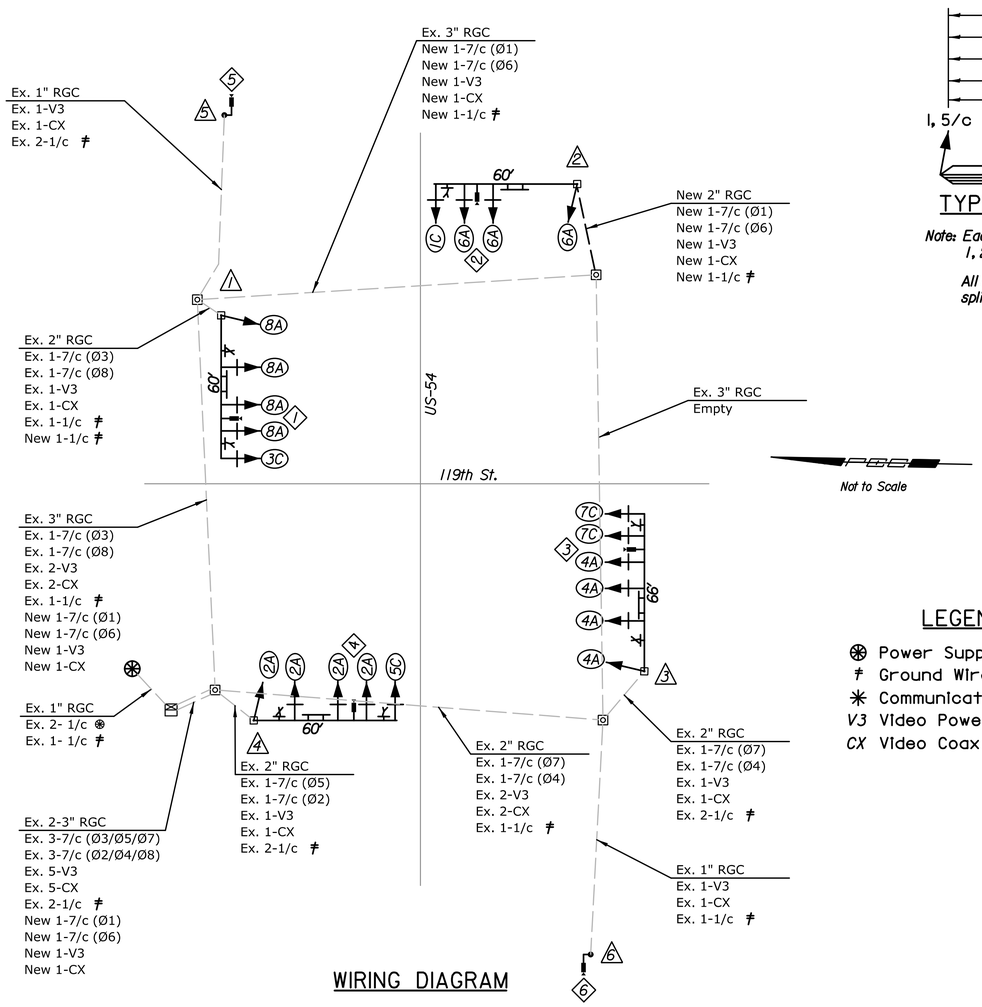
TRAFFIC SIGNAL PLAN
119TH STREET AND US-54

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

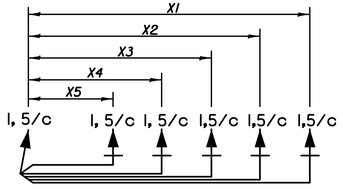
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316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 45 of 104
Drawn by	CP	Date	Jan., 2018	

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WIRING DIAGRAM



TYPICAL POLE WIRING

Note: Each Pushbutton to be wired with 1, 2/C to pole base connection.

All splices to be in pole base, no splices permitted within servce box.

LEGEND

- ⊛ Power Supply
- ⏚ Ground Wire #8 AWG
- ✳ Communication Cable
- V3 Video Power Cable
- CX Video Coax Cable

SUMMARY OF TRAFFIC SIGNAL HEADS

NUMBER	TYPE	SIZE	QUANTITY
TOTAL			

SERVICE BOX SUMMARY

STATION	DIST.-SIDE



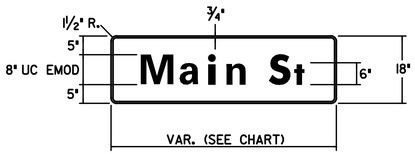
R10-30 (30"x36")



R3-6 Spec. (30"x36")

OVERHEAD STREET NAME SIGNS

LEGEND	LENGTH	QUANTITY



BILL OF MATERIALS

ITEM	UNIT	QUANTITY
PAD MOUNTED CONTROLLER & CABINET	EACH	Ex.
TRAFFIC SIGNAL HEAD W/MOUNTING HARDWARE	EACH	Ex.
TRAFFIC SIGNAL POLE, STEEL (SEE POLE SUMMARY)	EACH	Ex.
TRAFFIC SIGNAL PEDESTAL ALUM. (15')	EACH	---
TRAFFIC SIGNAL PEDESTAL (JOINT USE) ALUM. (30')	EACH	---
LUMINAIRE POLE W/15' ARM (SEE POLE SUMMARY)	EACH	Ex.
CONCRETE CONTROLLER PAD	EACH	Ex.
CONCRETE FOOTING - PEDESTAL	EACH	-
CONCRETE FOOTING - POLE	EACH	1
CONDUIT ELBOW 90°2"	EACH	AS REQ'D
CONDUIT ELBOW 90°3"	EACH	AS REQ'D
BACK PLATE 5" 3 SECTION	EACH	---
BACK PLATE 5" 5 SECTION	EACH	---
TERMINAL BLOCK	EACH	---
SERVICE BOX	EACH	---
JUNCTION BOX (PRE-FAB)	EACH	---
GROUND ROD & CLAMP	EACH	1
PEDESTRIAN INDICATIONS LED (16"x18" COMBINATION) (COUNTDOWN)	EACH	---
LED TRAFFIC SIGNAL LENS (12")	EACH	---
ENTRANCE HEAD	EACH	---
CIRCUIT BREAKER & BOX 50 AMP.	EACH	---
SURGE ARRESTOR - A.C.SERVICE	EACH	---
SURGE ARRESTOR - DETECTOR	EACH	---
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	---
6 PR. COMMUNICATION CABLE	LIN.FT.	---
DETECTOR LOOP WIRE NO.14 AWG 1/c	LIN.FT.	---
LEAD-IN WIRE NO.6 AWG 1/c	LIN.FT.	AS REQ'D
MULTI-CONDUCTOR CABLE NO.14 AWG 7/c	LIN.FT.	810
MULTI-CONDUCTOR CABLE NO.14 AWG 5/c	LIN.FT.	---
MULTI-CONDUCTOR CABLE NO.14 AWG 3/c	LIN.FT.	---
SHIELDED DETECTOR LEAD-IN NO.14 AWG 2/c	LIN.FT.	---
CONDUIT 1"(RGC)	LIN.FT.	AS REQ'D
CONDUIT 1 1/2"(RGC)	LIN.FT.	-
CONDUIT 2"(PVC)	LIN.FT.	-
CONDUIT 2"(RGC)	LIN.FT.	25
CONDUIT 3"(RGC)	LIN.FT.	---
#8 AWG GROUND (GREEN)	LIN.FT.	255
STREET NAME SIGN	EACH	---
LEFT TURN SIGNAL (R10-10) SIGN	EACH	---
LEFT/U-TURN (R3-6 SPEC.) SIGN	EACH	1
RIGHT TURN ONLY (R3-5R) SIGN	EACH	---
RIGHT TURN YIELD TO U-TURN (R10-30) SIGN	EACH	1
VIDEO DETECTION CAMERA, MOUNTING HARDWARE AND SUNSHIELD	EACH	---
VIDEO DETECTION UNIT	EACH	---
VIDEO POWER CABLE #16 AWG 3/C	LIN. FT.	475
VIDEO CABLE 75 OHM COAXIAL (BELDON #8281 OR APPROVED EQUAL)	LIN. FT.	475
TV MONITOR	EACH	---
MAST ARM CAMERA RISER BRACKETS	EACH	---

TRAFFIC SIGNAL POLE SUMMARY

	POLE NO.	POLE HEIGHT	ARM HEIGHT	ARM LENGTH	NO. OF SIGNALS ON ARM	BRACKET TYPE	XI	X2	X3	X4	X5	NO. OF SIGNALS ON POLE	BRACKET TYPE	NO.OF PUSH BUTTONS ON POLE	LUMINAIRE MOUNTING HEIGHT
Ex.	1	22'	21'	60'	4	I	60'	48'	38'	25'	-	1	II	-	-
Ex.	2	23'	22'	60'	3	I	59'	48'	36'	-	-	1	II	-	-
Ex.	3	22'	21'	66'	5	I	65'	56'	45'	34'	21'	1	II	-	-
Ex.	4	22'	21'	60'	4	I	60'	47'	35'	23'	-	1	II	-	-
Ex.	5✳	35'	-	15'	-	-	-	-	-	-	-	-	-	-	40
Ex.	6✳	35'	-	15'	-	-	-	-	-	-	-	-	-	-	40

✳ *Luminaire Poles*

RECAPITULATION OF TRAFFIC SIGNAL QUANTITIES

ITEM	UNIT	QUANTITY
TRAFFIC SIGNAL MODIFICATION (119th St. W. Kellogg)	LUMP SUM	1

POLE AND EQUIPMENT FINISH

Surface preparation

The exterior steel surface shall be blasted clean in accordance with the requirements outlined in the Steel Structures Painting Council Surface Preparation Specification No. 6, (SSPCSP60) utilizing a dry abrasive, closed cycle, recirculating system with centrifugal wheels and abrasive. The abrasive used shall be steel shot conforming to the Society of Automotive Engineers (SAE) Recommended Practice No. J827 with particle size meeting SAE Shot No. S280.

Zinc Coating

The pole assembly shall be hot-dip galvanized to the requirements of either ASTM A123 (Fabricated items) or ASTM A153 (Hardware items) by immersion in a molten bath of prime western grade zinc maintained between 810°F and 850°F. Maximum aluminum content of the bath shall not exceed 0.01%.

Top Coat

All visually exposed exterior surfaces shall be coated with a urethane or triglycidyl isocyanurate (TGIC) polyester powder to a minimum dry film thickness (DFT) of 0.05mm (2.0 mils). Prior to application of the topcoat, the surface shall be mechanically etched and pre-heated to 450°F for a minimum of one hour. The coating shall be electrostatically applied and cured at a minimum temperature of 400°F and the color shall be black.

-QUANTITIES FOR INFORMATION ONLY-

NOTE: The traffic signal system shall be complete and the contractor shall furnish and install all equipment and materials necessary for the satisfactory operation of electrical apparatus and for the complete operation of the traffic signal system whether specifically mentioned or not.

No.	Revision	By	Date

111th St. West Signal Removal

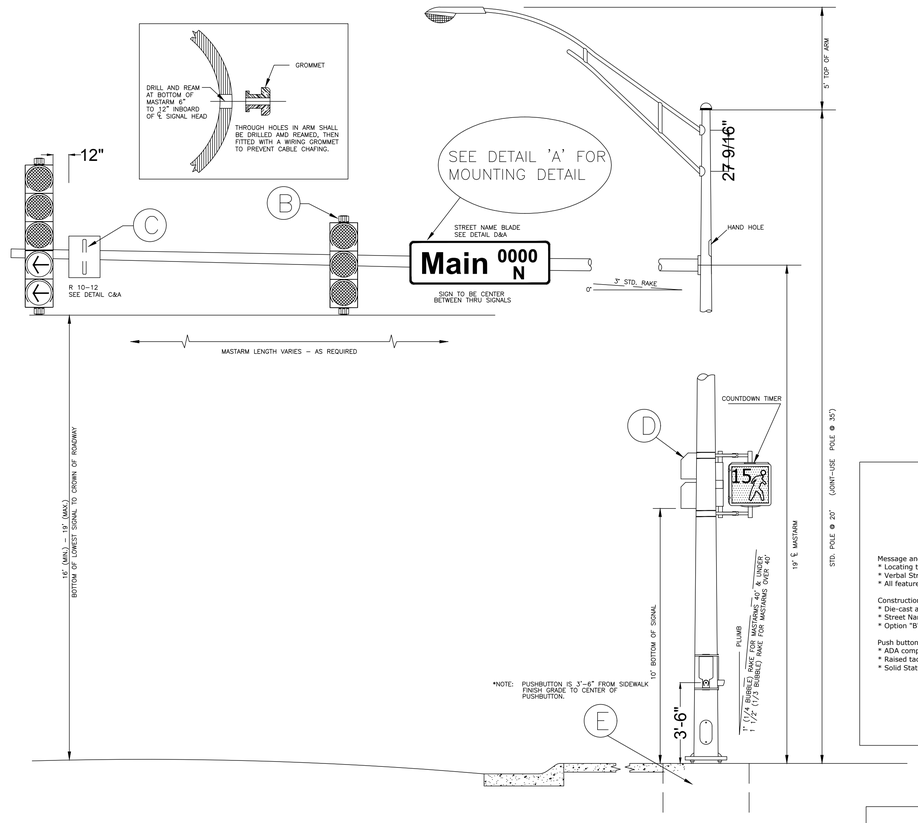
WIRING AND QUANTITIES 119TH STREET AND US-54

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

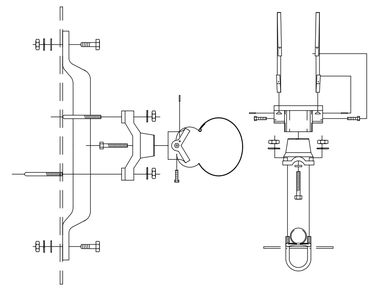
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303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 46 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/3/2018 3:21:28 PM
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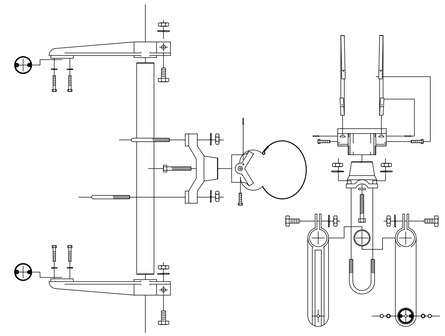


BANDED SIGN MOUNTING BRACKET DETAIL



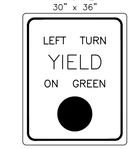
A

TYPE I SIGNAL MOUNTING BRACKET ASSEMBLY DETAIL



B

STANDARD SIGNING



C

DWG. NO. N45AN0-X

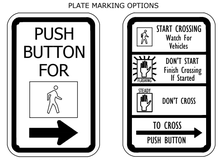
PUSH BUTTON STATION

Message and Sound options include:
* Locating tone
* Verbal Street Name (Example: Crossing Main at Central)
* All features field selectable using a Configurator.

Construction :
* Die-cast aluminum, powder coated Black in color.
* Street Name in Braille in the directional arrow of the sign.
* Option "B" signing option.

Push button :
* ADA compliant
* Raised tactile arrow on the button
* Solid State switch rated at a Minimum of 20 million actuations

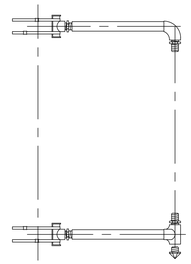
PLATE MARKING OPTIONS



STANDARD OPTION A

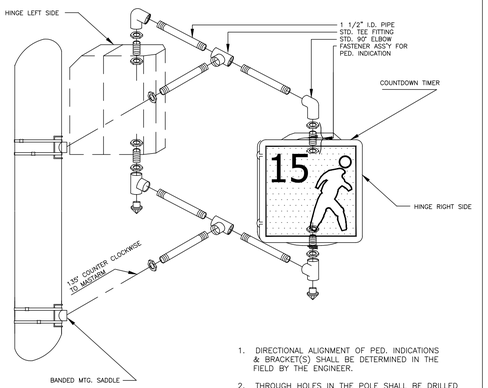
OPTION B

TYPE III SIDE-OF-POLE MOUNTING BRACKET ASSEMBLY



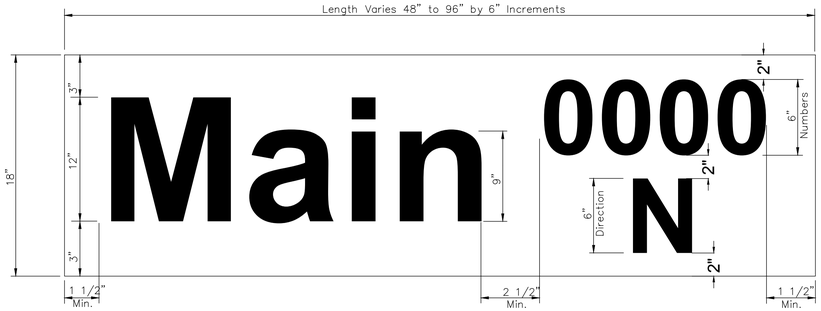
F

TYPE II SIGNAL MOUNTING BRACKET ASSEMBLY (SIDE-OF-POLE)

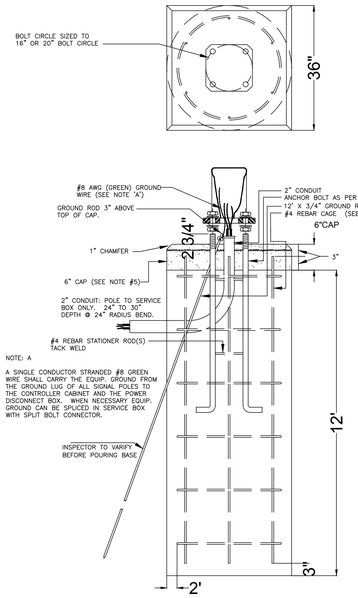


1. DIRECTIONAL ALIGNMENT OF PED. INDICATIONS & BRACKET(S) SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. THROUGH HOLES IN THE POLE SHALL BE DRILLED AND WELL REAMED TO PREVENT CABLE CHAFING.
3. HINGE PEDESTRIAN SIGNAL DOORS AWAY FROM POLE.
4. CLAM SHELL BRACKETS ARE NOT ACCEPTABLE.

D



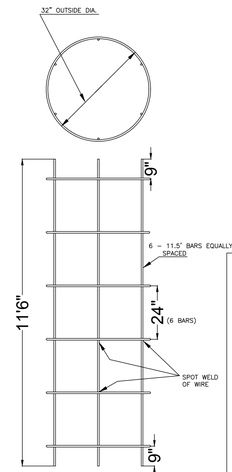
DETAIL D
METRO



NOTE:

1. THE ANCHOR BOLTS FOR THE SIGNAL POLE SHALL BE TACK WELDED TOGETHER IN A 16" OR 20" DIA. BOLT PATTERN (ON CENTERS AS SHOWN) TO MAINTAIN REQUIRED BOLT CONFIGURATION PATTERN AND TO AID IN VERTICAL POSITIONING WHILE CONCRETE BASE IS POURED.
2. USE ANTI-SEIZE COMPOUND ON ALL THREADS.
3. 12' x 3/4" GROUND ROD TO BE POSITIONED BEFORE POURING BASE.
4. CLASS 'A' CONCRETE SHALL BE USED TO CONSTRUCT BASE.
5. CONSTRUCT A 6" THICK x 36" SQUARE CONCRETE CAP AFTER POLE HAS BEEN ERECTED & PLUMBED. CHAMFER EDGE 1". MUST BE APPROVED BY ENG. BEFORE POURED.
6. CONDUIT SHALL HAVE PLASTIC (OR METAL) BUSHING (ABOVE BASE) TO PREVENT CABLE CHAFING.
7. USE #6 BARE COPPER GROUND CONDUCTOR FROM CLAMP TO GROUND BOLT IN ACCESS HOLE.

REBAR CAGE



E

REVISED: AUGUST 2014

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STEEL SIGNAL POLE ASSEMBLY DETAILS

TRAFFIC ENGINEER
BRIAN A. COON, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

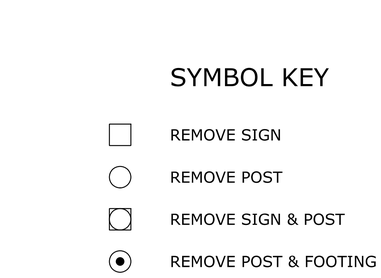
SHEET
47 of 104

TR-101

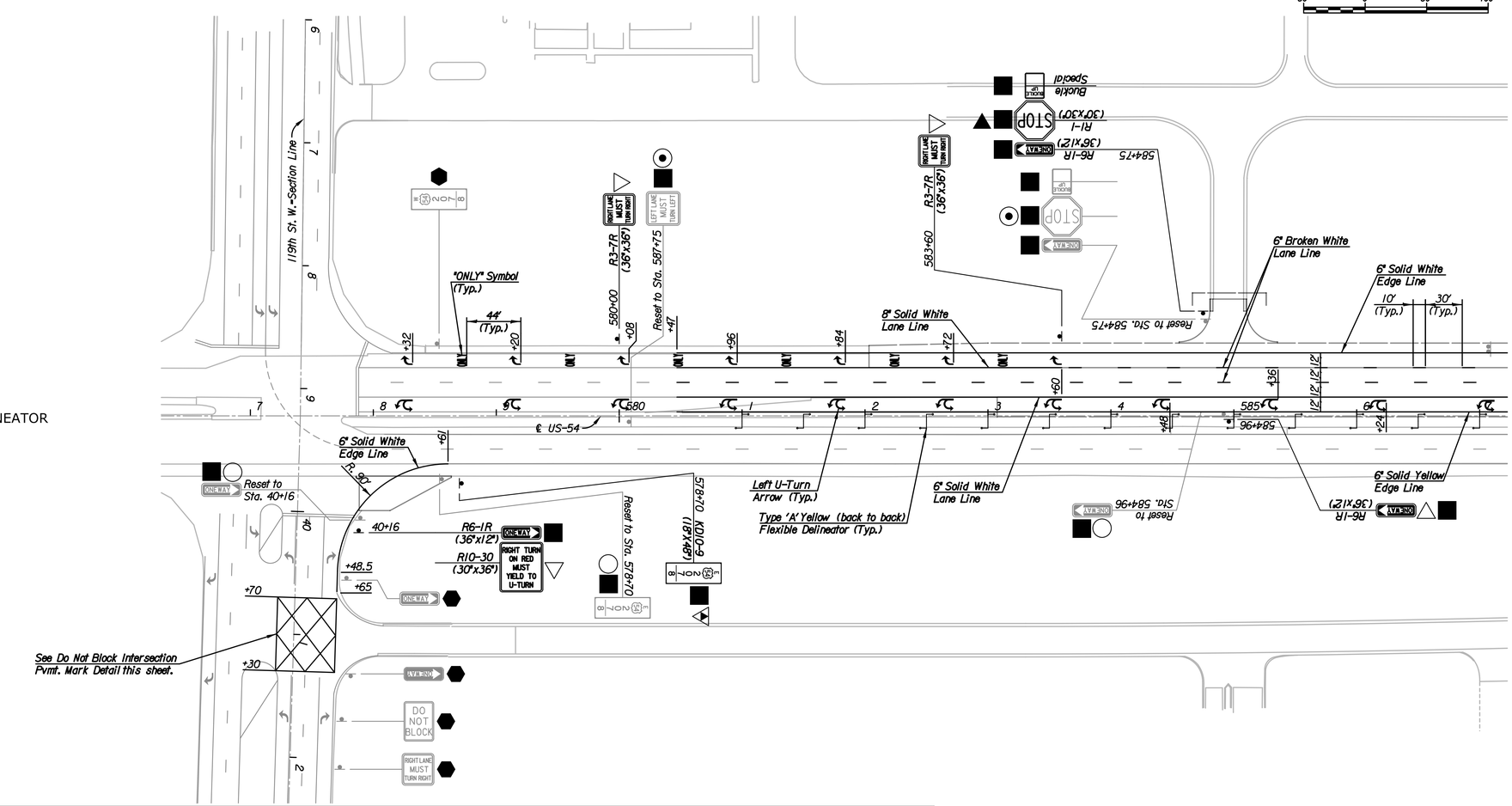
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Plot Scale 1:1 01-30-2018 8:40:01 AM by CP
U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-TR-101 STEEL SIGNAL POLE ASSEMBLY

SYMBOL KEY

- REMOVE SIGN
- REMOVE POST
- REMOVE SIGN & POST
- REMOVE POST & FOOTING
- REMOVE SIGN, POST, & FOOTING
- MOUNT ON WOOD POST IN CONCRETE FOOTING
- MOUNT ON STEEL U-POST
- MOUNT ON PSST POST
- MOUNT ON EXISTING POST
- MOUNT ON VERTICAL SUPPORT
- SIGN IS NOT PART OF PROJECT
- EXISTING SIGN
- TYPE 'A' YELLOW (BACK TO BACK) FLEXIBLE DELINEATOR



DO NOT BLOCK INTERSECTION
PVMT. MARK DETAIL



SUMMARY OF PAVEMENT MARKING

LOCATION	PATTERN COLD PLATIC 6" Broken WHITE Lane Line (L.F.)		MULTI-COMPONENT 6" Solid YELLOW Edge Line (L.F.)	6" Dotted WHITE Extension Line (L.F.)	6" Solid WHITE Diagonal Line (L.F.)	6" Solid WHITE Edge Line (L.F.)	8" Solid WHITE Gore Line (L.F.)	8" Solid WHITE Lane Line (L.F.)	12" Solid WHITE Chevron Line (L.F.)	12" Solid WHITE Diagonal Line (L.F.)	12" Solid WHITE Edge Line (L.F.)	INTERSECTION GRADE Left U-Turn Arrow (Each)	Right Turn Arrow (Each)	ONLY (Each)
US-54														
Sta. 577+00 to Sta. 587+00	250		653			653		966				7	4	6
Sta. 587+00 to Sta. 603+00	840		2058			1914	471	100				2		
Sta. 603+00 to Sta. 619+00	860		2600	410		1166	942		308	138				
Sta. 619+00 to Sta. 630+00	250		276											
119th St. West														
Sta. 39+58 to Sta. 41+30					298	155					208			
TOTALS	2200		5587	410	298	3888	1413	1066	308	138	208	9	4	6

From Sta. 581+00 to Sta. 591+00 Contractor shall install Type "A" White (Back to Back) Flexible Delineators centered in median at 50' intervals.

No.	Revision	By	Date

111th St. West Signal Removal

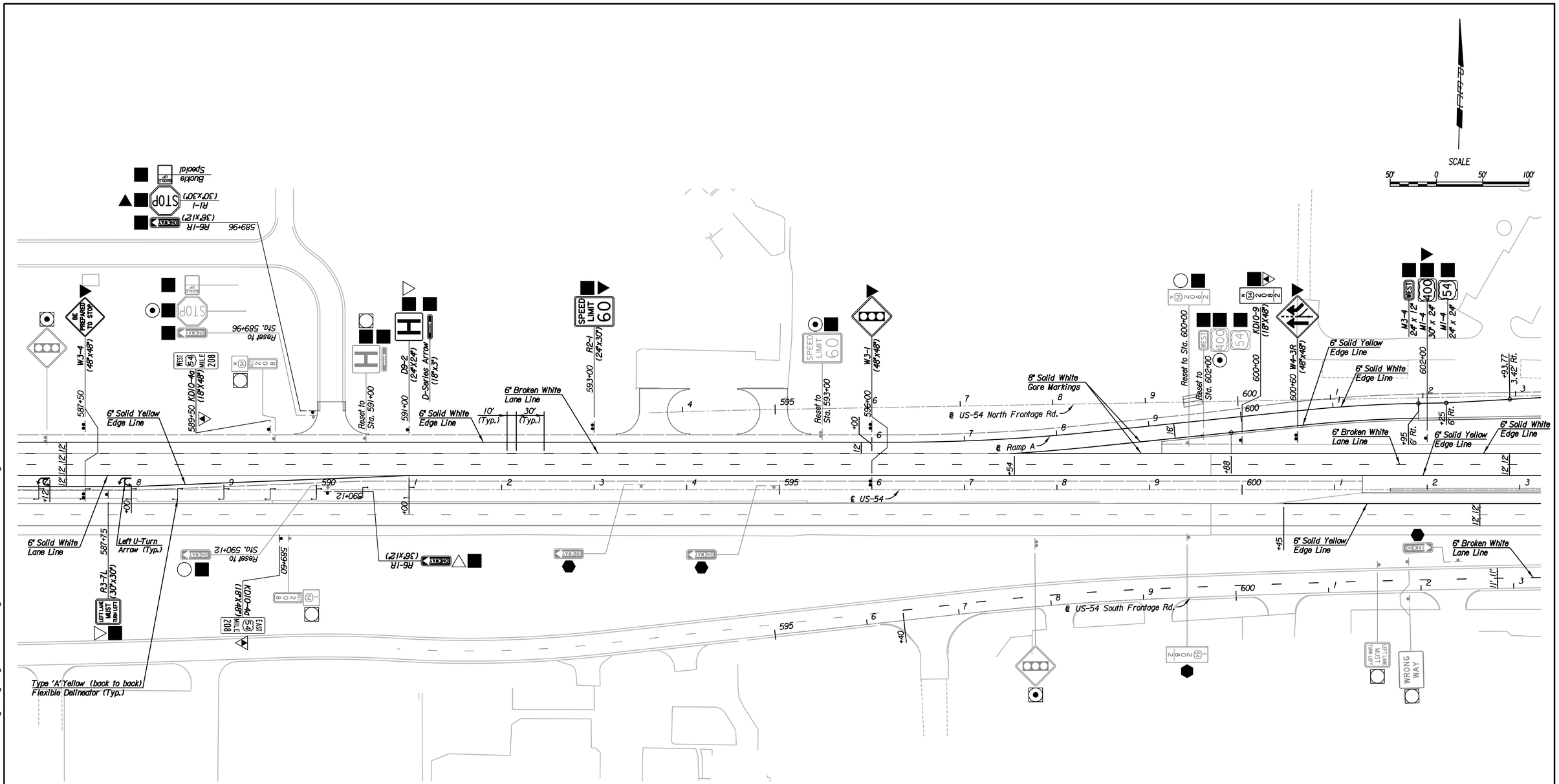
SIGNING & PAVEMENT MARKING STA. 577+00 TO STA. 587+00

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 48 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/30/2018 10:34:43 AM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Signing\08313-003-Sign and Mark Plan Sta. 577.dgn



From Sta. 581+00 to Sta. 591+00 Contractor shall install Type "A" Yellow (Back to Back) Flexible Delineators centered in median at 50' intervals.

No.	Revision	By	Date

111th St. West Signal Removal

SIGNING & PAVEMENT MARKING STA. 587+00 TO STA. 603+00

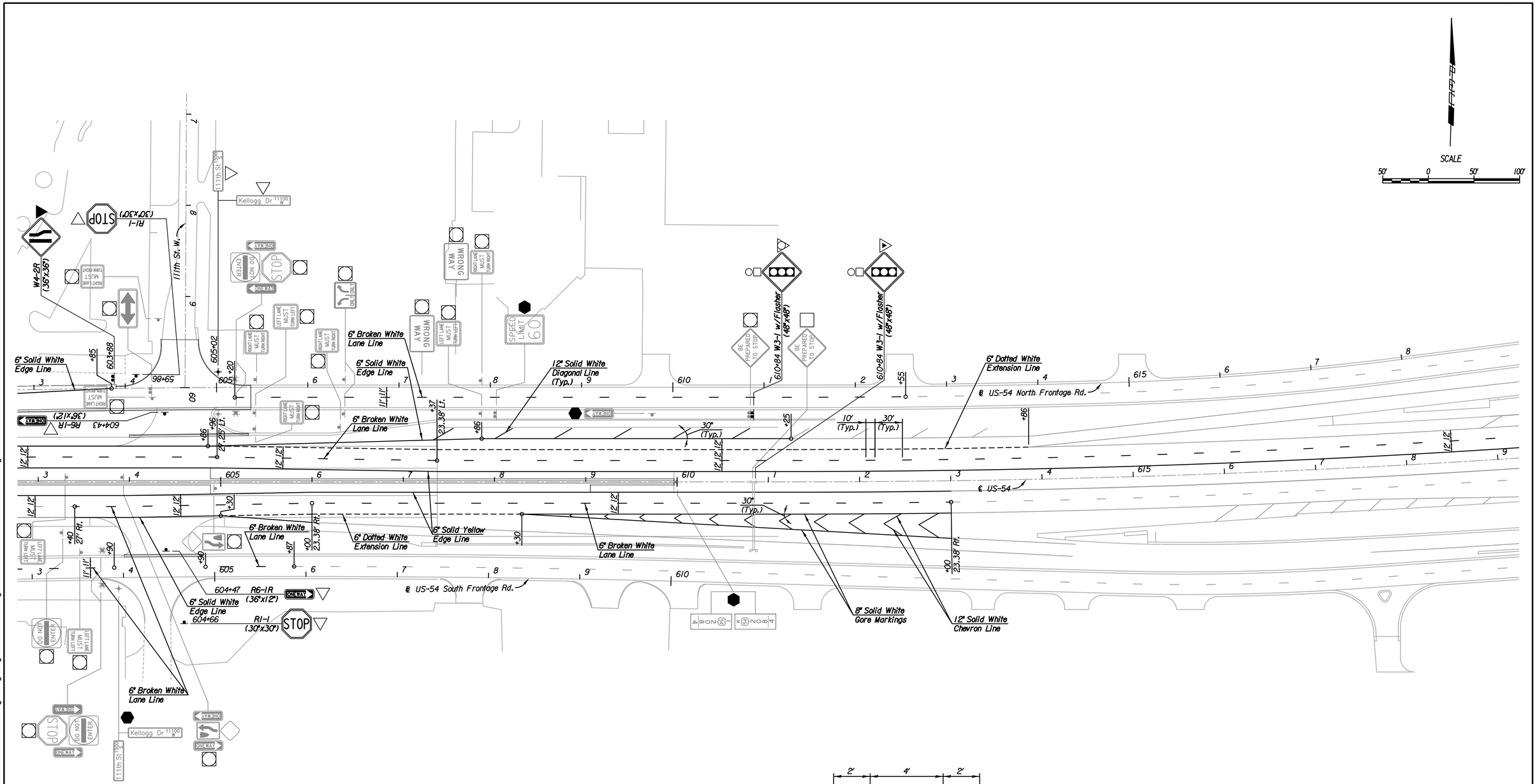
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

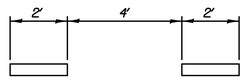
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316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 49 of 104

Plotted By: cp Date: 1/30/2018 10:34:44 AM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Signing\08313-003-Sign and Mark Plan Sta. 587.dgn





6" DOTTED WHITE EXTENSION LINE
PVMT. MARK DETAIL

No.	Revision	By	Date

111th St. West Signal Removal

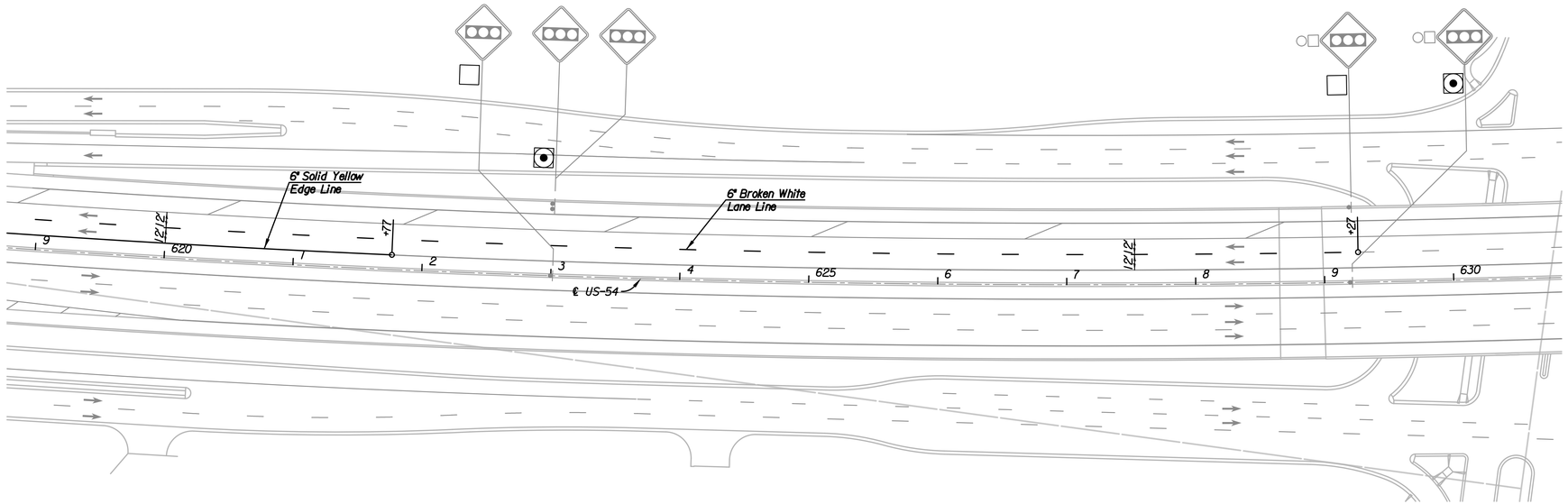
SIGNING & PAVEMENT MARKING STA. 603+00 TO STA. 619+00

