PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	1	113

PAVEMENT AND DRAINAGE IMPROVEMENTS

FLOODWAY CROSSING-PHASE I
13TH STREET & RIDGE ROAD INTERSECTION

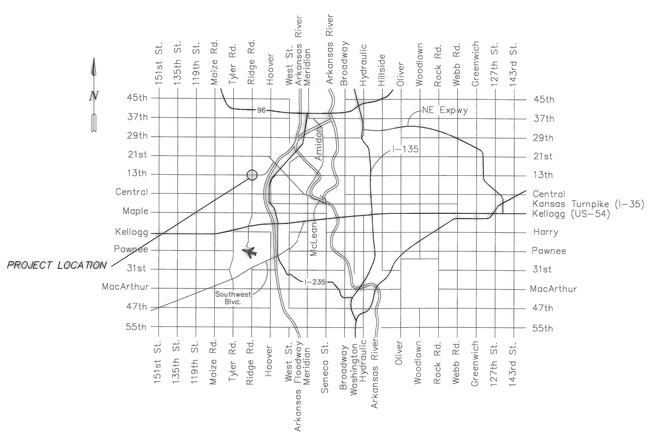
OCA NO. 770005
CITY OF WICHITA PROJ. NO. 472-84817 PHASE I

CITY OF WICHITA, KANSAS

JAMES L. ARMOUR, P.E., L.S. - CITY ENGINEER

NOVEMBER 2011

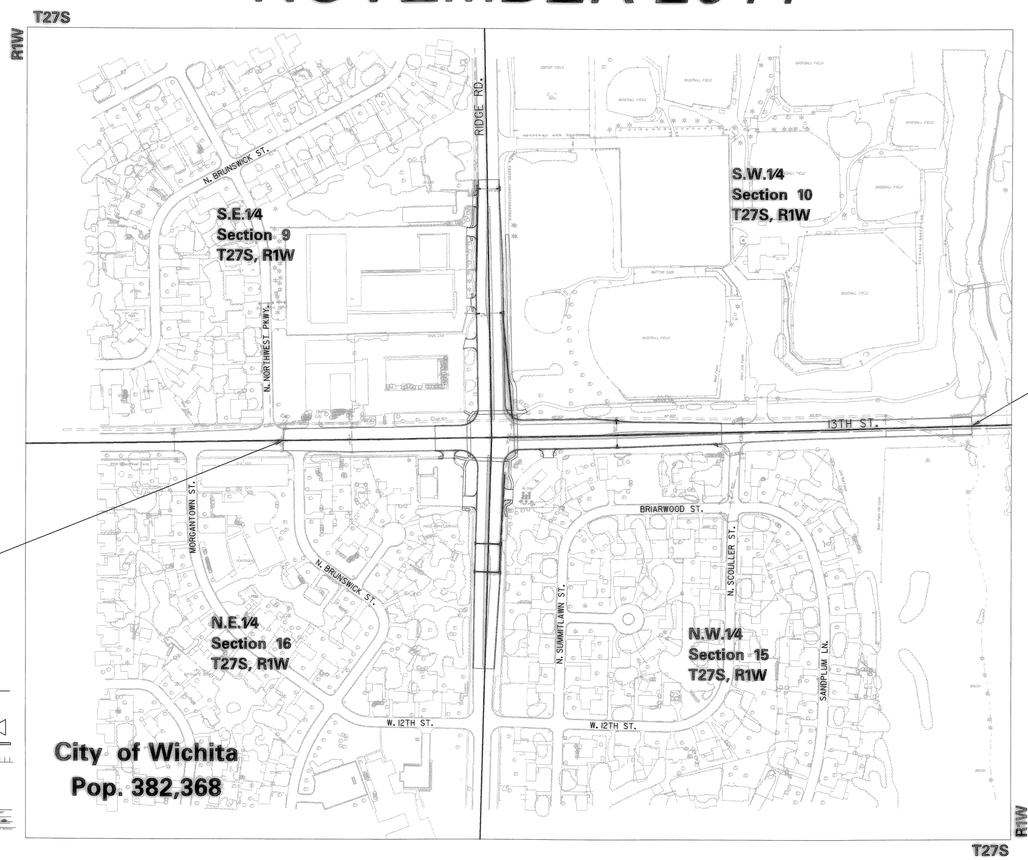
LOCATION MAP



DESIGN DESIGNATION

AADT (2011)	=	5763
AADT (2040)	=	9825
DHV	=	16%
D	=	63/37
T	=	3.5%
V	=	40 MPH
C of A	=	PARTIAL
Clear Zone	=	16'

THIS DESIGN SPECIFICALLY PREPARED FOR USE AT THE LOCATION SHOWN. USE IN ANY OTHER MANNER EXCEEDS THE INTENDED PURPOSE OF THESE DRAWINGS AND ANY ACCOMPANYING SPECIFICATIONS.



STA. 194+20.00 BEGIN
Project No. 472-84817 PHASE I

STA. 213+39.50 END
Project No. 472-84817 PHASE I =
Sta. 1124+39.35 on
Project No. 472-84817 PHASE III &
Project No. 235-87 KA-2040-01

CONVENTIONAL SIGNS

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

50 1 1172.18

NET LENGTH OF PROJECT 1919.50 FT. 0.36 MILES

N
SCALE = 1"=200'

INDEX OF SHEETS

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2	General Notes
3	Alignment Detail Sheet
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36	Wheelchair Ramp Details
37	Sidewalk & Steps
38-44	Inlet & Manhole Details
45	Schedule of Inlets & Manholes
46-47	Summary & Recapitulation of Quantities
48-52	Erosion Control - BMP's
53-56	SWPPP
57	Landscape Details & Quantities
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72-79	Signing & Marking Plans
80-100	Traffic Control Plans
101	Drainage Area Map
102	Cross Section Layout
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SEALED FOR SHTS. 80-100

PREPARED & SUBMITTED BY
HNTB
OVERLAND PARK, KANSAS

ENGINEER

10-3-11
DATE

APPROVED - DATE 09-29-2011

JAMES L. ARMOUR, P.E. CITY ENGINEER
CITY OF WICHITA, SEDWICK COUNTY, KANSAS
CITY NO. 472-84817 PHASE I

Plotted on: Thursday, September 22, 2011 10:46 AM
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	2	113

GENERAL NOTES

1. At borrow area locations adjacent to the right of way, utility poles may be set at the permanent locations prior to construction, as approved by the Engineer, provided a minimum vertical clearance, in accordance with the national electric safety code, is obtained. The Contractor will be required to work around these poles to complete the work.

2. All borrow to be obtained from areas provided by the Contractor shall be approved by the Engineer, both as to suitability of material and site location. Locations which, in the opinion of the Engineer, contain unsuitable material or will leave an unsightly appearance on the project will not be approved.

3. Embankment quantities for initial consolidation and settlement included in the earthwork quantities are SUBSIDIARY to other earthwork items. Material for the embankment is included in the excavation quantities. The Volume Multiplication Factor (VMF) has been computed to include quantities for intial consolidation and settlement.

4. The Contractor shall satisfy himself of surface and subsurface conditions prior to bidding. Each bidder shall also fully satisfy himself as to the extent of the scope of work to be performed.

5. Limits of earthwork shall match existing ground elevations at the right-of-way line unless otherwise noted on the plans with a new finished grade elevation. When a new finished grade elevation is shown, the earthwork shall extend one foot beyond the right-of-way line and then slope up or down using permissible slopes to match the existing ground surface.

6. The Contractor shall notify pipeline companies at least 24 hours in advance of any work being performed across and/or adjacent to pipelines.

7. Only active building drain lines are to be reconnected to the new storm sewer construction. It will be the sole responsibility of the Contractor to ascertain which such building drain lines and/or connections are active and which such drains and/or connections have been abandoned. All work involved with building drain line construction and/or building drain line connections shall conform to the applicable sections of the City of Wichita Code. This work, if necessary, will be SUBSIDIARY to other bid items.

8. The Contractor must examine the construction site prior to bidding and be satisfied as to the work shown for completion. After bids have been received, the Contractor shall not assert that there was a misunderstanding of the quantities of work or of the nature of the work.

9. All construction work and materials, unless otherwise noted, shall comply with City of Wichita standard specifications (1998) and/or KDOT Standard Specifications for State Road and Bridge Construction (2007).

10. Any fence removed for construction shall be repaired in a condition equal to or better than original, at no cost to the owner. This cost shall be considered SUBSIDIARY to other bid items.

11. The Contractor shall give property owners and/or tenants of developed property abutting the project limits a minimum of ten (10) days advance notice prior to start of construction.

12. The Contractor shall be responsible for preserving existing property irons. The Contractor will be required to reestablish any 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 reestablished by a licensed land surveyor in accordance with state laws and at no additional cost to the City.

13. Utilities service lines, poles, valve boxes, gas meters, and etcetera may need to be adjusted by others during construction. The Contractor will be required to coordinate construction activities with these utility owners. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within right-of-way which do not conflict with proposed construction.

14. Any incidental grading, in addition to that shown in the plans, which is required to maintain drainage during construction shall be SUBSIDIARY to other items of work. All existing or temporary drainage pipes that are to be abandoned in place shall be backfilled with Controlled Low Strength Flowable Fill.

15. All trees, hedge rows, shelter belts, and woody shrubs in public right-of-way which are in direct conflict with proposed construction shall be removed and disposed of by the Contractor with the Engineer's approval. Those that are located between the construction limits and right-of-way line or easement line that are not in direct conflict with construction activities shall be spared unless directed by the Engineer to be removed. All trees within the appropriate clear zone shall be removed.

16. Existing trees that are to remain in place are to be protected such that construction equipment will not damage them and that material will not be stock piled within the drip line of them.

17. All connections to existing pipe or existing structures shown shall be as detailed in the plans and/or as approved by the Engineer. All labor, materials, equipment, and incidentals necessary to make connections to existing pipe or existing structures shall not be paid for directly; but shall be SUBSIDIARY to other items of the contract.

18. The exact angles and dimensions of all pipes shall be determined in the field, by the Contractor and approved by the Engineer, prior to fabrication.

19. It shall be the Contractor's responsibility to coordinate with the utility owner to locate and flag all underground utilities prior to excavation to avoid damaging the utilities. 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 utilities directly.

20. The information shown in these plans concerning type and location of underground utilities is not guaranteed to be accurate or all-inclusive. The Contractor is responsible for making his own determinations as to the type and location of underground utilities as may be necessary to avoid damage thereto.

21. The field survey information shown on the drawings represents the existing topographic conditions as best as could be determined at the time of the survey. Differences in the vertical and horizontal control between the original grading/surfacing plans and the new survey could result in the field adjustment of transition lengths at locations where the new construction is to match existing features and profile grades.

22. A full depth saw cut of the existing pavement and curb and gutter shall be provided at the locations where proposed construction abuts an existing surface course or pavement for which partial removal of that surface or pavement is required. Sawed joint to facilitate removal within three (3) feet of existing joints will not be permitted and for such instances the limits of removal shall extend to the existing joint. Such saw cuts will not be paid for directly and this cost shall be considered SUBSIDIARY to the bid item "Pavement Removed".

23. All project waste including any trees, milled asphalt, rubble from miscellaneous structures, abandoned pipes, excess excavation & etc. shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance, and site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Materials 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 archaeological investigations unless buried in a previously approved borrow location.

24. 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.

25. The Contractor shall not start work on the Project until the Project Inspector is assigned and is present on the site. Any work done without inspection will be required to be uncovered for inspection.

26. The Contractor shall be responsible for preserving all section and survey monuments. The Engineer shall take accurate ties to said monuments as well as submittal of the required forms to the Department of Archives, Kansas State Historical Society. City of Wichita shall replace Thimbles.

27. Excavations for Storm Water Sewer systems beneath and adjacent to pavement shall be sand filled, flushed, and vibrated to a minimum distance of two (2) feet behind curb lines, to a level of one (1) foot below the subgrade. The upper one foot of fill shall be approved backfill material, compacted to a minimum of 95% Standard Density. Sand fill, flush, and vibrate operations shall be paid for as linear foot quantity of "Fill, Sand (Flushed & Vibrated)."

28. All lawn/turf areas disturbed by construction shall be restored with the same sod as existing or as noted on Landscape Plans. Restoration of disturbed areas shall include, but not be limited to, top soil preparation and sodding. All sodding work shall be in accordance with City Standard Specifications and the City Administrative Regulations No. AR6.5, which governs cleanup and restoration or replacement following construction. When the weather/season prevents the installation of sod, the Contractor shall be responsible for installing Erosion Control Blanket (Curlex I, or approved equal) at the back of curb (8' wide minimum). Erosion Control Blanket shall be paid for as Lin. Ft. of "BMP, Back of Curb Protection".

29. Areas over-excavated in surface or pavement removal shall be filled to subgrade elevation and compacted to 95% Std. Density. Cost shall be SUBSIDIARY to other bid items.

30. If this Project impacts Wichita Transit Services bus routes, the Contractor for this Project shall be required to notify WTS of construction activities that prohibit normal bus route operations through the Project. Contact information is Michael Vison at 265-7221.

31. Construction of temporary drives required for business access during construction shall be SUBSIDIARY to the bid item "Traffic Control" and shall include all grading, fill, compaction, removal, disposal, and etc. necessary for business access.

32. All existing drainage structures and pipes to be removed as part of this project will become the property of the Contractor.

33. The Contractor shall remove existing road signs that interfere with construction. Signs damaged through negligence of the Contractor shall be replaced by the Contractor at no cost to the City. The removal of existing signs will be SUBSIDIARY to "Removal of Existing Structures".

34. The Contractor shall be responsible to provide access (including vehicular access) to all adjacent properties during the construction of the project.

35. Construction vehicles are not to park in private parking lots unless the Contractor has made arrangements with the property owner and provided the Engineer with a copy of written agreement between the property owner and the Contractor allowing use of the private property by the Contractor. The Contractor shall be solely liable for any compensation resulting from such an arrangement and will not be reimbursed.

36. Existing pavement, driveways, sidewalks, and other areas damaged by the Contractor shall be restored to a condition equal to or better than existing before damage occurred.

37. The Contractor shall install lighting, signaling and miscellaneous conduits prior to constructing pavement.

38. The Contractor shall remove and deliver to Central Maintenance Facility (1801 S. McLean) all salvageable Traffic Signal Equipment (Controller, Cabinet, Poles, Signals, Lids, etc), regulatory signs, street name signs, information signs, and etc. Contractor shall contact Traffic Signal Shop Supervisor, Robert Cradduck (268-4033) to coordinate delivery. Cost of loading and transporting shall be SUBSIDIARY to the bid item "Transportation of Salvageable Material."

39. Removing and resetting parking lot drain at Sta. 54+74.33, 33.77' Lt. to tie into proposed inlet will require minimal amount of PVC pipe and connections. Contractor shall field verify size of pipe. Cost shall be SUBSIDIARY to other bid items.

40. Prior to sidewalk construction, all sidewalk locations to be field verified by the Engineer.

41. All modifications or adjustments to City of Wichita sanitary sewer and waterline infrastructure shall comply with City of Wichita standards and specifications.

UTILITY CONTACTS & LEGEND

One Call System for Kansas
1-800-DIG-SAFE

UGT
AT&T
Jason Edwards
Wichita Central Unit
154 N. Broadway, Rm. 210
Wichita, KS 67202
Phone: 316-268-2008
Emergency: 1-800-870-8390
Jel682@att.com

Cable
Cox Communications
Marc Henderson
Engineering Dept.
901 George Washington Blvd.
Wichita, KS 67211
Phone: 316-262-4270, Ext. 7745
Mobile: 316-734-6938
Emergency: 316-262-0661
marc.henderson@cox.com

UGG-1
Kansas Gas Service
Jim Coe
1021 E. 26th St. N.
Wichita, KS 67219
Mobile: 316-832-3126
Emergency: 1-888-482-4950
Jcoe@kgas.com

UGG-2
Black Hills Energy
Daryl Keller
1611 S. Hoover Rd.
Wichita, KS 67209
Phone: 316-941-1608
Emergency: 1-800-527-0357
daryl.keller@blackhillscorp.com

Power
Westar Energy
Randy Truitt
PO Box 208
Wichita, KS 67201
1900 E. Central (3rd Floor)
Phone: 316-261-6512
Emergency: 316-383-8600
randy.truitt@westarenergy.com

Westar Transmission Engineering
Scott Benortham
PO Box 889
818 S. Kansas Avenue
Topeka, KS 66612
Phone: 785-575-8160
Emergency: 316-383-8600
scott.benortham@westarenergy.com

Water
Wichita Water Utilities (Water)
Greg Lolley
8th Floor - City Hall
455 N. Main
Wichita, KS 67202
Phone: 316-268-4555
Emergency: 316-262-6000
glolley@wichita.gov

San. Sew.
Wichita Water Utilities (Sanitary Sewer)
Ladonna Lawrenz
8th Floor - City Hall
455 N. Main
Wichita, KS 67202
Phone: 316-268-4498
Emergency: 316-262-6000
llawrenz@wichita.gov

Storm Water Management
Tim Davidson
8th Floor - City Hall
455 N. Main
Wichita, KS 67202
Phone: 316-268-4545
Emergency: 316-262-6000
tdavidson@wichita.gov

Wichita Traffic Engineering
Paul Gunzelman
7th Floor - City Hall
455 N. Main
Wichita, KS 67202
Phone: 316-268-4393
pgunzelman@wichita.gov

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

GENERAL NOTES AND UTILITY CONTACTS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
2 of 113

HNTB

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	3	113

13TH ST. CENTERLINE DATA

POINT	STATION	NORTHING	EASTING	ELEMENT	LENGTH	BEARING
P.O.B.	173+65.03	1693768.4723	1620572.1402			
				STRAIGHT	2634.97	N 89°07'35.52" E
P.I.	200+00.00	1693808.6406	1623206.8076			
				STRAIGHT	3000.15	N 88°28'07.42" E
P.O.E.	230+00.15	1693888.8123	1626205.8862			

RIDGE ST. CENTERLINE DATA

POINT	STATION	NORTHING	EASTING	ELEMENT	LENGTH	BEARING
P.O.B.	23+81.94	1691191.5331	1623136.1938			
				STRAIGHT	2618.06	N 1°32'44.01" E
P.I.	50+00.00	1693808.6406	1623206.8076			
				STRAIGHT	2621.08	N 1°11'27.56" W
P.O.E.	76+21.08	1696429.1556	1623152.3280			

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

ALIGNMENT DETAIL SHEET

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 3 of 113

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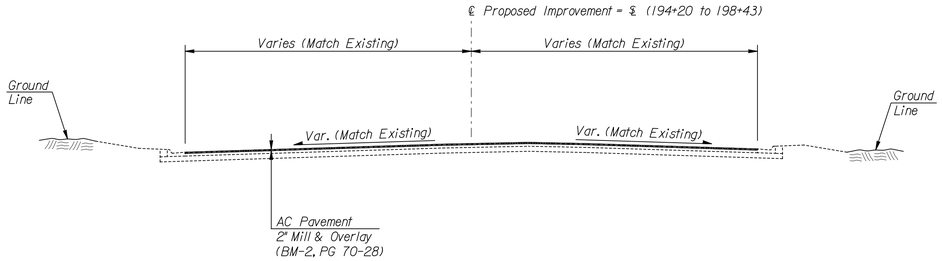
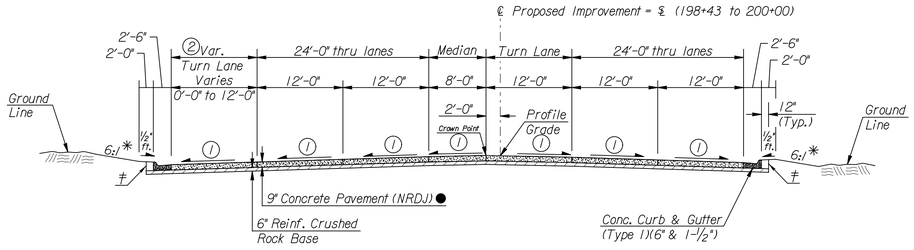
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	4	113



13TH STREET
STA. 194+20.00 TO STA. 198+43.00
STA. 206+42.00 TO STA. 213+39.50



13TH STREET
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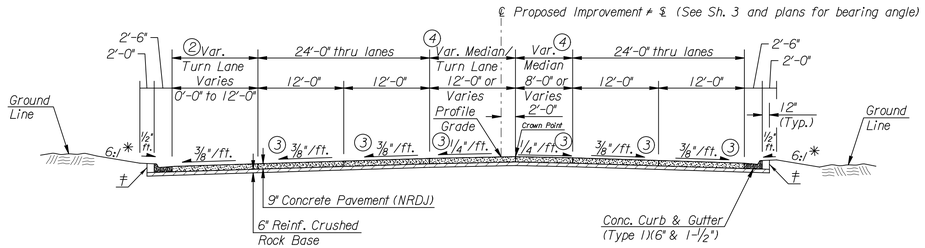
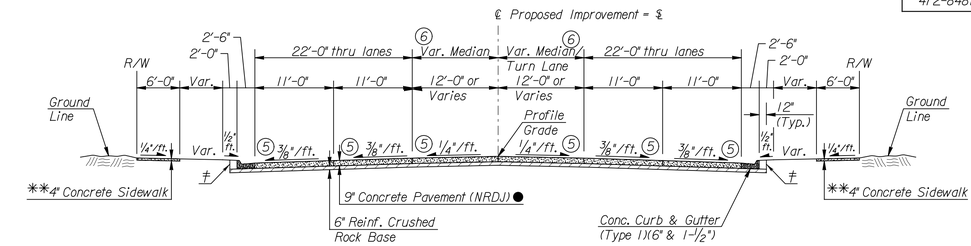
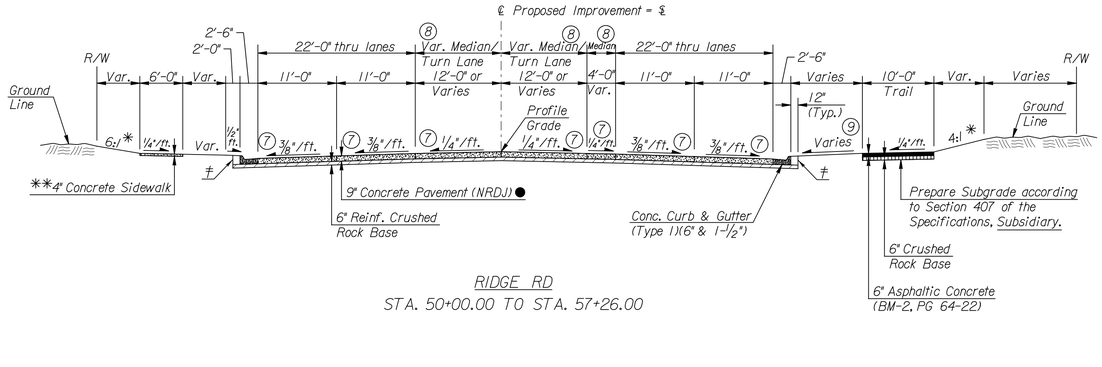


13TH STREET
STA. 201+50.00 TO STA. 206+42.00



RIDGE RD
STA. 43+50.00 TO STA. 50+00.00



RIDGE RD
STA. 50+00.00 TO STA. 57+26.00

(1) See Intersection Details for spot elevations.

(2) 13th St.: 0' from Sta. 198+43 to intersection and 12' from intersection to Sta. 202+87. Varies from 12' at Sta. 202+87 to 0' at Sta. 203+97.

(3) 13th St.: Median cross slope varies from ¼"/ft. at Sta. 206+12 to ⅜"/ft. at Sta. 206+22. EB cross slope varies from ⅜"/ft. at Sta. 206+22 to 3.48% at Sta. 206+42. WB cross slope varies from ⅜"/ft. at Sta. 206+22 to 3.52% at Sta. 206+42.00.

(4) 13th St.: EB varies from 8' at Sta. 203+97 to 4.81' at Sta. 206+42. WB Varies from 12' at Sta. 203+97 to 3.08' at Sta. 206+42.

(5) Ridge Rd.: NB cross slope varies from 3.54% at Sta. 43+50 to 3#8"/ft. at Sta. 43+70. NB median cross slope varies from 3#8"/ft. at Sta. 43+70 to ¼"/ft. at Sta. 43+85. SB median cross slope varies from 2.91% at Sta. 43+50 to ¼"/ft at Sta. 43+65. SB thru lane cross slope is 2.91% from Sta. 43+50 to Sta. 43+65 and varies from 2.91% to ⅜"/ft from Sta. 43+65 to Sta. 43+85. Cross slopes vary from 48+57 to 50+00. See Intersection Details.

(6) Ridge Rd.: NB varies from 2.99' at Sta. 43+50 to 12.00' at Sta. 46+00. SB Varies from 8.60' at Sta. 43+50 to 12.00' at Sta. 46+00.

(7) Ridge Rd.: Cross slopes vary from 50+00 to 51+49. See Intersection Details. NB thru lane cross slope varies from ⅜"/ft. at Sta. 56+85 to ¼"/ft. at Sta. 57+15. NB cross slope varies from ¼"/ft. at Sta. 57+15 to 2.04% at Sta. 57+26. SB thru lane cross slope varies from ⅜"/ft. at Sta. 56+92 to 2.33% at Sta. 57+15 and is 2.33% from Sta. 57+15 to Sta. 57+26. SB median cross slope varies from ¼"/ft. at Sta. 57+15 to 2.33% at Sta. 57+26.

(8) Ridge Rd.: NB thru lanes vary thru intersection, see Intersection Details. NB median varies from 16' at Sta. 55+00 to 9.50' at Sta. 56+75 and is 9.50' from Sta. 56+75 to Sta. 57+26. SB median varies from 12' at Sta. 54+26 to 1.50' at Sta. 57+26.

(9) Ridge Rd.: Location of Trail varies, see plan and cross sections for variations from intersection to Sta. 51+79.50.

NOTES:

Intersection of all slope lines shall be softened and rounded for pleasing appearance.

The sections as shown are typical. See plan details for variations.

* Dimensions and slopes for standard ditches and fills. See plan and cross sections for variations.

‡ Backfill behind curb. Quantities for this work are included in the "Earthwork Summary Table".

Fabric base reinforcement shall be B x 1100 geogrid as manufactured by Tensar Corporation or approved equal. Fabric base reinforcement shall be installed in accordance with manufacturer's recommendations. Crushed rock shall be uniformly graded from 1½" maximum size to not more than 10% passing a No. 200 sieve. Rock quality shall be the same as specified for coarse aggregate for concrete mixes.

** Sidewalk locations vary. See plan and cross sections for actual locations.

● 9" Concrete Pavement (Reinf.): 13th Street from Sta. 199+21.60 to Sta. 200+85.00
Ridge Road from Sta. 49+21.00 to Sta. 50+88.00

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

TYPICAL SECTIONS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
4 of 113

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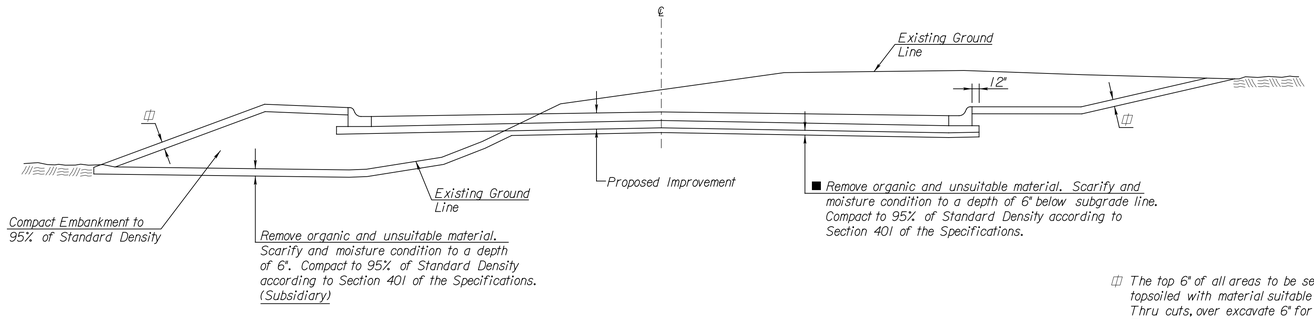
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	5	113



IN FILL

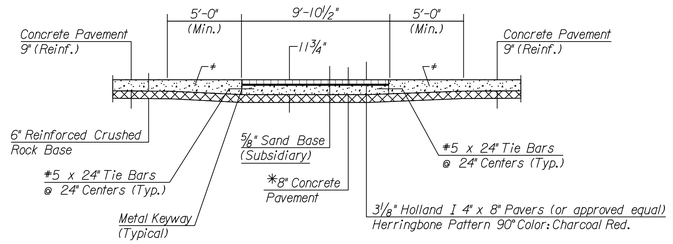
COMPACTION DIAGRAM

IN CUT

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

■ If high plasticity soil is encountered near the proposed subgrade (LL = 45 to 53), over excavate the upper 6 inches of the subgrade and replace with granular fill. This work will be Subsidiary to "Fill, Compacted (95% Density)".

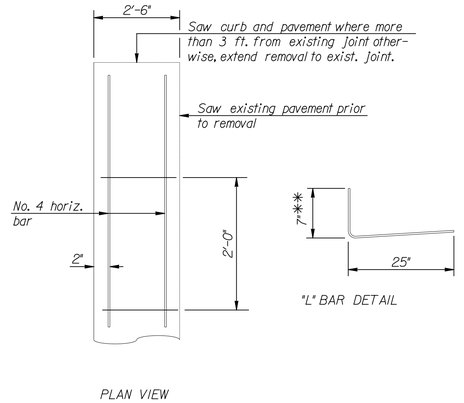
℄ The top 6" of all areas to be seeded shall be topsoiled with material suitable for growth of vegetation. Thru cuts, over excavate 6" for placement of topsoil. This work shall be Subsidiary to other earthwork items. In fill, the top 6" of embankment shall be topsoil. Quantities for this work are included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

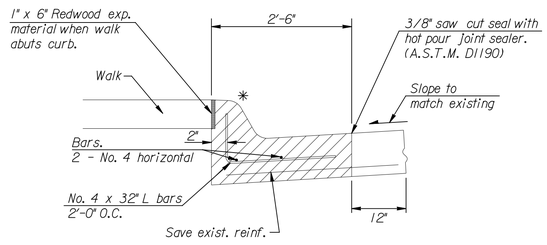


PAVING BRICK (CROSSWALK) DETAILS

*8" Concrete Pavement to be paid as "Concrete Pavement 9" (Reinf.)."

* Additional Pavement Thickness shall be Subsidiary to "Concrete Pavement 9" (Reinf.)."





If no existing reinf., dowell no. 4 x 2' bars on 2'-0" centers 12" into existing pavement or dowell extended length L bars 7" x 40"

REMOVING & RECONSTRUCTING CURB & GUTTER

Note: Paid for as linear feet "Concrete Curb & Gutter, Type I (6" & 1-½")

*Transistion curb shape linearly to match abutting curb/pavement section

**"L" bar height may vary with curb shape

Detail to be used near entrance at Sta. 198+80.20, See Sh. 8 for plan locations.

CRUSHED ROCK GRADATION REQUIREMENTS

PERCENT OF AGGREGATE RETAINED

2-½"	0
¾"	20-60
#4	50-80
#40	80-94
#200	90-98

Rock quality shall conform to the requirements specified by the KDOT 2007 Edition Standard Specification Subsection 1102 for Durability Class I.

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

TYPICAL DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 5 of 113

Plotted on: Monday November 07, 2011 02:56 PM
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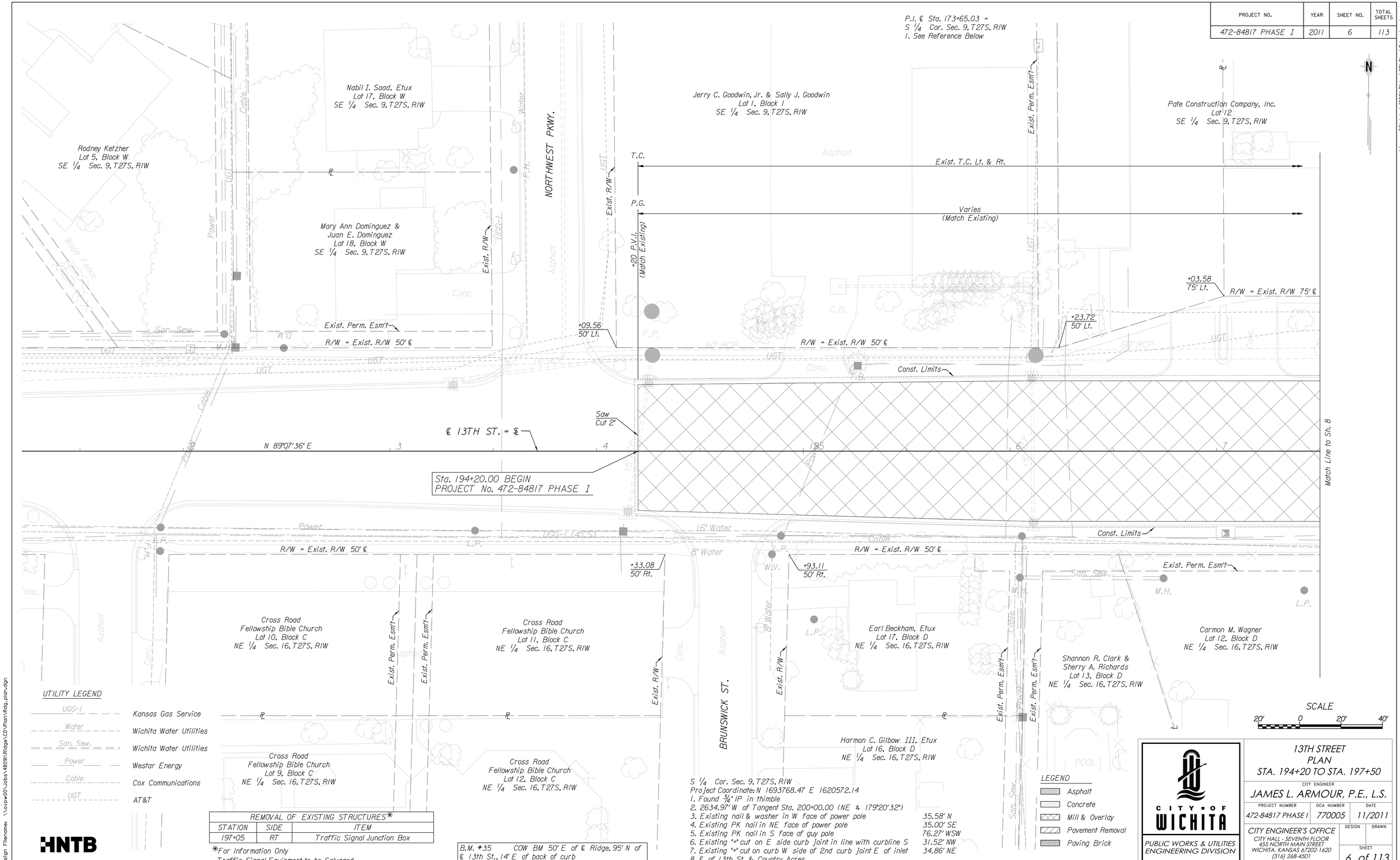
\\ovpw00\Jobs\4809\Ridge\CD\Detail\Rdg_typicals.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	6	113



UTILITY LEGEND

UGG-1	Kansas Gas Service
Water	Wichita Water Utilities
San. Sew.	Wichita Water Utilities
Power	Westar Energy
Cable	Cox Communications
UGT	AT&T

REMOVAL OF EXISTING STRUCTURES*		
STATION	SIDE	ITEM
197+05	RT	Traffic Signal Junction Box

*For Information Only
Traffic Signal Equipment to be Salvaged

B.M. #35 COW BM 50' E of ℄ Ridge, 95' N of ℄ 13th St., 14' E of back of curb
94.63' Lt., Sta. 200+50.81 ℄ 13th St. Elev. 1335.51

S 1/4 Cor. Sec. 9, T27S, R1W
Project Coordinate: N 1693768.47 E 1620572.14
1. Found 3/4" IP in thimble
2. 2634.97' W of Tangent Sta. 200+00.00 (NE ∡ 179°20'32")
3. Existing nail & washer in W face of power pole 35.58' N
4. Existing PK nail in NE face of power pole 35.00' SE
5. Existing PK nail in S face of guy pole 76.27' WSW
6. Existing "+" cut on E side curb joint in line with curbline S 31.52' NW
7. Existing "+" cut on curb W side of 2nd curb joint E of inlet 34.86' NE
8. ℄ of 13th St. & Country Acres

LEGEND
- Asphalt
- Concrete
- Mill & Overlay
- Pavement Removal
- Paving Brick

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET
PLAN
STA. 194+20 TO STA. 197+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
6 of 113

Plotted on: Tuesday September 27, 2011 09:34 AM
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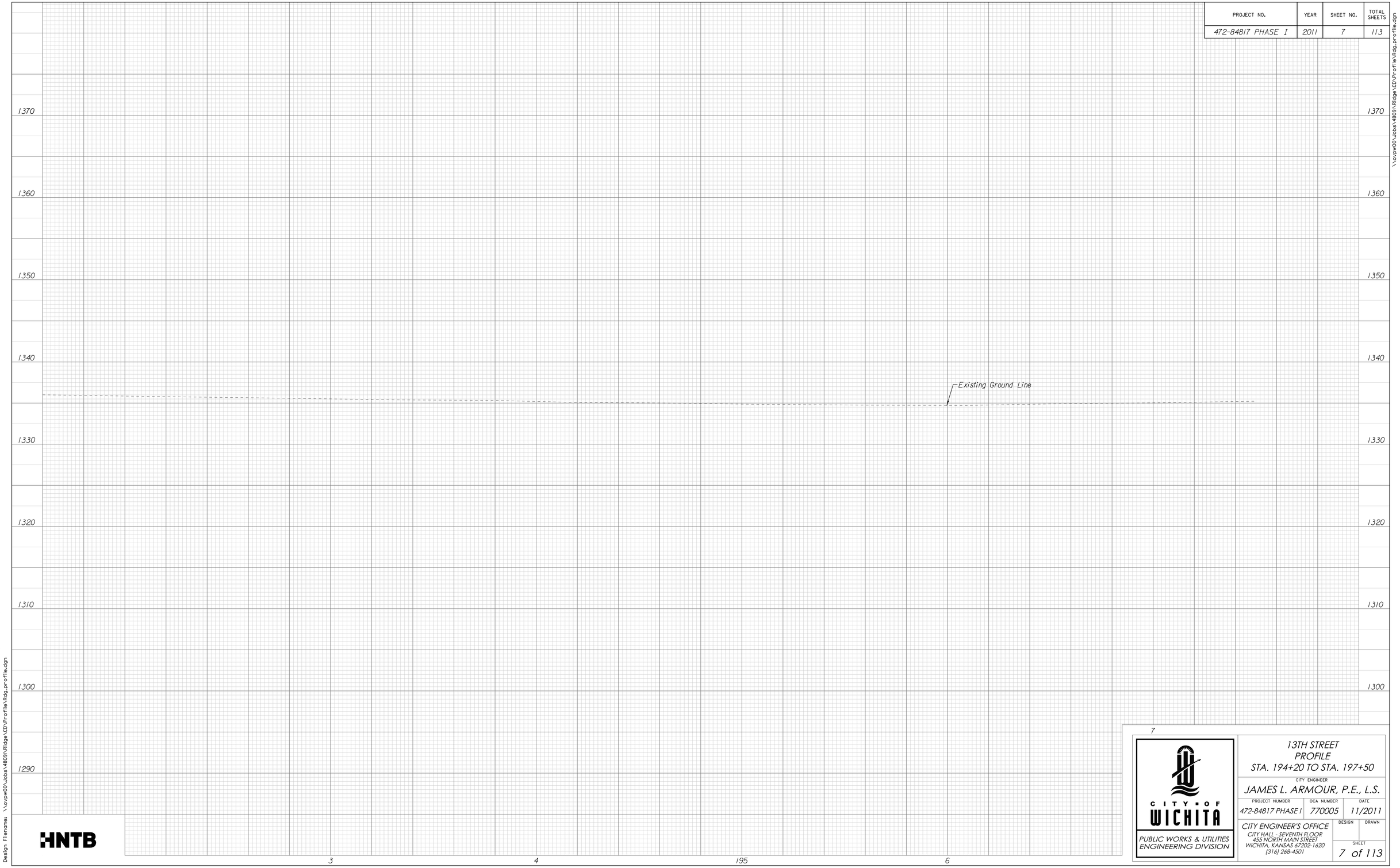
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	7	113



HNTB

7

CITY OF WICHITA

PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
PROFILE
STA. 194+20 TO STA. 197+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
7 of 113

Plotted on Tuesday September 27, 2011 09:34 AM
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\\ovpw00\Jobs\4809h\Ridge\CD\Profile\Rdg_profile.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	8	113

T.C. P.V.I. 1334.72 No V.C. | T.C. P.V.I. 1335.21 No V.C. | T.C. P.V.I. 1335.50 No V.C.

Exist. T.C. Lt. & Rt. | +1.09% T.C. Lt. | +1.05% T.C. Lt.

+43 P.V.I. (Match Exist.) | +88 P.V.I. | +15.53 P.V.I.

P.G. P.V.I. 1335.49 No V.C. | P.G. P.V.C. 1335.76

Varies (Match Existing) | +0.32% | +0.32%

+43 P.V.I. (Match Exist.) | +25 P.V.C.

Trans. X-Slope Lt. from -3.66% to -0.70%

+43 | +66

P.I. ℄ Sta. 200+00.00 = SW Cor. Sec. 10, T27S, R1W
Deflection Angle = 00°39'28"
1. See Reference Below

T.C. P.V.I. 1335.16 No V.C. | T.C. P.V.I. 1334.91 No V.C. | T.C. P.V.I. 1334.34 No V.C. | T.C. P.V.C. 1333.89

-1.36% T.C. Lt. | -1.33% T.C. Lt. | -0.45% T.C. Lt. | -0.45% T.C. Lt. | Var. T.C. Lt.

+88.57 P.V.I. | +07 P.V.I. | +50 P.V.I. | +50 P.V.C. | +87 P.V.I.

P.G. P.V.I. 1336.00 150' V.C. | P.G. P.V.T. 1335.66 | P.G. P.V.T. 1334.88

-0.45% | -0.45% | -0.45%

+00 P.V.I. | +75 P.V.T. | +50 P.V.C.

Trans. X-Slope Lt. from -0.70% to -3/4%/ft.

+35 | +50

SE 1/4 Sec. 9, T27S, R1W

Matt Lillie Lot 1 SE 1/4 Sec. 9, T27S, R1W

SW 1/4 Sec. 10, T27S, R1W

Sedgwick County ZOO Block A, Lot 2 SW 1/4 Sec. 10, T27S, R1W

Sta. 199+34, 57' Lt. Adjust
Valve Box Top Elev. (12" Water Valve)
Exist. Top Elev. = 1334.85
Prop. Top Elev. = 1335.5 (Match Finish Grade)
Total Adjustment = +0.65'
(Cost Subsidiary to "Valve Box Adjusted")

Sta. 199+28, 54' Rt. Adjust
Valve Box Top Elev. (16" Water Valve)
Exist. Top Elev. = 1335.47
Prop. Top Elev. = 1335.8 (Match Finish Grade)
Total Adjustment = +0.32'
(Cost Subsidiary to "Valve Box Adjusted")

Adjust Existing 7' I.D. Manhole
Existing Rim Elevation = 1335.07
Proposed Rim Elevation = 1335.14

+24.58 75' Lt. | +80.63 105' Lt. | +80.44 74.50' Lt. | +10.15 74.32' Lt.

R/W = Exist. R/W 75' ℄ | R/W = Exist. R/W & A/C 75' ℄

Signal Controller Cabinet | 6' Sidewalk | Proposed Signal | 10' Trail | Exist. R/W | P-505 | B.M. #35 | P.T. +88.57

Curb & Gutter (Type 1) | Const. Limits | Traffic Signal Service Box | Begin Taper Lt.

℄ RIDGE RD. = ℄ | SW Cor. 10-27-1 | Traffic Signal Service Box

℄ 13TH ST. = ℄ | Saw Cut | N 89°07'36" E | 89°40'57" | 90°00'51" (to ℄) | 87°34'52" | 92°43'20" (to ℄) | Sta. 200+00.00 ℄ 13th St. = Sta. 50+00.00 ℄ Ridge Rd. | See Sh. No. 29 for Intersection Details | Proposed Signal | N 88°28'07" E | Section Line | ℄ 13TH ST.

Match Line to Sh. 6 | Match Line to Sh. 10

Const. Limits | R/W = Exist. R/W 50' ℄ | 15' R | Saw Cut | 4' | 6' Sidewalk | Curb & Gutter (Type 1) | Const. Limits

+91.60 50' Rt. | +91.56 75' Rt. | +80.20 32' Ent. | 12' | +12.38 P.C. | +79.60 P.V.T. | +91 P.V.I. | +24 P.V.I. | +57.30 30' Ent. | +97.37 51.22' Rt. | +96.02 76.21' Rt. | +71.05 75.44' Rt. | +21.76 75' Rt.

Remove & Reconstruct Curb & Gutter Match Exist. Curb See Detail Sh. 5

R/W = Exist. R/W 75' ℄ | Exist. Perm. Esm't | Traffic Signal Service Box | Proposed Signal | Traffic Signal Service Box

Mary Louise Gow Lot 1, NW 1/4 Sec. 15, T27S, R1W

Kent S. Hawkins Lot 5, Block D NW 1/4 Sec. 15, T27S, R1W

Robert W. Guthrie, Etux Lot 3 & 4, Block D NW 1/4 Sec. 15, T27S, R1W

NW 1/4 Sec 15, T27S, R1W

-1.23% T.C. Rt. | -1.18% T.C. Rt. | -0.45% T.C. Rt. | -0.45% T.C. Rt.

T.C. P.V.I. 1335.45 No V.C. | T.C. P.V.I. 1335.31 No V.C. | T.C. P.V.I. 1334.92 No V.C. | T.C. P.V.C. 1334.35

P=513

NE 1/4 Sec 16, T27, R1W

Bertha O. Morgan Living Trust Lot 11, Block D NE 1/4 Sec. 16, T27S, R1W

+43 | +88 | +66

X-Slope Rt. -2.50% | Trans. X-Slope Rt. from -2.50% to -0.62%

+43 P.V.I. (Match Exist.) | +88 P.V.I. | +12.38 P.V.I.

+0.32% T.C. Rt. | +1.15% T.C. Rt.

T.C. P.V.I. 1334.99 No V.C. | T.C. P.V.I. 1335.14 No V.C. | T.C. P.V.I. 1335.42 No V.C.

+35 | +24

Trans. X-Slope Rt. from -0.62% to -3/4%/ft.

Sta. 199+31, 56' Rt. Adjust
Valve Box Top Elev. (20" Water Valve)
Exist. Top Elev. = 1334.87
Prop. Top Elev. = 1335.8 (Match Finish Grade)
Total Adjustment = +0.93'
(Cost Subsidiary to "Valve Box Adjusted")

B.M. #35 COW BM 50' E of ℄ Ridge, 95' N of ℄ 13th St., 14' E of back of curb 94.63' Lt., Sta. 200+50.81 ℄ 13th St. Elev. 1335.51

SW Cor. Sec. 10, T27S, R1W
Project Coordinate: N 1693808.64 E 1623206.81
1. Found #4 rebar in thimble
2. = 13th St. Tangent Sta. 200+00.00
3. Existing NE corner of conc. base traffic signal pole 82.54' NW
4. Existing "+" cut on curb 0.43' from joint in curb 71.59' NW
5. Existing center of SW bolt in base of traffic signal pole 78.82' NE
6. Existing 3 nails in NW face of power pole 106.99' NE
7. Existing 3 nails in NE face of power pole 71.32' SE
8. Existing "+" cut on curb 5' NE of ramp 68.64' SE
9. Existing "+" cut on curb 7' SE of ramp 73.85' SW
10. Existing 3 nails in SE face of power pole 87.30' SW

REMOVAL OF EXISTING STRUCTURES*

STATION	SIDE	ITEM
198+34	RT	Traffic Signal Junction Box
199+31	LT	Traffic Signal Pole, Mast Arm, Signal Heads
199+33	RT	Traffic Signal Pedestal
199+39	LT	Traffic Signal Manhole
199+45	RT	Traffic Signal Pedestal
199+48	RT	Traffic Signal Pole, Mast Arm, Signal Heads
200+53	LT	Traffic Signal Pole, Mast Arm, Signal Heads
200+62	RT	Traffic Signal Manhole
200+62	LT	Traffic Signal Pedestal
200+64	RT	Traffic Signal Pole, Mast Arm, Signal Heads
201+68	LT	Traffic Signal Junction Box
202+79	RT	Sign, 40 MPH
203+08	LT	Traffic Signal Junction Box

*For Information Only
Traffic Signal Equipment to be Salvaged.
See General Note #38, Sh. No. 2.

Note:
Elevations shown along Curb and Gutter are to the High Edge and Top of Curb at even and +50 stations.

Wheelchair Ramp with Detectable Warning

For Signal Plans, See Sh. No. 62-71

LEGEND
- Asphalt
- Concrete
- Mill & Overlay
- Pavement Removal
- Paving Brick

UTILITY LEGEND
- UGG-1 — Kansas Gas Service
- UGG-2 — Black Hills Energy
- Water — Wichita Water Utilities
- San. Sew. — Wichita Water Utilities
- Power — Westar Energy
- Cable — Cox Communications
- UGT — AT&T

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET PLAN
STA. 197+50 TO STA. 203+25

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN | SHEET 8 of 113

Plotted on Thursday September 29, 2011 04:26 PM
mbechtel
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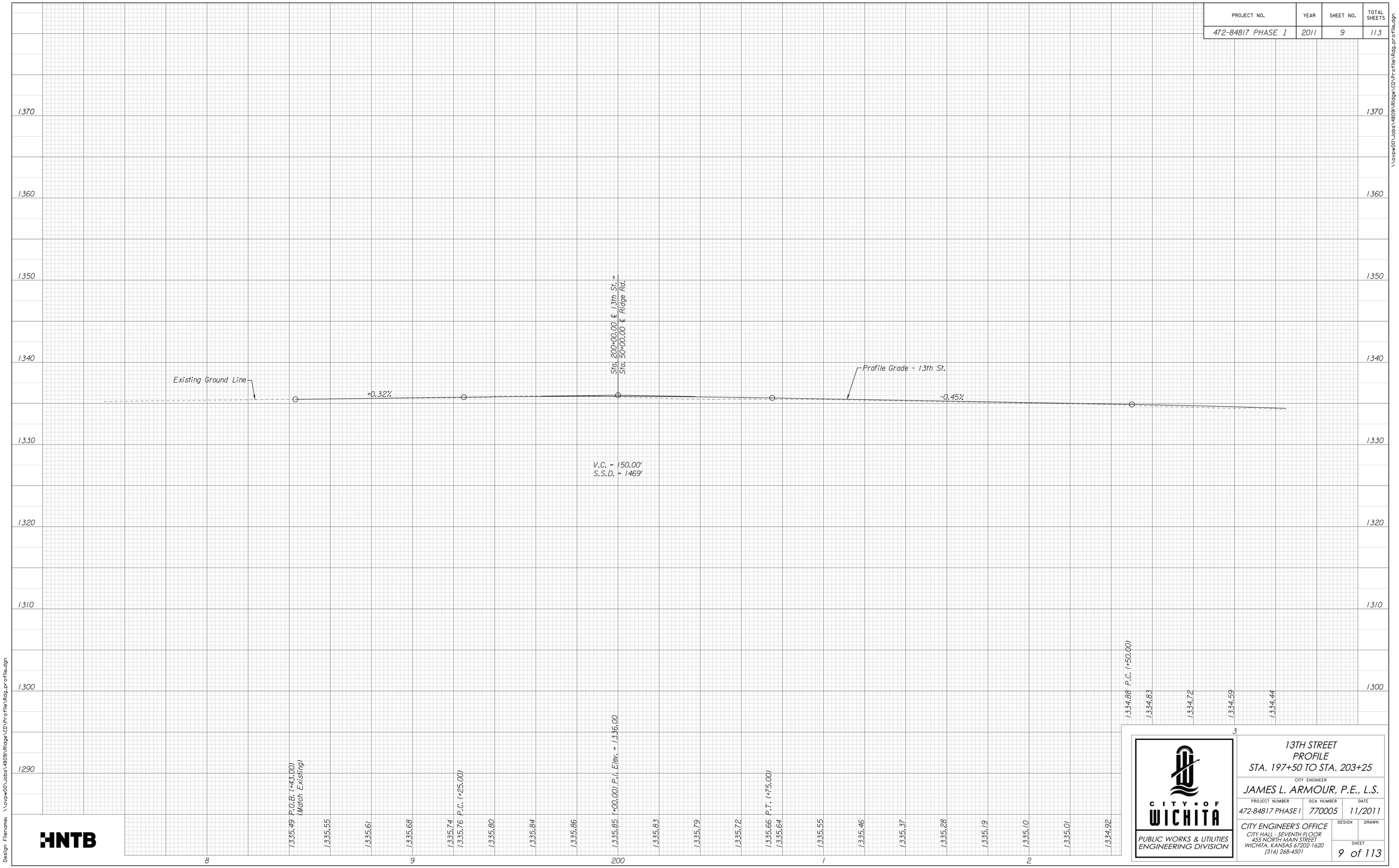
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	9	113



HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
PROFILE
STA. 197+50 TO STA. 203+25

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
9 of 113

Plotted on Tuesday September 27, 2011 09:34 AM
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	10	113

P.O.T. Sta. 206+40.41, 3.43' Rt.
N 1693822.329 E 1623847.082
1. No Monument Set

T.C.
P.V.I. 1333.50
350' V.C.

Varies T.C. Lt. | -2.13% T.C. Lt. | +25 P.V.I.

T.C.
P.V.T. 1329.78
P.V.I. 1329.30
T.C.
1329.53
-2.08% | -2.30% | -2.60%
T.C. Lt. | +00 P.V.T.
T.C. Lt. | +12 P.V.I.
T.C. Lt. | +22 P.V.I.
T.C. Lt. | +42 P.V.I. (Match Exist.)
T.C.
P.V.I. 1328.78
No V.C.

P.G.
P.V.I. 1334.09
350' V.C.

-0.45% | -2.20% | +25 P.V.I.

P.G.
P.V.T. 1330.24
-2.20% | +00 P.V.T.
P.G.
P.V.I. 1329.31
No V.C.
+42 P.V.I. (Match Exist.)

Sedgwick County Z00
Block A, Lot 2
SW 1/4 Sec. 10, T27S, R1W

(517)
Sta. 203+49.39, 39.87' Lt. Const.
Curb Inlet Type II (Double)
Extend 15" x 8.0' S.S. (RCP)(S)
Install 18" x 7.2' S.S. (RCP)(N)
See Sh. No. 26, 38, 43, 45, 46

Sta. 203+49.56, Remove
Existing Curb Inlet,
Existing 18" x 12' S.S. (RCP)(N) and
Existing 15" x 4' S.S. (RCP)(N)

R.R. Tie
Retaining Wall
L.P.
Chain Link Fence
Wood Fence

+41.29
70.41' Lt.
+71.75
70.23' Lt.
R/W = Exist. R/W & A/C 75' ℄
Exist. R/W

End Taper Lt.
Begin Taper Lt. & Rt.
+97.00
60" RCP
Const. Limits
Curb & Gutter (Type I)
End Taper Lt.
+42.00
60" RCP
Power
L.P.

P-517
P-517a
1336.41
1333.06
1333.03
1332.68
1332.41
1332.06
1331.66
1331.31
1330.78
1330.43
1329.78
1329.43
1328.78
1328.43
34'
25.09'

Match Line to Sh. 8
Match Line to Sh. 12

℄ 13TH ST.
205
4
6
7
8
9
1334.18
1333.64
1332.98
1332.19
1331.28
1330.24
1329.31
N 88°28'07" E
00°21'16"
℄ to ℄
Section Line

R = 30'
Saw Cut
End Taper Rt.
+00 P.V.T.
+12 P.V.I.
+22 P.V.I.
+34.33 P.V.I.
+42 P.V.I. (Match Exist.)
P.C. +34.33
30.91' Rt. HE
P.I. 442.00
31.80' Rt. HE
Match Exist.
+47.74
54.01' Rt.
+07.81
54.38' Rt.
W.V.
Cable
M.H.
15" RCP
B.M. #34
UGG-2 (4"CWS)
Power
R/W = Exist. R/W 50' ℄
Exist. Perm. Esm't

P-515
1336.30
1335.85
1332.76
1332.41
1333.11
1332.46
1332.11
1331.69
1331.34
1330.79
1330.44
1329.77
1329.42
1328.77
1328.30
1328.78
Const. Limits
Curb & Gutter (Type I)
Water
UGT
R/W = Exist. R/W 50' ℄
Exist. Perm. Esm't
San. Sew.

(515)
Sta. 203+50.14, 34.67' Rt. Const.
Curb Inlet Type II (Double)
Extend 15" x 8.0' S.S. (RCP)(N)
See Sh. No. 26, 38, 43, 45, 46

Sta. 203+50.18 Remove
Existing Curb Inlet and
Existing 15" x 9' S.S. (RCP)(N)

Sta. 206+24.63 Remove
Existing Curb Inlet and
Existing 15" x 8' S.S. (RCP)(SE)

(516)
Sta. 206+24.48, 31.70' Rt. Const.
Curb Inlet Type II (Double)
Extend 15" x 8.0' S.S. (RCP)(SE)
See Sh. No. 26, 38, 43, 45, 46

-0.45% T.C. Rt. | +97 | Var. T.C. Rt. | +25 P.V.I. | -2.17% T.C. Rt.
T.C.
P.V.I. 1333.57
350' V.C.

+00 P.V.T. | +12 P.V.I. | +22 P.V.I. | +34.33 P.V.I. | +42 P.V.I. (Match Exist.)
-2.17% | -2.50% | -2.48% | -2.98%
T.C. Rt. | T.C. Rt. | T.C. Rt. | T.C. Rt.
T.C. P.V.I. 1329.51 | T.C. P.V.I. 1328.93
T.C. P.V.T. 1329.77 | T.C. P.V.I. 1329.26 | T.C. P.V.I. 1328.70
No V.C.

Dian Jackson & Floyd Jackson
Lot 1, Block H
NW 1/4 Sec. 15, T27S, R1W

Betty J. Jenkins
Lot 2, Block H
NW 1/4 Sec. 15, T27S, R1W

SCOULLER ST.
Water
Exist. R/W
15" RCP

Robert W. Guthrie, Etux
Lot 3 & 4, Block D
NW 1/4 Sec. 15, T27S, R1W

Virginia M. Winter
Lot 1 & 2, Block D
NW 1/4 Sec. 15, T27S, R1W

UTILITY LEGEND

UGG-2	Black Hills Energy
Water	Wichita Water Utilities
San. Sew.	Wichita Water Utilities
Power	Westar Energy
Cable	Cox Communications
UGT	AT&T

REMOVAL OF EXISTING STRUCTURES*		
STATION	SIDE	ITEM
203+49.56	LT	Curb Inlet, 18" x 12', & 15" X 4' SS (RCP)
203+50.18	RT	Curb Inlet & 15" x 9' SS (RCP)
206+24.63	RT	Curb Inlet, 15" x 8' SS (RCP)
206+35.00	RT	Sign, Median

*For Information Only

LEGEND
- Asphalt
- Concrete
- Mill & Overlay
- Pavement Removal
- Paving Brick

B.M. #34 Cut "D" in NW cor. Inlet
W Side Scouller at Scouller & 13th St.
62.79' Rt., Sta. 206+59.91 ℄ 13th St. Elev. 1329.35

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
PLAN
STA. 203+25 TO STA. 209+25

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
10 of 113

Plotted on Thursday September 29, 2011 04:21 PM
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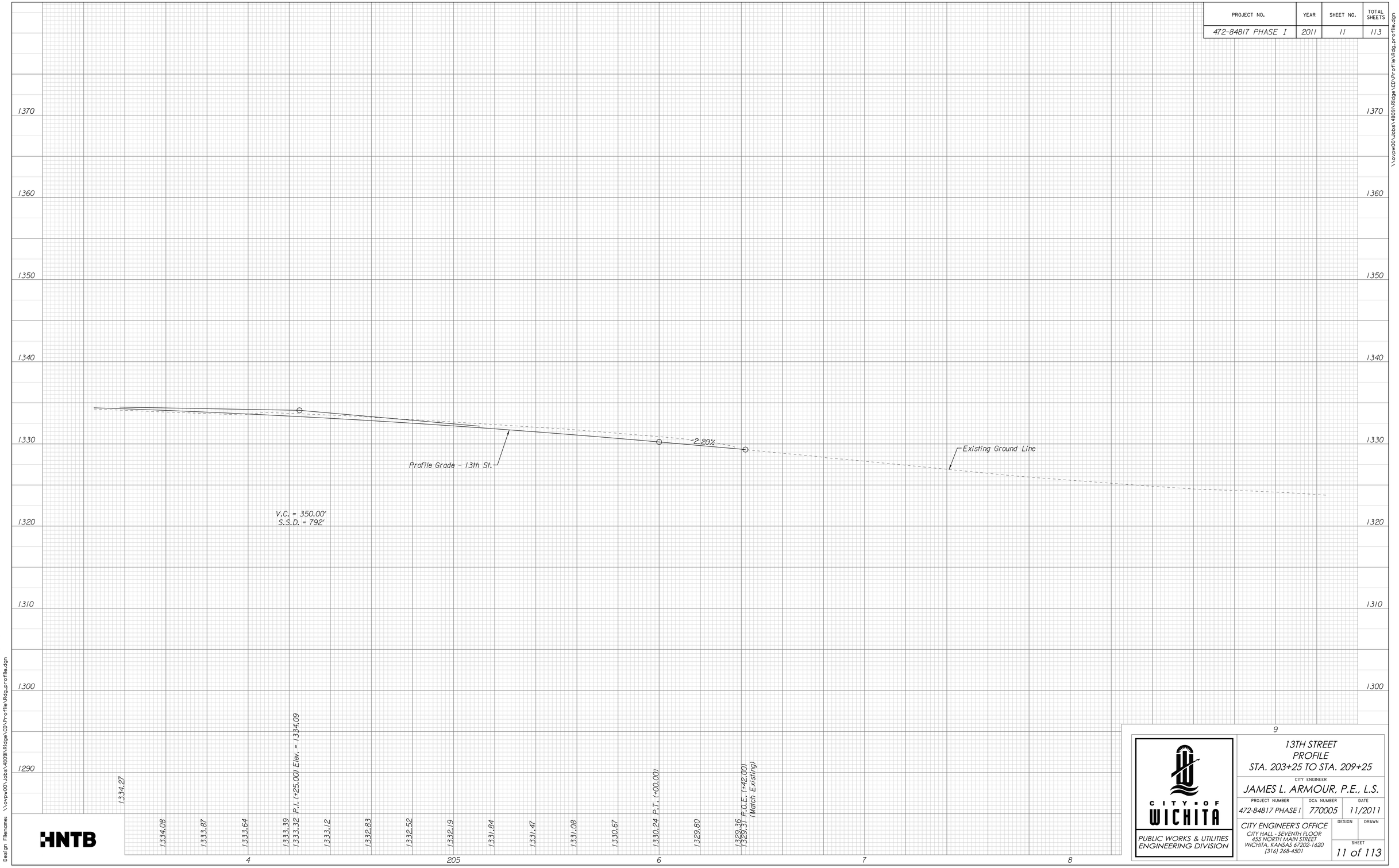
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	11	113



HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET
PROFILE
STA. 203+25 TO STA. 209+25

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
11 of 113

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	12	113

P.O.T. Sta. 210+33.90, 0.10' Rt.
N 1693836.172 E 1624240.342
1. No Monument Set

P.I. ℄ Sta. 230+00.15
N 1693888.812 E 1626205.886
1. No References Available

Sedgwick County ZOO
Block A, Lot 2
SW 1/4 Sec. 10, T27S, R1W

Exist. Perm. Esm't

Exist. Perm. Esm't

Exist. Perm. Esm't

Power

R/W = Exist. R/W & A/C 75' ℄

+00.43
68.81' Lt.