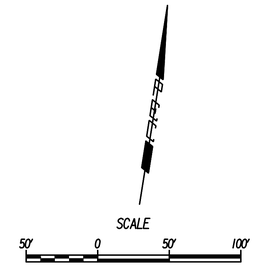
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CITY OF WICHITA PROJECT NO. 472-85393

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Designed by	CKC	Job No.	08313-003	Sht. 50 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:38 PM
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Plotted By: cp Date: 1/29/2018 5:28:38 PM
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No.	Revision	By	Date

111th St. West Signal Removal

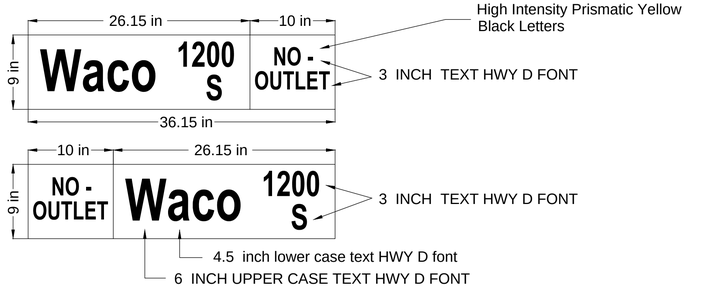
SIGNING & PAVEMENT MARKING STA. 619+00 TO STA. 630+00

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CITY OF WICHITA PROJECT NO. 472-85393

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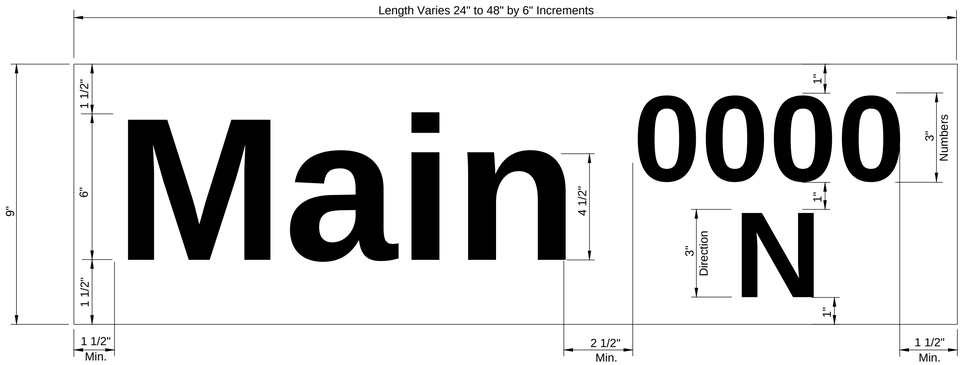
Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 51 of 104

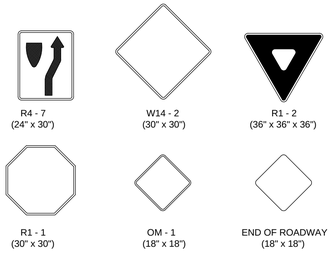




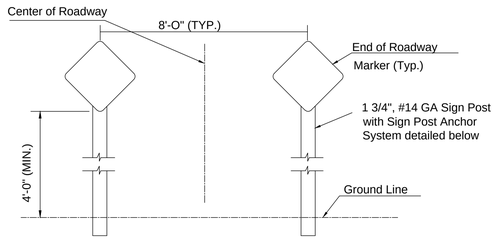
DETAIL A
9" STANDARD



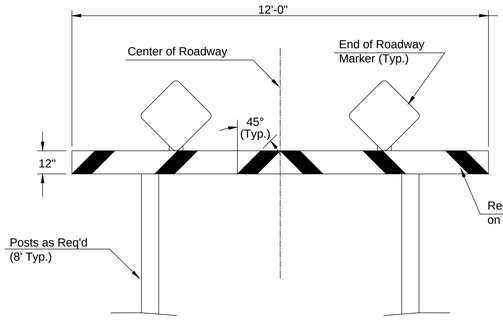
DETAIL B
9" METRO



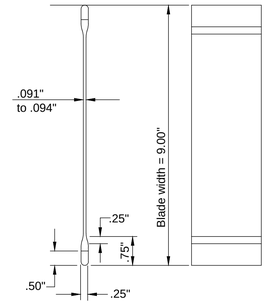
* IN NO CASE SHALL THE SPECIFICATIONS BE LESS THAN REQUIRED BY THE CURRENT MUTCD.



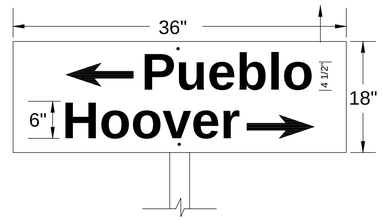
TYPICAL END OF ROADWAY SIGN MOUNTING INSTALLATION



TYPE I BARRICADE DETAIL W/ E.O.R. MARKERS

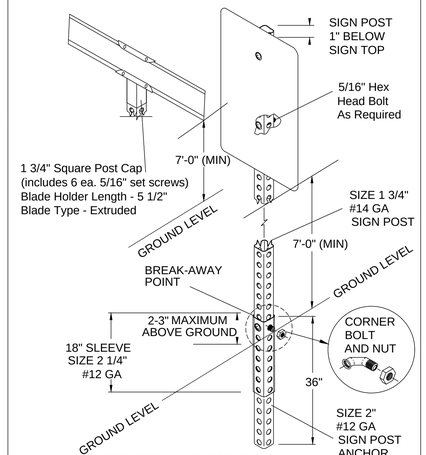


STREET NAME SIGN
BLADE DETAILS



FLAT PLATE STREET NAME SIGN

PERFORMED TUBE SIGN POST INSTALLATION



SIGN POST ANCHOR SYSTEM

SIGN ASSEMBLY TABLE

STATION	OFFSET	SIGN	QUANTITY*
40+16 (119th)	Rt	R6-1R* / R10-30	1
59+86 (111th)	Rt	R1-1	1
578+70	Rt	KD10-9*	1
580+00	Lt	R3-7R	1
583+60	Lt	R3-7R	1
584+75	Lt	R6-1R*/R1-1*/Spec.*	1
584+96	Rt	R6-1R	1
587+50	Lt	W3-4	1
587+50	Rt	W3-4	1
587+75	Rt	R3-7L*	1
589+50	Lt	KD10-4a	1
589+60	Rt	KD10-4a	1
589+96	Lt	R6-1R*/R1-1*/Spec.*	1
590+12	Rt	R6+1R*	1
591+00	Lt	D9-2* / Arrow*	1
593+00	Lt	R2-1*	1
596+00	Lt	W3-1	1
596+00	Rt	W3-1	1
600+00	Lt	KD10-9*	1
600+60	Lt	W4-3R	1
602+00	Lt	M3-4*/M1-4*/M1-4*	1
603+88	Lt	W4-2R	1
604+47	Rt	R6-1R	1
604+66	Rt	R1-1	1
TOTAL			24

* Remove and Reset Existing Sign

DELINEATORS			
STATION TO STATION	SIDE	TYPE 'A' YELLOW FLEXIBLE	REMARKS
581+00 to 591+00	Med.	21	Back to Back

STREET NAME	NO. BLADES REQ'D	
	9" STD.	9" METRO

NOTE: REFERENCES BELOW TO "STANDARD SPECIFICATIONS" DENOTE "STANDARD SPECIFICATION FOR STATE ROAD AND BRIDGE CONSTRUCTION EDITION 1990" BY THE KANSAS DEPARTMENT OF TRANSPORTATION.

1. ***FABRICATION AND INSTALLATION OF ALL SIGNS SHALL CONFORM TO THE LATEST EDITION OF THE MUTCD.***

1a. POST ANCHORS: POSTS SHALL BE ANCHORED WITH A YIELDING BASE POST SUPPORT AS DETAILED.

2. POSTS FOR TRAFFIC CONTROL SIGNS: POSTS SHALL BE GALVANIZED AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 1620 OF THE STANDARD SPECIFICATIONS, EXCEPT THAT ALL POSTS SHALL WEIGH 3 LBS./FT. MINIMUM.

3. POSTS FOR STREET NAME SIGNS (SNS): POSTS SHALL BE 9 FEET LONG, CONSTRUCTED FROM #14 GALVANIZED STEEL PIPE AND SHALL BE 1 3/4" SQUARE WEIGHING A MINIMUM OF 3 LBS/FT. POSTS SHALL BE POSITIONED SO THAT THE BOTTOM BLADE IS 7 FEET ABOVE GRADE.

4. POSTS FOR END OF ROADWAY SIGN TO BE 8' LONG AND INSTALLED A MINIMUM OF 4' FROM ROADWAY TO BOTTOM OF SIGN.

5. SIGN BLANKS FOR TRAFFIC CONTROL SIGNS: SIGN BLANKS SHALL BE FABRICATED FROM 0.080" ALUMINUM ALLOY 6063-T6 CONFORMING TO THE REQUIREMENTS OF SUBSECTION 1626 OF THE STANDARD SPECIFICATIONS.

6. SIGN BLADES FOR STREET NAME SIGNS: EXTRUDED ALUMINUM BLADES SHALL BE ALUMINUM ALLOY CONFORMING TO 6063-T6 OR 5052-H38 (ASTM SPECIFICATION B221, LATEST ISSUE). BLADES SHALL HAVE AN ALODINE OR PHOSPHATE ETCHED FINISH. BLADES SHALL HAVE SQUARE CORNERS AND NO HOLES.

MINIMUM BLADE LENGTH SHALL BE 24". MAXIMUM BLADE LENGTH SHALL BE 48". LENGTH VARIES BY INCREMENTS OF 6".

BLADES BEARING THE STREET NAMES SHALL BE FIRMLY ATTACHED TO THE MOUNTING BRACKETS USING ALLEN-TYPE CONICAL SET SCREWS. THE BLADES SHALL BE ORIENTED PARALLEL TO THE STREET.

7. MOUNTING BRACKETS FOR SIGNS: DIE-CAST ALUMINUM BRACKETS SHALL BE ALUMINUM ALLOY 360 HAVING A TENSILE STRENGTH OF 44,000 PSI. THE BRACKETS SHALL BE SMOOTHLY FINISHED FREE OF PITS, BURRS, AND FLAWS. EACH BRACKET SHALL BE TAPPED AND DRILLED FOR 5/16" ZINC-PLATED ALLEN-TYPE SET SCREWS HAVING SELF-LOCKING SAW-TOOTH ENDS.

8. FASTENERS: ALL STEEL FASTENERS FOR TRAFFIC CONTROL SIGNS SHALL BE GALVANIZED AND SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 1614 OF THE STANDARD SPECIFICATIONS.

9. REFLECTIVE SHEETING: REFLECTIVE SHEETING SHALL BE A MINIMUM OF HIGH INTENSITY PRISMATIC.

10. PROCESS INK: ALL PROCESS INK SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 2202 OF THE STANDARD SPECIFICATIONS.

11. DETAILS - SNS: THE REFLECTIVE SHEETING FOR THE 9" STANDARD SIZE SNS IS TO BE THE HIGHWAY GREEN BACKGOUND WITH SILVER-WHITE #2 COPY WITH 6" UPPER CASE AND 4 1/2" LOWER CASE PRIMARY COPY AND SUFFIX COPY. BOTH SERIES "C". FACES TO TRIM TO A 8 1/2". (SEE DETAIL A.)

THE REFLECTIVE SHEETING FOR THE 9" METRO SIZE SNS IS TO BE THE HIGHWAY GREEN BACKGROUND WITH SILVERWHITE #2 COPY WITH 6" UPPER CASE AND 4 1/2" LOWER CASE PRIMARY COPY AND SUFFIX COPY, BOTH SERIES "C". THE CARDINAL DIRECTION CENTERED DIRECTLY BELOW THE BLOCK NUMBER SHALL BE AN UPPER CASE, 3" SERIES "C" LETTER. FACES TO TRIM TO A 8 1/2" WIDTH. (SEE DETAIL B.)

FOR CUL-DE-SAC STREETS, A 9" METRO SIZE BLADE SHALL BE USED WITH THE BLOCK NUMBERS DISPLAYED BENEATH THE STREET NAME.

IF BLOCK NUMBERS ARE NOT SHOWN ON THE PLANS THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEER AT 268-4501 PRIOR TO MANUFACTURING THE SIGN.

SHOP DRAWINGS OF LAYOUT FOR SNS SHALL BE SUBMITTED TO THE TRAFFIC ENGINEERING DIVISION OF THE CITY OF WICHITA FOR APPROVAL PRIOR TO FABRICATION. THE FINISHED SIGNS AS SUPPLIED SHALL BE OF GOOD APPEARANCE, FREE FROM RAGGED EDGES, CRACKS SCALES OR BLISTERS AND SHALL BE CLEAN-CUT. SIGNS SHALL BE PACKED IN SUCH MANNER AS TO PREVENT DAMAGE OR DEFACEMENT DURING SHIPMENT OR STORAGE.

12. PERMANENT TRAFFIC CONTROL AND SNS: PERMANENT TRAFFIC CONTROL AND SNS SHALL BE MEASURED AND PAID FOR AT THE LUMP SUM PRICE FOR SIGNING. THE PAYMENT AS SET FORTH ABOVE SHALL BE CONSIDERED FULL COMPENSATION FOR ALL EXCAVATION, BACKFILLING. POSTS, ANCHORS, FASTENERS, MATERIALS, LABOR, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS WORK.

REVISED NOVEMBER 2014

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

SIGN DETAILS

TRAFFIC ENGINEER
Brian A. Coon P.E.

PROJECT NUMBER	OCA NUMBER	DATE
472-85393	707136	

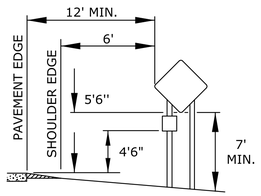
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
52 of 104

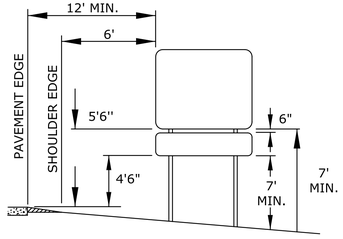
TR-106

Saved: 01-29-2018 5:57:40 PM by: CP
Plot: Scale - 1:1 01-29-2018 5:57:57 PM by: CP
U:\Wichita-Civil\2008\08313\003\Muni-Trons\Drawings\Standards\08313-003-TR-106 SIGN DETAIL

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	53	104

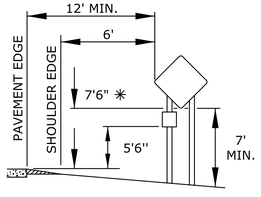


SHOULDER MOUNT



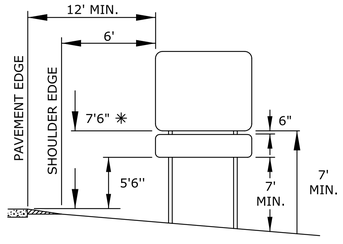
SHOULDER MOUNT

CONVENTIONAL ROADWAY



* - 8'6" WITH SECONDARY SIGN

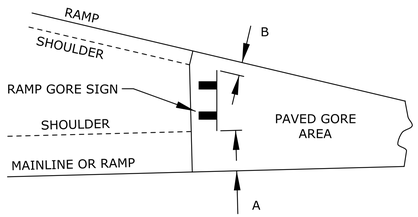
SHOULDER MOUNT



* - 8'6" WITH SECONDARY SIGN

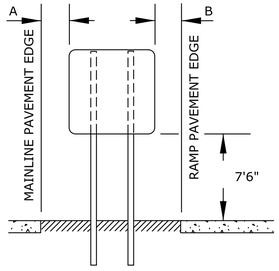
SHOULDER MOUNT

FREEWAY AND EXPRESSWAY ROADWAY
RAMPS AND SIDE ROADS

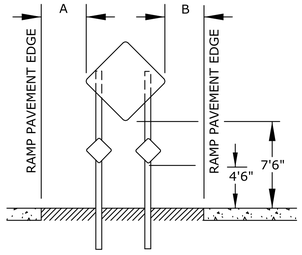


GORE TYPE	A (FT)	B (FT)
MAINLINE/ RAMP	6	3
RAMP/RAMP	3	3

(DIMENSIONS ARE MINIMUMS)



GORE INSTALLED SIGN
(MAINLINE/RAMP)

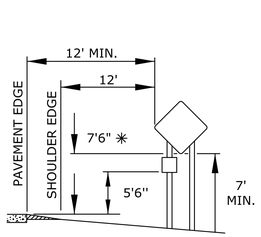


GORE INSTALLED SIGN
WITH TWO T1/OM'S
(RAMP/RAMP)

NOTES:
THE OUTER EDGE OF THE SIGN, ON EXPRESSWAYS AND FREEWAYS, SHALL BE A MINIMUM OF 10 FEET FROM THE RIGHT OF WAY LINE.
IN BUSINESS, COMMERCIAL, OR RESIDENTIAL DISTRICTS WHERE LATERAL OFFSETS ARE LIMITED, A MINIMUM LATERAL CLEARANCE OF 2 FEET WITH A 7'6" MINIMUM MOUNTING HEIGHT MAY BE USED.
WHEN SIGNS ARE MOUNTED BEHIND GUARD FENCE, THE NEAR EDGE OF THE SIGN SHALL NOT EXTEND BEYOND THE BACK SIDE OF THE GUARD FENCE AND THE NEAREST SIGN POST SHALL BE A MINIMUM OF 5 FEET FROM THE FACE OF THE GUARD FENCE. THERE SHALL NOT BE ANY SHOULDER MOUNTED SIGNS LOCATED BETWEEN 100 FEET IN ADVANCE OF AND 50 FEET BEYOND THE NOSE OF THE GUARD FENCE.
WHEN SIGNS ARE MOUNTED IN A MEDIAN, THE LATERAL PLACEMENT SHOULD BE THE SAME AS A SHOULDER MOUNT. IF THE MEDIAN IS TOO NARROW FOR THIS PLACEMENT THE SIGN MAY BE PLACED A MINIMUM OF 2 FEET FROM THE BACK OF THE CURB, BUT IN NO CASE SHALL THE SIGN EDGE EXTEND BEYOND THE BACK EDGE OF THE CURB. SIGNS LOCATED AT THE MEDIAN NOSE SHOULD BE SET THE SAME DISTANCE FROM THE BACK OF THE CURB AS THE RADIUS OF THE MEDIA NOSE, BUT SHOULD NOT EXCEED THE DISTANCE OF THE SHOULDER MOUNT OR BE CLOSER THAN 2 FEET FROM THE BACK OF THE CURB.

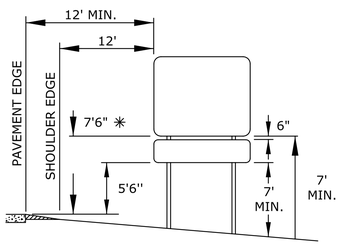
THE GORE SIGN SHALL BE INSTALLED IN THE FOOTING BLOCKOUT IN THE PAVED GORE AREA. IF NO BLOCKOUT IS PROVIDED, THEN LOCATE THE GORE SIGN AT THE PLAN STATION. THE EDGES OF THE GORE SIGN SHALL NOT EXTEND BEYOND THE SHOULDER EDGE. THE MINIMUM DISTANCE FROM THE POST CENTERLINE TO THE BACK EDGE OF THE PAVED GORE AREA IS 3 FEET.

ADJUSTMENTS:
SIGNS MAY BE MOVED LATERALLY OR LONGITUDINALLY IF IT WILL IMPROVE THE VISIBILITY OF THE SIGN OR OTHER SIGNS AND IF IT WILL PROTECT THE SIGN MORE.
THE MAXIMUM ALLOWABLE LONGITUDINAL ADJUSTMENTS OF SIGNS ARE:
ADVANCE GUIDE - 1320 FEET
SUPPLEMENTAL GUIDE - 1320 FEET
MOTORIST SERVICE - 1320 FEET
EXIT DIRECTION - 100 FEET
MILEAGE - 2640 FEET
MERGE OR ANY SIGNS IN AN INTERCHANGE - 50 FEET
MILEPOST - 50 FEET
IF ANY SIGN WITH A DISTANCE IS LONGITUDINALLY ADJUSTED, THE DISTANCE TO THE DESTINATION SHALL BE CHECKED AND MODIFIED AS NEEDED.
THE MINIMUM SPACING BETWEEN GUIDE SIGNS ON AN EXPRESSWAY OR FREEWAY IS 800 FEET.
THE MINIMUM SPACING BETWEEN SIGNS ON A RAMP OR CONVENTIONAL ROADWAY IS 100 FEET.



* - 8'6" WITH SECONDARY SIGN

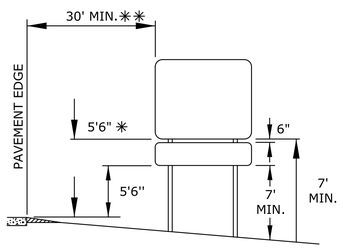
SHOULDER MOUNT



* - 8'6" WITH SECONDARY SIGN

SHOULDER MOUNT

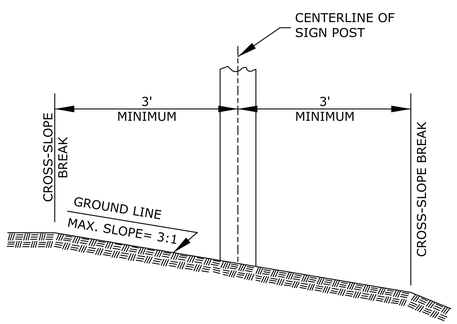
FREEWAY AND EXPRESSWAY ROADWAY



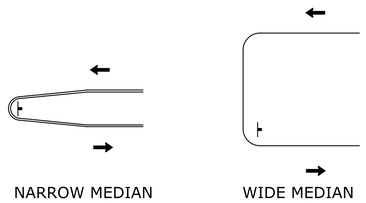
* - 8'6" WITH SECONDARY SIGN
** - 60' MAX.

OFFSET MOUNT

FREEWAY AND EXPRESSWAY ROADWAY

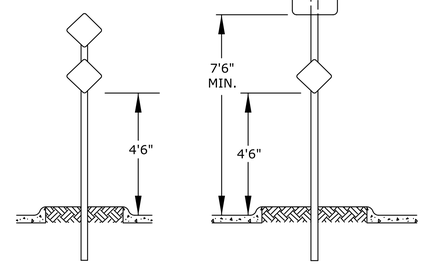


POST PLACEMENT CRITERIA
(CROSS-SLOPE BREAK)



NARROW MEDIAN WIDE MEDIAN

TYPICAL MEDIAN SIGN LOCATION



ONE OR TWO OM1-3 PRIMARY SIGN WITH OM1-3

NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

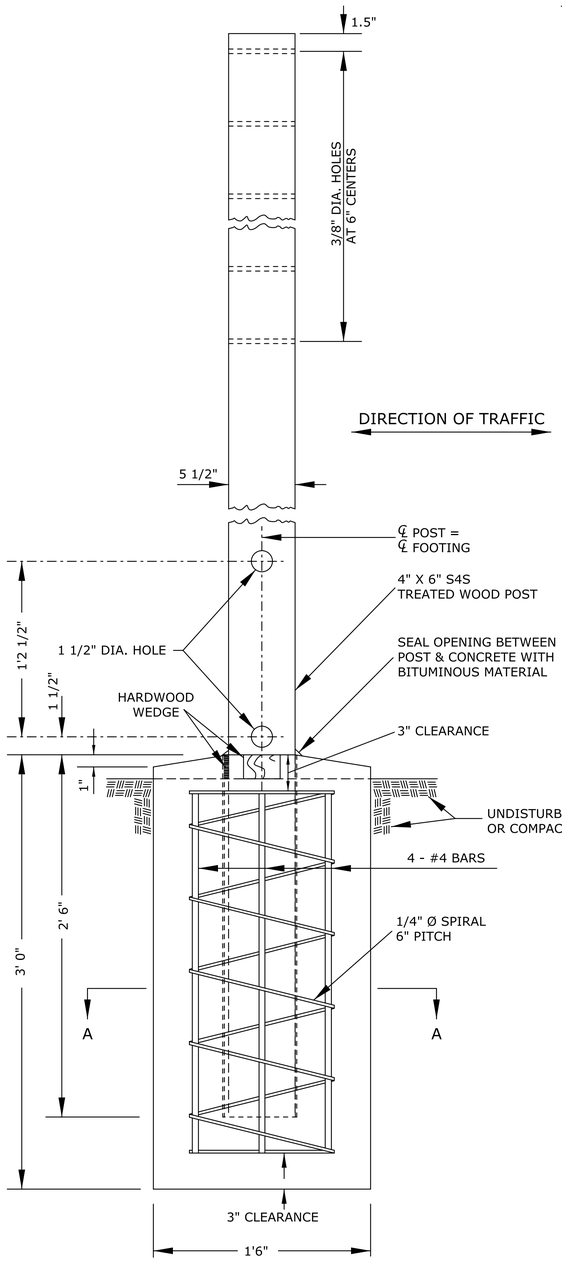
DETAILS FOR MOUNTING HEIGHTS LATERAL OFFSETS AND LONGITUDINAL ADJUSTMENTS

TE406 7/1/03

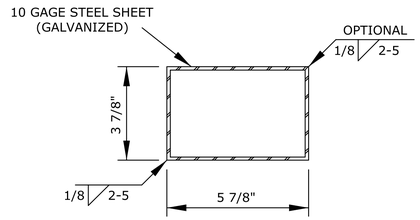
FHWA APPROVAL			7/22/2003	APP'D	Steven A. Buckley		
DESIGNED	D.D.G.	DETAILED	W.S.B.	QUANTITIES		TRACED	
DESIGN CK.	S.A.B.	DETAIL CK.	D.D.G.	QUAN. CK.		TRACE CK.	

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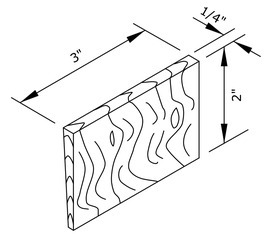
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	54	104



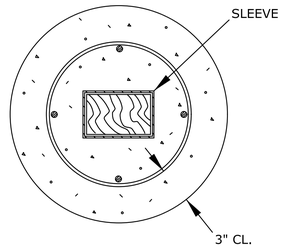
SIDE ELEVATION



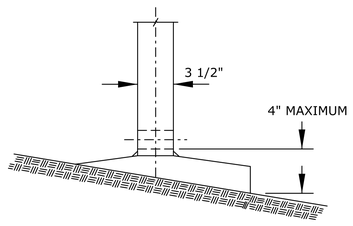
SECTION THRU SLEEVE



HARDWOOD WEDGE



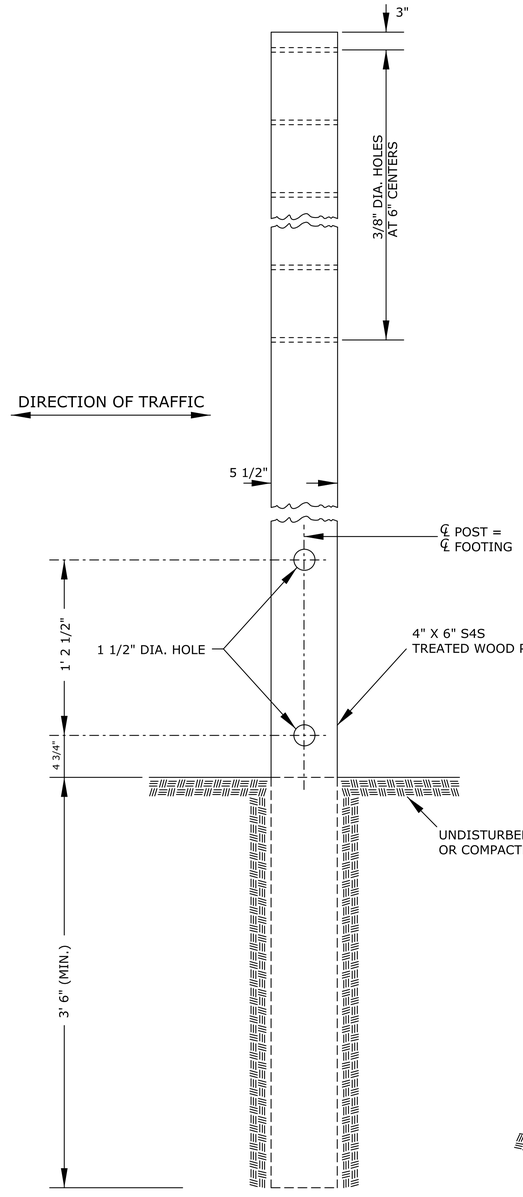
SECTION A-A



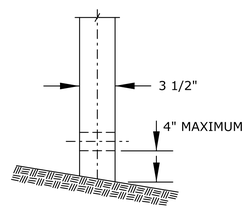
FRONT ELEVATION

NOTE:
COMMERCIAL GRADE CONCRETE MAY BE SUBSTITUTED FOR GRADE 25 CONCRETE FOR SIGN SUPPORT FOOTINGS.

WOOD POST IN CONCRETE FOOTING



SIDE ELEVATION



FRONT ELEVATION

WOOD POST IN SOIL

GENERAL NOTES

DESIGN CONFORMS WITH ASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 2002". FOUNDATION DESIGN CONFORMS WITH "DESIGN PROCEDURE COMPARED TO FULL-SCALE TESTS OF DRILLED SHAFT FOOTINGS", TEXAS TRANSPORTATION INSTITUTE, FEBRUARY 1970.

THE POST SLEEVE SHALL BE FORMED FROM STEEL SHEET WHICH WAS PRODUCED TO MEET THE REQUIREMENTS OF ASTM A653M AND ZINC COATED TO MEET THE REQUIREMENTS OF COATING DESIGNATION A123. IT IS PERMISSIBLE TO CLOSE THE BOTTOM OF THE SLEEVE WITH A METAL PLATE. BASIS OF ACCEPTANCE SHALL BE VISUAL INSPECTION OF THE FINISHED SLEEVE AND DETERMINATION OF ZINC THICKNESS BY MAGNETIC GAGE.

ALL SIGN MOUNTING HOLES IN THE WOOD POSTS SHALL BE DRILLED PRIOR TO TREATING.

BREAKAWAY HOLES AND FIELD CUTS SHALL BE TREATED IN ACCORDANCE WITH THE PRESERVATIVE TREATMENT SPECIFICATIONS.

PRIOR TO SEALING THE OPENING BETWEEN THE WOOD POST AND THE TOP OF THE CONCRETE FOOTING, PLACE TWO HARDWOOD WEDGES INTO THE OPENING ON TWO ADJACENT SIDES OF POST AND FORCE DOWN TO WITHIN 3/8" OF TOP OF FOOTING.

NOTE TO THE ENGINEER:
THE INTENT OF THE "ROADSIDE DESIGN GUIDE" AND THESE PLANS IS TO HAVE A 4" OR LESS PROJECTION ABOVE THE GROUND LINE AFTER IMPACT.

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.

NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

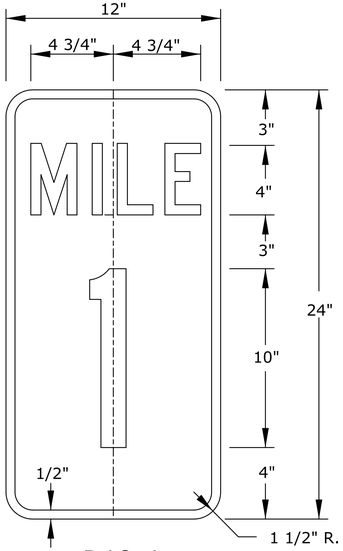
DETAILS FOR WOOD POSTS

TE460 7/1/03

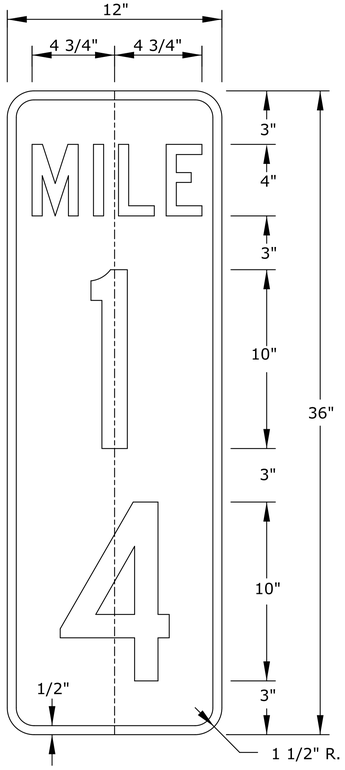
FHWA APPROVAL			7/22/2003	APP'D	Steven A. Buckley		
DESIGNED	D.D.G.	DETAILED	A.A.D.	QUANTITIES		TRACED	
DESIGN CK.	S.A.B.	DETAIL CK.	D.D.G.	QUAN. CK.		TRACE CK.	

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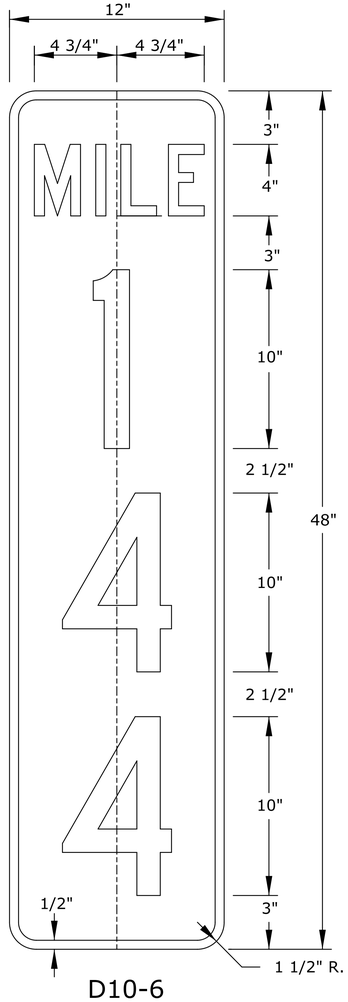
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	55	104



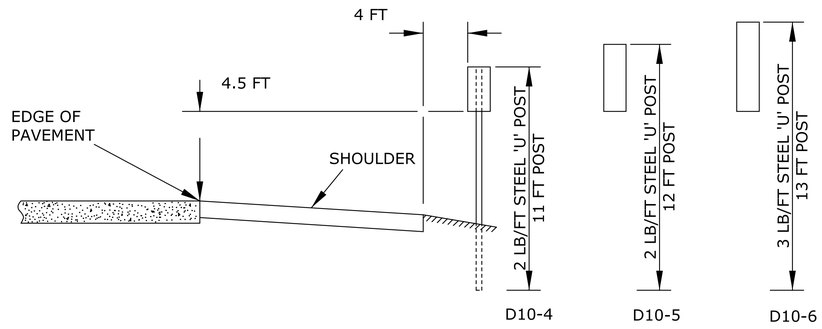
D10-4
12" X 24"



D10-5
12" X 36"



D10-6
12" X 48"



D10-4 D10-5 D10-6

MOUNTING HEIGHT, OFFSET, & POST LENGTHS

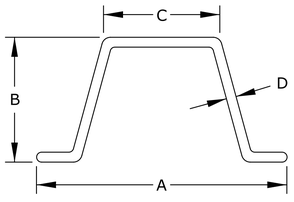
MILEPOST NUMBER	STATION	LT.	RT.

* STATION ADJUSTED.

GENERAL NOTES:
COLORS:
LEGEND AND BORDER - WHITE (REFLECTIVE)
BACKGROUND - GREEN (REFLECTIVE)

ALL LEGEND SHALL BE SERIES 'C'.
THE NUMERALS SHALL BE OPTICALLY CENTERED ABOUT THE VERTICAL CENTERLINE.
THE LONGITUDINAL ADJUSTMENT OF THE MILEPOST SIGN FROM THE PLAN STATION SHALL NOT EXCEED 50 FT.
MILEPOST SIGNS SHALL BE ELIMINATED IF THE SIGN CANNOT BE INSTALLED AT A PLAN STATION SHOWN AS ADJUSTED.
WHEN THE MILEPOST SIGN IS INSTALLED BEHIND GUARD FENCE, THE POST SHALL NOT BE LOCATED CLOSER THAN 5 FT FROM THE FACE OF THE GUARD FENCE.
MILEPOST SIGNS LOCATED BETWEEN 100 FT IN ADVANCE OF AND 50 FT BEYOND THE NOSE OF THE GUARD FENCE SHALL BE ELIMINATED.

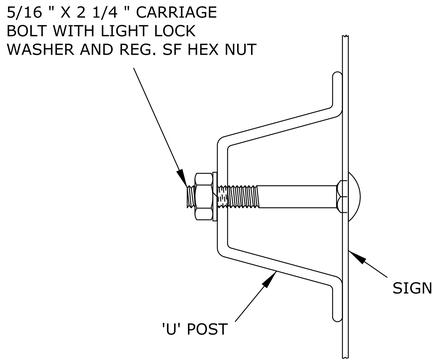
MILE POST SIGN SHALL CONFORM TO THE LATEST EDITION OF STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION BY THE KANSAS DEPARTMENT OF TRANSPORTATION.



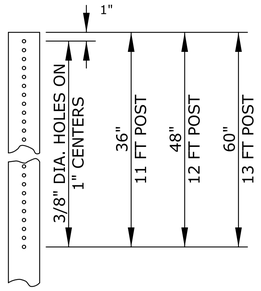
DIM.	2 LB/FT	3 LB/FT
A	3 1/8	3 1/2
B	1 17/32	1 3/4
C	1 1/4	1 5/8
D	1/8	9/64

(DIMENSIONS ARE NOMINAL)
(IN)

'U' POST DIMENSION DETAILS



'U' POST MOUNTING DETAILS



'U' POST
PUNCHING DETAILS

ALL DIMENSIONS ARE IN INCHES.

NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

PROCESSED SIGN DETAILS DESIGN, MOUNTING, & POSITIONING OF MILEPOST (D10-4, 5 & 6) SIGN

~~TE52I~~ 7/1/03

FHWA APPROVAL			7/22/2003	APP'D	Steven A. Buckley		
DESIGNED	D.D.G.	DETAILED	B.A.H.	QUANTITIES		TRACED	
DESIGN CK.	D.D.G.	DETAIL CK.	D.D.G.	QUAN. CK.		TRACE CK.	

Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-te521.dgn
Plotted : 31-JAN-2018 15:17

GENERAL NOTES

THE SEQUENCE SHOWN IS INTENDED AS A GUIDE FOR MAJOR ITEMS ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL MINOR ITEMS. VARIATIONS TO THE SEQUENCE SHOWN MAY BE USED AS APPROVED BY THE ENGINEER. REGARDLESS OF THE SEQUENCE USED, TRAFFIC HANDLING SHALL BE ESSENTIALLY IN ACCORDANCE WITH THAT SHOWN. PART OF THE WORK SHOWN FOR A SPECIFIC STAGE MAY BE ACCOMPLISHED IN OTHER STAGES. MAJOR WORK NOT CONSTRUCTED WITHIN THE INDICATED STAGE SHALL BE APPROVED BY THE ENGINEER. TRAFFIC CONTROL FOR CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS (LATEST EDITION).

TEMPORARY PAVEMENT SHALL BE AC TEMPORARY PAVEMENT 6". THIS BID ITEM SHALL INCLUDE CONSTRUCTION OF PAVEMENT INCLUDING SUBGRADE PREPARATION, AC PLACEMENT, ALL COSTS INCURRED TO PROPERLY MAINTAIN THE TEMPORARY PAVEMENT WHILE IN USE, REMOVAL AND DISPOSAL OF TEMPORARY PAVEMENT WHEN NO LONGER NEEDED.

ADDITIONAL SIGNS, BARRICADES, AND ANY OTHER TRAFFIC CONTROL DEVICES NOT SHOWN ON THE PLANS WHICH MAY BE DEEMED NECESSARY BY THE ENGINEER FOR TRAFFIC CONTROL DURING CONSTRUCTION WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE SUBSIDIARY TO THE CONTRACT LUMP SUM PRICE BID FOR "TRAFFIC CONTROL".

THE CONTRACTOR SHALL PROVIDE ALL WEATHER ACCESS DRIVES TO ALL PROPERTIES ADJACENT TO THE PROJECT. ALL COSTS ASSOCIATED WITH PROVIDING ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE BID FOR "TRAFFIC CONTROL".

STAGE	MAJOR CONSTRUCTION ITEMS	HANDLING OF TRAFFIC	REMARKS
1	Construct Westbound US-54 HWY median shoulder improvements between Sta. 585+31.50 and Sta. 601+34 Perform traffic signal modifications at 119th St.	1-Lane, Westbound traffic on US-54 HWY	The Contractor shall focus efforts towards completing the roadway work on US-54 HWY to minimize lane closures.
2	Construct US-54 HWY Westbound auxilliary lane from Sta. 582+03.25 to Sta. 599+88.25 Construct U-Turn pavement improvements at 119th St. West Construct Ramp A / US-54 North Frontage Road improvements from Sta. 595+65 to Sta. 604+53.49	2-lane, Westbound traffic on US-54 HWY. Maintain 2-way traffic on 111th St. West	The Contractor shall focus efforts towards completing the roadway work on US-54 HWY to minimize traffic impacts.
3	Construct US-54 HWY Left-Turn lane extension at 119th St. Construct 111th St. & North Fr. Rd. intersection improvments	2-lane, Westbound traffic on US-54 HWY. Maintain 2-way traffic on 111th St. West 1-Lane, Westbound traffic on North Fr. Rd.	The Contractor shall focus efforts towards completing the roadway work on US-54 HWY to minimize traffic impacts.
4	111th St. West signal shutdown	Temporarily close 111th St. West access to US-54 HWY	Begin 6 month "Test Period"
5	Remove 111th St. West Traffic Signal Install permanent median concrete safety barrier on US-54 HWY	2-lane, 2-way traffic on US-54 HWY.	The Contractor shall focus efforts towards completing the roadway work on US-54 HWY to minimize traffic impacts.
6	Install curb & gutter on Westbound US-54, and North & South Frontage Roads at 111th St. West	1-lane, 1-way traffic on Frontage Roads	

No.	Revision	By	Date

111th St. West Signal Removal

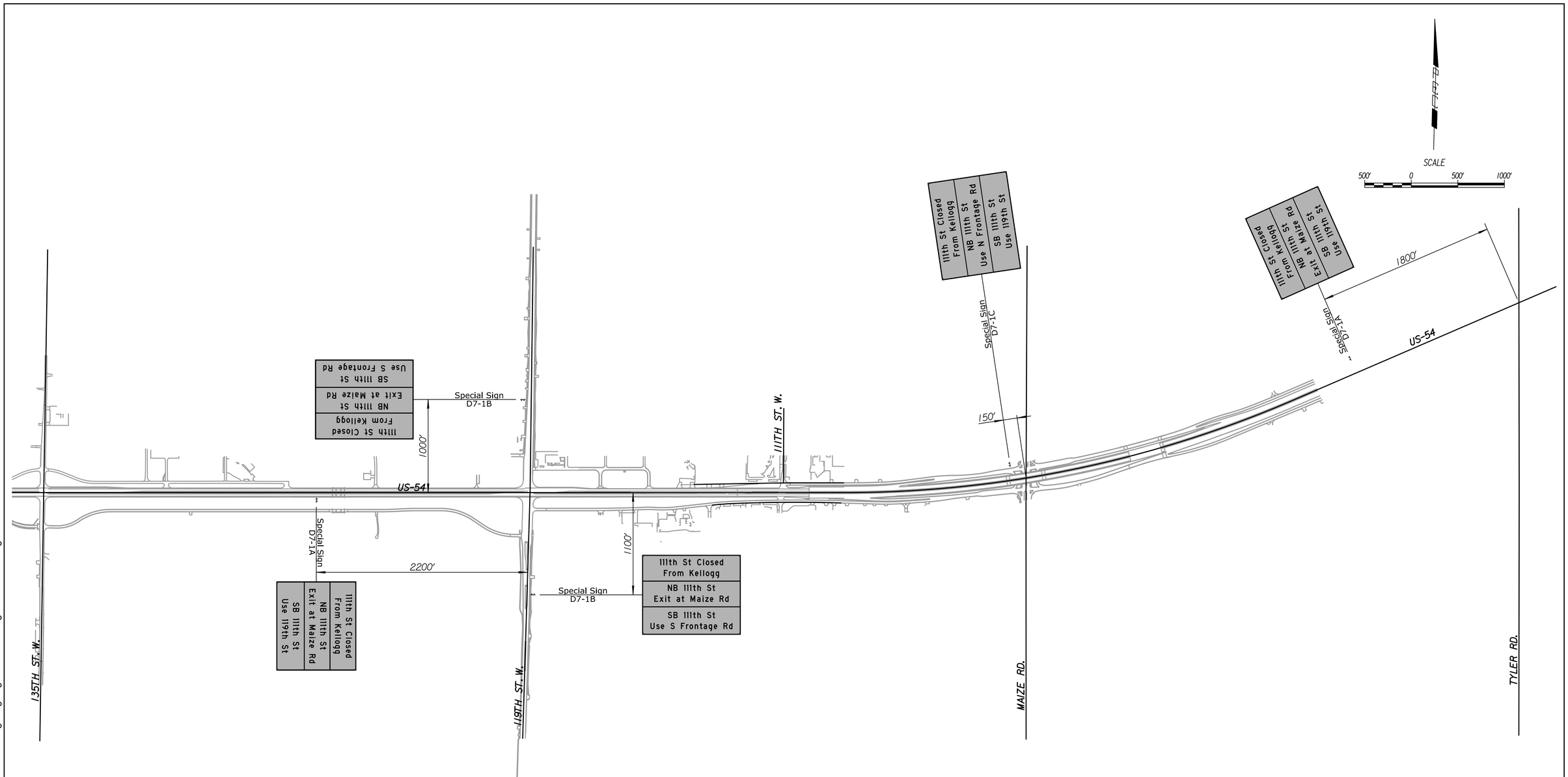
TRAFFIC HANDLING AND CONSTRUCTION SEQUENCE

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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Designed by	CKC	Job No.	08313-003	Sht. 56 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/30/2018 10:48:25 AM
FILE: U:\Wichita-civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-ConstSeq.dgn



See Sh. No. 76 for Sign Layouts.

No.	Revision	By	Date

111th St. West Signal Removal

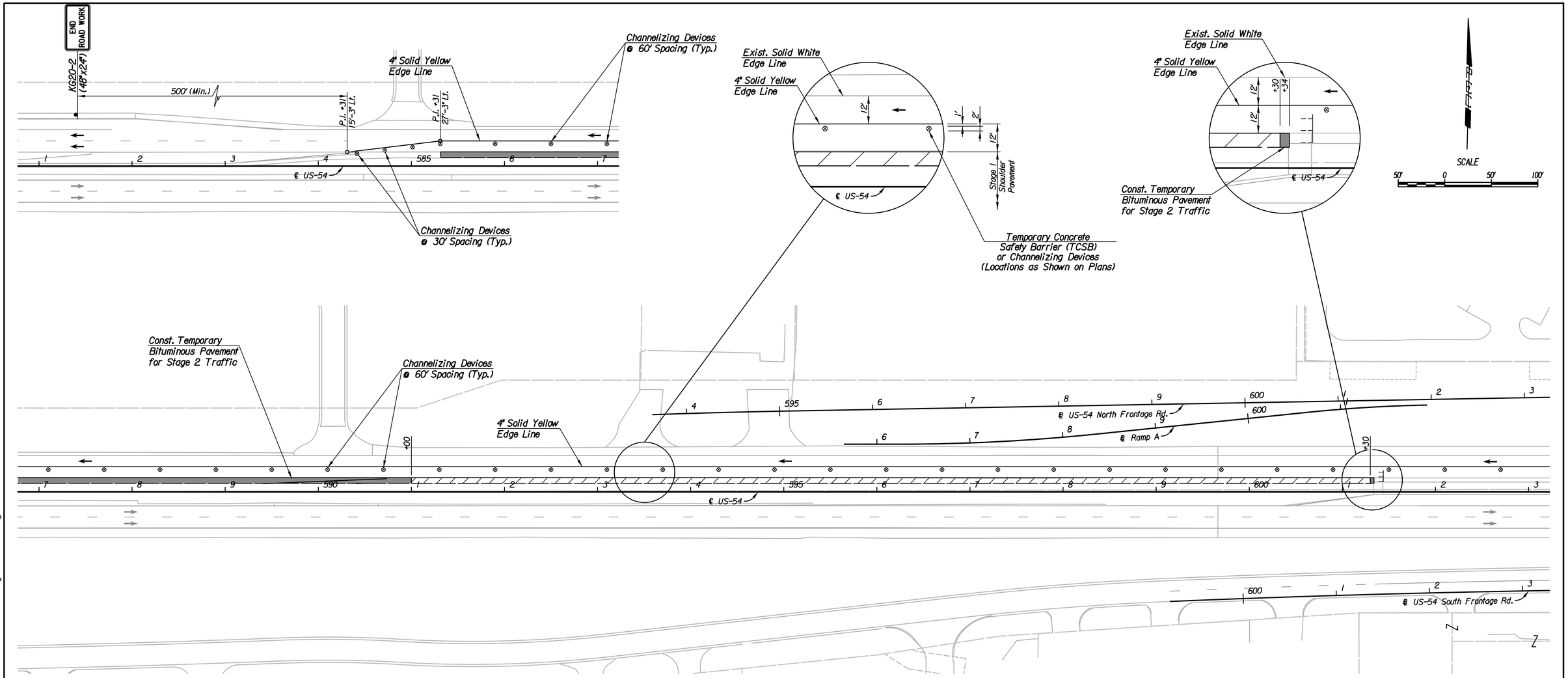
ADVANCED SIGNING PLAN

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Designed by CKC	Job No. 08313-003	57 of 104
Drawn by CP	Date Jan., 2018	

Drawn By : cp
Plotted : 29-JAN-2018 17:21
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Signing\08313-003-Sign Detour Plan.dgn



LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Temporary Bituminous Pavement
- Work Area (New Pavement)
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

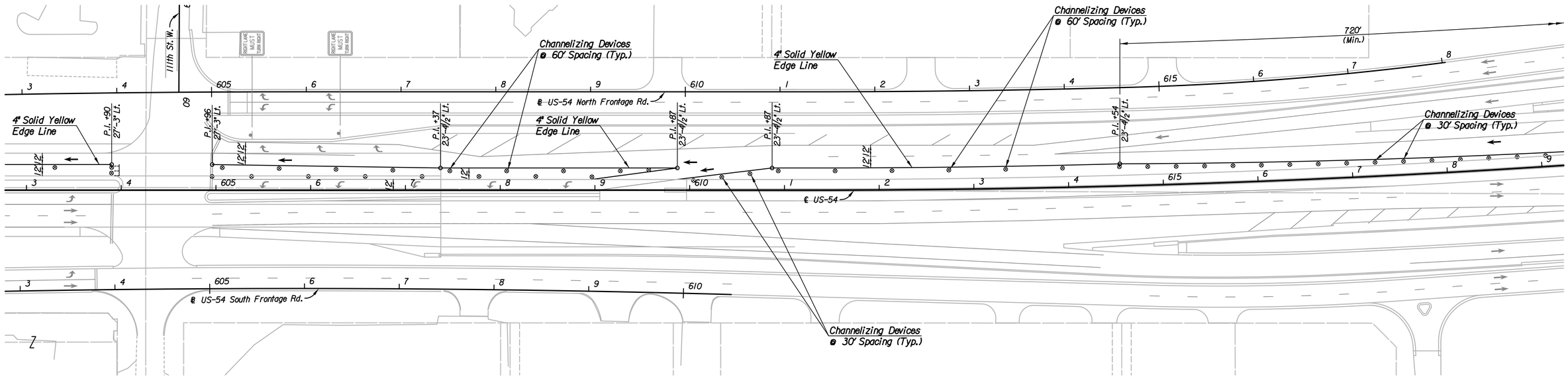
TRAFFIC CONTROL PLAN
STAGE I- STA. 581+00 TO STA. 603+00

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Designed by	CKC	Job No.	08313-003	Sht. 58 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:39 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 1Sta. 581.dgn



LEGEND

- ⊕ *Channelizing Device at 60' Spacing unless otherwise Noted.*
- ● *Traffic Control Sign*
- → *Direction of Traffic*

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

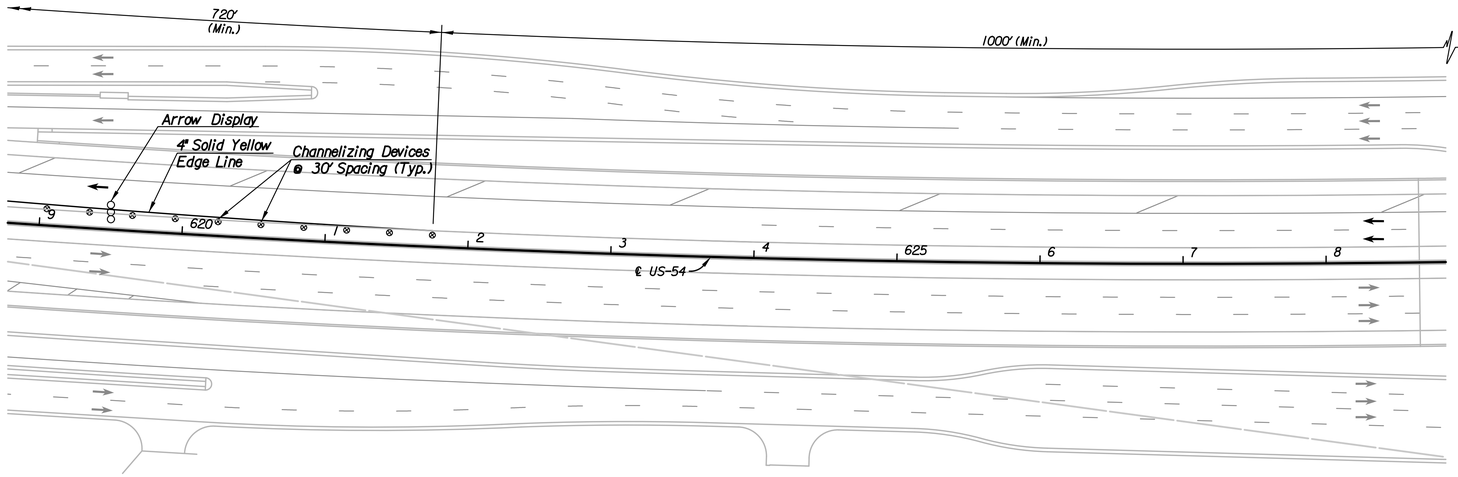
TRAFFIC CONTROL PLAN
STAGE 1- STA. 603+00 TO STA. 619+00

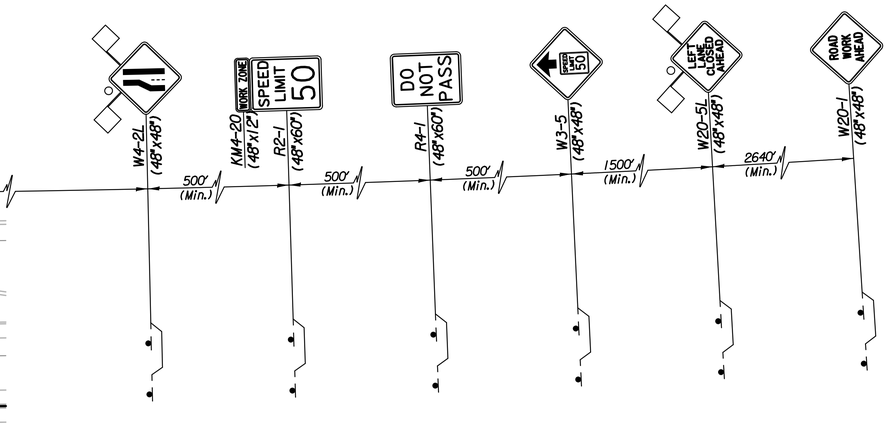
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

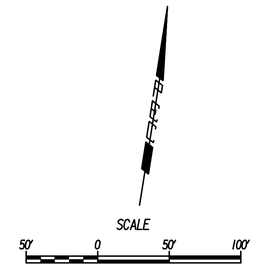
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Designed by	CKC	Job No.	08313-003	Sht. 59 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:39 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 1Sta. 603.dgn







LEGEND

- ⊕ Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- ○ Yellow Type "A" Low Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- → Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

TRAFFIC CONTROL PLAN
STAGE 1- STA. 619+00 TO STA. 628+00

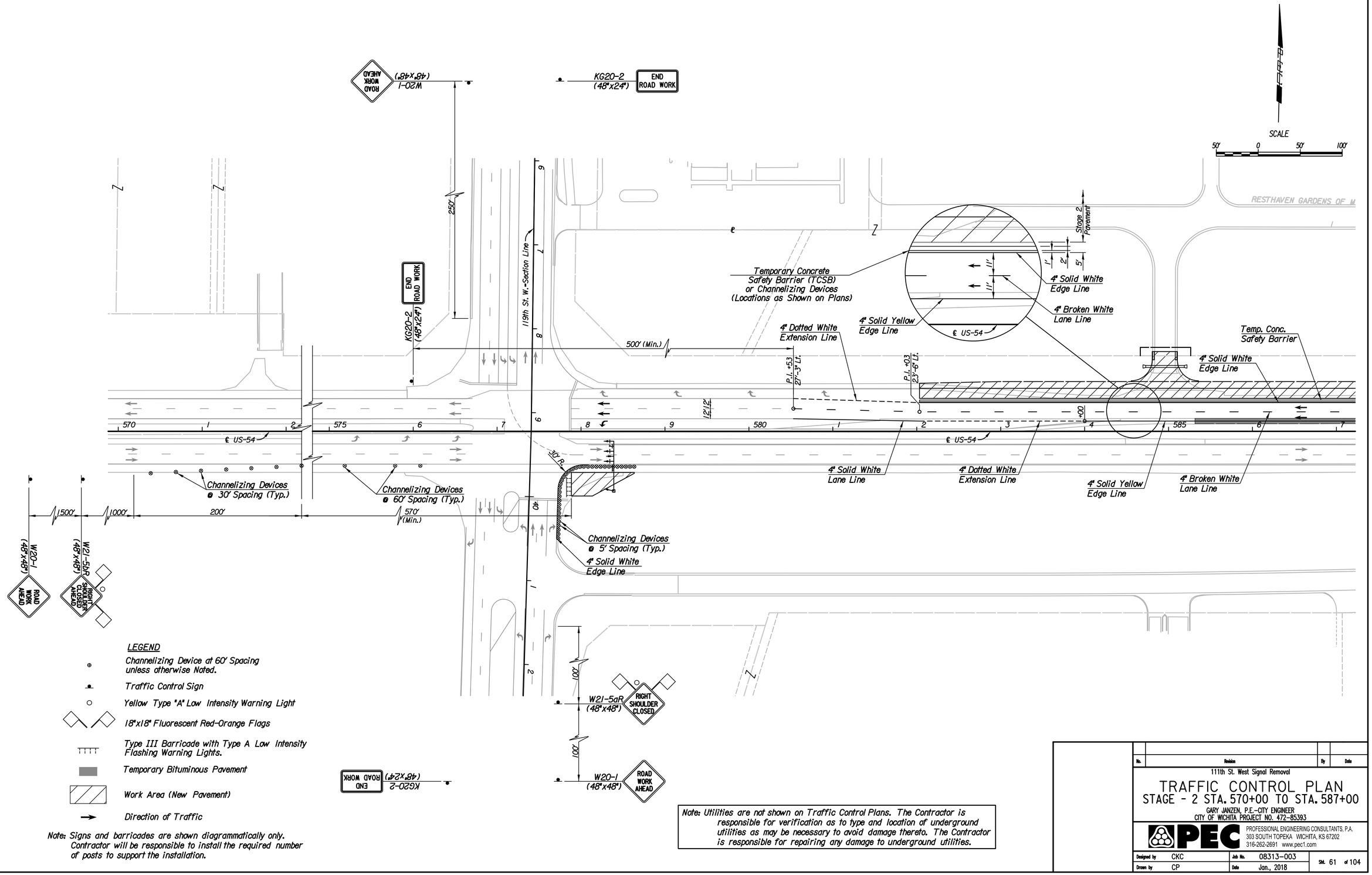
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CITY OF WICHITA PROJECT NO. 472-85393

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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 60 of 104

Plotted By: cp Date: 1/29/2018 5:28:40 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 1Sta. 619.dgn



LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Yellow Type "A" Low Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Temporary Bituminous Pavement
- Work Area (New Pavement)
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

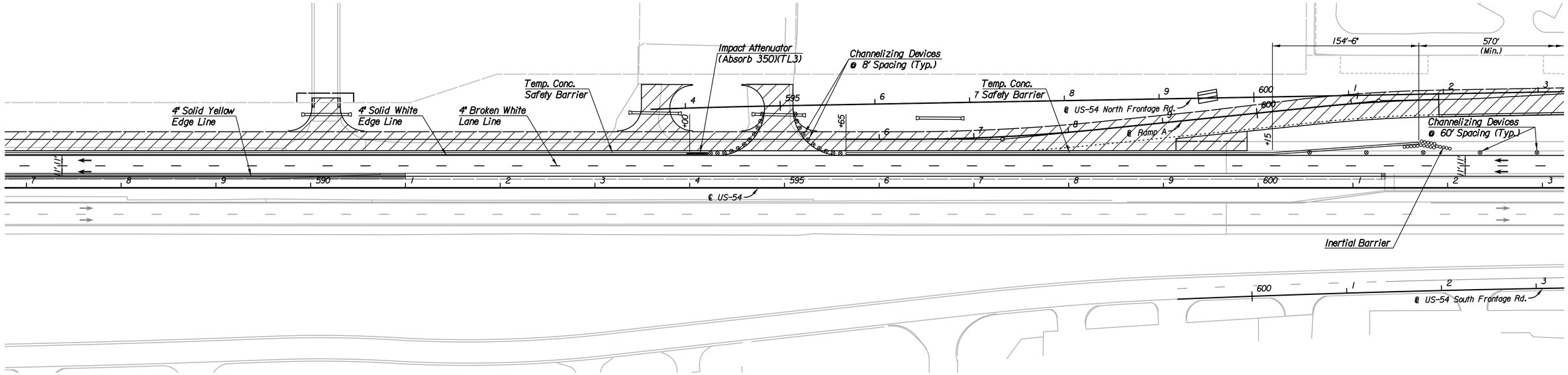
TRAFFIC CONTROL PLAN
STAGE - 2 STA. 570+00 TO STA. 587+00

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Designed by	CKC	Job No.	08313-003	Sht. 61 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:40 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 2 Sta. 570.dgn



SCALE
50' 0 50' 100'

LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Temporary Bituminous Pavement
- Work Area (New Pavement)
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Unless closure is permitted, maintain all weather access to adjacent properties at all times during construction. Moving temporary concrete safety barrier, channelizing devices, signs, and additional traffic control may be necessary to construct side roads and entrances. This work shall be considered Subsidiary.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

TRAFFIC CONTROL PLAN
STAGE 2 - STA. 587+00 TO STA. 603+00

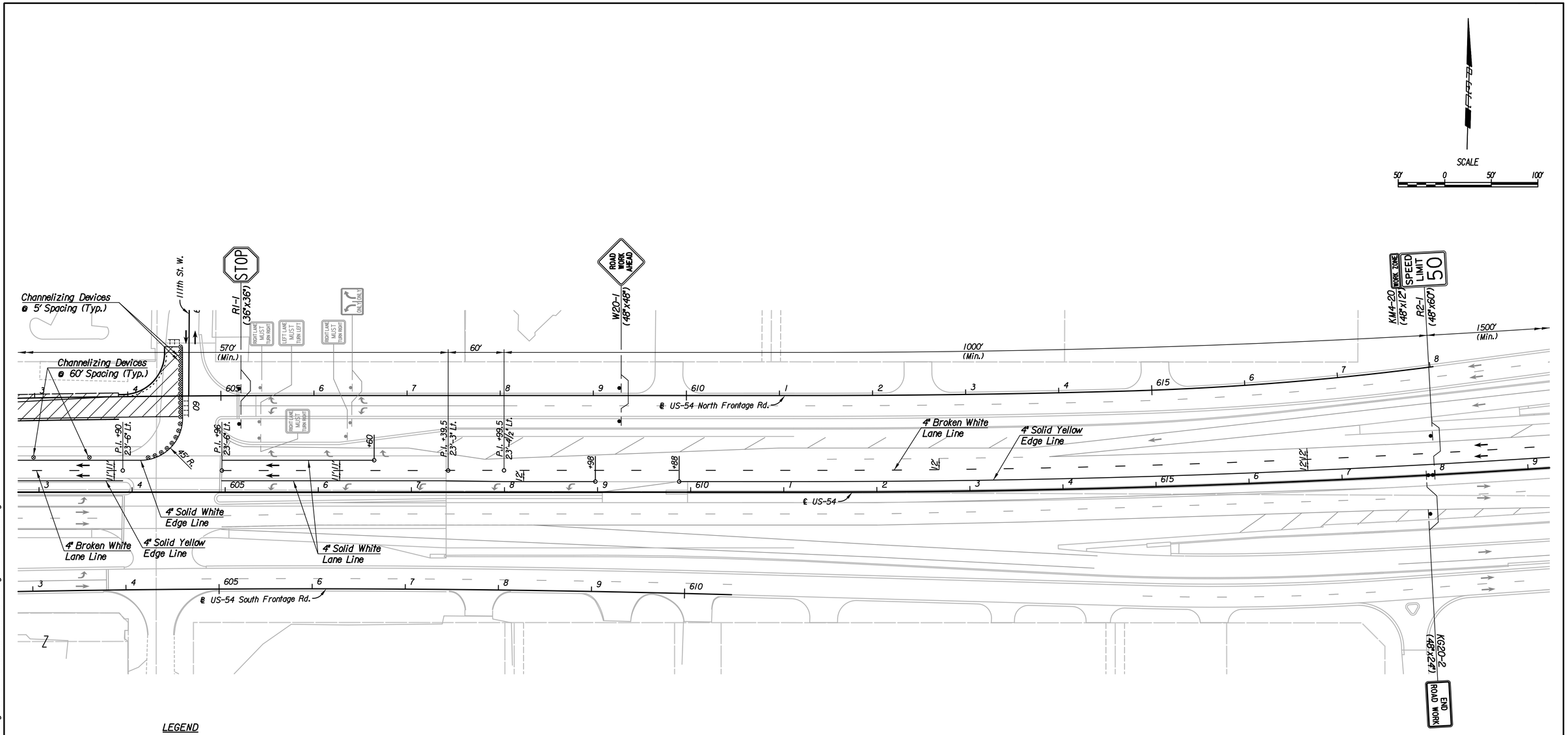
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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 62 of 104

Plotted By: cp Date: 1/29/2018 5:28:41PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 2 Sta. 587.dgn



LEGEND

- ⊕ — *Channelizing Device at 60' Spacing unless otherwise Noted.*
- ● — *Traffic Control Sign*
- *Type III Barricade with Type A Low Intensity Flashing Warning Lights.*
- *Work Area (New Pavement)*
- → — *Direction of Traffic*

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

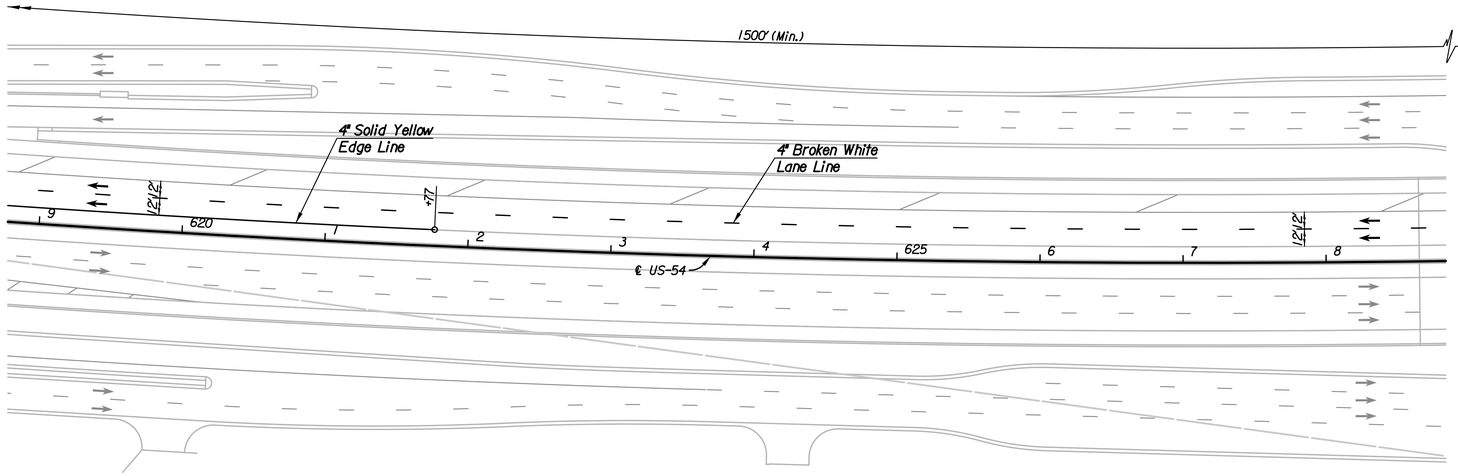
TRAFFIC CONTROL PLAN
STAGE 2 - STA. 603+00 TO STA. 619+00

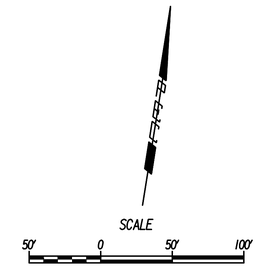
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Designed by	CKC	Job No.	08313-003	Sht. 63 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:41PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 2 Sta. 603.dgn