R/W = Exist. R/W & A/C 110' ℄

+00.63
100.72' Lt.

D.M.

Do Not Disturb Concrete
Bridge Approach Pavement.
Mill & Overlay Depth May Vary

Sta. 213+39.50 END
PROJECT No. 472-84817 PHASE I =
Sta. 1124+39.35 On
Project No. 472-84817 PHASE III &
Project No 235-87 KA-2040-01

Power

L.P.

Const. Limits

L.P.

D.M.

B.M. #32

℄ 13TH ST.

Match Line

210

1

2

3

4

N 88°28'07" E

215

Section Line

Power

Saw Cut 2"

Const. Limits

B.M. #33

Water

UGT

+37.81
55.80' Rt.

R/W = Exist. R/W 50' ℄

W.V.

UGG-2 (4"PE)

+53.95
58.38' Rt.

W.V.

UGT

+97.29
56.79' Rt.

R/W = Exist. R/W 60' ℄

Cable

R/W = Exist. R/W 50' ℄

+96.75
66.79' Rt.

+54.69
68.38' Rt.

Exist. Perm. Esm't

Brick Column/
Wrought Iron

Exist. Perm. Esm't

L.P.

℄

Power

Power

Power

℄

UTILITY LEGEND

UGG-2	Black Hills Energy
Water	Wichita Water Utilities
San. Sew.	Wichita Water Utilities
Power	Westar Energy
Cable	Cox Communications
UGT	AT&T

S 1/4 Cor. Sec. 10, T27S, R1W
Project Coordinate: N 1693862.43 E 1625825.42
1. Found 3/4" IP in thimble, 0.4' deep
2. Sta. 226+19.11, 16.21' Rt. ℄ 13th St.
3. Existing nail & shiner in E face of power pole — 48.94' S
4. Existing 3 nails in W face of corner fence post — 59.85' SE
5. Existing "+" cut top of 3' tall conc wall, 0.4' W of column — 116.19' NE
6. Existing 3 nails in E face of power pole — 99.24' N
7. Existing "+" cut top of 3' tall conc wall, 0.8' E of 7' conc sign — 120.09' NW
8. ℄ of N Shore Blvd going N from 13th St. — 93' W
9. ℄ of S lane of EB 13th St.

B.M. #32	B.M. #33
Cut "□" in center of wing wall	Cut "□" in center of wing wall
N side 13th St. E end of Bridge	S side 13th St. W end of Bridge
28.88' Lt., Sta. 215+09.53 ℄ 13th St. Elev. 1321.90	28.75' Rt., Sta. 213+40.21 ℄ 13th St. Elev. 1322.33

LEGEND

- Asphalt
- Concrete
- Mill & Overlay
- Pavement Removal
- Paving Brick

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
PLAN
STA. 209+25 TO STA. 213+39.50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
12 of 113

Plotted on Tuesday September 27, 2011 09:35 AM
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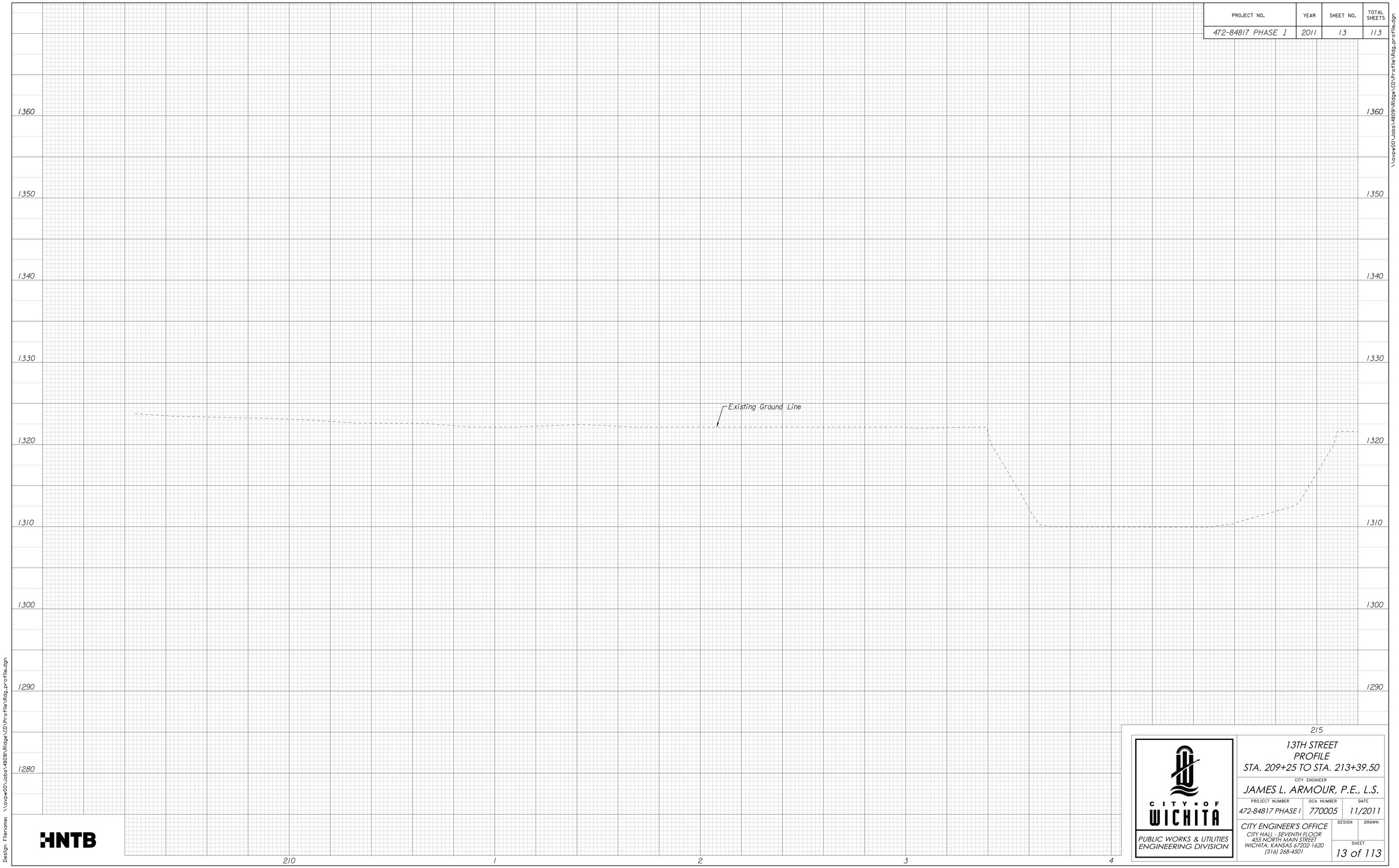
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	13	113



HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
PROFILE
STA. 209+25 TO STA. 213+39.50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

DESIGN	DRAWN

SHEET
13 of 113

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

Plotted on Tuesday September 27, 2011 09:35 AM
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	14	113

P.I. ℄ Sta. 23+81.94 = W 1/4 Cor. Sec. 15, T27S, R1W
1. See Reference Below

Kevin D. Hazelwood, Etux
Lot 7, Block D
NE 1/4 Sec. 16, T27S, R1W

Daniel L. Sanchez & Lorena R. Sanchez
Lot 3, Block D
NE 1/4 Sec. 16, T27S, R1W

Joyce A. Brooks, Etal
Lot 9, Block D
NE 1/4 Sec. 16, T27S, R1W

Jesse P. Hilton
Lot 10, Block D
NE 1/4 Sec. 16, T27S, R1W

Samual S. Jossie, Etal
Lot 4, Block D
NE 1/4 Sec. 16, T27S, R1W

Diane P. Brown
Lot 6, Block D
NE 1/4 Sec. 16, T27S, R1W

Mark D. Petersen & Iris M. Petersen
Lot 5, Block D
NE 1/4 Sec. 16, T27S, R1W

12TH ST.

T.C. P.V.I. 1334.09 No V.C.
T.C. P.V.I. 1334.06 No V.C.
T.C. P.V.I. 1333.97 No V.C.
-0.10% T.C. Lt.
-0.45% T.C. Lt.
-0.35% T.C. Lt.
T.C. P.V.C. 1333.44
-0.35% T.C. Lt.
T.C. P.V.I. 1333.09 200' V.C.
+0.62% T.C. Lt. & Rt.
T.C. P.V.T. 1333.71

+50 P.V.I. (Match Exist.)
+80 P.V.I.
+00 P.V.I.
+50 P.V.C.
+50 P.V.I.
+50 P.V.T.

P.G. P.V.I. 1334.67 No V.C.
-0.33%
P.G. P.V.C. 1334.01
-0.33%
P.G. P.V.I. 1333.68 200' V.C.
+0.62%
P.G. P.V.T. 1334.30

Sta. 46+19.77 Remove Existing Curb Inlet and Existing 15" x 66' S.S. (RCP)(E)

(511)
Sta. 46+19.75, 34.67' Lt. Const.
Curb Inlet Type II (Double)
Install 15" x 69.5' S.S. (RCP)(E)
See Sh. No. 27, 43, 45, 46

(510)
Sta. 47+00.00, 34.67' Lt. Const.
Curb Inlet Type II (Double)
Install 15" x 69.5' S.S. (RCP)(E)
See Sh. No. 27, 43, 45, 46

Exist. Perm. Esm't
San. Sew.
R/W = Exist. R/W 50' ℄
20" Water
Power
Cable
UGG-2
Water
Asphalt
Curb & Gutter (Type 1)
Const. Limits
Saw Cut
Begin Taper Lt. & Rt.
End Taper Lt. & Rt.
Spare Trees
Match Line to Sh. 16

+21.82 50' Lt.
+30.79 50' Rt.

Sta. 43+50.00 BEGIN CONSTRUCTION

℄ RIDGE RD. = ℄

1334.09 1333.97 1333.79 1333.62 1333.44 1333.32 1333.33 1333.46 1333.71
1333.74 1333.62 1333.44 1333.27 1333.09 1332.97 1332.98 1333.11 1333.36
1334.67 1334.51 1334.34 1334.18 1334.01 1333.90 1333.92 1334.05 1334.30
1333.93 1333.72 1333.51 1333.31 1333.11 1332.97 1332.98 1333.11 1333.36
1334.28 1334.07 1333.86 1333.66 1333.46 1333.32 1333.33 1333.47 1333.71

30.60'
25'
50.00'
34'
34'
+00.00

P-511
P-510
P-512
P-513

(512)
Sta. 46+19.35, 34.67' Rt. Const.
Inlet/Manhole Type II (Special)
Install 18" x 80.6' S.S. (RCP)(N)
See Sh. No. 27, 44, 45, 46

(513)
Sta. 47+00.00, 34.67' Rt. Const.
Inlet/Manhole Type II (Special)
Install 24" x 200.2' S.S. (RCP)(N)
Connect to Exist. Manhole
See Sh. No. 27, 44, 45, 46

Sta. 46+19.38 Remove Existing Curb Inlet and Existing 18" x 276' S.S. (RCP)(N)

Donald L. Burrell & Mary M. Burrell, Etal
Lot 12, Block D
NW 1/4 Sec. 15, T27S, R1W

Mindy S. Meggers
Lot 11, Block D
NW 1/4 Sec. 15, T27S, R1W

Stephanie L. Lorett
Lot 11, Block D
NW 1/4 Sec. 15, T27S, R1W

Robert Melvin Alley, Etux
Lot 9, Block D
NW 1/4 Sec. 15, T27S, R1W

Jorge A. Lujan
Lot 7, Block D
NW 1/4 Sec. 15, T27S, R1W

Robert E. Brown Revocable Trust
Lot 6, Block D
NW 1/4 Sec. 15, T27S, R1W

Cynthia A. Miller
Lot 8, Block D
NW 1/4 Sec. 15, T27S, R1W

+50 P.V.I. (Match Exist.)
+65 P.V.I.
+65 P.V.I.
+50 P.V.C.
+50 P.V.I.

-0.20% T.C. Rt.
-0.60% T.C. Rt.
-0.41% T.C. Rt.
-0.37% T.C. Rt.

T.C. P.V.I. 1334.28 No V.C.
T.C. P.V.I. 1334.13 No V.C.
T.C. P.V.I. 1334.25 No V.C.
T.C. P.V.C. 1333.46
T.C. P.V.I. 1333.09 200' V.C.

UTILITY LEGEND

UGG-2	Black Hills Energy
Water	Wichita Water Utilities
San. Sew.	Wichita Water Utilities
Power	Westar Energy
Cable	Cox Communications
UGT	AT&T

W 1/4 Cor. Sec. 15, T27S, R1W
Project Coordinate: N 1691191.53 E 1623136.19
1. Found #4 bar w/ cap
2. = Ridge Rd. Tangent Sta. 23+81.94
3. Existing nail & shiner in S face of power pole — 45.35' W
4. Existing nail & shiner 4' high in W face of power pole — 76.06' NE
5. Existing Brass BM disk on N end of RCBC headwall — 54.09' ESE
6. Existing nail & bottle cap in NE face of power pole — 43.04' SE
7. Existing 3 nails in NE face of power pole — 87.79' SSE
8. ℄ of Ridge Rd. — 5' E
9. ℄ of School St. — 192' N

B.M. #35 COW BM 50' E of ℄ Ridge, 95' N of ℄ 13th St., 14' E of back of curb 50.25' Rt., Sta. 50+94.93 ℄ Ridge Rd. Elev. 1335.51

REMOVAL OF EXISTING STRUCTURES*		
STATION	SIDE	ITEM
43+60	LT	Sign, Median
46+19.38	RT	Curb Inlet & 18" x 276' SS (RCP)
46+19.77	LT	Curb Inlet & 15" x 66' SS (RCP)
46+84	RT	Traffic Signal Junction Box

*For Information Only
Traffic Signal Equipment to be Salvaged.
See General Note #38, Sh. No. 2.

LEGEND
Asphalt
Concrete
Mill & Overlay
Pavement Removal
Paving Brick

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD
PLAN
STA. 43+50 TO STA. 47+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 14 of 113

Plotted on Thursday September 29, 2011 04:27 PM
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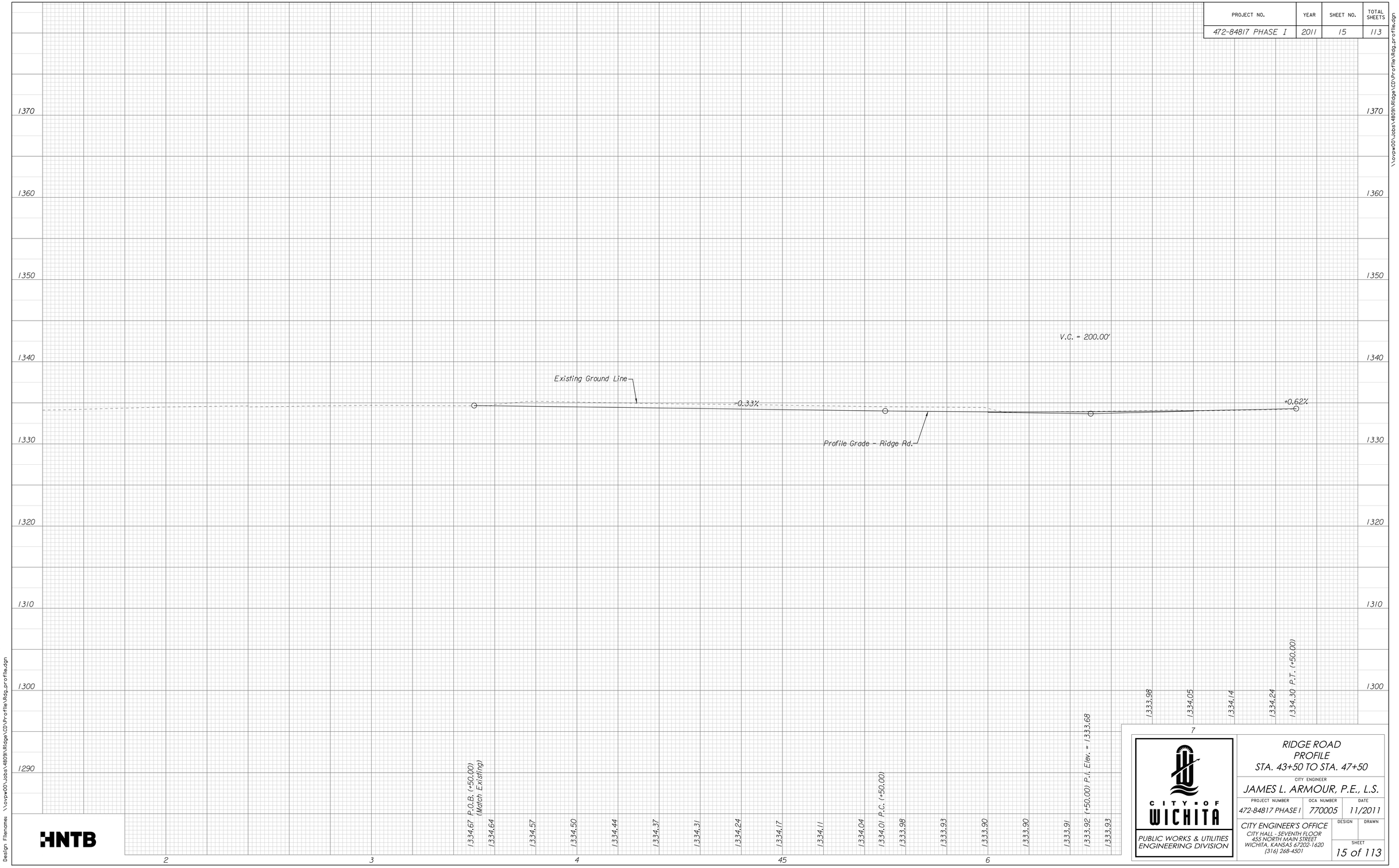
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	15	113



HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

RIDGE ROAD PROFILE STA. 43+50 TO STA. 47+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
15 of 113

Plotted on: Tuesday September 27, 2011 09:36 AM
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\\ovpw00\Jobs\48091\Ridge\CD\Profile\Rdg_profile.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	16	113

T.C. P.V.T. 1333.71 | +0.62% T.C. Lt. & Rt. | T.C. P.V.I. 1334.38 No V.C. | +1.37% T.C. Lt. | T.C. P.V.I. 1334.79 No V.C. | +1.50% T.C. Lt. | T.C. P.V.I. 1335.17 No V.C.

+50 P.V.T. | +57 P.V.I. | +87 P.V.I. | +12.38 P.V.I.

P.I. ℄ Sta. 50+00.00 = SW Cor. Sec. 10, T27S, R1W
Deflection Angle = 02°44'12"
1. See Reference Below

T.C. P.V.I. 1335.15 No V.C. | T.C. P.V.I. 1334.70 No V.C. | T.C. P.V.I. 1334.26 No V.C. | -0.70% T.C. Lt.

+84.47 P.V.I. | -1.58% T.C. Lt. | +13 P.V.I. | -1.47% | +43 P.V.I.

P.G. P.V.T. 1334.30 | +0.62% | P.G. P.V.T. 1335.85 No V.C. | -0.70%

+50 P.V.T. | +00 P.V.I.

Bertha O. Morgan Living Trust
Lot 11, Block D
NE 1/4 Sec. 16, T27S, R1W

Matt Lillie
Lot 1
SE 1/4 Sec. 9, T27S, R1W

Trans. X-Slope Lt. from -⅜"/ft. to -0.06% (+57 to +66)

Trans. X-Slope Lt. from -0.08% to -⅜"/ft. (+34 to +43)

Exist. Perm. Esm't | Exist. Perm. Esm't | +17.30 30' Ent. | Saw Cut | Traffic Signal Service Box | Const. Limits | Proposed Signal | Signal Controller Cabinet | Traffic Signal Service Box | +50.42 75' Lt. | +65.50 25' Ent. | Saw Cut

+91.56 75' Lt. | Do Not Disturb Fence | +91.60 50' Lt. | R/W = Exist. R/W 50' ℄ | R/W = Exist. R/W 75' ℄ | 6' Sidewalk | R/W = Exist. R/W 75' ℄

UGG-1 (4"CWS) | UGG-1 (8"CWS) | UGT | San. Sew. | Power | Water | Curb & Gutter (Type 1) | 15' R | P.T. +62.38

1333.71 | 1333.36 | 1333.67 | 1333.98 | 1334.33 | 1334.98 | 1334.63 | 1334.90 | 1334.55 | 1334.21 | 1333.86 | 1333.51 | 1333.16 | 1332.81

℄ 13TH ST. = ℄

SW Cor. 10-27-1

Sta. 50+00.00 ℄ Ridge Rd. = Sta. 200+00.00 ℄ 13th St.

87°34'52" | 89°40'57" | 92°43'20" | 90°00'51"

℄ RIDGE RD. = ℄

Proposed Signal | Curb & Gutter (Type 1) | See Sh. No. 29 for Intersection Details | Proposed Signal

1334.30 | 1334.61 | 1334.92 | 1335.23 | 1335.54 | 1335.85 | 1335.50 | 1335.15 | 1334.80 | 1334.45 | 1334.10 | 1333.75

8 | 9 | 50 | 1 | 2 | 3

34' | 38'

Match Line to Sh. 18

1333.36 | 1333.67 | 1333.98 | 1334.62 | 1334.97 | 1334.52 | 1334.87 | 1333.78 | 1334.13 | 1333.43 | 1333.78 | 1333.08 | 1333.43 | 1332.73 | 1333.08

+02.32 50' Rt. | 15' R | P-513 | P.T. +20.39 | B.M. #35 | 22' | P-505 | Curb & Gutter (Type 1) | D.M.

Match Line to Sh. 14 | R/W = Exist. R/W 50' ℄ | Exist. Perm. Esm't | +94.69 58' Rt. | 6' Sidewalk | ℄ 13TH ST. | P.C. +96.52 | 10' Trail | Power | Const. Limits

+03.51 75' Rt. | Saw Cut | +11.52 75' Rt. | +40.50 30' Ent. | R/W = Exist. R/W 75' ℄ | Traffic Signal Service Box | Proposed Signal | 24" Water | R/W = Exist. R/W 75' ℄ | Temp. Esm't | Do Not Disturb Sign | Do Not Disturb Utility Pole

Adjust Existing 7' I.D.
Existing Rim Elevation = 1334.73
Proposed Rim Elevation = 1334.97

Sedgwick County ZOO
Block A, Lot 2
SW 1/4 Sec. 10, T27S, R1W

Mary Louise Gow
Lot 1,
NW 1/4 Sec. 15, T27S, R1W

Section Line

+96.52 P.V.I. | -1.56% T.C. Rt. | +1.19 P.V.I. | -1.47% T.C. Rt. | +49 P.V.I. | -0.70% T.C. Rt.

T.C. P.V.I. 1334.93 No V.C. | T.C. P.V.I. 1334.58 No V.C. | T.C. P.V.I. 1334.14 No V.C.

Trans. X-Slope Lt. from -0.14% to -⅜"/ft. (+34 to +49)

Trans. X-Slope Lt. from -⅜"/ft. to -0.12% (+59 to +66)

+59 P.V.I. | +1.37% T.C. Rt. | +89 P.V.I. | +1.50% T.C. Rt. | +20.39 P.V.I.

T.C. P.V.I. 1334.39 No V.C. | T.C. P.V.I. 1334.80 No V.C. | T.C. P.V.I. 1335.27 No V.G.

San. Sew.

B.M. #35 COW BM 50' E of ℄ Ridge, 95' N of ℄ 13th St., 14' E of back of curb 50.25' Rt., Sta. 50+94.93 ℄ Ridge Rd. Elev. 1335.51

SW Cor. Sec. 10, T27S, R1W
Project Coordinate: N 1693808.64 E 1623206.81
1. Found #4 rebar in thimble
2. = Ridge Rd. Tangent Sta. 50+00.00
3. Existing NE corner of conc. base traffic signal pole — 82.54' NW
4. Existing "+" cut on curb 0.43' from joint in curb — 71.59' NW
5. Existing center of SW bolt in base of traffic signal pole — 78.82' NE
6. Existing 3 nails in NW face of power pole — 106.99' NE
7. Existing 3 nails in NE face of power pole — 71.32' SE
8. Existing "+" cut on curb 5' NE of ramp — 68.64' SE
9. Existing "+" cut on curb 7' SE of ramp — 73.85' SW
10. Existing 3 nails in SE face of power pole — 87.30' SW

REMOVAL OF EXISTING STRUCTURES*		
STATION	SIDE	ITEM
48+12	RT	Traffic Signal Junction Box
49+38	LT	Traffic Signal Manhole
50+62	RT	Traffic Signal Manhole
50+73	LT	Traffic Signal Service Box
51+67	LT	Traffic Signal Junction Box
52+37	RT	Sign, 40 MPH
52+95	LT	Traffic Signal Junction Box

*For Information Only
Traffic Signal Equipment to be Salvaged.
See General Note #38, Sh. No. 2.

UTILITY LEGEND

UGG-1	Kansas Gas Service
UGG-2	Black Hills Energy
Water	Wichita Water Utilities
San. Sew.	Wichita Water Utilities
Power	Westar Energy
Cable	Cox Communications
UGT	AT&T

LEGEND

- Asphalt
- Concrete
- Mill & Overlay
- Pavement Removal
- Paving Brick

- Denotes Trees to be Removed

† Wheelchair Ramp with Detectable Warning
For Signal Plans, See Sh. No. 62-71

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD
PLAN
STA. 47+50 TO STA. 53+25

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 16 of 113

Plotted on: Monday November 07, 2011 02:56 PM
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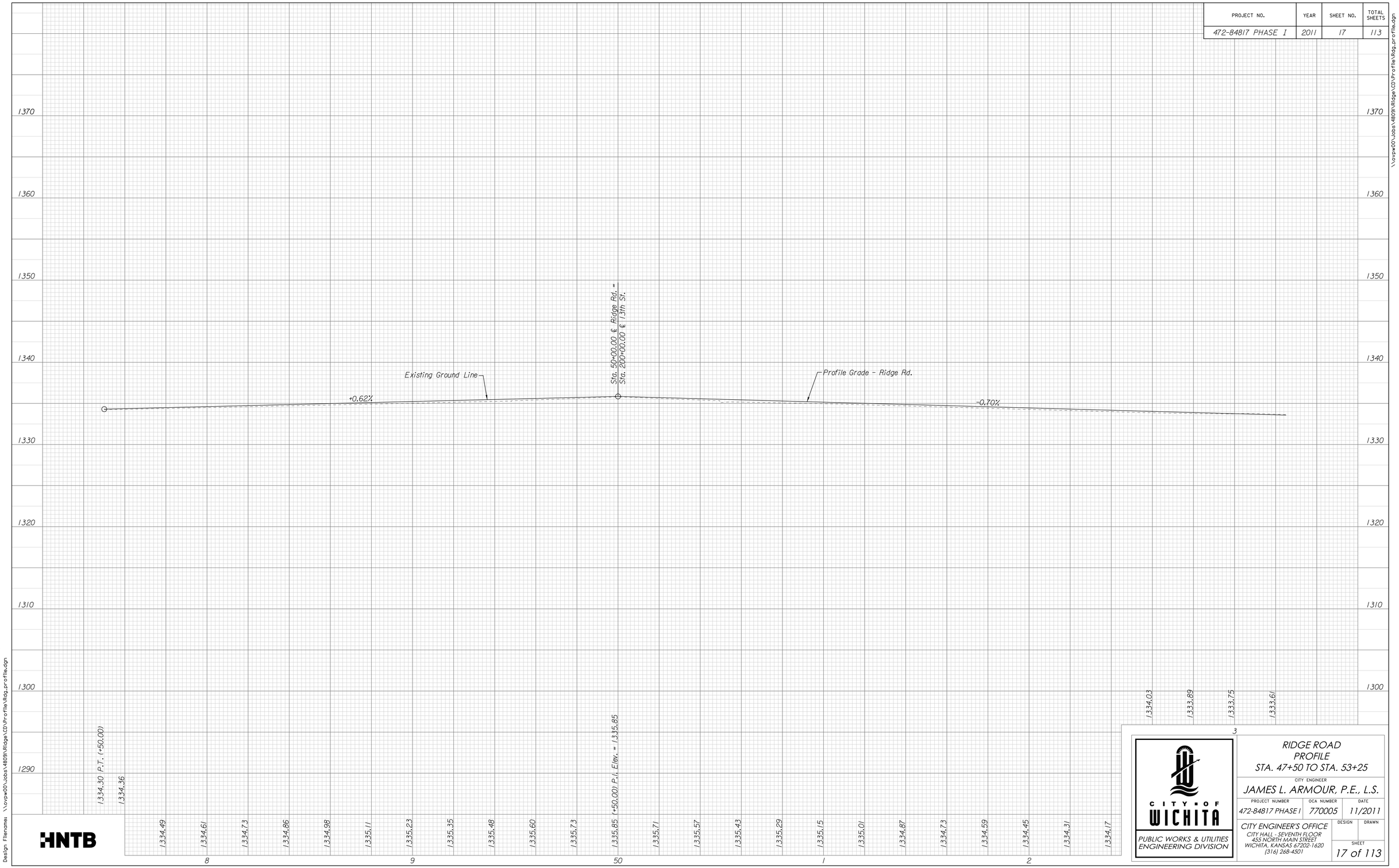
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	17	113



HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD PROFILE
STA. 47+50 TO STA. 53+25

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
17 of 113

Plotted on Tuesday September 27, 2011 09:36 AM
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\\ovpw00\Jobs\4809h\Ridge\CD\Profile\Rdg_profile.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	18	113

T.C. P.V.C. 1332.46 -0.70% T.C. Lt. +00 P.V.C.
Cheer Eclipse, L.L.C. Part of Lot 1, Block 1 SE 1/4 Sec. 9, T27S, R1W
T.C. P.V.I. 1331.50 300' V.C. -0.64% T.C. Lt. +50 P.V.I.
D & M Enterprises of Wichita, L.L.C. Lot 1, Block A SE 1/4 Sec. 9, T27S, R1W
-2.13%
T.C. P.V.T. 1328.37 T.C. P.V.I. 1328.48 -1.38% T.C. Lt. +92 P.V.I.
T.C. P.V.I. 1328.17 No V.C. -1.33% T.C. Lt. +00 P.V.T.
T.C. P.V.I. 1327.93 No V.C. -2.18% T.C. Lt. +15 P.V.I.
+26 P.V.I. (Match Exist.)
P.I. ℄ Sta. 76+21.08 = W 1/4 Cor. Sec. 10, T27S, R1W I. See Reference Below
Linda Winter Lot 1, Block 1 SE 1/4 Sec. 9, T27S, R1W

P.G. P.V.C. 1333.05 -0.70% +00 P.V.C.
-0.70% +50 P.V.I.
P.G. P.V.I. 1332.00 300' V.C.
-2.20%
P.G. P.V.T. 1328.70 +00 P.V.T.
P.G. P.V.I. 1328.13 No V.C. -2.20% +26 P.V.I. (Match Exist.)

Sta. 53+50.00 Remove Existing Curb Inlet and Existing 15" x 9' S.S. (RCP)(E)

500
Sta. 53+50.00, 34.67' Lt. Const.
Curb Inlet Type II (Double)
Extend 15" x 8.0' S.S. (RCP)(E)
See Sh. No. 28, 38, 43, 45, 46

Sta. 55+77, 54' Lt. Adjust
MH Top Elev. (Brick Sanitary Sewer MH)
Exist. Top Elev. = 1332.23
Prop. Top Elev. = 1332.07
Total Adjustment = -0.16'
(Cost Subsidiary to "Manhole Adjusted w/ New Ring and Cover")
See Detail, Sh. No. 39

Exist. Perm. Esm't
Exist. Perm. Esm't

Sta. 56+00, 37' Lt. Adjust
Valve Box Top Elev. (6" FH Valve)
Exist. Top Elev. = 1331.72
Prop. Top Elev. = 1331.2 (Match Finish Grade)
Total Adjustment = -0.52'
(Cost Subsidiary to "Valve Box Adjusted")

Do Not Disturb Exist. Trench Drain
Exist. Perm. Esm't
Exist. Perm. Esm't
+50.28 50' Lt. +81.70 24' Ent. Saw Cut
Begin Taper Lt. 13.5' R
+45.00 65' Lt. Temp. Esm't 65' ℄
+45.00 50' Lt.
+78.25 24' Ent.
+00.36 65' Lt.
+00.28 50' Lt.
Saw Cut ∅ 12' 9' 12' ∅
R/W = Exist. R/W 50' ℄
Curb & Gutter (Type I)
Const. Limits
4' Sidewalk
+65 30' Ent. Saw Cut
12' R
End Taper Lt.
+26.00
13.5' R
15' R
12' R
15' R
P-501
P-502
P-500
18" RCP
℄ RIDGE RD. = ℄
87°59'44"
87°59'44"
Sta. 57+26.00 END CONSTRUCTION
Match Line to Sh. 16
4 55 6 7 8 9
1333.40 1333.05 1332.64 1332.18 1331.44 1330.65 1329.74 1328.70 1328.13
1332.46 1332.11 1331.72 1331.22 1330.59 1329.84 1328.96 1328.37 1327.93 1327.58
1332.07 1331.57 1330.94
1333.28
34' 38' 31.5' 23.5'
P-505A P-505 P-506
1332.03 1331.62 1331.08 1330.46 1329.71 1328.83 1328.23 1327.84
1332.38 1331.97 1331.43 1330.81 1330.06 1329.18 1328.93 1327.49
10' Trail
Saw Cut
Curb & Gutter (Type I)
End Taper Rt. +75.00
Begin Taper Rt. +00.00
Const. Limits
+70.57 Match Exist.
24" Water R/W = Exist. R/W 75' ℄
Power
Cable
UGT
UGG-I
Sta. 57+00.54 Remove Existing Curb Inlet and Existing 18" x 9' S.S. (RCP)(W)

502
Sta. 57+03.25, 26.30' Lt. Const.
Curb Inlet Type I
L = 15'-0" W = 3'-0"
Extend 18" x 8.0' S.S. (RCP)(E)
Connect to Existing 18" S.S. (RCP)(N)
See Detail A (this sheet)
See Sh. No. 28, 38, 42, 45, 46

Center of Structure 2.4'
DETAIL A

505
Sta. 53+51.25, 38.67' Rt. Const.
Inlet/Manhole Type II (Special)
Extend 15" x 8.0' S.S. (RCP)(W)
Install 24" x 303.1' S.S. (RCP)(S)
Connect to Existing Manhole
See Sh. No. 28, 38, 44, 45, 46

Sta. 53+51.25 Remove Existing Curb Inlet, Existing 18" x 298' S.S. (RCP)(S) and Existing 15" x 8' S.S. (RCP)(W)

501
Sta. 54+74.00, 32.99' Lt. Const.
Curb Inlet Type II (Double)
Install 15" x 229.3' S.S. (RCP)(N)
Connect to Existing PVC Pipes (W)
See Sh. No. 27, 43, 45, 46

Sta. 56+01, 35' Lt. Adjust
Fire Hydrant Bury Line Elev.
Exist. Bury Line Elev. = 1330.88
Prop. Bury Line Elev. = 1331.0 (Match Finish Grade)
Total Adjustment = +0.50'
(Cost Subsidiary to "Fire Hydrant Adjusted")

Sta. 57+00.82 Remove Existing Curb Inlet, Existing 18" x 8' S.S. (RCP)(E) and Existing 18" x 4' S.S. (RCP)(N)

506
Sta. 57+00.50, 33.50' Rt. Const.
Curb Inlet Type I
L = 10'-0" W = 3'-0"
Extend 18" x 8.0' S.S. (RCP)(W)
See Sh. No. 28, 38, 41, 45, 46

REMOVAL OF EXISTING STRUCTURES*		
STATION	SIDE	ITEM
53+50.00	LT	Curb Inlet, 15" x 9' SS (RCP)
53+51.25	RT	Curb Inlet, 18" x 298' & 15" x 8' SS (RCP)
55+78	RT	Sign, One Way
56+37	RT	Sign, Median
57+00.54	RT	Curb Inlet, 18" x 9' SS (RCP)
57+00.82	LT	Curb Inlet, 18" x 8' & 18" x 4' SS (RCP)

*For Information Only

Ø Transition Drive Curb to Match Existing Parking Lot Curb Shape

UTILITY LEGEND

UGG-I	Kansas Gas Service
Water	Wichita Water Utilities
San. Sew.	Wichita Water Utilities
Power	Westar Energy
Cable	Cox Communications
UGT	AT&T

HNTB

-0.70% T.C. Rt. +00 P.V.C. T.C. P.V.C. 1332.38
-0.67% T.C. Rt. +50 P.V.I. T.C. P.V.I. 1331.37 300' V.C.
-2.13% T.C. Rt. +85 P.V.I. T.C. P.V.I. 1328.49
-1.40% T.C. Rt. +00 P.V.T. T.C. P.V.T. 1328.28
-1.40% T.C. Rt. +15 P.V.I. T.C. P.V.I. 1328.07 No V.C.
-2.09% T.C. Rt. +26 P.V.I. (Match Exist.) T.C. P.V.I. 1327.84 No V.C.

W 1/4 Cor. Sec. 10, T27S, R1W
Project Coordinate: N 1696429.16 E 1623152.33
1. Found PK nail with PK nails at 2' offsets N, E, & W
2. = Ridge Rd. Tangent Sta. 76+21.08
3. Existing RR spike in W face of power pole 82.36' NE
4. Existing nail & washer in N face of power pole 39.76' E
5. Existing nail & shiner in NE face of power pole 106.33' SSE
6. Existing top of gas vent pipe 52.61' WSW
7. Existing 3 nails in N face of telephone pole, N side of tree 50.76' NW
8. Existing SE corner of 2nd brick column N 73.32' NNW
9. ℄ of Suncrest St. 121' S
10. ℄ of Ridge Rd 4' E

Sedgwick County ZOO Block A, Lot 2 SW 1/4 Sec. 10, T27S, R1W

B.M. #35 COW BM 50' E of ℄ Ridge, 95' N of ℄ 13th St., 14' E of back of curb 50.25' Rt., Sta. 50+94.93 ℄ Ridge Rd. Elev. 1335.51

LEGEND
Asphalt
Concrete
Mill & Overlay
Pavement Removal
Paving Brick

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD
PLAN
STA. 53+25 TO STA. 57+26

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 18 of 113

Plotted on: Thursday September 29, 2011 04:28 PM
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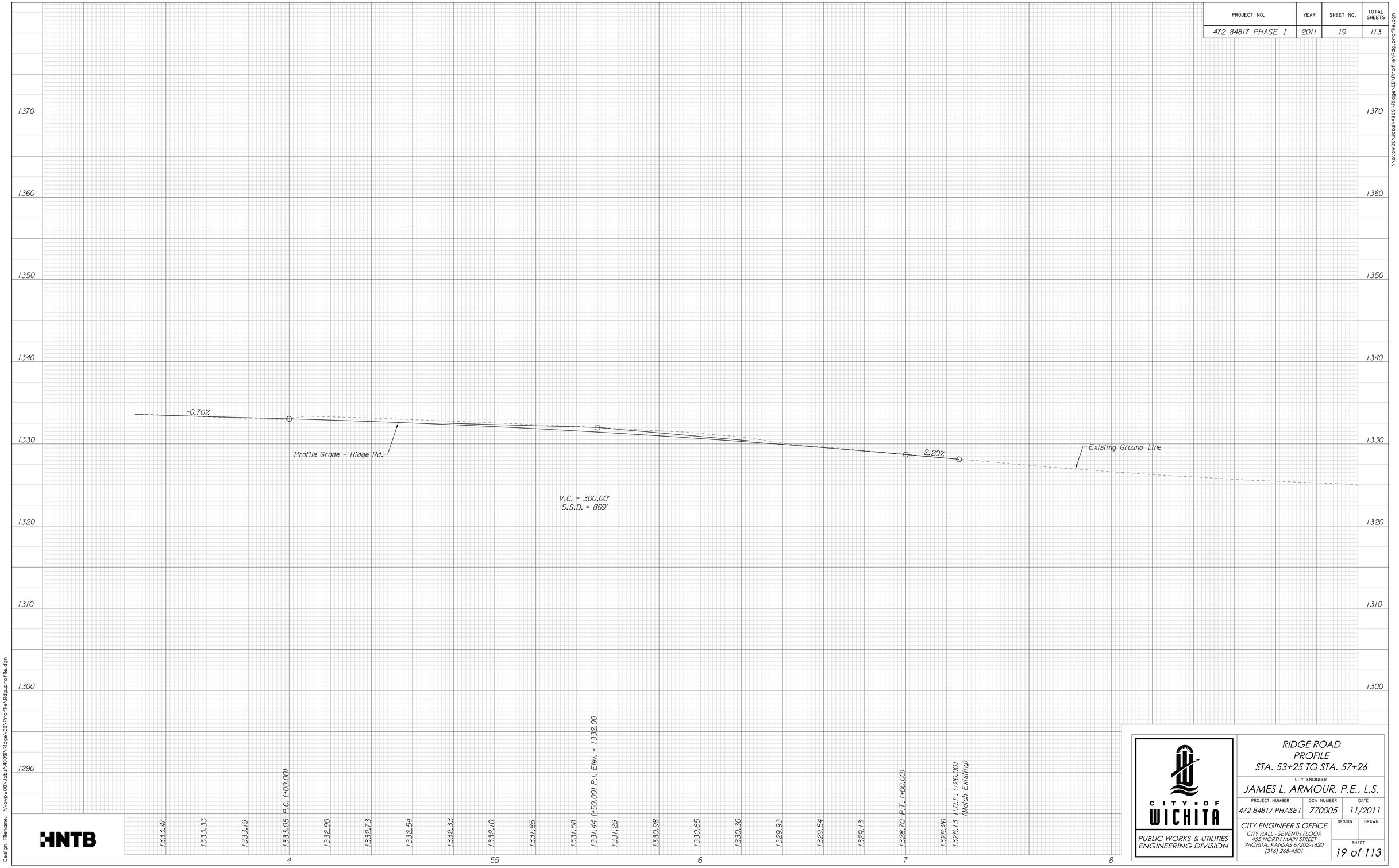
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	19	113



HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

RIDGE ROAD PROFILE
STA. 53+25 TO STA. 57+26

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 19 of 113

Plotted on: Tuesday September 27, 2011 09:37 AM
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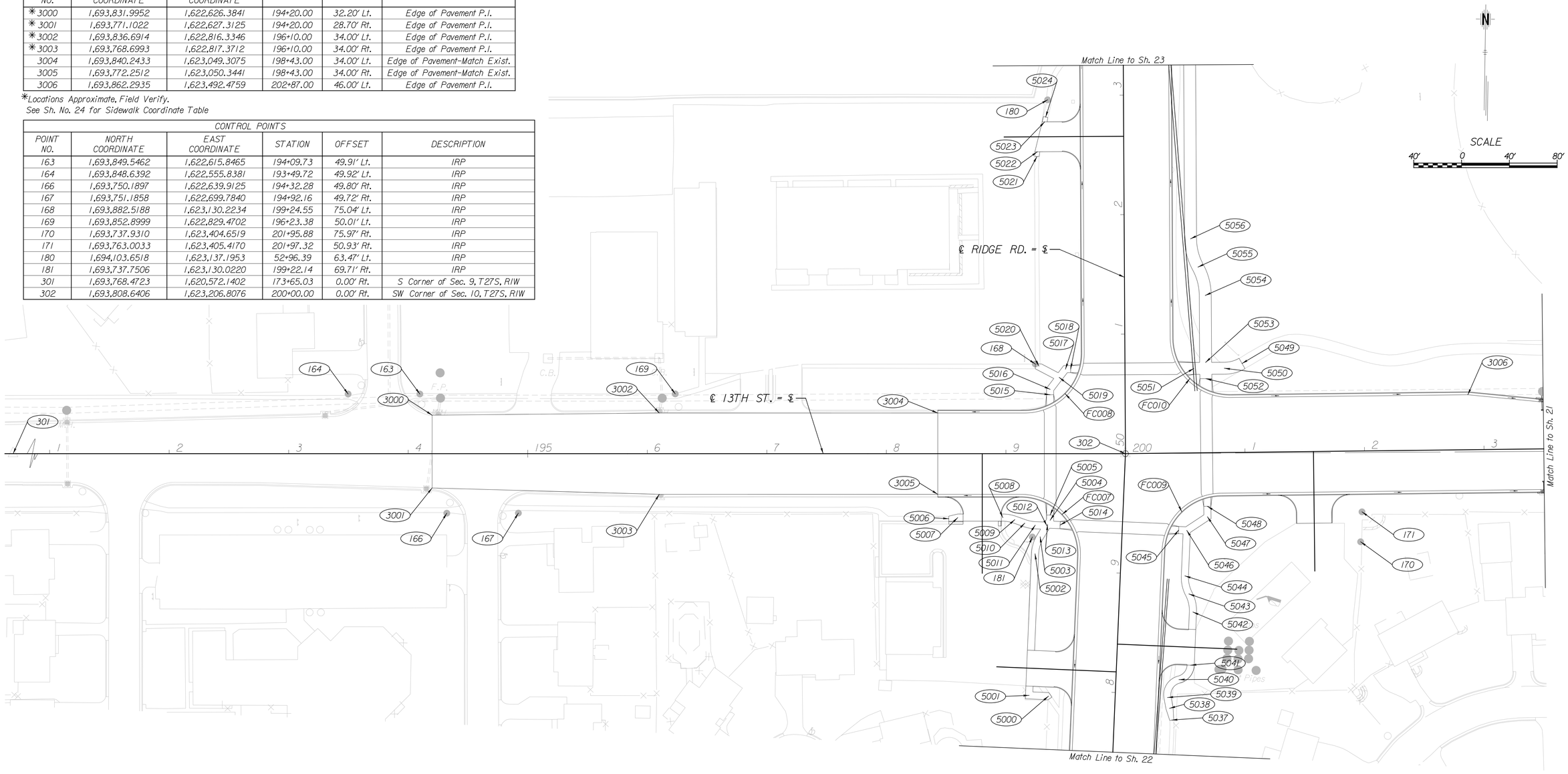
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	20	113

COORDINATE TABLE					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
*3000	1,693,831.9952	1,622,626.3841	194+20.00	32.20' Lt.	Edge of Pavement P.I.
*3001	1,693,771.1022	1,622,627.3125	194+20.00	28.70' Rt.	Edge of Pavement P.I.
*3002	1,693,836.6914	1,622,816.3346	196+10.00	34.00' Lt.	Edge of Pavement P.I.
*3003	1,693,768.6993	1,622,817.3712	196+10.00	34.00' Rt.	Edge of Pavement P.I.
3004	1,693,840.2433	1,623,049.3075	198+43.00	34.00' Lt.	Edge of Pavement-Match Exist.
3005	1,693,772.2512	1,623,050.3441	198+43.00	34.00' Rt.	Edge of Pavement-Match Exist.
3006	1,693,862.2935	1,623,492.4759	202+87.00	46.00' Lt.	Edge of Pavement P.I.

*Locations Approximate, Field Verify.
See Sh. No. 24 for Sidewalk Coordinate Table

CONTROL POINTS					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
163	1,693,849.5462	1,622,615.8465	194+09.73	49.91' Lt.	IRP
164	1,693,848.6392	1,622,555.8381	193+49.72	49.92' Lt.	IRP
166	1,693,750.1897	1,622,639.9125	194+32.28	49.80' Rt.	IRP
167	1,693,751.1858	1,622,699.7840	194+92.16	49.72' Rt.	IRP
168	1,693,882.5188	1,623,130.2234	199+24.55	75.04' Lt.	IRP
169	1,693,852.8999	1,622,829.4702	196+23.38	50.01' Lt.	IRP
170	1,693,737.9310	1,623,404.6519	201+95.88	75.97' Rt.	IRP
171	1,693,763.0033	1,623,405.4170	201+97.32	50.93' Rt.	IRP
180	1,694,103.6518	1,623,137.1953	52+96.39	63.47' Lt.	IRP
181	1,693,737.7506	1,623,130.0220	199+22.14	69.71' Rt.	IRP
301	1,693,768.4723	1,620,572.1402	173+65.03	0.00' Rt.	S Corner of Sec. 9, T27S, R1W
302	1,693,808.6406	1,623,206.8076	200+00.00	0.00' Rt.	SW Corner of Sec. 10, T27S, R1W



FC denotes face of curb

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
FC007	92°25'08" Rt.	48.00'	50.07'	77.42'	21.36'	1,693,771.3090	1,623,119.7431	1,693,772.0723	1,623,169.8078	1,693,722.0200	1,623,168.4573	1,693,723.3146	1,623,120.4748
FC008	90°19'03" Lt.	48.00'	48.27'	75.66'	20.07'	1,693,843.3488	1,623,121.8018	1,693,844.0846	1,623,170.0630	1,693,892.3409	1,623,169.0597	1,693,891.3432	1,623,121.0701
FC009	86°55'23" Rt.	48.00'	45.49'	72.82'	18.13'	1,693,728.0925	1,623,240.6474	1,693,773.5651	1,623,241.8743	1,693,774.7807	1,623,287.3472	1,693,726.7979	1,623,288.6299
FC010	90°20'25" Lt.	48.00'	48.29'	75.68'	20.08'	1,693,905.9755	1,623,244.7927	1,693,857.7000	1,623,245.7963	1,693,858.9903	1,623,294.0650	1,693,906.9732	1,623,292.7823

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
COORDINATE GEOMETRY
PLAN

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 20 of 113

Plotted on: Thursday September 29, 2011 04:28 PM
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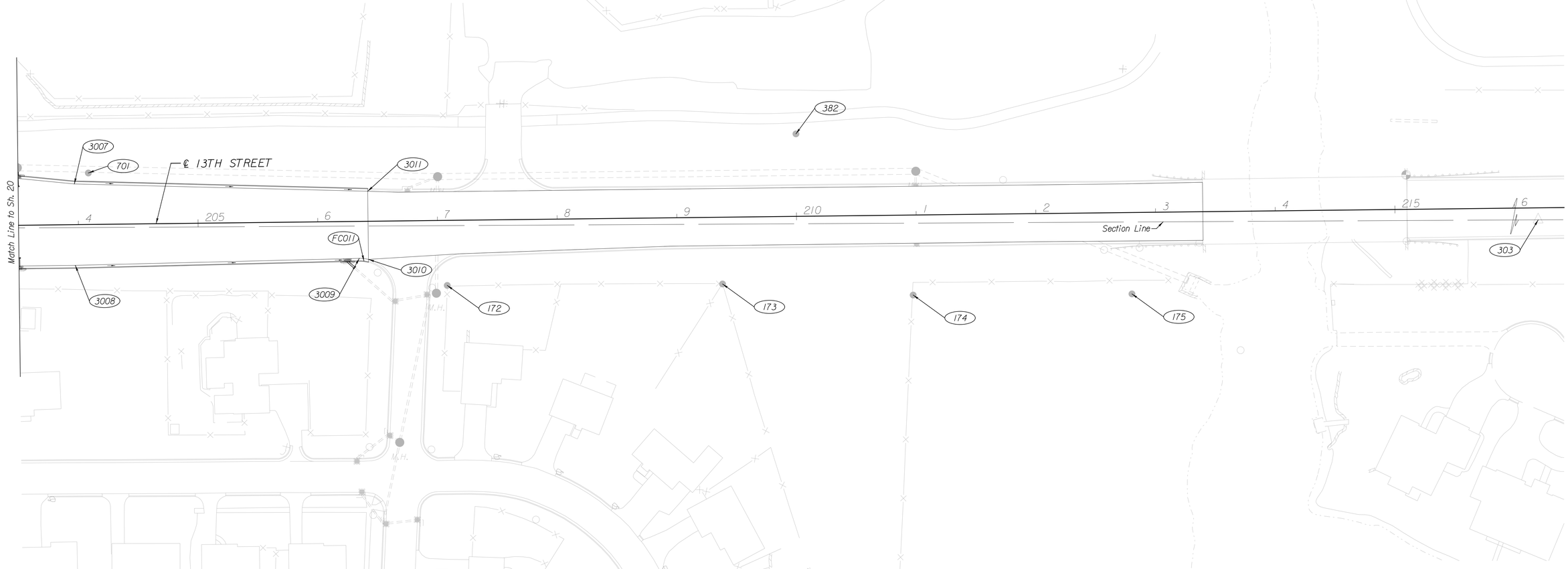
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	21	113

COORDINATE TABLE					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
3007	1,693,853.2373	1,623,602.7573	203+97.00	34.00' Lt.	Edge of Pavement P.I.
3008	1,693,785.2616	1,623,604.5744	203+97.00	34.00' Rt.	Edge of Pavement P.I.
3009	1,693,794.6926	1,623,841.7357	206+34.33	30.91' Rt.	Edge of Pavement P.C.
3010	1,693,794.0035	1,623,849.4282	206+42.00	31.80' Rt.	Edge of Pavement P.T.
3011	1,693,850.8784	1,623,847.9078	206+42.00	25.09' Lt.	Edge of Pavement P.I.

CONTROL POINTS					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
172	1,693,773.2307	1,623,915.5811	207+07.57	54.34' Rt.	IRP
173	1,693,777.9484	1,624,145.5494	209+37.59	55.77' Rt.	IRP
174	1,693,771.1385	1,624,304.9116	210+96.71	66.83' Rt.	IRP
175	1,693,774.8643	1,624,487.6749	212+79.51	67.99' Rt.	IRP
303	1,693,862.4290	1,625,825.4201	226+19.11	16.21' Rt.	S Corner of Sec. 10, T27S, R1W
382	1,693,904.2674	1,624,204.9453	210+00.34	68.92' Lt.	IRP
701	1,693,862.5695	1,623,614.3064	204+08.79	43.02' Lt.	#4 bar



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
FC011	15°49'03" Rt.	28.00'	3.89'	7.73'	0.27'	1,693,792.6941	1,623,841.8152	1,693,792.8487	1,623,845.7018	1,693,791.9380	1,623,849.4834	1,693,764.7163	1,623,842.9278

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
COORDINATE GEOMETRY PLAN

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
21 of 113

Plotted on: Tuesday September 27, 2011 09:37 AM
mbechtel Plot Queues: \\ovpw001\PLTBW1_IP
Plot Scales: 40.000026ft/1.000000 Pen Tables: \\ovpw001\Jobs\4809h\Common\Highway\Library\plotpen\CC_22x36.pen
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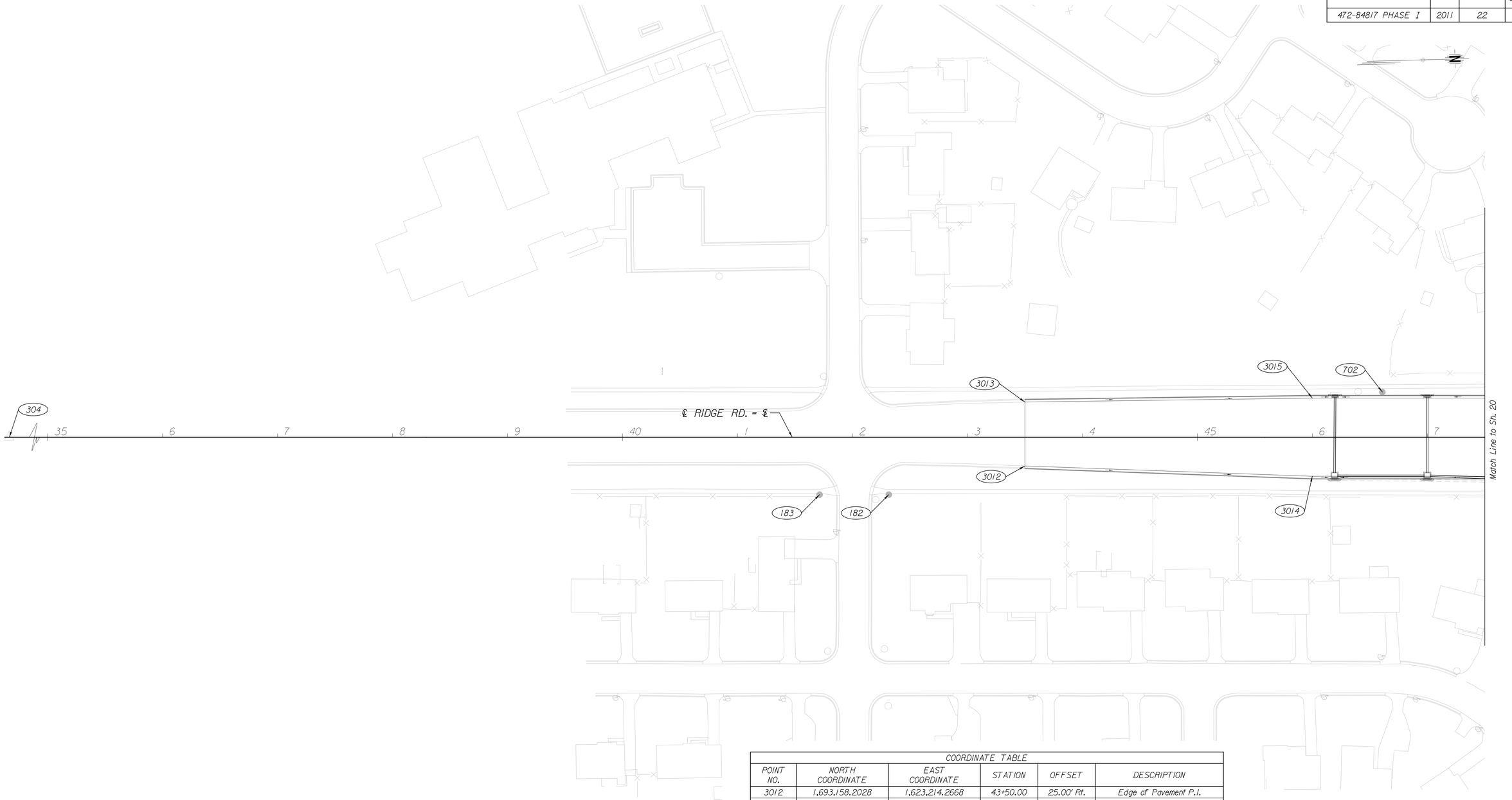
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	22	113



COORDINATE TABLE					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
3012	1,693,158.2028	1,623,214.2668	43+50.00	25.00' Rt.	Edge of Pavement P.I.
3013	1,693,159.7024	1,623,158.6871	43+50.00	30.60' Lt.	Edge of Pavement P.I.
3014	1,693,407.8691	1,623,230.0065	46+00.00	34.00' Rt.	Edge of Pavement P.I.
3015	1,693,409.7032	1,623,162.0312	46+00.00	34.00' Lt.	Edge of Pavement P.I.

CONTROL POINTS					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
182	1,693,039.1759	1,623,236.0414	42+31.60	49.98' Rt.	IRP
183	1,692,979.0300	1,623,234.4285	41+71.44	49.99' Rt.	IRP
304	1,691,191.5331	1,623,136.1938	23+81.94	0.00' Rt.	W Corner of Sec. 15, T27S, R1W
702	1,693,470.7124	1,623,158.3886	46+60.89	39.29' Lt.	#4 bar

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD COORIDINATE GEOMETRY PLAN

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 22 of 113

Plotted on: Tuesday September 27, 2011 09:37 AM
mbechtel Plot Queue: \\ovpw00\PLTBW_IP
Plot Scale: 40.000000:0.000000 Pen Table: \\ovpw00\Jobs\4809\Common\Highway\Library\plotpen\CC_22x36pen
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	23	113

COORDINATE TABLE					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
3016	1,694,233.8419	1,623,163.9605	54+26.00	34.00' Lt.	Edge of Pavement P.I.
3017	1,694,309.3224	1,623,234.4068	55+00.00	38.00' Rt.	Edge of Pavement P.I.
3018	1,694,484.1495	1,623,224.2708	56+75.00	31.50' Rt.	Edge of Pavement P.I.
3019	1,694,533.9953	1,623,168.2226	57+26.00	23.50' Lt.	Edge of Pavement P.I.
3020	1,694,535.1385	1,623,223.2108	57+26.00	31.50' Rt.	Edge of Pavement P.I.