LEGEND

⊕ *Channelizing Device at 60' Spacing unless otherwise Noted.*

Traffic Control Sign

Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

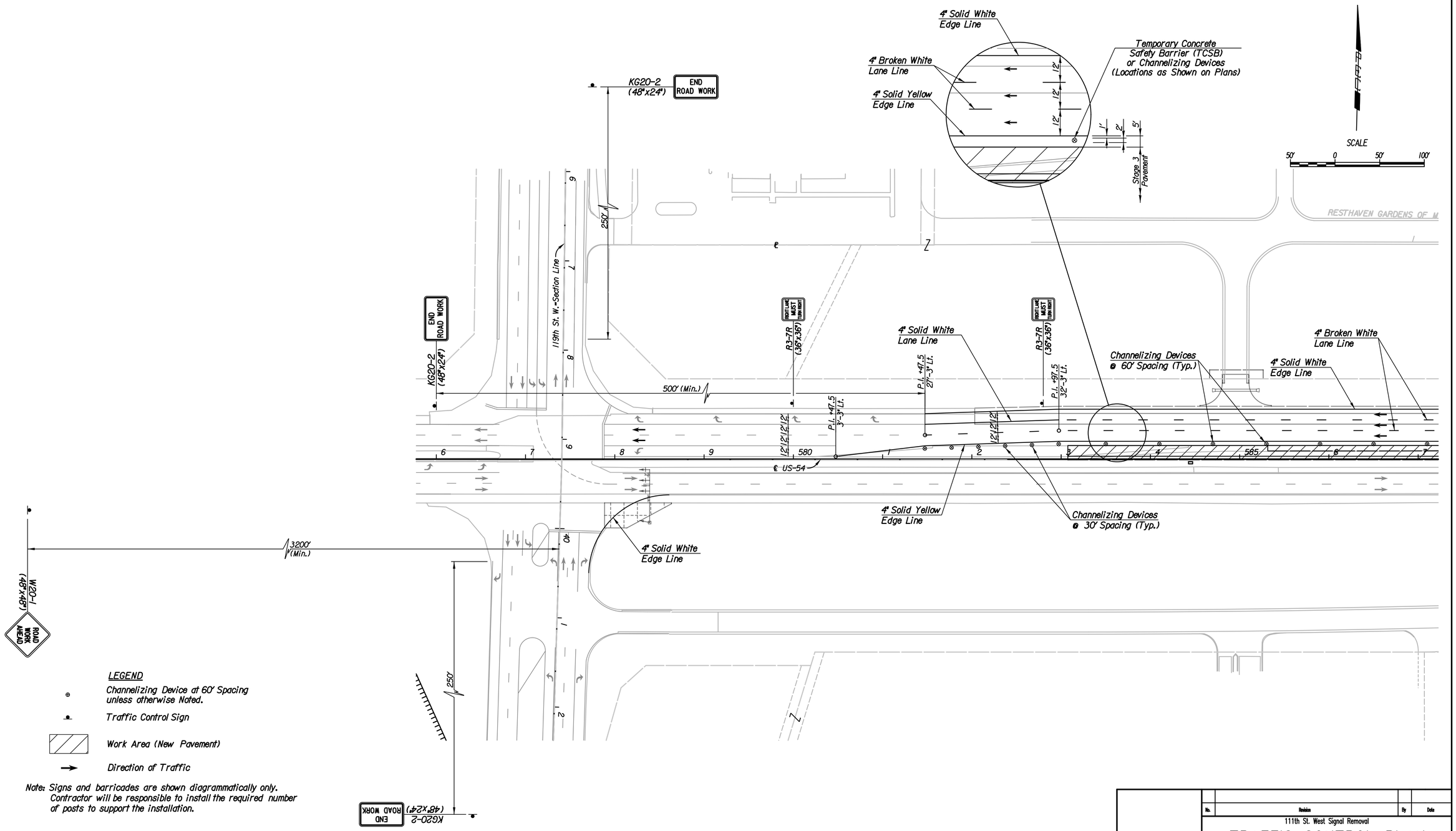
TRAFFIC CONTROL PLAN
STAGE 2 - STA. 619+00 TO STA. 628+00

GARY JANZEN, P.E.-CITY ENGINEER
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Designed by	CKC	Job No.	08313-003	Sht. 64 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:42 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 2 Sta. 619.dgn



Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

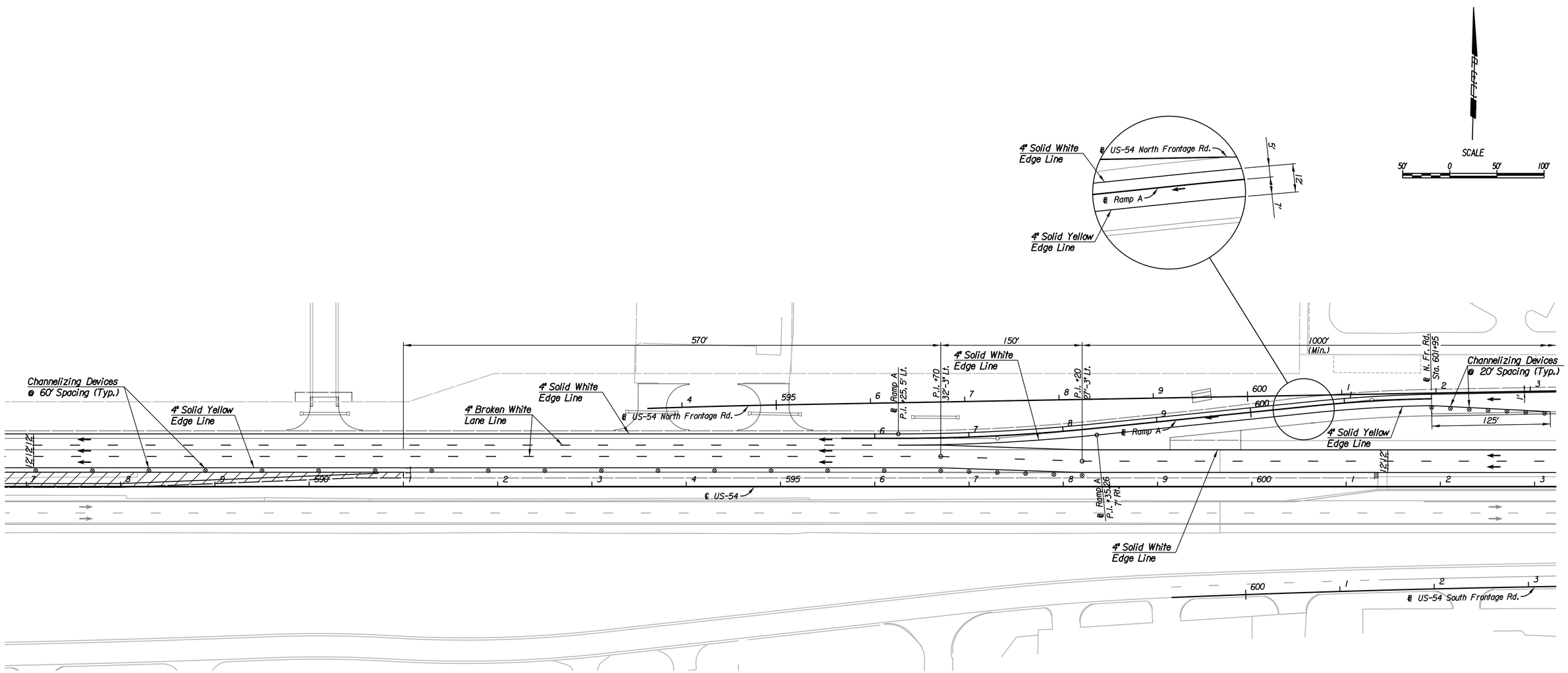
TRAFFIC CONTROL PLAN
STAGE - 3 STA. 576+00 TO STA. 587+00

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Designed by	CKC	Job No.	08313-003	Sht. 65 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:42 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 3 Sta. 576.dgn



LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Temporary Bituminous Pavement
- Work Area (New Pavement)
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

TRAFFIC CONTROL PLAN
STAGE 3 - STA. 587+00 TO STA. 603+00

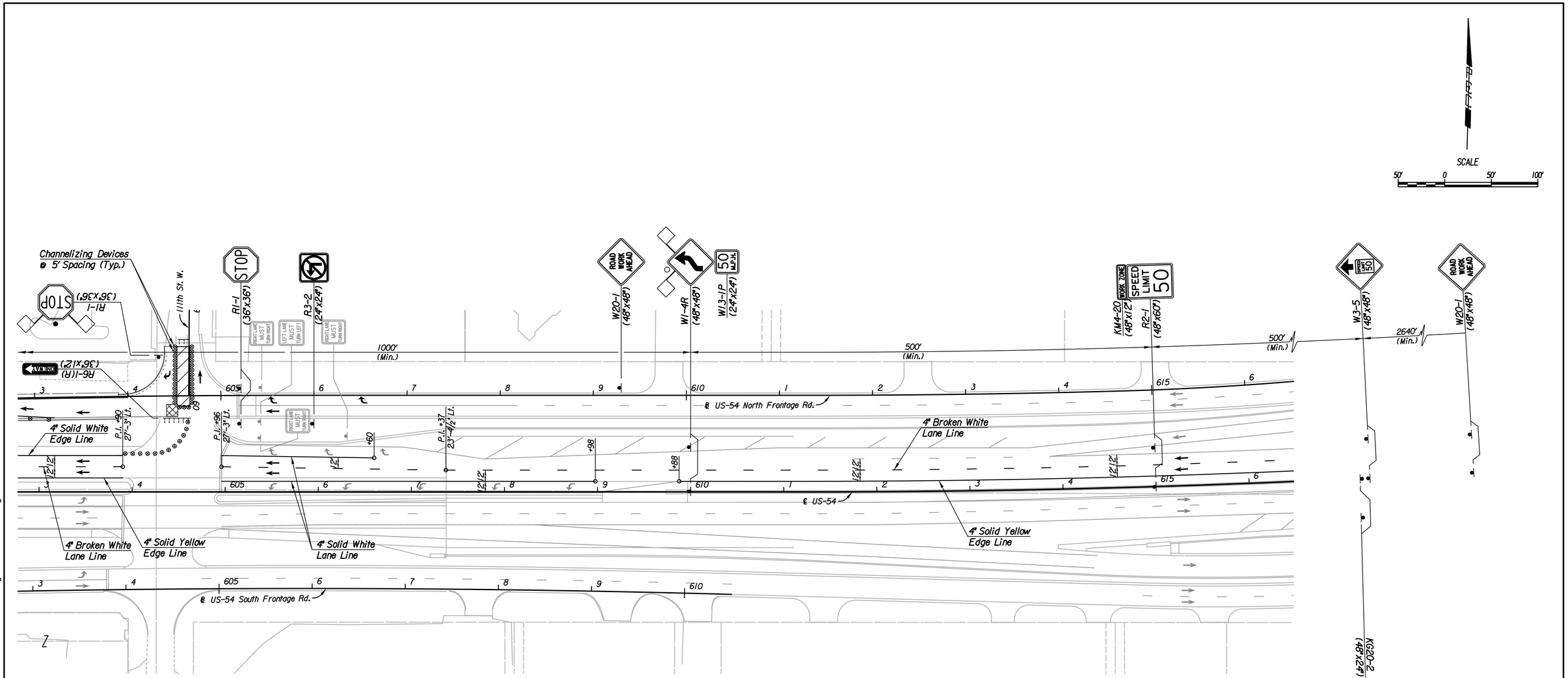
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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 66 of 104

Plotted By: cp Date: 1/29/2018 5:28:43 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 3 Sta. 587.dgn



SCALE
50' 0 50' 100'

LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Yellow Type "A" Low Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Work Area (New Pavement)
- Temporary Bituminous Pavement from Existing Pavement to New Pavement
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

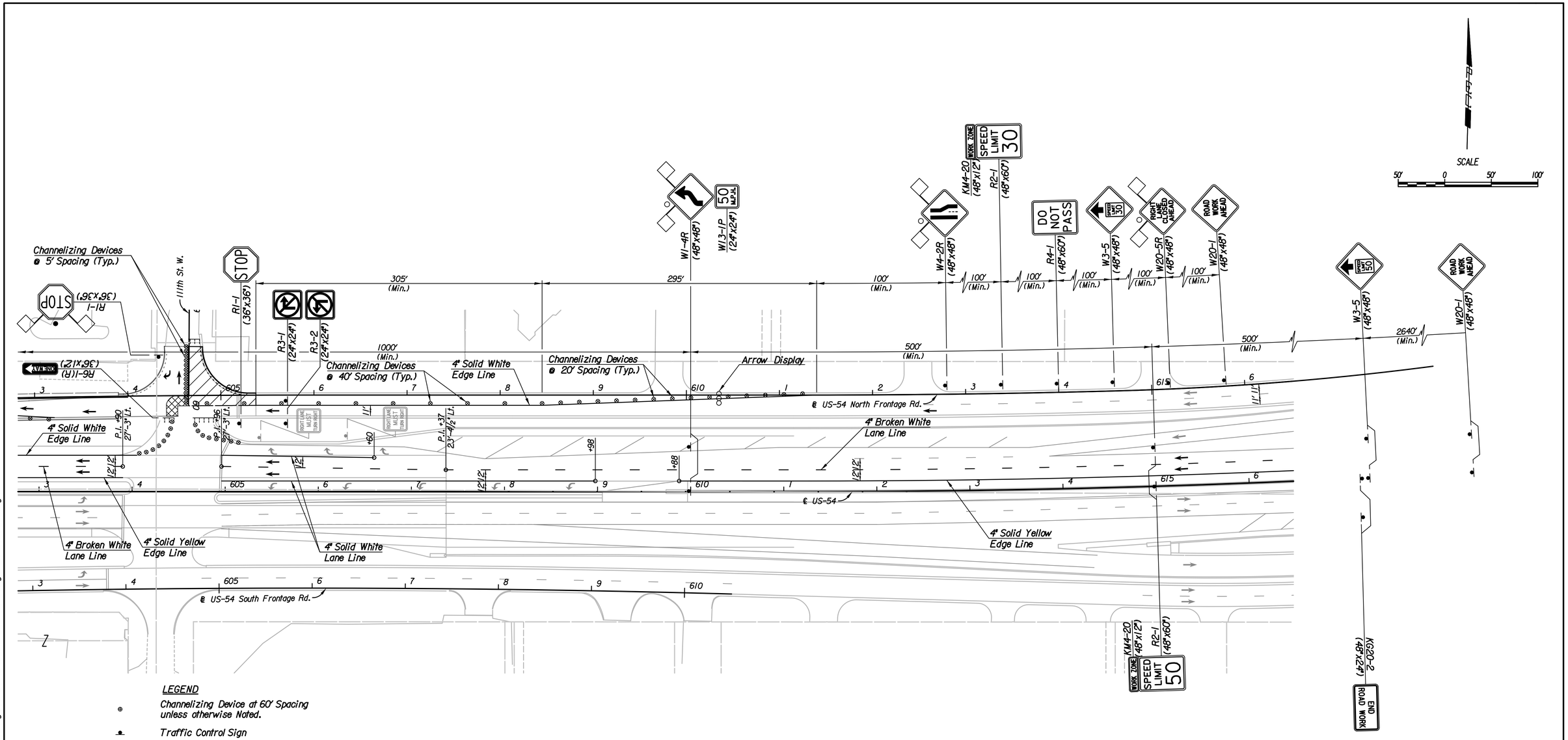
TRAFFIC CONTROL PLAN
3A - STA. 603+00 TO STA. 619+00

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Designed by	CKC	Job No.	08313-003	Sht. 67 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:43 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 3A Sta. 603.dgn



LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Yellow Type "A" Low Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Work Area (New Pavement)
- Temporary Bituminous Pavement from Existing Pavement to New Pavement
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

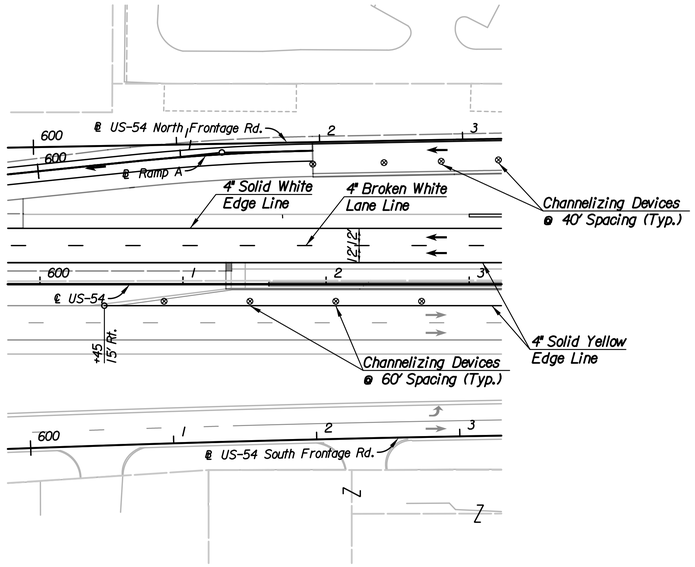
TRAFFIC CONTROL PLAN
STAGE 3B - STA. 603+00 TO STA. 619+00

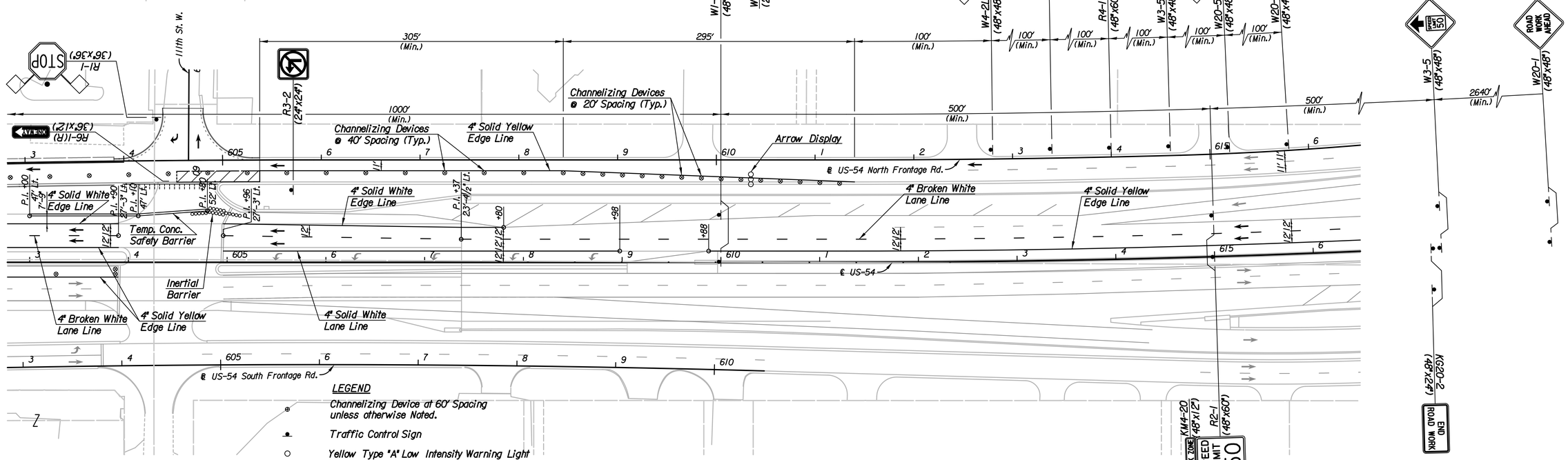
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

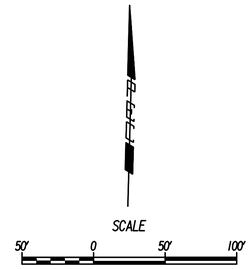
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Designed by	CKC	Job No.	08313-003	Sht. 68 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:44 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 3B Sta. 603.dgn







LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Yellow Type "A" Low Intensity Warning Light
- Red Type "B" High Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Work Area (New Pavement)
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

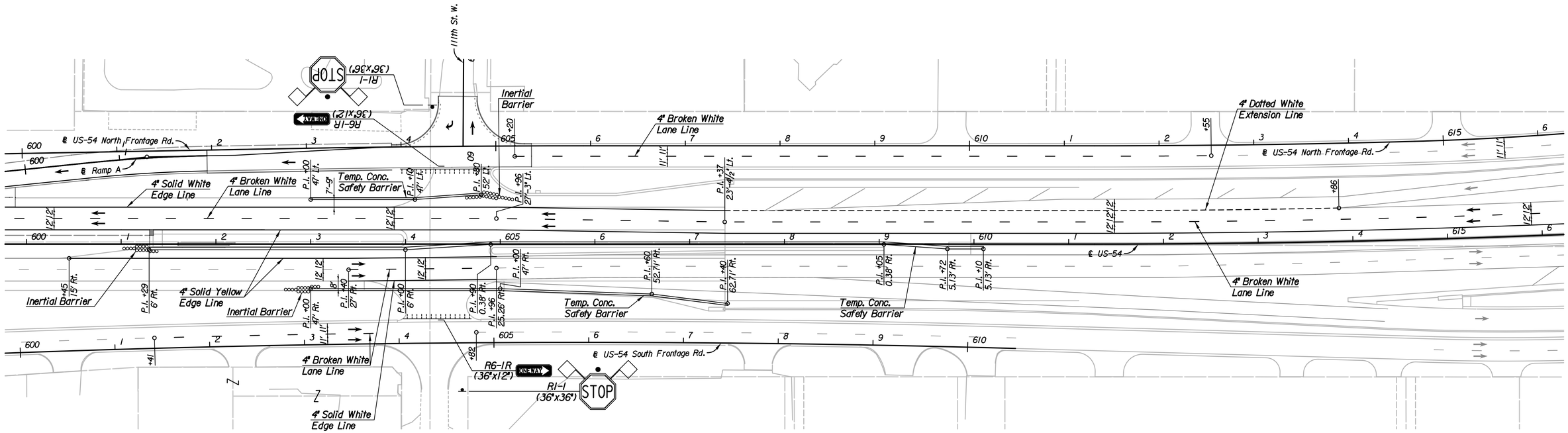
TRAFFIC CONTROL PLAN
STAGE 3C - STA. 603+00 TO STA. 619+00

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

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Designed by	CKC	Job No.	08313-003	Sht. 69 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:44 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 3C Sta. 603.dgn



LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Red Type "B" High Intensity Warning Light
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

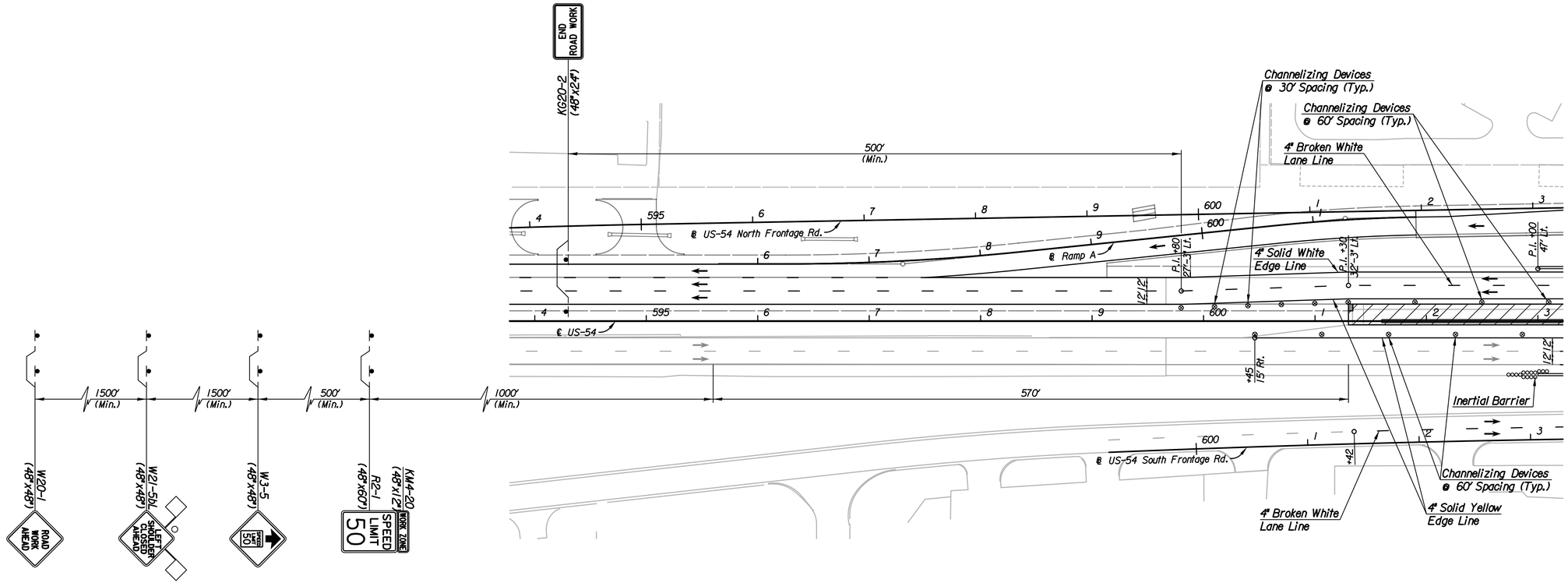
TRAFFIC CONTROL PLAN
STAGE 4 - STA. 603+00 TO STA. 619+00

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 70 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:45 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 4 Sta. 603.dgn



LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Yellow Type "A" Low Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Temporary Bituminous Pavement
- Work Area (New Pavement)
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

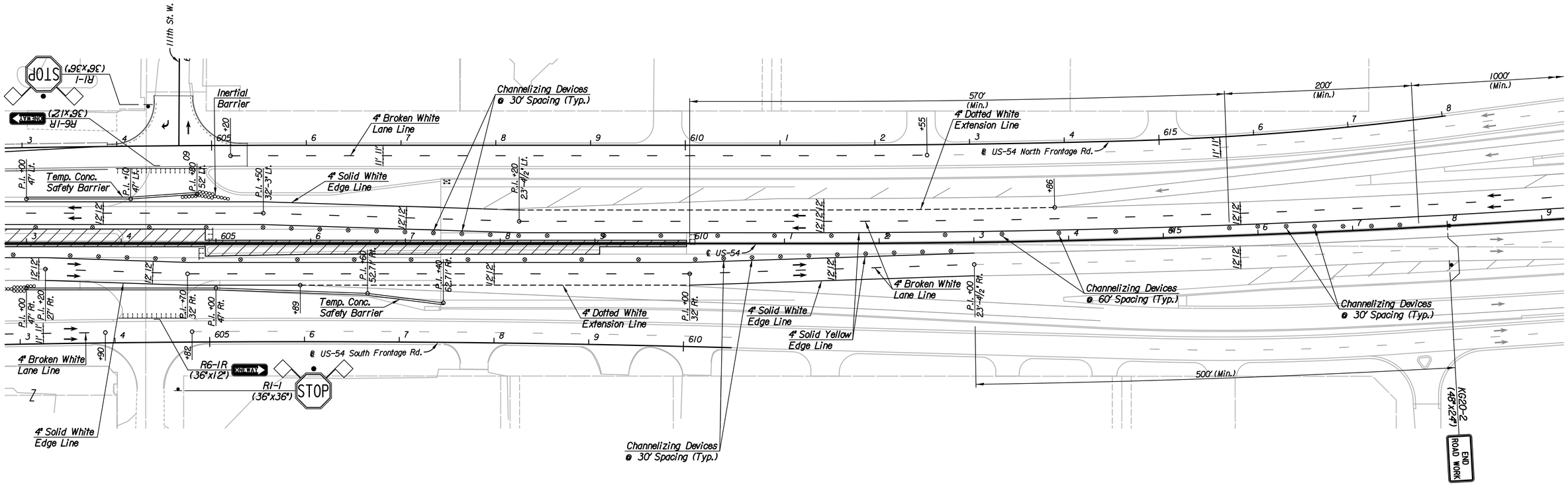
TRAFFIC CONTROL PLAN
STAGE 5 - STA. 587+00 TO STA. 603+00

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 71 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:45 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 5 Sta. 587.dgn



LEGEND

- ⊕ Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- ● Red Type "B" High Intensity Warning Light
- Type III Barricade with Type A Low Intensity Flashing Warning Lights.
- Work Area (New Pavement)
- → Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

TRAFFIC CONTROL PLAN
STAGE 5 - STA. 603+00 TO STA. 619+00

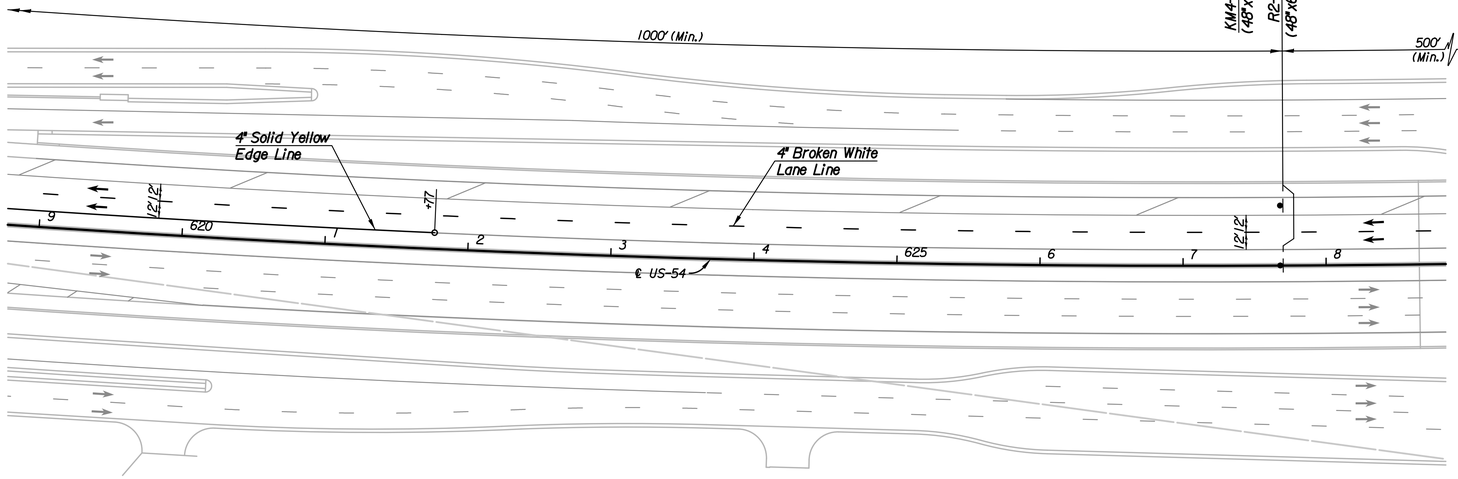
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
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Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 72 of 104

Plotted By: cp Date: 1/29/2018 5:28:46 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 5 Sta. 603.dgn



NORTH

SCALE

50' 0 50' 100'

LEGEND

- Traffic Control Sign
- Yellow Type "A" Low Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

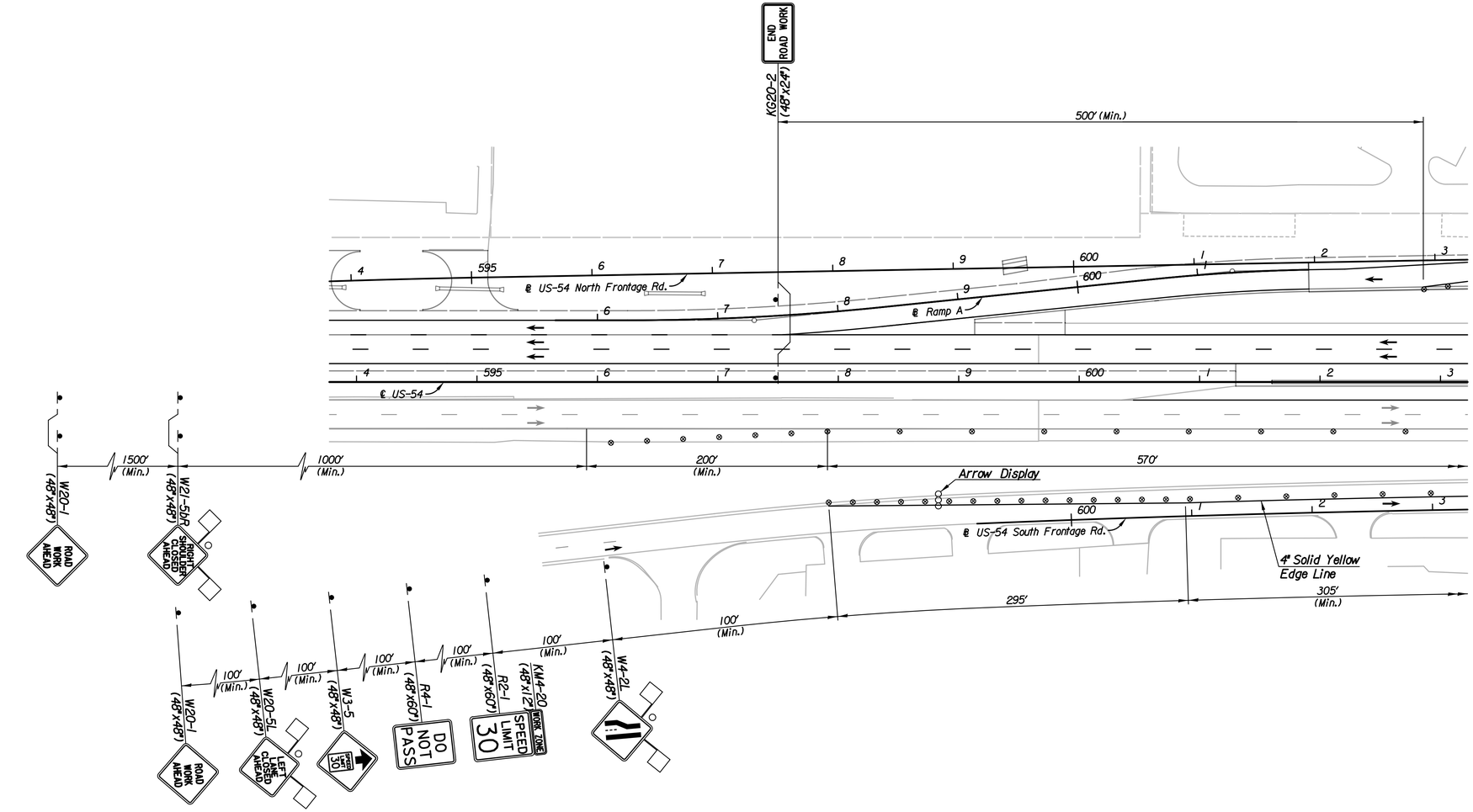
TRAFFIC CONTROL PLAN
STAGE 5 - STA. 619+00 TO STA. 628+00

GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
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303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003	Sht. 73 of 104
Drawn by	CP	Date	Jan., 2018	

Plotted By: cp Date: 1/29/2018 5:28:46 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 5 Sta. 619.dgn



LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Yellow Type "A" Low Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

TRAFFIC CONTROL PLAN
STAGE 6 - STA. 587+00 TO STA. 603+00

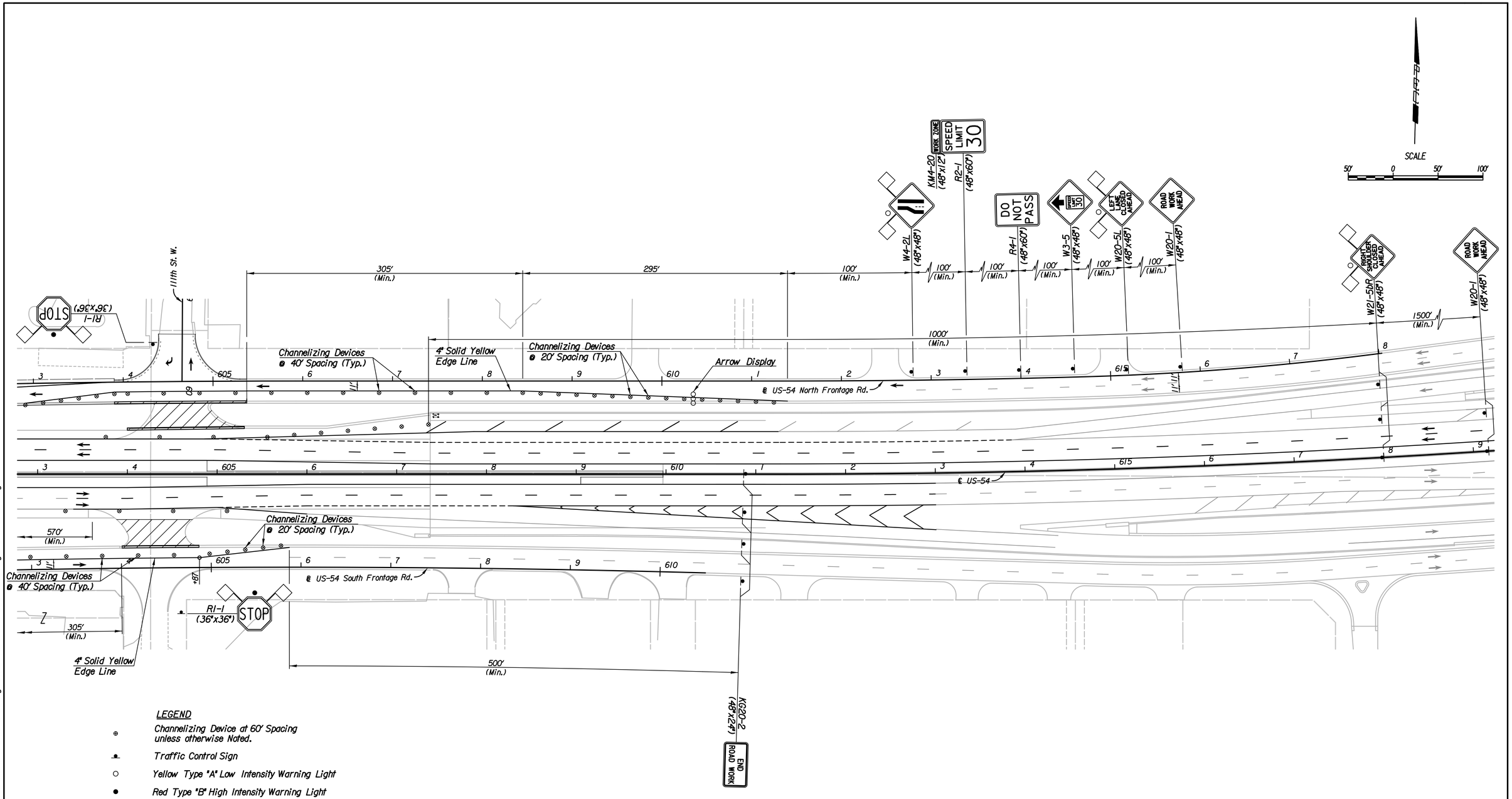
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
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303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 74 of 104

Plotted By: cp Date: 1/29/2018 5:28:50 PM
FILE: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Traffic\08313-003-TC Stage 6 Sta. 587.dgn



LEGEND

- Channelizing Device at 60' Spacing unless otherwise Noted.
- Traffic Control Sign
- Yellow Type "A" Low Intensity Warning Light
- Red Type "B" High Intensity Warning Light
- 18"x18" Fluorescent Red-Orange Flags
- Work Area (New Pavement)
- Direction of Traffic

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

Note: Utilities are not shown on Traffic Control Plans. The Contractor is responsible for verification as to type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor is responsible for repairing any damage to underground utilities.

No.	Revision	By	Date

111th St. West Signal Removal

TRAFFIC CONTROL PLAN
STAGE 6 - STA. 603+00 TO STA. 619+00

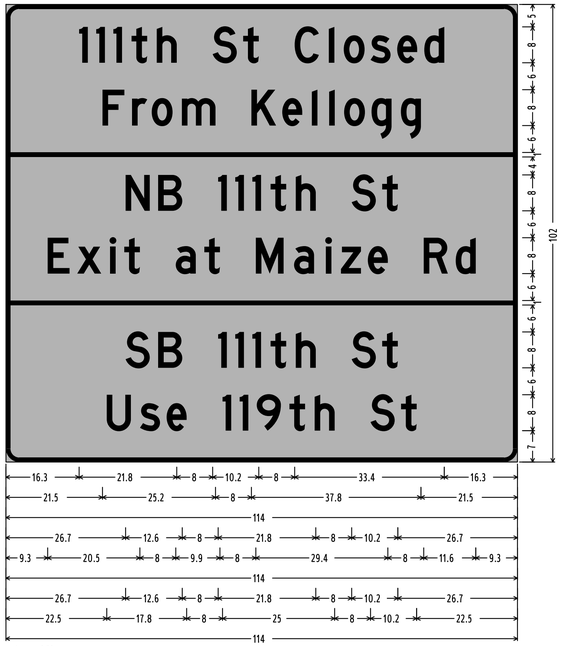
GARY JANZEN, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-85393

PEC
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303 SOUTH TOPEKA WICHITA, KS 67202
316-262-2691 www.pec1.com

Designed by	CKC	Job No.	08313-003
Drawn by	CP	Date	Jan., 2018

Sht. 75 of 104

Plotted By: cp Date: 1/29/2018 5:28:51 PM
FILE: U:\Wichita-Civil\2008\083I3\003\Muni-Trans\Drawings\Traffic\083I3-003-TC Stage 6 Sta. 603.dgn



Identifier : D7-1A;
3.0" Radius, 1.0" Border, Black on Orange;
[111th St Closed] D; [From Kellogg] D; [NB 111th St] D; [Exit at Maize Rd] D;
[SB 111th St] D; [Use 119th St] D;
Table of distances between letter and object lefts.

| | | |

COUNTY	STATE	PROJECT NUMBER	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
SEDGWICK	KANSAS	472-85393	2018	77	104



W8-1
48"x48"

BUMP SIGN
(AS REQUIRED BY THE ENGINEER)



W8-11
48"x48"

UNEVEN LANES SIGN
(SPACED @ 1/4 MILE THROUGHOUT
PROJECT AS REQUIRED)



W8-9a
48"x48"

SHOULDER DROP-OFF SIGN
(SPACED @ 1/4 MILE THROUGHOUT
PROJECT AS REQUIRED)

(LEGEND TO BE DETERMINED BY THE ENGINEER)

G20-SPECIAL
72"x36" 6" SERIES "C" LETTERS
or
96"x48" 10" SERIES "D" LETTERS

LIST OF TRAFFIC CONTROL DEVICES *

MUTCD DEVICE NO.	NO.	FLASHERS TYPE A	FLASHERS TYPE B	REMARKS
KG20-2	4			END ROAD WORK
KM4-20	2			WORK ZONE
R1-1	1			STOP
R1-1	2		2	STOP W/RED TYPE B FLASHER AND FLAGS
R2-1	2			SPEED LIMIT
R3-1	1			NO TURN
R3-2	1			NO TURN
R3-7R	2			LANE MUST TURN
R4-1	2			DO NOT PASS
R6-1R	2			ONE WAY
D7-1A	2			GUIDE SIGN
D7-1B	2			GUIDE SIGN
D7-1C	1			GUIDE SIGN

MUTCD DEVICE NO.	NO.	FLASHERS TYPE A	FLASHERS TYPE B	REMARKS
W1-4R	1	1		ROADWAY SHIFT
W3-5	2			SPEED LIMIT AHEAD
W4-2L	2	2		LANE ENDS
W4-2R	1	1		LANE ENDS
W13-1P	1			SPEED ADVISORY
W20-1	5			ROAD WORK AHEAD
W20-5L	2	2		LANE CLOSED AHEAD
W20-5R	1	1		LANE CLOSED AHEAD
W21-5aR	1	1		SHOULDER CLOSED
W21-5bL	2	2		SHOULDER CLOSED AHEAD
W21-5bR	2	2		SHOULDER CLOSED AHEAD

* FOR INFORMATION ONLY QUANTITY SHOWN REPRESENTS MAXIMUM REQUIRED DURING ANY SINGLE STAGE.

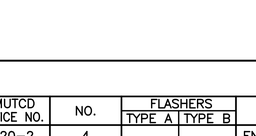
DELINEATORS & CHANNELIZATION DEVICES

DEVICE	NO.	SIZE	FLASHERS TYPE A	FLASHERS TYPE B	FLASHERS TYPE C
BARRICADES					
TYPE III	17	12'	10		
PEDESTRIAN					
TYPE I					
DRUMS	99				
CONES					
TUBES					
VERTICAL PANELS					
SINGLE					
BACK TO BACK					
PAVEMENT MARKING ø	WHITE	YELLOW			
TYPE I 4" SOLID (Lin. Ft.)					
TYPE II 4" DOTTED (Lin. Ft.)	411				
TYPE II 4" SOLID (Lin. Ft.)	4712	3730			
TYPE II 4" BROKEN (Lin. Ft.)		1191			
TURN ARROW	As Required				
24" WHITE STOP BAR	As Required				
TEMP. CONCRETE SAFETY BARRIER	1802	(Lin. Ft.)			
ARROW DISPLAY	2				
INERTIAL BARRIER SYSTEM	3				
IMPACT ATTENUATOR	1				

SEE SHEET NO. 78 FOR TRAFFIC CONTROL NOTES

Note: See Traffic Control Plans for drainage pipes which are Subsidiary to bid item "Traffic Control" - Lump Sum.

ARROW DISPLAY



FLASHING ARROW



SEQUENTIAL CHEVRON

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.

ø PAVEMENT MARKINGS:

(A) TYPE I TAPE IS TO BE APPLIED TO A FINAL SURFACE AS A TEMPORARY MARKING WHEN THE PATTERN OF THE PERMANENT MARKINGS WILL BE DIFFERENT THAN THE TEMPORARY MARKING. TYPE II TAPE IS TO BE APPLIED TO A TEMPORARY SURFACE THAT IS TO BE REMOVED OR COVERED BY FUTURE CONSTRUCTION. TYPE II TAPE IS ALSO TO BE APPLIED TO A FINAL SURFACE WHERE IT IS KNOWN THERE WILL BE PERMANENT MARKINGS PLACED IN THE SAME PATTERN AS THE TEMPORARY TYPE II TAPE.

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

SUMMARY OF BID ITEMS

BID ITEM	QUANTITY	UNIT
TRAFFIC CONTROL	1	LUMP SUM

11/94	CHG W8-9a & ADDED W8-11	DRS

SUMMARY OF TRAFFIC CONTROL DEVICES

T.C. NO. 2.0

PREPARED BY
SEDGWICK COUNTY PUBLIC WORKS
HIGHWAY DIVISION

DAVID C. SPEARS, P.E. DIRECTOR/COUNTY ENGINEER

REVISED	SCALE	DESIGNED	TRACED	CHECKED	SHEET NO.
		M.R.B.	D.R.S.	M.R.B.	77
	DATE	6/88	3/94	3/94	
	PLANFILE ~~TC-2-0~~		TOTAL SHEETS 104		

Plotted By: cp Date: 1/29/2018 5:25:54 PM
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1) Design Speed: Those items delegated to temporary traffic control should be designed and installed using the posted/legal speed of the roadway prior to work starting.

2) Minimum lane width: Lane widths shall be a minimum of 11' (measured between centerlines of pavement markings) or as shown on the plans, or as directed by the engineer. A lane width less than 11' may require restricted roadway width signing.

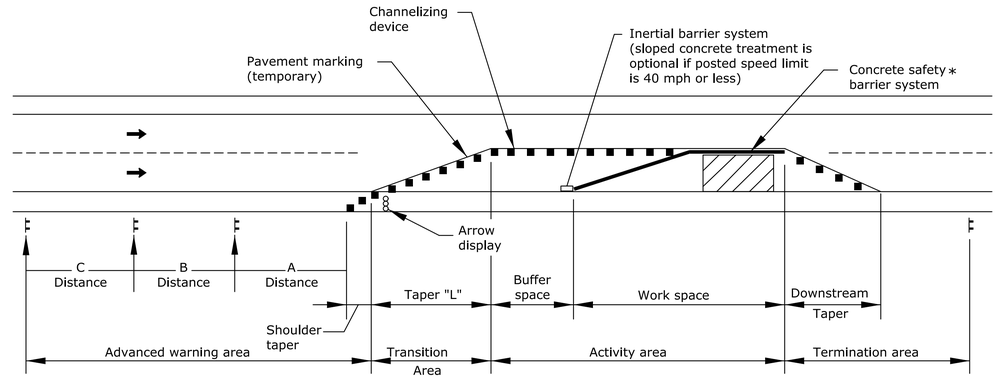
3) Consideration should be made to seperate pedestrian and, if needed, bicycle movements from both work site activity and vehicular traffic. Unless a reasonable safe route that does not involve crossing the roadway can be provided, pedestrians should be appropriately directed with advance signing that encourages them to cross to the opposite side of the roadway. In urban and suburban areas with high vehicular traffic volumes, these signs should be placed at intersections (rather than midblock locations) so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or making a midblock crossing.

4) When existing pedestrian facilities are disrupted, closed, or relocated, the temporary facilities shall be detectable and include accessiblity features consistent with the features present in the existing pedestrian facility.

5) When the driving surface open to traffic is milled, is a temporary surface made of loose material, or when directed by the engineer use the W8-15 (Grooved Pavement) or W8-7(Loose Gravel) a "C" distance after the W20-1 (Road Work Ahead) on mainline approaches. Signs may be used with the W8-15p motorcycle plaque as directed by the engineer. Display signs in advance of the condition as long as the condition is present.

6) Alternative temporary rumble strip options may be available. Please contact the Temporary Traffic Control Unit for more information at 785-296-0355 or 785-296-1183.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	78	104



TYPICAL WORK ZONE COMPONENTS

∗ When concrete barrier system is used, portable channelizing devices are not needed along the tangent barrier section.

Minimum advance warning sign spacing (in feet):

SPEED (MPH) ✳	*A*	*B*	*C*
URBAN (40 MPH OR LOWER)	*100*	*100*	*100*
URBAN (45 MPH OR HIGHER)	*350*	*350*	*350*
RURAL (55 MPH OR LOWER)	*500*	*500*	*500*
RURAL (60 MPH OR HIGHER)	*750*	*750*	*750*
EXPRESSWAY/FREEWAY	*1000*	*1500*	*2640*

✳ Posted speed prior to work starting

The minimum spacing between signs shall be no less than 100', unless directed by the engineer.

The spacing between any signs may be increased beyond the minimum values in the table above as approved by the engineer in order to maximize visibility.

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 feet
S =Numericial value of posted speed prior to work starting in MPH
W =Width in offset feet

Shifting taper=1/2 L
Shoulder taper=1/3 L

Channelizer placement:

(1) The spacing between devices in transition area (taper) should not exceed a distance in feet equal to 1/2 the posted speed limit in mph prior to work starting.

(2) The spacing between devices in the advanced warning area and the activity area should not exceed a distance in feet equal to two times the posted speed limit in mph prior to work starting.

(3) Channelizing devices shall be placed for optimum visibility, normally at right angles to the traffic flow.

(4) Place directional indicator barricades in series to direct traffic onto the new path. The arrow sign should not be visible to opposing traffic.

(5) Alternating diagonal orange and white striping must slope downward in the direction traffic is expected to pass.

Buffer Space

SPEED (MPH) ✳	*20*	*25*	*30*	*35*	*40*	*45*	*50*	*55*	*60*	*65*	*70*	*75*
LENGTH (ft)	*115*	*155*	*200*	*250*	*305*	*360*	*425*	*495*	*570*	*645*	*730*	*820*

✳ Posted speed prior to work starting

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.

If temporary concrete safety barrier system is used to seperate approaching traffic from the work space, the barrier system shall be considered part of the activity area. A full lane width should be available throughout the length of the buffer space. See typical work zone components above.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1	08/18/15	Channelizer spacing info	R.W.B.	K.E.

KANSAS DEPARTMENT OF TRANSPORTATION

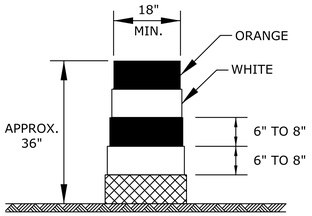
TRAFFIC CONTROL
GENERAL NOTES

TE700

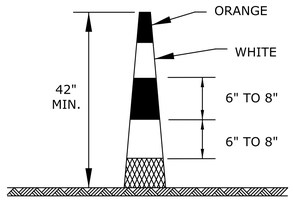
FHWA APPROVAL		08/18/15	APP'D	Kristina Ericksen	
DESIGNED	B.A.H.	DETAILED	R.W.B	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Drawn By : cp
Plotted : 29-JAN-2018 17:21
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-te700.dgn

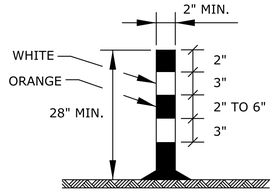
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	79	104



DRUM

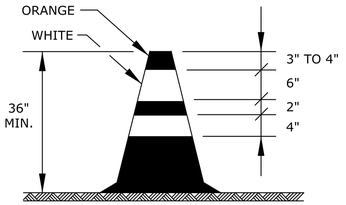


CONICAL
DELINEATOR

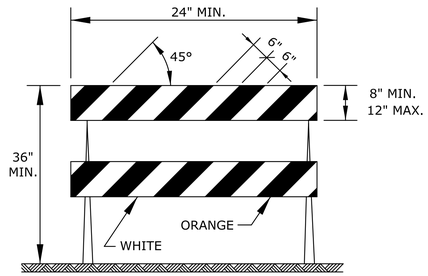


TUBULAR MARKER

Striping as shown for up to 42".

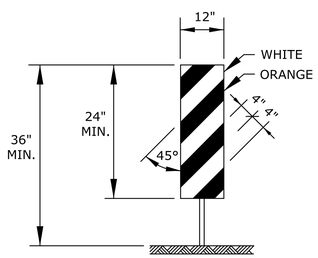


TRAFFIC CONE



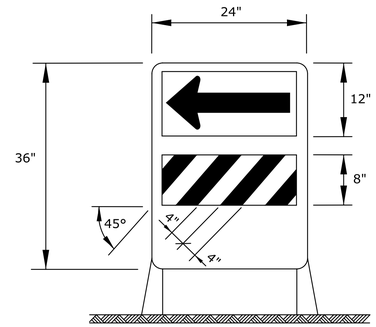
TYPE 2 BARRICADE

For rails less than 36" long, 4" wide stripes may be used.
All stripes shall slope downward to the traffic side for channelization.



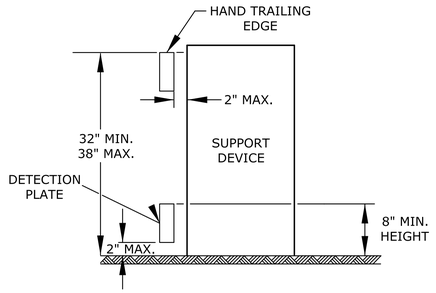
VERTICAL PANEL

The stripes shall slope downward
to the traffic side for channelization.



DIRECTION INDICATOR BARRICADE

The stripes shall slope downward in the direction traffic is to pass.
The direction indicator barricade shall be used in series to direct
the motorist into the intended lane of travel.



PEDESTRIAN CHANNELIZER

1. Support device shall not project beyond the detection plate into the pathway.
2. Hand trailing edges and detection plates are optional for continuous walls.
3. Interconnect pedestrian channelizers to prevent displacement and to provide continuous guidance through or around work.
4. Alternate pathways shall be firm, stable, and slip resistant.
5. Treat height differentials > 1/2" in the surfaces of alternate paths with a firm, stable, and slip resistant temporary ramp having a slope of 12:1 or flatter and having a width equal to the alternate path.
6. Use alternating orange/white on interconnected devices.

ITEM \ LOCATION		Cross-overs	Shoofly Diversions	Tangents	Tapers	Ramps	Head to Head	Object Identifier	Lead-in Devices	Gores
PORTABLE										
	Drums	Yes	Yes	Yes	Yes	Yes	(1)	Yes	Yes	Yes
	Conical Delineators	Yes	Yes	Yes	Yes	Yes	(1)	Yes	Yes	Yes
	Vertical Panels	(2)	(2)	(2)	(2)	(2)	(1,2)	YES	(2)	(2)
	Direction Indicator Barricade	NO	NO	NO	Yes	NO	NO	NO	NO	NO
	Type 2 Barricade	(2)	(2)	(2)	(2)	NO	NO	Yes	NO	NO
	Traffic Cones	NO	NO	(4)	(4)	(4)	NO	(4)	(4)	(4)
FIXED										
	Tubular Markers	(3)	(3)	(3)	NO	(3)	Yes	NO	Yes	Yes
	Vertical Panels	(3)	(3)	(3)	(3)	(3)	(3)	Yes	(2,3)	(2)

(1) Not allowed on centerline delineation along freeways or expressways.
(2) The stripes shall slope downward to the traffic side for channelization.
(3) May be used upon the approval of the engineer.
(4) Daytime operations only.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
CHANNELIZING DEVICES

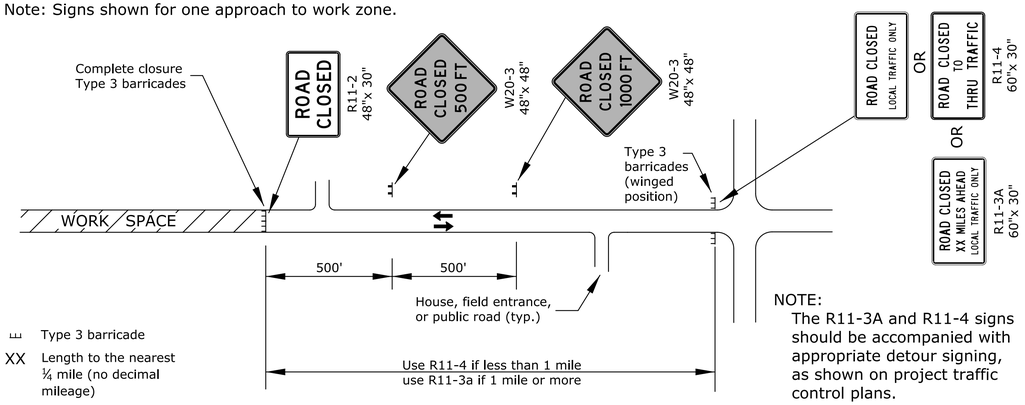
TE702

FHWA APPROVAL		06/01/15	APP'D	Kristina Ericksen	
DESIGNED	L.E.R.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Plotted : 29-JAN-2018 17:21
Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-te702.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	80	104

Note: Signs shown for one approach to work zone.



NOTE:
The R11-3A and R11-4 signs should be accompanied with appropriate detour signing, as shown on project traffic control plans.

FIGURE 1: TYPICAL SIGNING FOR ROAD CLOSURE (MAINLINE OR SIDE ROAD)

Note: Sign shown for one approach to intersection (work zone).

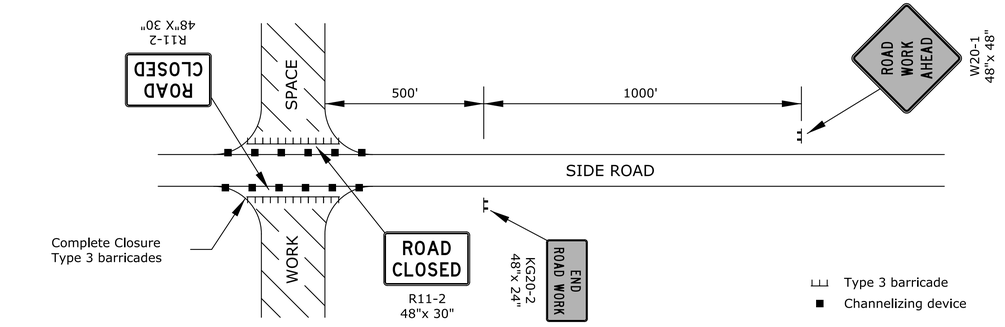


FIGURE 2: TYPICAL SIGNING FOR SIDE ROAD OPEN

Note: Signs shown for one approach to work zone.

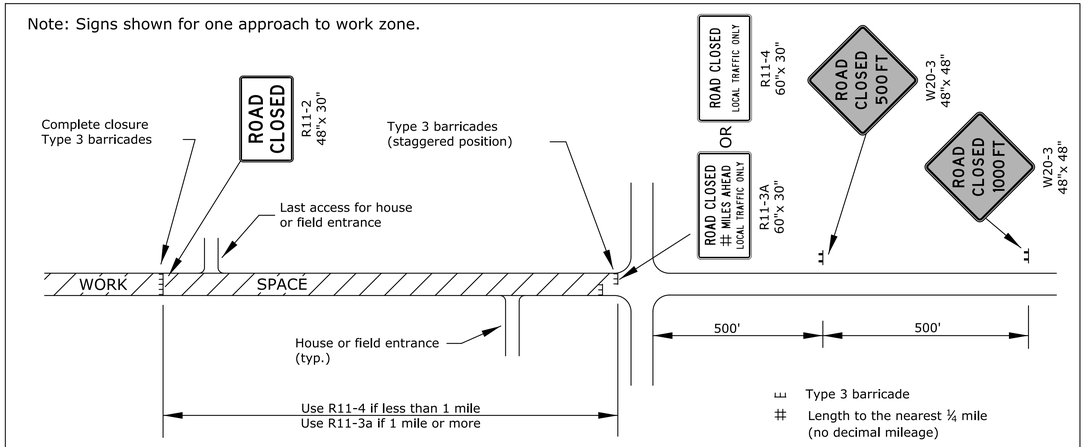


FIGURE 3: TYPICAL SIGNING FOR ROAD CLOSURE - LOCAL TRAFFIC ACCESS

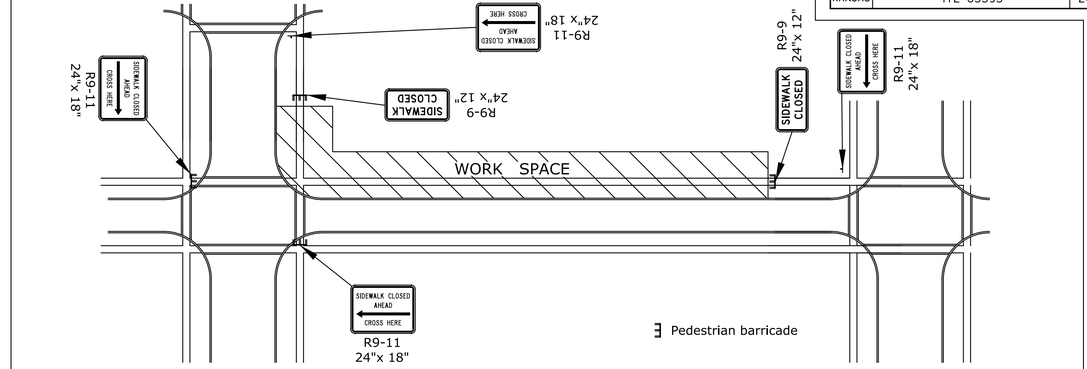
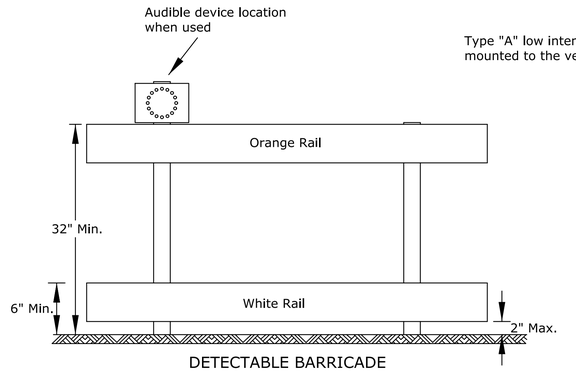
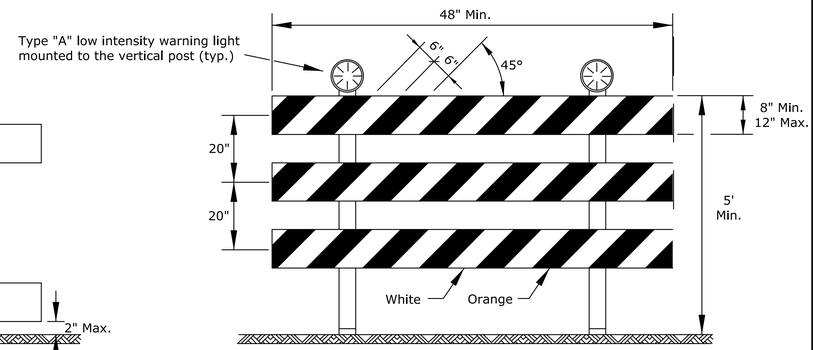


FIGURE 4: TYPICAL SIGNING FOR SIDEWALK CLOSED WITH OPPOSITE SIDEWALK AVAILABLE



DETECTABLE BARRICADE

1. Support device shall not project beyond the detection plate into the pathway.
2. Barricades shall be used to close the entire width of the pathway.
3. Do not use warning lights on pedestrian barricades.
4. Do not use warning lights on audible devices.



TYPE 3 BARRICADE WITH LIGHTS

Approved signs mounted on Type 3 barricades should not cover more than 50% of the top two rails or 33% of the total area of the three rails.

When barricades are placed end-to-end or staggered, a Type "A" low intensity warning light shall be mounted to the vertical post near each outside corner of the end barricades.

ROAD CLOSED GENERAL NOTES

As shown in Figure 1, at the point where thru traffic must detour and local traffic can proceed to the location where the roadway is completely closed, the R11-3a (ROAD CLOSED # MILES AHEAD LOCAL TRAFFIC ONLY) or R11-4 (ROAD CLOSED LOCAL TRAFFIC ONLY or ROAD CLOSED TO THRU TRAFFIC) sign shall be used with Type 3 barricades (winged position), placed on the shoulders of roadway.

As shown in Figure 3, when local traffic must be allowed access into the work zone, Type 3 barricades shall be longitudinally staggered to maintain the appearance of a closed roadway. A second line of end-to-end Type 3 barricades shall be placed just beyond the last access point in the work zone, to completely close the roadway.

The R11-4 (ROAD CLOSED TO THRU TRAFFIC or ROAD CLOSED LOCAL TRAFFIC ONLY) sign shall be used when the distance to the point of complete closure of the roadway is less than 1 mile.

The R11-3a (ROAD CLOSED # MILES AHEAD LOCAL TRAFFIC ONLY) sign shall be used when the distance to the point of complete closure of the roadway is 1 mile or greater.

The words "BRIDGE OUT" (or BRIDGE CLOSED) may be substituted for the words "ROAD CLOSED" on the R11-3a or R11-4 sign where applicable.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL CLOSURES

TE704

FHWA APPROVAL		06/01/15	APP'D	Kristina Ericksen	
DESIGNED	B.A.H.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Plotted : 29-JAN-2018 17:21
Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-te704.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	81	104

SIGN LAYOUT INFORMATION



KG20-2

STD. SIZE EXPWY/FREEWAY
6" C
48"x 24"



KG20-5

STD. SIZE EXPWY/FREEWAY
6" C
48"x 24"



KM4-2O

STD. SIZE 3" C 24"x 6"

EXPWY/FREEWAY 6" C 48"x 12"



W7-3a

Mileage to be determined by the engineer.



W8-15

STD. SIZE EXPWY/FREEWAY
8" D
48"x 48"



W8-7

STD. SIZE EXPWY/FREEWAY
8" D
48"x 48"



W8-15p

STD. SIZE EXPWY/FREEWAY
30"x 24"



W8-17

STD. SIZE EXPWY/FREEWAY
48"x 48"



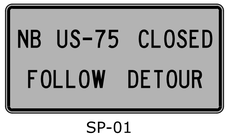
W8-11

STD. SIZE EXPWY/FREEWAY
8" D
48"x 48"



W8-17P
(OPTIONAL)

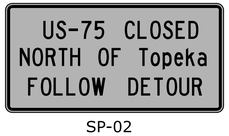
STD. SIZE EXPWY/FREEWAY
30"x 24"



SP-01
(SPECIAL SIGN)

STD. SIZE 6" C

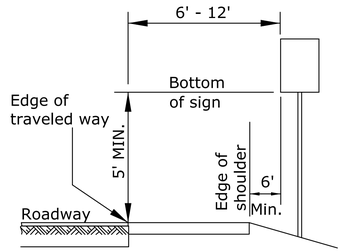
EXPWY/FREEWAY 10" D



SP-02
(SPECIAL SIGN)

STD. SIZE	EXPWY/FREEWAY
UPPERCASE: 6" C	UPPERCASE: 10" D
LOWERCASE: 4.5" C	LOWERCASE: 8" D

ALL CITY NAMES AND STREET NAMES ON SPECIAL SIGNS AND DESTINATION SIGNS MUST HAVE UPPER AND LOWER CASE LETTERS.

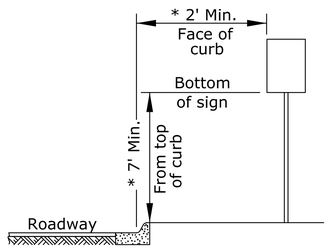


Rural

1) Ground-mounted signs shall be mounted at a minimum height of 5' measured from the bottom of sign to the near edge of the pavement.

2) Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.

3) The height of the secondary sign mounted below another sign may be 4' measured from the bottom of the sign to the near edge of the pavement. Signs shall not overlap each other.



Urban

1) Signs shall be mounted at a minimum height of 7' measured from the bottom of sign to the near edge of the pavement.

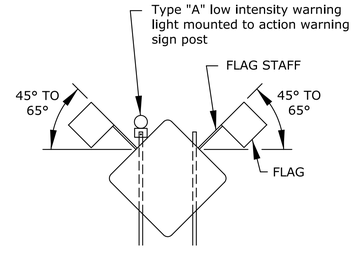
2) Neither portable nor permanent sign supports should be located on sidewalks or areas designated for pedestrian or bicycle traffic.

3) Signs mounted lower than 7' should not project more than 4" into pedestrian facilities.

4) The height from of the secondary sign mounted below another sign may be 6' measured from the bottom of sign to the near edge of the pavement. Signs shall not overlap each other.

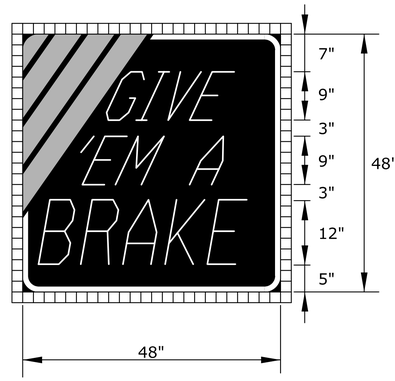
5) Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.

* 6) Pedestrian detour signing shall be a minimum of 2' measured from the top of the pedestrian pathway to the bottom of the sign and shall not protrude into the walkway nor shall it project beyond the back of curb.



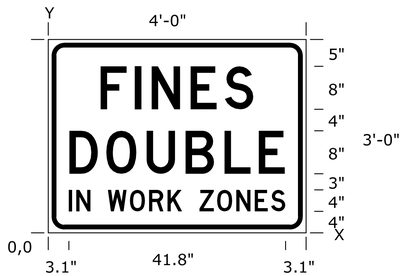
When the sign width is equal to or greater than 9', three or more wood posts may be used with a minimum of 4' between the centerline of each post. All signs less than 9' in width shall use a maximum of two wood posts.

In the case of hitting rock when driving posts
1. Shift the sign location. Do not violate minimum sign spacing.
2. With the engineer's approval, use acceptable alternative sign stands.



KI-104a

SIGN NUMBER	GIVE EM A BRAKE
WIDTH x HEIGHT	4'-0" x 4'-0"
BORDER WIDTH	1.0"
CORNER RADIUS	4.0"
STRIPE WIDTH	3.0"
MOUNTING	GROUND
BACKGROUND	TYPE: NON-REFLECTIVE
	COLOR: BLACK
LEGEND/BORDER	TYPE: REFLECTIVE
	COLOR: WHITE
LEGEND FONT	DUTCH 801 ROMAN SWC 25 DEGREE SLANT
STRIPES	TYPE: REFLECTIVE
	COLOR: ORANGE



KI-105a

SIGN NUMBER	FINES DOUBLE
WIDTH x HEIGHT	4'-0" x 3'-0"
BORDER WIDTH	0.9"
CORNER RADIUS	3.0"
MOUNTING	GROUND
BACKGROUND	TYPE: REFLECTIVE
	COLOR: WHITE
LEGEND/BORDER	TYPE: NON-REFLECTIVE
	COLOR: BLACK

DIMENSIONS IN INCHES — SPACINGS ARE TO START OF NEXT LETTER

Y FONT	LETTER SPACINGS															HT LEN
23.0 D	X	F	I	N	E	S	X									8.0
	9.7	6.4	3.2	7.3	6.4	5.4	9.7									28.6
11.0 D	X	D	O	U	B	L	E	X								8.0
	3.9	6.9	7.5	7.3	7.3	6.4	4.9	3.9								40.3
4.0 D	X	I	N	X	W	O	R	K	X	Z	O	N	E	S	X	4.0
	3.1	1.6	2.7	3.2	4.3	3.8	3.6	2.8	3.2	3.4	3.8	3.6	3.2	2.7	3.1	41.8

Notes:

Typically, there are two sets of informational signs installed per project: one for each direction of traffic.