See Sh. No. 24 for Sidewalk Coordinate Table

CONTROL POINTS					
POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
179	1,694,157.8342	1,623,149.4563	53+50.3102	50.08' Lt.	IRP
184	1,695,101.2063	1,623,130.2472	62+93.88	49.68' Lt.	IRP
185	1,695,161.1730	1,623,129.0524	63+53.86	49.63' Lt.	IRP
305	1,696,429.1556	1,623,152.3280	76+21.08	0.00' Rt.	W Corner of Sec. 10, T27S, R1W
700	1,694,243.8165	1,623,256.9604	54+34.04	59.19' Rt.	#4 bar

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD COORDINATE GEOMETRY PLAN

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
23 of 113

Plotted on: Tuesday September 27, 2011 09:38 AM
mbechtel Plot Queue: \\ovpw00\PLTBW_IP
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	24	113

\\ovpw00\Jobs\48091\Ridge\CD\Detail\Rdg_coordinate-geometry.dgn

SIDEWALK COORDINATE TABLE

POINT NO.	NORTH COORDINATE	EAST COORDINATE	STATION	OFFSET	DESCRIPTION
5000	1,693,604.8085	1,623,145.7271	47+94.59	55.56' Lt.	℄ Sidewalk P.I. (Begin Sidewalk Match Exist.)
5001	1,693,605.2267	1,623,129.2930	47+99.81	72.00' Lt.	℄ Sidewalk P.I.
5002	1,693,723.7376	1,623,132.4906	49+13.12	72.00' Lt.	℄ Sidewalk P.C. (30' R.)
5003	1,693,737.9842	1,623,136.5312	49+27.47	68.35' Lt.	℄ Sidewalk P.T. (30' R.)
5004	1,693,752.0006	1,623,144.6638	199+37.00	55.69' Rt.	℄ Sidewalk P.I.
5005	1,693,756.3280	1,623,144.5978	199+37.00	51.36' Rt.	℄ Sidewalk P.I. (WCR)
5006	1,693,752.0017	1,623,059.8539	198+52.20	54.39' Rt.	℄ Sidewalk P.I. (Begin Sidewalk)
5007	1,693,753.0080	1,623,067.3395	198+59.70	53.50' Rt.	℄ Sidewalk P.I. (End Trans. From Exist.)
5008	1,693,753.5830	1,623,105.0495	198+97.41	53.50' Rt.	℄ Sidewalk P.C. (30' R.)
5009	1,693,752.0123	1,623,115.0969	199+07.44	55.22' Rt.	℄ Sidewalk P.T. (30' R.)
5010	1,693,749.1930	1,623,123.4536	199+15.75	58.17' Rt.	℄ Sidewalk P.C. (30' R.)
5011	1,693,747.6298	1,623,132.2346	49+37.00	72.90' Lt.	℄ Sidewalk P.T. (30' R.)
5012	1,693,747.3670	1,623,141.9753	49+37.00	63.16' Lt.	℄ Sidewalk P.I.
5013	1,693,748.3519	1,623,142.5467	49+38.00	62.61' Lt.	℄ Sidewalk P.I.
5014	1,693,748.0682	1,623,153.0614	49+38.00	52.09' Lt.	℄ Sidewalk P.I. (WCR)
5015	1,693,856.9605	1,623,143.0636	199+37.00	49.29' Lt.	℄ Sidewalk P.I. (WCR)
5016	1,693,861.5090	1,623,142.9942	199+37.00	53.84' Lt.	℄ Sidewalk P.I.
5017	1,693,878.5909	1,623,155.5784	50+71.00	49.76' Lt.	℄ Sidewalk P.I.
5018	1,693,878.6807	1,623,159.8961	50+71.00	45.45' Lt.	℄ Sidewalk P.I. (WCR)
5019	1,693,871.6613	1,623,150.4734	50+64.18	55.01' Lt.	℄ Sidewalk P.I.
5020	1,693,881.1714	1,623,131.6945	50+74.08	73.59' Lt.	℄ Sidewalk P.I. (End Sidewalk Match Exist.)
5021	1,694,056.0772	1,623,129.0185	52+49.00	72.63' Lt.	℄ Sidewalk P.I. (Begin Sidewalk Match Exist.)
5022	1,694,060.0834	1,623,129.2730	52+53.00	72.29' Lt.	℄ Sidewalk P.I. (End Trans. To 4' From Exist.)
5023	1,694,085.2080	1,623,135.0108	52+78.00	66.03' Lt.	℄ Sidewalk P.I. (Begin Trans. From 4' to Exist.)
5024	1,694,089.2256	1,623,135.7898	53+82.00	65.17' Lt.	℄ Sidewalk P.I. (End Sidewalk Match Exist.)
5025	1,694,164.6090	1,623,153.4780	53+57.00	45.92' Lt.	℄ Sidewalk P.I. (Begin Sidewalk Match Exist.)
5026	1,694,177.2630	1,623,151.1337	53+69.70	48.00' Lt.	℄ Sidewalk P.I. (End Trans. To 4' From Exist.)
5027	1,694,201.2579	1,623,150.6349	53+93.70	48.00' Lt.	℄ Sidewalk P.I. (Begin Trans. From 4' to Exist)
5028	1,694,213.5982	1,623,152.1747	54+06.01	46.20' Lt.	℄ Sidewalk P.I. (End Sidewalk Match Exist.)
5029	1,694,363.5880	1,623,150.0927	55+56.01	45.17' Lt.	℄ Sidewalk P.I. (Begin Sidewalk Match Exist.)
5030	1,694,375.4429	1,623,147.0136	55+67.92	48.00' Lt.	℄ Sidewalk P.I. (End Trans. To 4' From Exist.)
5031	1,694,399.4524	1,623,146.5145	55+91.94	48.00' Lt.	℄ Sidewalk P.I. - 4'
5032	1,694,412.6423	1,623,152.4980	56+05.00	41.74' Lt.	℄ Sidewalk P.I. - 4'
5033	1,694,492.6832	1,623,153.6346	56+85.00	38.94' Lt.	℄ Sidewalk P.I. - 4'
5034	1,694,507.7931	1,623,158.7652	57+00.00	33.50' Lt.	℄ Sidewalk P.I. - 4'
5035	1,694,528.7885	1,623,158.3287	57+21.00	33.50' Lt.	℄ Sidewalk P.I. (Begin S/W 5' Trans.)
5036	1,694,533.7875	1,623,158.2248	57+26.00	33.50' Lt.	℄ Sidewalk P.I. (End S/W 5' Trans. Match Exist.)
5037	1,693,586.3645	1,623,248.9351	47+78.94	48.11' Rt.	℄ Sidewalk P.I. (Begin Sidewalk)
5038	1,693,596.1641	1,623,246.9430	47+88.68	45.85' Rt.	℄ Sidewalk P.I. (End Trans. From Exist.)
5039	1,693,605.1882	1,623,245.1086	47+97.65	43.77' Rt.	℄ Sidewalk P.C. (13' R.)
5040	1,693,620.3302	1,623,254.4656	48+13.04	52.72' Rt.	℄ Sidewalk P.R.C.
5041	1,693,632.5318	1,623,264.0785	48+25.50	62.00' Rt.	℄ Sidewalk P.T. (13' R.)
5042	1,693,677.0156	1,623,265.2787	48+70.00	62.00' Rt.	℄ Sidewalk P.C. (30' R.)
5043	1,693,692.0847	1,623,261.6838	48+84.97	58.00' Rt.	℄ Sidewalk P.R.C.
5044	1,693,707.1538	1,623,258.0890	48+99.93	54.00' Rt.	℄ Sidewalk P.T. (30' R.)
5045	1,693,745.3900	1,623,252.3205	49+38.00	47.20' Rt.	℄ Sidewalk P.I. (WCR)
5046	1,693,745.2067	1,623,259.1157	49+38.00	54.00' Rt.	℄ Sidewalk P.I.
5047	1,693,756.8930	1,623,276.2152	200+68.00	53.58' Rt.	℄ Sidewalk P.I.
5048	1,693,765.6723	1,623,275.9805	200+68.00	44.80' Rt.	℄ Sidewalk P.I. (WCR)
5049	1,693,885.5744	1,623,303.1826	50+74.91	97.95' Rt.	℄ Trail P.C. (Begin Trail, 30' R.)
5050	1,693,881.3533	1,623,288.4510	50+71.00	83.14' Rt.	℄ Trail P.T. (30' R.)
5051	1,693,880.8226	1,623,262.9255	50+71.00	57.61' Rt.	℄ Trail P.I. (WCR)
5052	1,693,872.4064	1,623,273.1273	200+68.00	61.97' Lt.	℄ Trail P.I. (WCR)
5053	1,693,886.0272	1,623,272.7133	50+76.00	67.50' Rt.	℄ Trail P.I.
5054	1,693,942.0151	1,623,271.5494	51+32.00	67.50' Rt.	℄ Trail P.C. (30' R.)
5055	1,693,965.0571	1,623,265.0571	51+55.75	61.50' Rt.	℄ Trail P.R.C.
5056	1,693,989.2528	1,623,258.5647	51+79.50	55.50' Rt.	℄ Trail P.T. (30' R.)
5057	1,694,310.0110	1,623,251.8963	55+00.32	55.50' Rt.	℄ Trail P.I.
5058	1,694,380.1833	1,623,247.8279	55+70.57	52.89' Rt.	℄ Trail P.I. (End Trail)

Note:
All Sidewalk 6' Unless Otherwise Noted
All Trail 10'

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CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

SIDEWALK COORDINATE TABLE

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
24 of 113

Plotted on: Tuesday September 27, 2011 09:38 AM
mbechtel Plot Queue: \\ovpw00\PLTBW_IP
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	25	113

Curve No. FC008

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH COORDINATE	EAST COORDINATE	NORTH COORDINATE	EAST COORDINATE	
9522	199+15.53	36.00' Lt.'	1,693,843.3488	1,623,121.8018	1,693,851.3479	1,623,121.6799	P.C.
9523	199+49.57	50.15' Lt.	1,693,858.0190	1,623,155.6172	1,693,863.5731	1,623,149.8593	1/2 Pt.
9524	199+63.53	84.27' Lt.	1,693,892.3409	1,623,169.0597	1,693,892.1746	1,623,161.0614	P.T.

Curve No. FC007

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH COORDINATE	EAST COORDINATE	NORTH COORDINATE	EAST COORDINATE	
9519	199+12.38	36.00' Rt.	1,693,773.3090	1,623,119.7431	1,693,763.3100	1,623,119.8650	P.C.
9520	199+47.03	50.78' Rt.	1,693,757.0561	1,623,154.6144	1,693,751.4325	1,623,148.9245	1/2 Pt.
9521	199+60.33	86.03' Rt.	1,693,722.0200	1,623,168.4573	1,693,722.2357	1,623,160.4602	P.T.

Curve No. FC010

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH COORDINATE	EAST COORDINATE	NORTH COORDINATE	EAST COORDINATE	
9528	200+40.57	96.29' Lt.	1,693,905.9755	1,623,244.7927	1,693,906.1418	1,623,252.7910	P.C.
9529	200+54.53	62.16' Lt.	1,693,872.2354	1,623,259.6570	1,693,878.0250	1,623,265.1779	1/2 Pt.
9530	200+88.57	48.00' Lt.	1,693,858.9903	1,623,294.0650	1,693,866.9875	1,623,293.8512	P.T.

Curve No. FC009

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH COORDINATE	EAST COORDINATE	NORTH COORDINATE	EAST COORDINATE	
9525	200+31.68	81.42' Rt.	1,693,728.0925	1,623,240.6474	1,693,727.8767	1,623,248.6445	P.C.
9526	200+46.59	49.16' Rt.	1,693,760.7432	1,623,254.6930	1,693,755.0857	1,623,260.3492	1/2 Pt.
9527	200+79.61	36.00' Rt.	1,693,774.7807	1,623,287.3472	1,693,766.7836	1,623,287.5610	P.T.

Curve No. FC011

POINT NO.	STATION	OFFSET	ON CURVE		8' OFFSET		COMMENT
			NORTH COORDINATE	EAST COORDINATE	NORTH COORDINATE	EAST COORDINATE	
9531	206+34.35	32.91' Rt.	1,693,792.6941	1,623,841.8152	1,693,784.7005	1,623,842.1331	P.C.
9532	206+38.21	33.13' Rt.	1,693,792.5811	1,623,845.6755	1,693,784.6197	1,623,844.8904	1/2 Pt.
9533	206+42.00	33.87' Rt.	1,693,791.9380	1,623,849.4834	1,693,784.1604	1,623,847.6104	P.T.

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CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

CURVE STAKE-OUT TABLES

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
25 of 113

Plotted on: Tuesday September 27, 2011 09:38 AM
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Plot Scale: 1.000000 x 1.000000 Pen Table: \\ovpw00\Jobs\4809\Common\Highway\Library\plotpen\CC_22x36.pen
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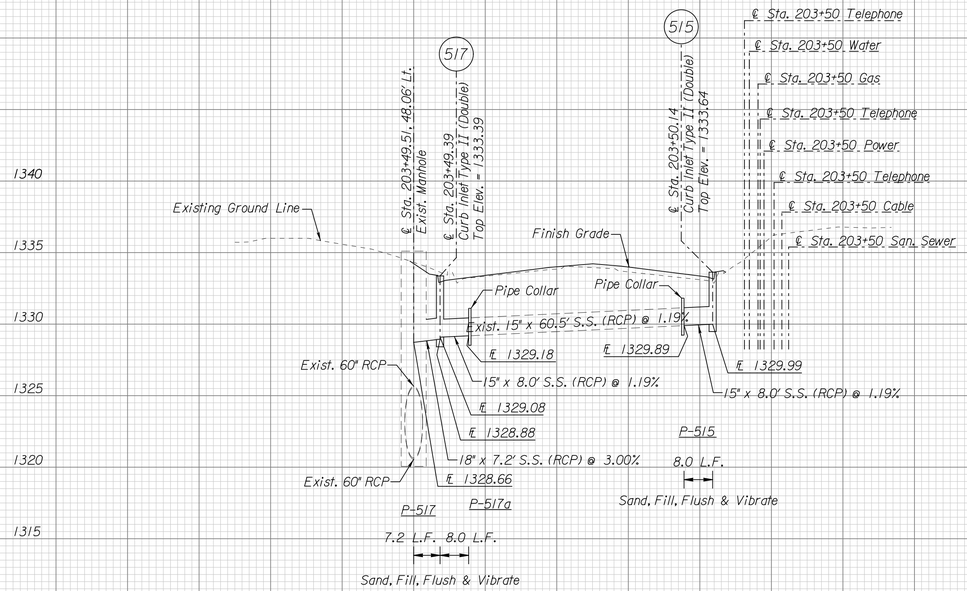
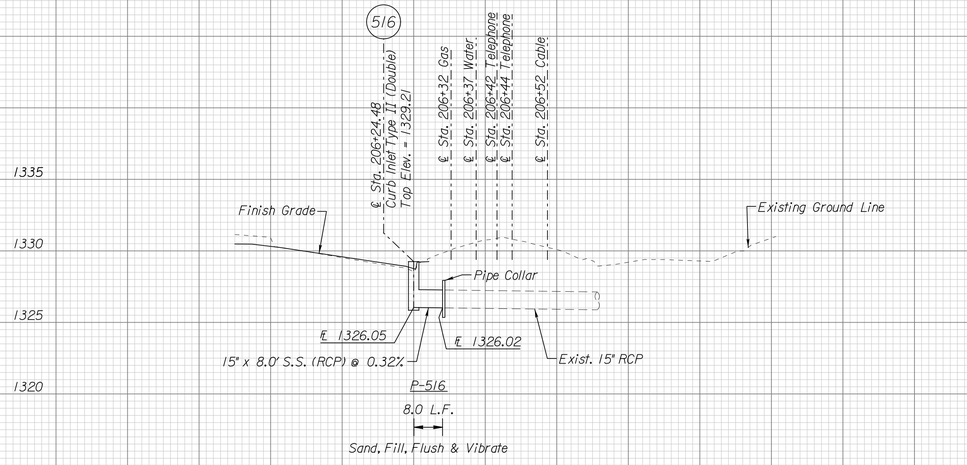
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	26	113





P-515
P-516
P-517
P-517a

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CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
PIPE PROFILES

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
26 of 113

Plotted on: Wednesday September 28, 2011 11:31 AM
mbechtel Plot Queue: \\ovpw001\PLTBW_IP
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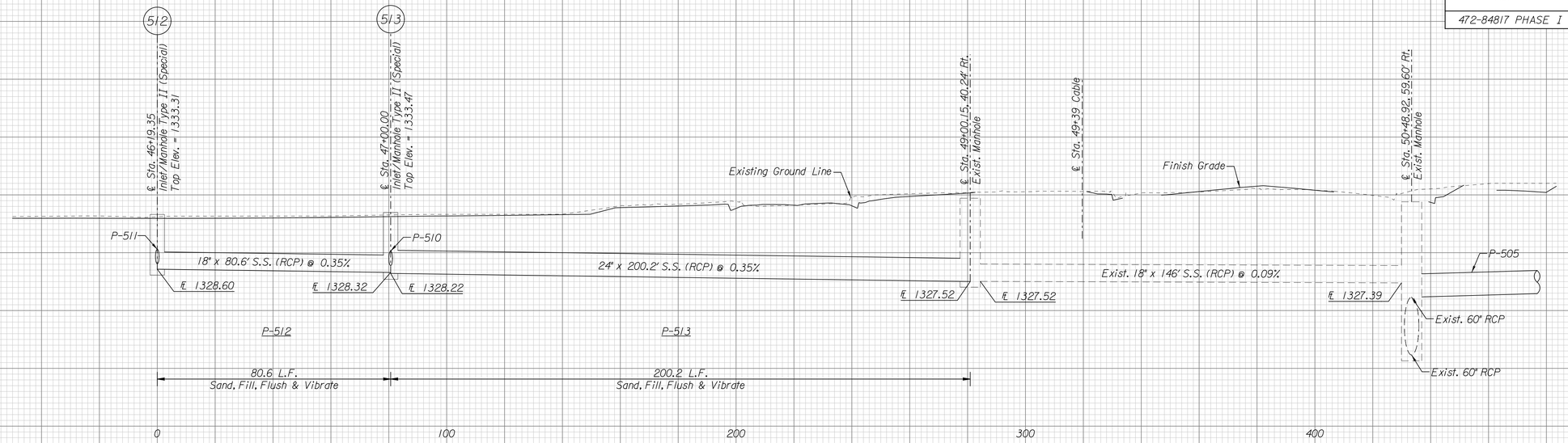
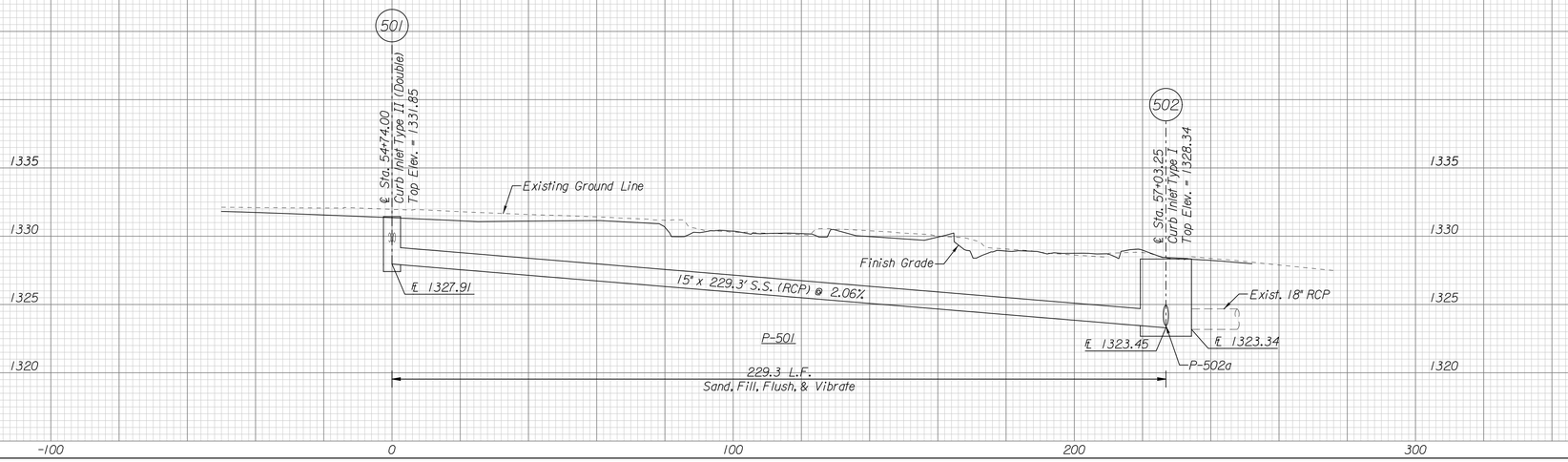
\\ovpw001\Jobs\4809\Ridge\CD\Drainage\Pipe\Rdg_pipe.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	27	113





P-501
P-510
P-511
P-512
P-513

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

RIDGE ROAD PIPE PROFILES

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
27 of 113

Plotted on Thursday September 29, 2011 04:28 PM
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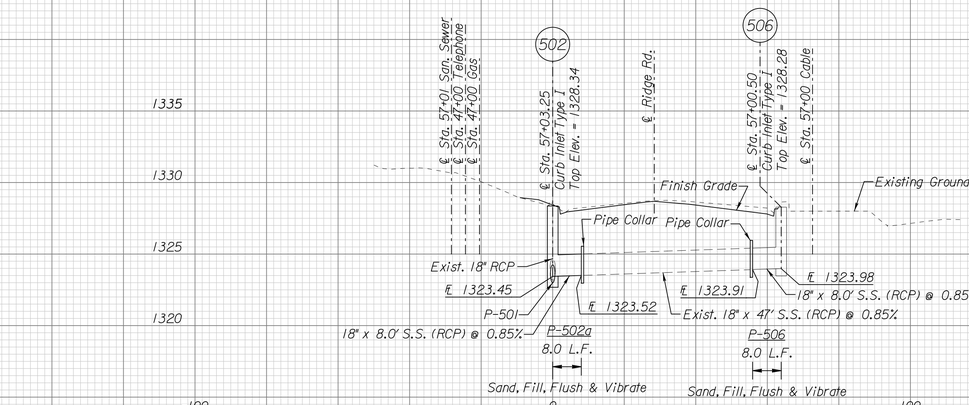
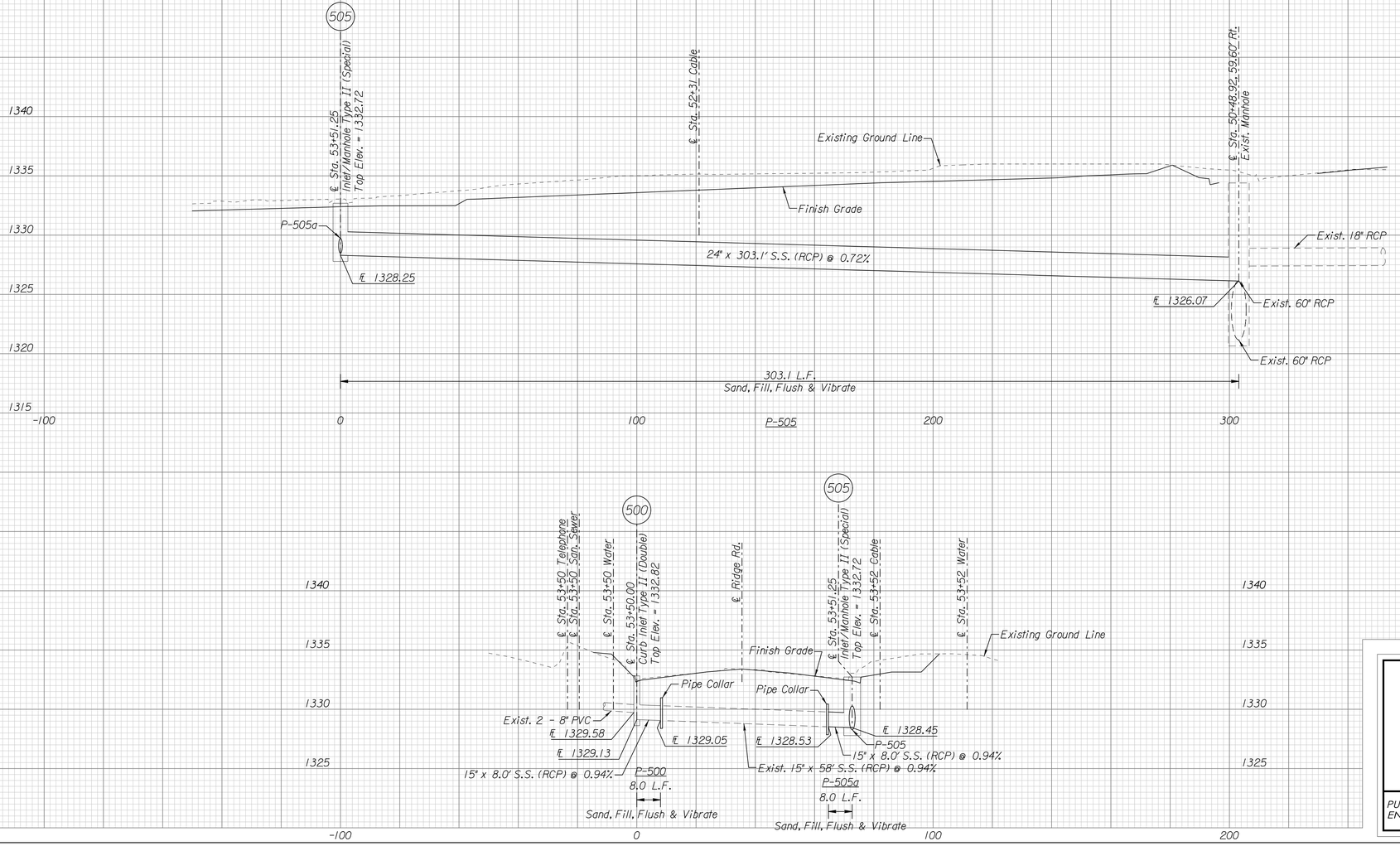
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	28	113





P-500
P-502a
P-505
P-505a
P-506

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

RIDGE ROAD
PIPE PROFILES

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
28 of 113

Plotted on: Wednesday September 28, 2011 11:31 AM
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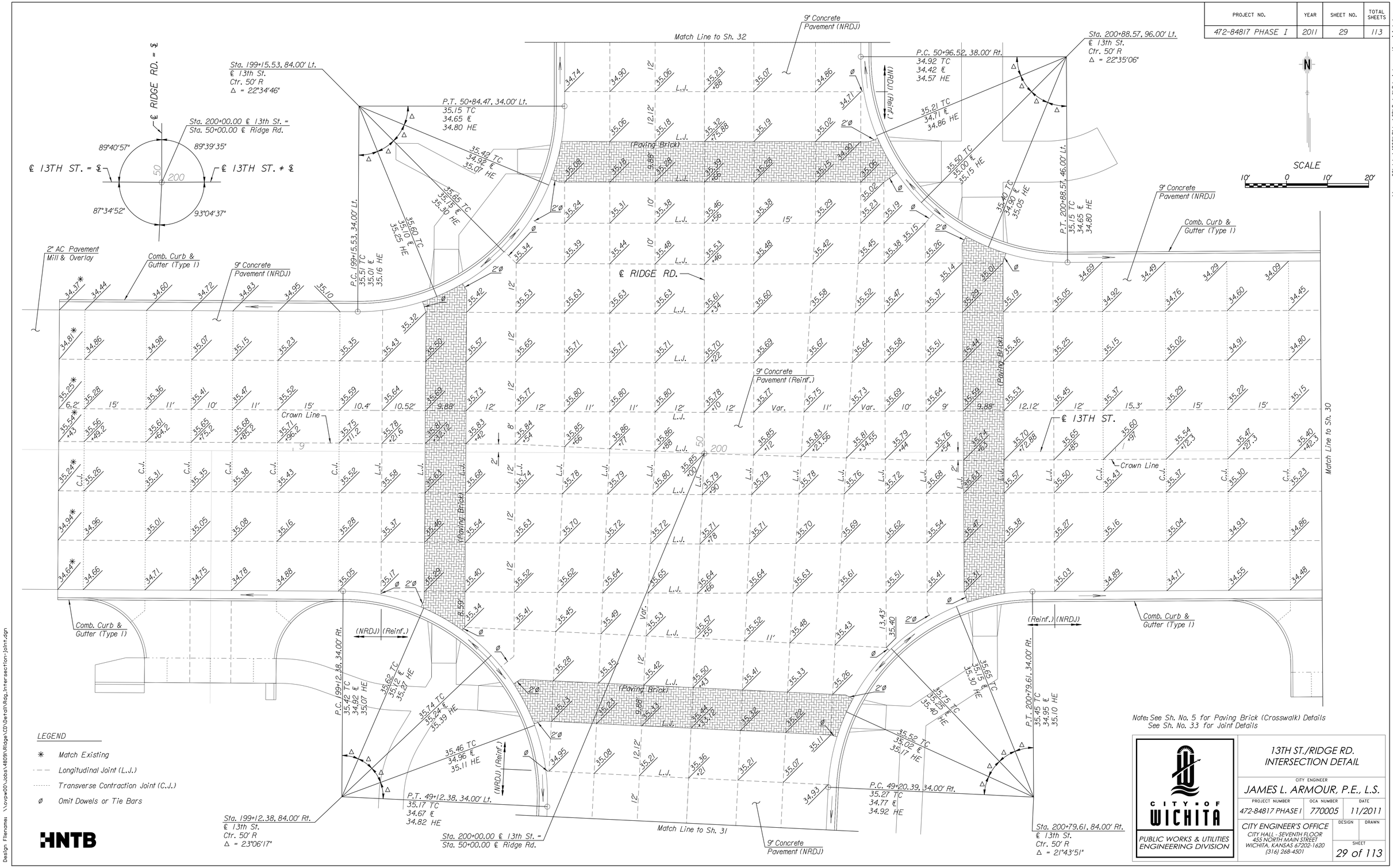
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	29	113



Note: See Sh. No. 5 for Paving Brick (Crosswalk) Details
See Sh. No. 33 for Joint Details

LEGEND

- ✱ Match Existing
- Longitudinal Joint (L.J.)
- Transverse Contraction Joint (C.J.)
- ø Omit Dowels or Tie Bars

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CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH ST./RIDGE RD. INTERSECTION DETAIL

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
29 of 113

Plotted on: Monday November 07, 2011 02:56 PM
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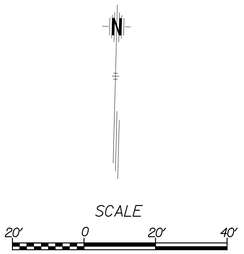
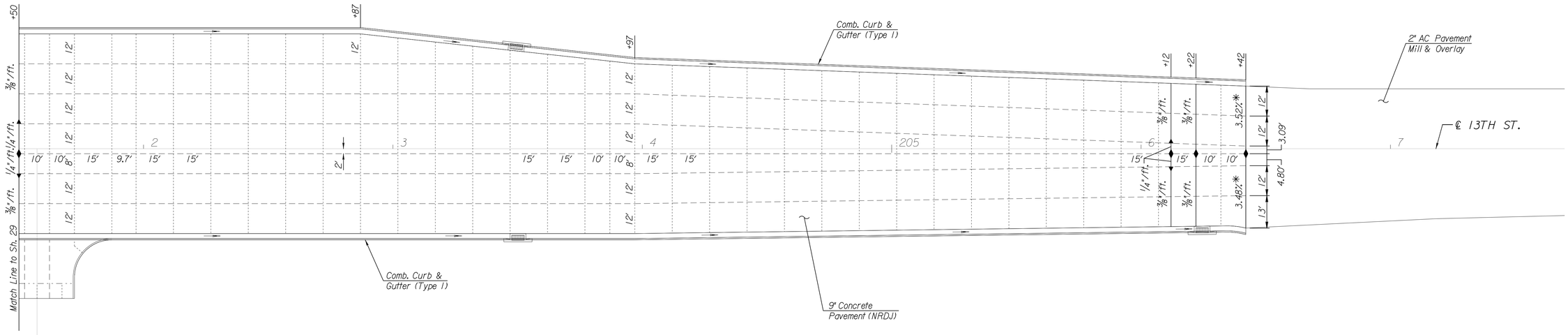
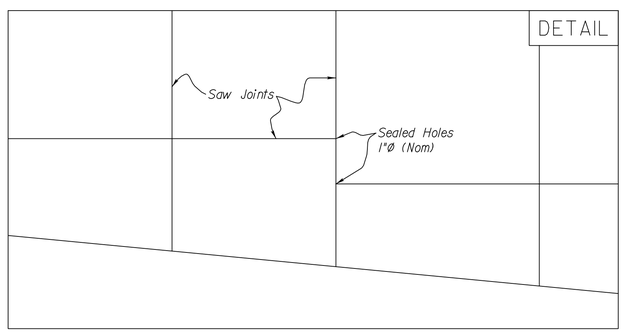
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	30	113







Note:
At all locations where joints are not congruent through pavement sections, Contractor shall drill full pavement depth & seal with Hot Poured Joint Sealant (ASTM D1190). Subsidiary to "Concrete Pavement 9" (NRDJ)."

LEGEND

- ✳ *Match Existing*
- – – *Longitudinal Joint (L.J.)*
- ····· *Transverse Contraction Joint (C.J.)*
- Ø *Omit Dowels or Tie Bars*

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET JOINT DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 30 of 113

Plotted on: Monday November 07, 2011 02:56 PM
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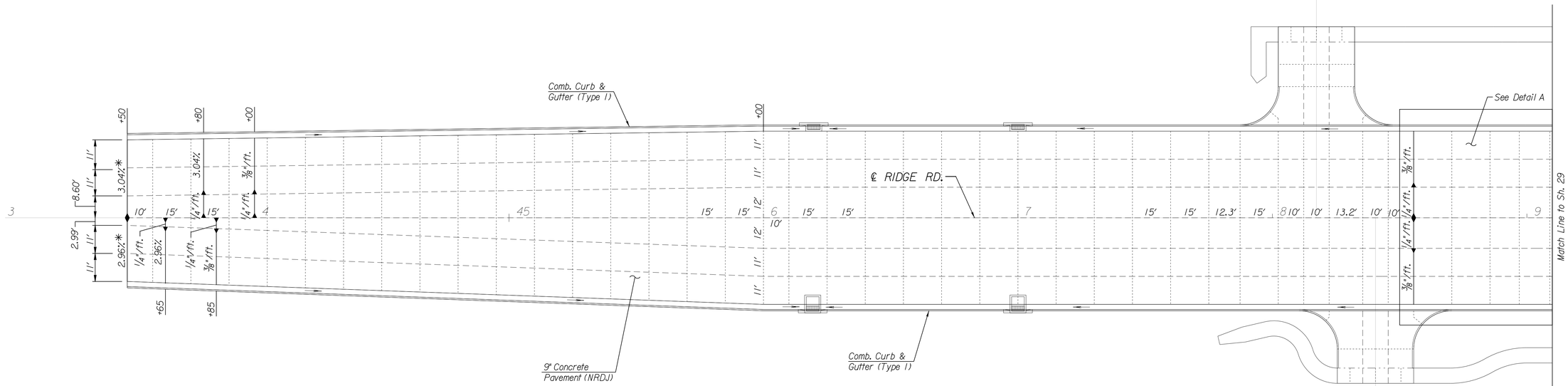
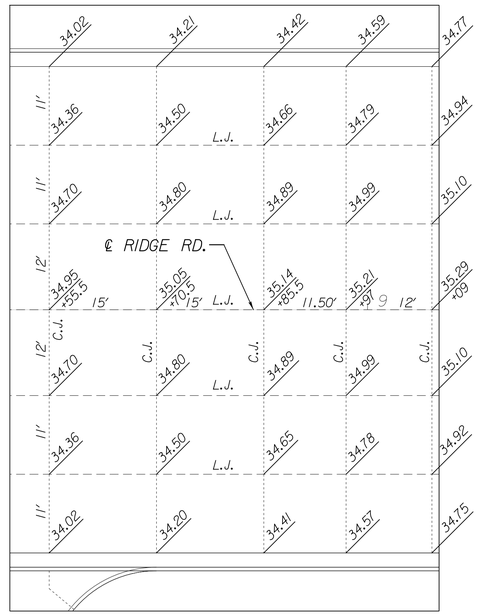
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	31	113





DETAIL A

LEGEND

- ✳ Match Existing
- – – – Longitudinal Joint (L.J.)
- ····· Transverse Contraction Joint (C.J.)
- ø Omit Dowels or Tie Bars

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD JOINT DETAILS

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET: 31 of 113

HNTB

Plotted on: Monday November 07, 2011 02:57 PM
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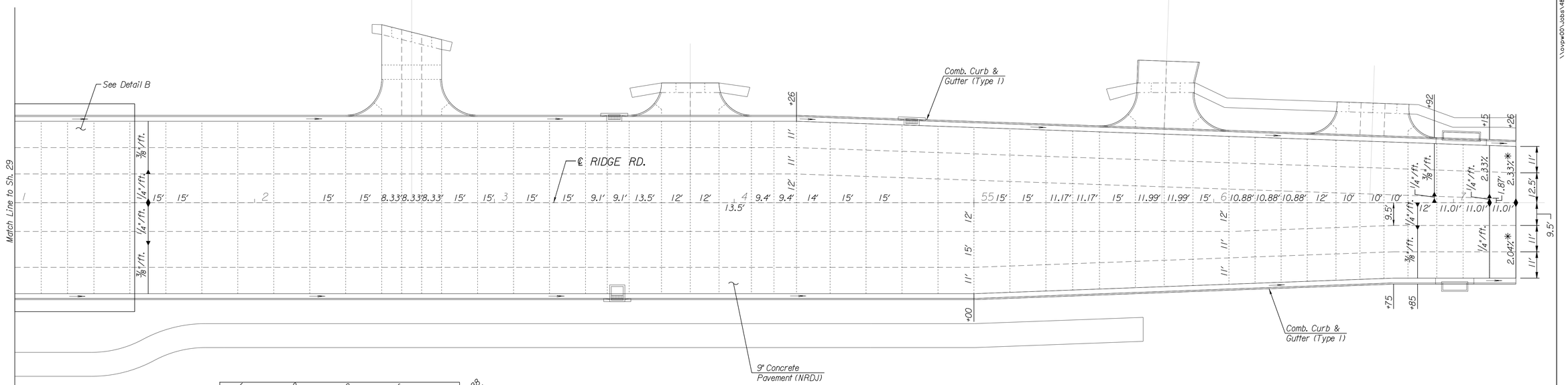
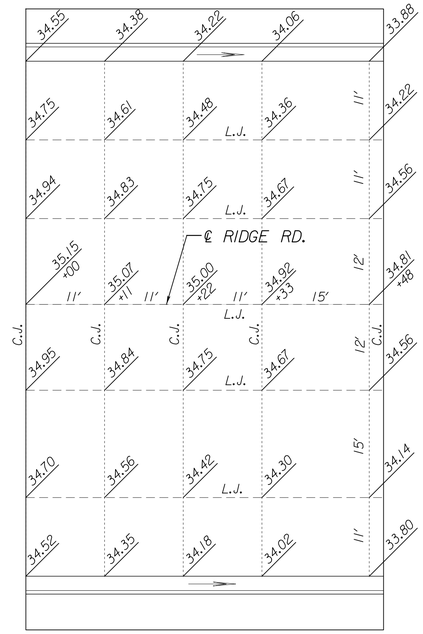
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	32	113





DETAIL B

LEGEND

- ✳ Match Existing
- Longitudinal Joint (L.J.)
- Transverse Contraction Joint (C.J.)
- ø Omit Dowels or Tie Bars

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD
JOINT DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
32 of 113

Plotted on: Monday November 07, 2011 02:57 PM
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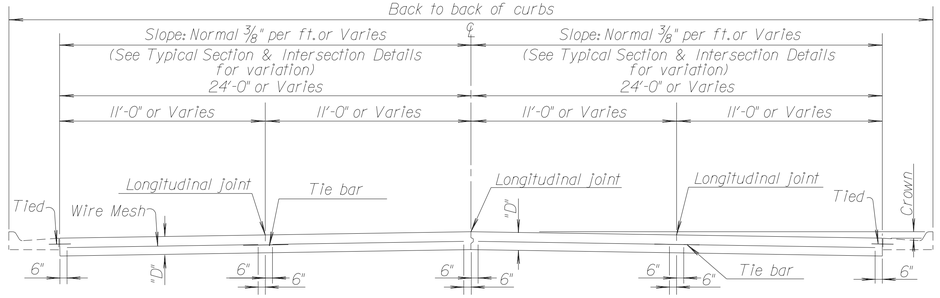
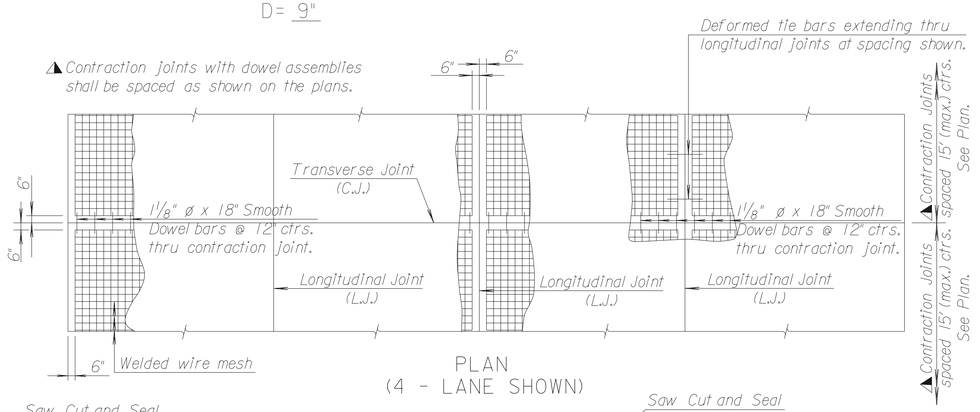
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	33	113

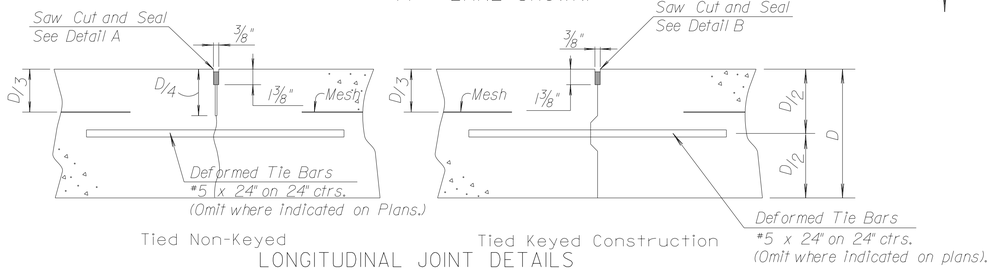


TRANSVERSE SECTION
(4 - LANE SHOWN)

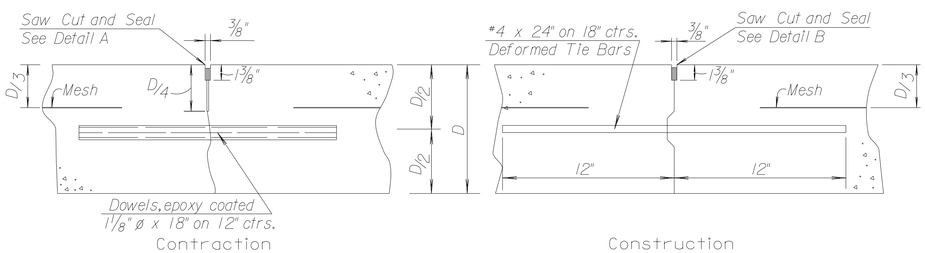
D= 9"



PLAN
(4 - LANE SHOWN)



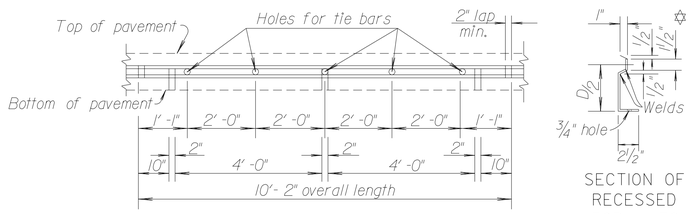
LONGITUDINAL JOINT DETAILS
(L.J.)



TRANSVERSE JOINT DETAILS
(C.J.)

Note: Contraction joints will be constructed at the planned location or as directed by the Engineer. No transverse construction joint shall be placed within ten (10) feet of a contraction joint.

Note: A construction joint is required when the concrete placement has been interrupted for a substantial length of time or at the end of a days placement.

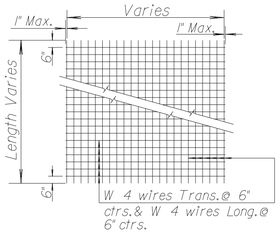


METAL STRIP FOR
LONGITUDINAL CONSTRUCTION JOINT

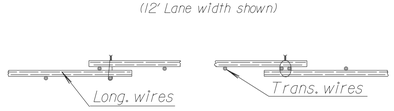
To be used only against forms. Shall not extend through contraction joints.

✡ Snap-in leg or other approved designs may be used in lieu of welded leg.

SECTION OF
RECESSED
FORM LEG



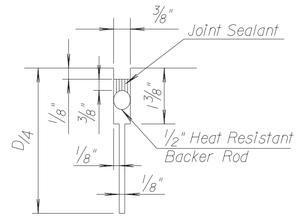
TYPICAL SHEET OF WELDED WIRE MESH
(NOT TO SCALE)
(12' Lane width shown)



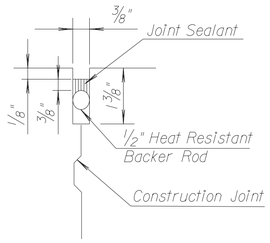
DETAIL OF LAP FOR WIRE MESH

The lap shall extend beyond the first transverse or longitudinal wire of each sheet.

The sheet shall be wired securely at the edges and at intervals not to exceed 2'-6" for the full width of the sheet. Approximate weight of wire mesh = 58 lbs. per 100 sq. ft. Other methods for fastening the sheets of wire mesh at the laps may be used with the approval of the Engineer.



DETAIL A



DETAIL B

The 1/8" saw cut (D/4 depth) shall be done initially; the 3/8" saw cut shall be accomplished in a separate operation after concrete has gained sufficient strength to avoid spalling as determined by the Engineer.

Note: Joint Sealant shall be Hot Poured Joint Sealant (ASTM D1190) unless otherwise approved by the Engineer.

Note: All sealant shall be 1/8" below surface and a minimum 3/8" thick.

GENERAL NOTE

All deformed tie bars and smooth dowel bars shall be epoxy coated.

Deformed tie bars which require bending shall be billet steel reinforcing bars, Grade 40.

Tie bars shall be placed parallel to the pavement surface with a tolerance of one half inch in 18 inches in the vertical direction. Care should be taken to assure that tie bars are placed approximately perpendicular to the joint in the horizontal plane.

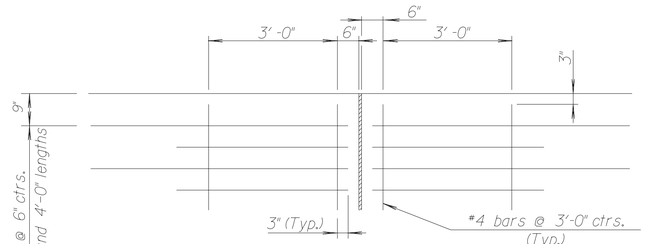
Unless otherwise noted, load transfer devices as shown in detail shall be used at all contraction joints.

Unless otherwise noted, all joints shall have either dowels or tie bars.

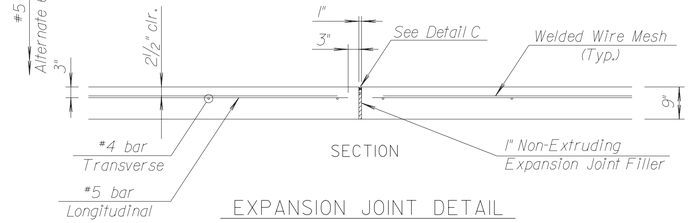
All joints on this project shall be sawed and filled with Hot Poured Joint Sealant (ASTM D1190).

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

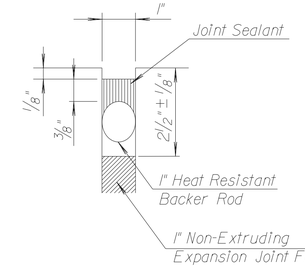
At each transverse joint location, a 4 to 6 inch wide strip of pavement surface shall be protected from the texturing operation to provide a transverse textureless surface centered over the joint saw cut.



PLAN



EXPANSION JOINT DETAIL
(E.J.)



DETAIL C

This sheet adapted from KDOT Standard RD708.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

CONCRETE PAVEMENT

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
33 of 113

Plotted on: Tuesday September 27, 2011 09:39 AM
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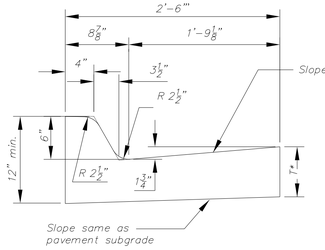
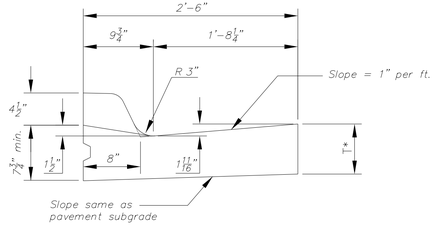
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	34	113

TYPE 1
(Arterial curb)

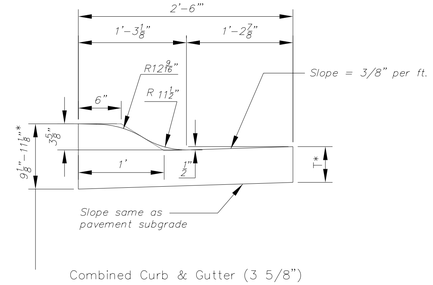


Combined Curb & Gutter (6")

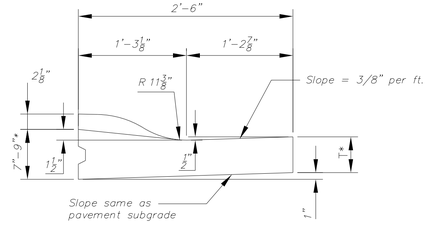


Combined Curb & Gutter (1 1/2")

TYPE 2
(Roll curb)

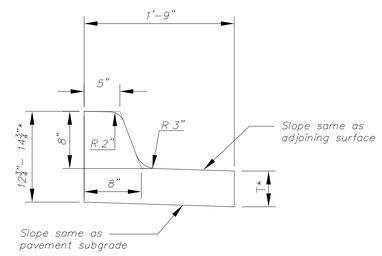


Combined Curb & Gutter (3 5/8")

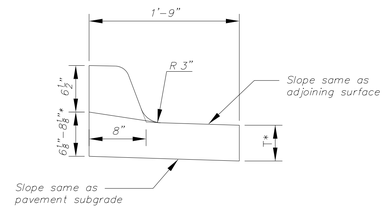


Combined Curb & Gutter (1 1/2")

TYPE 3
(Median curb)

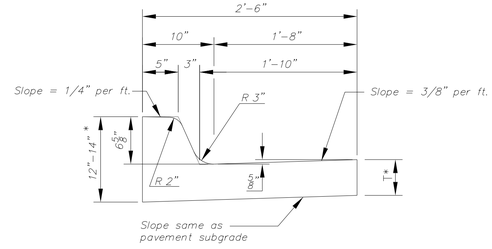


Combined Curb & Gutter (8")

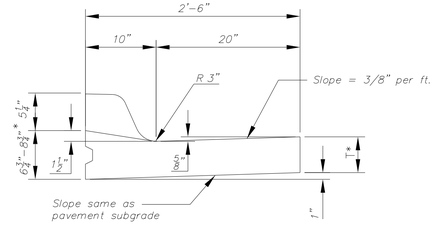


Combined Curb & Gutter (1 1/2")

TYPE 4
(Residential curb)

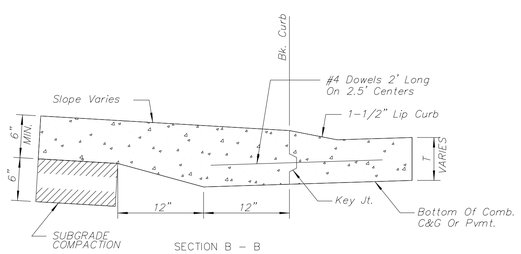


Combined Curb & Gutter (6 5/8")



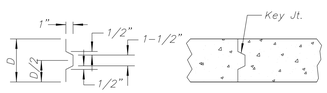
Combined Curb & Gutter (1 1/2")

T* = Thickness of curb to adjust with pavement thickness

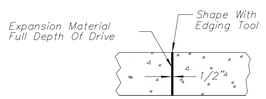


SECTION B – B

BACK OF CURB DETAIL



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.

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

CURB & GUTTER DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
34 of 113

Plotted on: Tuesday September 27, 2011 09:40 AM
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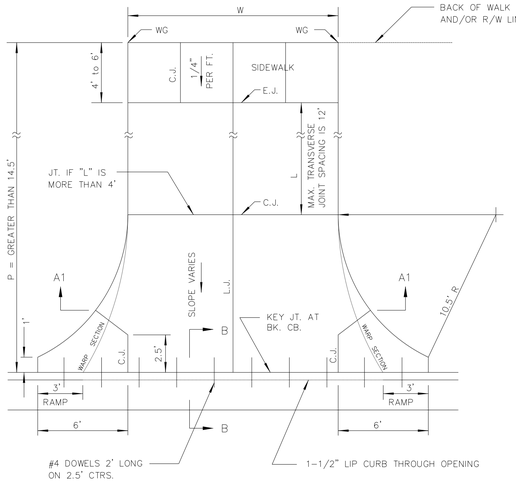
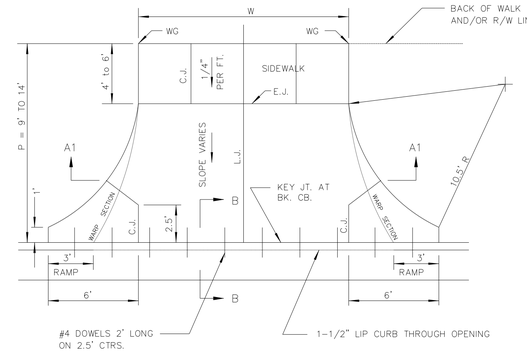
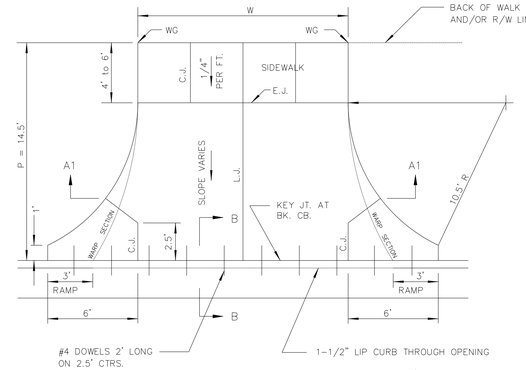
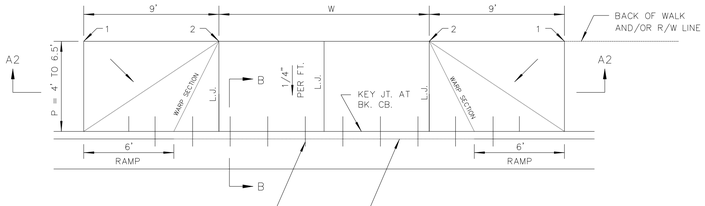
\\ovpw00\Jobs\4809\Ridge\CD\Detail\Wichita\Rdg_curb-gutter-det.dgn

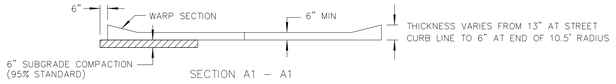
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	35	113



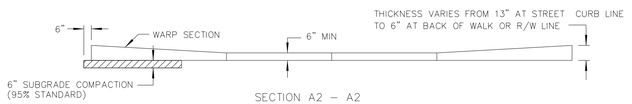








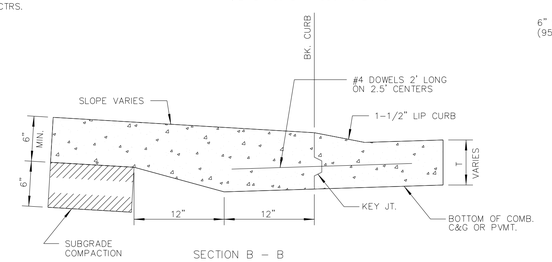
SECTION A1 – A1



SECTION A2 – A2

PARKING WIDTH "P"	9'	10'	11'	12'	13'	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.27'	0.27'	0.32'	0.37'	0.52'	0.80'	1.35'	1.85'	2.35'	2.85'	3.35'	3.85'	4.35'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.27'	0.27'	0.32'	0.37'	0.52'	0.62'	0.96'	1.22'	1.48'	1.74'	2.00'	2.26'	2.52'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.19'	0.21'	0.23'	0.25'	0.30'	0.30'	0.42'	0.52'	0.62'	0.72'	0.82'	0.92'	1.02'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-.19'	-.16'	-.13'	-.10'	-.06'	0.00'	0.00'	0.15'	0.25'	0.35'	0.45'	0.55'	0.65'

RADIUS RAMP DRIVES (P = 9.0' & GREATER)

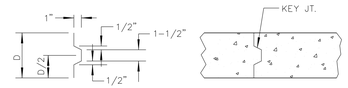


SECTION B – B

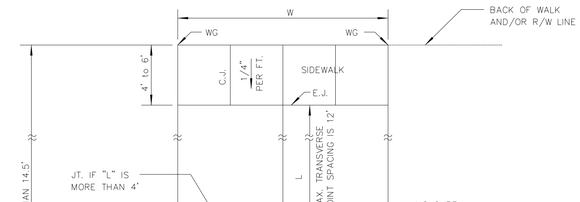
BACK OF CURB DETAIL

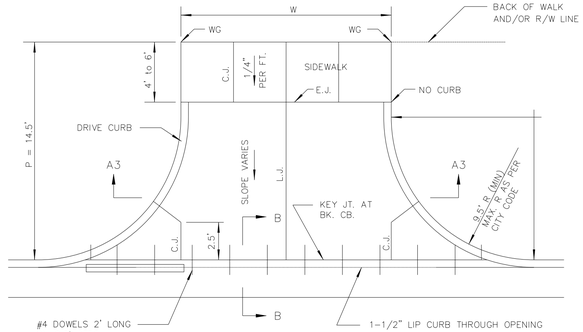
PARKING WIDTH "P"	4'	4.5'	5'	5.5'	6'	6.5'
DIST. OF PT. "1" ABOVE TOP OF FULL CURB	-.08'	0.02'	0.18'	0.22'	0.18'	0.22'
DIST. OF PT. "2" BELOW TOP OF FULL CURB	-.08'	0.02'	0.18'	0.22'	0.18'	0.22'

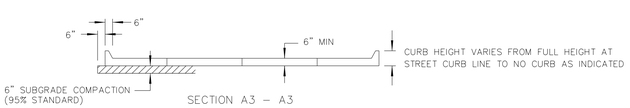
FULL RAMP DRIVE (P = 4.0' TO 6.5')



ALT. LONGITUDINAL CONSTRUCTION JOINT



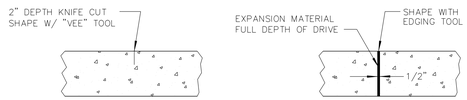


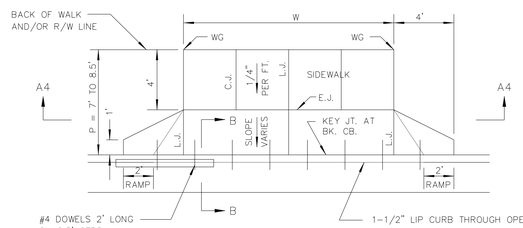


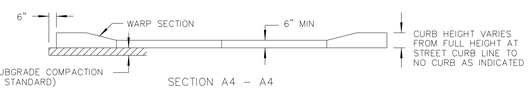
SECTION A3 – A3

PARKING WIDTH "P"	14.5'	20'	25'	30'	35'	40'	45'	50'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.72'	1.27'	1.77'	2.27'	2.77'	3.27'	3.77'	4.27'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.70'	1.04'	1.30'	1.56'	1.82'	2.08'	2.34'	2.60'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.30'	0.42'	0.52'	0.62'	0.72'	0.82'	0.92'	1.02'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	0.00'	0.00'	0.15'	0.25'	0.35'	0.45'	0.55'	0.65'

FULL RADIUS DRIVES (P = 14.5' & GREATER)







SECTION A4 – A4

PARKING WIDTH "P"	7'	7.5'	8'	8.5'
ABSOLUTE MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-.08'	0.02'	0.18'	0.22'
OPTIMUM MAX. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-.08'	0.02'	0.18'	0.22'
OPTIMUM MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-.15'	-.16'	-.17'	-.17'
ABSOLUTE MIN. DIST. OF PT. "WG" ABOVE OR BELOW TOP OF FULL CURB	-.25'	-.20'	-.20'	-.20'

FULL RAMP DRIVE (P = 7.0' TO 8.5')

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 "W" DIMENSION OF 24' OR LESS. TWO LONGITUDINAL JOINTS SHALL BE CONSTRUCTED WITH EQUAL SPACINGS NOT TO EXCEED 10' FOR DRIVES WITH A "W" DIMENSION GREATER THAN 24'.
3. DRIVEWAY WIDTH DENOTED AS "W" ON THE DETAIL DRAWINGS SHALL BE A MINIMUM OF 10' 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. DOWEL BARS SHALL BE OMITTED FROM THE KEYED CONSTRUCTION JOINT ALONG THE BACK OF THE STREET CURB LINE WHEN DRIVEWAYS ARE CONSTRUCTED IN CONJUNCTION WITH NEW CONCRETE PAVEMENT CONSTRUCTION.
6. 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.
7. 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.
8. ALL DRIVEWAYS SHALL BE A MINIMUM OF 6" IN THICKNESS AND SHALL BE WITHOUT REINFORCEMENT. DRIVEWAYS MAY BE CONSTRUCTED THICKER THAN 6" AND THEY MAY BE REINFORCED WITH 6"X12" W4-W4 WELDED WIRE FABRIC WHEN PROPERLY AUTHORIZED BY THE PROPERTY OWNER WITH THE ENGINEER'S CONCURRENCE.
9. OPTIMUM DRIVEWAY ELEVATIONS SHOWN IN THE TABLES ARE TO BE USED WHEREVER POSSIBLE. ABSOLUTE MAXIMUM AND MINIMUM ELEVATIONS ARE TO BE USED ONLY WHEN THESE VALUES WILL PERMIT NEW CONSTRUCTION TO MATCH EXISTING DRIVES OR PARKING LOTS. VALUES SHOWN IN THE TABLES ARE BASED ON A FULL CURB HEIGHT ELEVATION OF 0.55' ABOVE THE GUTTER FLOW LINE AND MUST BE ADJUSTED ACCORDINGLY FOR OTHER CURB HEIGHTS. VALUES SHOWN IN THE TABLES WITH MINUS SIGNS INDICATE ELEVATIONS BELOW TOP OF FULL HEIGHT CURB.