Install signs a minimum of 500' 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	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
SIGN INFORMATION

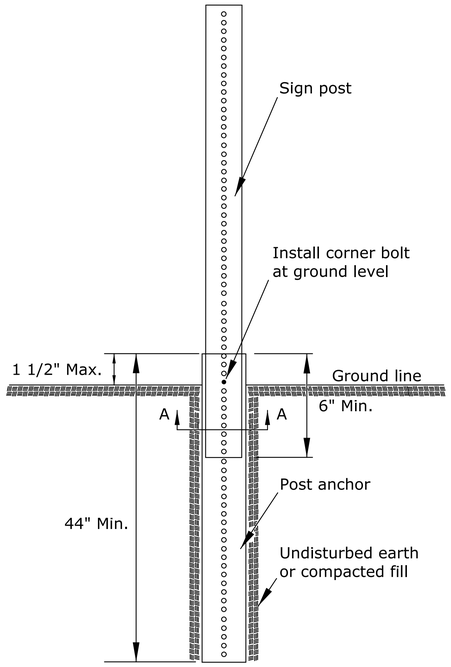
TE710

FHWA APPROVAL		06/01/15	APP'D	Kristina Pyle	
DESIGNED	R.W.B.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

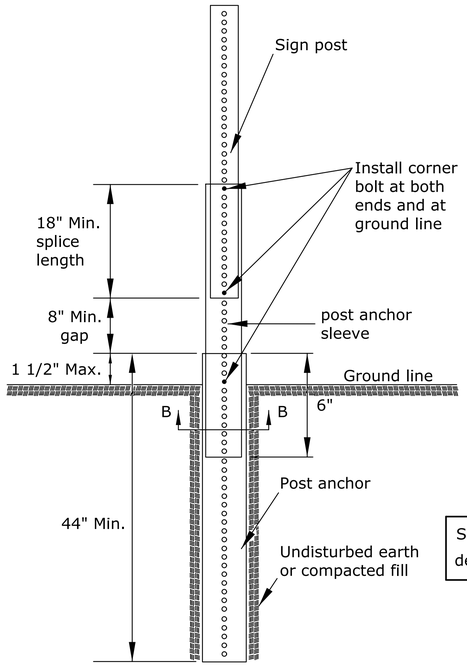
Plotted : 29-JAN-2018 17:21
Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-te710.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	82	104

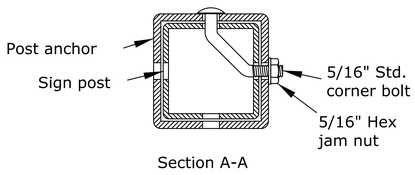
Perforated square steel tube (P.S.S.T.) post setup



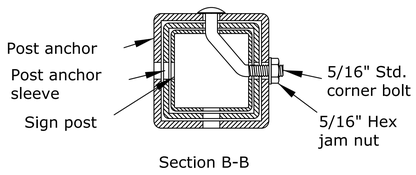
P.S.S.T. detail



Telescoping P.S.S.T. detail



Section A-A

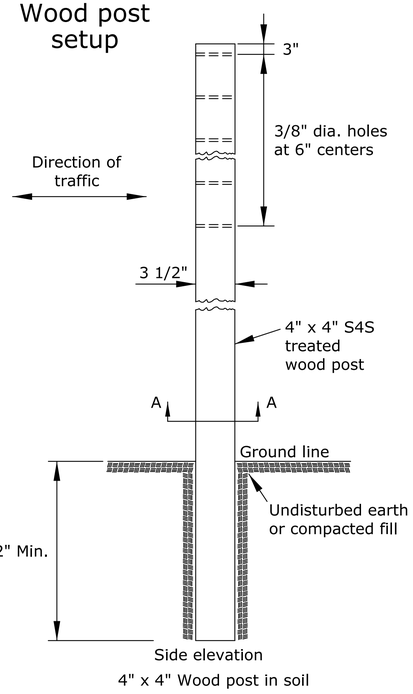


Section B-B

Details for 2", 2 1/4", or 2 1/2" sign posts

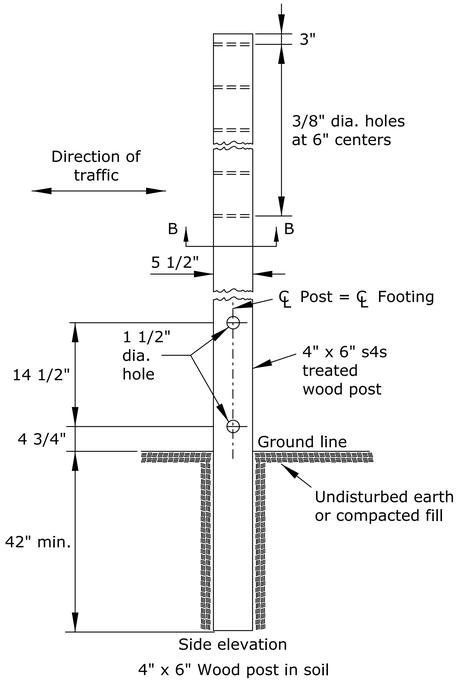
Place bolts in the same corner along each sign post.

Wood post setup



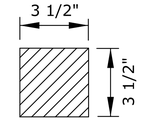
Side elevation

4" x 4" Wood post in soil

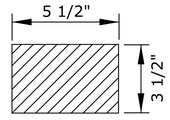


Side elevation

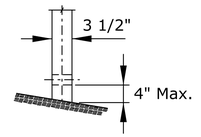
4" x 6" Wood post in soil



Section A-A



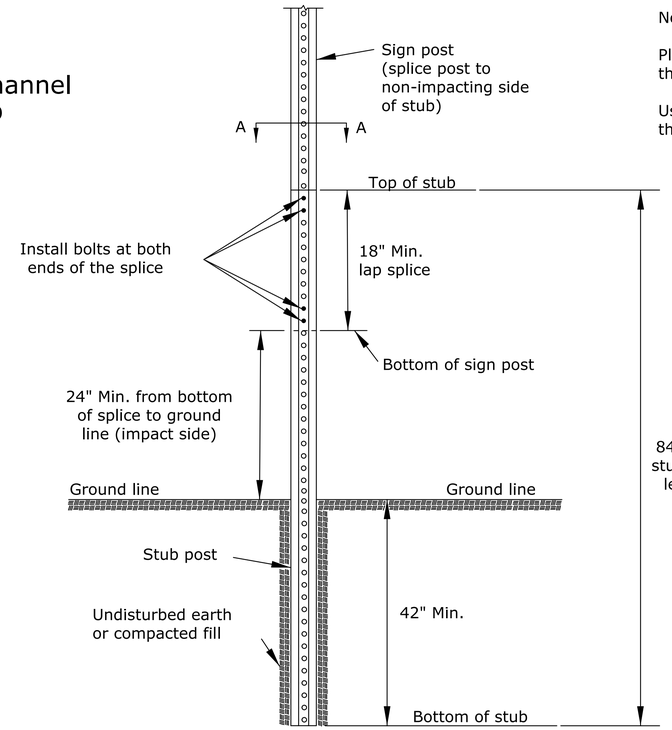
Section B-B



Front elevation

See TE710 for additional details and requirements

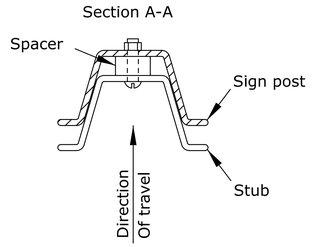
3 lb/f U-Channel setup



Notes:

Place two bolts at both ends of the splice through the holes nearest the ends of the splice.

Use manufacturer recommended spacers over the bolts between the spliced pieces of U-Channel.



NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

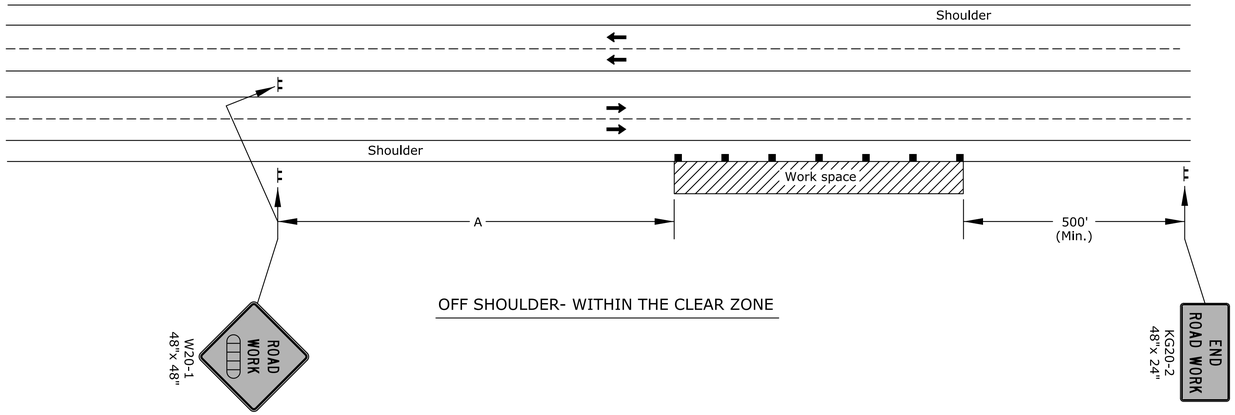
TRAFFIC CONTROL SIGN POSTS

TE712

FHWA APPROVAL		06/01/15	APP'D	Kristina Pyle	
DESIGNED	B.A.H.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Drawn By : cp
Plotted : 29-JAN-2018 17:21
File : U:\Wichita-Civil\2008\08313003\Muni-Trans\Drawings\Standards\08313-003-te712.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	83	104



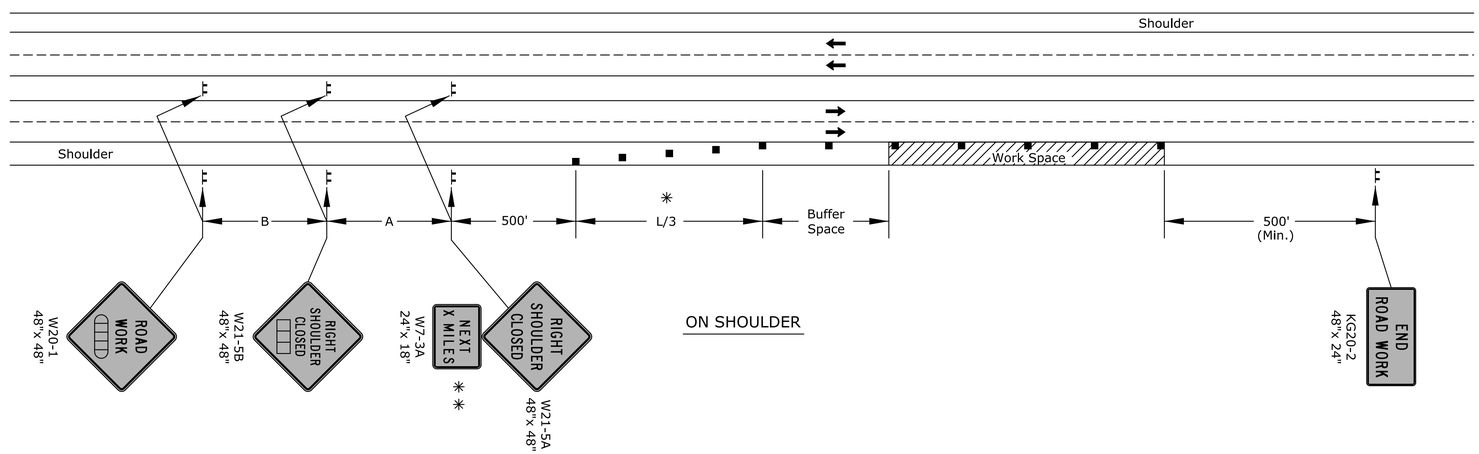
OFF SHOULDER- WITHIN THE CLEAR ZONE

Notes:

For work in the median, install signs and channelizing devices for each direction of traffic according to the applicable typical drawing.

No traffic control is required if the work space is located outside of the clear zone.

For operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with a high-intensity rotating, flashing, oscillating, or strobe light is used.



ON SHOULDER

✳ Omit taper if paved shoulder is less than 8' wide.

✳✳ Eliminate W7-3A if shoulder is closed for less than 2 miles.

X Length to the nearest whole mile
■ Channelizing device
Ahead, 1500 ft, or 1 mile
Ahead, 1000 ft, 1500 ft or ½ mile

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SHOULDER WORK DIVIDED HIGHWAY

TE722

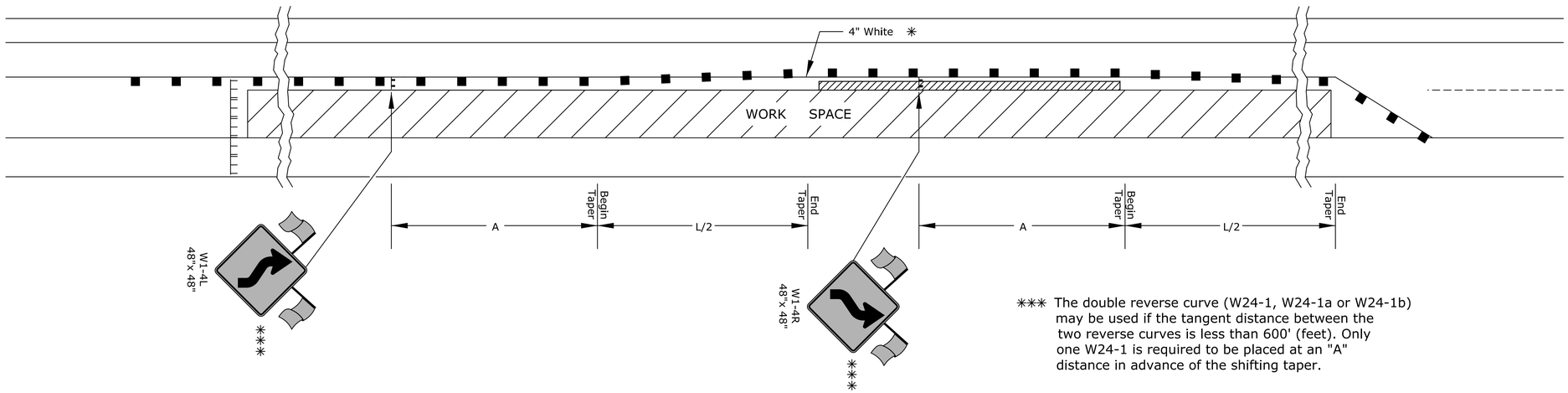
FHWA APPROVAL		06/01/15	APP'D	Kristina Ericksen	
DESIGNED	L.E.R.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Plotted : 30-JAN-2018 09:12
Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-te722.dgn

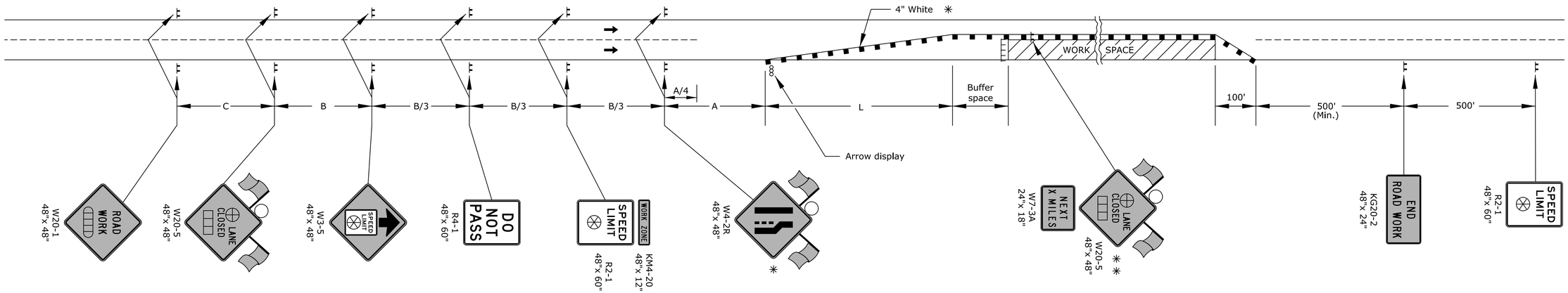
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	84	104

SHIFTING TAPER DETAIL

Add signs and devices as shown for work inside a closed lane that extends near to (or into) the open traffic lane.



✳✳✳ The double reverse curve (W24-1, W24-1a or W24-1b) may be used if the tangent distance between the two reverse curves is less than 600' (feet). Only one W24-1 is required to be placed at an "A" distance in advance of the shifting taper.



- Type 3 barricades
- X Length to the nearest whole mile
- ■ Channelizing device
- Ahead, 1500 ft, or 1 mile
- Ahead, 1000 ft, 1500 ft, or ½ mile
- ⊕ Right or left
- ⊗ Speed to be determined by the Engineer
- ○ Type "A" low intensity warning light

✳ For left lane closures use W4-2L and yellow edge line along channelizing devices.

✳ ✳ The W20-5 (⊕ Lane Closed) and W7-3A (Next X Miles) signs should be placed at 2 mile increments on a project of 4 miles or longer.

Left-side signs shall be omitted for a four-lane undivided highway.

One flagger should be stationed within each multi-lane roadway activity area where work is in a closed lane adjacent to traffic and not separated by a concrete safety barrier system.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

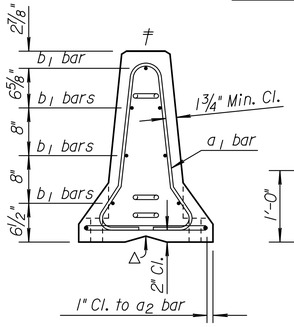
TRAFFIC CONTROL
LANE CLOSURE ON MULTILANE HWY

TE744

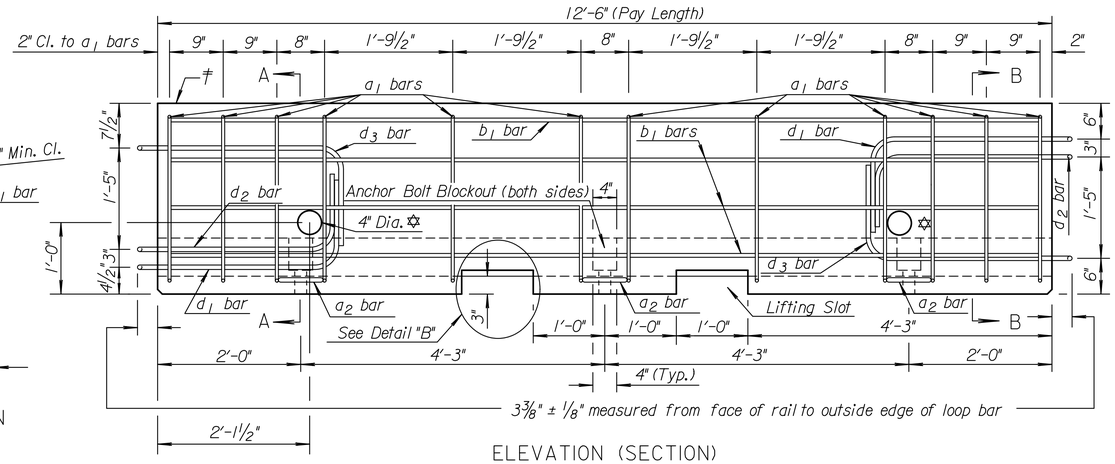
FHWA APPROVAL		06/01/15	APP'D	Kristina Ericksen	
DESIGNED	B.A.H.	DETAILED	R.W.B.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Plotted : 29-JAN-2018 17:21
Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-te744.dgn

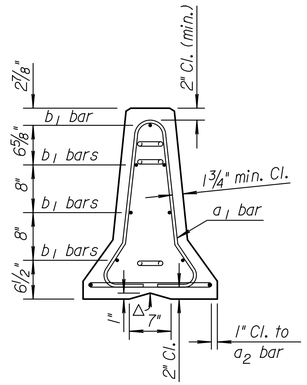
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	85	104



SECTION A-A
TYPICAL SECTION
(Stirrup Placement)



ELEVATION (SECTION)



SECTION B-B
TYPICAL SECTION
(Stirrup Placement)

GENERAL NOTES:

MATERIAL: Use ASTM A615, Grade 60 reinforcing bars, except for the loop bars (d_1, d_2 and d_3).

The loop bars (d_1, d_2 and d_3) shall be ¾" smooth steel bars with a minimum yield of 60 ksi, a tensile strength of not less than 1.25 times the yield strength but a minimum of 80 ksi, a minimum 14% elongation in 8 inches, and passing a 180 degree bend test using a 3.5 D pin bend diameter. The loops shall be installed within ⅛" of the plan dimensions.

Use air-entrained concrete with f'c = 5,000 p.s.i.

SECTION: The section furnished must generally comply with dimensions shown. Requests for minor variations in section geometry and attachments may be submitted to the Engineer for approval.

LIFTING SLOTS: Lifting slots shall be constructed where specified on the plans to facilitate the drainage of water after installation on the roadway.

TEMPORARY CONCRETE SAFETY BARRIER: Furnishing and placing of all materials when required and all labor and equipment required to position and/or reposition the temporary barrier shall be included in the Contract unit price bid for "Traffic Control." Unless otherwise noted on the Plans, the Temporary Concrete Safety Barrier shall become the property of the Contractor and shall be removed from the site upon acceptance of the completed project. Approximate weight of one unit equals 2.7 tons.

PLACEMENT: Barrier shall be placed on a paved surface. All loose dirt and sand shall be removed from the roadway surface just prior to placement of the barrier. After the barrier is placed and the connection pin is inserted, tension or pull the barrier such that the installation is taut and the connection pin cannot freely move vertically. If the connection pin or loop bar assembly are damaged during the tensioning process, it is the responsibility of the Contractor to repair the damaged area or replace the temporary barrier section.

MARKING: The left end (ǂ) of each barrier shall be permanently marked by stamping or forming into the barrier the following information:

- Type F3
- Manufacturer code (as specified by KDOT Bureau of Const. & Maint.)
- Date manufactured (month and year)

DELINEATION: Delineators shall be spaced on 50' centers, except through curves having 1900' or greater curvature where they shall be spaced on 25' centers.

The delineation shall be mounted on the side of the Temporary Concrete Safety Barrier with two delineators at each location. Each delineator shall have a minimum height-to-width ratio of 1.75, and a minimum reflective surface area of 7 sq. in.. The delineators shall be affixed to the Temporary Concrete Safety Barrier as recommended by the manufacturer.

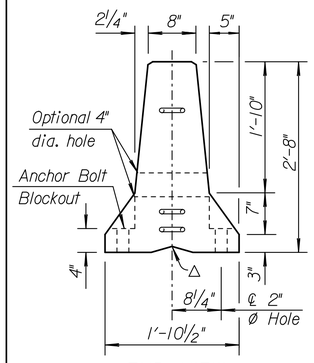
Delineators shall be attached to bridge rail or other structures in construction zones when roadway is narrowed and traffic is adjacent to the structure. The method and location of placement shall be similar to permanent barrier delineation.

When traffic flow is in one direction, the delineators shall be yellow when used on the left, white when used on the right. When traffic flow is in both directions delineators shall be placed back-to-back, and shall correspond to the color of the edge line.

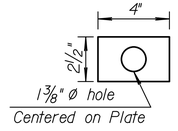
The work and materials required for the installation of delineators as mentioned shall be subsidiary to the bid item "Traffic Control."

If necessary, include Standard Drawing RD622A for Taper Section, Standard drawing RD622B for anchor and tie down details, Standard Drawing RD622C for Bridges with thermal expansion of 1½" or greater and Standard Drawing RD622D for Barrier Layouts.

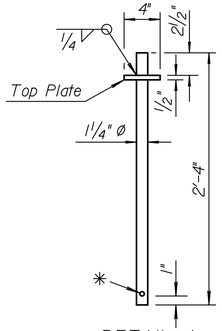
The Contractor shall be responsible for maintaining a clear area, shown as dimension "A" on Standard Drawing RD622B. The clear area is located behind the Temporary Concrete Safety Barrier and shall be kept free of any equipment, material stockpiles or other obstacles. For non-anchored roadway applications, dimension "A" shall be a minimum of 2'-0".



END VIEW

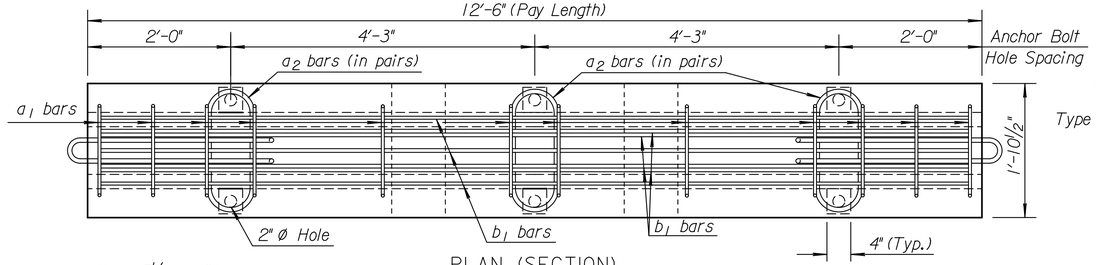


(½" Top Plate Detail)

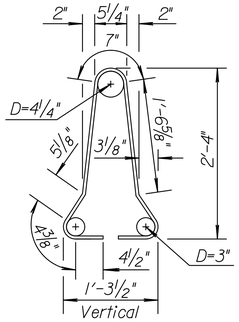


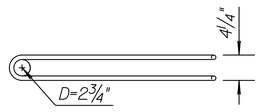
DETAIL A
CONNECTION PIN
(A36 Steel) 10.9 lbs. each

* ⅝" Ø hole for retainer bolt. The retainer bolt & nut are installed at Contractor's option.
Note: Retainer bolt & nut required with Tie Down Strap.

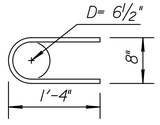


PLAN (SECTION)

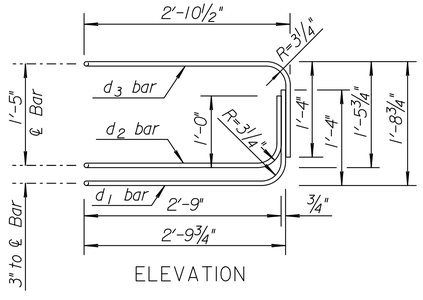




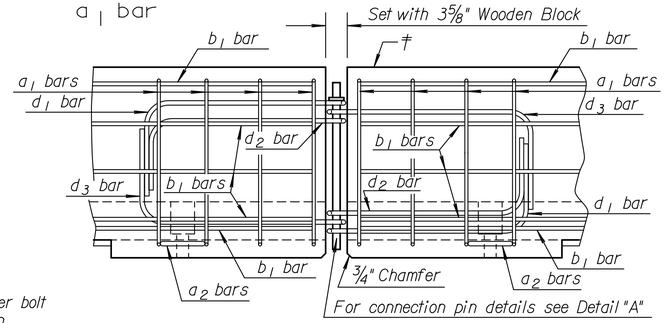
PLAN
LOOP BAR ASSEMBLY
(Marked end shown, invert for other end)
(Material as stated in General Notes)



a2 bar



ELEVATION



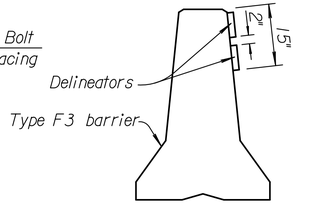
For connection pin details see Detail "A"

DETAILS OF BARRIER CONNECTION

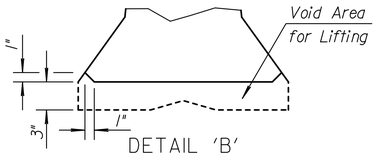
Per 12'-6" Barrier Section

REINFORCING A615 Gr. 60					
Bar	Bar Size	Shape	No. of Bars	Length Ft.	Weight Lbs.
a_1	#4		12	6'-0"	48.1
a_2	#6		6	2'-11"	26.3
b_1	#5		7	12'-2"	88.8
LOOP ASSEMBLY					
d_1	#6		2	8'-5"	25.3
d_2	#6		2	7'-7"	22.8
d_3	#6		2	8'-6"	25.5

Concrete Quantity = 1.3 C.Y.
(Dimensions are out to out of bars unless otherwise noted.)



DELINEATOR DETAILS



DETAIL 'B'
LIFTING SLOT DETAIL
(1" Chamfer to prevent spalling)

NOTE: At no time shall the barriers be lifted, moved, etc. by use of the loop bars: d_1, d_2 or d_3.

NO.	DATE	REVISIONS	BY	APP'D
6	7-17-17	Revised General Note	A.L.R.	S.W.K.
5	8-27-15	Added Note, Pay Length	K.E.K.	S.W.K.
4	5-17-13	Revised General Note, Clear Area	S.W.K.	J.O.B.
3	06-03-12	Revised General Note, Clear Area	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE SAFETY BARRIER TYPE F3

~~RD622~~

FHWA APPROVAL	8-9-17	APP'D. Scott W. King	
DESIGNED	DETAILED	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK.

Drawn By : cp
File : U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-rd622.dgn
Plotted : 31-JAN-2018 15:17

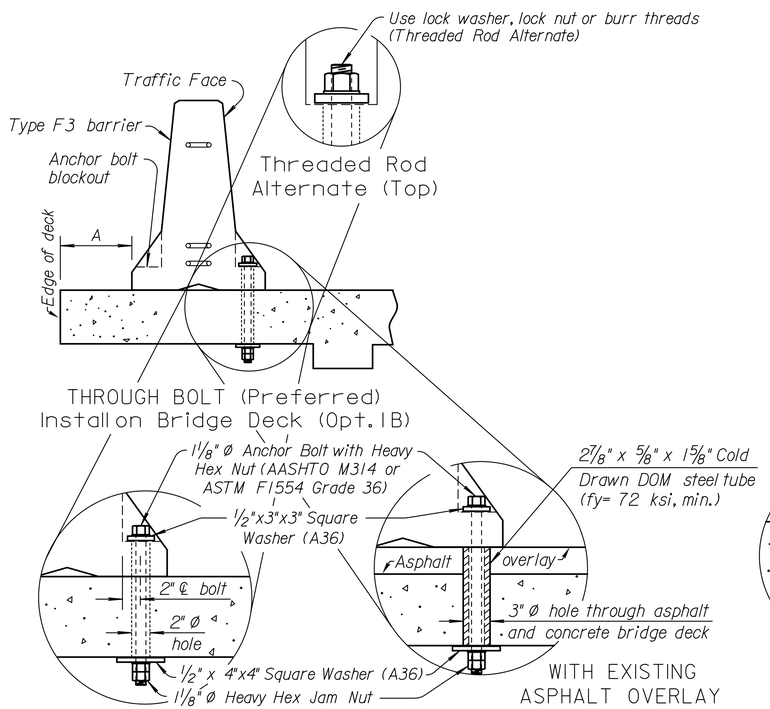
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	86	104

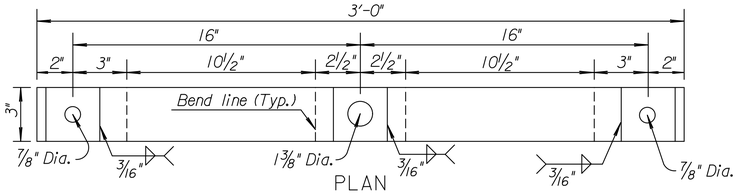
Option	BRIDGE DECK APPLICATION	
1 B	0′ ≤ A < 2′	Anchor each barrier with 3 bolts on traffic face
2 B	△2′ ≤ A < 4′	Anchor with Tie-down strap connector
3 B	A ≥ 4′	No anchorage required unless shown on plans

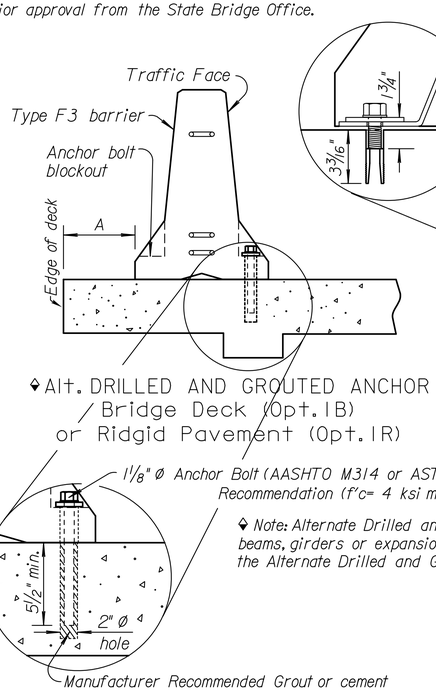
Option	ROAD PAVEMENT APPLICATION	
1 R	0" ≤ A < 2′	Anchor each barrier with 3-bolts on traffic face
2 R	6" ≤ A < 2′	Anchor with Tie-down Strap or Staked Down (flexible)
3 R	A ≥ 2′	No anchorage required

△ *This dimension may be reduced to 1′ on a newly constructed Bridge Deck.*

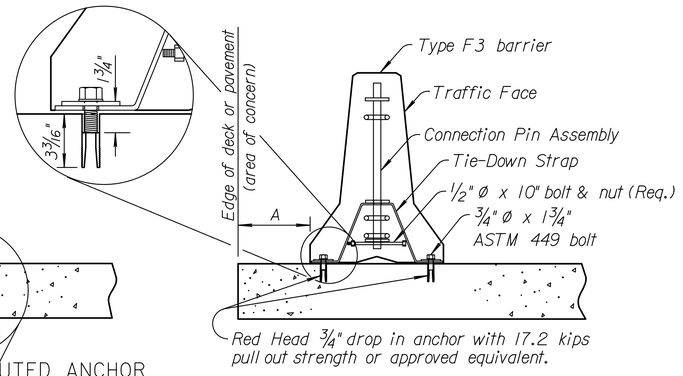
Note: BRIDGE APPLICATION (Opt. 1 B) may be used in lieu of (Opt. 2 B) with prior approval from the State Bridge Office.

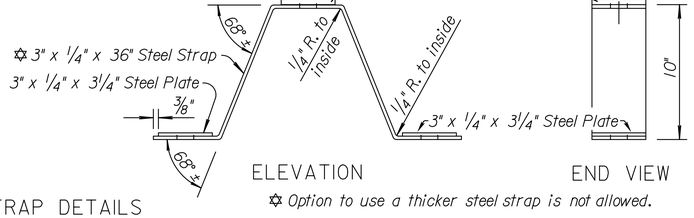






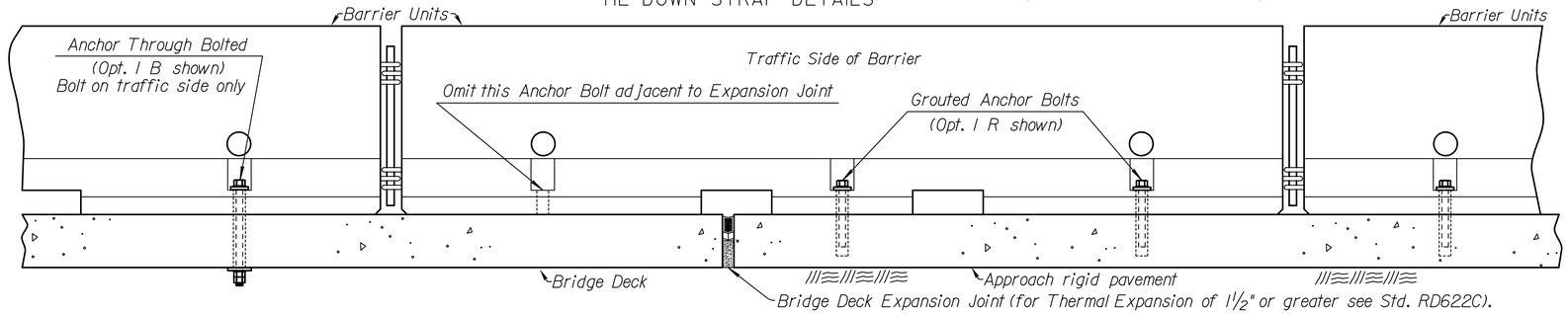
♦ *Note: Alternate Drilled and Grouted Anchor installation avoids damage to the support beams, girders or expansion joint. The State Bridge Office shall approve the use of the Alternate Drilled and Grouted Anchor installation for Opt. 1B applications.*



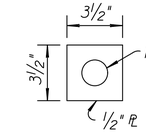


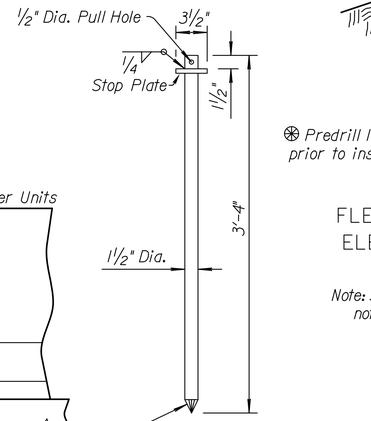
✡ *Option to use a thicker steel strap is not allowed.*

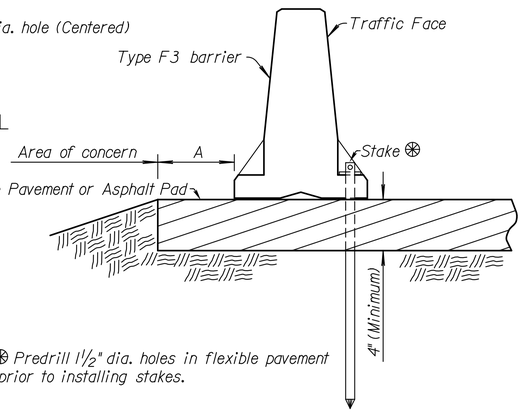
TIE-DOWN STRAP DETAILS



TREATMENT AT BRIDGE DECK EXPANSION JOINT SCHEMATIC (Expansion < 1½")







Note: See Std. Drawing No. RD622 for details and quantities not shown on this sheet.

GENERAL NOTES:

INSTALLATION: Holes into the pavement to anchor the concrete safety barrier may be drilled after positioning barrier. Install barrier with through anchor bolt where possible, use grouted anchor bolts where through bolt can't be used. Do not drill into or otherwise damage support beams, girders, or or expansion joints. All work and materials required for the installation of the anchors are subsidiary to the bid item "Traffic Control".

UTILITIES & STRUCTURES (Stakes) Verify buried utilities and structures within stake depth. If conflicts between stake and buried elements exist, up to 2 stakes maximum in a single barrier may be omitted if adjacent barriers have 3 stakes each.

ANCHORAGE: Use galvanized grouted anchor bolts, through anchor bolts, nuts & washers that meet standard specifications.

Install three anchor bolts or asphalt pins per barrier on the traffic side except on transition barrier as shown.

BARRIER REMOVAL: Remove grouted or wedge anchor system by drilling the anchor with a core barrel 2x the diameter of the insert. Core to a depth equal to the installed depth and remove the core, prepare the hole by removing any dust and debris. Fill hole with material that meets KDOT Prequalified "Non-shrink grouts for grouting anchor bolts and reinforcing into previously poured concrete". Follow the manufacturer's procedures for mixing, hole preparation and curing.

To fill through bolt anchor, remove and completely fill the hole using instructions for drop-in anchors except no coring is required.

For removed or relocated barrier on flexible pavement, fill stake holes completely with hot or cold asphalt patch material.

Work and materials required to remove and patch anchor holes is subsidiary to the bid item "Traffic Control".

SIGNING: For sign spacing, traffic control device details and reference notes, see Index of Sheets.

TEMPORARY BARRIERS: Temporary Barriers shown in the details of this drawing are not allowed for permanent installations.

See RD622D for transition details between anchored and free-standing barriers.

NO.	DATE	REVISIONS	BY	APP'D
6	12-31-13	Rev. Note (Alt. Drill. & Grout. Anch.)	S.W.K.	J.O.B.
5	6-27-11	Revised General Note	S.W.K.	J.O.B.
4	9-14-10	Add. through bolt with asphalt over.	S.W.K.	J.O.B.
3	2-2-10	Rev. Anchor to Tie-down callout	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE SAFETY BARRIER TYPE F3 ANCHORAGE

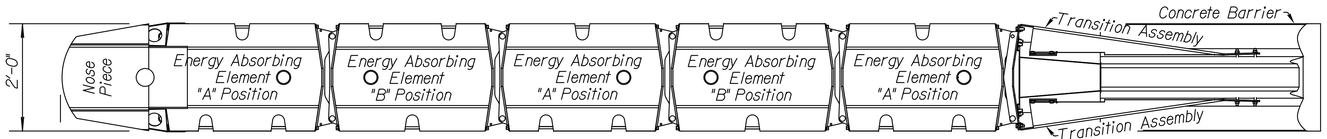
~~RD622B~~

FHWA APPROVAL	9-4-14	APP'D. James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King

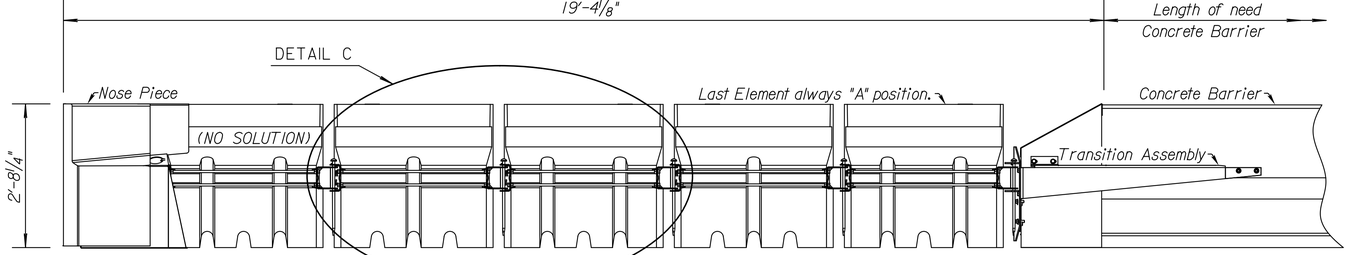
Note to Designer: For use on Haunched slab bridges, the Road Designer shall coordinate with the Bridge Designer for "corridor in the reinforcing steel layout to accommodate barrier anchoring". Bridge Designer shall coordinate barrier layout with Bridge Designer to accomodate for expansion during construction.

Plotted: 31-JAN-2018 15:17
Drawn By: cp
File: U:\Wichita-Civil\2008\08313\003\Muni-Trans\Drawings\Standards\08313-003-rd622d.dgn

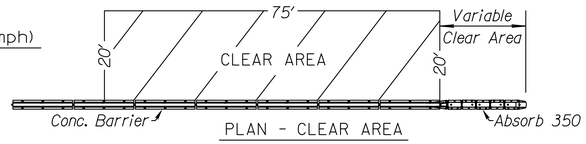
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	87	104



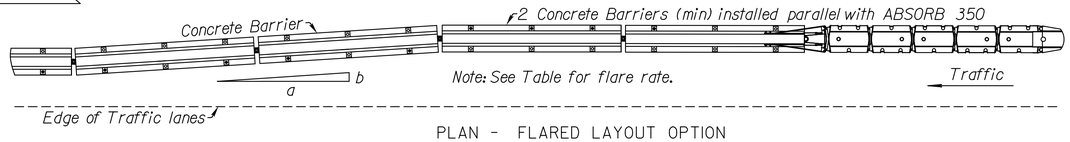
PLAN - ABSORB 350 (TL2 ≤ 45 mph)



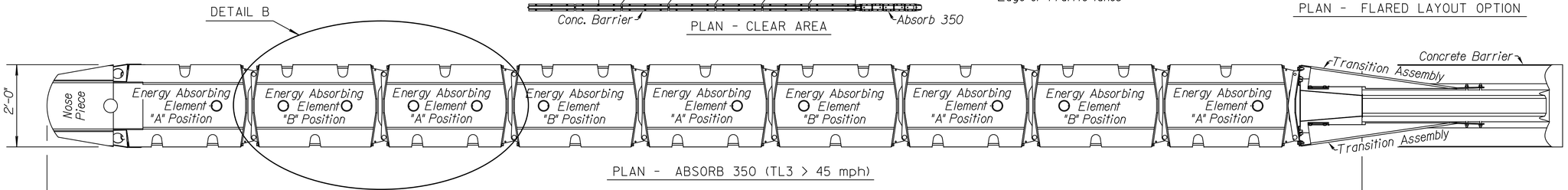
ELEVATION - ABSORB 350 (TL2 ≤ 45 mph)



PLAN - CLEAR AREA

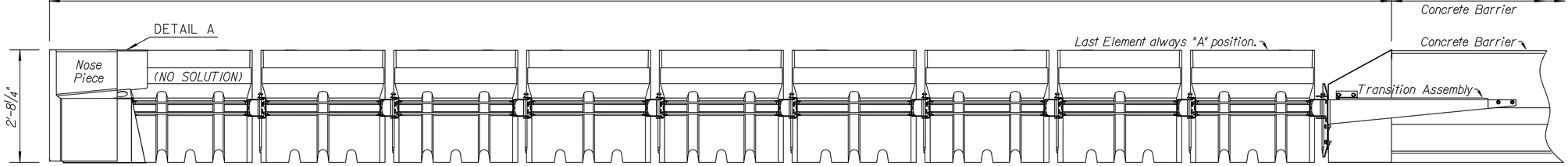


PLAN - FLARED LAYOUT OPTION

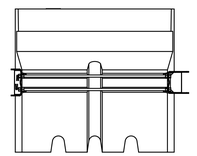


PLAN - ABSORB 350 (TL3 > 45 mph)

Design Parameters	
Design Speed (mph)	Flare Rate (a:b)
70	15:1
60	14:1
55	12:1
50	11:1
45	10:1
40	8:1



ELEVATION - ABSORB 350 (TL3 > 45mph)



ELEVATION
Replacement Module
("B" Position shown)

GENERAL NOTES

ABSORB 350 (TL2 or TL3) details shown are for "Information Only" and may not be an exact detail of ABSORB 350. See Engineer's copy of ABSORB 350 (TL2 or TL3) Installation Manual for component details, installation procedure and maintenance.

ABSORB 350 (TL2 or TL3) installation in Kansas requires an antifreeze solution regardless of the time of year. Use an antifreeze solution of Calcium Chloride (CaCl2) 25% by weight, Calcium Magnesium Acetate (CMA) 32% by weight or Potassium Acetate (KAc) 32% by weight. Fill elements within 2" of the top with anti-freeze solution, inspect elements regularly to insure adequate fill levels.

Do not fill FIRST ELEMENT behind the NOSE PIECE with solution but leave empty.

Transport, reused or dispose of antifreeze solution properly when emptying Absorb 350 elements.

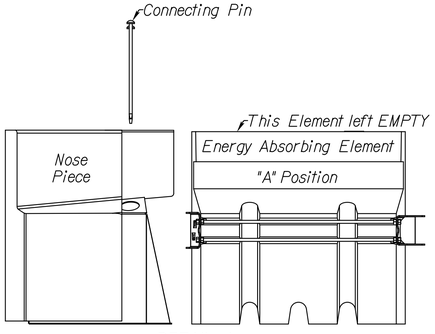
The ABSORB 350 can connect to permanent or temporary F-Shape Barrier. Units shown this sheet abuts barrier up to 24" wide with a Transition Assembly.

Install ABSORB 350 Impact Attenuator on a paved surface with a cross slope of 8% or less.

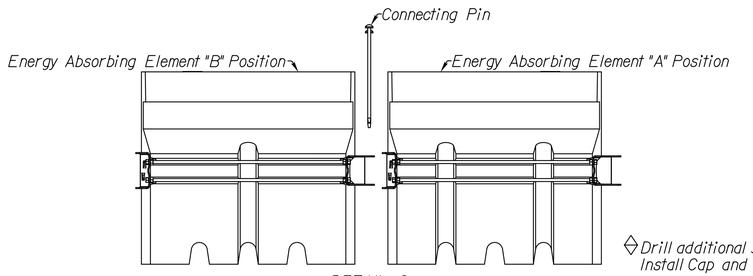
Maintain a clear area free of obstructions behind ABSORB 350 Terminal Assembly. Keep an additional Clear Area 20' parallel from the back of barrier for a distance of 75' behind ABSORB 350 Terminal Assembly.

Do not install Absorb 350 Impact Attenuator in Narrow Medians, on Elevated Structures or where Clear Area can't be achieved.

All work and material required for installation of this Impact Attenuator to be paid under the bid item "Traffic Control".

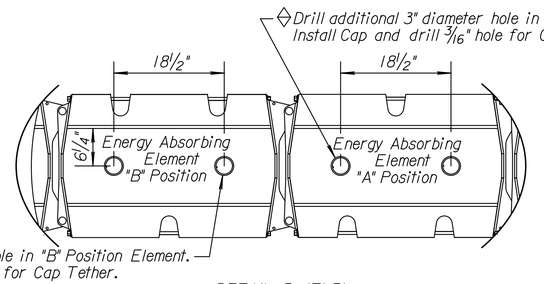


DETAIL A



DETAIL C

◇ Additional holes required on some higher speed configurations. See ABSORB 350 System Configuration Chart for location of additional vent holes.



DETAIL B (TL3)

NO.	DATE	REVISIONS	BY	APP'D
2	10-05-10	Rev. notes & flared layout opt.	S.W.K.	J.O.B.
1	11-16-09	Revised Temporary Bld Item	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

IMPACT ATTENUATOR ABSORB 350 (TL2 OR TL3) (for Temporary Installation

~~RD627B~~

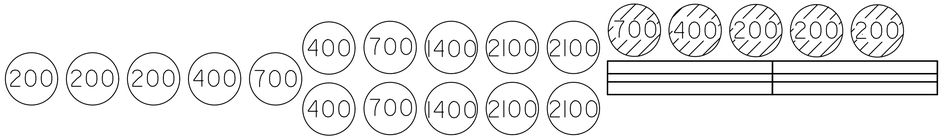
FHWA APPROVAL	5-26-11	APP'D. James O. Brewer	
DESIGNED	DETAILED RGC	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King

Note to Designer: Where the chance of high angle, high speed impacts are low, Consider using a redirective crash cushion when these types of impacts are likely to occur.

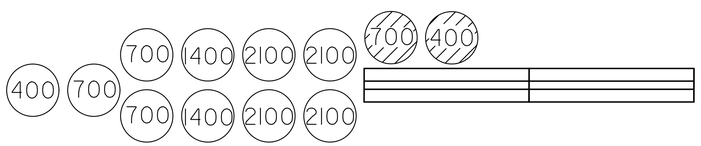
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STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85393	2018	88	104

HIGH SPEED TL-3
(V > 45 MPH)



LOW SPEED TL-2
(V ≤ 45 MPH)



GENERAL NOTE

This drawing details general configurations for Inertial Barrier Systems. Some project specific conditions may require variations which are designed to meet prevailing criteria.

Use Inertial Barrier System consisting of the units as shown for the specified design speed, all hardware and attachments.

Install Inertial Barrier System on a flat, stable base with cross-slope no steeper than 10:1. See Manufacturer's recommendations for module materials and method of installation.

See standard specifications for mixture to fill modules requirements.

Provide a 6" spacing between modules and one foot between the end of concrete barrier or other rigid object.

When installed as part of project traffic control, the bid item "Traffic Control" includes the original installation and required relocations.

Keep available replacement modules to replace any size module used on site, Engineer's direction.

Inertial Barrier System modules damaged by the Contractor during relocation of Inertial Barrier System are replaced at the Contractor's expense.

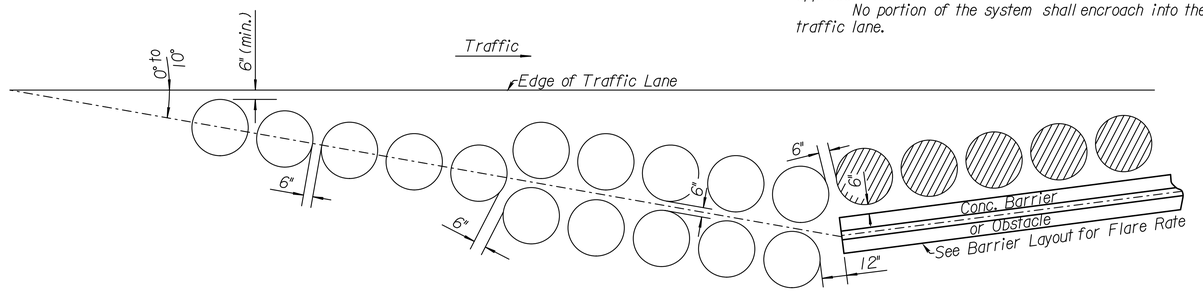
Module weights shown are in pounds.

Install 270 square inches of Type II High Performance (vertical, rectangular or diamond shape) reflective sheeting on first module of Inertial Barrier System facing traffic.

Where sufficient space is available the Inertial Barrier System may be aligned at an angle, not to exceed 10°, in the direction of approach traffic.

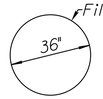
No portion of the system shall encroach into the approach traffic lane.

INERTIAL BARRIER SYSTEM			
Station	*Side*	*Design Speed*	*Comments*
601+29	*℄*	*65*	*T.C. Stage 4*
601+70	*Lt.*	*65*	*T.C. Stage 2*
603+00	*Rt.*	*65*	*T.C. Stage 4 & 5*
604+80	*Lt.*	*65*	*T.C. Stage 3C, 4 & 5*

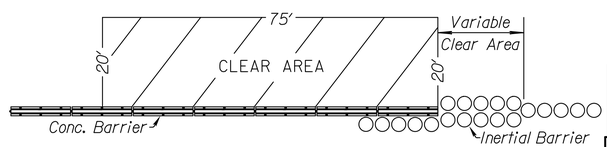


TYPICAL PLAN of INERTIAL BARRIER

When two-way traffic is adjacent to only one side of Concrete Barrier or Obstacle, these additional modules will be placed on the Traffic Side of Concrete Barrier or Obstacle. Traffic adjacent to both sides of the Concrete Barrier or Obstacle requires an additional set of modules each side if approach traffic is exposed to the back portion of the Inertial Barrier. These additional modules are not required along the sides of Concrete Barrier or Obstacle when it's location is outside the Clear Zone or one-way directional traffic.



PLAN
Replacement Module



PLAN - CLEAR AREA

NO.	DATE	REVISIONS	BY	APP'D
8	1-27-15	Rev. Layouts (TL-2/TL-3)	K.E.K.	J.O.B.
7	5-17-13	Added Detail, Clear Area	S.W.K.	J.O.B.
6	2-3-12	Revised General Note	S.W.K.	J.O.B.
5	6-27-11	Rdvised notes & Typical Plan detail	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

INERTIAL BARRIER (TL2 or TL3)

~~RD620~~

FHWA APPROVAL	9-16-15	APP'D. James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King

Drawn By : cp
Plotted : 01-FEB-2018 08:14
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	89	104

578+63.50

R/W

STAGE1 C=4 F=1 | STAGE2 C=0 F=0 | STAGE3 C=0 F=0

STAGE5 C=0 F=0 | STAGE6 C=0 F=0

1334.65

10:1

578+39.00

R/W

STAGE1 C=17 F=9 | STAGE2 C=0 F=0 | STAGE3 C=0 F=0

STAGE5 C=0 F=0 | STAGE6 C=0 F=0

1334.76

2.0%

6:1

6:1

1332.35

578+13.50

R/W

STAGE1 C=27 F=5 | STAGE2 C=0 F=0 | STAGE3 C=0 F=0

STAGE5 C=0 F=0 | STAGE6 C=0 F=0

1334.93

2.0%

6:1

6:1

1332.75

577+88.50

STAGE1 C=31 F=1 | STAGE2 C=0 F=0 | STAGE3 C=0 F=0

STAGE5 C=0 F=0 | STAGE6 C=0 F=0

1335.04

2.4%

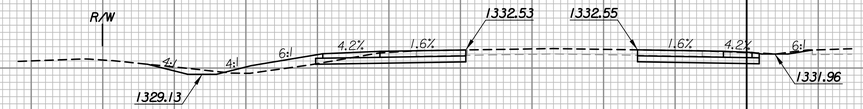
6.7%

STA.577+88.50 To STA.578+63.50

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

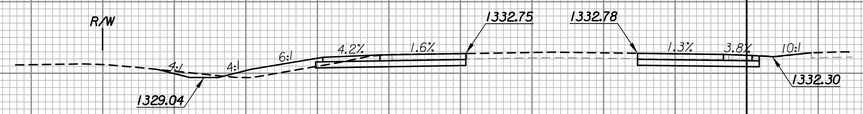
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	90	104



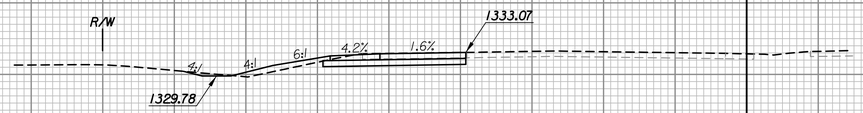
583+50.00

STAGE1 C=0 F=0 | STAGE2 C=26 F=13 | STAGE3 C=19 F=1 | STAGE5 C=0 F=0 | STAGE6 C=0 F=0



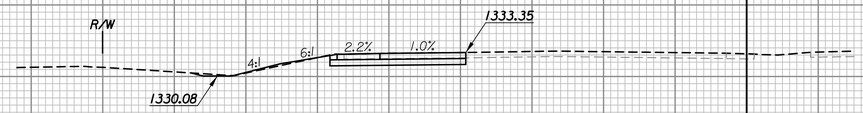
583+07.50

STAGE1 C=0 F=0 | STAGE2 C=24 F=13 | STAGE3 C=16 F=1 | STAGE5 C=0 F=0 | STAGE6 C=0 F=0



582+50.00

STAGE1 C=0 F=0 | STAGE2 C=22 F=9 | STAGE3 C=0 F=0 | STAGE5 C=0 F=0 | STAGE6 C=0 F=0



582+03.25

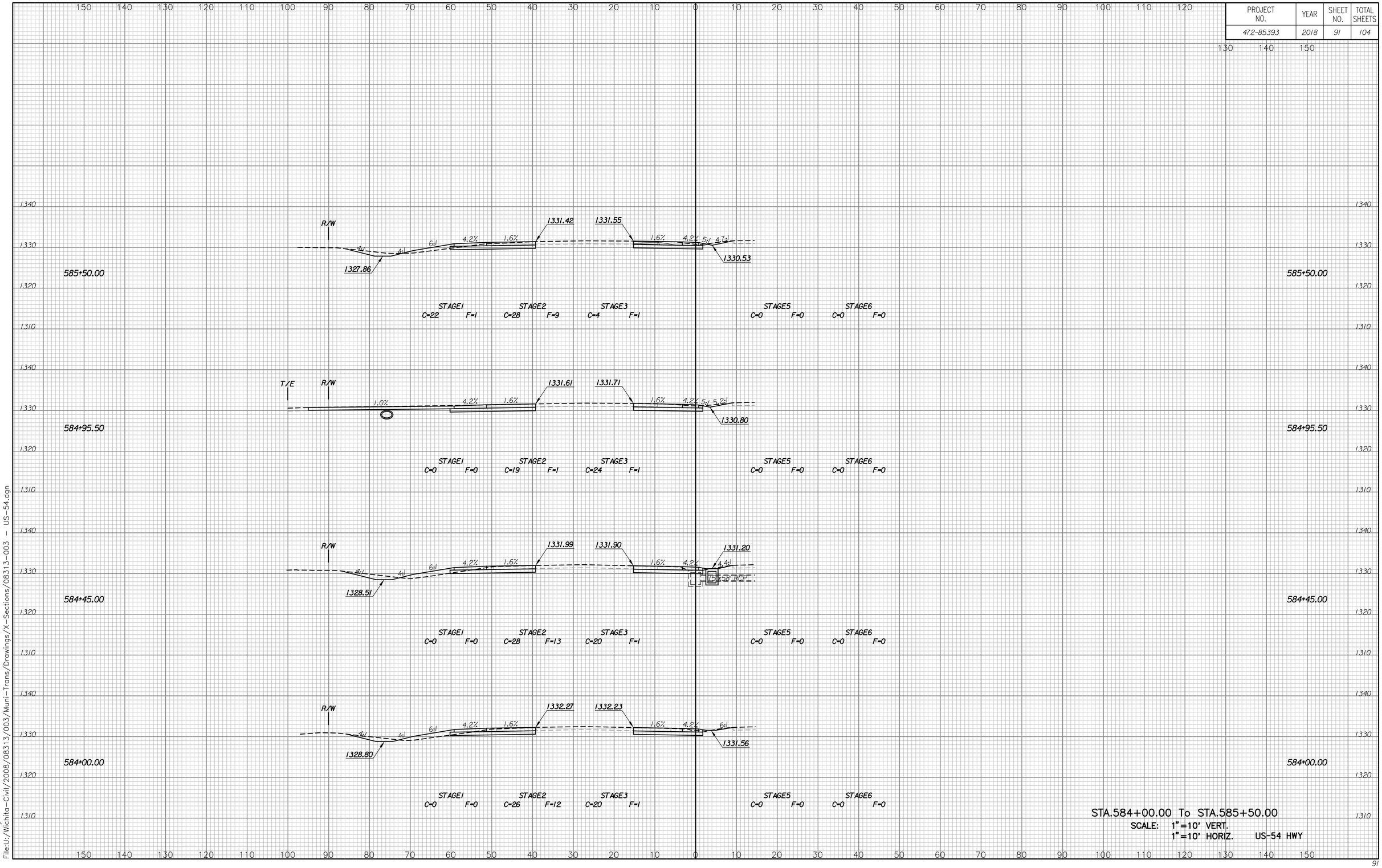
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STA.582+03.25 To STA.583+50.00

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	91	104

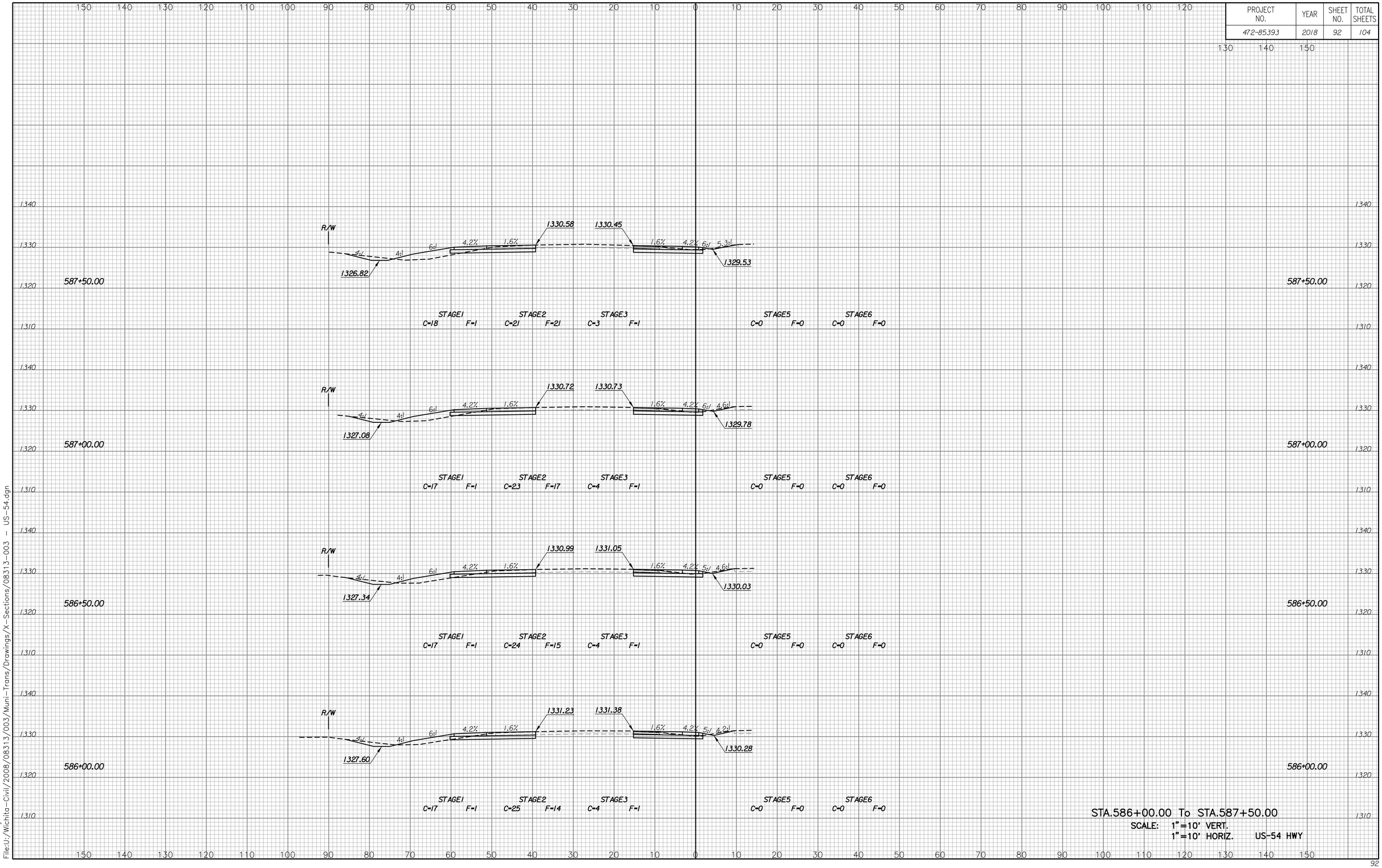


STA.584+00.00 To STA.585+50.00

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	92	104

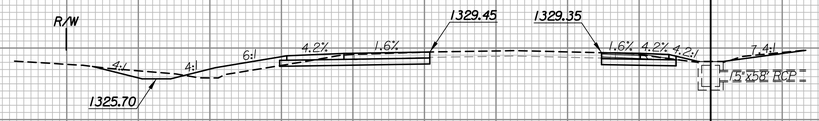


STA.586+00.00 To STA.587+50.00

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
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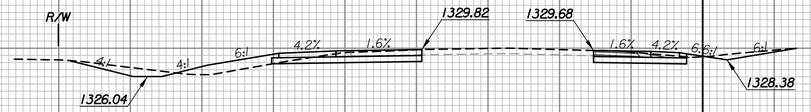
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	93	104



589+64.50

589+64.50

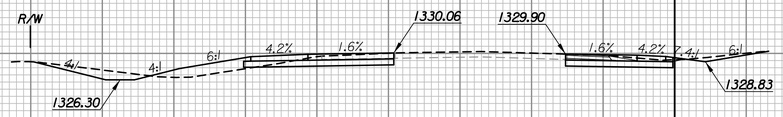
STAGE1 C=13 F=1 | STAGE2 C=26 F=15 | STAGE3 C=4 F=2 | STAGE5 C=0 F=0 | STAGE6 C=0 F=0



589+00.00

589+00.00

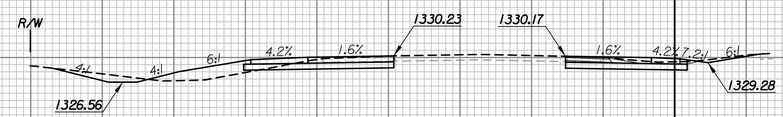
STAGE1 C=16 F=1 | STAGE2 C=28 F=16 | STAGE3 C=7 F=1 | STAGE5 C=0 F=0 | STAGE6 C=0 F=0



588+50.00

588+50.00

STAGE1 C=19 F=1 | STAGE2 C=28 F=17 | STAGE3 C=6 F=1 | STAGE5 C=0 F=0 | STAGE6 C=0 F=0



588+00.00

588+00.00

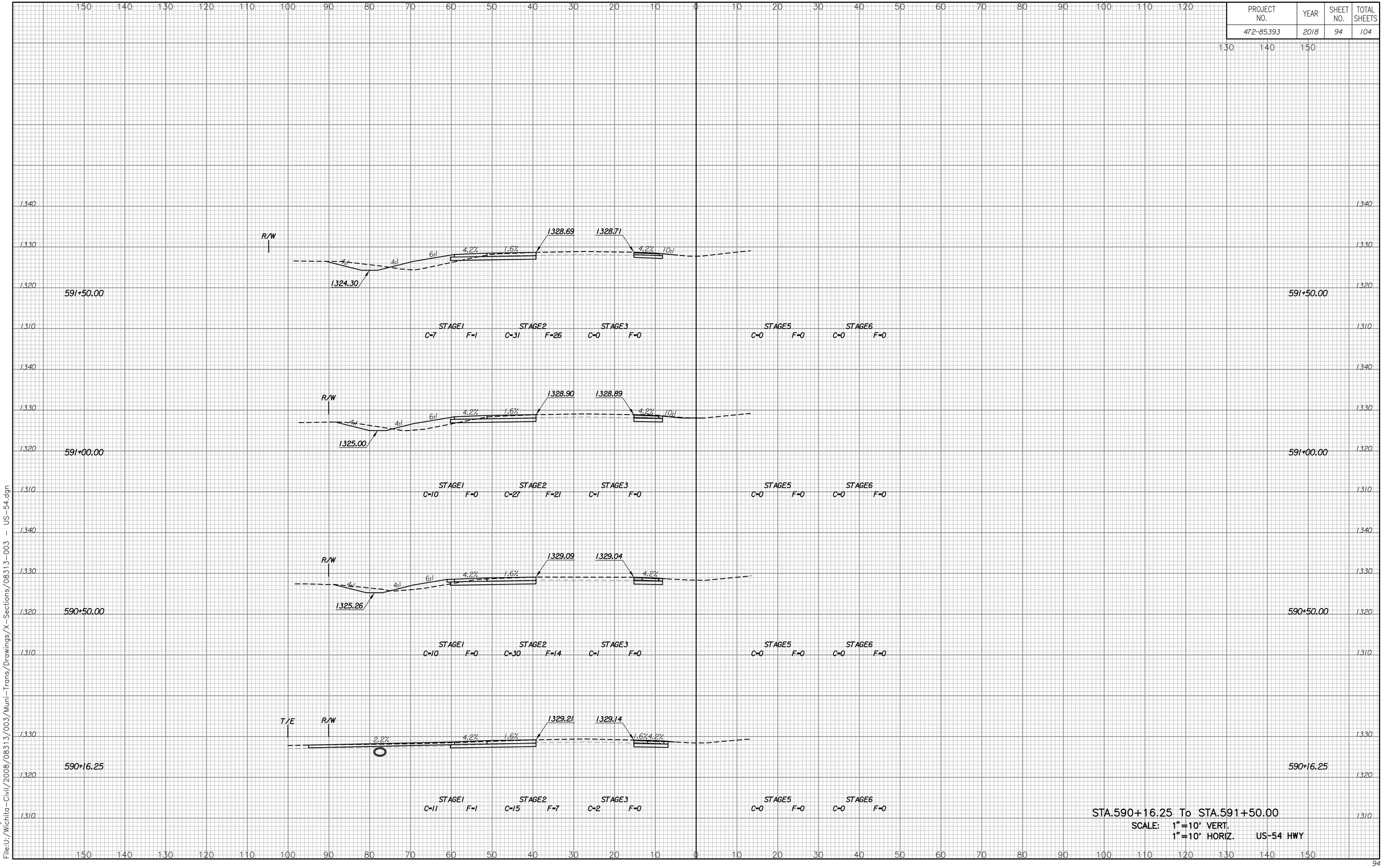
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STA.588+00.00 To STA.589+64.50

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
File:U:/Wichita-Civil/2008/08313/003/Muni-Trans/Drawings/X-Sections/08313-003 - US-54.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	94	104