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STANDARD DRIVE ENTRANCES FULL HEIGHT CURB

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 35 of 113

Plotted on: Tuesday September 27, 2011 09:40 AM
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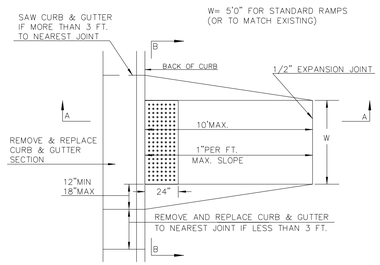
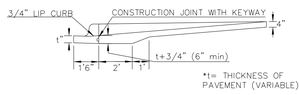
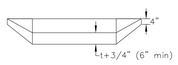
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	36	113

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREETS WITH COMBINED CURB & GUTTER (CLASS A)



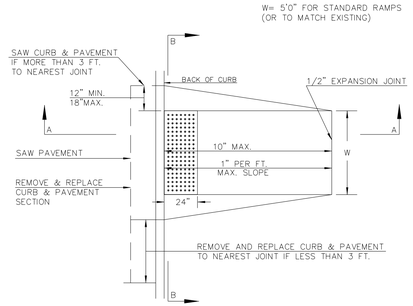


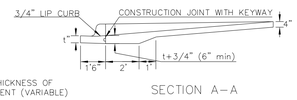
SECTION A–A



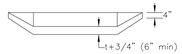
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR CONCRETE STREETS WITH MONOLITHIC CURB (CLASS A)



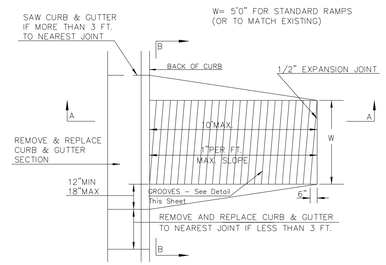


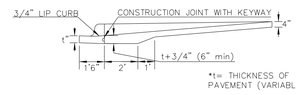
SECTION A–A



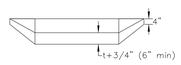
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR ENTRANCES WITH COMBINED CURB & GUTTER (CLASS B)



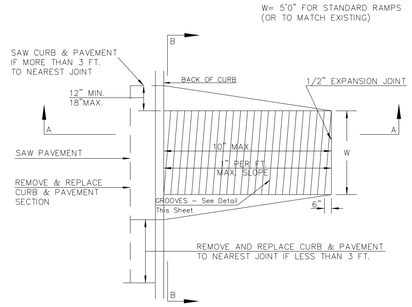


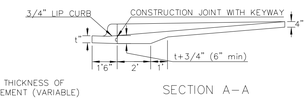
SECTION A–A



SECTION B–B

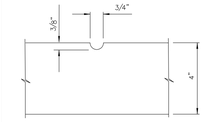
STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR ENTRANCES WITH MONOLITHIC CURB (CLASS B)





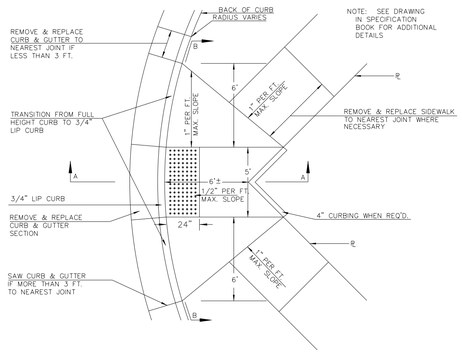
SECTION A–A

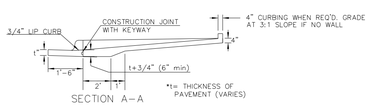
SECTION B–B



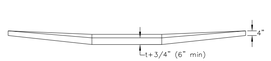
GROOVE DETAIL

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREET WITH COMBINED CURB AND GUTTER ON RADIUS WITH 6'± FROM BACK OF CURB TO PROPERTY CORNER (CLASS C)



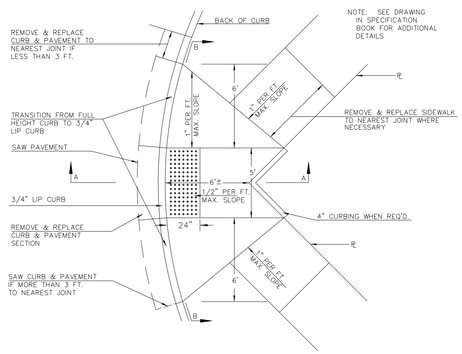


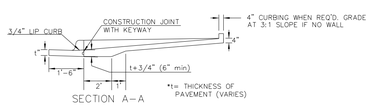
SECTION A–A



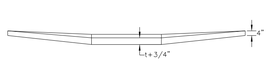
SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREET WITH MONOLITHIC CURB ON RADIUS WITH 6'± FROM BACK OF CURB TO PROPERTY CORNER (CLASS C)



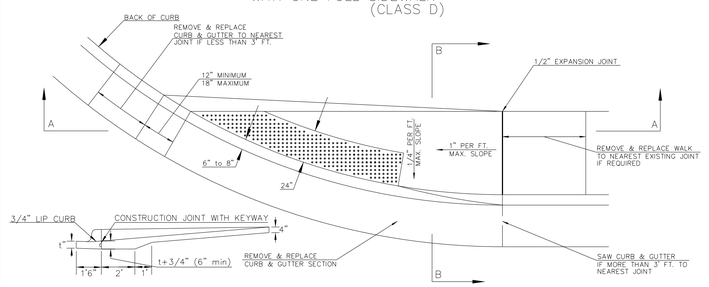


SECTION A–A

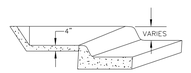


SECTION B–B

STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREETS WITH COMBINED CURB & GUTTER WITH ONE FULL SIDEWALK (CLASS D)

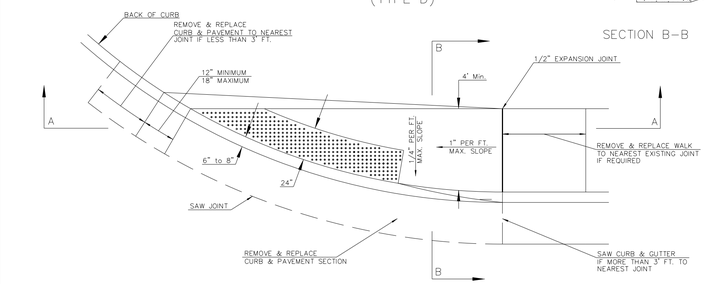


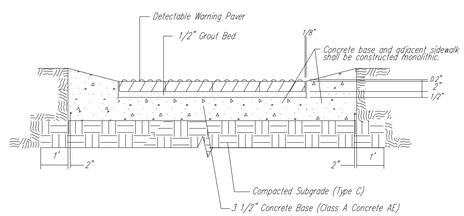
SECTION A–A



SECTION B–B

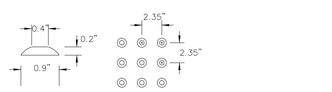
STANDARD WHEELCHAIR RAMP CONSTRUCTION DETAIL FOR STREETS WITH MONOLITHIC CURB WITH ONE FULL SIDEWALK (TYPE D)





TYPICAL SECTION DETECTABLE WARNING PAVER
SECTION A–A

NOTE: HANOVER DETECTABLE WARNING PAVERS (OR AN APPROVED ALTERNATE) SHALL BE USED IN ALL WHEELCHAIR RAMPS. THE 11 3/4" "RED 15" PAVER SHALL BE USED IN ALL APPLICATIONS.
HANOVER ARCHITECTURAL PRODUCTS
240 BENDER ROAD
HANOVER, PA 17331
1-717-637-0500
www.hanoverpavers.com



DOME DETAIL

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

WHEELCHAIR RAMP DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

DESIGN | DRAWN

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

SHEET
36 of 113

Plotted on: Tuesday September 27, 2011 09:40 AM
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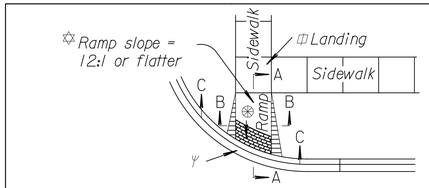
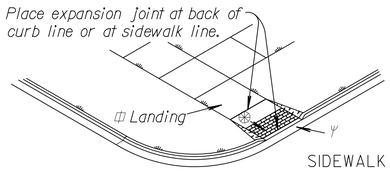
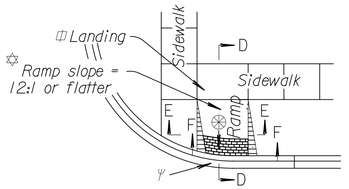
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	37	113



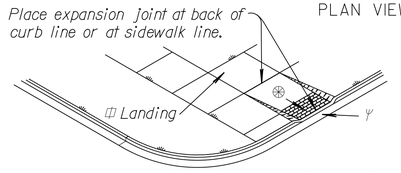
PLAN VIEW



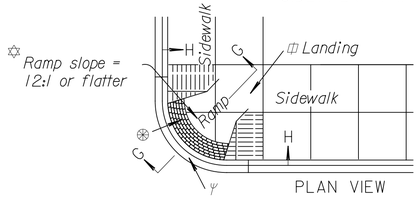
SIDEWALK RAMP TYPE 1



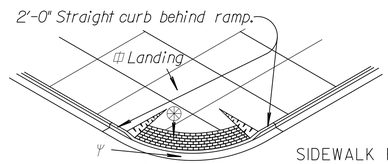
PLAN VIEW



SIDEWALK RAMP TYPE 2

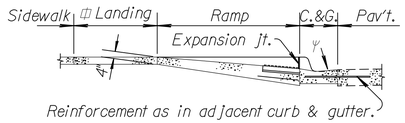


PLAN VIEW



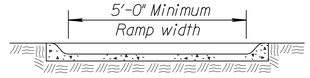
SIDEWALK RAMP TYPE 3

Use Ramp Type 3 where sidewalk occupies entire area between curb and property line.

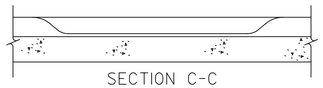


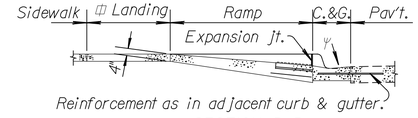
Reinforcement as in adjacent curb & gutter.

SECTION A-A



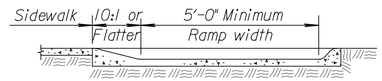
SECTION B-B


SECTION C-C

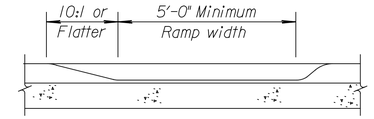


Reinforcement as in adjacent curb & gutter.

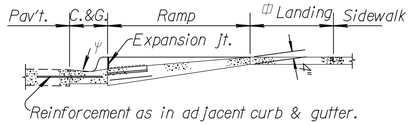
SECTION D-D



SECTION E-E

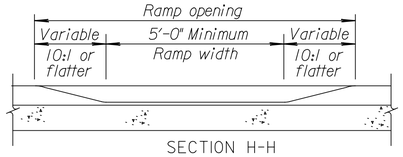


SECTION F-F



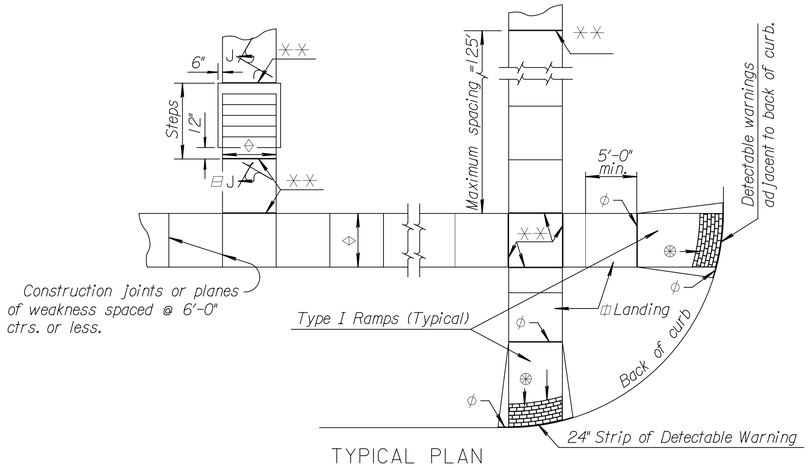
Reinforcement as in adjacent curb & gutter.

SECTION G-G

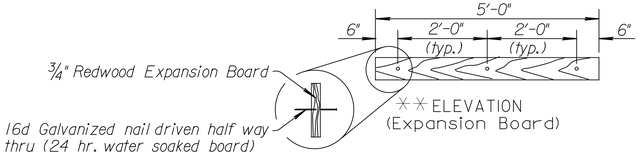


SECTION H-H

SECTION J-J see standard drawing RD725B for details of Steps and Handrail.



TYPICAL PLAN



For other than 5'-0" (width) use 6" from the end and balanced (3'-0" max.) nail spacing.

ϕ Expansion Joint (3/4" Redwood board) placed at either back of curb line or at sidewalk back of curb line or at sidewalk line.

✳✳ Expansion joint (3/4" redwood board) located as shown.

Variable width (5'-0" min.). Entrance walk to be same width as approach walk. Use sidewalk width of 4'-0" where existing conditions prohibit use of 5'-0".

✡ New construction ramp slopes are 12:1 or flatter. Desirable ramp slopes for existing sites are 12:1 or flatter. Where space limitations prohibit construction of a 12:1 slope on existing sites, use the following slopes:
8:1 or flatter for a maximum rise of 3 inches
10:1 or flatter for a maximum rise of 6 inches

Use a landing slope of 48:1 or flatter. Landings are the same width as ramp and a minimum 5'-0" in length.

Use a counter slope of 20:1 or flatter at the base of sidewalk ramps. Refer to standard drawing RD725A for additional curb and gutter details.

✵ Detectable warning installation is typical and required on Sidewalk Ramps Type 1, Type 2, Type 3, median ramp crossings and other locations as shown in the plans. See standard drawing RD725A for additional details.

GENERAL NOTES

The details depicted here may not be appropriate for all locations. Designs shall meet this criteria on all new construction projects unless impracticable by site restrictions. For an existing sidewalk facility where the sidewalk will be replaced, sidewalk will be replaced according to this drawing to the maximum extent feasible.

Provided ramps at all corners of street intersections where there is existing or proposed sidewalk and curb. Provide ramps at mid-block walk locations for hospitals, medical centers and athletic stadiums.

Details shown on this sheet apply to all construction or reconstruction of streets, curbs or sidewalks. See standard specifications for additional information.

Use of sidewalk ramp Type 2 shall be restricted to locations where is not feasible to use Types 1 or 3.

Curb cut ramps are to be located as shown on the plans or as directed by the Engineer.

Drainage structures should not be placed in line with ramps except where existing drainage structures are being utilized in the new construction. Ramp location should should take precedence over location of drainage structure.

Sidewalks shall be ramped where the driveway curb is extended across the walk. Construct ramp with uniform grade free of sags and short grade changes.

Place 3/4" redwood board expansion joints flush with the surface at a maximum spacing of 125'. Place 3/4" redwood expansion joints at sidewalk junctions, see Plan details. Where sidewalk abuts a curb place 3/4" redwood board expansion joint flush with the surface.

Place 1/2" premoulded (Non-extruding, Type B) joint filler where sidewalk is parallel and adjacent to a rigid structure.

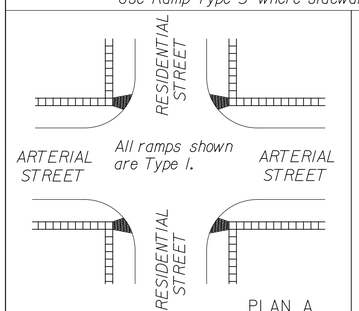
Slope sidewalk toward the street at a 50:1 or flatter. Slope or depress sidewalk where necessary to fit alleys and entrances see plans or at Engineer's direction.

Where clear width of sidewalk between top of ramp and building or other obstruction is less than 48 inches, slope the flared sides 12:1 or flatter.

Sidewalk shown to be constructed in back of an entrance is placed same thickness as entrance with welded wire mesh reinforcement, gauge and spacing of wires is the same as in entrance pavement.

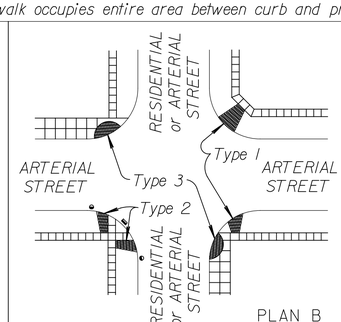
Use Concrete Grade 3.0 (AE) Contractor's option, throughout for construction of sidewalk and steps. All work and material required for installing sidewalk and steps is paid under the bid item "Concrete Sidewalk 4".

Surface texture ramp slope with a wooden float or brushed finish.



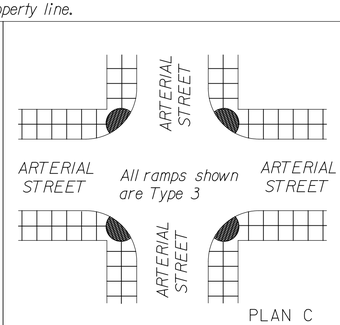
PLAN A

Heavy Traffic on Arterial
No Traffic Signal



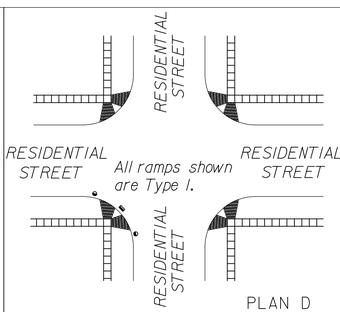
PLAN B

Signalized Intersection
Typical Ramp Treatments



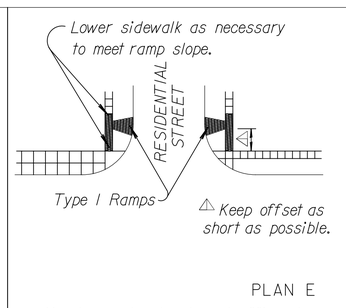
PLAN C

Traffic Control on Both Streets
Wide Sidewalks



PLAN D

Normal Treatment in Residential Area



PLAN E

May be used only where traffic volume is low and where other features make Plan D impractical.

LEGEND

- Sidewalk Ramp Type 1
- Sidewalk Ramp Type 2
- Sidewalk Ramp Type 3
- Preferred location of drainage inlet (Typical)
- Alternate location of drainage inlet (Typical)
- Sidewalk

NO.	DATE	REVISIONS	BY	APP'D
9	2-10-10	Revised notes & General Note	S.W.K.	J.O.B.
8	7-30-08	Reorg. layout, added steps sheet	S.W.K.	J.O.B.
7	1-28-05	Changed Class to Grade concrete	S.W.K.	J.O.B.
6	8-20-03	Revised notes and details	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

SIDEWALK & STEPS

~~RD725~~

FHWA APPROVAL	4-7-10	APP'D. James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. King

Plotted on: Tuesday September 27, 2011 09:40 AM
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Design Filename: \\ovpw00\Jobs\48091\Ridge\CD\Detail\KD01\Rdg_rd725.dgn

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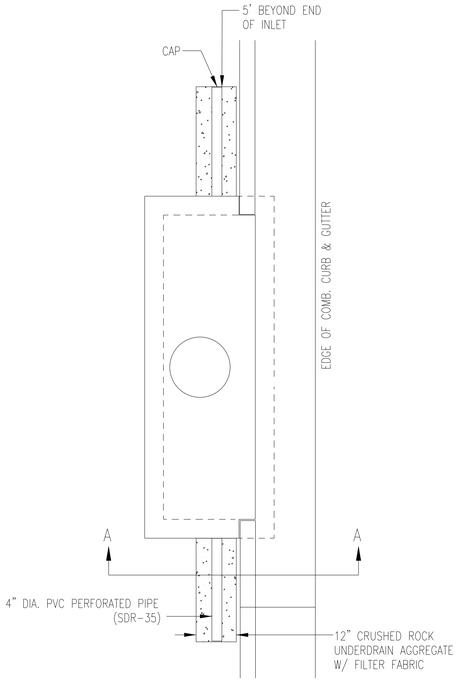
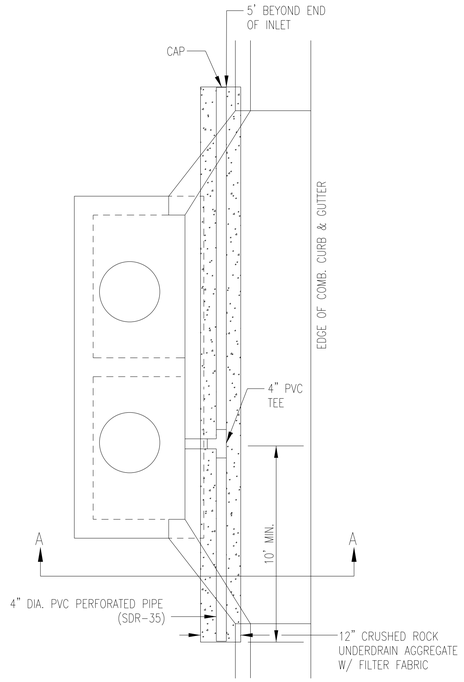
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	38	113



TYPE 1 & 2 INLET

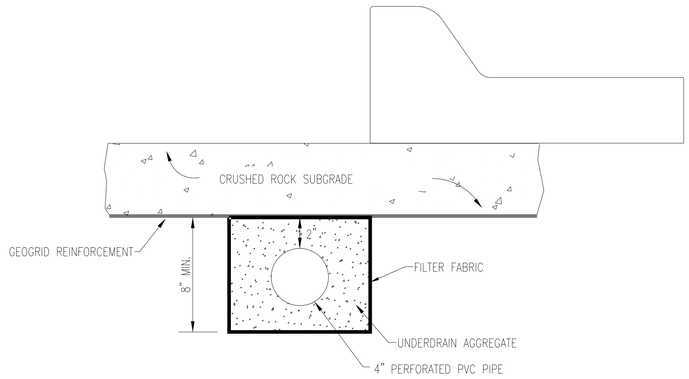


TYPE 1-A INLET

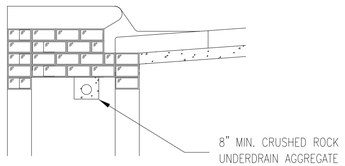
PAVEMENT UNDERDRAIN DETAIL

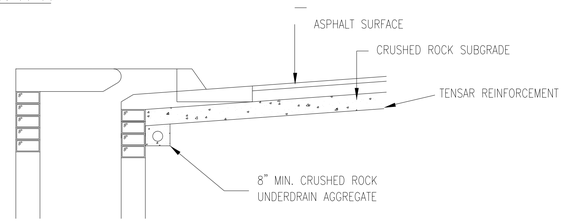
BID ITEM TO BE PROVIDED PER 4" PERFORATED UNDERDRAIN PIPE.

PAVEMENT UNDERDRAIN SHALL BE INSTALLED ON ALL CURB INLETS.



SECTION A-A





SECTION A-A

(MIN. 16 PERFORATIONS PER LIN. FT. @ 1/4" DIA.)
PERFORATIONS TO BE ON BOTTOM HALF

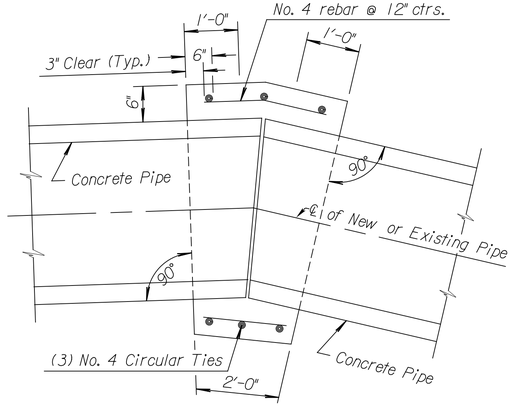
GENERAL NOTES

1. PAVEMENT CONTRACTOR WILL BE REQUIRED TO INSTALL SDR 35, 4" PERFORATED DRAIN PIPE AND BEND AS INDICATED IN THE DETAILS ABOVE. A PIPE STUB HAS BEEN INSTALLED THROUGH WALLS OF CURB INLETS BY OTHERS IN A MANNER ALLOWING CONNECTION OF ADDITIONAL DRAIN PIPE AND BEND AS REQUIRED BY DETAILS ABOVE.
2. WHEN SWD CONSTRUCTED BY SEPARATE PROJECT, SWS CONTRACTOR SHALL INSTALL SDR 35, 4" DRAIN PIPE STUB ONLY THROUGH WALLS OF CURB INLETS AND CAP TO ALLOW FUTURE CONNECTION OF TEE AND ADDITIONAL DRAIN PIPE BY OTHERS.

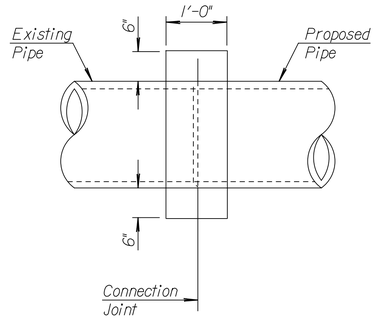
CRUSHED ROCK GRADATION REQUIREMENTS
PERCENT OF AGGREGATE RETAINED

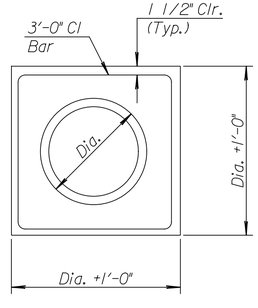
1 1/2"	0
3/4"	15-60
# 4	40-80
#40	74-92
P-200	4-12

ROCK QUALITY SHALL BE THE SAME AS SPECIFIED FOR COARSE AGGREGATE FOR ASPHALT CONCRETE MIXES.



CHANGE IN ALIGNMENT





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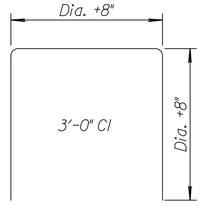

PIPE COLLAR DETAILS

General Notes:

Pipe collar shall be used to join pipes of different diameters or materials or where change in alignment or grade exceeds that allowed for ordinary joints.

All concrete shall be Concrete Grade 3.0 or the mix used in concrete pavement.

All reinforcing steel shall be Grade 60 and shall have a minimum of 2" of cover.

The diameter of the circular ties shall be the outside diameter of the larger pipe plus "6".

All labor, materials and incidentals required to construct the pipe collar shall not be paid for directly but shall be Subsidiary to the individual pipe bid items.

Pipe ends shall be trimmed such that the maximum distance between pipes at any point is 2".

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

MISCELLANEOUS DRAINAGE DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
38 of 113

Plotted on: Thursday September 29, 2011 04:28 PM
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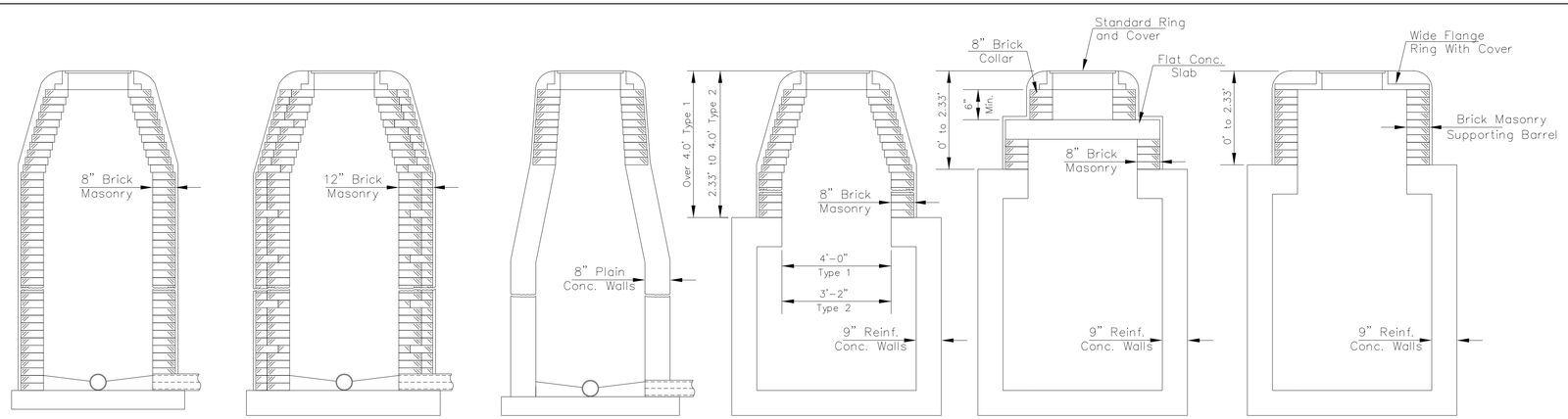
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	39	113



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

MANHOLES DESIGNATED FOR ADJUSTMENT SHALL BE RAISED OR LOWERED AS NECESSARY SUCH THAT THE CASING 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 ADJUSTIED. 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, ADJUSTIED 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 ADJUSTIED 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.

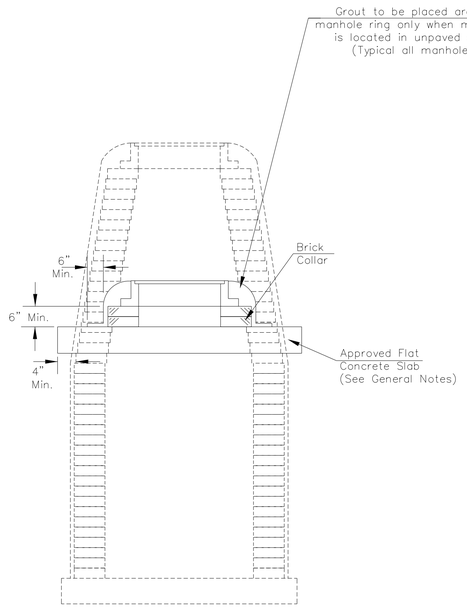
CEMENT USED FOR MORTAR SHALL BE TYPE I COMPLYING WITH THE REQUIREMENTS OF THE LATEST REVISION OF A.S.T.M. DESIGNATION C-150.

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 REQUIREIENTS 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 APPROVAIL PRIOR TO THE FABRICATION OF ANY FLAT SLABS REQUIRING PLASTIC LINING.

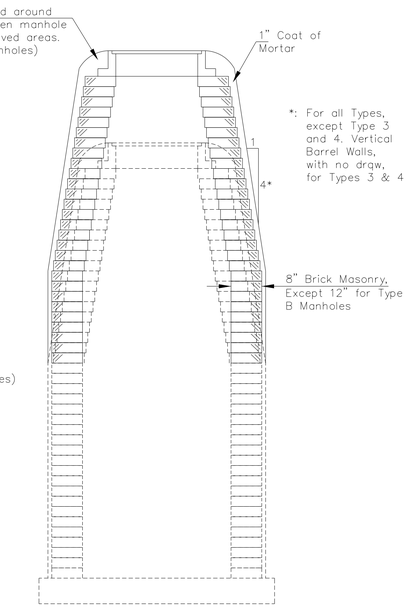


DOWNWARD ADJUSTMENT
(GREATER THAN 12")

All Types

THE APPROPRIATE PROTIONS 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 DE-TAILS SHOWN AND THE GENERAL NOTES.

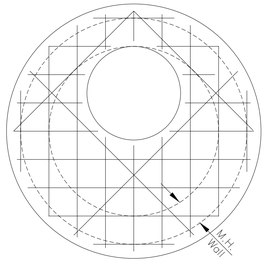
COURSES OF BRICK BARREL SUPPORTING THE WIDE FLANGE RING FOR TYPE 4 MANHOLES AND FLAT CONCRETE SLAB FOR TYPE 3 MANHOLES SHALL BE REMOVED AS NECESSARY PRIOR TO RE-SETTING THE WIDE FLANGE RING OR FLAT CONCRETE SLAB AND RING. ALL WORK AND MATERIALS SHALL CONFORM TO THE DE-TAILS SHOWN AND THE GENERAL NOTES.



UPWARD ADJUSTMENT
(GREATER THAN 12")

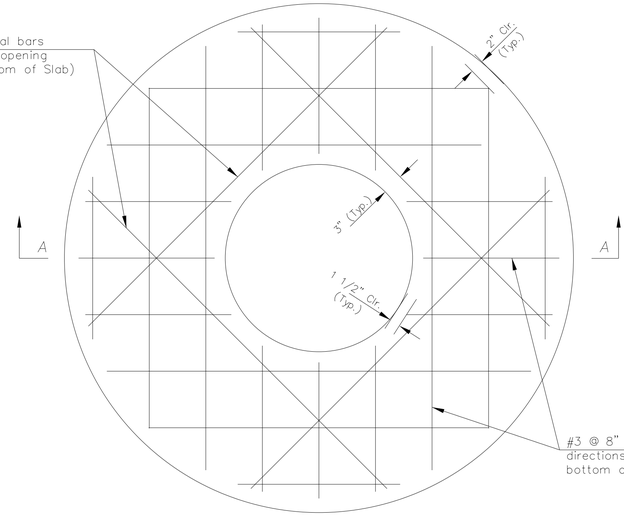
All Types

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 RE-SET. 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 GEN-ERAL NOTES.

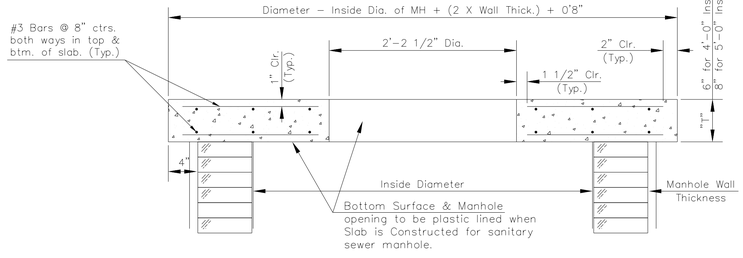


* PLAN
ALTERNATE OPENING
LOCATION

*: 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

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

MANHOLE ADJUSTMENT DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
39 of 113

Plotted on: Tuesday September 27, 2011 09:40 AM
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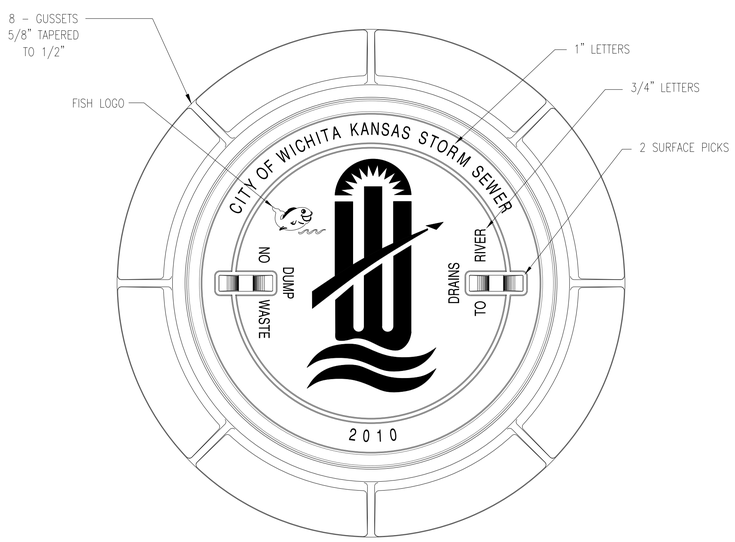
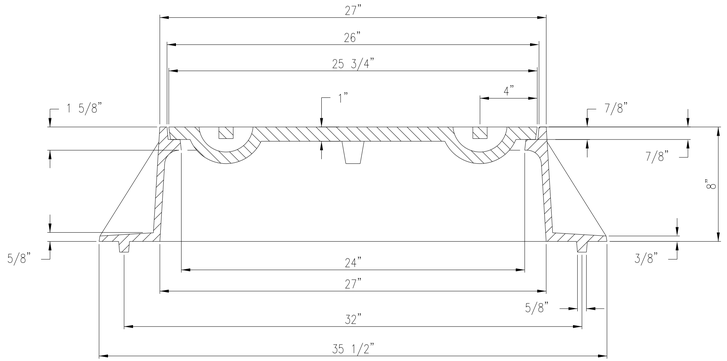
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	40	113

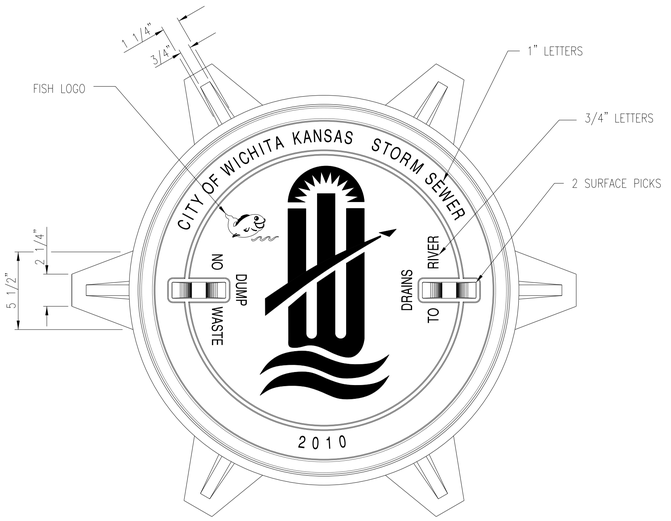


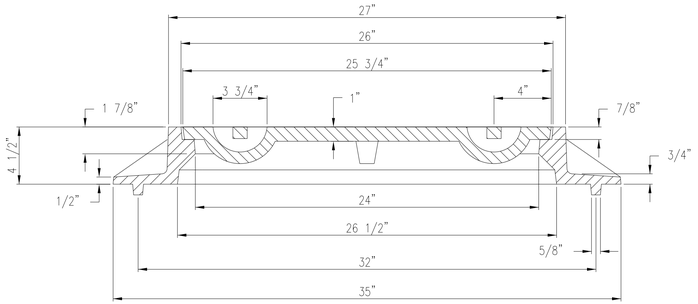


MANHOLE FRAME

DEETER #1261 OR EJIW #1936-Z1

NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
2. COVER TO BE DEETER #1261 OR EJIW #1936A.





INLET FRAME

DEETER #2014 OR EJIW #1936-Z4

NOTE:
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES.
2. NOT TO BE USED UNDER PAVEMENT.
3. COVER TO BE DEETER #1261 OR EJIW #1936A.

CITY OF WICHITA

PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

MANHOLE/INLET FRAME AND COVER (STORM SEWER)

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
40 of 113

Plotted on: Tuesday September 27, 2011 09:40 AM
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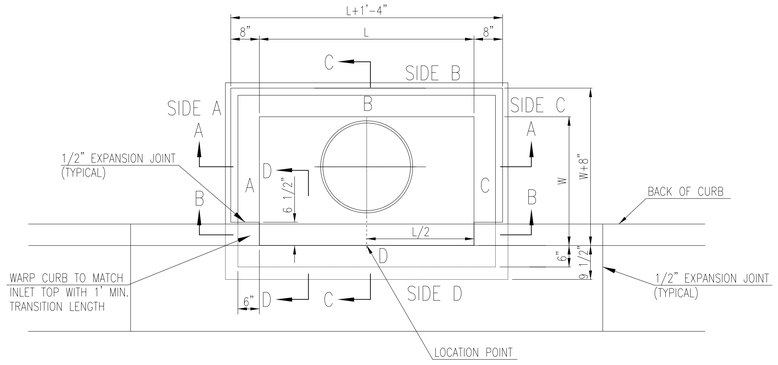
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	41	113



TOP VIEW

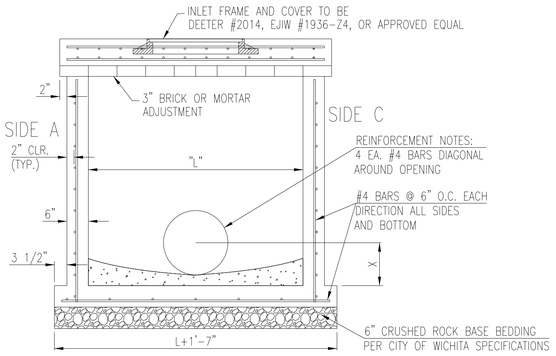
BAR SCHEDULE		
INLET OPENING	B1 BARS	SPACING
5'-0"	#4	4"
10'-0"	#6	3.5"

PRECAST CURB INLET WIDTHS				
W	PRE-CAST TOP SIZE			PIPE DIA.**
	WIDTH	LENGTH	TOP	
3'-0"	W+8"	L+1'-4"	7 1/2"	21" & SMALLER
4'-0"	W+8"	L+1'-4"	7 1/2"	24" & 30"
5'-0"	W+8"	L+1'-4"	7 1/2"	36" & 42"
6'-0"	W+8"	L+1'-4"	7 1/2"	48" & 54"
7'-0"	W+8"	L+1'-4"	7 1/2"	60" & 66"

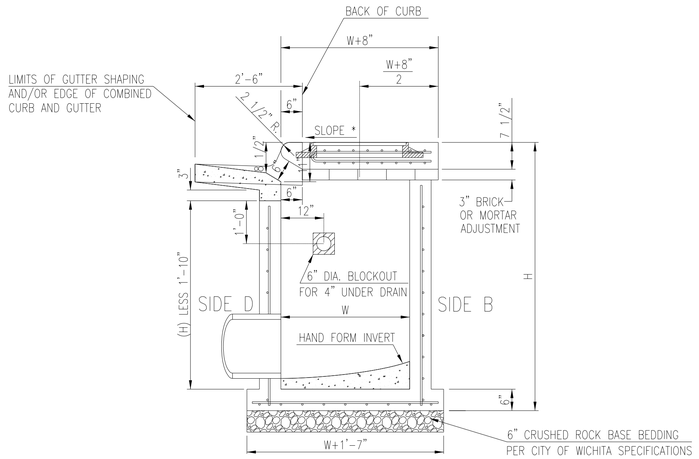
** FOR PIPES PERPENDICULAR TO INLET WALL

GENERAL NOTES

1. CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP OF THIS INLET WHEN W=5'-0" AND H=7'-0" OR LESS.
3. 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.
4. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
5. INLET FRAME AND COVER TO BE DEETER #2014, EJIW #1936 Z4, OR APPROVED EQUAL, SEE SW-303.
6. 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"



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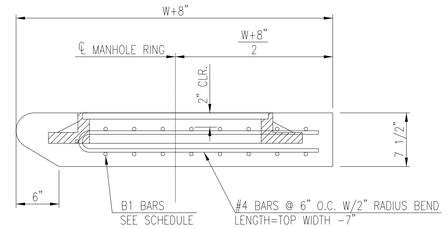
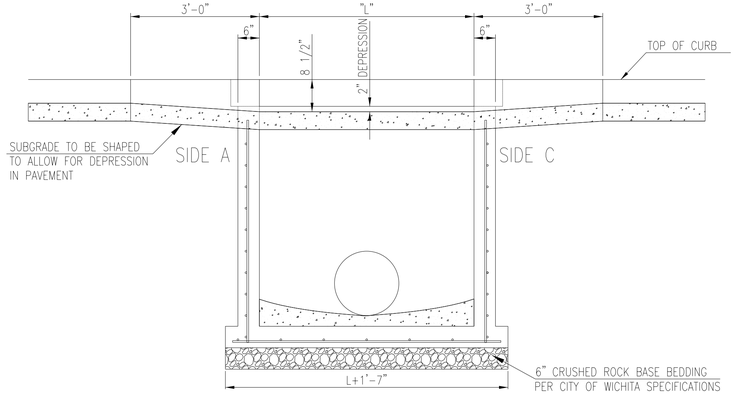


NOTES:
* SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.



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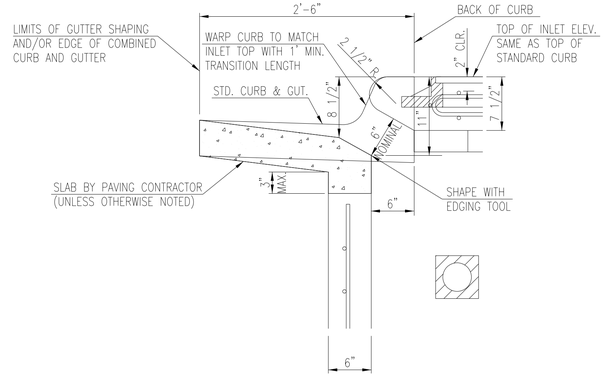

SECTION "D-D"

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD TYPE 1
CURB INLET
5'-0" OR 10'-0" OPENING

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
41 of 113

Plotted on: Tuesday September 27, 2011 09:41 AM
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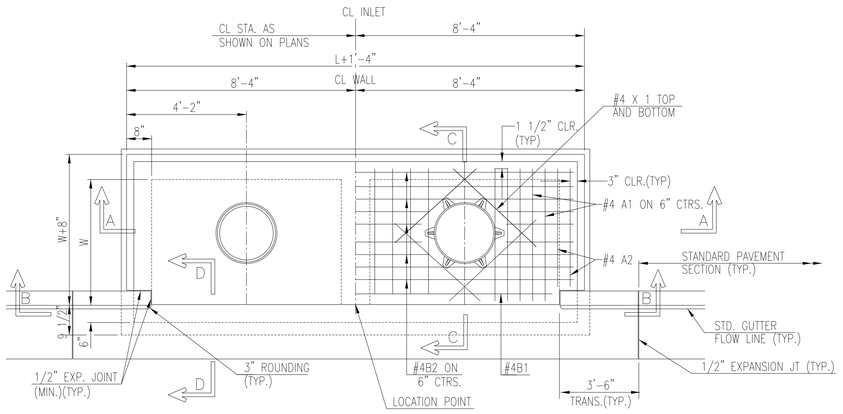
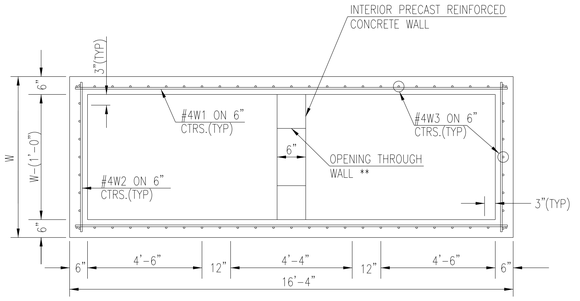
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	42	113



SLAB REINFORCING NOT SHOWN SHOWING SLAB REINFORCING

PLAN



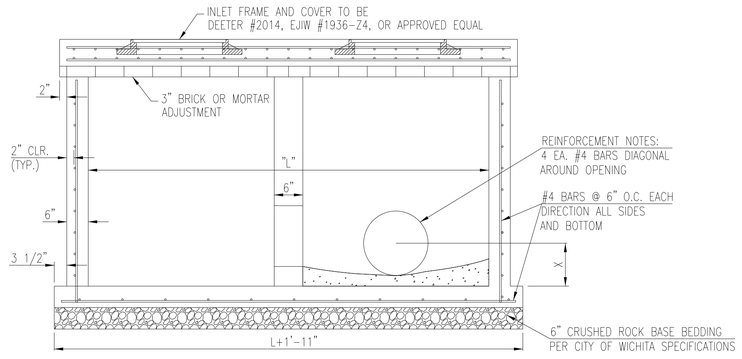
SECTION B-B

PRECAST CURB INLET WIDTHS				
W	PRE-CAST TOP SIZE			PIPE DIA.***
	WIDTH	LENGTH	TOP	
3'-0"	W+8"	L+1'-4"	7 1/2"	21" & SMALLER
4'-0"	W+8"	L+1'-4"	7 1/2"	24" & 30"
5'-0"	W+8"	L+1'-4"	7 1/2"	36" & 42"
6'-0"	W+8"	L+1'-4"	7 1/2"	48" & 54"
7'-0"	W+8"	L+1'-4"	7 1/2"	60" & 66"

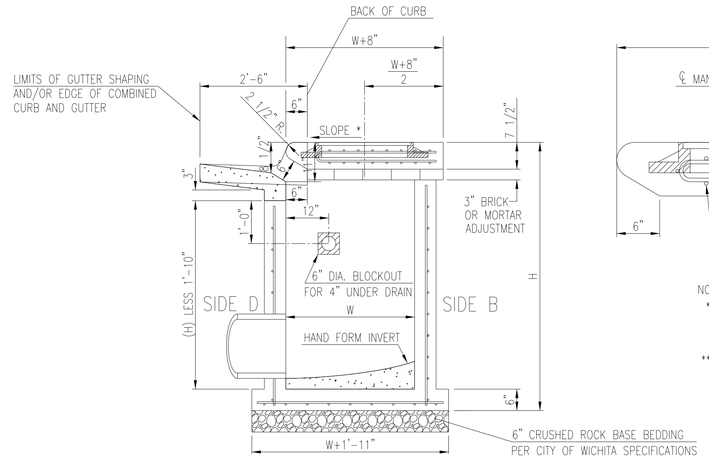
*** FOR PIPES PERPENDICULAR TO INLET WALL

GENERAL NOTES

1. CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP OF THIS INLET WHEN W=5'-0" AND H=7'-0" OR LESS.
3. 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.
4. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
5. INLET FRAME AND COVER TO BE DEETER #2014, EJIW #1936-Z4, OR APPROVED EQUAL, SEE SW-303.
6. 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.

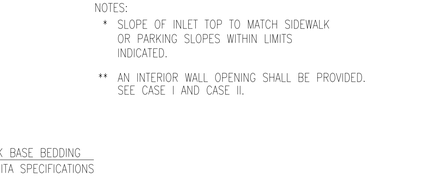


SECTION "A-A"

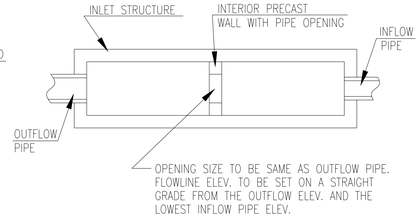


SECTION "C-C"

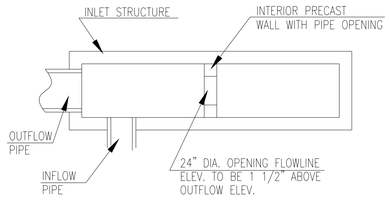
NOTES:
* SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.



NOTES:
* SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.
** AN INTERIOR WALL OPENING SHALL BE PROVIDED. SEE CASE I AND CASE II.



CASE I



CASE II

NOTE: INTERIOR WALL OPENING SIZE SHALL BE AS SPECIFIED IN THE INLET CONSTRUCTION NOTE ON THE PLAN/ PROFILE SHEETS FOR THOSE CASES NOT SHOWN HERE.

SECTION "B-B"

SECTION "D-D"

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STANDARD TYPE I CURB INLET 15'-0" OPENING

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET: 42 of 113

Plotted on: Tuesday September 27, 2011 09:41 AM
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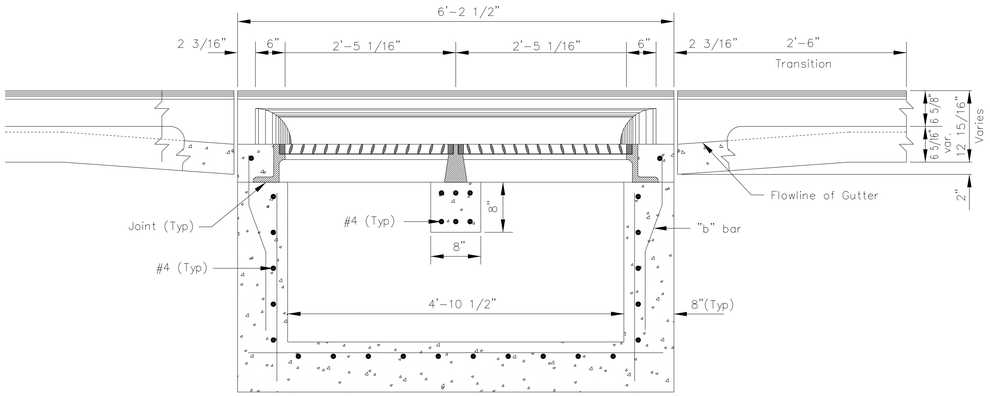
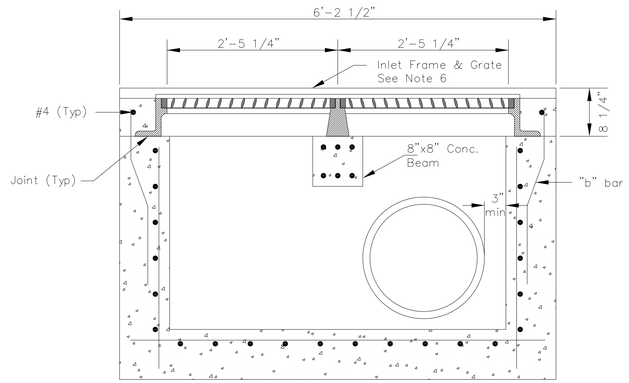
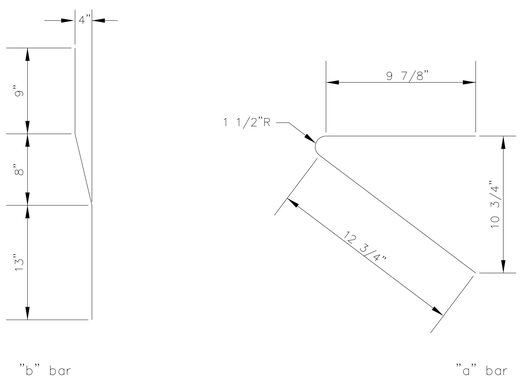
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	43	113



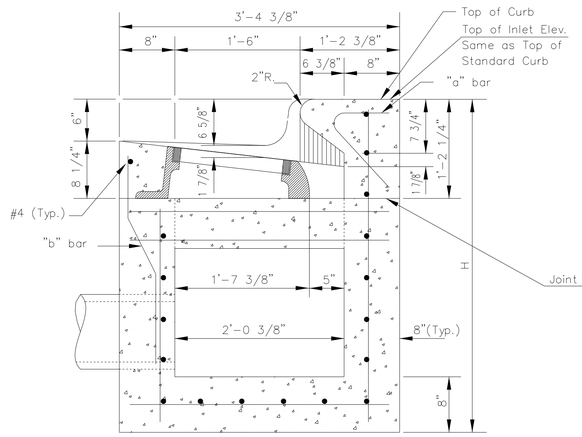
SECTION C-C



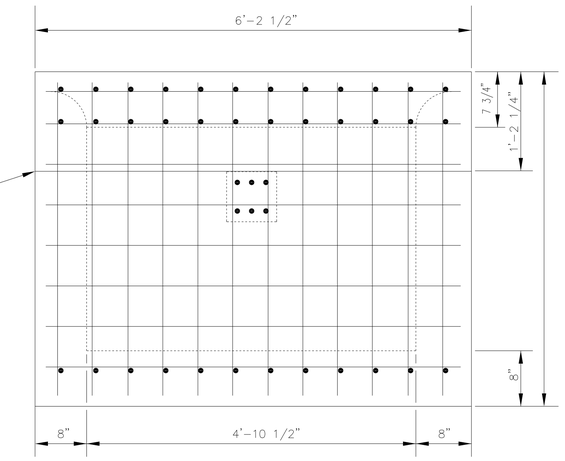
SECTION D-D



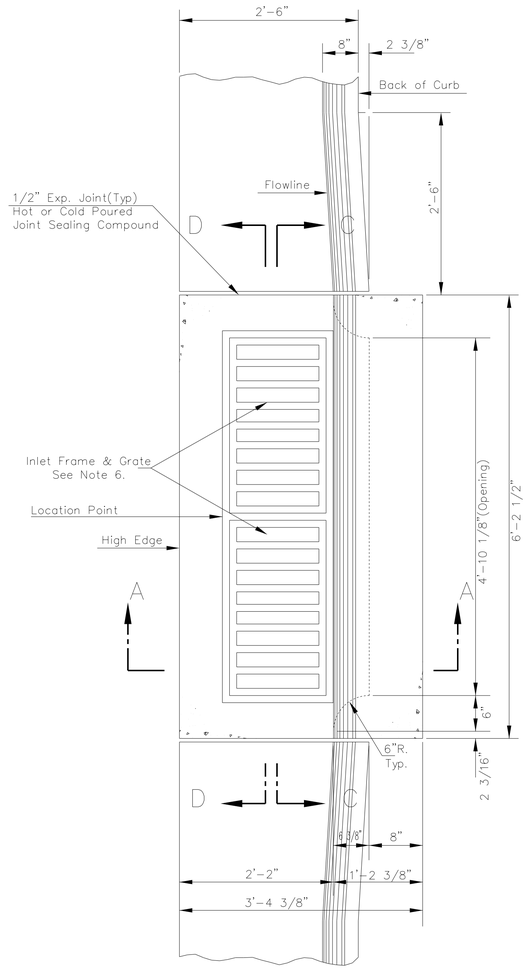
BENDING DIAGRAM



SECTION A-A



REAR WALL



GENERAL NOTES

1. Use the concrete mix specified for the City of Wichita concrete pavement throughout. All exposed edges shall be finished with an edging tool. Reinforcing bars shall be bent around pipe.
2. Inlet invert shall be shaped with 8 sack 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. All bars are #4 with 6" spacing and shall have a minimum clearance of 1 1/2 inches unless otherwise noted on the plans.
4. When directed by the Engineer, a small opening may be required in the back of the inlet in order to drain a low area. Reinforcing bars will extend through the openings. No deductions in concrete quantities will be made for these openings.
5. No deductions will be made in pay length of curb, gutter, or curb and gutter through the inlet area.
6. Use Neenah R-3288 HV Inlet Frame with Two Piece Grate or approved equal. Inlet frame to be proof load tested to 40,000 lbs. on unsupported side.
7. Reinforcing bars shall be cut or bent around pipes. No deduction in concrete quantites shall be made for pipe openings.
8. The vanes of the grate shall be oriented with respect to the flow arrows shown on the plans.
9. DEETER FOUNDARY, Inc. casting No. 2442/43 with style H grate is an approved equal to NEENAH castings specified. Inlet drawing is based on NEENAH castings and concrete walls and supports will require some field modification to accomodate DEETER castings.

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD TYPE II INLET OPENING 6" x 4'-10 1/8"

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
43 of 113

Plotted on: Tuesday September 27, 2011 09:41 AM
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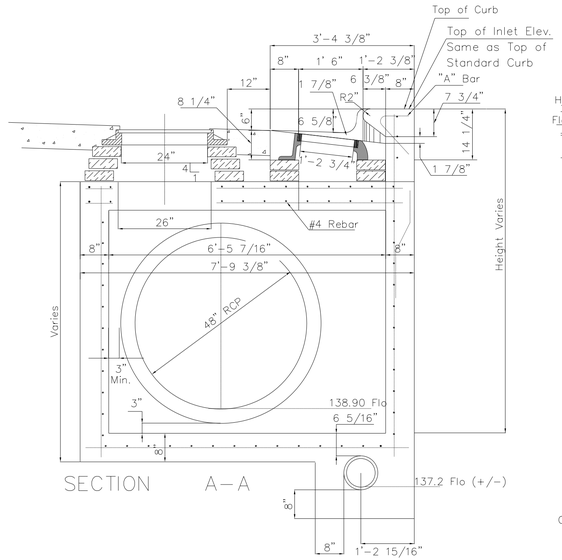
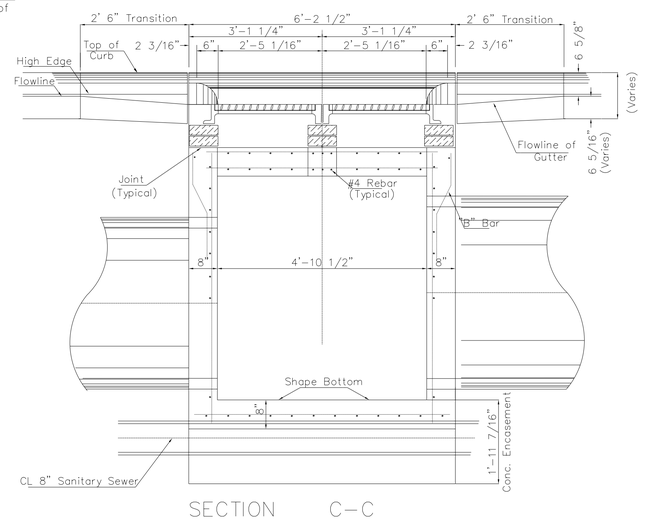
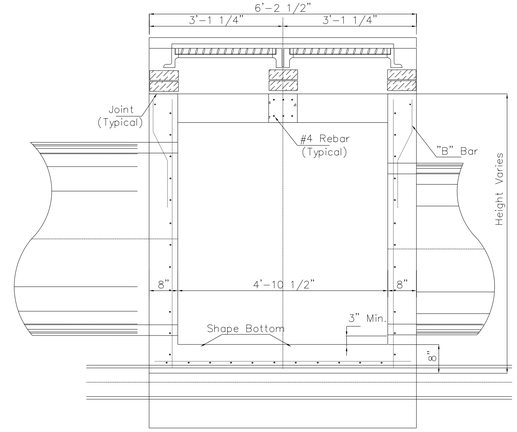
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	44	113



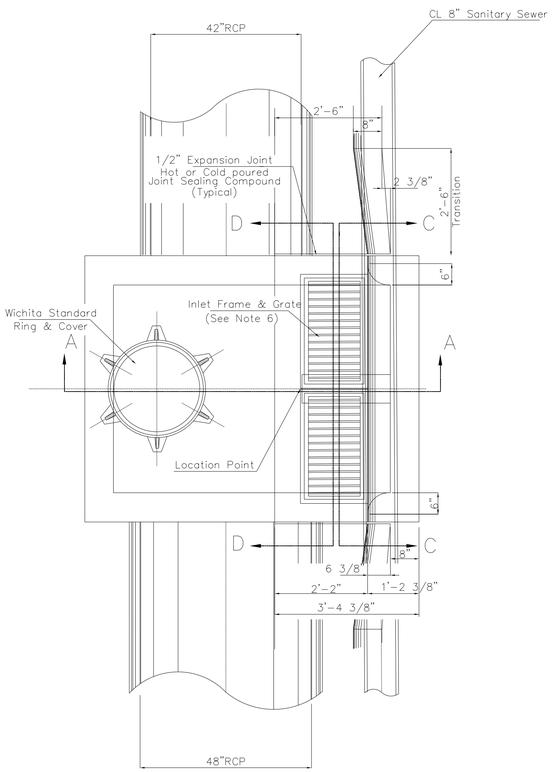
SECTION A–A

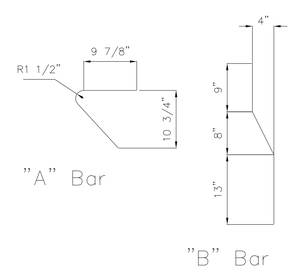


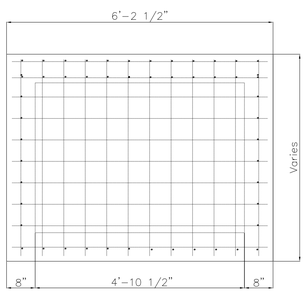
SECTION C–C



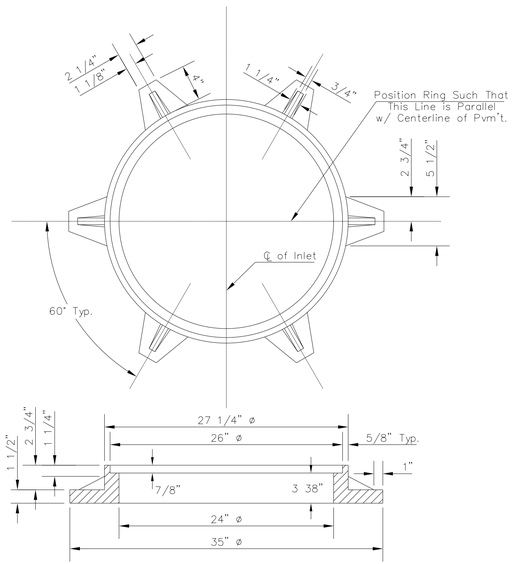
SECTION D–D







REAR WALL



Inlet Frame Weight = 180 lbs

MANHOLE RING AND COVER

*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.