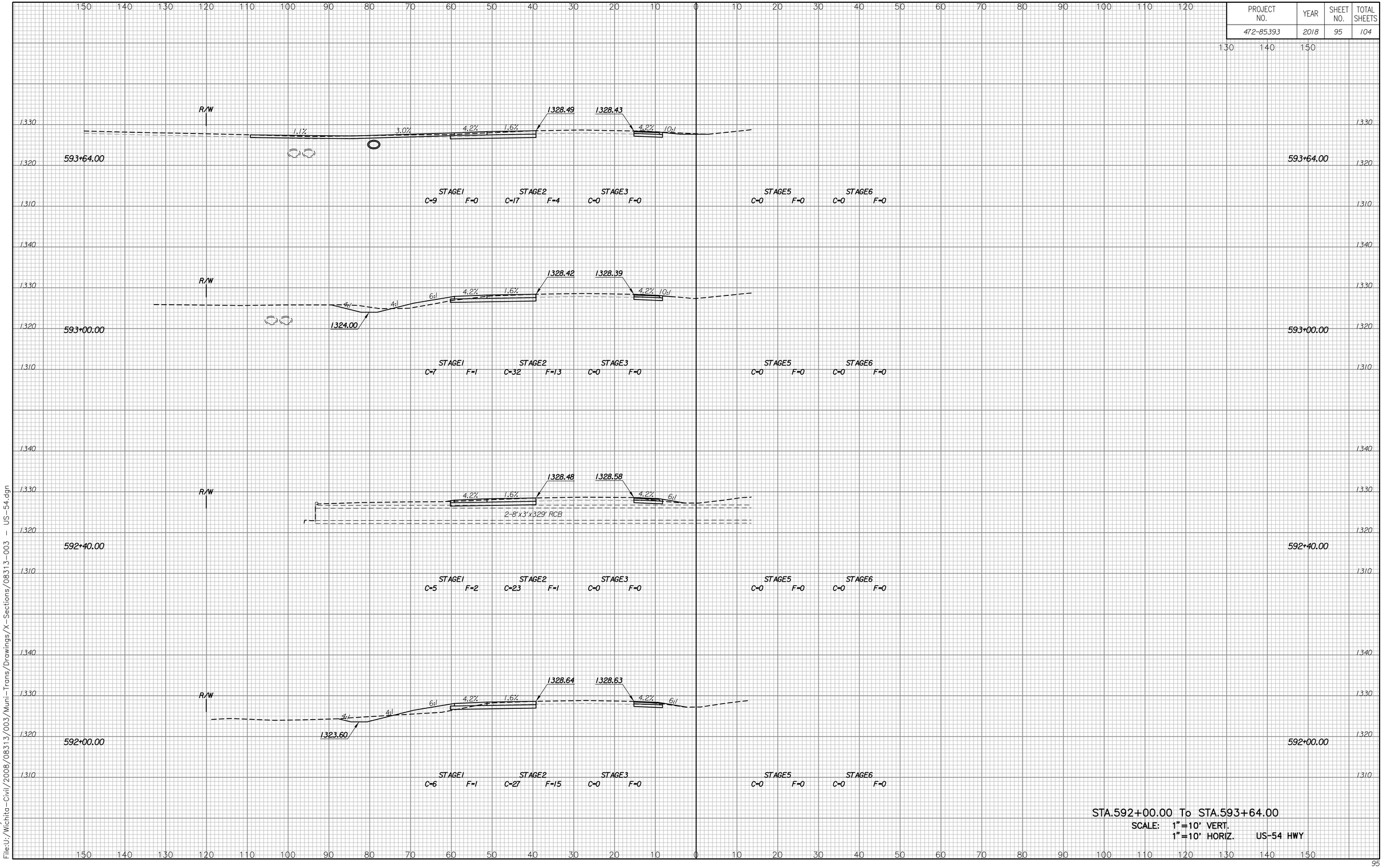


STA.590+16.25 To STA.591+50.00

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	95	104

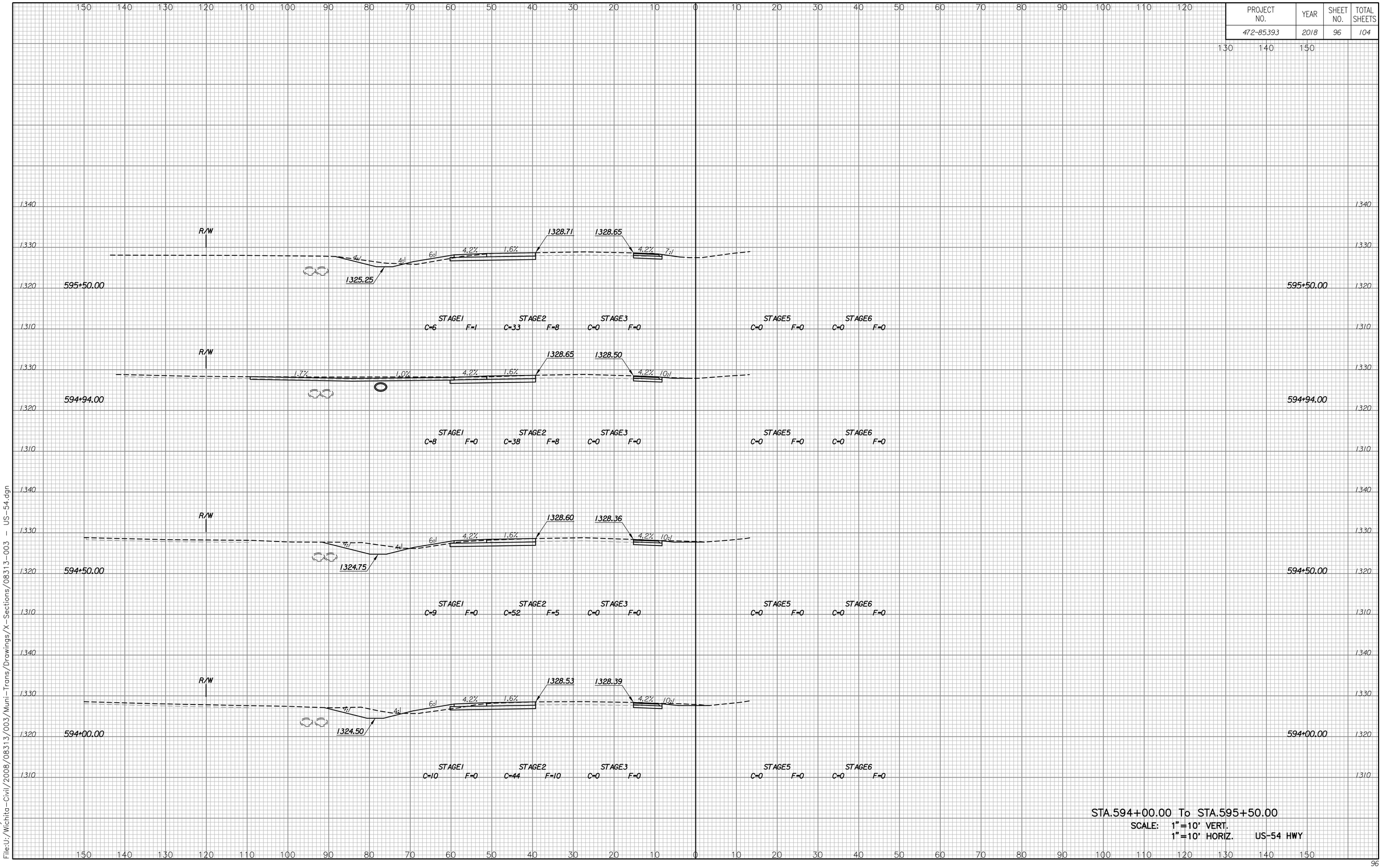


STA.592+00.00 To STA.593+64.00

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1"=10' HORIZ. US-54 HWY

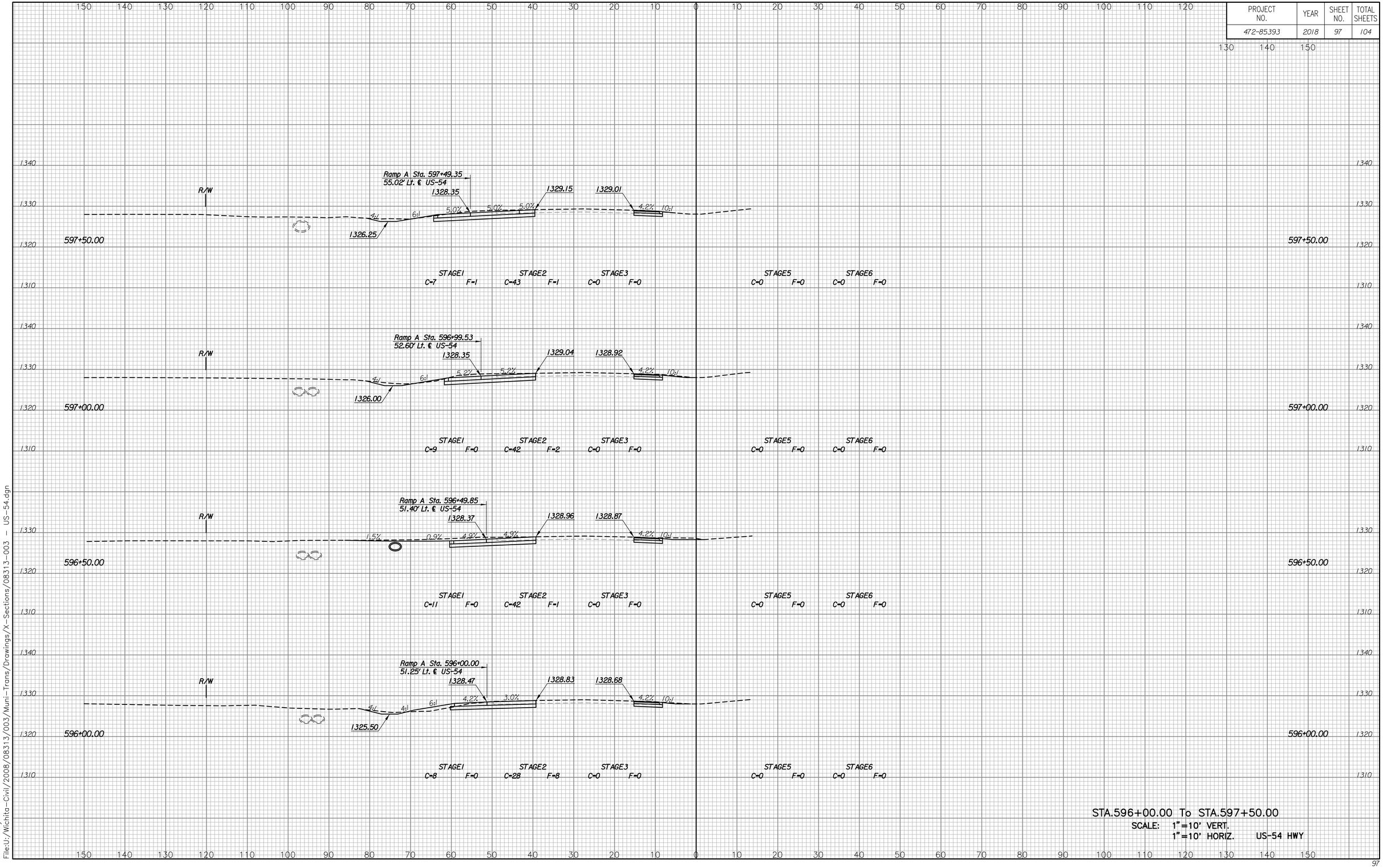
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	96	104



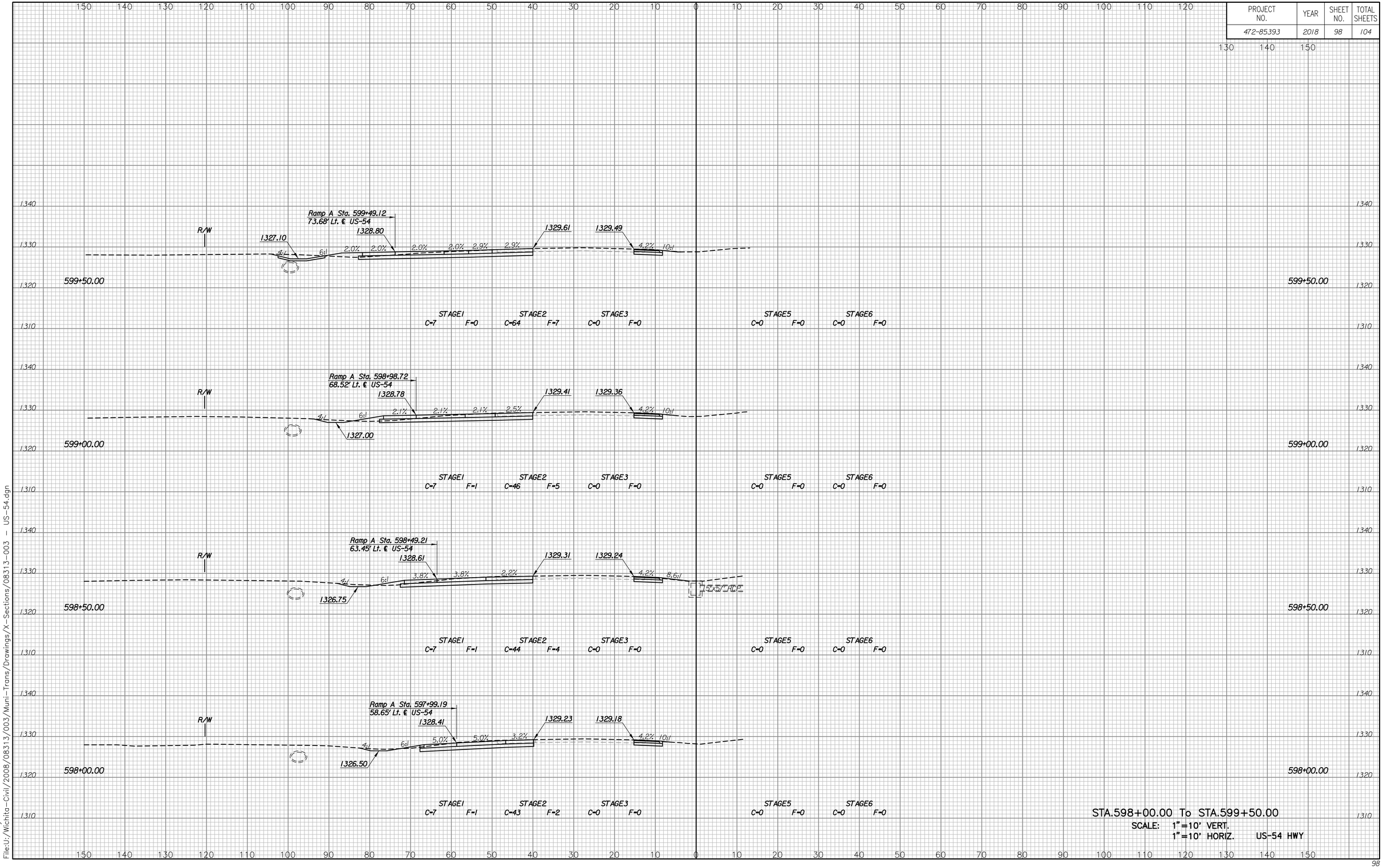
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	97	104



Plotted By:CKC Date:01-19-2018
File:U:/Wichita-Civil/2008/08313/003/Muni-Trans/Drawings/X-Sections/08313-003 - US-54.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	98	104

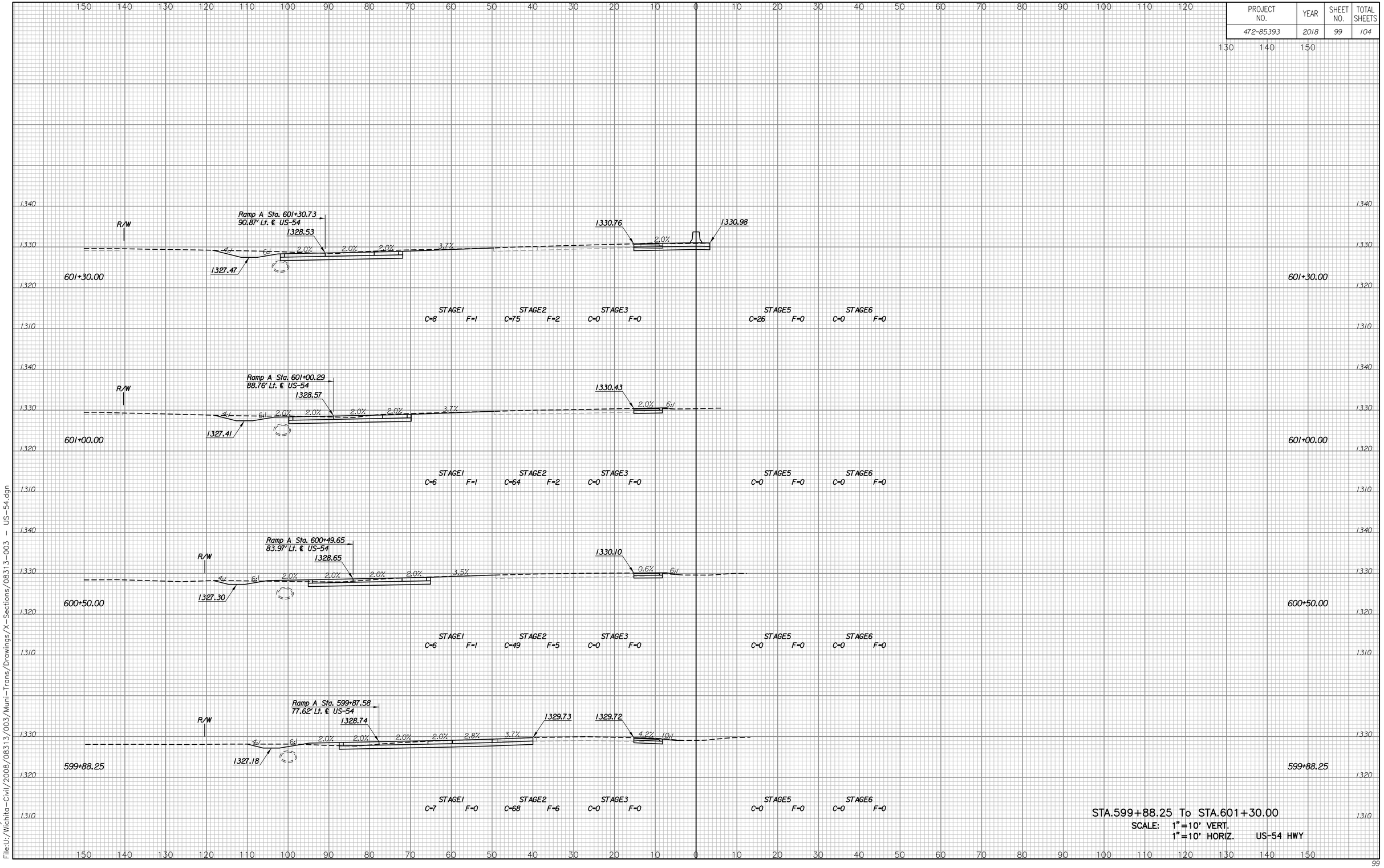


STA.598+00.00 To STA.599+50.00

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

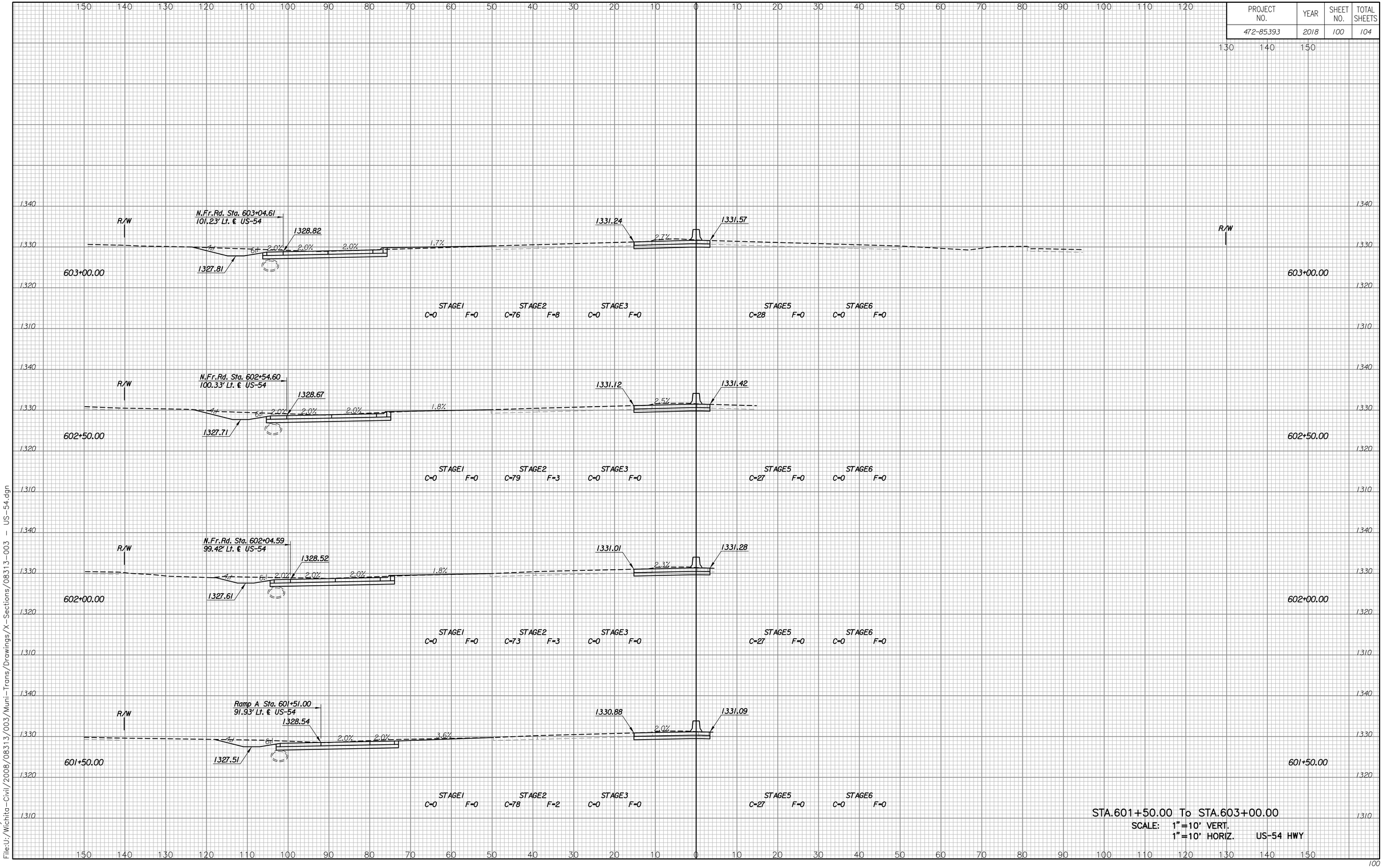
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	99	104



Plotted By:CKC Date:01-19-2018
File:U:/Wichita-Civil/2008/08313/003/Muni-Trans/Drawings/X-Sections/08313-003 - US-54.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	100	104

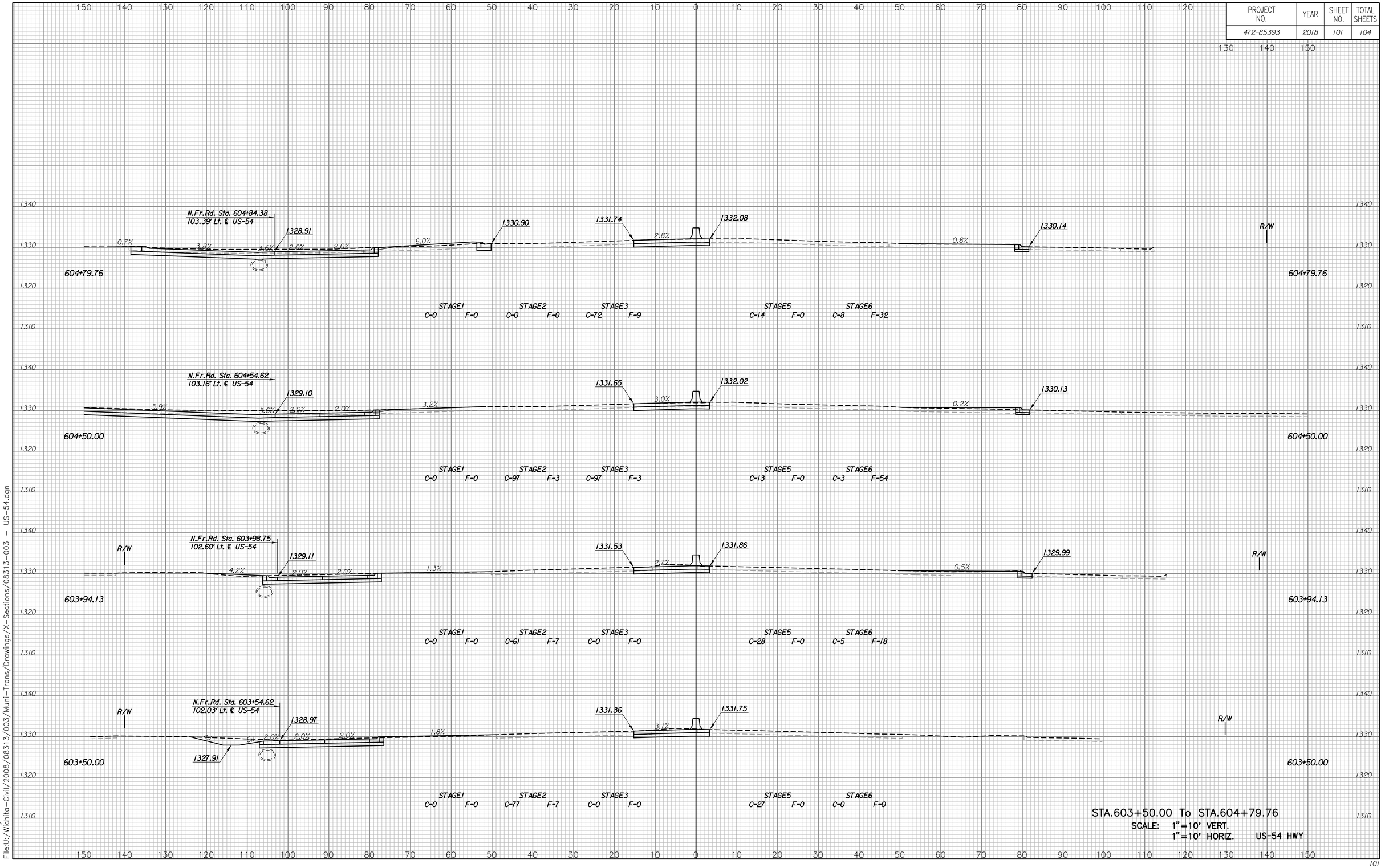


STA.601+50.00 To STA.603+00.00

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
File:U:/Wichita-Civil/2008/08313/003/Muni-Trans/Drawings/X-Sections/08313-003 - US-54.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	101	104



STA.603+50.00 To STA.604+79.76

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
File:U:/Wichita-Civil/2008/08313/003/Muni-Trans/Drawings/X-Sections/08313-003 - US-54.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	102	104

606+00.00

R/W

1332.45

1332.41

0.7%

R/W

606+00.00

STAGE1 C=0 F=0 | STAGE2 C=0 F=0 | STAGE3 C=0 F=0 | STAGE5 C=15 F=0 | STAGE6 C=0 F=0

605+50.00

R/W

1332.29

1332.26

0.6%

R/W

605+50.00

STAGE1 C=0 F=0 | STAGE2 C=0 F=0 | STAGE3 C=0 F=0 | STAGE5 C=16 F=0 | STAGE6 C=0 F=0

605+32.98

R/W

N.Fr.Rd. Sta. 605+37.60
103.65' Lt. ℄ US-54

1328.56

2.1% 1.6% 1.6% 8.2%

1332.22

1332.21

0.5%

R/W

605+32.98

STAGE1 C=0 F=0 | STAGE2 C=0 F=0 | STAGE3 C=25 F=4 | STAGE5 C=17 F=0 | STAGE6 C=4 F=2

604+88.75

R/W

N.Fr.Rd. Sta. 604+93.37
103.44' Lt. ℄ US-54

1328.83

0.8% 1.3% 3.6% 2.0% 2.0% 6.3%

1330.89

1331.77

2.6%

1332.15

0.5% 0.9%

R/W

604+88.75

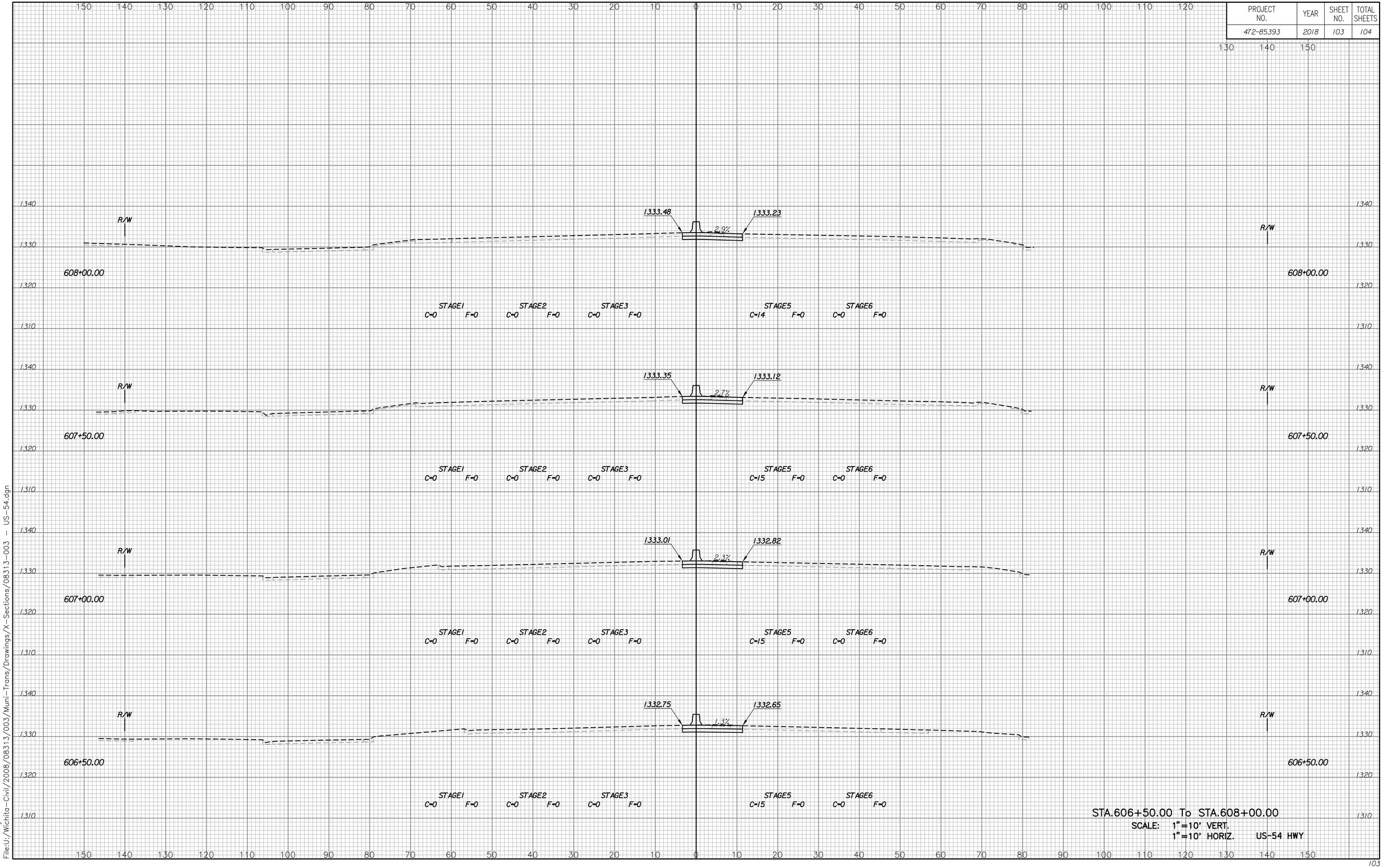
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STA.604+88.75 To STA.606+00.00

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
File:U:/Wichita-Civil/2008/08313/003/Muni-Trans/Drawings/X-Sections/08313-003 - US-54.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	103	104

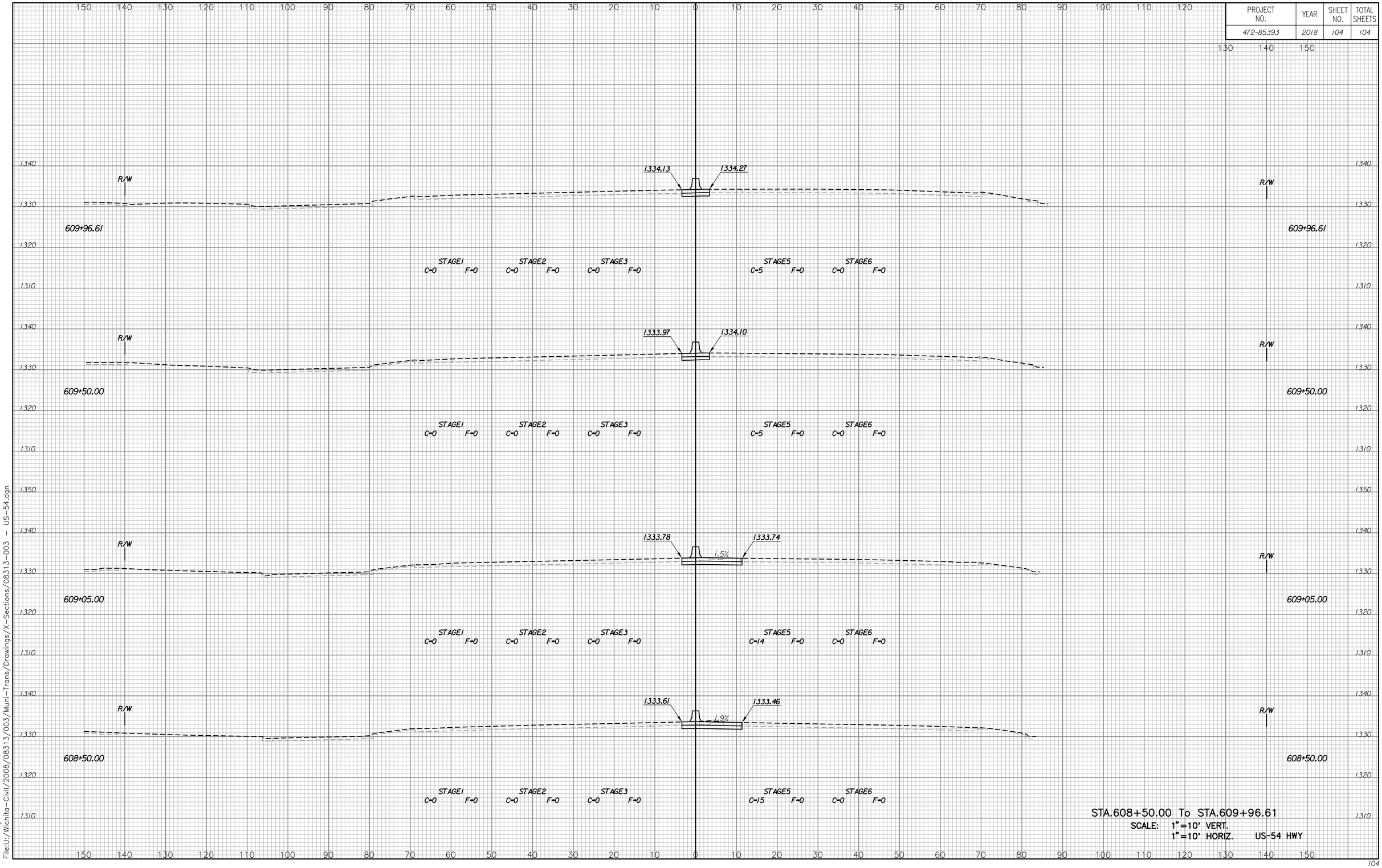


STA.606+50.00 To STA.608+00.00

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1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
File:U:/Wichita-Civil/2008/08313/003/Muni-Trans/Drawings/X-Sections/08313-003 - US-54.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-85393	2018	104	104



STA.608+50.00 To STA.609+96.61

SCALE: 1"=10' VERT.
1"=10' HORIZ. US-54 HWY

Plotted By:CKC Date:01-19-2018
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