General Notes

1. Use the concrete mix specified for the City of Wichita concrete pavement throughout. All exposed edges shall be finished with an edging tool. Reinforcing bars shall be bent around pipe.
2. Inlet invert shall be shaped with 8 sack 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. All bars are #4 with 6" spacing and shall have a minimum clearance of 1 1/2" inches unless otherwise noted on the plans.
4. No deductions will be made in pay length of curb, gutter, or curb and gutter through the inlet area.
5. Use Neenah R–3288 HV Inlet Frame w/ two piece Grate or approved equal. Inlet frame to be proof load tested to 40,000 lbs. on unsupported side.
6. Reinforcing bars shall be cut or bent around pipes. No deduction in concrete quantities shall be made for pipe openings.
7. The vanes of the grate shall be oriented with respect to the flow arrows shown on the plans.
8. Around manhole opening in top slab use #5 bar @ 45° angle to other bars. Length = MH opening + 2'0"

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SPECIAL TYPE II INLET/MANHOLE OPENING = 6" x 4'-10 1/8"

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET: 44 of 113

HNTB

Plotted on: Tuesday September 27, 2011 09:41 AM
mbechtel Plot Queue: \\cvpw100\PLTBW_IP
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	45	113

INLET AND MANHOLE DATA

ROUTING SEQUENCE		LOCATIONS OF INSTALLATIONS					CONSTRUCT OR INSTALL							DIMENSIONS				ELEVATIONS		INFLOW CONDUITS				OUTFLOW CONDUITS		REMARKS
FROM	TO	STATION	ROUTE ID	DISTANCE LEFT/RIGHT	NORTH COORDINATE	EAST COORDINATE	CURB INLET (TYPE I)	CURB INLET TYPE II (DOUBLE)	INLET/MANHOLE TYPE II (SPECIAL)	R.C. MANHOLE	END SECTION	G&F TYPE	L&F TYPE	L (FT.)	W (FT.)	H (FT.)	STACK (FT.)	TOP*	FLOOR	SIZE (DIRECTION)	FLOWLINE ELEV.	SIZE (DIRECTION)	FLOWLINE ELEV.	SIZE (DIRECTION)	FLOWLINE ELEV.	
505	---	53+51.25	Ridge Rd	38.67' Rt.	1694160.6	1623238.2			1					6'-2 1/2"	7'-9 3/8"	5.70		1332.72	1327.75	15" (W)	1328.45			24" (S)	1328.25	
500	505	53+50.00	Ridge Rd	34.67' Lt.	1694157.8	1623164.9		1						6'-2 1/2"	3'-4 3/8"	4.80		1332.82	1328.69	2-8" (W) (Exist.)	1329.58			15" (E)	1329.13	
501	502	54+74.00	Ridge Rd	32.99' Lt.	1694281.9	1623164.0		1						6'-2 1/2"	3'-4 3/8"	5.10		1331.85	1327.47	3-PVC (W)				15" (N)	1327.91	
502	---	57+03.25	Ridge Rd	26.30' Lt.	1694511.2	1623165.9	1							15	3	6.00		1328.34	1322.88	18" (E)	1323.45	15" (S)	1323.45	18" (N) (Exist.)	1323.34	Connect to Exist. S.S.
506	---	57+00.50	Ridge Rd	33.50' Rt.	1694509.7	1623225.7	1							10	3	5.30		1328.28	1323.52					18" (W)	1323.98	
513	---	47+00.00	Ridge Rd	34.67' Rt.	1693507.8	1623233.4			1					6'-2 1/2"	7'-9 3/8"	6.50		1333.47	1327.72	18" (S)	1328.32	15" (W)	1328.85	24" (N)	1328.22	
512	513	46+19.35	Ridge Rd	34.67' Rt.	1693427.2	1623231.2			1					6'-2 1/2"	7'-9 3/8"	5.90		1333.31	1328.14	15" (W)	1329.02			18" (N)	1328.60	
511	512	46+19.75	Ridge Rd	34.67' Lt.	1693429.5	1623161.9		1						6'-2 1/2"	3'-4 3/8"	5.10		1333.31	1328.93					15" (E)	1329.37	
510	513	47+00.00	Ridge Rd	34.67' Lt.	1693509.7	1623164.1		1						6'-2 1/2"	3'-4 3/8"	5.10		1333.47	1329.10					15" (E)	1329.54	
517	---	203+49.39	13th St	39.87' Lt.	1693857.8	1623555.0		1						6'-2 1/2"	3'-4 3/8"	5.70		1333.39	1328.42	15" (S)	1329.08			18" (N)	1328.88	
515	---	203+50.14	13th St	34.67' Rt.	1693783.3	1623557.7		1						6'-2 1/2"	3'-4 3/8"	4.80		1333.64	1329.55					15" (N)	1329.99	
516	---	206+24.48	13th St	31.70' Rt.	1693793.6	1623831.9		1						6'-2 1/2"	3'-4 3/8"	4.30		1329.21	1325.61					15" (SE)	1326.05	
TOTALS:							2	7	3	--	--															

*Note:
1. Manhole - Top of Manhole Ring
2. Curb Inlet - Top of Curb

CONDUIT DATA

ROUTING SEQUENCE		LOCATIONS OF INSTALLATIONS			CONSTRUCT OR INSTALL			CONDUIT FLOWLINES		SEWER EXCAVATION		STORMSEWER (LIN. FT.)			AASHTO CONC. CLASS	SAND FILL, FLUSH & VIBRATE (L.F.)		REMARKS
FROM	TO	STATION	ROUTE ID	DISTANCE LEFT/RIGHT	TYPE OF CONDUIT SIZE	TYPE OF CONDUIT MATERIAL	LENGTH (FT.)	INFLOW ELEV.	OUTFLOW ELEV.	ROCK (CU. YD.)	COMMON (CU. YD.)	15"	18"	24"				
505	---	53+51.25	Ridge Rd	38.67' Rt.	24"	RCP	303.1	1328.25	1326.07					303.1		303.1		
500	505	53+51.25	Ridge Rd	38.67' Rt.	15"	RCP	8.0	1328.53	1328.45			8.0				8.0		Existing pipe extension
500	505	53+50.00	Ridge Rd	34.67' Lt.	15"	RCP	8.0	1329.13	1329.05			8.0				8.0		Existing pipe extension
501	502	54+74.00	Ridge Rd	32.99' Lt.	15"	RCP	229.3	1327.91	1323.45			229.3				229.3		
502	---	57+03.25	Ridge Rd	26.30' Lt.	18"	RCP	8.0	1323.52	1323.45				8.0			8.0		Existing pipe extension
506	---	57+00.50	Ridge Rd	33.50' Rt.	18"	RCP	8.0	1323.98	1323.91				8.0			8.0		Existing pipe extension
513	---	47+00.00	Ridge Rd	34.67' Rt.	24"	RCP	200.2	1328.22	1327.52					200.2		200.2		Connect to Exist MH
512	513	46+19.35	Ridge Rd	34.67' Rt.	18"	RCP	80.6	1328.60	1328.32				80.6			80.6		
511	512	46+19.75	Ridge Rd	34.67' Lt.	15"	RCP	69.5	1329.37	1329.02			69.5				69.5		
510	513	47+00.00	Ridge Rd	34.67' Lt.	15"	RCP	69.5	1329.54	1328.85			69.5				69.5		
517	---	203+49.39	13th St	39.87' Lt.	18"	RCP	7.2	1328.88	1328.66				7.2			7.2		
515	517	203+49.39	13th St	39.87' Lt.	15"	RCP	8.0	1329.18	1329.08			8.0				8.0		Existing pipe extension
515	517	203+50.14	13th St	34.67' Rt.	15"	RCP	8.0	1329.99	1329.89			8.0				8.0		Existing pipe extension
516	---	206+24.48	13th St	31.70' Rt.	15"	RCP	8.0	1326.05	1326.02			8.0				8.0		Existing pipe extension
TOTALS:										--	--	408.3	103.8	503.3		1015.4		

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SCHEDULE OF INLETS & MANHOLES

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 45 of 113

Plotted on: Wednesday September 28, 2011 11:32 AM
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\\ovpw00\Jobs\4809\Ridge\CD\Detail\Rdg_sch-Inlet-MH.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	46	113

CURB AND GUTTER

LOCATION	STATION TO STATION		TYPE I (L.F.)	REMARKS
13th St.	198+43.00	203+25.00	623.96	
13th St.	203+25.00	206+42.00	634.91	
Ridge Rd.	43+50.00	47+50.00	800.18	
Ridge Rd.	47+50.00	53+25.00	1103.37	
Ridge Rd.	53+25.00	57+26.00	802.30	
13th St.	198+52.20	198+95.70	16.00	Parking Lot
Total			3980.72	

2" A.C. PAVEMENT MILL & OVERLAY (BM-2, PG 70-28)(MEASURED QUANTITY)

LOCATION	STATION TO STATION		QUANTITY (WEST OF RIDGE) (S.Y.)	QUANTITY (EAST OF RIDGE) (S.Y.)
13th St.	194+20.00	197+50.00	2418.39	
13th St.	197+50.00	198+43.00	702.67	
13th St.	206+42.00	213+39.50		3792.56
Total			3121.06	3792.56

INLET SUMMARY (EACH)

STRUCTURE NO.	CURB INLET (TYPE I) 10' x 3'	CURB INLET (TYPE I) 15' x 3'	CURB INLET (DOUBLE TYPE II) 6'-2 1/2" x 3'-4 3/8"	INLET/MANHOLE (TYPE II SPECIAL) 6'-2 1/2" x 7'-9 3/8"	UNDERDRAIN (L.F.)	INLET HOOKUP
500			1		10	1
501			1		10	1
502		1			10	1
505				1	10	1
506	1				10	1
510			1		10	1
511			1		10	1
512				1	10	1
513				1	10	1
515			1		10	1
516			1		10	1
517			1		10	1
TOTALS:	1	1	7	3	120	12

ADJUSTMENT OF VALVE BOXES (WATER) (MEASURED QTY.)

ROADWAY	STATION	OFFSET (FT.)	SIDE	FROM ELEVATION	TO ELEVATION	QUANTITY (EACH)
13th St.	199+28	54	Rt.	1335.47	1335.8	1
13th St.	199+31	56	Rt.	1334.87	1335.8	1
13th St.	199+34	57	Lt.	1334.85	1335.5	1
Ridge Rd.	56+00	37	Lt.	1331.72	1331.2	1
Total						4

ADJUSTMENT OF FIRE HYDRANTS (MEASURED QTY.)

ROADWAY	STATION	OFFSET (FT.)	SIDE	FROM BURY LINE ELEV.	TO BURY LINE ELEV.	QUANTITY (EACH)
Ridge Rd.	56+01	35	Lt.	1330.88	1331.0	1
Total						1

ADJUSTMENT OF MANHOLES w/ NEW RING & COVER (SAN SEWER) (MEASURED QTY.)

ROADWAY	STATION	OFFSET (FT.)	SIDE	FROM BURY LINE ELEV.	TO BURY LINE ELEV.	QUANTITY (EACH)
Ridge Rd.	55+77	54	Lt.	1332.23	1332.07	1
Total						1

6" A.C. PAVEMENT (BM-2) & CRUSHED ROCK BASE

LOCATION	STATION TO STATION		QUANTITY (S.Y.)	6" CRUSHED ROCK BASE (S.Y.)	REMARKS
Ridge Rd.	50+62.34	53+25.00	328.50	328.50	Trail
Ridge Rd.	53+25.00	55+70.57	272.91	272.91	Trail
Total			601.41	601.41	

DRIVEWAY ENTRANCES (MEASURED QTY.)

ROADWAY	STATION	SIDE	RADIUS (FT.)	W (FT.)	P (FT.)	CONC. PVMT. (8") (REINF.)(S.F.)	REMARKS
13th St.	198+80.20	Rt.	15	32	20.0	736.57	Full Radius
13th St.	201+57.30	Rt.	15	30	23.5	801.57	Full Radius
Ridge Rd.	48+17.30	Lt.	15	30	38.5	1251.57	Full Radius
Ridge Rd.	48+40.50	Rt.	15	30	28.5	951.57	Full Radius
Ridge Rd.	52+65.50	Lt.	15	25	34.72	964.67	F.R.; 4' S/W skewed 14.06 deg.
Ridge Rd.	53+81.70	Lt.	13.5	24	13.5	402.22	F.R.; 4' S/W
Ridge Rd.	55+78.25	Lt.	15	24	28.0	776.01	F.R.; Rt. curb flared; 4' S/W
Ridge Rd.	56+65.00	Lt.	12	30	13.5	466.81	Full Radius; 4' S/W
Total						6350.99	

WHEELCHAIR RAMPS

LOCATION	STATION	SIDE	WIDTH (FT)	QUANTITY (EACH)
13th St.	199+37.00	RT, LT	6,6	2
13th St.	200+68.00	RT, LT	6,10	2
Ridge Rd.	49+38.00	RT, LT	6,6	2
Ridge Rd.	50+71.00	RT, LT	10,6	2
Total				8

BRICK PAVERS (CONCRETE), CROSSWALK

LOCATION	STATION	QUANTITY (S.Y.)
13th St.	199+37.00	87.43
13th St.	200+68.00	94.24
Ridge Rd.	49+38.00	86.06
Ridge Rd.	50+71.00	88.45
Total		356.17

STORM SEWER CONDUIT DATA SUMMARY (L.F.)

STRUCTURE NO.	REINFORCED CONCRETE PIPE 15"	18"	24"
500	8.0		
501	229.3		
502		8.0	
505	8.0		303.1
506		8.0	
510	69.5		
511	69.5		
512		80.6	
513			200.2
515	8.0		
516	8.0		
517	8.0	7.2	
TOTALS:	408.3	103.8	503.3

BMP's (MEASURED QUANTITY)

ITEM	QUANTITY	UNIT
BMP, Curb Inlet Protection	11	EACH
BMP, Silt Fence	6800	L.F.
BMP, Construction Entrance	4	EACH
BMP, Back of Curb Protection	3767	L.F.

ADJUSTMENT OF MANHOLES

ROADWAY	STATION	OFFSET (FT.)	SIDE	FROM ELEV. (FT.)	TO ELEV. (FT.)	QUANTITY (EACH)	FRAME & LID (EACH)
Ridge Rd	49+00	40	Rt.	1334.73	1334.97	1	1
13th St	200+60	49	Lt.	1335.07	1335.14	1	1
TOTAL						2	2

4" SIDEWALK PAVEMENT (MEASURED QUANTITY)

LOCATION	STATION TO STATION		SIDE	WIDTH (FT.)	QUANTITY (S.F.)
13th St.	198+52.20	199+30.83	RT	6	278.48
Ridge Rd.	47+91.56	49+46.03	LT	6	893.26
Ridge Rd.	47+78.94	49+58.91	RT	6	1024.37
Ridge Rd.	50+49.63	50+75.42	LT	6	290.47
Ridge Rd.	52+49.00	52+82.42	LT	4	31.47
Ridge Rd.	53+56.50	57+26.00	LT	4	578.45
Total					3096.50

CONCRETE PAVEMENT (9")(NRDJ)

LOCATION	STATION TO STATION		QUANTITY (S.Y.)
13th St.	198+43.00	199+21.60	594.24
13th St.	200+85.00	203+25.00	2124.60
13th St.	203+25.00	206+42.00	2262.13
Ridge Rd.	43+50.00	47+50.00	2850.00
Ridge Rd.	47+50.00	49+21.00	1292.24
Ridge Rd.	50+88.00	53+25.00	1896.23
Ridge Rd.	53+25.00	57+26.00	2932.97
Total			13952.41

CONCRETE PAVEMENT (9")(REINFORCED)

LOCATION	STATION TO STATION		QUANTITY (S.Y.)
13th St.	199+21.60	200+85.00	1532.79
Ridge Rd.	49+21.00	49+62.50	402.96
Ridge Rd.	50+49.50	50+88.00	371.01
Total			2306.76

REINFORCED CRUSHED ROCK BASE

LOCATION	STATION TO STATION		6" RCRB QUANTITY (S.Y.)
13th St.	198+43.00	203+25.00	4522.87
13th St.	203+25.00	206+42.00	2508.96
Ridge Rd.	43+50.00	47+50.00	3161.18
Ridge Rd.	47+50.00	49+62.50	1873.75
Ridge Rd.	50+49.50	53+25.00	2489.81
Ridge Rd.	53+25.00	57+26.00	3244.98
Total			17801.55

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUMMARY OF QUANTITIES

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 46 of 113

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	47	113

RECAPITULATION OF QUANTITIES

ITEM	QUANTITY	UNIT
LUMP SUM BID ITEMS (770005)		
Mobilization	1	LS
Field Office & Laboratory (Type A)	1	ea
Site Clearing	1	LS
Site Restoration	1	LS
Removal of Existing Structures	1	LS
Transportation of Salvageable Material	1	LS
Pavement &/or Curb Removed	16605	sy
Sidewalk, Drive, &/or Parking Lot Removed	1617	sy
Excavation	5238	cy
Fill, Compacted (95% Density)	3165	cy
Concrete Pavement 9" (NRDJ)	13952	sy
Concrete Pavement 9" (Reinforced)	2307	sy
Crushed Rock Base 6", Reinforced	17802	sy
Brick Pavers (Concrete), Crosswalk	356	sy
AC Pavement 6" (BM-2)	601	sy
Crushed Rock Base 6"	601	sy
Concrete C & G, Type 1 (6" & 1-1/2")	3981	lf
Wheelchair Ramp w/ Detectable Warnings	8	ea
Inlet, Curb (Type 1) (L=10' W=3')	1	ea
Inlet, Curb (Type 1) (L=15' W=3')	1	ea
Inlet, Curb (Type 2) (L=6' 2 1/2" W=3' 4 3/8")	7	ea
Inlet, Manhole (Type 2), Special	3	ea
Inlet Hookup	12	ea
Pipe, PVC 4", Perforated (Inlet Underdrain)	120	lf
Pipe, RCP 15"	408	lf
Pipe, RCP 18"	104	lf
Pipe, RCP 24"	503	lf
Fill, Sand (Flushed & Vibrated)	1015	lf
Signing	1	LS
Pavement Marking	1	LS
Traffic Control	1	LS
Traffic Signalization, Temporary (13th & Ridge)	1	LS
Traffic Signalization	1	LS
MH Adjusted	2	ea

RECAPITULATION OF QUANTITIES

	ITEM	QUANTITY	UNIT
	LUMP SUM BID ITEMS - LANDSCAPE (770005)		
	Sodding, Bermuda	1	LS
	Sodding, Buffalo	1	LS
	Tree, Eastern Redcedar - 2.5" caliper	1	ea
	MEASURED QUANTITY BID ITEMS (770005)		
	AC Pavement 2" Mill & Overlay (BM-2, PG70-28)(West of Ridge)	3121	sy
	AC Pavement 2" Mill & Overlay (BM-2, PG70-28)(East of Ridge)	3793	sy
*	AC Pavement Removed & Replaced	400	tn
	Concrete Sidewalk 4"	3097	sf
	Concrete Driveway 8" (Reinforced)	6351	sf
	Large Tree Removal	1	ea
	Sign, Electronic Portable Message	600	day
	MEASURED QUANTITY BID ITEMS - BMP'S (770005)		
	BMP, Curb Inlet Protection	11	ea
*	BMP, Silt Fence	6800	lf
	BMP, Construction Entrance	4	ea
	BMP, Back of Curb Protection	3767	lf
	MEASURED QUANTITY BID ITEMS - WATERLINE (770005)		
	Fire Hydrant Adjusted	1	ea
	Valve Box Adjusted	4	ea
	MEASURED QUANTITY BID ITEMS - SANITARY SEWER (770005)		
	Manhole Adjusted w/ New Ring and Cover	1	ea

*Location to be determined by Engineer.

See Sh. No. 57 for Summary of Landscape Quantities
See Sh. No. 65 for Summary of Traffic Signals
See Sh. No. 73 for Summary of Pavement Marking
See Sh. No. 79 for Sign Assembly Tables
See Sh. No. 93 for List of Traffic Control Devices

PAVEMENT &/OR CURB REMOVED

STATION		LOCATION	AREA		REMARKS
			(SQ. FT.)	(SQ. YD.)	
13th St.	198+43.00	203+25.00	3506	3896	Asphalt/Curb
13th St.	203+25.00	206+42.00	2164	2405	Asphalt/Curb
Ridge Rd.	43+50.00	47+50.00	2763	3071	Asphalt/Curb
Ridge Rd.	47+50.00	49+64.00	1653	1837	Asphalt/Curb
Ridge Rd.	50+37.00	53+25.00	2191	2435	Asphalt/Curb
Ridge Rd.	53+25.00	57+26.00	2665	2962	Asphalt/Curb
Total				16605	

SIDEWALK, DRIVE &/OR PARKING LOT REMOVED

LOCATION	STATION TO STATION		OFFSET	AREA		REMARKS
				(SQ. FT.)	(SQ. YD.)	
13th St.	198+52.20	199+32.29	RT	1016	113	Sidewalk, Entrance
13th St.	201+35.59	201+79.92	RT	805	89	Entrance
Ridge Rd.	47+85.32	49+53.01	LT	2134	237	Sidewalk, Entrance
Ridge Rd.	47+78.56	49+59.56	RT	1503	167	Sidewalk, Entrance
Ridge Rd.	50+47.97	53+25.00	RT	3055	339	Trail
Ridge Rd.	50+56.05	52+82.42	LT	1130	126	Sidewalk, Entrance
Ridge Rd.	53+25.00	55+70.57	RT	2429	270	Trail
Ridge Rd.	53+56.50	57+26.00	LT	2486	276	Sidewalk, Entrance
	Total				1617	

SUMMARY OF EARTHWORK QUANTITIES

STAGE	LOCATION	STATION TO STATION		EXCAVATION (CU. YD.)	BORROW EXCAVATION (CONTRACTOR FURNISHED) (CU. YD.)	FILL (CU. YD.)	FILL BEHIND CURBS (CU. YD.)	COMPACTION THRU CUTS (CU. YD.)	WASTE (CU. YD.)
1	13th St.	200+00.00	206+42.00	926		1	21	547	900
1	Ridge Rd.	50+66.00	57+26.00	1463		0	26	495	1432
2	13th St.	200+00.00	206+42.00	505		7	21	435	472
2	Ridge Rd.	43+50.00	49+43.00	672		2	24	394	641
3	13th St.	198+43.00	200+00.00	175		2	3	139	169
3	Ridge Rd.	43+50.00	49+43.00	674		12	24	409	632
4	13th St.	198+43.00	200+00.00	143		5	3	131	134
4	Ridge Rd.	50+66.00	57+26.00	680		6	27	431	641
Totals				5238		35	149	2981	5021

Note: Fill, Backfill Behind Curbs, and Compaction Thru Cuts are all paid for as "Compacted Fill (95%)". Total Amount = 3,165 cu. yd.
A VMF of 0.85 was used to compute borrow/waste.

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUMMARY OF QUANTITIES

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET: 47 of 113

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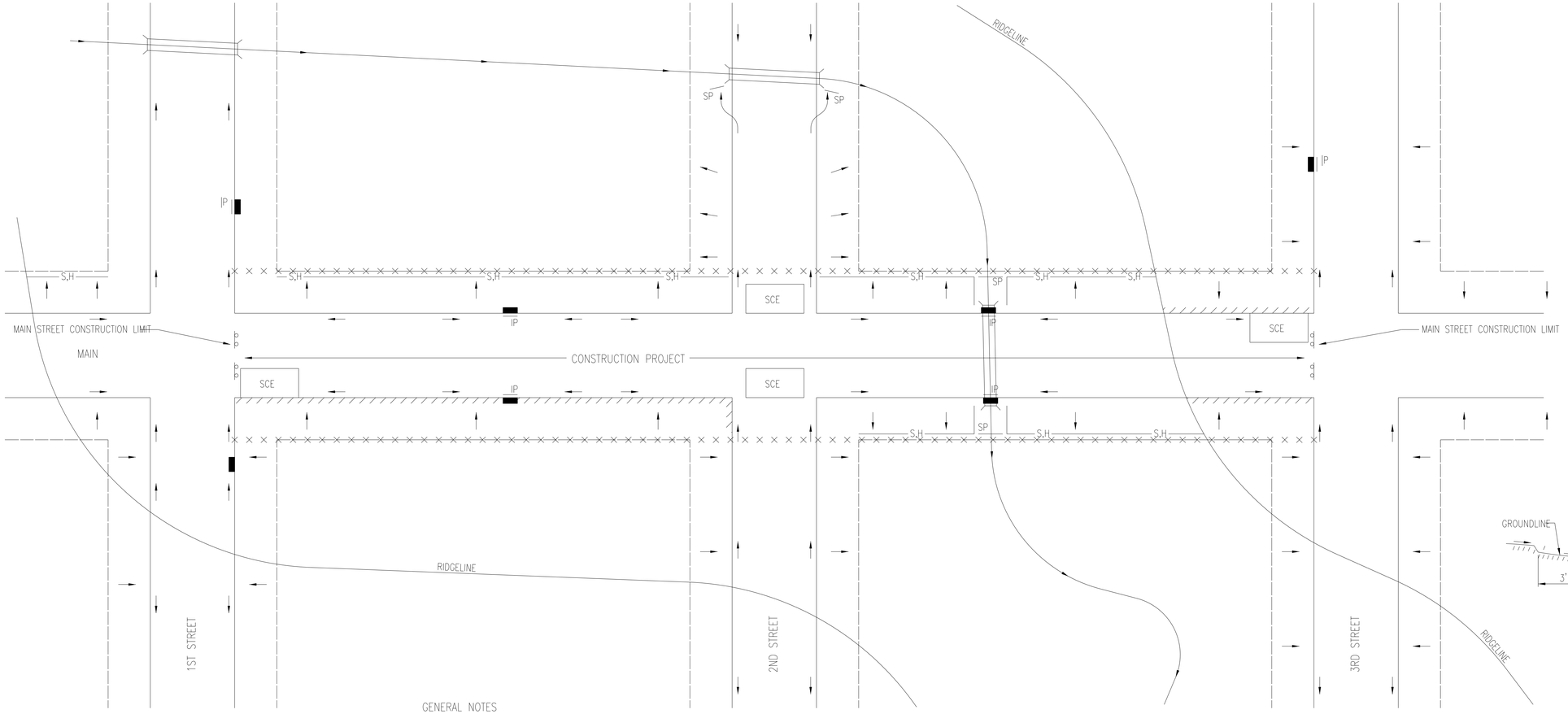
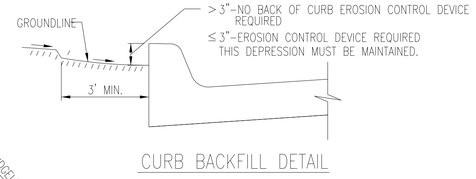
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	48	113

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

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 CURLEX | OR || EXCELSIOR BLANKET, OR EQUAL. 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)

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SOIL EROSION BMP's
STREET IMPROVEMENT PROJECTS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
48 of 113

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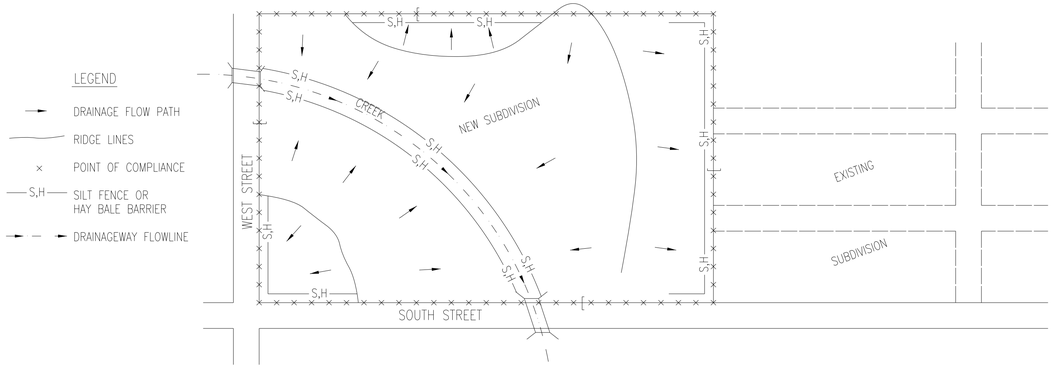
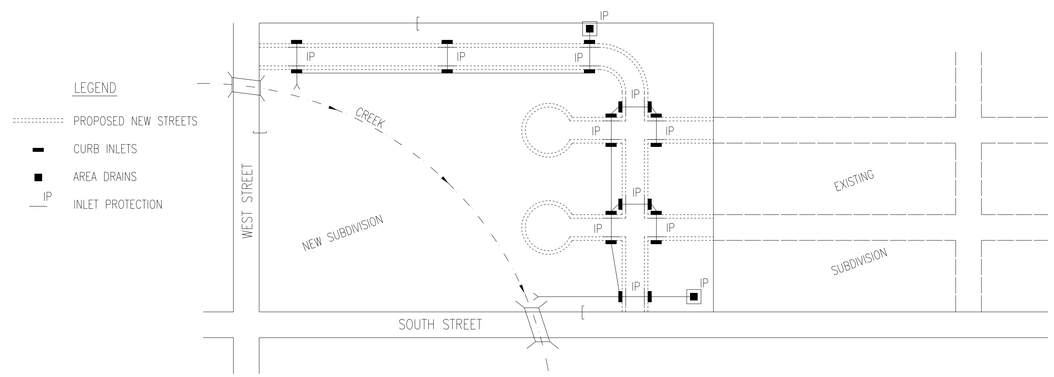
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	49	113

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



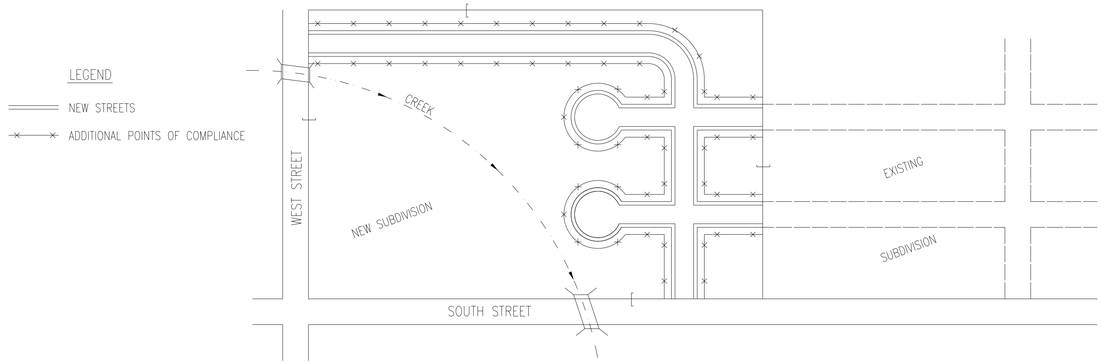
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. 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

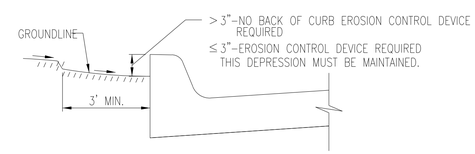


1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
2. CURB OPENING INLET PROTECTION:
   A. SUMP AREAS – INLET PROTECTION 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)

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
49 of 113

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
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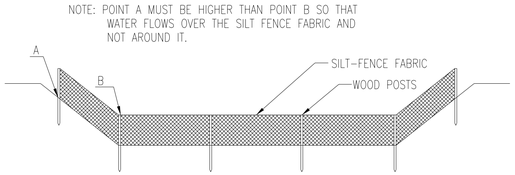
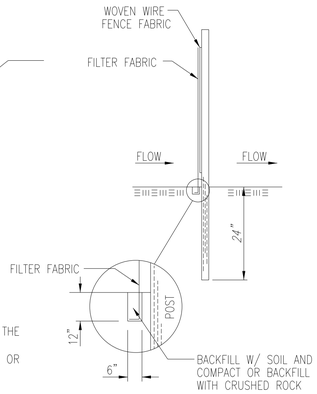


ELEVATION

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% LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK DITCH GRADE (%)	SPACING CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE.
EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK.
PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSTREAM SIDE OF THE TRENCH.
PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSTREAM EDGE OF THE TRENCH.
LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED.
LAY THE EXPOSED SILT FENCE ON THE UPSTREAM SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSTREAM OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART.
ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

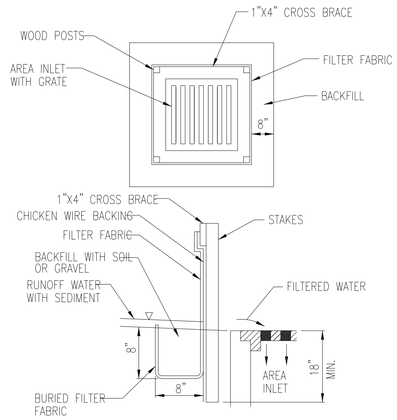
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK–NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM.
DO NOT PLACE SILT FENCE POSTS ON THE UPSTREAM SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL.
DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW.
DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW.
FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS.
DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE.
DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

INSPECTION AND MAINTENANCE:

SILT FENCE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW AROUND THE DITCH CHECK?
DOES WATER FLOW UNDER THE DITCH CHECK?
DOES THE SILT FENCE SAG EXCESSIVELY?
HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



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.

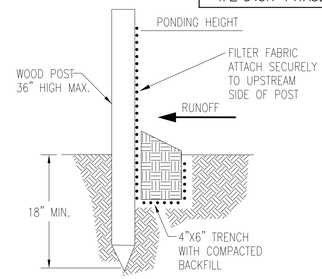
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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?

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
50 of 113

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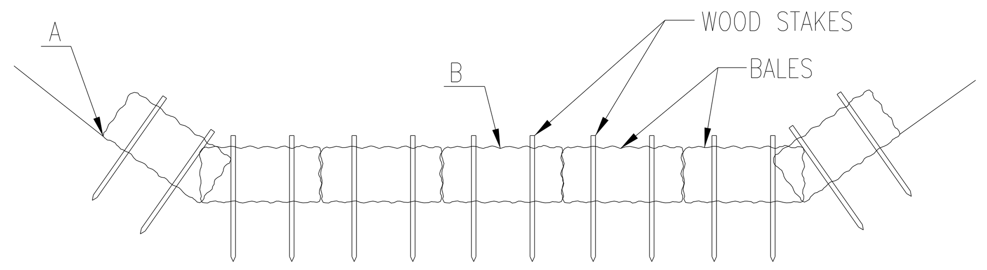
NOTE: POINT A MUST BE HIGHER THAN POINT B
SO THAT WATER FLOWS OVER THE BALES AND
NOT AROUND THEM.



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 6R LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.
THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK SPACING

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".

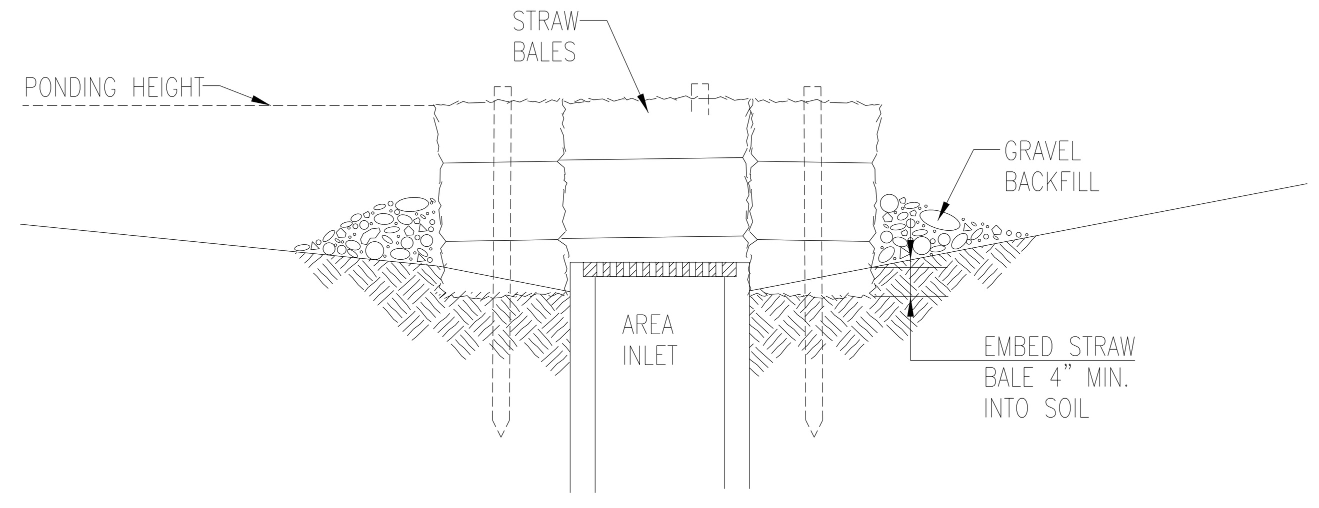
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

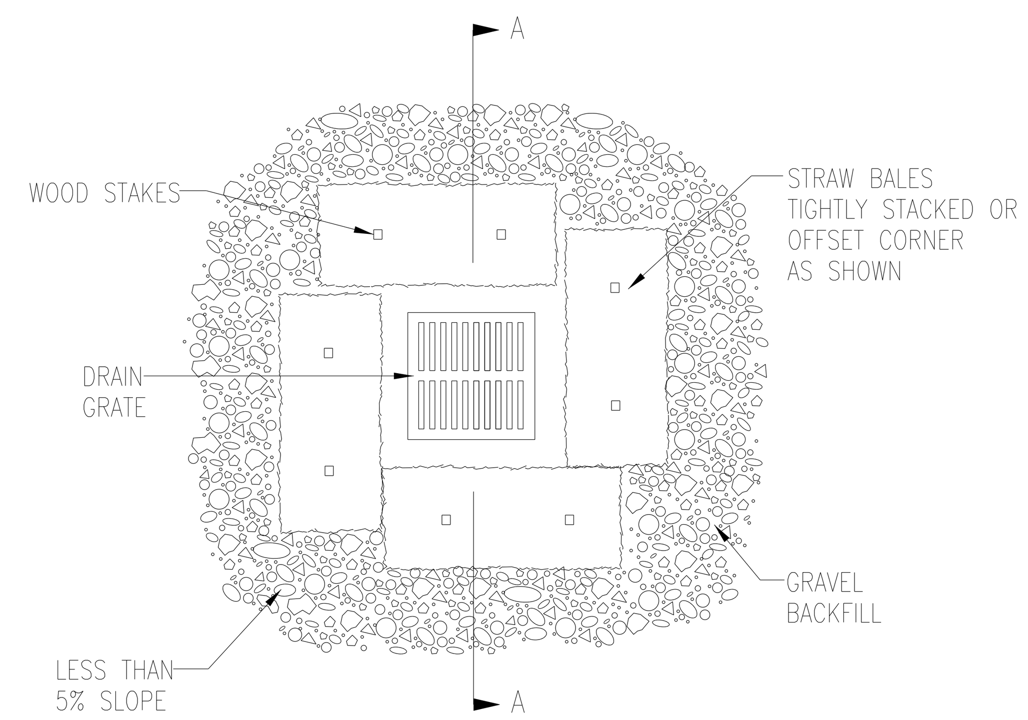
INSPECTION AND MAINTENANCE:

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.

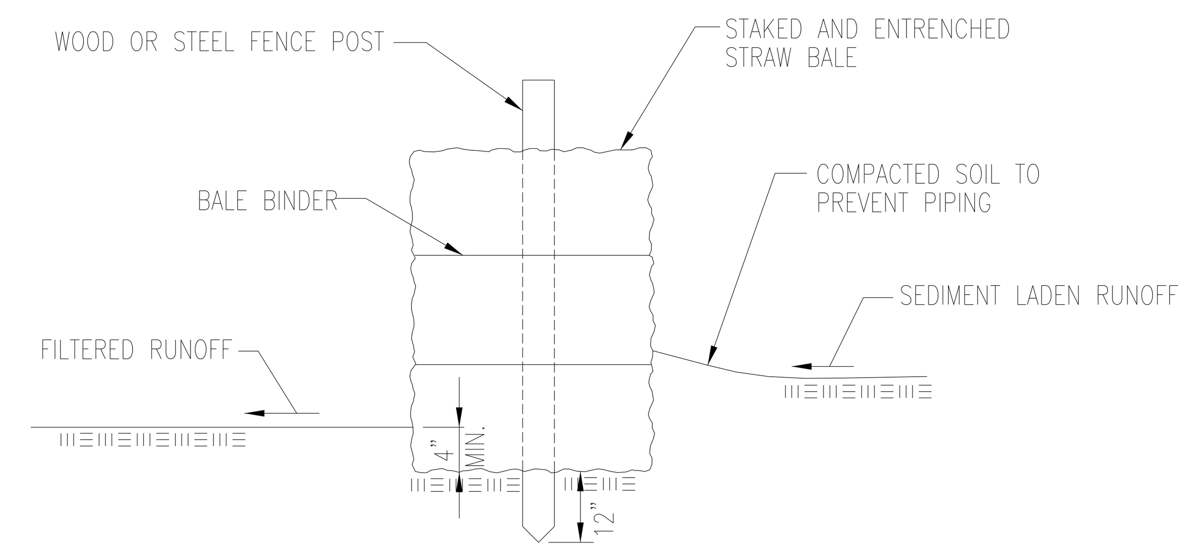
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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?

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STRAW BALE DITCH CHECK & BARRIER DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN DRAWN

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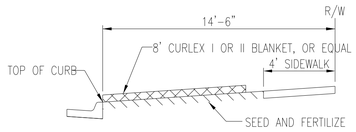
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	52	113



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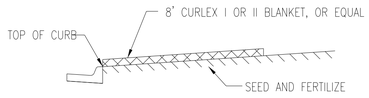

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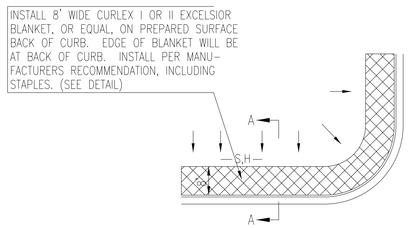
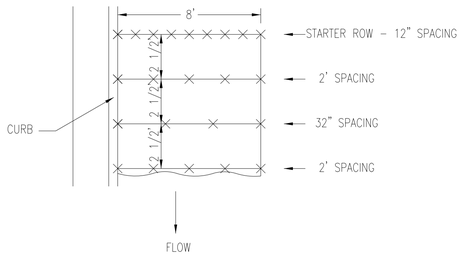


GENERAL NOTES

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



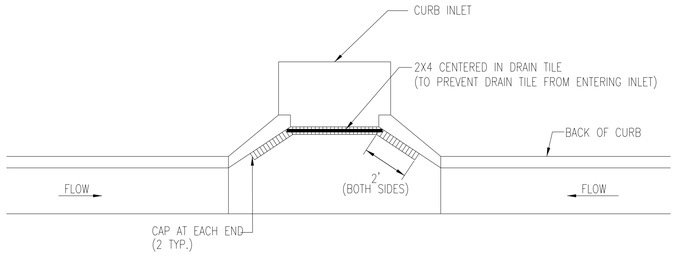
STAPLE PATTERN

NOTES: USE 6" SEAM OVERLAP

STAPLE

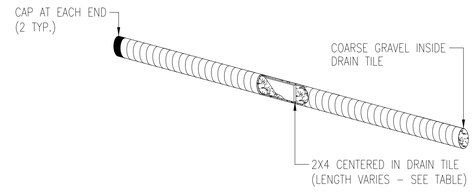
HNTB

DETAILS FOR CURLEX I OR II BLANKETS



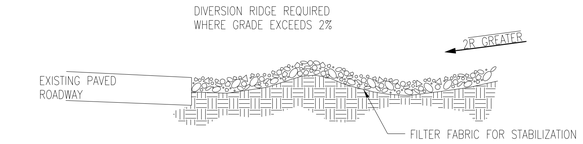
NOTE:
PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

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



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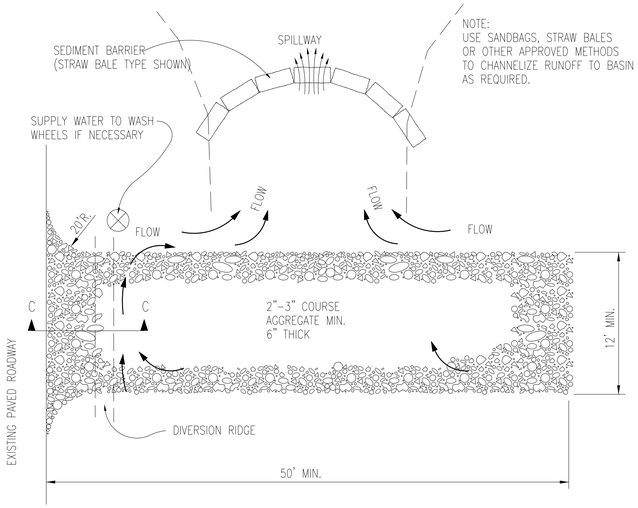

STABILIZED CONSTRUCTION ENTRANCE

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.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

BACK OF CURB PROTECTION CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
52 of 113

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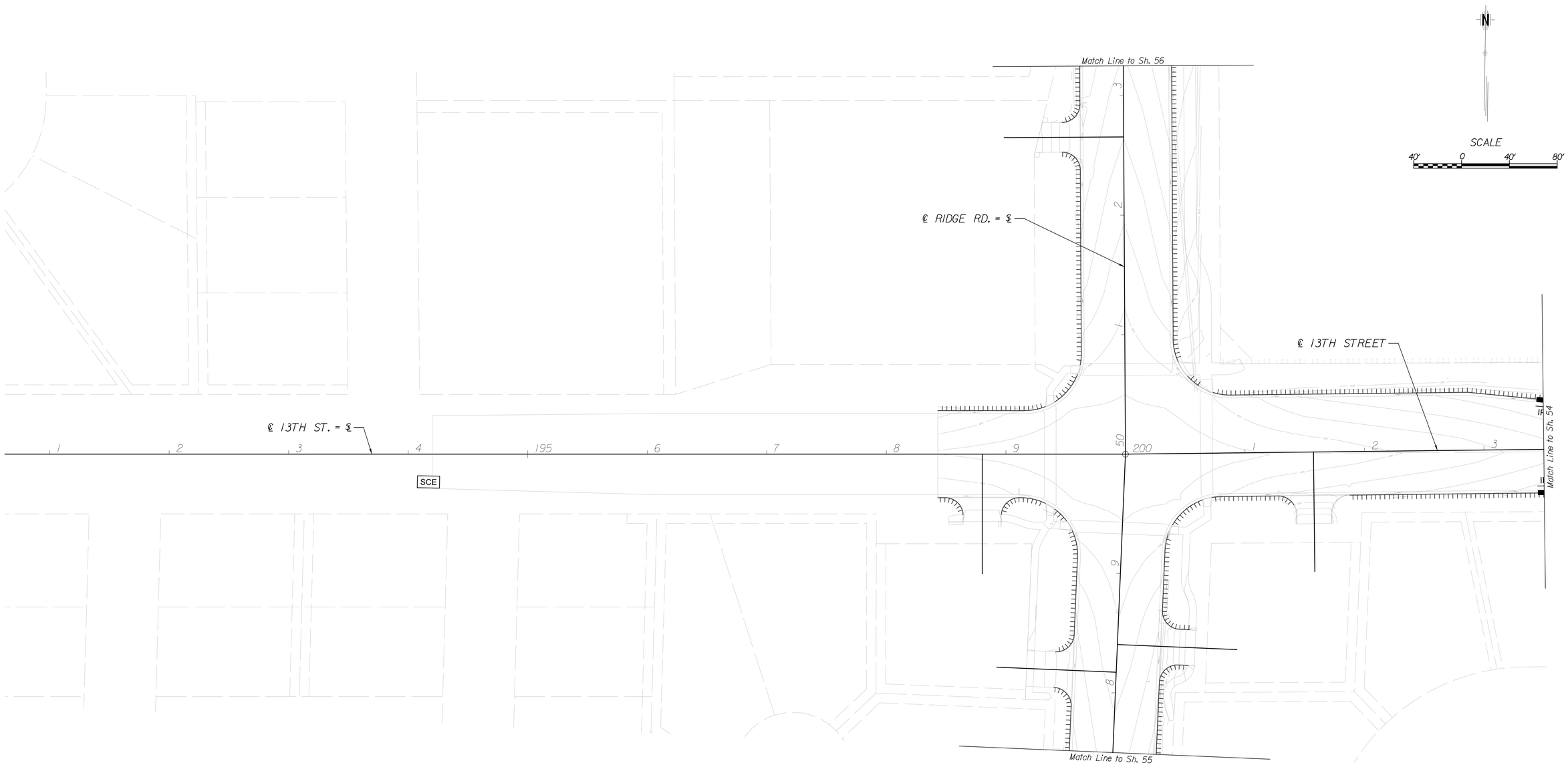
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	53	113



See Sh. No. 48 for additional notes.

Legend

- Storm Water Flume Inlet
- Storm Water Inlet
- IP — Inlet/Flume Protection
- S, H — Silt Fence or Haybale BMP
- Back of Curb Protection
- SCE — Stabilized Construction Entrance

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
SWPPP
STA. 194+20 TO STA. 203+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 53 of 113

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	54	113

Legend

- Storm Water Flume Inlet
- Storm Water Inlet
- IP — Inlet/Flume Protection
- S, H — Silt Fence or Haybale BMP
- Back of Curb Protection
- SCE — Stabilized Construction Entrance

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
SWPPP
STA. 203+50 TO STA. 206+42

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 54 of 113

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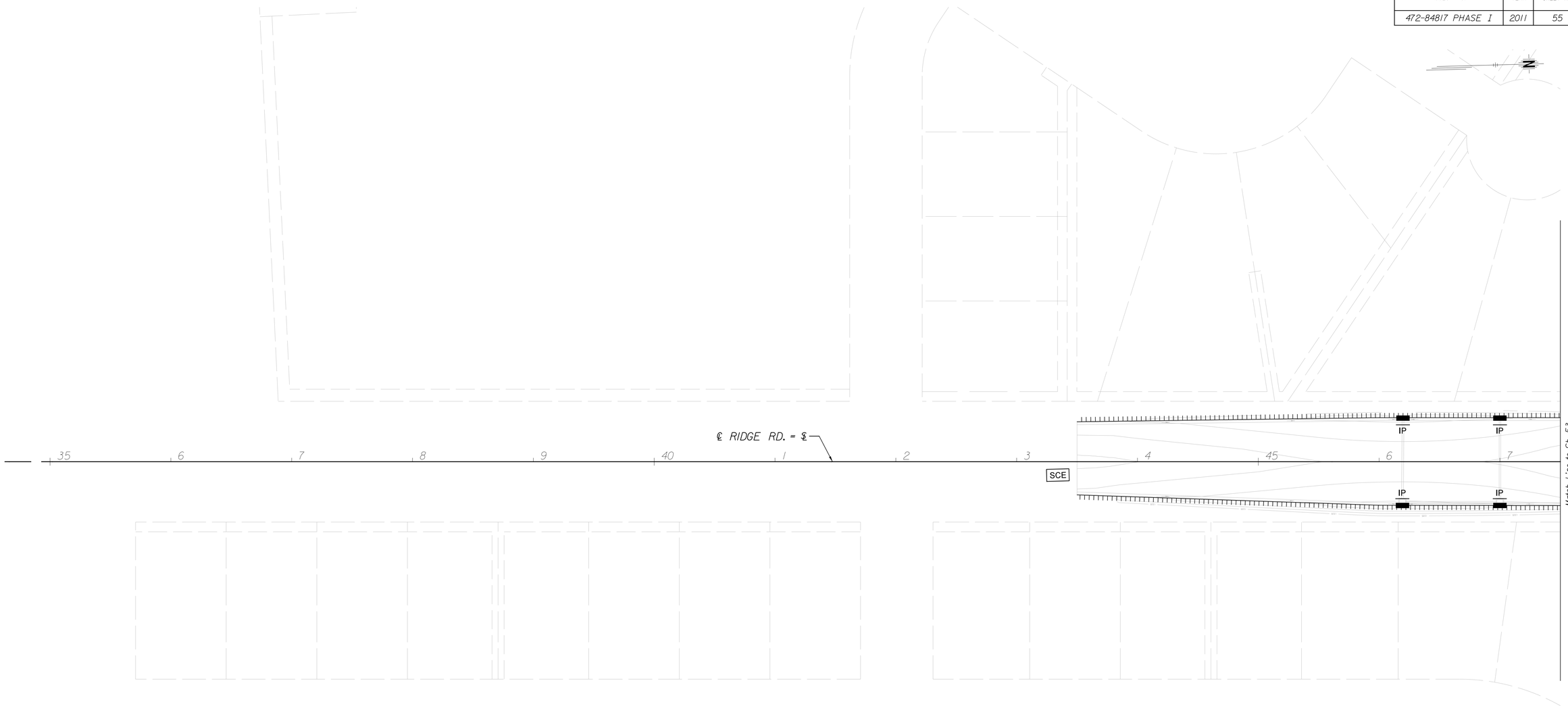
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	55	113



Legend

- Storm Water Flume Inlet
- Storm Water Inlet
- IP — Inlet/Flume Protection
- — S, H — Silt Fence or Haybale BMP
- Back of Curb Protection
- SCE — Stabilized Construction Entrance

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD
SWPPP
STA. 43+50 TO STA. 47+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	QCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 55 of 113

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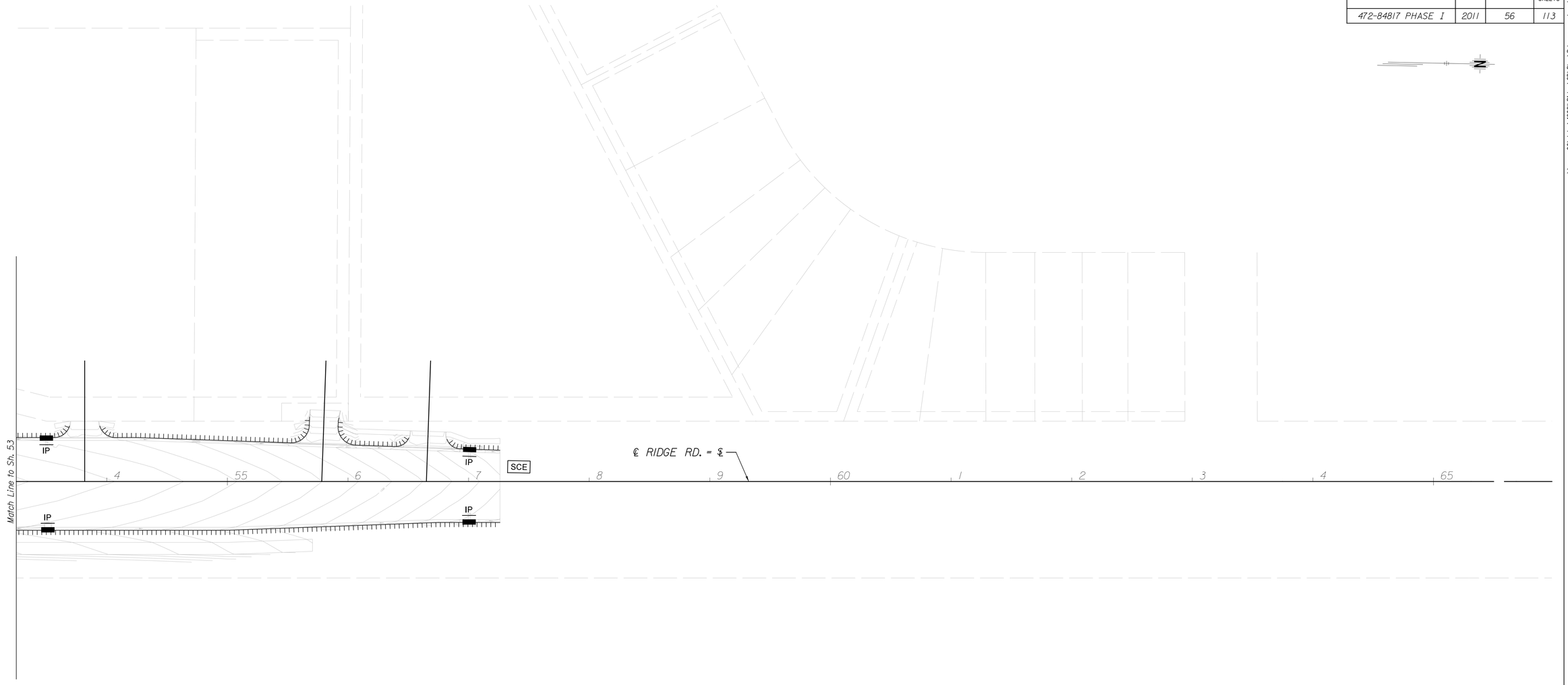
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	56	113



Legend

- Storm Water Flume Inlet
- Storm Water Inlet
- IP — Inlet/Flume Protection
- S, H — Silt Fence or Haybale BMP
- Back of Curb Protection
- SCE — Stabilized Construction Entrance

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

RIDGE ROAD
SWPPP
STA. 53+25 TO STA. 57+26

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET 56 of 113

Plotted on: Thursday September 29, 2011 04:29 PM
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	57	113

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A MINIMUM FORTY-EIGHT (48) HOURS ADVANCE NOTICE (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO BEGINNING ANY EXCAVATION, TO KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT 1-800-DIG-SAFE TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ALL EXISTING LINES WITHIN THE PROJECT AREA: K.G.S. GAS, BLACK HILLS ENERGY, WESTAR, AT&T, COX COMMUNICATIONS, CITY OF WICHITA SEWER MAINTENANCE AND CITY OF WICHITA WATER DEPARTMENT.

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

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

4. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND IMPROVEMENTS CONSTRUCTED UNDER OTHER PROJECTS AND SHALL BE RESPONSIBLE FOR REPAIR OF DAMAGE TO IMPROVEMENTS IN PLACE. COSTS FOR COORDINATION AND REPAIRS TO IMPROVEMENTS IN PLACE, IF REQUIRED, SHALL BE BORNE BY THE CONTRACTOR.

5. ALL PLANT MATERIAL SHALL BE HIGH-QUALITY NURSERY GROWN STOCK WHICH MEETS THE "AMERICAN ASSOCIATION OF NURSERYMEN" STANDARDS AS SPECIFIED BY THE "AMERICAN NATIONAL STANDARDS INSTITUTE," IN ANSI Z60.1-1986 OR AS MAY BE AMENDED IN THE FUTURE.

6. ALL PLANT MATERIAL AND TURF SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF WICHITA SPECIFICATIONS.

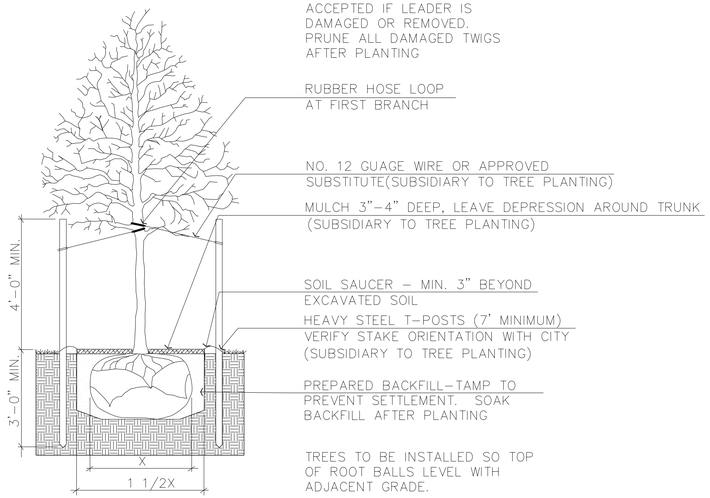
PLANT MATERIALS LIST

KEY	QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE	CONDITION
EVERGREEN TREES					
ER	1	Eastern Redcedar	Juniperus Virginiana	2.5-3" Cal	B & B

ADDITIONAL LANDSCAPE QUANTITIES

ITEM	QUANTITY	NOTES
Bermuda Sod	† 2,509 SQ. YDS.	TO BE INSTALLED FROM BACK OF CURB TO LIMITS
		OF CONSTRUCTION AT LOCATIONS SHOWN ON PLANS
Buffalo Sod	† 776 SQ. YDS.	TO BE INSTALLED FROM BACK OF CURB TO LIMITS
		OF CONSTRUCTION AT LOCATIONS SHOWN ON PLANS

† Quantity shown for information only. The contractor will be required to seed and mat or sod all non-paved areas disturbed by construction.



TREE PLANTING & STAKING DETAIL

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

LANDSCAPE DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
57 of 113

Plotted on: Tuesday September 27, 2011 09:44 AM
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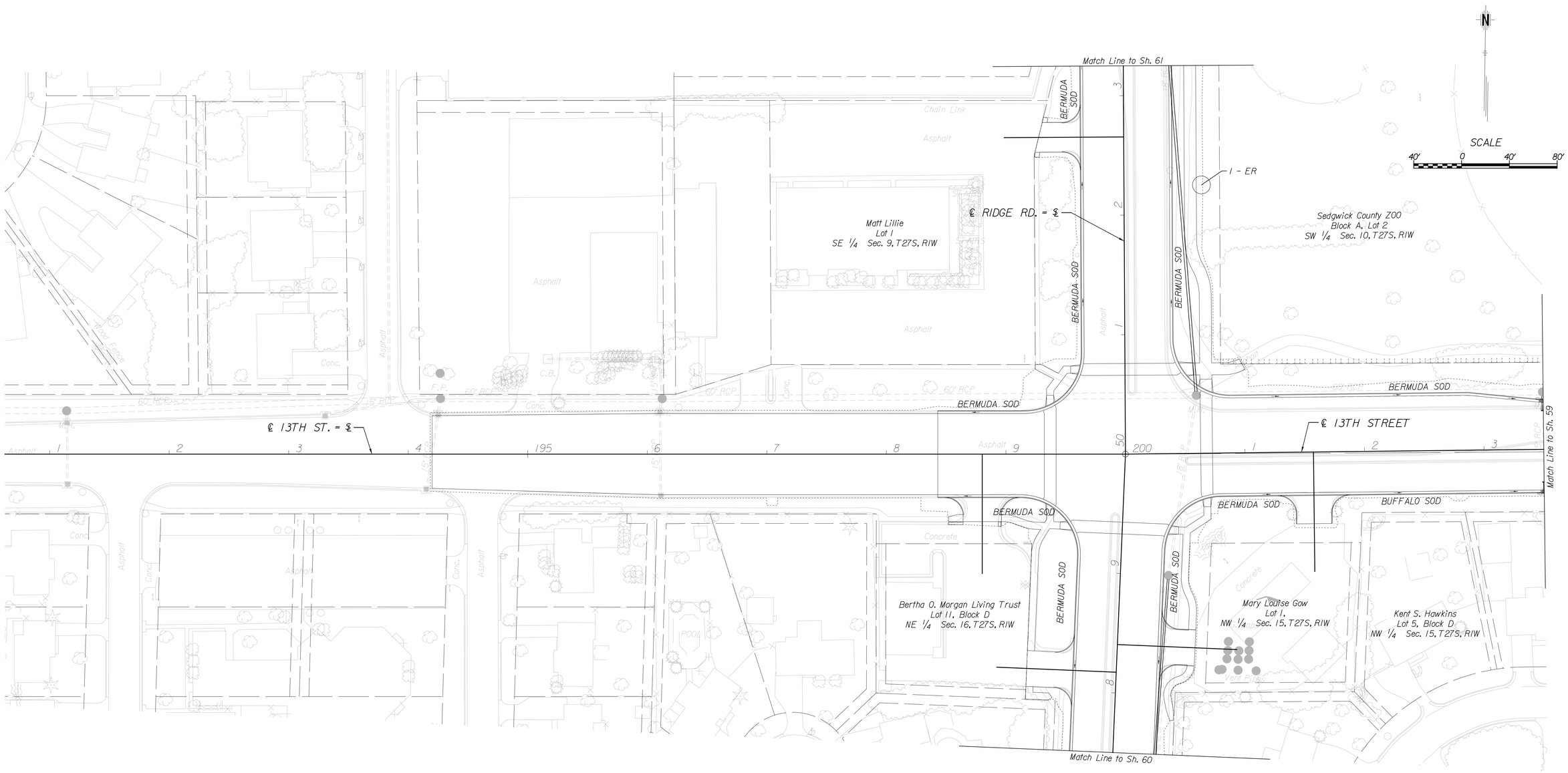
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	58	113



HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET
LANDSCAPE PLAN
STA. 194+20 TO STA. 203+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
58 of 113

Plotted on: Tuesday September 27, 2011 09:44 AM
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	59	113

BASEBALL FIELD

BASEBALL FIELD

C.B.

Sedgwick County ZOO
Block A, Lot 2
SW 1/4 Sec. 10, T27S, R1W

Wood Fence

Chain Link Fence

R.R. Tie Retaining Wall

60" RCP

60" RCP

BERMUDA SOD

℄ 13TH STREET

Match Line to Sh. 58

4 205 6 7 8 9 210 1 2 3 4 215

BUFFALO SOD

5' RCP

M.H.

5' RCP

M.H.

Robert W. Guthrie, Etux
Lot 3 & 4, Block D
NW 1/4 Sec. 15, T27S, R1W

Virginia M. Winter
Lot 1 & 2, Block D
NW 1/4 Sec. 15, T27S, R1W

Split Rail Fence

Wood Posts (No Cable)

Brick Column/ Wrought Iron

HNTB

CITY OF WICHITA

PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET
LANDSCAPE PLAN
STA. 203+50 TO STA. 206+42

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

DESIGN	DRAWN

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

SHEET
59 of 113

\\ovpw00\Jobs\48098\Ridge\CD\Plan\Rdg_lscape-plan.dgn

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	60	113

Samual S. Jossie, Etal
Lot 4, Block D
NE 1/4 Sec. 16, T27S, RIW

Diane P. Brown
Lot 6, Block D
NE 1/4 Sec. 16, T27S, RIW

Kevin D. Hazelwood, Etux
Lot 7, Block D
NE 1/4 Sec. 16, T27S, RIW

Joyce A. Brooks, Etal
Lot 9, Block D
NE 1/4 Sec. 16, T27S, RIW

Jesse P. Hilton
Lot 10, Block D
NE 1/4 Sec. 16, T27S, RIW

℄ RIDGE RD. = ℄

35 6 7 8 9 40 1 2 3 4 45 6 7

BUFFALO SOD

Asphalt

Match Line to Sh. 58

Donald L. Burrell &
Mary M. Burrell, Etal
Lot 12, Block D
NW 1/4 Sec. 15, T27S, RIW

Mindy S. Meggers
Lot 11, Block D
NW 1/4 Sec. 15, T27S, RIW

Stephanie L. Loreff
Lot 11, Block D
NW 1/4 Sec. 15, T27S, RIW

Robert Melvin Alley, Etux
Lot 9, Block D
NW 1/4 Sec. 15, T27S, RIW

Cynthia A. Miller
Lot 8, Block D
NW 1/4 Sec. 15, T27S, RIW

Jorge A. LuJan
Lot 7, Block D
NW 1/4 Sec. 15, T27S, RIW

Robert E. Brown Revocable Trust
Lot 6, Block D
NW 1/4 Sec. 15, T27S, RIW

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD LANDSCAPE PLAN STA. 43+50 TO STA. 47+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
60 of 113

Plotted on: Tuesday September 27, 2011 09:44 AM
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	61	113

Cheer Eclipse, L.L.C.
Part of Lot 1, Block 1
SE 1/4 Sec. 9, T27S, R1W

D & M Enterprises of Wichita, L.L.C.
Lot 1, Block A
SE 1/4 Sec. 9, T27S, R1W

Linda Winter
Lot 1, Block 1
SE 1/4 Sec. 9, T27S, R1W

Asphalt

BERMUDA SOD

BERMUDA SOD

BERMUDA SOD

BERMUDA SOD

BERMUDA SOD

BERMUDA SOD

18" RCP

℄ RIDGE RD. - ℄

4 55 6 7 8 9 60 1 2 3 4 65

Match Line to Sh. 58

CONC.

SOCCER FIELD

GOAL

BASEBA

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

RIDGE ROAD
LANDSCAPE PLAN
STA. 53+25 TO STA. 57+26

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
61 of 113

\\ovpw00\Jobs\48098\Ridge\CD\Plan\Rdg_lscape-plan.dgn

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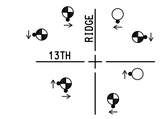
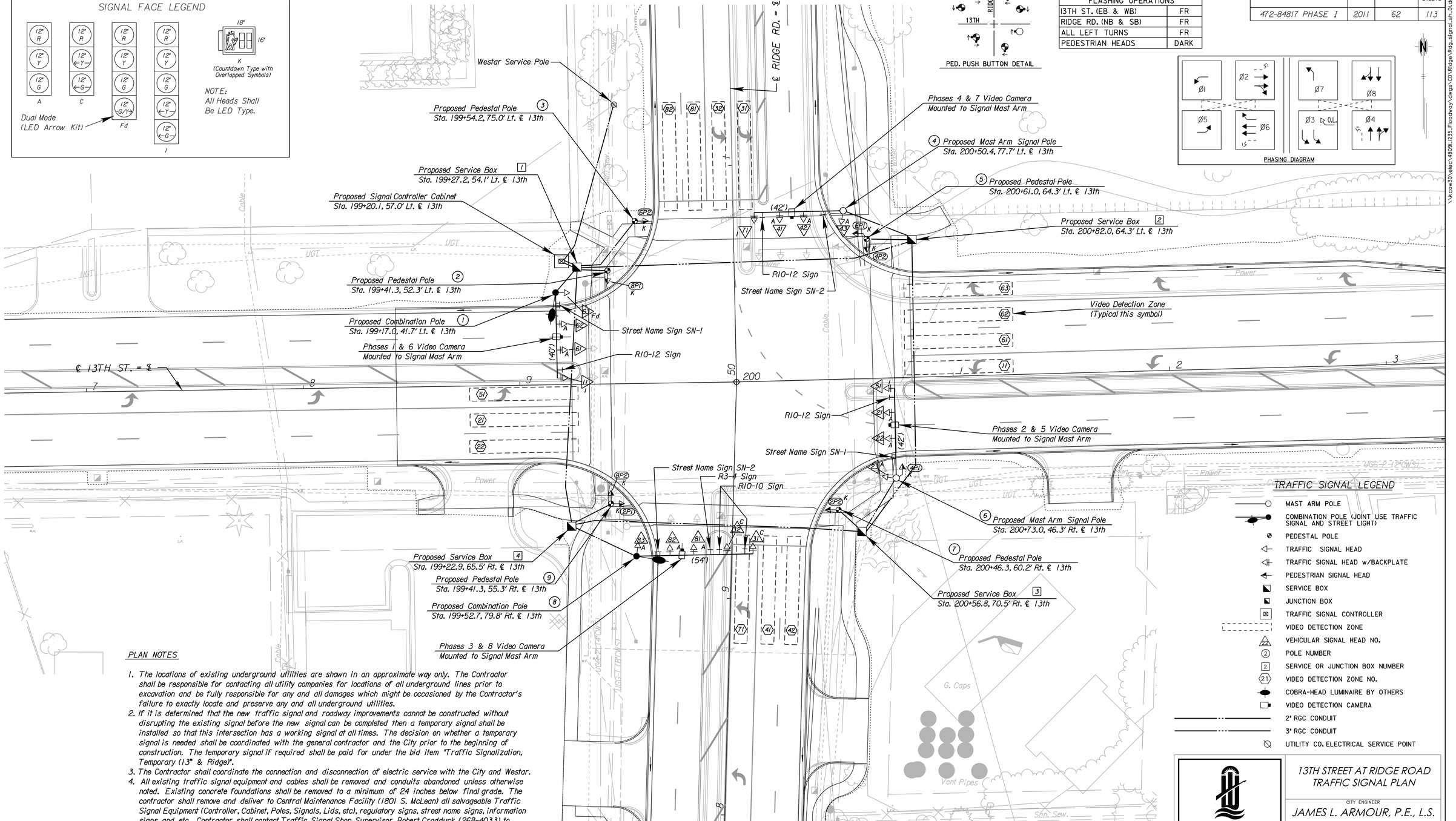
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	62	113

FLASHING OPERATIONS	
13TH ST. (EB & WB)	FR
RIDGE RD. (NB & SB)	FR
ALL LEFT TURNS	FR
PEDESTRIAN HEADS	DARK

SIGNAL FACE LEGEND



PED. PUSH BUTTON DETAIL



TRAFFIC SIGNAL LEGEND

- MAST ARM POLE
- COMBINATION POLE (JOINT USE TRAFFIC SIGNAL AND STREET LIGHT)
- PEDESTAL POLE
- TRAFFIC SIGNAL HEAD
- TRAFFIC SIGNAL HEAD w/BACKPLATE
- PEDESTRIAN SIGNAL HEAD
- SERVICE BOX
- JUNCTION BOX
- TRAFFIC SIGNAL CONTROLLER
- VIDEO DETECTION ZONE
- VEHICULAR SIGNAL HEAD NO.
- POLE NUMBER
- SERVICE OR JUNCTION BOX NUMBER
- VIDEO DETECTION ZONE NO.
- COBRA-HEAD LUMINAIRE BY OTHERS
- VIDEO DETECTION CAMERA
- 2" RGC CONDUIT
- 3" RGC CONDUIT
- UTILITY CO. ELECTRICAL SERVICE POINT

PLAN NOTES

1. The locations of existing underground utilities are shown in an approximate way only. The Contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages which might be occasioned by the Contractor's failure to exactly locate and preserve any and all underground utilities.
2. If it is determined that the new traffic signal and roadway improvements cannot be constructed without disrupting the existing signal before the new signal can be completed then a temporary signal shall be installed so that this intersection has a working signal at all times. The decision on whether a temporary signal is needed shall be coordinated with the general contractor and the City prior to the beginning of construction. The temporary signal if required shall be paid for under the bid item "Traffic Signalization, Temporary (13" & Ridge)".
3. The Contractor shall coordinate the connection and disconnection of electric service with the City and Westar.
4. All existing traffic signal equipment and cables shall be removed and conduits abandoned unless otherwise noted. Existing concrete foundations shall be removed to a minimum of 24 inches below final grade. The contractor shall remove and deliver to Central Maintenance Facility (1801 S. McLean) all salvageable Traffic Signal Equipment (Controller, Cabinet, Poles, Signals, Lids, etc), regulatory signs, street name signs, information signs, and etc. Contractor shall contact Traffic Signal Shop Supervisor, Robert Cradduck (268-4033) to coordinate delivery. Cost of loading and transporting shall be Subsidiary to the bid item "Transportation of Salvageable Material" (Non-participating).
5. Video detection zones shown for information only. Exact locations of the zones shall be done in the field as directed by the City.
6. Construction and materials shall meet the latest edition of the City of Wichita Standards and Specifications.
7. Signal timing by the City of Wichita.

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD
TRAFFIC SIGNAL PLAN

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN DRAWN

SHEET
62 of 113

Plotted on: Thursday, November 03, 2011 14:42
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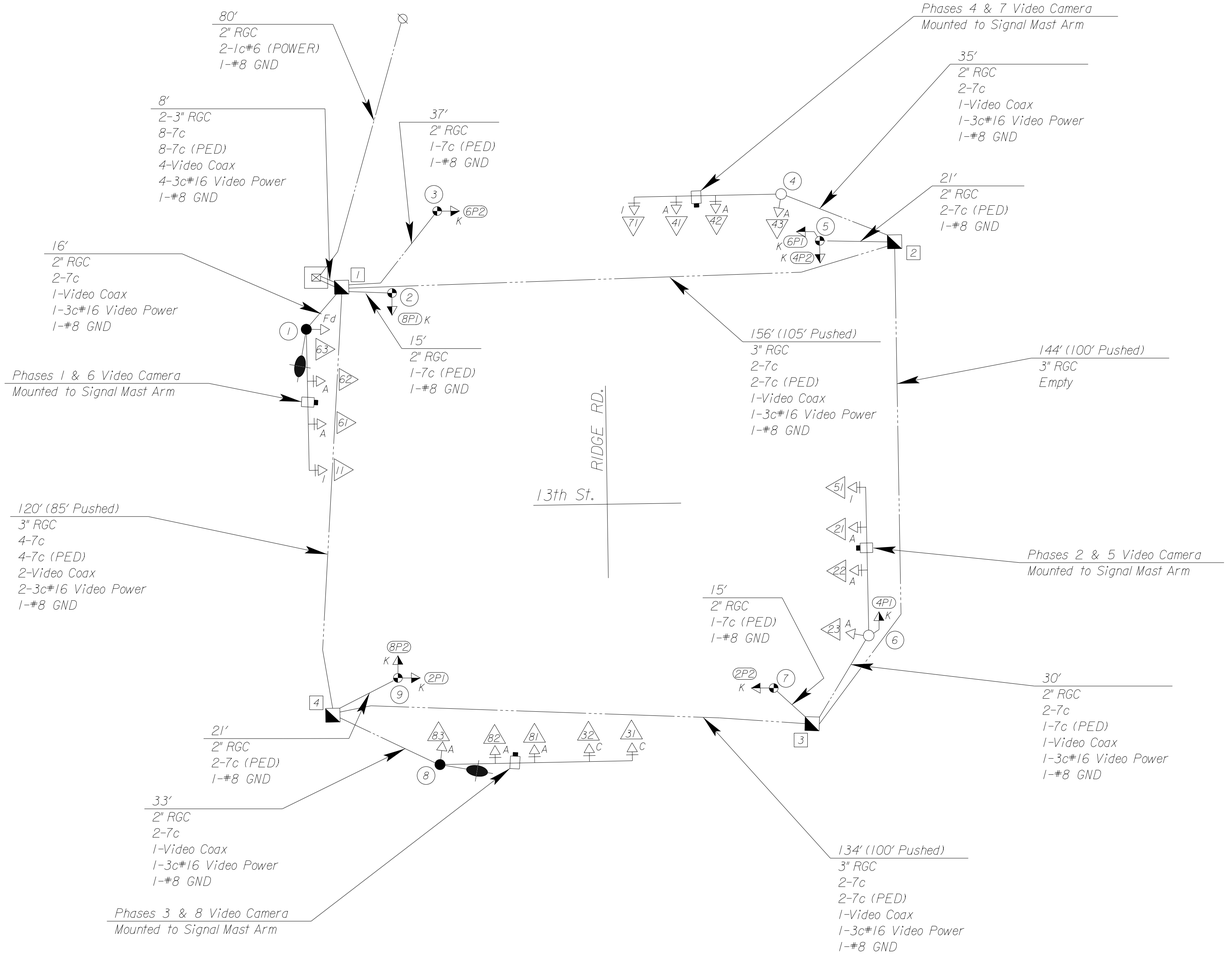
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	63	113



NOTES
1. Lengths given are to the centerline of pole/box and do not include lengths for elbows and risers.
2. See City of Wichita Standard Specifications for additional wiring notes.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD TRAFFIC SIGNAL WIRING

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
63 of 113

Plotted on: Monday, September 26, 2011 08:35
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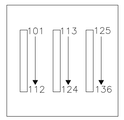
LOOP NUMBER	FILE LOCATION	TERMINAL NUMBER
11 (VIDEO)	I 1	DE
–	I 1	JK
–	I 2	DE
–	I 2	JK
21,22 (VIDEO)	I 3	DE
	I 3	JK
–	I 4	DE
–	I 4	JK
31,32 (VIDEO)	I 5	DE
–	I 5	JK
–	I 6	DE
–	I 6	JK
41,42 (VIDEO)	I 7	DE
–	I 7	JK
–	I 8	DE
–	I 8	JK
–	I 9	DE
–	I 9	JK
–	I 10	DE
–	I 10	JK
–	I 11	DE
–	I 11	JK
PBø2	I 12	DE
PBø4	I 12	JK
PBø6	I 13	DE
PBø8	I 13	JK
–	I 14	DE
–	I 14	JK

LOOP NUMBER	FILE LOCATION	TERMINAL NUMBER
51 (VIDEO)	J 1	DE
–	J 1	JK
–	J 2	DE
–	J 2	JK
61,62 (VIDEO)	J 3	DE
63 (VIDEO)	J 3	JK
–	J 4	DE
–	J 4	JK
71 (VIDEO)	J 5	DE
–	J 5	JK
–	J 6	DE
–	J 6	JK
81,82 (VIDEO)	J 7	DE
–	J 7	JK
–	J 8	DE
–	J 8	JK
–	J 9	DE
–	J 9	JK
–	J 10	DE
–	J 10	JK
–	J 11	DE
–	J 11	JK
–	J 12	DE
–	J 12	JK
–	J 13	DE
–	J 13	JK
–	J 14	DE
–	J 14	JK

DETECTOR WIRING DIAGRAM



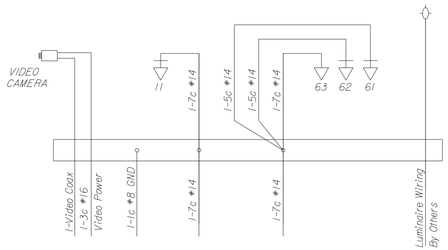
FIELD TERMINALS REAR PANEL

	FIELD TERM.	INDICATION	SIGNAL HEAD NO.
NB ø4	101	RED	41,42,43
	102	YELLOW	41,42,43
	103	GREEN	41,42,43
NBP ø4P	104	DONT WALK	4P1,4P2
	105		
	106	WALK	4P1,4P2
SB ø8	107	RED	81,82,83
	108	YELLOW	81,82,83
	109	GREEN	81,82,83
SBP ø8P	110	DONT WALK	8P1,8P2
	111		
	112	WALK	8P1,8P2
EBP ø2P	113	DONT WALK	2P1,2P2
	114		
	115	WALK	2P1,2P2
SBLT ø3	116	RED	31,32
	117	YELLOW	31,32,(63 NOTE 2)
	118	GREEN	31,32,(63 NOTE 2)
WBP ø6P	119	DONT WALK	6P1,6P2
	120		
	121	WALK	6P1,6P2
NBLT ø7	122	RED	71
	123	YELLOW	71
	124	GREEN	71
WBLT ø1	125	RED	11
	126	YELLOW	11
	127	GREEN	11
DB ø2	128	RED	21,22,23
	129	YELLOW	21,22,23
	130	GREEN	21,22,23
DBLT ø5	131	RED	51
	132	YELLOW	51
	133	GREEN	51
WB ø6	134	RED	61,62,(63 NOTE 2)
	135	YELLOW	61,62,(63 NOTE 2)
	136	GREEN	61,62,(63 NOTE 2)

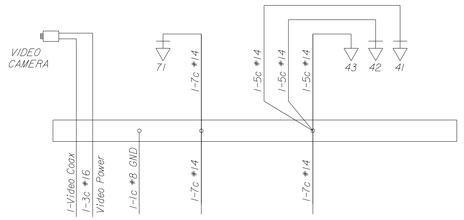
NOTES:

1. WIRING IDENTIFICATION SHALL BE AS SHOWN IN THE SPECIFICATIONS.
2. FOR 'Fd' SIGNAL HEAD #63 CONNECT RED, YELLOW, AND GREEN BALL SECTIONS TO FIELD TERMINALS 134, 135, AND 136 RESPECTIVELY AND THE RIGHT YELLOW ARROW AND GREEN ARROW TO FIELD TERMINALS 117 AND 118.

SIGNAL HEAD WIRING DIAGRAM



POLE #1



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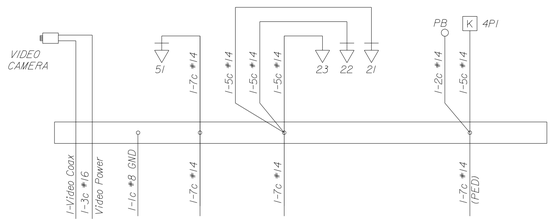

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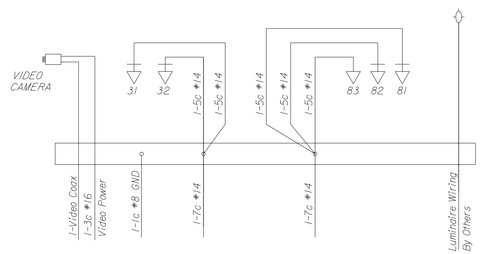
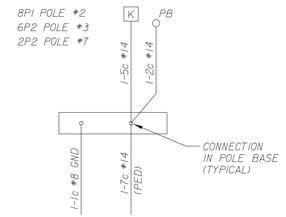
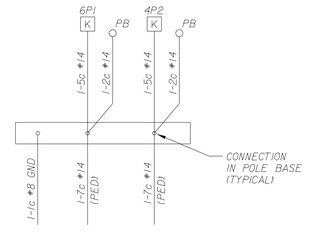


POLE #8

POLE WIRING DETAILS



POLES #2, #3 & #7



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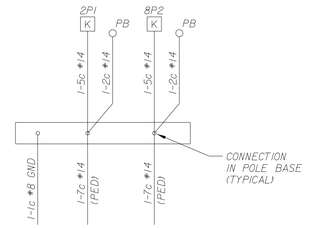

POLE #9

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	64	113

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD
TRAFFIC SIGNAL WIRING

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
64 of 113

Plotted on: Monday, September 26, 2011 08:35
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Plot Scale: 20.000000x1.000000 Pen Table: \\kcow30\elec\4809i_I235_Floodway\library\plot\tsfa_ridge.pen
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	65	113

BILL OF MATERIALS

ITEM	UNIT	QUANT.
PAD MOUNTED CABINET	EACH	1
CAMERA HOUSING	EACH	4
VIDEO DETECTION CAMERA & MOUNTING HARDWARE (RISER BRACKET)	EACH	4
VIDEO DETECTION PROCESSOR UNIT	EACH	1
VIDEO MONITOR	EACH	1
2070 CONTROLLER	EACH	CITY
TRAFFIC SIGNAL POLE (SEE CHART B) STEEL	EACH	4
PEDESTAL POLE ASSEMBLY	EACH	5
CONCRETE CONTROLLER PAD	EACH	1
CONCRETE FOOTING - SIGNAL POLE	EACH	4
CONCRETE FOOTING - PEDESTAL POLE	EACH	5
CONDUIT ELBOW 90	EACH	AS REQ'D
CONDUIT ELBOW 90 3"	EACH	AS REQ'D
SERVICE BOX	EACH	4
GROUND ROD & CLAMP	EACH	11
TRAFFIC SIGNAL HEAD (SEE CHART A) W/ MOUNTING HARDWARE	EACH	17
PEDESTRIAN SIGNAL HEAD (SEE CHART A) W/ MOUNTING HARDWARE	EACH	8
BACK PLATE 5" - 3 SECTION	EACH	10
BACK PLATE 5" - 5 SECTION	EACH	3
TRAFFIC SIGNAL LAMP RED LED KIT	EACH	17
TRAFFIC SIGNAL LAMP YELLOW LED KIT	EACH	15
TRAFFIC SIGNAL LAMP GREEN LED KIT	EACH	15
TRAFFIC SIGNAL LAMP GREEN ARROW LED KIT	EACH	5
TRAFFIC SIGNAL LAMP YELLOW ARROW LED KIT	EACH	5
TRAFFIC SIGNAL LAMP DUAL MODE GREEN/YELLOW ARROW LED KIT	EACH	1
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	8
ENTRANCE HEAD	EACH	1
CIRCUIT BREAKER & NEMA 3R BOX	EACH	1
WIRE NO. 6 A.W.G. 1/c (POWER)	LIN. FT.	220
STANDARD 1/C #8 (GROUND)	LIN. FT.	775
MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 2/C	LIN. FT.	45
MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 5/C	LIN. FT.	675
MULTI-CONDUCTOR CABLE NO. 14 A.W.G. 7/C	LIN. FT.	3000
MULTI-CONDUCTOR CABLE NO. 16 A.W.G. 3/C (VIDEO POWER)	LIN. FT.	1050
VIDEO CABLE 75 OHM COAXIAL (BELDON 8281) (VIDEO COAX)	LIN. FT.	1050
CONDUIT 2" RGC	LIN. FT.	318
CONDUIT 3" RGC	LIN. FT.	571
STREET NAME SIGNS W/ MOUNTING HARDWARE (D-3)	EACH	4
"LEFT TURN YIELD ON GREEN" SIGN W/ MOUNTING HARDWARE (R10-12)	EACH	3
"LEFT TURN SIGNAL" SIGN W/ MOUNTING HARDWARE (R10-10)	EACH	2
NO U-TURN SYMBOL SIGN W/ MOUNTING HARDWARE (R3-4)	EACH	1

CHART 'A' - SIGNAL SUMMARY

NO. WAYS	NO. SECTIONS (Per Face)	SIGNAL FACE ARRANGEMENT	MOUNTING TYPE	QTY
1	3	A	TYPE I	8
1	3	C	TYPE I	2
1	5	I	TYPE I	3
1	3	A	TYPE III	3
1	4	Fd	TYPE III	1
1	1	K (SYMB)	TYPE III	6
2	1	K (SYMB)	TYPE II	2

* Subscript "p" indicates programmed signals.
Subscript "d" indicates dual-mode green/yellow arrow section.

CHART 'B' - TRAFFIC SIGNAL POLES

STATION	DIST.	SIDE	ARM LENGTH	NO. OF SIGNALS ON ARM	SIGNAL SPACING	TYPE
Sta. 199+17.0	41.7'	Lt.	40.0'	3	13.5'-12.0'-13.0'	JU
Sta. 200+50.4	77.7'	Lt.	42.0'	3	17.5'-11.0'-11.5'	STD
Sta. 200+73.0	46.3'	Rt.	42.0'	3	17.5'-12.0'-11.0'	STD
Sta. 199+52.7	79.8'	Rt.	54.0'	4	14.5'-11.0'-15.3'-12.0'	JU

CHART 'C' - CONDUIT

CONDUIT	TRENCHED	PUSHED
2" RGC	318'	
3" RGC	181'	390'

CHART 'D' - STREET NAME SIGN SUMMARY

ID	LEGEND	TYPE	QTY	UNITS	SIZE
SN-1	Ridge Rd	D-3	2	EA	2.5' X 5.0'
SN-2	13th St	D-3	2	EA	2.5' X 5.0'

GENERAL NOTES

1. Signal Timing by the City of Wichita. The Contractor shall be responsible for furnishing and installing the cabinet, concrete base, and for all equipment necessary for the complete and satisfactory operation of the traffic signal, whether said equipment is specifically mentioned or not. The Contractor shall install the City furnished controller.
2. Signal heads, pedestrian signals, traffic signs, etc. shall include all brackets, hardware, & other incidentals necessary for installation.
3. Quantities are for Information Only.
4. Removal of existing traffic signal equipment shall include removal of foundations, service boxes and junction boxes. See construciton traffic control reqarding removal of existing signals. Removal of the existing traffic signal equipment shall be paid under the bid item "Removal of Structures".
5. The contractor shall remove and deliver to Central Maintenance Facility (1801 S. McLean) all salvageable Traffic Signal Equipment (Controller, Cabinet, Poles, Signals, Lids, etc), regulatory signs, street name signs, information signs, and etc. Contractor shall contact Traffic Signal Shop Supervisor, Robert Cradduck (268-4033) to coordinate delivery. Cost of loading and transporting shall be Subsidiary to the bid item "Transportation of Salvageable Material" (Non-participating).

NOTE: The contractor shall supply and install all necessary materials and equipment for the complete installation and operation of the traffic signal system whether specifically mentioned or not.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD
TRAFFIC SIGNAL QUANTITIES

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 65 of 113

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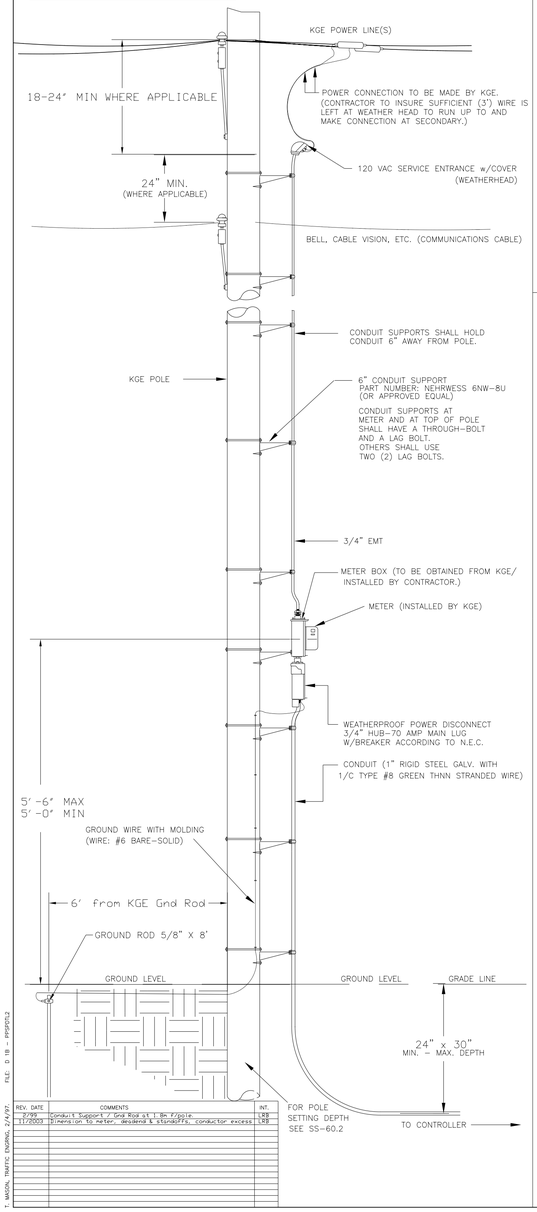
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	66	113

POWER POLE DETAILS

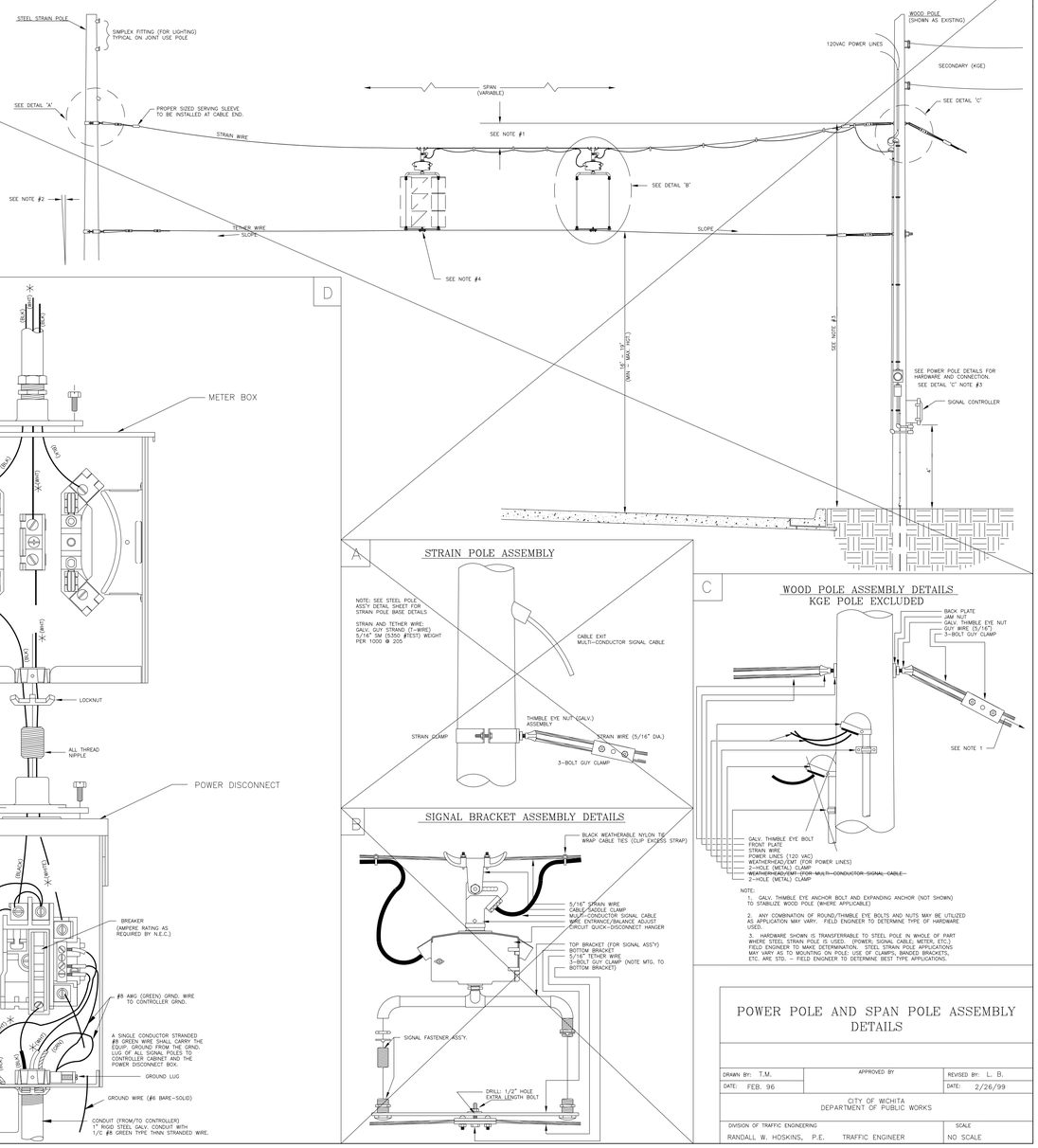


REV. DATE	COMMENTS	INT.
7/99	Conduit Support 7' Gnd Rod at 1' 8in from pole.	LRB
11/2003	2:revision to meter, deadend & standoffs, conductor excess	LRB

FILE: D-1B - PPSPD12
T. MOON, TRAFFIC ENGRG., 274-8321

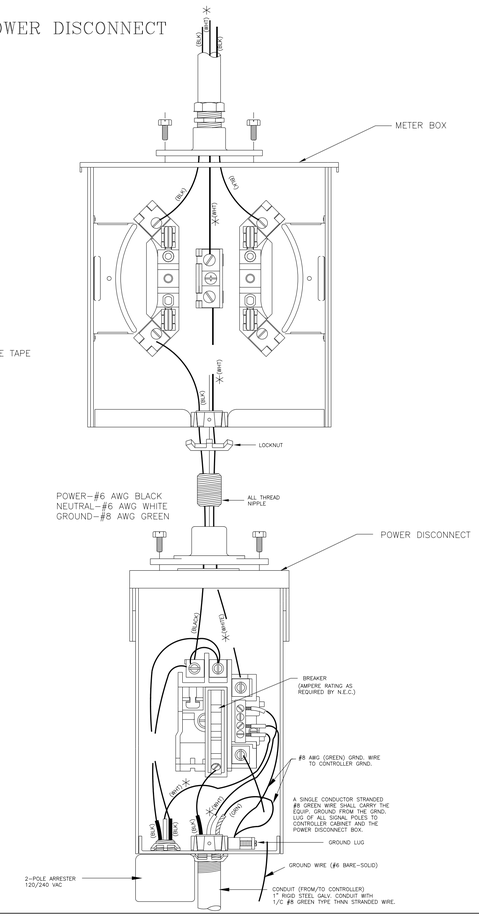
SPANWIRE ASSEMBLY DETAILS

1. MAX. SAG = 5F SPAN.
2. STANDARD BACKRAKE = 1.5"
3. HEIGHT OF STRAIN WIRE HOOK-UP TO BE DETERMINED BY FIELD ENGINEER. TRAFFIC SIGNAL CABLE TO BE SECURED TO STRAIN (SPAN) WIRE WEATHERABLE NYLON CABLE HANGERS (12" CTR.) DETAIL 'B'
4. TETHER CLAMP TO BE DESIGNED TO RELEASE UNDER 'HIGH WIND LOAD' TO PERMINT SIGNAL 'FREE SWING'.



METER BOX & POWER DISCONNECT DETAILS

D



NOTE:

* TO BE MARKED WITH WHITE TAPE

A

STRAIN POLE ASSEMBLY

SIGNAL BRACKET ASSEMBLY DETAILS

C

WOOD POLE ASSEMBLY DETAILS
KGE POLE EXCLUDED

NOTE:

1. GALV. THIMBLE EYE ANCHOR BOLT AND EXPANDING ANCHOR (NOT SHOWN) TO STABILIZE WOOD POLE (WHERE APPLICABLE)

2. ANY COMBINATION OF ROUND/THIMBLE EYE BOLTS AND NUTS MAY BE UTILIZED AS APPLICATION MAY VARY. FIELD ENGINEER TO DETERMINE TYPE OF HARDWARE USED.

3. HARDWARE SHOWN IS TRANSFERRABLE TO STEEL POLE IN WHOLE OF PART WHERE STEEL STRAIN POLE IS USED. (POWER, SIGNAL CABLE, METER, ETC.) FIELD ENGINEER TO MAKE DETERMINATION. STEEL STRAIN POLE APPLICATIONS MAY VARY AS TO MOUNTING ON POLE: USE OF CLAMPS, BANDED BRACKETS, ETC. ARE STD. - FIELD ENGINEER TO DETERMINE BEST TYPE APPLICATIONS.

POWER POLE AND SPAN POLE ASSEMBLY DETAILS

DRAWN BY: T.M.	APPROVED BY	REVISED BY: L. B.
DATE: FEB. 96		DATE: 2/26/99

CITY OF WICHITA
DEPARTMENT OF PUBLIC WORKS

DIVISION OF TRAFFIC ENGINEERING	SCALE
RANDALL W. HOSKINS, P.E. TRAFFIC ENGINEER	NO SCALE

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD TRAFFIC SIGNAL DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
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DESIGN	DRAWN

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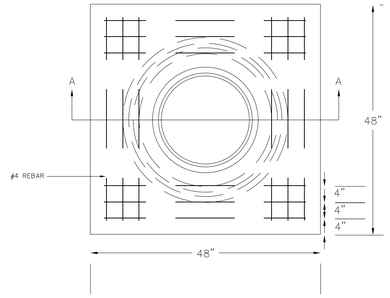
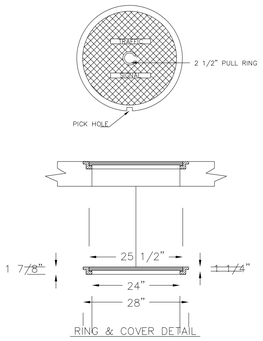
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	67	113

SERVICE BOX CONSTRUCTION/INSTALLATION DETAILS

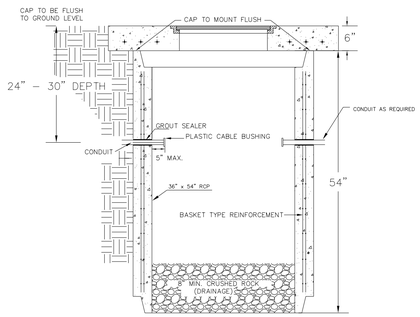


PRE-CAST CONCRETE SERVICE BOX

(36" I.D. X 54" RCP) with 6" CAP

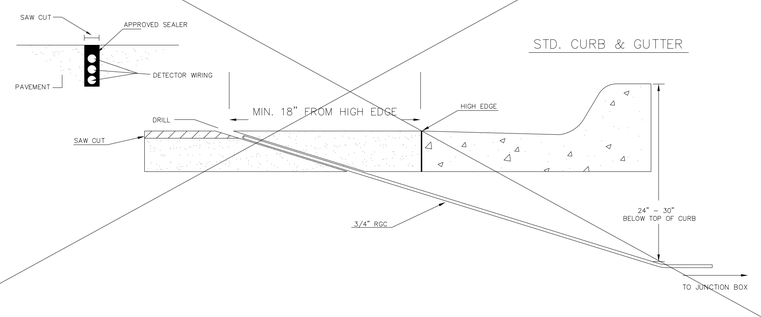


RING & COVER DETAIL

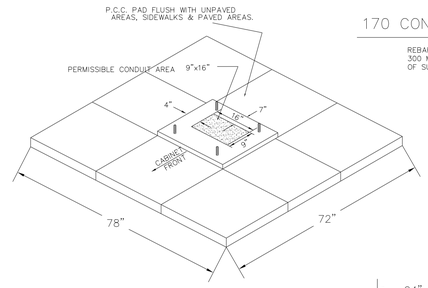


SECTION A-A

CONDUIT/DETECTOR WIRE INSTALLATION DETAILS

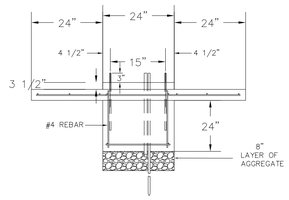


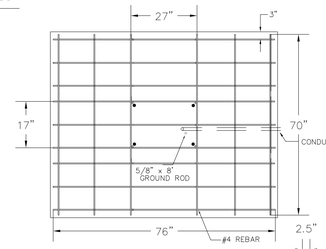
STD. CURB & GUTTER

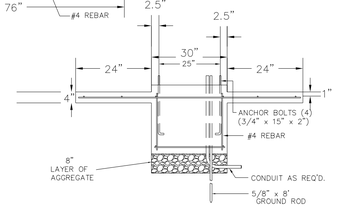


170 CONTROLLER PAD DETAILS

REBAR SHALL BE ASTM A615M GRADE 300 MEETING THE REQUIREMENTS OF SUBSECTION SPECIFICATIONS.

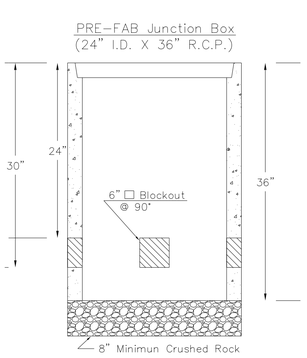




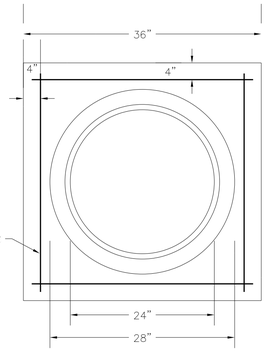


JUNCTION BOX DETAILS

PRE-FAB Junction Box (24" I.D. X 36" R.C.P.)

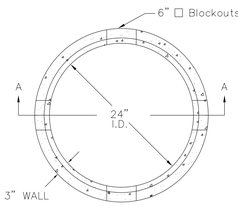


SECTION A-A



JUNCTION BOX CAP

36" x 36" x 6" TOP OF CAP TO BE FLUSH WITH GROUND LEVEL.



** SEE SERVICE BOX INSTALLATION FOR RING & COVER DETAILS.

NOTES:

SERVICE & JUNCTION BOX:

1. CONDUIT CONNECTION TO BE FLUSH TO WITHIN 5" OF INSIDE FACE OF SIDE WALL, CONDUIT TO DRAIN INTO SERVICE BOX.
2. CONDUIT CONNECTIONS TO SERVICE BOX SHALL BE TERMINATED WITH PLASTIC CABLE BUSHING.
3. CONDUIT SHALL BE SEALED WITH APPROVED SEALER AT INSIDE WALL FACE.
4. ALL SERVICE & JUNCTION BOXES TO HAVE 8" OF CRUSHED ROCK.

TRENCHING:

1. DEPTH TO BE 30" MINIMUM WITH ROCK & STUBBLE FREE BACKFILL TO SERVE AS BEDDING MATERIAL. MAINTAIN MINIMUM CONDUIT DEPTH IN TRENCH.
2. BACKFILL TO BE COMPACTED IN 6" LOOSE LIFTS BY HAND OR MECHANICAL TAMPING TO A 95% STANDARD DENSITY.

CONDUIT:

1. SLOPE CONDUIT TO DRAIN AS DIRECTED BY THE ENGINEER.
2. 3" RIGID STEEL CONDUIT BTWN. SERVICE BOXES.
   2" " " " BTWN. SERVICE BOX AND POLE.
   1 1/4" " " " BTWN. SERVICE & JUNCTION BOXES.
   3/4" " " " BTWN. JUNCTION BOXES.
   3/4" " " " BTWN. JUNCTION BOX & DETECTOR LOOP SAW CUT

REV. DATE	COMMENTS	INT

SERVICE/JUNCTION BOX, CONTROLLER PAD CONSTRUCTION/INSTALLATION DETAILS

DRAWN BY: T.M.	APPROVED BY	REVISED: A.S.
DATE: Apr. 96		DATE: Jan.2006

CITY OF WICHITA
DEPARTMENT OF PUBLIC WORKS

TRAFFIC ENGINEERING DIVISION	SCALE
PAUL D. GUNZELMAN P.E. TRAFFIC ENGINEER	NO SCALE

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD
TRAFFIC SIGNAL DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

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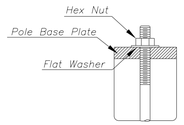
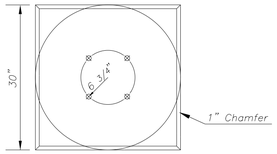
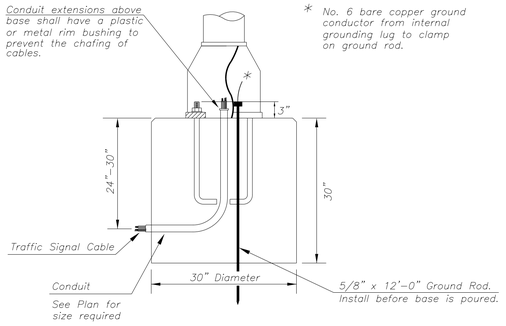
Use Keystone "No-Weld Number 1 Anti-Seize Compound" on all bolts & nuts.

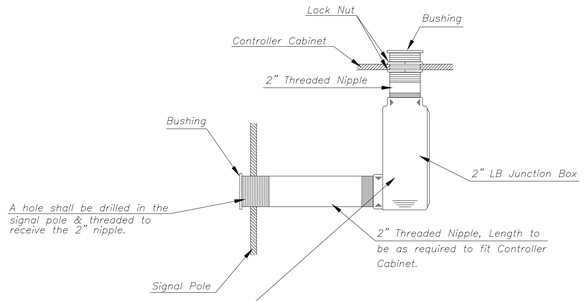


ANCHOR BOLT DETAIL

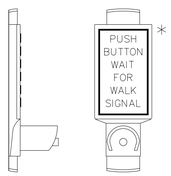




CONCRETE BASE DETAIL

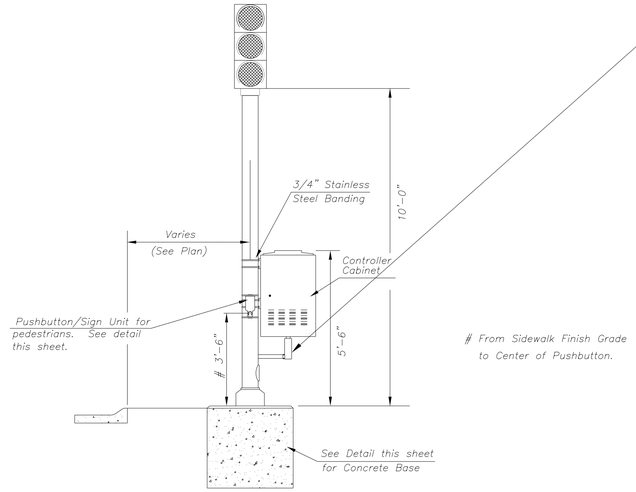


* NOTE: MESSAGE TO BE CAST WITH HOUSING (ONE PIECE)



INSTALL PEDESTRIAN PUSHBUTTON UNDERNEATH CORRESPONDING PEDESTRIAN SIGNAL HEAD ON SIDE OF POLE NEAREST CROSSWALK. UNIT SHALL BE FIRMLY ATTACHED TO THE SIDE OF POLE WITH 3/4" STEEL BANDS. SHARP ENDS SHALL BE FOLDED UNDER TO PREVENT INJURY TO PEDESTRIANS.

PEDESTRIAN PUSHBUTTON/SIGN UNIT DETAIL



From Sidewalk Finish Grade to Center of Pushbutton.

TRAFFIC SIGNAL PEDESTAL

TRAFFIC SIGNAL PEDESTAL & CONCRETE BASE DETAIL SHEET		
DRAWN BY: T.M.	SCALE	REVISED BY:
DATE: MAY 97	NO SCALE	DATE:
CITY OF WICHITA DEPARTMENT OF PUBLIC WORKS		
ENGINEERING DIVISION SCOTT LOGAN, TRAFFIC ENGINEER		

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD
TRAFFIC SIGNAL DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

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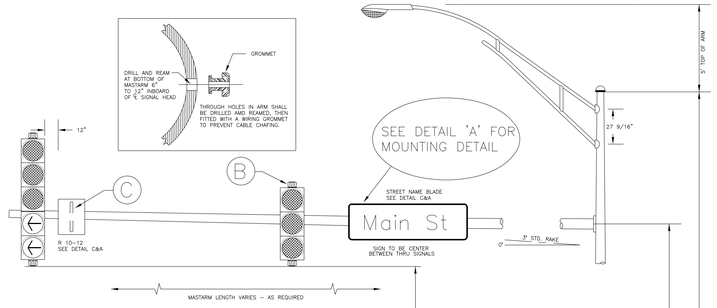
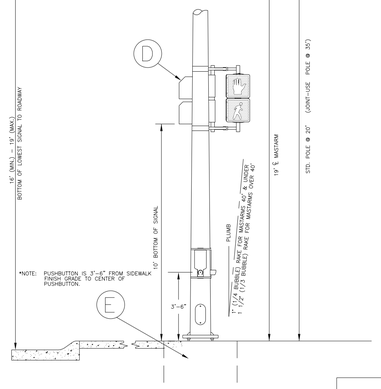
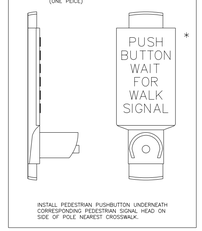
472-84817 PHASE I	2011	69	113



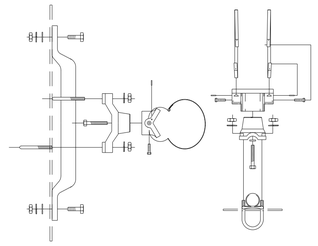


PEDESTRIAN PUSHBUTTON/SIGN UNIT DETAIL



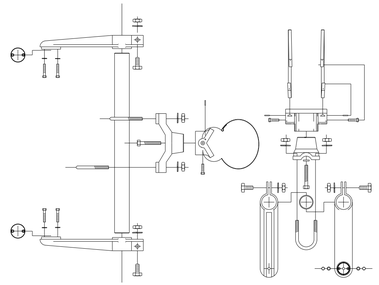
INSTALL PEDESTRIAN PUSHBUTTON UNDERNEATH CORRESPONDING PEDESTRIAN SIGNAL HEAD ON SIDE OF POLE NEAREST CROSSWALK.

BANDED SIGN MOUNTING BRACKET DETAIL



A

TYPE I SIGNAL MOUNTING BRACKET ASSEMBLY DETAIL



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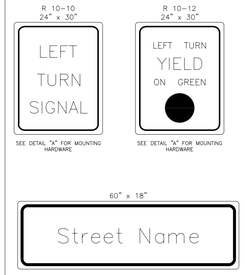
STANDARD SIGNING



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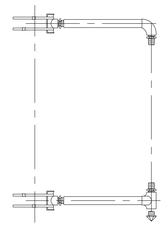
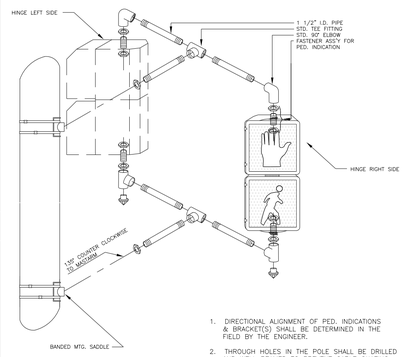
TYPE III SIDE-OF-POLE MOUNTING BRACKET ASSEMBLY



F

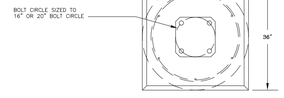
TYPE II SIGNAL MOUNTING BRACKET ASSEMBLY (SIDE-OF-POLE)

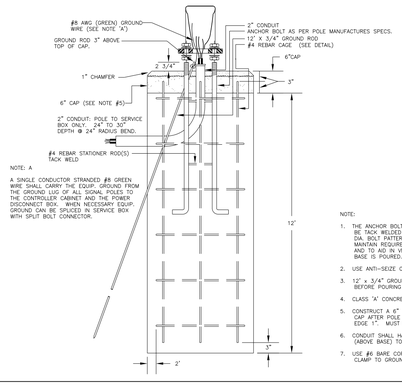


1. DIRECTIONAL ALIGNMENT OF PED. INDICATIONS & BRACKET(S) SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. THROUGH HOLES IN THE POLE SHALL BE DRILLED AND WILL REAMED TO PREVENT CABLE CHAFING.
3. HINGE PEDESTRIAN SIGNAL DOORS AWAY FROM POLE.

D

FOUNDATION DETAIL





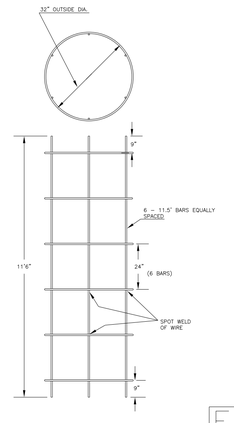
NOTE: A

A SINGLE CONDUCTOR STRANDED #8 GREEN WIRE SHALL CARRY THE EQUIP. GROUND FROM THE GROUND LUG OF ALL SIGNAL POLES TO THE GROUND BUS IN THE SERVICE BOX OR DISCONNECT BOX. WHEN NECESSARY EQUIP. GROUND CAN BE SPLICED IN SERVICE BOX WITH SPLIT BOLT CONNECTOR.

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

STEEL SIGNAL POLE ASSEMBLY DETAILS

DRAWN BY: T.M.	APPROVED BY	REVISED BY: T.M.
DATE: FEB. 96		DATE: MAY. 97

CITY OF WICHITA
DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION	SCALE
SCOTT LOGAN, TRAFFIC ENGINEER	NO SCALE

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD
TRAFFIC SIGNAL DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
69 of 113

Plotted on: Monday, September 26, 2011 08:35
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	70	113

CITY OF WICHITA, KANSAS
SPECIFICATIONS

TRAFFIC SIGNAL INSTALLATION

01. GENERAL

The contractor shall have a licensed journeyman electrician on site while traffic installation work is performed.

The contractor shall notify the appropriate power company prior to any service connection or attachment to determine the proper type and method of hook-up or installation. The cost of any initial hook-up charge shall be borne by the contractor. This shall include, but not be limited to, the cost of power supplied for all testing until the signal installation is accepted.

02. CONDUIT

All conductors shall be run between bases, junction boxes pull boxes, and services boxes in rigid conduit conforming to the provisions of Section 2 of these specifications. The size of the conduit used shall be of the size as shown on the plans.

The ends of all conduit shall be well reamed to removes burrs and rough edges. Field cuts shall be made square and true so that the ends will butt or come together for the full diameter thereof. Slip joints or running threads will not be permitted for coupling conduit. When a standard coupling cannot be used, an approved threaded union shall be used. The threads on all conduit shall be painted with a good quality of lead or rust preventative paint before couplings are made. All couplings shall be fitted and tightened until the end of the conduits are brought together. Where coating on conduit has been injured in handling, or installing, such injured places shall be thoroughly painted with rust preventative paint.

All conduit ends shall be threaded and capped with standard pipe caps until wiring is started. When caps are removed, the threaded ends shall be provided with approved conduit bushings.

Conduit bends, except factory bends, shall have a radius of not less than six (6) times the inside diameter of the conduit. Where factory bends are not used, conduit bends shall be made without crimping or flattening, using the longest radius practicable.

Conduit set in bases shall extend 2" to 3" vertically from the top of the base. A plastic or metal conduit bushing shall be installed on the end of all conduit terminating within a base. Conduit shall enter through the sides of a pull box and shall leave the major portion of the box clear. Conduit entering concrete service and junction boxes shall not extend more than 5" inside of service or junction box as measured along the longitudinal axis of the conduit. Conduit entering service boxes shall be at least 8" above the crushed rock bottom of the service hole. Conduit should be sloped to drain as directed by the Engineer. At all outlets, conduits shall enter from the direction of the run.

Wherever possible, the conduit shall be installed by trenching. Trenches shall run in straight lines between pull boxes and bases. The location of the conduit shall be as shown on the plans, except that where physical obstructions dictate, the location shall be determined by the Engineer. Conduit shall be installed to a depth of at least 24" below finish grade. This requirement may be waived by the Engineer where physical conditions or obstructions warrant.

Trenches shall be backfilled with material free of rock and compacted in lifts by hand tamping or with mechanical tampers to the density noted on the plans. If a density is not specified on the plans, trench backfill shall be compacted until, in the opinion of the Engineer, no significant future settlement will occur.

Existing underground conduit to be incorporated into a new system shall be cleaned with a mandrel and blown out with compressor air.

Conduit runs shown on the plans are for bidding purposes only, and may be changed with permission of the Engineer to avoid underground obstructions.

Conduit placed under existing pavement or sidewalk shall be installed by an approved jacking or drilling method. The existing pavement shall not be disturbed unless otherwise noted on the plans or approved by the Engineer. Excessive use of water such that the pavement might be undermined, or the subgrade softened, will not be permitted.

03. CONCRETE BASE FOR POLES AND CONTROLLER CABINET

Bases for poles and cabinets shall be reinforced concrete as detailed on the plans. The reinforcing bars shall be free of rust and dirt and shall be of the size, number and dimensions shown on the plans.

Anchor bolts shall extend uniformly above the finish grade of the concrete base a height equal to the manufacturer's recommendations (leaving at least three threads exposed when secured).

The anchor bolt sizes for the pole bases are to be standardized as follows:

1. Mast arm lengths 16' through 36'
   4 each, 1 1/2" Dia. x 54" long x 6" hook
   Bolt Circle = 16"

2. Mast arm lengths 40' through 56'
   4 each, 1 3/4" Dia. x 84" long x 6" hook
   Bolt Circle = 20"

The contractor shall design an anchor bolt assembly which shall be welded to the rebar cage and the resulting unit inserted in the form for the concrete base. The unit shall be designed and constructed such that, after insertion in the form, it can be checked for proper orientation, elevation and verticality. "Stabbing" of anchor bolts or ground rods will not be permitted.

The location of the bases shall be as shown on the plans. Any variation from the plan location shall be only with the approval of the Engineer.

Steel traffic signal pole bases shall be constructed in two pours. The initial concrete placement shall end 6" below finish grade. A 6" thick, 36" square concrete cap shall be poured when the pole has been erected, plumbed, and approved by the Engineer. The top of the base shall be slightly (15/64" to 15/32") higher than the adjacent curb and gutter, or finish grade if no curb and gutter. Aluminum pedestal bases shall be constructed in one pour as detailed on the plans.

04. WIRING

Wiring shall conform to the appropriate articles of the National Electric Code or subsequent revisions. The conductors from the terminal block in the controller to the signal base shall be a continuous run. No splices of cable will be permitted in conduit or outside of junction boxes, service boxes or pole bases unless otherwise specified in the supplemental specifications, special provisions, or on the plans for an overhead wiring system. All signal cable splices shall be made above ground in pole or pedestal bases.

When conductors and cables are pulled into the conduit, all ends shall be taped to exclude moisture, and shall be so kept until the splices are made or terminal appliances attached. Ends of spare conductors shall remain taped.

When pulling conductors through conduits, a powdered soapstone, talc or other approved lubricant shall be used. Cable shall not be taped or bundled together to be to be pulled or left in conduit.

80" of slack or excess cable, as applicable, shall be left in each service box for traffic signal cable, and detector lead-in wire.

40" of slack or excess cable shall be left in each junction box and at each termination point.

Excess cable to be uniformly bundled and secured with threaded stud, as close as possible to top of service boxes and junction boxes.

A. Splices

1. Signal conductor cable – Conductors shall be joined by twisting the conductors. Conductor insulation shall be penciled, trimmed to conical shape, before applying splice insulation. Splice insulation shall consist of layers of thermoplastic or neoprene insulation electrical tape bearing the label of the Underwriters Laboratories, Inc., applied to a thickness equal to and well lapped over the original insulation, except that on high voltage splices two layers of rubber tape conforming to the requirements at A.S.T.M. designation: D 119 shall be applied over the conductor before placing the thermoplastic tape. The splice shall then be well covered with two layers of friction or other approved tape. At least 40" of slack shall be left for each cable splice in pedestal and pole bases.

2. When terminating ends of cable at all terminal blocks an approved #14 insulated spade terminal shall be properly crimped on end of each conductor to provide a secure connection.

3. Locking spade terminals shall not be used.

B. Wiring Notes

1. The Contractor shall furnish and install all loop wire, shielded loop lead-in wire, power supply cable and traffic signal cable for the complete operation of the traffic signal.

2. One seven conductor cable shall be run from the controller to each signal pole for pedestrian movement. The following color codes shall be used:

Red	Don't Walk (Phase 2 or 6)
Green	Walk (Phase 2 or 6)
Orange	Push Button (Phase 2 or 6)
White w/Black	Don't Walk (Phase 4 or 8)
Blue	Walk (Phase 4 or 8)
Black	Push Button (Phase 4 or 8)
White	Common

3. One five conductor cable shall be run from the pole base to each 3-section signal head. The following color codes shall be used:

Black	Not Used
White	Common
Red	Red Ball
Green	Green Ball
Orange	Yellow Ball

4. One seven conductor cable per conflicting movement shall be run from the controller to each signal pole. The following color codes shall be used:

White	Common
Red	Red Ball
Green	Green Ball
Orange	Yellow Ball
Blue	Green Arrow
Black	Yellow Arrow
White w/Black	Street Name Sign (where applicable)

5. Each signal head mounted on a signal pole or mast arm shall have one continuous multi-conductor cable run from the pole base to the signal head. A five-section signal head (left turn signal) shall have a seven conductor cable. A three-section signal head (through movement) shall have a five conductor cable; Pedestrian signal heads shall have a five conductor cable; Each push-button shall have a two conductor cable.

6. A single conductor stranded No. 8 green wire shall carry the equipment ground from the grounding lug of all signal poles to the controller cabinet and the power disconnect box.

7. One five conductor cable shall be run from the pole base to pedestrian signal head. The following color codes shall be used:

White	Common (All Phases)
Red	Don't Walk (Phase 2 or 6)
Green	Walk (Phase 2 or 6)
Orange	Don't Walk (Phase 4 or 8)
Black	Walk (Phase 4 or 8)

8. Identify cable runs in cabinet.

05. 332 CABINET WIRING AND CABLE IDENTIFICATION

The following is the standard City of Wichita specifications for wiring and labeling cables in a 332 cabinet and shall be closely followed, any deviation from these specifications must be approved by the Engineer or his representative:

A. Cabinet Wiring

1. All cables shall have adequate excess cable at their termintions so there is no tension on the conductors.

(a) Traffic signal cables shall be 60" in length and stripped back 40".

(b) Pedestrian signal cables shall be the same as the signal cables except the push button conductors shall be 100" in length to reach the proper terminal point without the use of a butt splice.

(c) Detector feeder cable shall be 100" in length and stripped back 8".

2. The cables shall be formed in such a manner so that any access panels can be lowered without interference.

3. There shall not be any use of tape on the stripped out conductors.

4. Nylon-cable ties shall not be used on any field cables except those used for identification.

5. The drain wire of each detector feeder shall be covered with a tube type covering (i.e., shrink tube) not more than three (3) times the diameter of the wire.

6. All cable fillers shall be removed from stripped back cable.

7. Each conductor shall be separately terminated with a non-locking, insulated block fork terminal of the appropriate size.

8. All conduits entering the cabinet base shall be closed with an approved duct seal.

9. All excess cable shall be neatly formed in the bottom of the cabinet.

10. All cables terminating at the input files shall be run in the provided pan ducts.

11. All traffic and pedestrian signal cables, also detector feeders, shall be permanently and legibly identified by the use of Nylon Identification Cable Ties. Traffic signal and pedestrian signal cables shall have a marking pad size of 1/2" x 3/4" (i.e., TY-RAP #TY546M). Detector feeders shall have a marking pad size of 1" x 5/16" (i.e., TYP-RAP #TY551M). The legends shall be made with a permanent type marking pen.

The following legends shall be used:

(a) Traffic signal and pedestrian signal cables

"NW Sigs." = Traffic signal cable to NW corner
"NW Peds." = Pedestrian signal cable to NW corner

"NE Sigs." = Traffic signal cable to NE corner
"NE Peds." = Pedestrian signal cable to NE corner

"SW Sigs." = Traffic signal cable to SW corner
"SW Peds." = Pedestrian signal cable to SW corner

"SE Sigs." = Traffic signal cable to SE corner
"SE Peds." = Pedestrian signal cable to SE corner

(b) Detector Feeders

"WBLT" = Phase 1 Westbound Left Turn Loop
"EB FAR" = Phase 2 Eastbound Far Advance Loop
"EB MID" = Phase 2 Eastbound Middle Advance Loop
"EB CLOSE" = Phase 2 Eastbound Close Loop
"EB RT. LN." = Phase 2 Eastbound Right Lane Loop (If Applicable)
"EB LT. LN." = Phase 2 Eastbound Left Lane Loop (If Applicable)
"SBLT" = Phase 3 Southbound Left Turn Loop
"NB FAR" = Phase 4 Northbound Far Advance Loop
"NB MID" = Phase 4 Northbound Middle Advance Loop
"NB CLOSE" = Phase 4 Northbound Close Loop
"NB RT. LN." = Phase 4 Northbound Right Lane Loop (If Applicable)
"NB LT. LN." = Phase 4 Nothbound Left Lane Loop (If Applicable)
"EBLT" = Phase 5 Eastbound Left Turn
"WB FAR" = Phase 6 Westbound Far Advance Loop
"WB MID" = Phase 6 Westbound Middle Advance Loop
"WB CLOSE" = Phase 6 Westbound Close Loop
"WB RT. LN." = Phase 6 Westbound Right Lane Loop (If Applicable)
"WB LT. LN." = Phase 6 Westbound Left Lane Loop (If Applicable)
"NBLT" = Phase 7 Northbound Left Turn Loop
"SB FAR" = Phase 8 Southbound Far Advance Loop
"SB MID" = Phase 8 Southbound Middle Advance Loop
"SB CLOSE" = Phase 8 Southbound Close Loop
"SB RT. LN." = Phase 8 Southbound Right Lane Loop (If Applicable)
"SB LT. LN." = Phase 8 Southbound Left Lane Loop (If Applicable)

12. The traffic signal and pedestrian signal field wires shall terminate at the following locations in all 332 cabinets:

WBLT – RED 125, YELLOW 126, GREEN 127
EB SIGS. – RED 128, YELLOW 129, GREEN 130
EB PEDS. – DW 113, WALK 115
SBLT – RED 116, YELLOW 117, GREEN 118
NB SIGS. – RED 101, YELLOW 102, GREEN 103
NB PEDS. – DW 104, WALK 106
EBLT – RED 131, YELLOW 132, GREEN 133
WB SIGS. – RED 134, YELLOW 135, GREEN 136
WB PEDS. – DW 119, WALK 121
NBLT – RED 122, YELLOW 123, GREEN 124
SB SIGS. – RED 107, YELLOW 108, GREEN 109
SB PEDS. – DW 110, WALK 112

13. The detector feeders and the pedestrian pushbutton field wires shall terminate at the following locations in all 332 cabinets:

a. Detector Feeders

WBLT – I-1-DE
EB FAR ADV – I-2-DE
EB MID ADV – I-2-JK
EB CLOSE – I-3-DE
SBLT – I-5-DE
NB FAR – I-6-DE
NB MID – I-6-JK
NB CLOSE – I-7-DE
EBLT – J-1-DE
WB FAR – J-2-DE
WB MID – J-2-JK
WB CLOSE – J-3-DE
NBLT – J-5-DE
SB FAR – J-6-DE
SB MID – J-6-JK
SB CLOSE – J-7-DE

All drain wires to terminate at terminal L of the corresponding slot.

b. Pedestrian Pushbuttons

EB PEDS. – I-12-D
NB PEDS. – I-12-J
WB PEDS. – I-13-D
SB PEDS. – I-13-J

14. If any additional loop or field wire terminations are necessary, their location will be determined by the Engineer or his representative.

06. MAST ARM AND POLE BASE CABLE IDENTIFICATION

The following is the specification for identifying all cables used in the complete operation of the traffic signals which are located in mast arms and pole bases.

The through traffic and pedestrian signal cables shall be legibly identified with the use of Nylon Identification Cable Ties. The marking pad size shall be 15/32" x 7/8" (i.e., TY-RAP #TY546M). The legend shall be made with a permanent-type marking pen.

The pushbutton cables shall be legibly identified with the use of Nylon Identification Cable Ties. The marking pad size shall be 1" x 5/16" (i.e., TY-RAP #TY551M). The legends shall be made with a permanent-type marking pen.

A. Mast Arm Traffic and Pedestrian Signal Cable Legends

1. Mast Arm Signal Cables

"Lt. Turn Sig." – Left Turn Signal
"Out Bd. Sig." – Farthest Through Traffic Signal from Pole
"Center Sig." – Next Farthest Through Traffic Signal from Pole (If Applicable)
"In Bd. Sig." – Closest Thru Traffic Signal to Pole
"SOP Sig." – Side of Pole Through Traffic Signal

2. Pole Mounted Pedestrian Signals and Pushbuttons

"Ped. Sig." – Pedestrian Signal
"Ph.2 P.B." – All Phase 2 Pushbuttons
"Ph.4 P.B." – All Phase 4 Pushbuttons
"Ph.6 P.B." – All Phase 6 Pushbuttons
"Ph.8 P.B." – All Phase 8 Pushbuttons

07. TRAFFIC SIGNAL HEADS

Traffic signal heads mounted on the side of poles or on pedestals shall be 10' from the ground to the bottom of the signal head.

Type II side-of-pole pedestrian signal bracket to be mounted on back side of pole 135° clockwise from mast arm.

Traffic signal heads mounted on mast arms or span wire shall be no less than 15' and no more than 19' from the pavement to the bottom of the signal head. In some instances the Engineer may require the signal to be mounted above 15' for better visibility. Under no circumstances shall the bottom of the signal be more than 7/32" above the pavement.

The Engineer shall direct the final positioning of the signal heads. Signal heads shall not be installed at any intersection until all other signal equipment, including the controller, is in place and ready for operation at that intersection, except that the signal heads may be mounted if the faces are not directed toward traffic or if the faces are covered.

08. POLE INSTALLATION

When installed, the traffic signal poles shall be back raked according to the manufacturer's recommendation to allow for deflection, such that the pole will be plumb when loaded.

09. LOOP DETECTOR INSTALLATION

The field loop conductor installed in the pavement shall run continuously from the terminating service box, junction box, or base with no splices permitted. The field loop conductors shall be spliced to the lead-in cable and the lead-in cable shall run continuously from the terminating service box, junction box, or base to the sensing unit, except on multiple loop installations where additional loop conductors may be spliced to the lead-in cable as directed by the Engineer.

All lengths of loop wires that are not embedded in the pavement shall be twisted with at least six (6) turns per meter, including lengths in conduits and handholes.

The electrical splice between the loop lead-in cable to the controller and the loop wire shall be made by the following method:

1. Remove all lead-in cable coverings and ground wire, leaving 4" of insulated wire exposed.

2. Remove the insulation from each conductor of the lead-in cable and scrape both copper conductors with knife until bright.

3. Remove appropriate length of insulation from the ends of the loop wires and scrape both copper conductors with knife until bright.

4. Conductors shall be joined by using a #14 butt splice. The two splices shall be staggered to provide adequate insulation. Each splice shall be insulated with layers of thermoplastic or neoprene insulation electrical tape bearing the label of the Underwriters Laboratories, Inc., applied to a thickness equal to and well looped over the original insulation.

The two splices shall then be over-wrapped with layers of thermoplastic or neoprene insulation as above and then coated thoroughly with a water proof electrical coating.

The location of each loop shall be marked on the pavement with crayon or spray paint. The contractor shall obtain the approval of the Engineer prior to cutting the saw slots.

The saw shall be equipped with a depth gauge and horizontal guide to assure proper depth and alignment of the slot. The blade used for the saw cut shall provide a clean, straight, well-defined 1/4" wide saw cut without damage to adjacent areas. The depth of the saw cut shall be 1 1/2" deep. Where the loop changes direction, the saw cuts shall be overlapped to provide full depth at all corners. Right angle or corners less than 90° shall not be used.

Before installing the loop wire, the saw cuts shall be checked for the presence of jagged edges or protrusions. Should these exist, they must be removed. The slots must be cleaned and dried to remove cutting dust, grit, oil, moisture or other contaminants. Cleaning shall be achieved by flushing clean with a stream of water, and following this, the slots should be cleared of water and dried using oil-free compressed air.

Loop detector conductor shall be installed using a 1/8" to 3/16"-thick wood paddle.

Each loop shall be coiled clockwise (or per manufacturer's recommended practice) and the beginning conductor banded in the terminating handhole or base with a symbol "S" to denote stort of conductor. Each loop shall be further identified by phase or function as shown on the project plans, with durable tags, or as directed by the Engineer.

Each loop spliced to lead-in cable, checked at control cabinet, shall not measure less than 100 megohms to ground.

Contractor to supply City of Wichita with a typed record of loop inductance and resistance to ground of each loop measured at cabinet. Provide the date each loop was checked.

10. COMMUNICATIONS CABLE

A. Cable

Cable used for intersection communication shall be six pair #19 AWG shielded cable conforming to the requirements of Specification 20-2 of the IMSA. Shielding shall also conform to IMSA Specifications.

B. Splices General

Communications cable splices shall be made at the communications terminal block within the signal controller cabinet whenever possible. Other necessary cable splices shall be made only with approval of the project engineer in the manner dictated below.

C. Underground Splices

Underground communications cable splices shall be made only within service boxes or utility manholes using an approved waterproof, re-enterable splice kit with multiple port and caps if necessary. The splices shall be staggered heat shrinkable insulated butt splices. The splice kits shall be filled with an approved non-hardening, waterproof encapsulant
The enclosure shall be transparent and capable of being racked in the service box or manhole immediately after filling with encapsulant. The contractor shall rack all splice kits after filling with encapsulant.

D. Aerial Splices

Aerial splices shall be made using a terminal block.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET AT RIDGE ROAD
TRAFFIC SIGNAL SPECIFICATIONS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

DESIGN | DRAWN

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

SHEET
70 of 113

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E. Shield Grounding

Communications cable shielding shall be grounded at one point only – at the control center in City Hall for CBD zones and at the on-street master cabinet for non-CBD zones. Shielding at all splice points (aerial, underground or at the controller cabinet) shall be connected together using shield connectors and a #14 THNN stranded, white insulated wire with a ring tongue connector on each end as a bonding jumper between the shield connectors. Proper insulation shall be used on all bare parts of the bonding system to prevent contact with the messenger cable or other metal parts in the closure.

F. Testing

A continuity test and an insulation resistance test of each communications pair (including spares) will be conducted in the presence of the project engineer or his representative. During the tests, all transient suppression devices shall be disconnected. If any test fails, repairs shall be made by the contractor and the entire test for that cable circuit shall be repeated.

G. Continuity Test

The continuity test shall be made between a point upstream of where the new communications cable is spliced to the existing cable and each new field termination point. Each conductor in a pair shall show a resistance of not more than 10 ohms per 300 m of AWG #19 conductors. The resistance shall be measured with a meter having a minimum resistance of 20,000 ohms/volt. Contractor to supply City of Wichita with a typed record of the resistance of each paired conductor.

H. Insulation Resistance Test

The insulation resistance test shall be measured with all other connections to the conductor under test removed, and all other conductors in the cable and the shield grounded. The measurement shall be made with a direct current potential of not less than 360 volts nor more than 550 volts applied for one minute. Insulation resistance shall exceed 3,000 megohm–km. The contractor to supply City of Wichita with typed record of the resistance of each conductor.

11. MESSENGER CABLE

Where shown in the plans, the messenger cable shall be used to support all overhead communications and detector lead–in cable. The messenger cable shall be 5/16" in diameter and shall include devices such as rings or spiral slashing used to attach the cable, and shall run from struture to structure without splicing. Prior to erecting messenger cable, the contractor shall determine the length of the strand required to span the distance between the poles indicated on the drawings, allowing a sufficient additional length of span wire to compensate for sag.

No messenger cables shall be erected which would lie on, or are liable to run on, a utility company wire or cable, tree limb, etc. If a messenger cable is erected within 12" of any other cable, wire or structure, it shall be protected with plastic wire guards. The height of the messenger cable on the pole shall conform to requirements of the serving utility and the National Electrical Code, and the National Electric Safety Code.

TRAFFIC SIGNAL EQUIPMENT

01. TYPE 170 TRAFFIC SIGNAL CONTROLLER SYSTEM

Each Type 170 Traffic Signal Controller System shall meet the applicable specifications detailed in *TSCES, published by the California Business, Transportation and Housing Agency, Department of Transportation (Caltrans), Jan. 1989 edition. AS modified by TSCES, Addendem 8, Nov. 1993, as well as the additional requirements noted below.

A. Controller Unit

The Model 170 controller unit shall contain a single MPU with at least 2K of RAM memory on a separate board apart from the Input/Output logic board.

Output interface – The output interface shall consist of a minimum of 80 bits of buffered storage. Output data shall be latched at the time of writing from the MPU. This interface shall provide an NPN open collector output capable of driving up to 40 volts DC and sinking up to 100 milli–amperes. A logic state one from the MPU shall be presented as a grounded collector (0 to 2 volts), and a logic state zero presented as an open circuit. Once a port is written into, the data will remain present and stable until either another port is written into it, or until the power is turned off. The state of these output ports at the time of power up or power down shall be an open circuit.

Provide adjustable AC threshold voltage indicator on power supply.

All IC's integral to controller unit shall be socket mounted.

The Model 170 controller shall include a Model 412B2 System memory module of same manufacturer as specified in Traffic Signal Control Equipment Specifications published by the California Business, Transportation and Housing Agency, Department of Transportation (Caltrans), January, 1989 edition. The specifications are available from the Caltrans Publication Unit, telephone (916) 445–3520. The Model 412 System Memory Module shall include lithium cell for backup power to retain data in the volatile RAM devices. The lithium cell shall be replaceable and switched to disconnect cell while module is not in use. Switch to be accessible without removing system memory module. The Model 412 System Memory Module to be provided with WAPITI Micro Systems W4IKS Program (latest revision) on 27256 EPROM.

B. Conflict Monitor

The Model 210 conflict monitor(s) supplied shall meet requirements outlined in Chapter 3 of the Traffic Signal Control Hardware Specifications detailed in FHWA–IP–78–16 published by the Federal Highway Administration and dated December, 1978, and the following requirements:

1. Any dark signal head (that is, loss of signal output to field terminals) shall cause the monitor to trip.

2. Any yellow time less than 2.8 seconds shall cause the monitor to trip.

3. The green, yellow and red indications for each phase shall be brought into the monitor individually and shall be monitored separately with respect to a loss of signal on any of the three inputs per channel.

4. The monitor shall have the required circuitry to allow the early detection of a conflict caused by a green or yellow signal "hang up" (that is, any green or yellow output which shall remain on when the controller has transferred to a yellow or all red output) by starting the fault timers as soon as yellow appears with the corresponding green still energized. The monitor shall not wait until a conflicting green is displayed to time the conflict. This shall preclude the presentation of a conflicting signal display at the intersection.

5. During the "all red" clearance period (if used), the monitor shall check all inputs for faulty signal display and shall react to these faulty indications during the all red clearance period. Since during this period the only inputs that should be active would be the reds, the monitor shall detect any faults such as red/green, red/yellow, green/yellow and green/red/yellow.

6. The monitor shall be capable of monitoring for incorrect signals applied at the field terminals of each vehicular movement (green, yellow, red). Should a voltage be present on more than one, or none, of the inputs (green, yellow, red) of a channel, the unit shall begin timing the duration of this condition. If this condition exists for less than 700 milliseconds, the unit shall not trigger. If this condition exists for 700 milliseconds or more, but less than 1,000 milliseconds, the unit may or may not trigger.

7. When the unit triggers, it shall cause the output relay contacts to transfer. These contacts shall remain in this state until the unit is reset by the activation of the panel control, or the activation of the external reset input. Power interruption shall not reset the conflict monitor when it has been triggered by detection of a faulty load switch output.

8. The minimum indicators shall be as follows:

a. Power – shall be illuminated when the 24VDC input from the controller is present and the AC+ is applied to the monitor.

b. Watch Dog Error – shall illuminate when the monitor detects a watch dog error.

c. Conflict – shall illuminate when a conflict has been detected by the monitor.

d. Red Failure – shall illuminate when a red failure has been detected by the monitor.

e. Switch Fail – shall illuminate when a faulty load switch has been detected by the monitor.

f. PCA – shall illuminate when the program board if not installed or is not installed properly.

g. PIAF – shall illuminate when the unit has detected a failure and then experiences a power interruption.

h. The monitor shall include signal status indicators. These indications (one per channel) shall illuminate when a proceed signal is present on the corresponding channel during normal operation. If the unit trips due to a conflict, the signal status shall lock up, displaying the status of each channel at the time the conflict occurred. Should the monitor trip due to the absence of red or a faulty load switch output, the signal status indicators shall display the channel (channels) which is (are) at fault.

i. Yellow or Sequence – shall illuminate when a short yellow time has been detected.

9. If the monitor detects a load switch fault condition, the switch failure indicator shall be illuminated and the signal status indicators will display the exact channel of the load switch that failed.

10. The red inputs shall be brought into the monitor via a front panel connector.

11. The Red Enable shall be brought into the monitor via the same front panel connector as the red inputs.

12. A Red Interface Adapter shall be wired in and tested. Red interface block to be programmable without the use of tools or the lowering of any access panels.

13. Conflict monitor to be capable of monitoring four (4) red, yellow and green outputs from the Model 420 auxiliary output file.

14. Communications software shall be compatible with W4IKS software.

C. Detectors

The Model 222 Two–Channel Loop Detector as specified in Chapter 4 FHWA–IP–78–16 shall provide for a "failsafe" continuous output in response to an open loop or open lead–in wire.

Each detector unit shall provide interface capability with 22 and 44 pin, 170–type input file.

Each detector unit shall provide sixteen sensitivity settings via thumb–wheel switches.

Each detector unit shall be provided with a test switch position to verify loop system integrity. The open loop test position shall indicate a previous fault via the front panel indicator. The memory shall remain intact and can be queried repeatedly. Existing detections shall not be reset and the memory shall only be reset by removing and reinserting the detector unit.

Each detector unit shall provide for selection of delay time of 0 to 30 seconds in 2.0 second increments and/or extension time of 0 to 7 1/2 seconds in 0.5 second increments or off if no timing is desired.

Each timer (delay and extension) shall be provided with buffer circuitry to enable or disable the timer based on an external signal output. Each channel shall include an external input to gate the timing. Provide for cross–talk elimination with only one channel on at a time while scanning.

D. Controller Cabinet

The Model 332B Cabinet and Model 336A Cabinet cabinets shall meet the applicable specifications detailed in the Caltrans Specifications* as well as additional requirements that follow. The cabinets shall be unpainted natural aluminum. The output file must be capable of flashing all 8 phases red or yellow. The three–point locking mechanism shall be fabricated so that it may be actuated by rotating a removable 15 mm hex key. The hex socket and locking cam shall rotate on a 19 mm minimum diameter shaft.

The socket and shaft shall be field–replaceable with common tools. The socket head shall be protected from being rotated with a pipe wrench or similar tool. One aluminum hex wrench shall be provided with each cabinet.

The cabinet assembly shall be provided with a Power Distribution Assembly (PDA) number 2 and the circuit option (Section 6.4.3.9 of the Caltrans Specifications*).

All #8 conductors from service panel (TBS) and mercury contactor to signal bus and main equipment bus shall be 133 strand #29 AWG electronic hook–up wire.

A hybrid power line surge protection device such as the EDCO Surrestor SHA–1210 or equal shall be furnished in each controller cabinet. The protector shall be installed between the applied line voltage and earth ground. The surge protector shall be capable of reducing the effects of transient voltages apliled to the AC line. The protector shall be mounted inside the PDA#2. The Equipment Line Out shall provide filtered power to the controller, 24 VDC power supply, input file and conflict monitor through shielded cable or twisted pair to the units AC plus and AC minus inputs.

The protector shall include the following features and functions:

Maximum AC line voltage: 140 VAC.

Twenty pulses of peak current, each of which will rise in 8 microseconds and fall in 20 microseconds to one–half the peak: 20,000 Amperes.

The protector shall be provided with the following terminals:

Main line (AC Line first stage terminal).

Main Neutral (AC Neutral input terminals).

Equipment Line Out (AC Line second stage output terminal, 10 Amps.).

Equipment Neutral Out (Neutral terminal to protected equipment).

GND (Earth connection).

The Main AC line in and the Equipment Line out terminals shall be separated by a 200 Microhenry (minimum) inductor rated to handle 10 Amp AC Service.

The first stage clamp shall be between Main Line and Ground terminals.

The second stage clamp shall be between Equipment Line Out and Equipment Neutral.

Each cabinet shall be furnished with a communications terminal block, C2P harness and connector, voice jack harness, and voice jack, conforming to the requirements detailed in the Caltrans Specifications*.

TBO/Communications Termination Block – This terminal block will serve as the termination block for the communication conductors, overvoltage protection devices, and the termination points for the C2P harness and conductors. Install over voltage protection ground bus and hard wire to eqipment ground bus with #8AWG wire.

C2P Harness and Connector – A four–conductor, jacketed cable shall be attached to the terminal block with locking spade lugs. The cable shall terminate in a standard C2P connector and shall be routed through the cabinet and be of sufficient length to reach the C2S connector on the back of the 170 controller unit when the unit is installed in the equipment rack.

Voice Jack Harness – A two–conductor twisted, jacketed cable shall be attached to the terminal block with locking spade lugs. The cable shall be routed to the voice jack.

Voice Jack – A voice communications jack shall be installed with solder lugs extending out of the side of the jack housing and shall have a cover.

Each terminal on output terminal blocks to be marked as per phase function.

Jumper I 13–K to I 13–E to I 12–E to I 12–K to I 16–2.

Provide Fiberglas disposable filters in lieu of metal filters.

The input file printed circuit board must be accessible without removing or lowering panel.

The lifting eyes shall be removable.

Interchangeability of the Isolation Relay and Logic Relay shall not be possible.

Flash blocks to be accessible without lowering or opening any service panels and marked as per phase.

Red interface adapter to be programmable without tools.

Red interface adapter to be accessible without lowering or opening access panels.

Provide cable tie down (Richo #CFC C–8) or equivalent to secure red interface adapter cable to the bottom of the output file.

Anchor bolts to be provided with 332B Cabinet.

Additional Model 336A Cabinet Specifications:

The cabinet shall be a weatherproof, outdoor, pole–mounted or pedestal–mounted type with overall dimensions not to exceed 36" high by 22" wide by 20" deep. The cabinet will utilize all the standard plug–in modules that are utilized by the Type 336 Caltrans cabinets.

The bottom of all 336A cabinets shall be solid plate and be reinforced with a 22" wide by 20" deep, 3/8" aluminum base plate, continuously welded to the inside bottom of the cabinet.

Cabinets shall be attached to the pole using two aluminum mounting brackets, mounted top and bottom, for each cabinet. The brackets shall be secured to the cabinets using appropriate stainless steel mounting bolts and washers. The brackets shall be secured to the pole by appropriate banding buckles and couplings.

Door opening flange around the door opening shall be 7 1/2" wide.

Steel rails shall be provided in lieu of the rack cage for mounting of the controller and cabinet assemblies. The rail assembly shall consist of 4 EIA threaded rails bolted to the two sides at the front and rear of the cabinet. The rails shall be threaded in the same manner and pattern as the Model 332 cabinet cage. The rails shall be plated as specified in Caltrans Specifications*, Section 1.2.8.3.2.

The cabinet, if used for school signal control, shall be modified to operate flashing beacons by time–of–day, day–of–week through controller output.

E. Switch Pack

The components of the three solid state switches, enclosed in the load switch, shall be of interchangeable, modular cube design.

Cube to be mounted separate from circuit board for ease of replacement.

Housing and handle to be constructed of metal, suitably protected against corrosion.

F. Flasher Unit

Each of the two load circuits contained in the Flasher Unit shall be of interchangeable cube design.

Cube to be mounted separate from circuit board for ease of replacement.

Housing and handle to be constructed of metal, suitably protected against corrosion.

G. Zonal Master Controllers

The zonal master controller shall conform to the Type 170 specifications.

Insofar as possible, the boards from the master shall be interchangeable with those in the local 170's.

1. The zonal master 170's shall be configured with a second serial port. The second serial port shall be the same type as the primary serial port and address mapped to location 6002 (Hex) for control functions and location 6003 (Hex) for data functions. The second serial port shall be capable of operating at a clock rate of 300, 600, 1200, 2400, 4800, or 9600 baud. This selection shall be independent of the primary ACIA.

The signals from the second ACIA shall be routed to the rear panel of the 170 chassis and terminated in a 14–position connector identical to the C2 connector. This connector shall be marked C20S.

A 3' (three–foot) cable shall be provided to interconnect from the C20S connector to a standard DB25S connector on an auto dial modem.

2. All controllers shall be provided with a Model 400 Modem Module as detailed in Chapter 7 of the Caltrans Specifications*.

3. Each zonal master 170 controller unit shall be supplied with one (1) Model 412B2 System Memory Module. The module shall be provided with WAPITI Micro Systems W70SM, latest revision, software package, on 27256 EPROM.

02. AC SERVICE INPUT

Each service disconnect must be furnished with an installed lightning arrestor on the AC service input which meets or exceeds the following requirements:

A. The unit must be capable of withstanding repeated 20,000 ampere surges (minimum of 20).

B. The unit must have internal follow – current limiters (resistive elements).

C. The unit must contain three active clamping stages minimum.

D. The unit must self–extinguish within 8.3 milliseconds after the trailing edge of the surge.

E. The parallel impedance of limiters must be less than 0.15 OHMS.

F. The unit shall be UL approved.

Each service disconnect to have 70 AMP main lugs with no more than 4 circuits.

03. VEHICLE DETECTOR LOOP WIRE SEALANT

A. The saw slot filler and encapsulant shall be a one–part polyurethane, moisture curing, elastomeric compound requiring no mixing, measuring or application of heat prior to or during its installation and designed specifically for sealing and protecting vehicle detector loop wires.

B. The encapsulant is intended to provide compressive yield strength to withstand normal vehicular traffic as well as sufficient flexibility to withstand normal movement in asphaltic and concrete pavements, while protecting the loop wire from moisture penetration, fracture and shear.

C. The encapsulant shall be designed for roadway installation when surface temperature is between 5°C and 60°C and enable vehicular traffic to pass over the sawcut immediately after installation without tracking or stringing of the material. The encapsulant shall form a surface skin allowing exposure to vehicular traffic within 30 minutes at 24°C and completely cure to a tough, rubber–like consistency in two (2) to seven (7) days after installation.

D. Cured encapsulant shall exhibit resistance to effects of weather, vehicular abrasion, motor oils, gasoline, antifreeze solution, brake fluid, deicing chemicals and salt normally encountered, in such a manner that the performance of the vehicle detector loop wire is not adversely affected.

E. Filling of the sawcut shall be in accordance with the directions of the manufacturer.

04. PEDESTRIAN PUSHBUTTON ASSEMBLY

This specification is intended to provide minimum requirements for pedestrian pushbuttons that will be acceptable:

1. A one–piece cast aluminum raised sign legend with pushbutton housing.

2. Weatherproof and dustproof pedestrian pushbutton with silver contacts rated a minimum of 35 amps at 12 volts.

3. The legend "Push Button – Wait For Walk Signal" shall be cast into the face of the assembly.

4. Assembly to have 4" radius bracket mount for banding to pole.

05. AERIAL SPLICE BOX

The contractor shall furnish and install aerial enclosures for splicing overhead interconnect cable. Spliced enclosures shall be of polyethylene construction and be capable of accommodating up to a 12–pair cable. The enclosure shall provide easy access to aerial cable, while providing weather protection for the splice. No aerial splice boxes shall be installed at locations that cannot be accessed by a maintenance truck, or that require the climbing of a pole for service.

The enclosure shall have the following overall maximum exterior dimensions: 30" long, 10" high, and 4" wide. Minimum dimensions of 16" long 6" high, and 3 1/2" wide shall be provided for the interior compartment.

The enclosure cover shall be capable of easy removal for splicing the interconnect cable and easily stored for typical maintenance activity, such as replacement of interior termination blocks or cable diagnostics.

All communication cable conductors shall be accommodated on termination blocks provided within the enclosure. The aerial enclosure shall be capable of being installed while enclosing the overhead supporting messenger strand. Once installed, the enclosed messenger strand and interconnect cable shall appear as one unit under the splice cover.

Bonding and Grounding of the splice enclosure shall be accomplished through attachment to the messenger support strand.

Cable binding posts shall be configured to allow up to three–wire conductors each.

.06 TRAFFIC SIGNAL LAMPS

Lamps for vehicular and pedestrian signals shall meet the following requirements:

A. 300 mm Signals

A nominal 135 watt, 120 volt, A21 clear traffic signal lamp of 6,000 hour life rating guaranteed by the manufacturer, is to be used in all 12" vehicular and pedestrian indications. Lamps shall be 80% Krypton filled with heat reflection.

B. Candlepower

All traffic signal lamps must meet beam candlepower specification of ITE–1110(1970).

C. Mass Spectrometry Analysis

Mass Spectrometry Analysis to verify percent Krypton shall be provided with catalog cut sheets.

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	72	113

GENERAL NOTES

IN ORDER TO EXPEDITE THE COMPLETION OF THE PROJECT FOR TRAFFIC SERVICE, THE SIGNING AND DELINEATOR WORK SHALL BE SEQUENCED WITH ANY OTHER CONTRACT WORK SUCH THAT THE PHASES OF CONSTRUCTION MAY PROCEED AND BE COMPLETED AT THE SAME TIME.

NEW SIGNS ERECTED ON THE PROJECT WHICH ARE IN CONFLICT WITH EXISTING SIGNING ARE TO BE COMPLETELY COVERED UNTIL THE EXISTING SIGNS ARE REMOVED OR THE NEW SIGNING IS APPLICABLE. THE EXISTING SIGNS THAT ARE BEING REPLACED, REMOVED, OR DO NOT FOLLOW THE CURRENT MUTCD SIGNING STANDARDS ARE TO BE REMOVED WHEN THE PROJECT IS COMPLETED OR AS DETERMINED BY THE ENGINEER.

THE CONTRACTOR SHALL EXERCISE CAUTION AT ALL TIMES WHEN INSTALLING SIGN SUPPORTS IN AND AROUND AREAS WHERE UTILITIES EXIST, EITHER UNDERGROUND OR OVERHEAD, AND WILL BE HELD RESPONSIBLE FOR ANY DAMAGE INCURRED TO THE SYSTEM. THE INSTALLATION OF SIGN SUPPORTS SHALL INCLUDE THE EXCAVATION, DRILLING, OR DRIVING THE SUPPORT FOOTING AND THE ERECTION OF THE SIGN SUPPORT. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING AROUND ANY EXISTING SIGNS THAT ARE TO REMAIN AND WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO THE SIGNS, SUPPORTS, OR FOOTINGS. THE CONTRACTOR SHALL EXERCISE CARE WHEN WORKING AROUND SHRUBBERY WHILE REMOVING OR INSTALLING SIGNS OR SIGN SUPPORTS.

AN EXISTING SIGN POST INSTALLATION SHALL BE PLUMB AND THE COMPACTION OF THE BACKFILL SOIL SHALL COMPLY WITH THE SPECIFICATIONS AFTER THE REMOVAL AND RESETTING OF A SIGN, THE REMOVAL AND REPLACEMENT OF A SIGN, OR THE INSTALLATION OF A NEW SIGN.

THE CONTRACTOR SHALL PROVIDE MOUNTING BOLTS THAT ARE OF A LENGTH THAT DOES NOT EXTEND MORE THAN A NOMINAL 1 INCH BEYOND THE SIGN POST. THE CONTRACTOR SHALL NOT MAKE ANY FIELD MODIFICATIONS TO THE MOUNTING BOLT PRIOR TO OR AFTER THE SIGN IS INSTALLED.

THE MATERIALS AND FABRICATION FOR SIGNING AND DELINEATION WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION (2007 EDITION) AND SPECIAL PROVISIONS.

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SIGNING GENERAL NOTES

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
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455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

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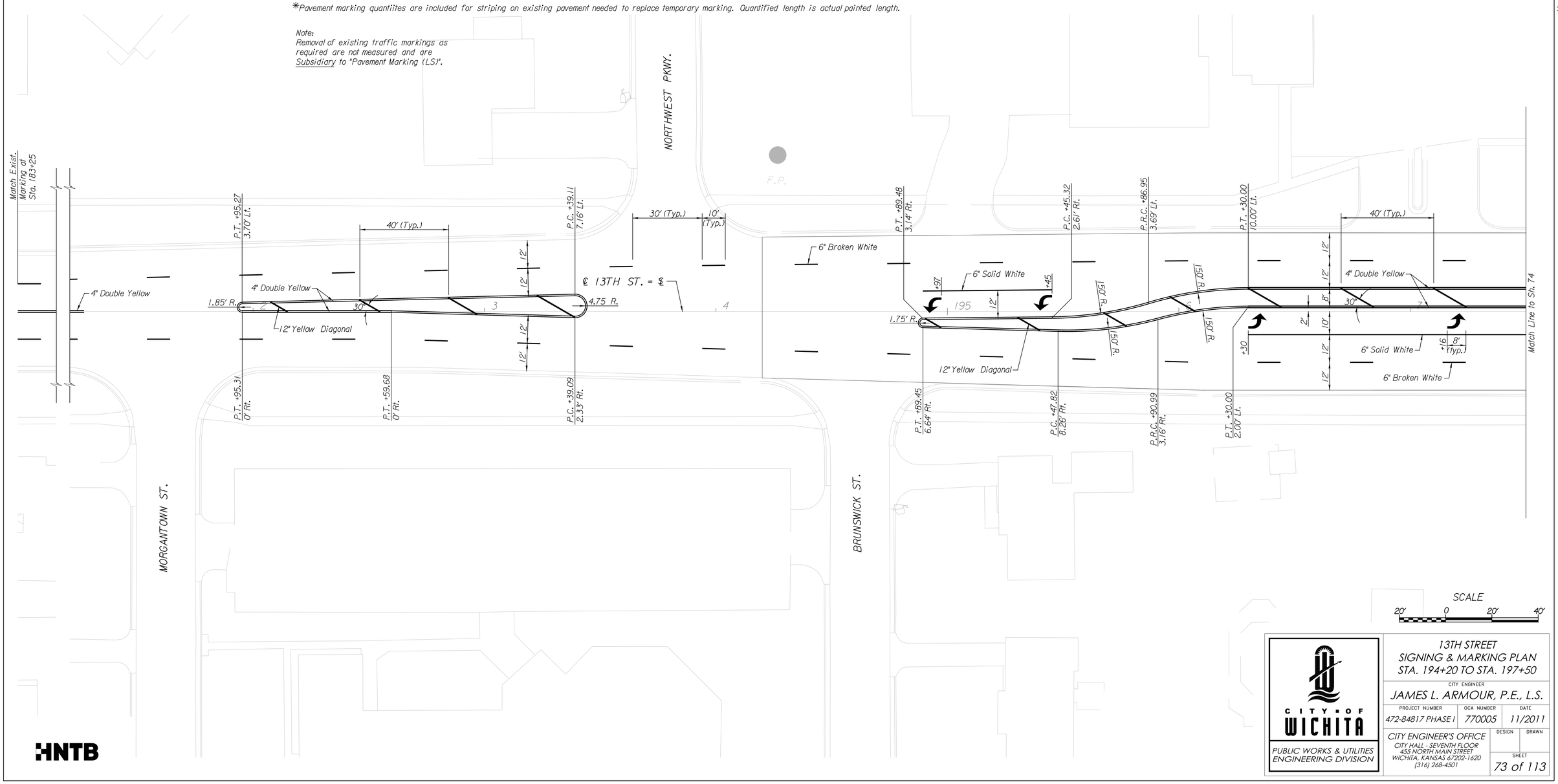
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	73	113

SUMMARY OF PAVEMENT MARKINGS

LOCATION	STATION TO STATION		6" Broken White Lane Line (ft.)	6" Solid White Lane Line (ft.)	24" Solid White Stop Line (ft.)	4" Broken Yellow Line (ft.)	4" Solid Yellow Edge Line (ft.)	4" Solid Yellow Double Line (ft.)	12" Solid Yellow Diagonal Line (ft.)	Left Turn Arrows (each)	Right Turn Arrows (each)
13th St.	183+25.00	199+28.00	800	350	37			3716	219	6	
13th St.	200+77.00	222+42.00	1060	486	49			5528	317	4	3
Ridge Rd.	35+67.00	49+31.00	640	265	34			3972	470	4	
Ridge Rd.	49+82.43	65+66.00	760	684	46	470	1871	2253	221	18	
Total*			3260	1785	166	470	1871	15468	1228	32	3

*Pavement marking quantiites are included for striping on existing pavement needed to replace temporary marking. Quantified length is actual painted length.

Note:
Removal of existing traffic markings as required are not measured and are Subsidiary to "Pavement Marking (LS)".



SCALE
20' 0 20' 40'

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET
SIGNING & MARKING PLAN
STA. 194+20 TO STA. 197+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

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(316) 268-4501

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SHEET
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	74	113

N

Match Line to Sh. 73

40' (Typ.) 30' (Typ.) 10' (Typ.)

12' 12' 12' 8' 10' 12' 12'

6" Broken White

4" Double Yellow

30°

12" Yellow Diagonal

6" Solid White

6" Broken White

+02

+88

8' (Typ.)

P.C. +24.00
10.00' Lt.

℄ RIDGE RD. = ℄

4" R.

℄ 13TH ST. = ℄

50

200

P.C. +24.00
2.00' Lt.
+24 24"
White Stop Bar

+81.24"
White Stop Bar
P.T. +81.00
2.00' Rt.

P.T. +81.00
10.00' Rt.

RIGHT LANE MUST TURN RIGHT

+10
℄ 13th St.

RIGHT LANE MUST TURN RIGHT

+85
℄ 13th St.

6" Solid White

6" Broken White

6" Solid White

4" Double Yellow

30°

12" Yellow Diagonal

6" Broken White

+15 +01 +87

+15 +97 +79

12' 12' 12' 10' 2' 8' 12' 12'

1 2 3

40' (Typ.)

+80
℄ 13th St.

SPEED LIMIT 40

Match Line to Sh. 75

G. Caps

Vent Pipes

LEGEND

Brick Pavers

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET
SIGNING & MARKING PLAN
STA. 197+50 TO STA. 203+25

CITY ENGINEER
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472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
74 of 113

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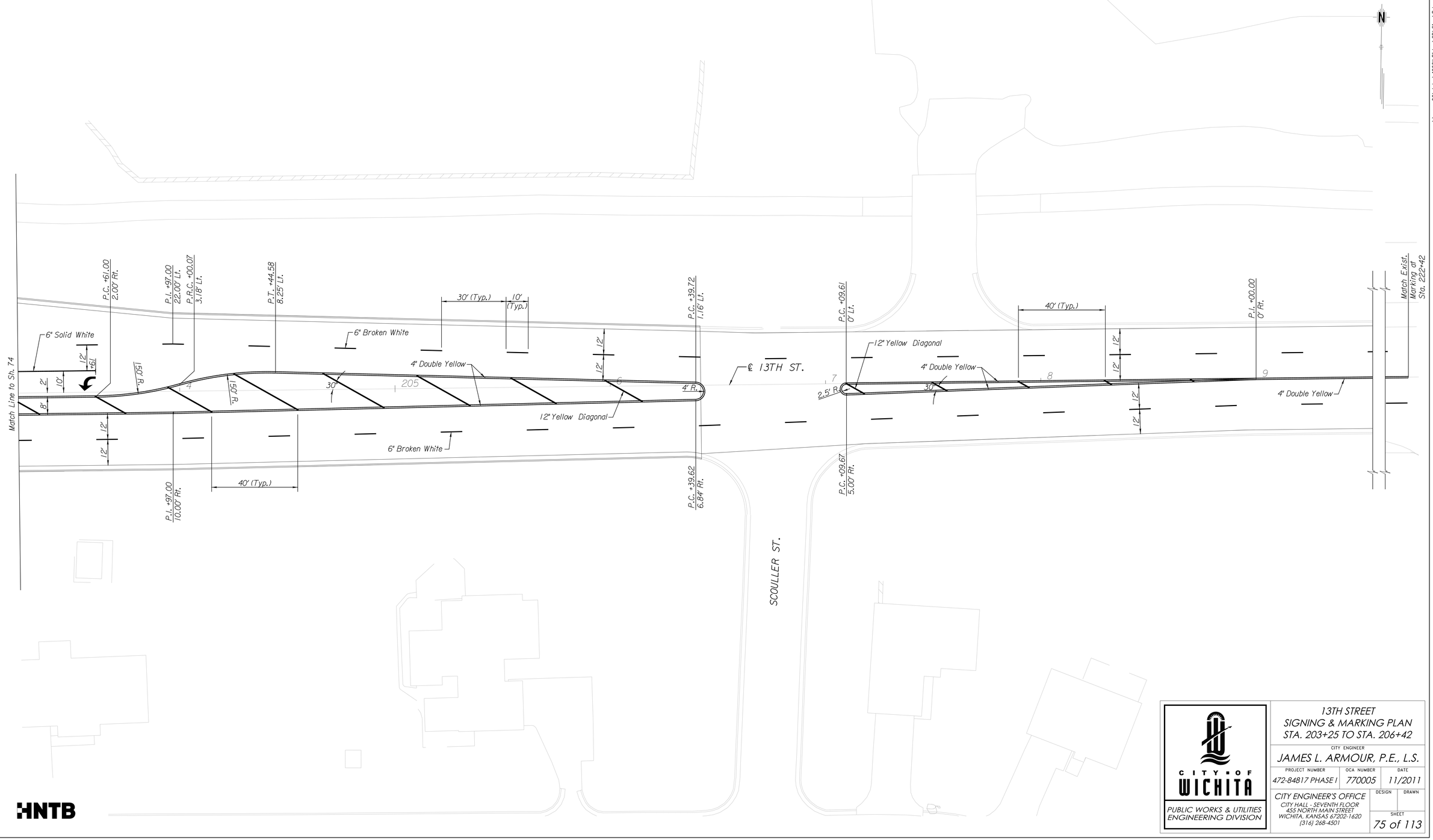

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

13TH STREET
SIGNING & MARKING PLAN
STA. 203+25 TO STA. 206+42

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
75 of 113

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
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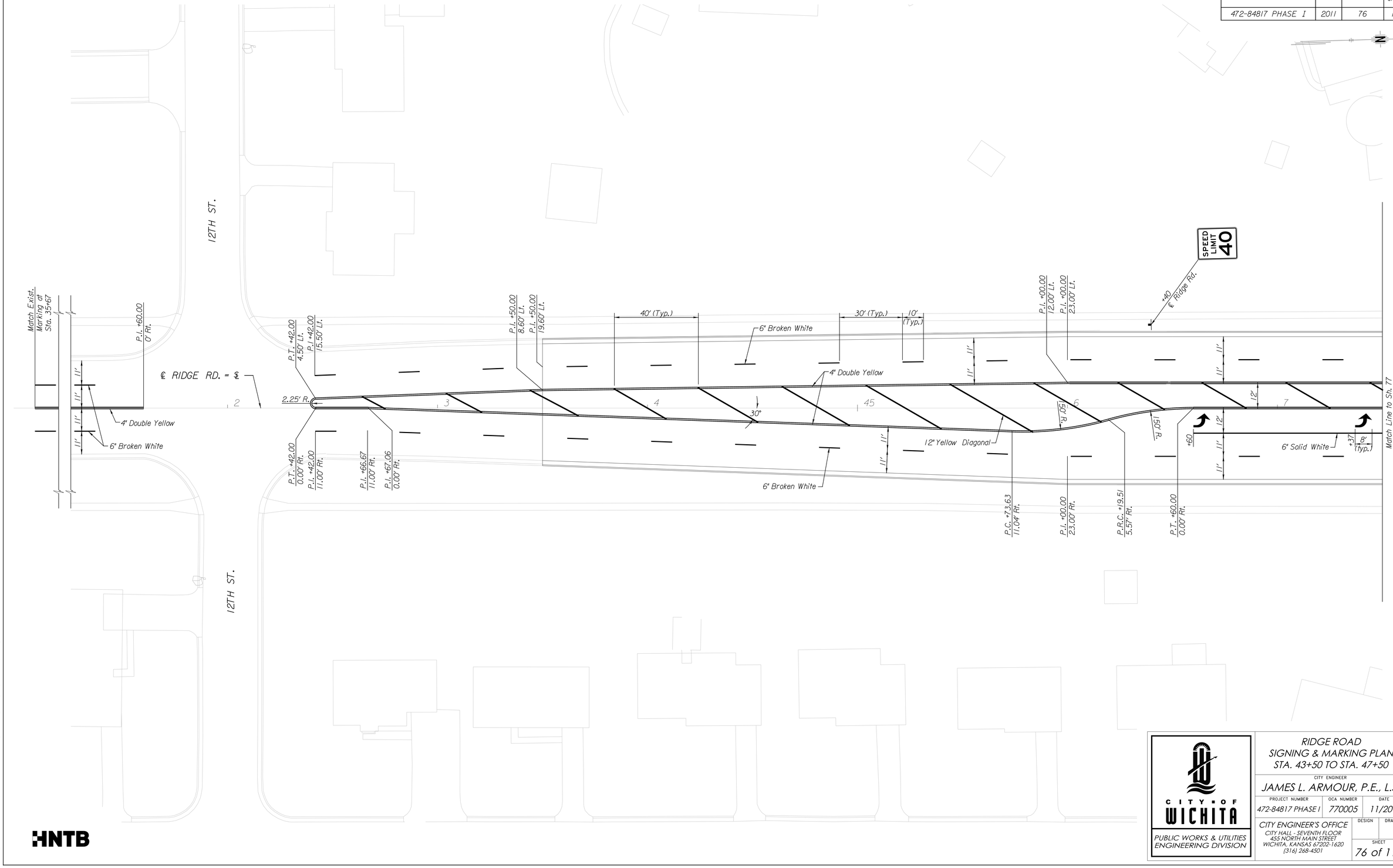

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

RIDGE ROAD
SIGNING & MARKING PLAN
STA. 43+50 TO STA. 47+50

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET
76 of 113

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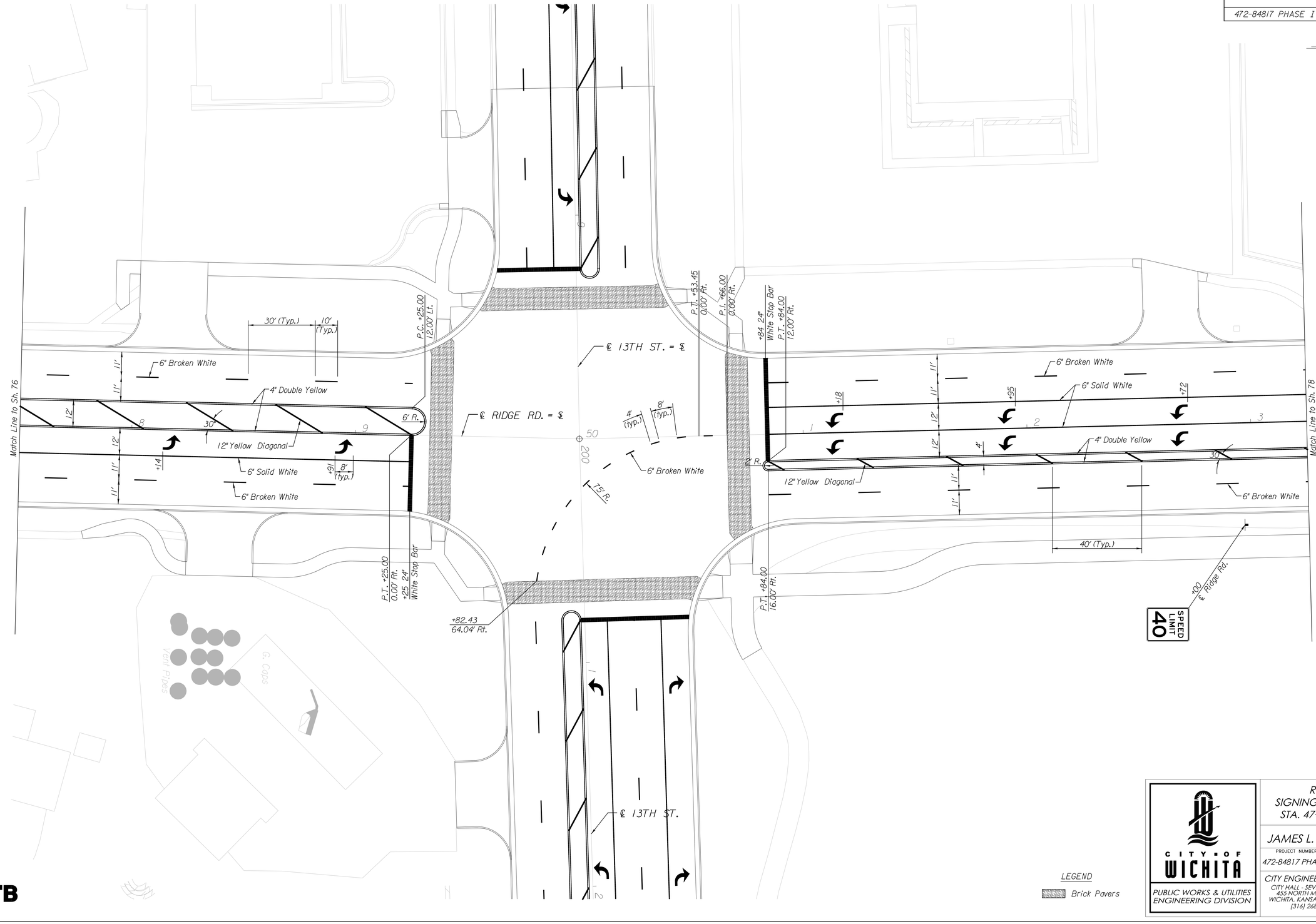
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	77	113



LEGEND

Brick Pavers

HNTB

CITY OF WICHITA

PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD SIGNING & MARKING PLAN STA. 47+50 TO STA. 53+25

CITY ENGINEER

JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 77 of 113

Plotted on: Tuesday September 27, 2011 09:46 AM
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
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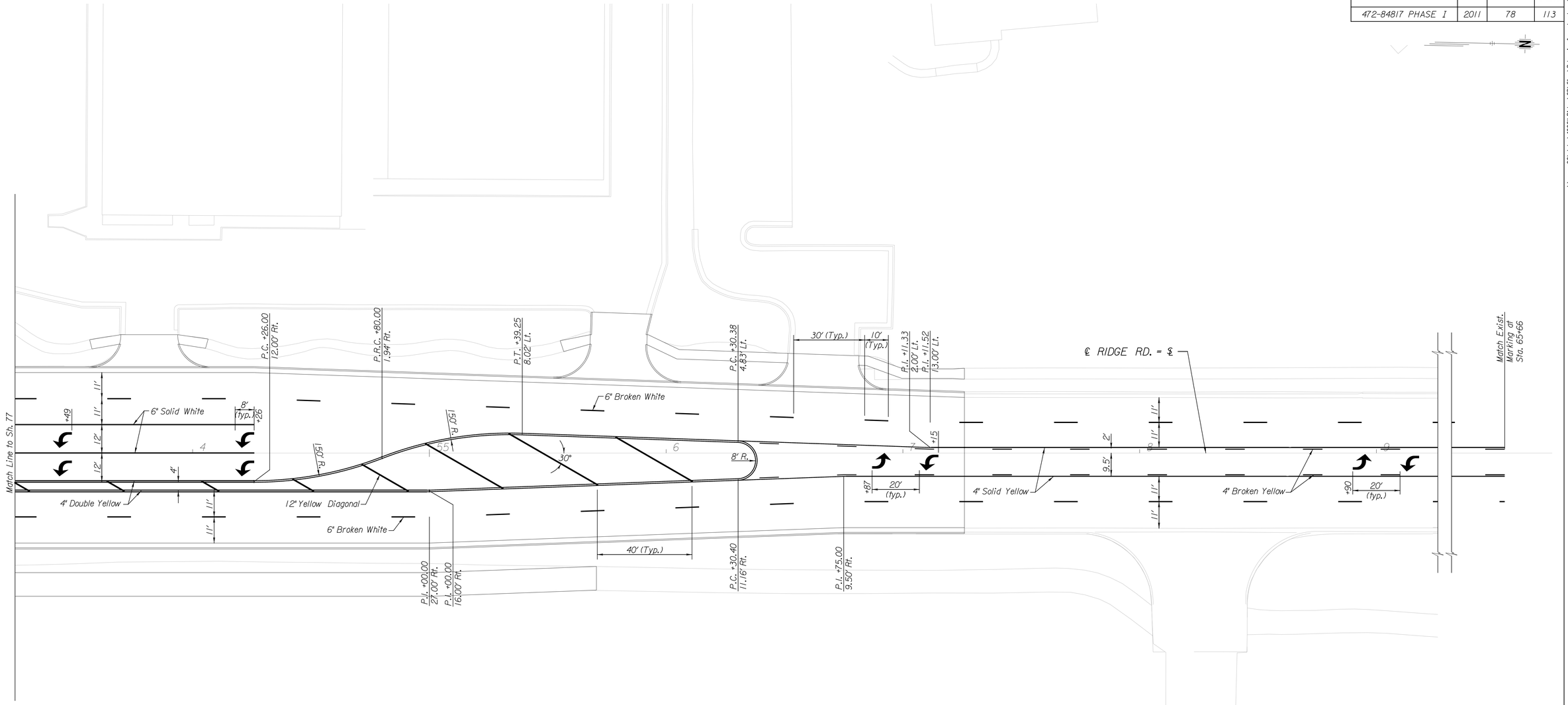

Note: Sapce 2-way Left Turn Arrows @ 280' north of Sta. 58+90.

HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD SIGNING & MARKING PLAN STA. 53+25 TO STA. 57+26

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

DESIGN	DRAWN

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

SHEET: 78 of 113

Plotted on: Tuesday September 27, 2011 09:46 AM
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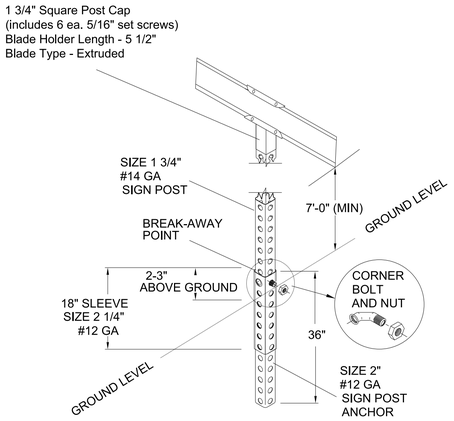
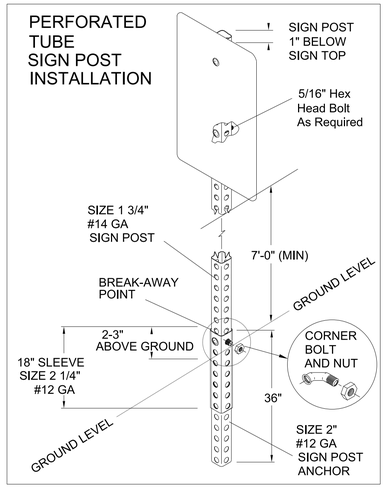
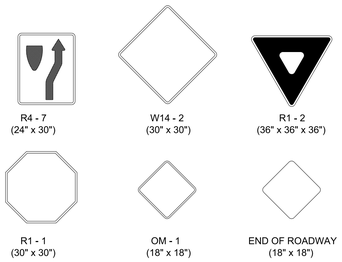
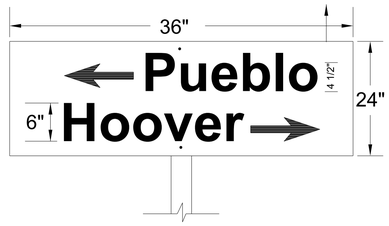
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	79	113

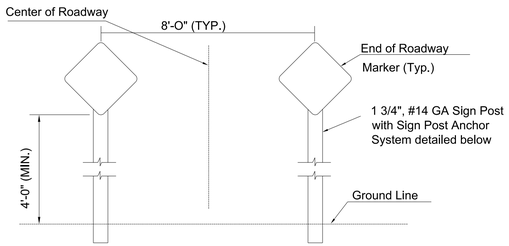




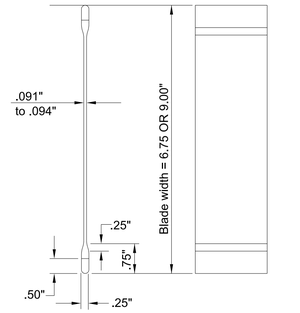




FLAT PLATE STREET NAME SIGN



TYPICAL END OF ROADWAY SIGN MOUNTING INSTALLATION



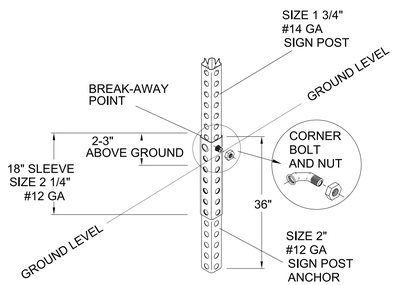
STREET NAME SIGN
BLADE DETAILS

TYPICAL TRAFFIC CONTROL AND STREET NAME SIGN MOUNTING INSTALLATION
CURB AND GUTTER SECTION

DETAIL A
9" STANDARD

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

DETAIL B
9" METRO



SIGN POST ANCHOR SYSTEM

SIGN ASSEMBLY TABLE

STATION	OFFSET	SIGN	QUANTITY*
201+10	Lt.	R3-7	1
202+80	Rt.	R2-1	1
202+85	Lt.	R3-7	1
46+40	Lt.	R2-1	1
53+00	Rt.	R2-1	1
TOTAL			5

*For Information Only

STREET NAME	NO. BLADES REQ'D	
	6 3/4" STD.	9" METRO

NOTE: REFERENCES BELOW TO "STANDARD SPECIFICATIONS" DENOTE "STANDARD SPECIFICATION FOR STATE ROAD AND BRIDGE CONSTRUCTION EDITION 2007" BY THE KANSAS DEPARTMENT OF TRANSPORTATION.

1. 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 TYPE IV PRISMATIC.
10. PROCESS INK: ALL PROCESS INK SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 2202 OF THE STANDARD SPECIFICATIONS.
11. FABRICATION AND INSTALLATION OF ALL SIGNS SHALL CONFORM TO THE LATEST ADDITION OF THE MUTCD.
12. 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" LOWER CASE PRIMARY COPY AND SUFFIX COPY. BOTH SERIES "C". FACES TO TRIM TO A 6 1/4". (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. LETTERING TO BE THE SAME AS FOR THE 9" SIZE BLADE, EXCEPT THAT THE BLOCK NUMBER INFORMATION SHALL BE 3" SERIES "C".

    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 SUPPLILED SHALL BE OF GOOD APPEARANCE, FREE FROM RAGGED EDGES, CRACKS SCALES OR BLISTERS AND SHALL BE CLEAN-CUT. SIGNS SHALL BE PAKED IN SUCH MANNER AS TO PREVENT DAMAGE OR DEFACEMENT DURING SHIPMENT OR STORAGE.
13. 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.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SIGNING DETAILS

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN | DRAWN

SHEET 79 of 113

Plotted on Tuesday September 27, 2011 09:46 AM
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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	80	113

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 STRIPING SHOWN ON NEW ROADWAYS BEING USED TO CARRY DIVERTED TRAFFIC DURING CONSTRUCTION SHALL BE APPLIED BEFORE PLACEMENT OF THE FINAL SURFACE COURSE. PRIOR TO THE FINAL OPENING, THE SURFACE COURSE SHALL BE PLACED COVERING THE TEMPORARY STRIPING.

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.

INSTALLATION AND REMOVAL OF TEMPORARY DRAINAGE AND ENTRANCE PIPES AS SHOWN ON THE TRAFFIC CONTROL PLANS WILL NOT BE MEASURED OR PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO THE CONTRACT LUMP SUM PRICE BID FOR "TRAFFIC CONTROL".

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 NE Quadrant of Intersection.	2-Lane, 2-Way traffic on South half of 13th St. 2-Lane, 2-Way traffic on West half of Ridge Rd. No left turns allowed on 13th St. or Ridge Rd.	Maintain signalized intersection at all times with signage indicating no left turns on all approaches.
2	Construct SE Quadrant of Intersection.	2-Lane, 2-Way traffic on North half of 13th St. 2-Lane, 2-Way traffic on West half of Ridge Rd. No left turns allowed on 13th St. or Ridge Rd.	Maintain signalized intersection at all times with signage indicating no left turns on all approaches.
3	Construct SW Quadrant of Intersection.	2-Lane, 2-Way traffic on North half of 13th St. 2-Lane, 2-Way traffic on East half of Ridge Rd. No left turns allowed on 13th St. or Ridge Rd.	Maintain signalized intersection at all times with signage indicating no left turns on all approaches.
4	Construct NW Quadrant of Intersection.	2-Lane, 2-Way traffic on South half of 13th St. 2-Lane, 2-Way traffic on East half of Ridge Rd. No left turns allowed on 13th St. or Ridge Rd.	Maintain signalized intersection at all times with signage indicating no left turns on all approaches.
5	Surface Course, Final Seeding, Marking, and other miscellaneous items.	Open Lanes to all traffic.	Lane closures with the use of flaggers will be permitted during daylight hours with the approval of the Engineer. All traffic controll shall be in accordance with the MUTCD (Latest Edition).

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PEC

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

TRAFFIC HANDLING AND CONSTRUCTION SEQUENCE

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

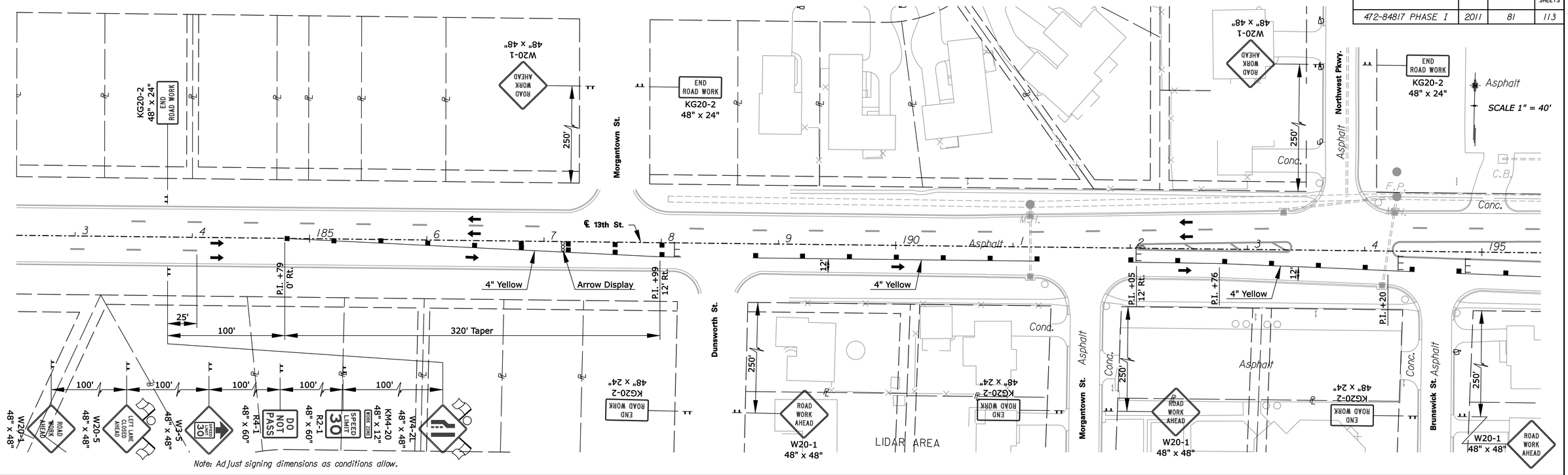
PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

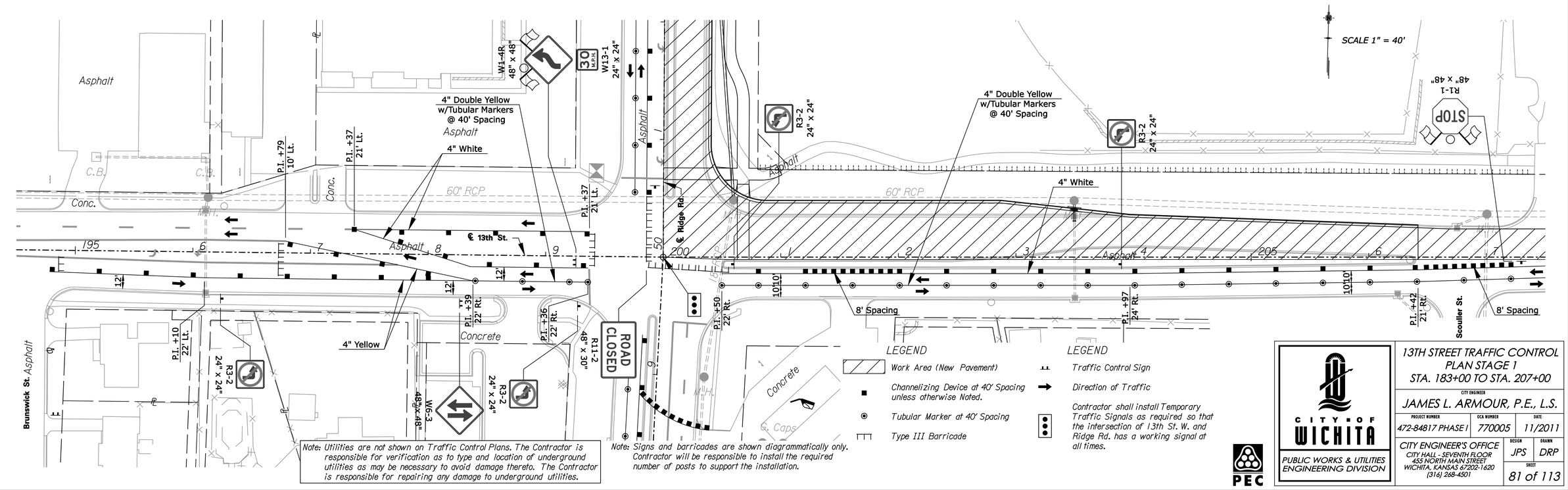
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

DESIGN	DRAWN
JPS	DRP

SHEET: 80 of 113

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	81	113





CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

13TH STREET TRAFFIC CONTROL PLAN STAGE 1
STA. 183+00 TO STA. 207+00

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN
JPS	DRP

SHEET
81 of 113

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PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
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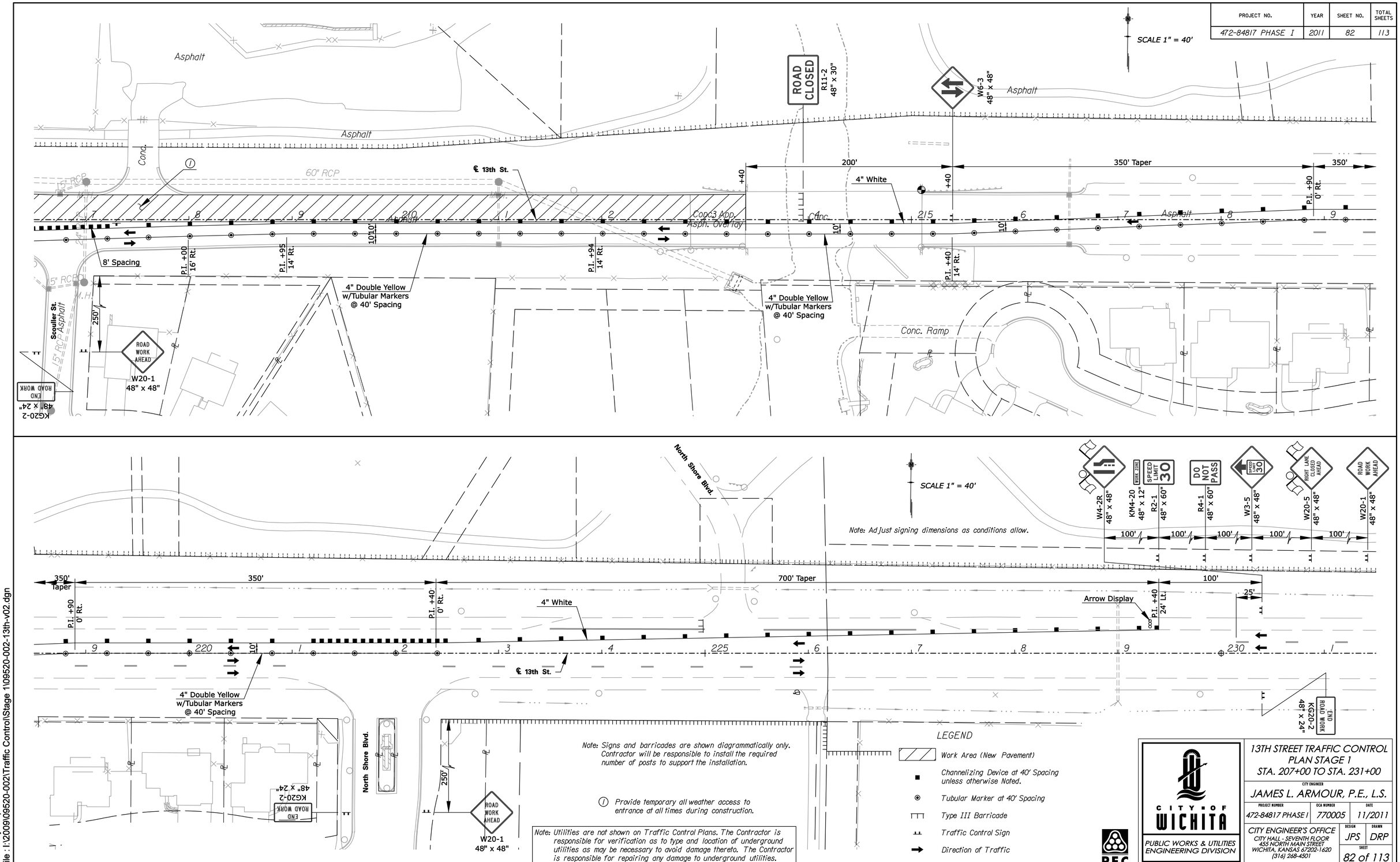

Note: Signs and barricades are shown diagrammatically only. Contractor will be responsible to install the required number of posts to support the installation.

① Provide temporary all weather access to entrance at all times during construction.

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.

LEGEND

- Work Area (New Pavement)
- Channelizing Device at 40' Spacing unless otherwise Noted.
- Tubular Marker at 40' Spacing
- Type III Barricade
- Traffic Control Sign
- Direction of Traffic

PEC

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET TRAFFIC CONTROL PLAN STAGE 1
STA. 207+00 TO STA. 231+00

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN
JPS	DRP

SHEET
82 of 113

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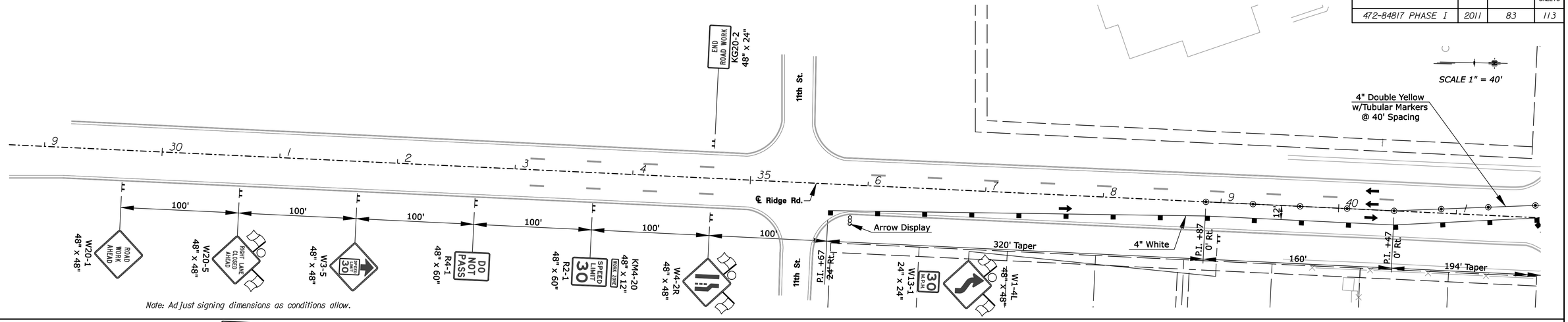
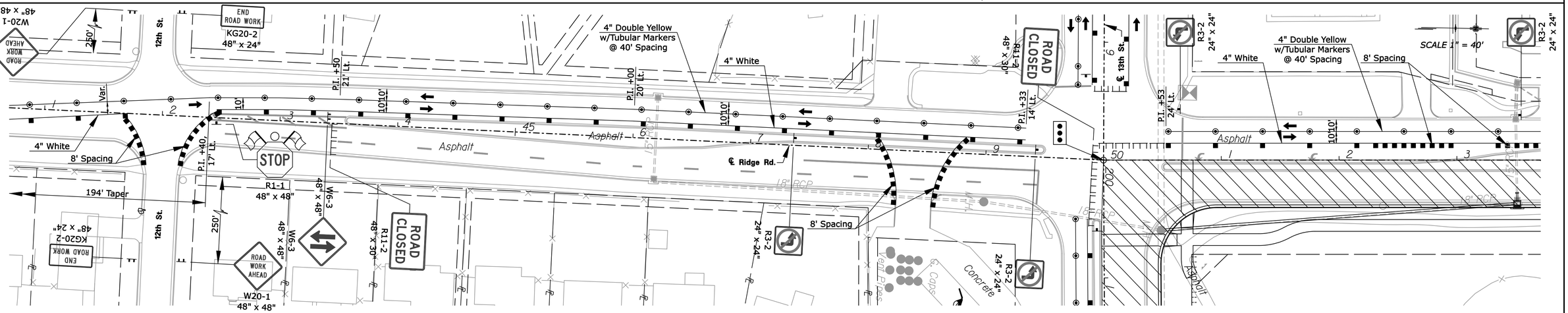
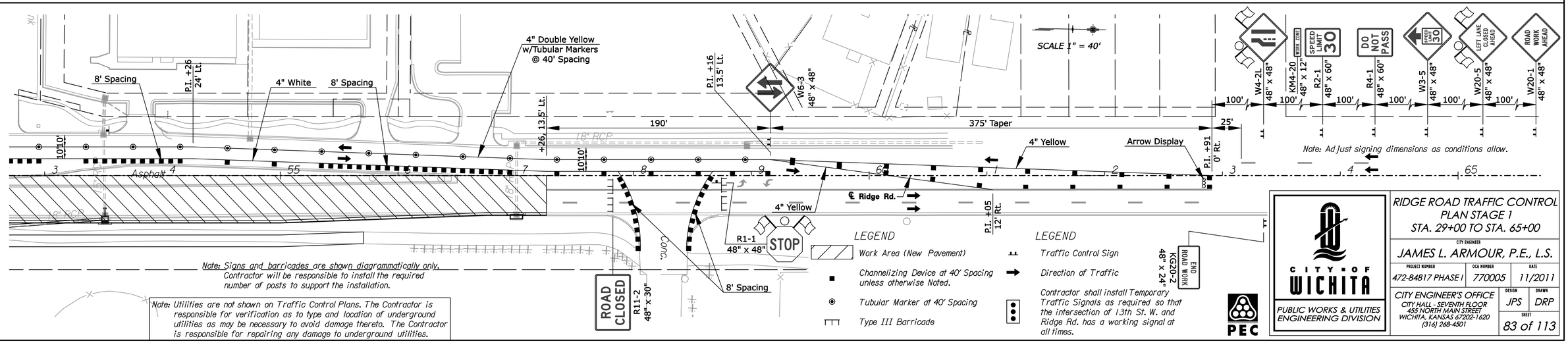
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	83	113







LEGEND

- Work Area (New Pavement)
- Channelizing Device at 40' Spacing unless otherwise Noted.
- Tubular Marker at 40' Spacing
- Type III Barricade
- Traffic Control Sign
- Direction of Traffic
- Contractor shall install Temporary Traffic Signals as required so that the intersection of 13th St. W. and Ridge Rd. has a working signal at all times.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

RIDGE ROAD TRAFFIC CONTROL PLAN STAGE 1 STA. 29+00 TO STA. 65+00

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN
JPS	DRP

SHEET: 83 of 113

Plotted : 14-SEP-2011 07:57
Drawn By : drp
File : I:\2009\09520-002\Traffic Control\Stage 1\09520-002-Ridge-v03.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	84	113

SCALE 1" = 40'

Holland Ln.

KG20-2 48" x 24" END ROAD WORK

W20-1 48" x 48" ROAD WORK AHEAD

4" Double Yellow w/Tubular Markers @ 40' Spacing

250'

Morgantown St.

END ROAD WORK KG20-2 48" x 24"

P.I. +00 0' Rt.

℄ 13th St.

8 | 9 | 180 | 1 | 2 | 3 | 4 | 185 | 6 | 7 | 8 | 9 | 190

P.I. +90 0' Rt.

10'

+00

+90 10' Rt.

8' Spacing

STOP R1-1 48" x 48"

190' Taper

Denmark St.

100' | 100' | 100' | 100' | 100' | 25' | 100'

P.I. +25 24' Rt.

Arrow Display

4" White

375' Taper

190'

Dunsworth St.

250'

W20-1 48" x 48" ROAD WORK AHEAD

W20-1 48" x 48"

W20-5 48" x 48" RIGHT LANE CLOSED AHEAD

W3-5 48" x 48" SPEED 30

D0 NOT PASS R4-1 48" x 60"

SPEED LIMIT 30 R2-1 48" x 60"

K44-20 48" x 12" WORK ZONE

W4-2R 48" x 48"

W13-1 24" x 24" 30 MPH

W1-4L 48" x 48"

KG20-2 48" x 24" END ROAD WORK

Note: Adjust signing dimensions as conditions allow.

SCALE 1" = 40'

4" Double Yellow w/Tubular Markers @ 40' Spacing

Northwest Pkwy.

Asphalt

P.I. +80 15' Lt.

Conc.

C.B.

C.P.

M.H.

P.I. +20 22' Lt.

P.I. +10 24' Lt.

60" RCP

ROAD CLOSED R11-2 48" x 30"

P.I. +32 24' Lt.

℄ Ridge Rd.

P.I. +73 26' Lt.

RIGHT LANE MUST TURN RIGHT R3-7R 30" x 30"

R3-2 24" x 24"

4" White

190 | 1 | 2 | 3 | 4 | 195 | 5 | 6 | 7 | 8 | 9 | 50 | 200 | 1 | 2

10' 10' 10'

+80

190' Taper

8' Spacing

4" White

8' Spacing

8' Spacing

℄ 13th St.

8' Spacing

8' Spacing

STOP R1-1 48" x 48"

W6-3 48" x 48"

Morgantown St.

Brunswick St.

250'

ROAD WORK AHEAD W20-1 48" x 48"

END ROAD WORK KG20-2 48" x 24"

R3-2 24" x 24"

R3-2 24" x 24"

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.

LEGEND

- Work Area (New Pavement)
- Channelizing Device at 40' Spacing unless otherwise Noted.
- Tubular Marker at 40' Spacing
- Type III Barricade
- Traffic Control Sign
- Direction of Traffic
- Contractor shall install Temporary Traffic Signals as required so that the intersection of 13th St. W. and Ridge Rd. has a working signal at all times.

① Provide temporary all weather access to entrance at all times during construction.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

13TH STREET TRAFFIC CONTROL PLAN STAGE 2
STA. 178+00 TO STA. 202+00

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

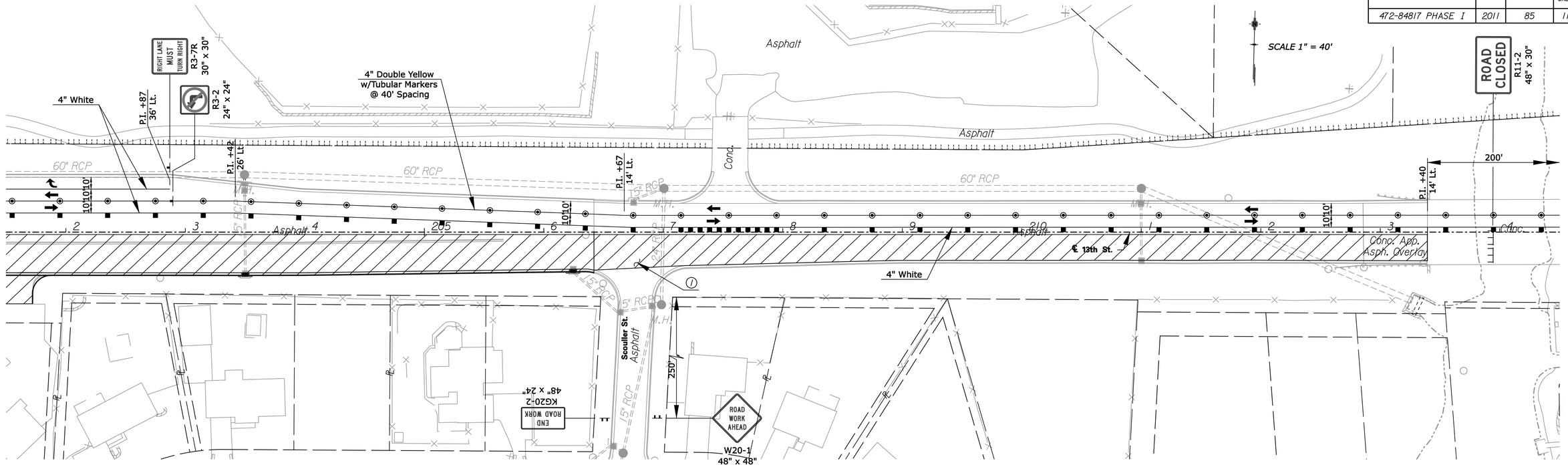
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

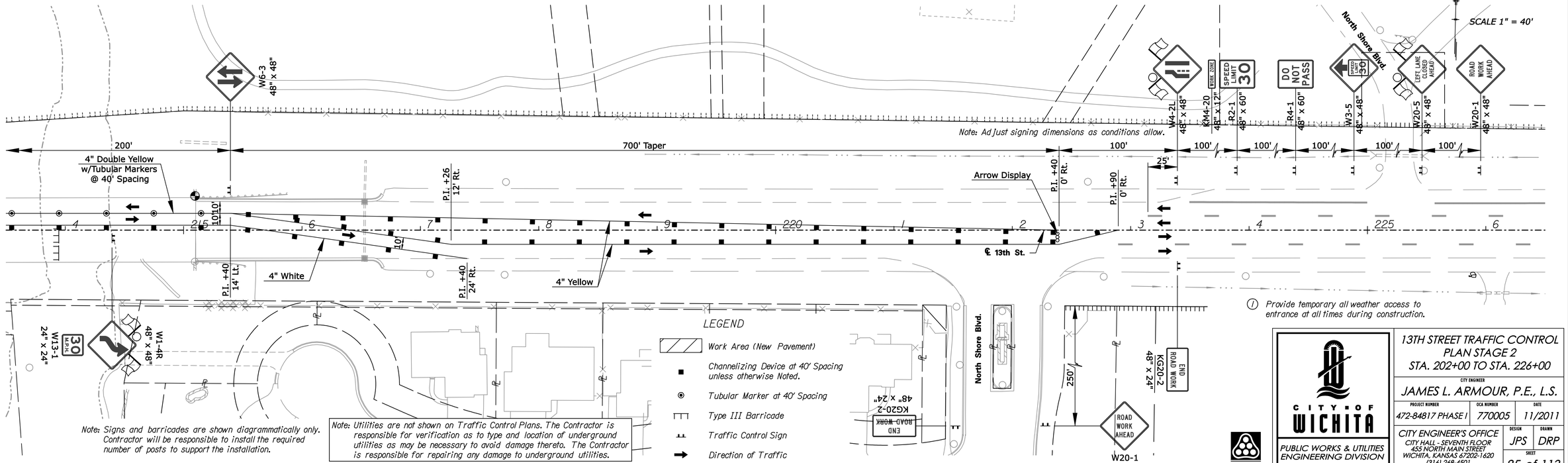
DESIGN	DRAWN
JPS	DRP

SHEET: 84 of 113

Drawn By : drp
File : I:\2009\09520-002\Traffic Control\Stage 2\09520-002-13th-v04.dgn
Plotted : 14-SEP-2011 08:02

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	85	113





Plotted : 14-SEP-2011 08:05
Drawn By : drp
File : I:\2009\09520-002\Traffic Control\Stage 2\09520-002-13th-v05.dgn

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

13TH STREET TRAFFIC CONTROL PLAN STAGE 2
STA. 202+00 TO STA. 226+00

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

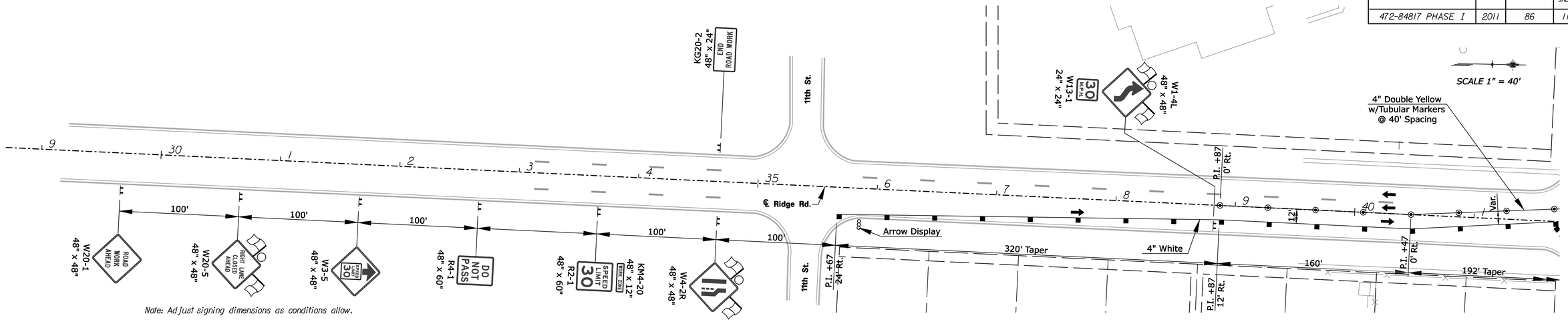
PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

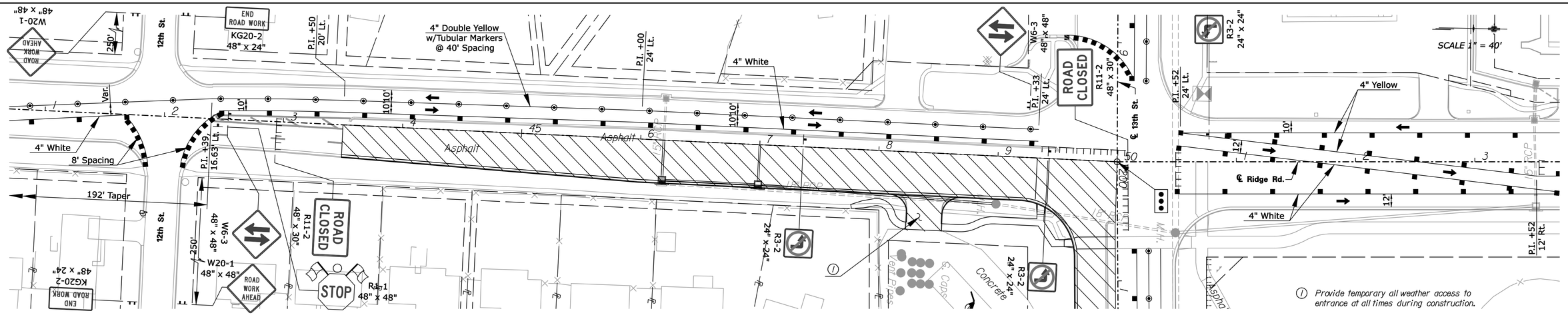
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

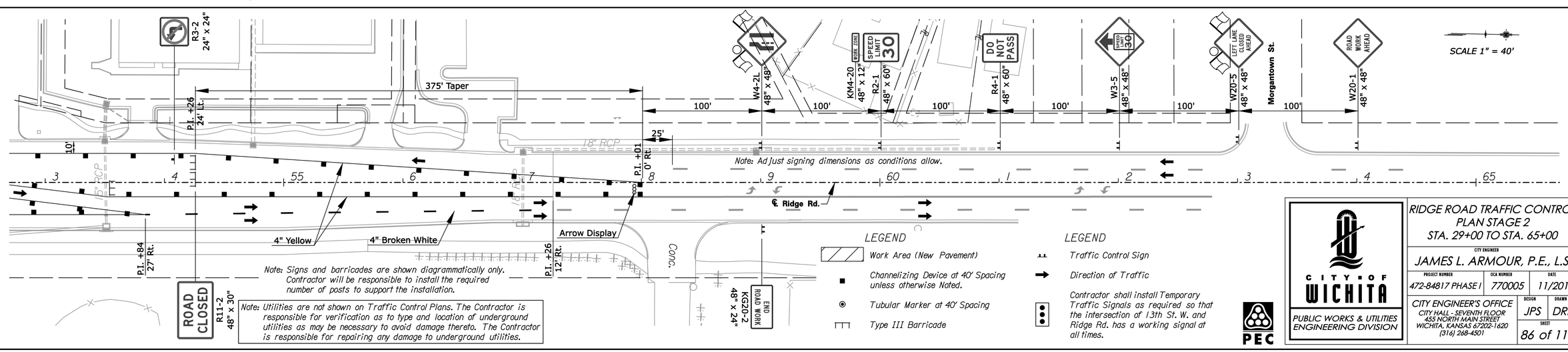
DESIGN	DRAWN
JPS	DRP

SHEET
85 of 113

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	86	113







Plotted : 13-SEP-2011 14:09
Drawn By : drp
File : I:\2009\09520-0021\Traffic Control\Stage 2\09520-002-Ridge-v06.dgn

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

RIDGE ROAD TRAFFIC CONTROL PLAN STAGE 2 STA. 29+00 TO STA. 65+00

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

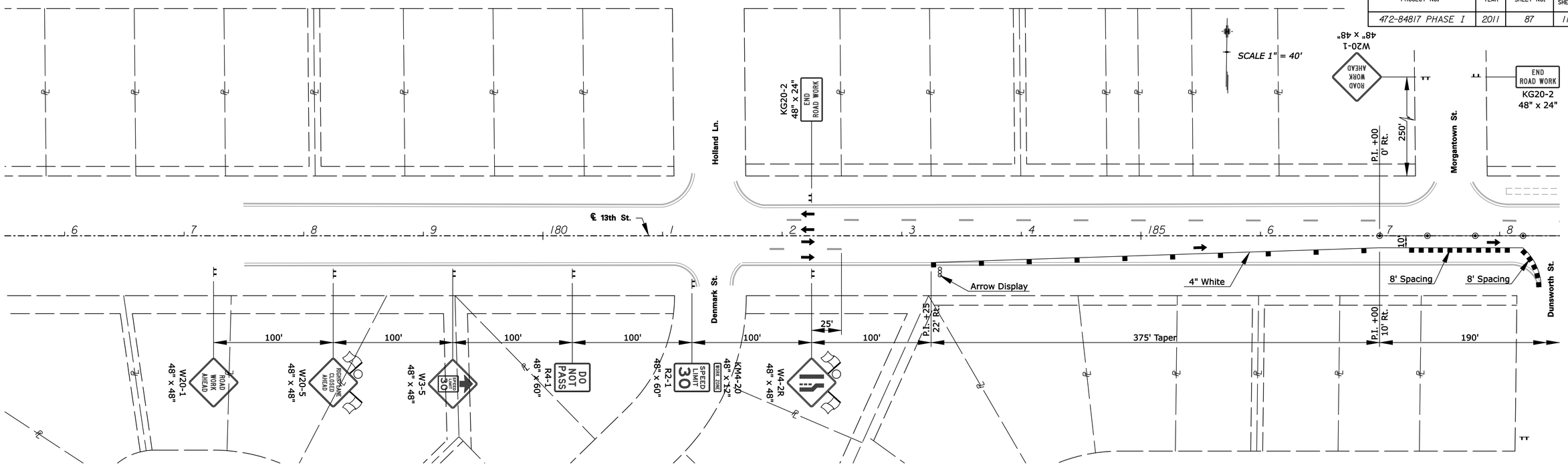
PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

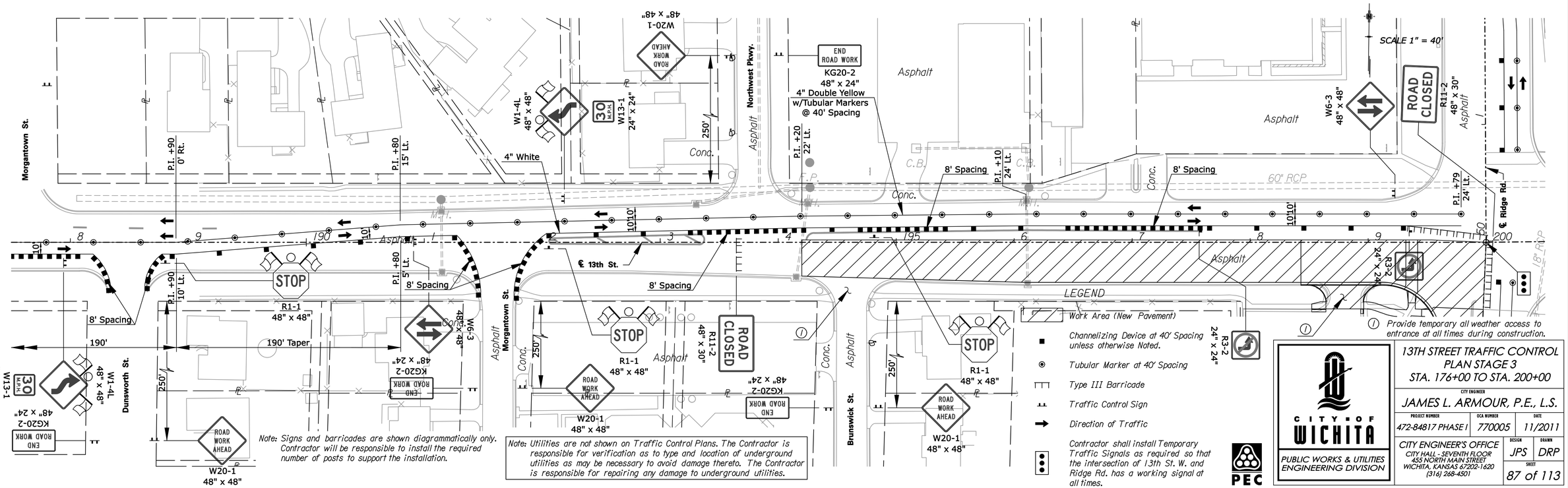
DESIGN	DRAWN
JPS	DRP

SHEET
86 of 113

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	87	113



Note: Adjust signing dimensions as conditions allow.



LEGEND

- Work Area (New Pavement)
- Channelizing Device at 40' Spacing unless otherwise Noted.
- Tubular Marker at 40' Spacing
- Type III Barricade
- Traffic Control Sign
- Direction of Traffic
- Contractor shall install Temporary Traffic Signals as required so that the intersection of 13th St. W. and Ridge Rd. has a working signal at all times.

① Provide temporary all weather access to entrance at all times during construction.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

13TH STREET TRAFFIC CONTROL PLAN STAGE 3
STA. 176+00 TO STA. 200+00

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

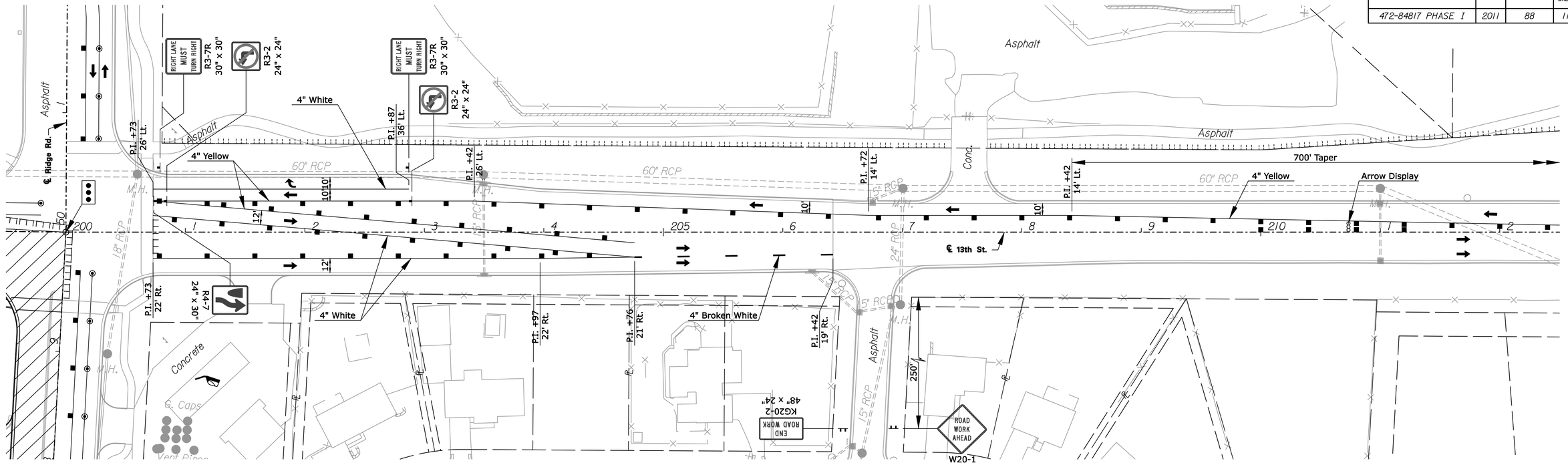
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

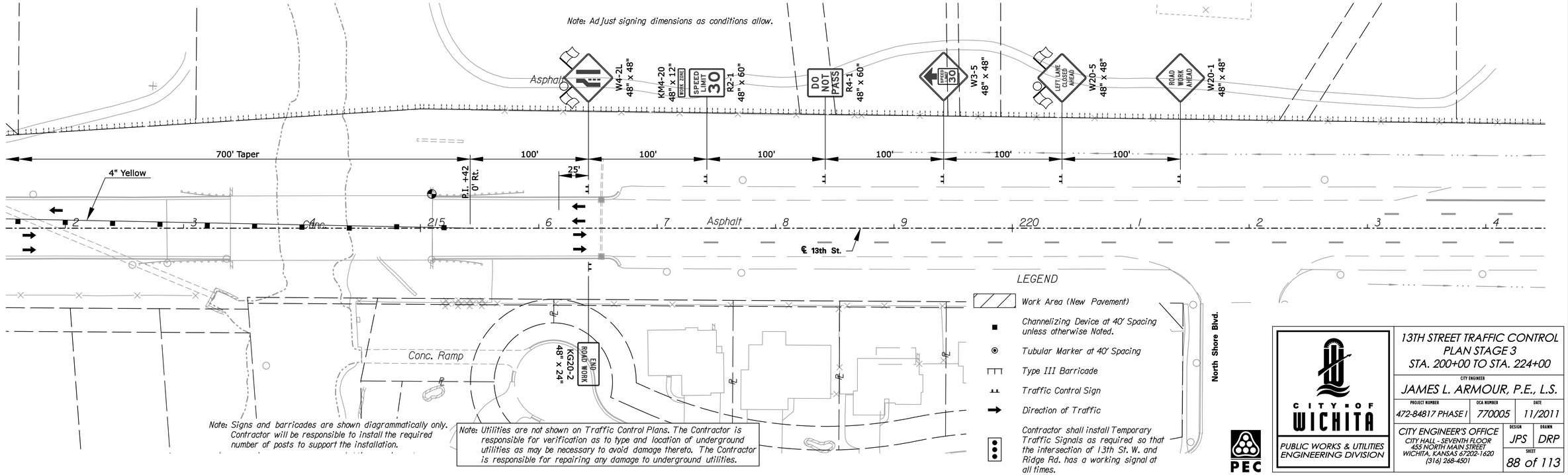
DESIGN	DRAWN
JPS	DRP

SHEET: 87 of 113

Plotted : 13-SEP-2011 14:11
Drawn By : drp
File : I:\2009\09520-002\Traffic Control\Stage 3\09520-002-13th-v07.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	88	113





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.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

13TH STREET TRAFFIC CONTROL PLAN STAGE 3 STA. 200+00 TO STA. 224+00

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

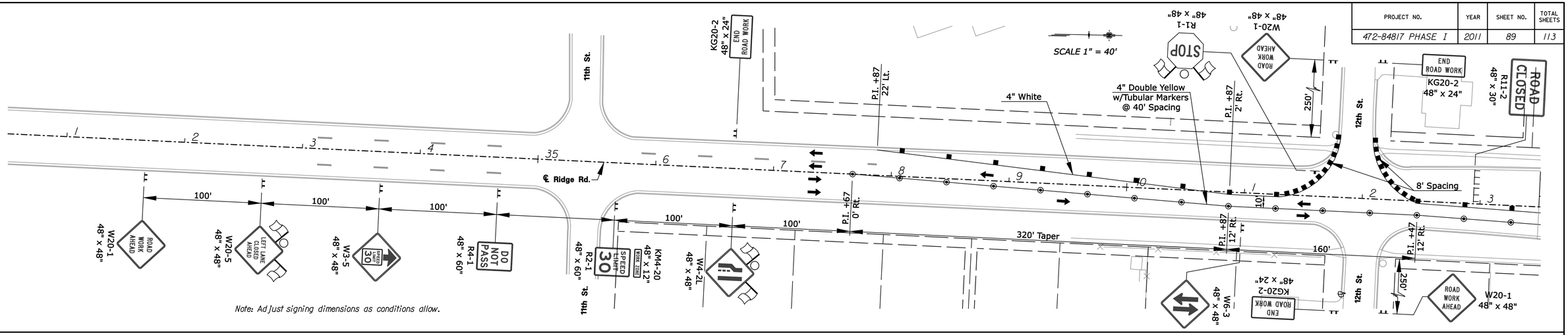
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

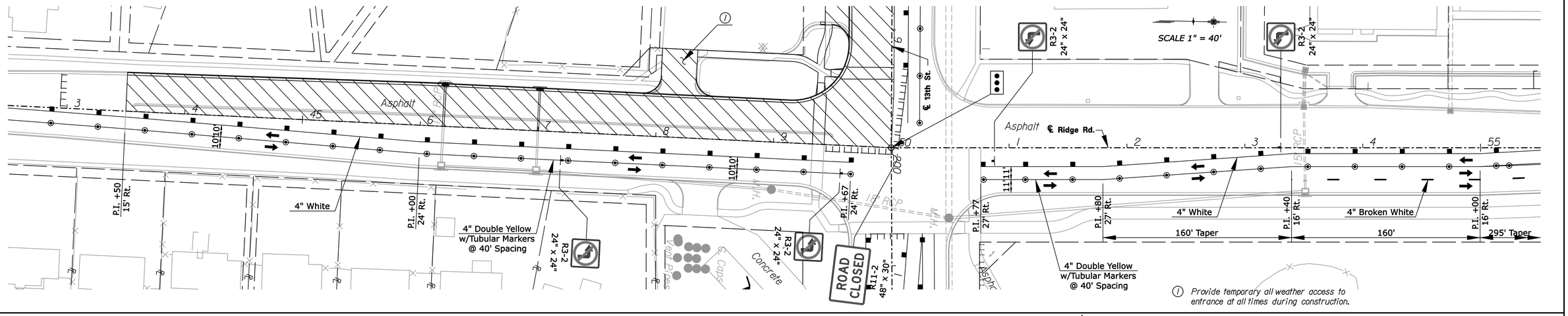
DESIGN	DRAWN
JPS	DRP

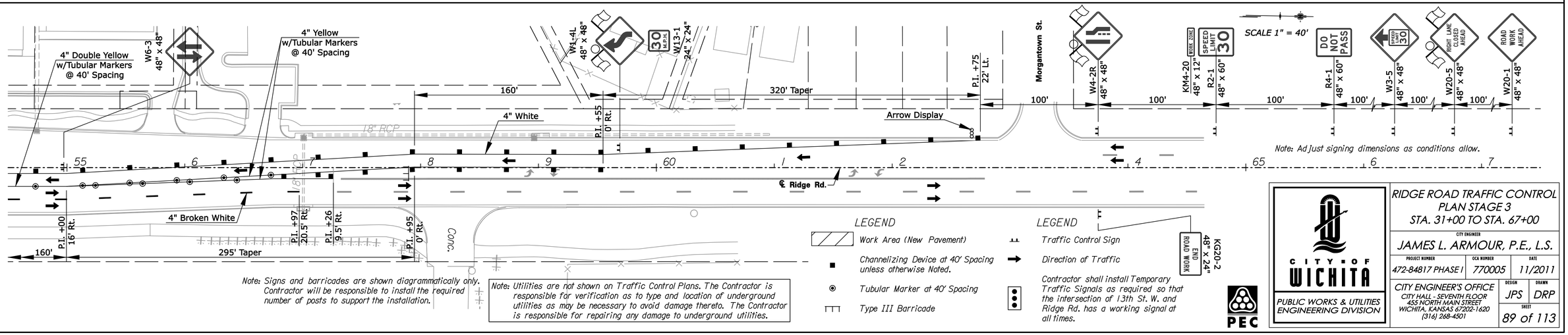
SHEET: 88 of 113

Plotted : 13-SEP-2011 14:49
Drawn By : drp
File : I:\2009\09520-002\Traffic Control\Stage 3\09520-002-13th-v08.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	89	113







LEGEND

- Work Area (New Pavement)
- Channelizing Device at 40' Spacing unless otherwise Noted.
- Tubular Marker at 40' Spacing
- Type III Barricade

LEGEND

- Traffic Control Sign
- Direction of Traffic
- Contractor shall install Temporary Traffic Signals as required so that the intersection of 13th St. W. and Ridge Rd. has a working signal at all times.

KG20-2 48" x 24" END ROAD WORK

PEC

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

RIDGE ROAD TRAFFIC CONTROL PLAN STAGE 3 STA. 31+00 TO STA. 67+00

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

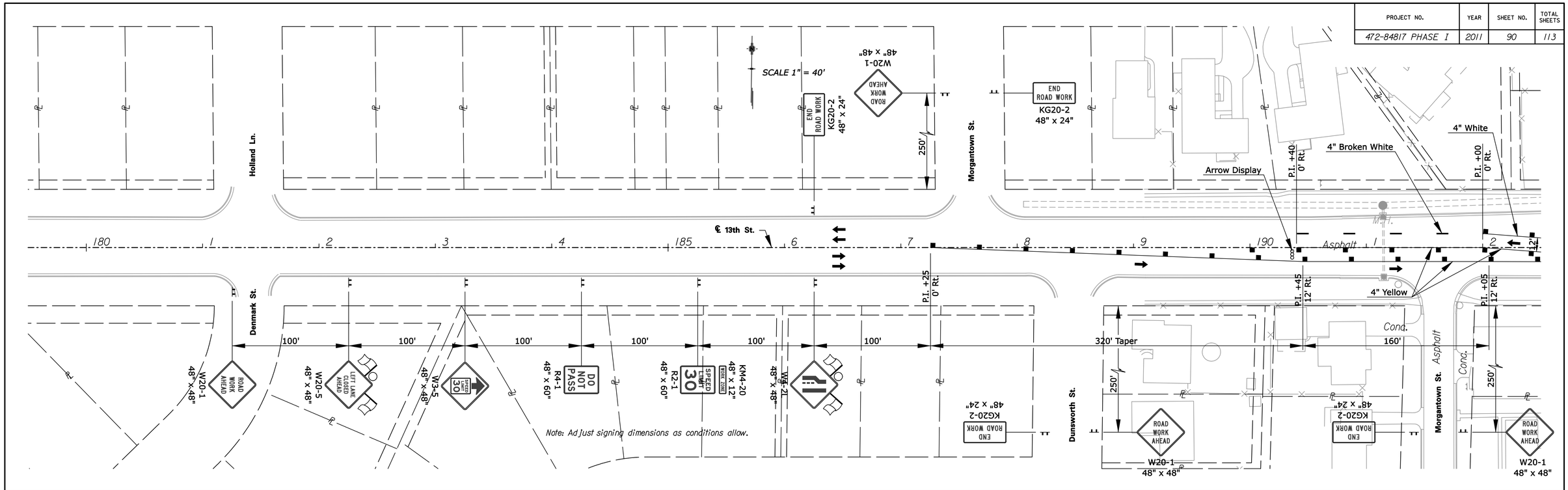
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

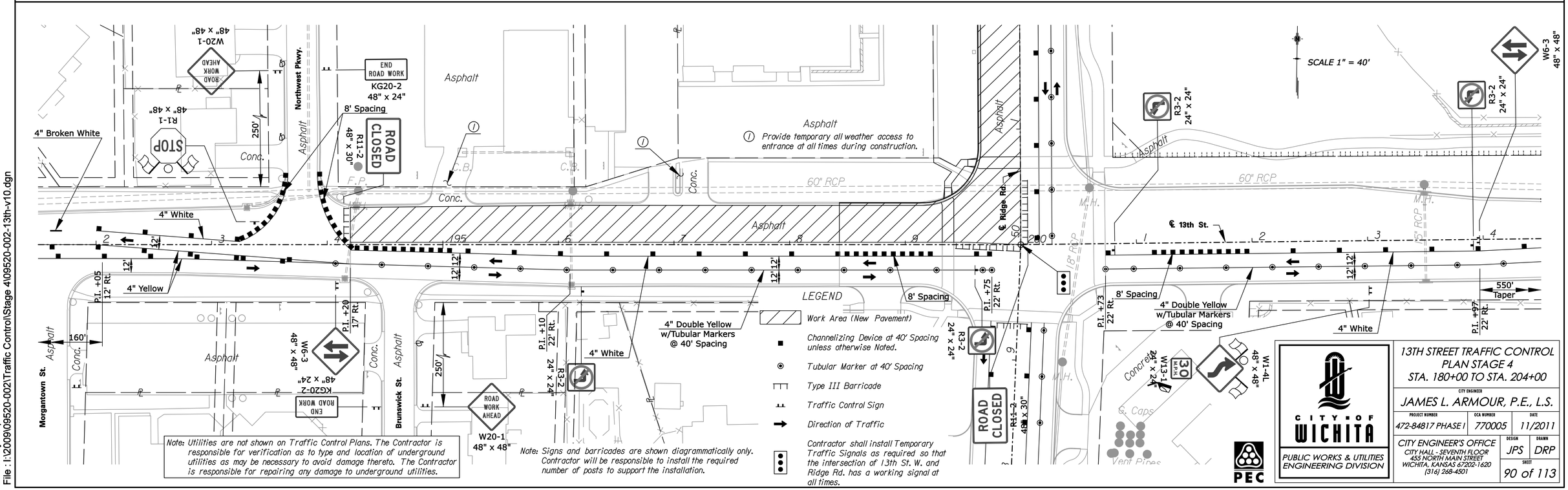
DESIGN	DRAWN
JPS	DRP

SHEET
89 of 113

Drawn By : drp
Plotted : 13-SEP-2011 14:56
File : I:\2009\09520-002\Traffic Control\Stage 3\09520-002-Ridge-v09.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	90	113





Drawn By : drp
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Plotted : 13-SEP-2011 14:52

PEC

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

13TH STREET TRAFFIC CONTROL
PLAN STAGE 4
STA. 180+00 TO STA. 204+00

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

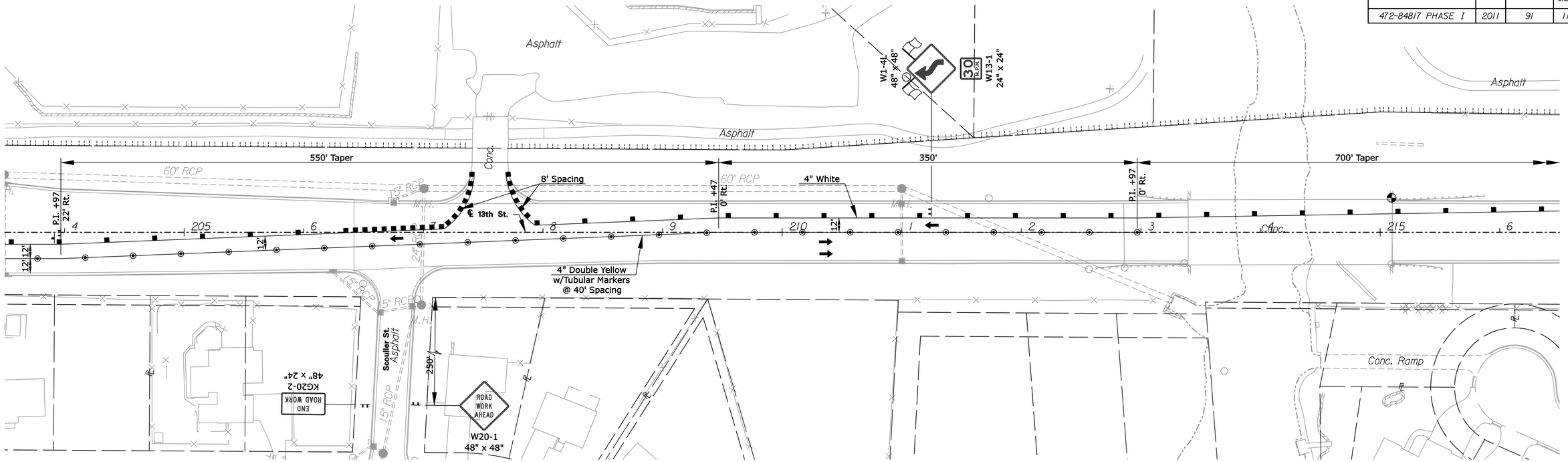
PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

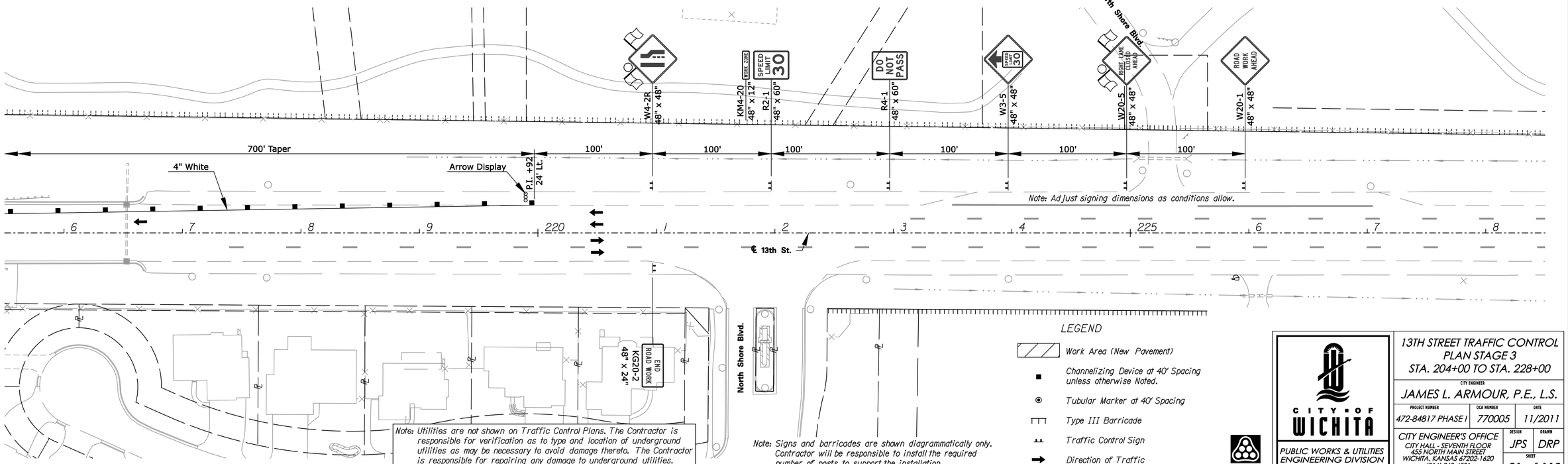
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

DESIGN	DRAWN
JPS	DRP

SHEET
90 of 113

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	91	113





Plotted : 13-SEP-2011 14:23
Drawn By : drp
File : I:\2009\09520-002\Traffic Control\Stage 4\09520-002-13th-v11.dgn

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

13TH STREET TRAFFIC CONTROL PLAN STAGE 3 STA. 204+00 TO STA. 228+00

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

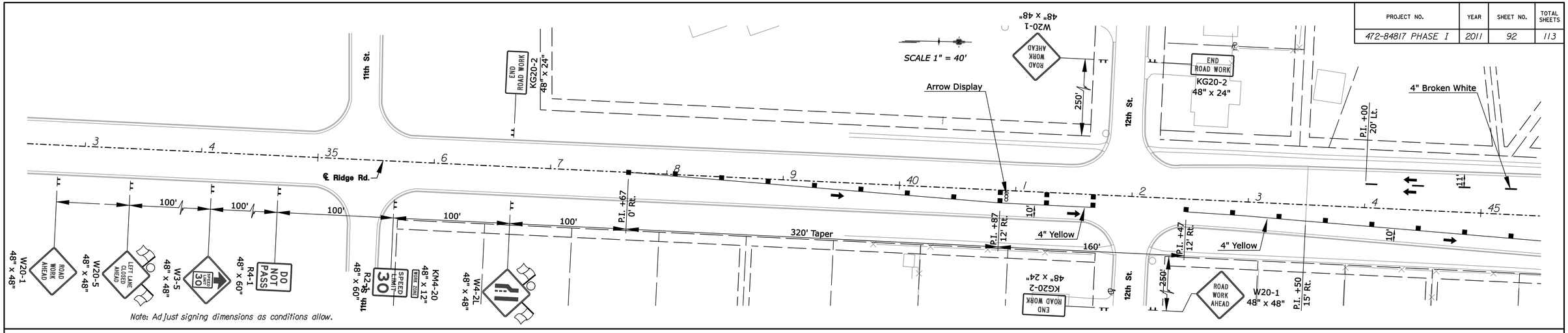
PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

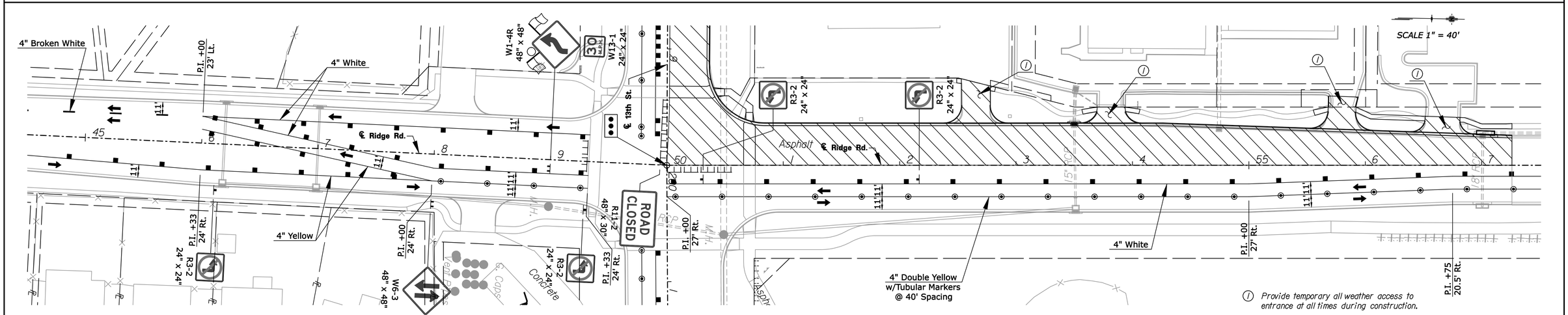
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

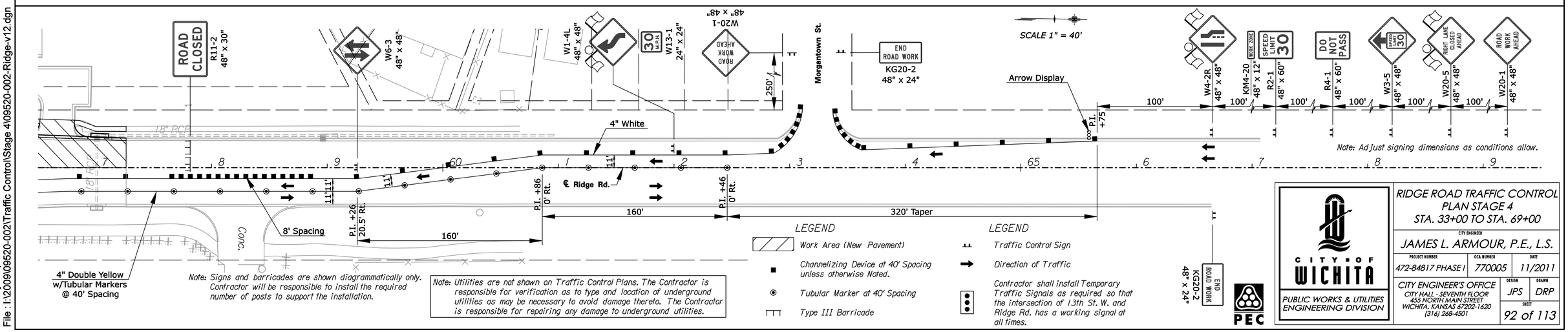
DESIGN	DRAWN
JPS	DRP

SHEET: 91 of 113

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	92	113







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.

LEGEND

- Work Area (New Pavement)
- Channelizing Device at 40' Spacing unless otherwise Noted.
- Tubular Marker at 40' Spacing
- Type III Barricade

LEGEND

- Traffic Control Sign
- Direction of Traffic
- Contractor shall install Temporary Traffic Signals as required so that the intersection of 13th St. W. and Ridge Rd. has a working signal at all times.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

PEC

RIDGE ROAD TRAFFIC CONTROL PLAN STAGE 4
STA. 33+00 TO STA. 69+00

CITY ENGINEER: JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN
JPS	DRP

SHEET: 92 of 113

Plotted : 13-SEP-2011 14:36
Drawn By : drp
File : I:\2009\09520-002\Traffic Control\Stage 4\09520-002-Ridge-v12.dgn

COUNTY	STATE	PROJECT NUMBER	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
SEDGWICK	KANSAS	472-84817 PHASE I	2011	93	113

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
R1-1	4		4	STOP W/RED TYPE B FLASHER & FLAGS
R2-1	4			SPEED LIMIT
R3-2	8			NO TURN
R3-7R	2			LANE MUST TURN
R4-1	4			DO NOT PASS
R4-7	1			KEEP RIGHT SYMBOL
R11-2	5			ROAD (OR BRIDGE) CLOSED
KG20-2	13			END ROAD WORK
KM4-20	4			WORK ZONE

MUTCD DEVICE NO.	NO.	FLASHERS TYPE A	FLASHERS TYPE B	REMARKS
W1-4L	3	3		ROADWAY SHIFT
W1-4R	1	1		ROADWAY SHIFT
W3-5	4			SPEED LIMIT AHEAD
W4-2L	2	2		LANE SHIFT
W4-2R	1	1		LANE SHIFT
W6-3	4			2-WAY SYMBOL
W13-1P	4			SPEED ADVISORY
W20-1	13			ROAD WORK AHEAD
W20-5	4	4		L or R LANE CLOSED AHEAD

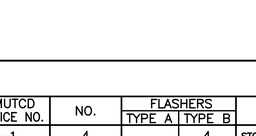
* FOR INFORMATION ONLY QUANTITY SHOWN REPRESENTS MAXIMUM REQUIRED DURING ANY SINGLE STAGE.

DELINEATORS & CHANNELIZATION DEVICES

DEVICE	NO.	SIZE	FLASHERS TYPE A	FLASHERS TYPE B	FLASHERS TYPE C
BARRICADES					
TYPE III	32	12'	26		
TYPE II					
TYPE I					
DRUMS	325				
CONES	0				
TUBES	109	28"			
VERTICAL PANELS					
SINGLE					
BACK TO BACK					
PAVEMENT MARKING	WHITE	YELLOW			
4" SOLID (Lin. Ft.)	21872	37131			
4" BROKEN (Lin. Ft.)	330				
TURN ARROW	0				
24" WHITE STOP BAR	As Required				
TEMP. CONCRETE SAFETY BARRIER		(Lin. Ft.)			
ARROW DISPLAY	4				
INERTIAL BARRIER SYSTEM					

SEE SHEET NO. 94 FOR TRAFFIC CONTROL NOTES

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.

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
TRAFFIC SIGNALIZATION, TEMPORARY (13TH ST. & RIDGE RD.)	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.	93
	DATE	6/88	3/94	3/94	
	PLANFILE ~~TC-2-0~~		TOTAL SHEETS		

Plotted By: drp Date: 9/13/2011 3:38 PM
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STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84817 PHASE 1	2011	94	113

1. MUTCD COMPLIANCE:

ALL TEMPORARY TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION AND MAINTENANCE SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS WHICH HAS BEEN ADOPTED BY THE SECRETARY OF TRANSPORTATION. WHENEVER THE TEMPORARY TRAFFIC CONTROL STANDARDS CONFLICT WITH THE MUTCD, THE STANDARDS SHALL GOVERN.

2. 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.

3. CLEAR ZONE:

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

4. MINIMUM LANE WIDTHS:

LANE WIDTHS SHALL BE A MINIMUM OF 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.

5. FLAGGER:

A MINIMUM OF ONE FLAGGER SHALL 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.

6. PAVEMENT MARKING:

WHEN THE WORK WILL OCCUPY A LOCATION MORE THAN THREE DAYS, ALL CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED OR MASKED AND ALL TRANSITION TAPERS, CROSSOVERS, AND EDGE LINES ALONG CHANNELIZING DEVICES SHALL BE MARKED WITH SOLID 4" WIDE PAVEMENT MARKING.

7. FIRST MODULE OF IBS:

THE FIRST MODULE OF EACH INERTIAL BARRIER SYSTEM (IBS) SHALL HAVE A MINIMUM OF 2 SQ. FT. OF FLUORESCENT ORANGE ASTM TYPE IV SHEETING FACING TRAFFIC. EITHER A VERTICAL RECTANGLE OR DIAMOND SHAPE MAY BE USED.

8. PEDESTRIAN / BICYCLE SAFETY:

WORK ZONE SIGNS SHALL NOT INHIBIT PEDESTRIAN AND BICYCLE TRAFFIC ON SIDEWALKS OR OTHER AREAS DESIGNATED FOR PEDESTRIAN OR BICYCLE USE.

CONSIDERATION SHOULD BE MADE TO SEPARATE PEDESTRIAN AND 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 AND BICYCLISTS 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 AND BICYCLISTS ARE NOT CONFRONTED WITH MIDBLOCK WORK SITES THAT WILL INDUCE THEM TO ATTEMPT SKIRTING THE WORK SITE OR MAKING A MIDBLOCK CROSSING.

WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED, THE TEMPORARY FACILITIES SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.

9. CHANGED STOP CONDITIONS:

ATTACH TWO FLAGS AND A RED TYPE "B" HIGH INTENSITY WARNING LIGHT TO ANY STOP SIGN THAT CREATES A NEW STOP CONDITION OR MOVES THE STOP CONDITION TO A NEW LOCATION. LEAVE FLAGS AND LIGHTS IN PLACE FOR AT LEAST THE FIRST 30 DAYS. INSTALL W3-1 (SYMBOLIC STOP AHEAD) SIGN IN ADVANCE OF STOP SIGN IF STOP SIGN IS NOT VISIBLE FOR A MINIMUM OF DISTANCE 'A' (SEE CHART ON TE710) OR IF STOP CONDITION IS MOVED TO LESS THAN DISTANCE 'A' FROM AN EXISTING STOP AHEAD SIGN.

10. LUMP SUM BIDDING:

WHEN TRAFFIC CONTROL IS BID LUMP SUM, ADDITIONAL DEVICES WILL BE PAID FOR AS EXTRA WORK.

11. NIGHTTIME LIGHTING:

WHEN NIGHTTIME WORK IS REQUIRED, FLOODLIGHTS SHOULD BE USED TO ILLUMINATE FLAGGER STATIONS, EQUIPMENT CROSSINGS, AND OTHER AREAS WHERE EXISTING LIGHTING IS NOT ADEQUATE FOR THE WORK TO BE PERFORMED SAFELY.

IN NO CASE SHALL FLOODLIGHTS BE PERMITTED TO CREATE A DISABLING GLARE FOR THE DRIVER. THE ADEQUACY OF THE FLOODLIGHT PLACEMENT AND ELIMINATION OF POTENTIAL GLARE SHOULD BE CHECKED BY DRIVING THROUGH THE PROJECT.

12. NCHRP REPORT 350 CRASHWORTHY REQUIREMENTS:

TRAFFIC CONTROL DEVICES SHALL MEET THE EVALUATION CRITERIA IN NCHRP REPORT 350 AS SUPPLEMENTED BY FHWA MEMORANDUM "IDENTIFYING ACCEPTABLE HIGHWAY SAFETY FEATURES," DATED JULY 25, 1997. AVAILABLE ON THE INTERNET AT http://safety.fhwa.dot.gov/roadway_dept/road_hardware/nchrp_350.htm

ANY DEVICE NOT ADDRESSED BY THE TE STANDARDS MAY BE APPROVED ON A CASE BY CASE BASIS BY THE ENGINEER. THE DEVICE SHALL BE ACCOMPANIED BY AND INSTALLED ACCORDING TO NCHRP REPORT 350.

THE CONTRACTOR SHALL:

1) PROVIDE TO THE ENGINEER A COPY OF THE MANUFACTURER'S SELF-CERTIFICATION THAT ANY CATEGORY 1 (i.e. - PLASTIC CONICAL DELINEATORS, TUBULAR MARKERS, DRUMS WITHOUT ATTACHMENTS) AND CATEGORY 2 (i.e. - PORTABLE SIGN STANDS (WITH SIGNS), TYPE II AND III BARRICADES, AND VERTICAL PANELS) DEVICES USED ON THE PROJECT ARE NCHRP REPORT 350 COMPLIANT.

2) PROVIDE TO THE ENGINEER A COPY OF THE ENTIRE FHWA NCHRP REPORT 350 ACCEPTANCE LETTER (WZ-xxx) FOR ANY CATEGORY 2 DEVICE (i.e. - PORTABLE SIGN STANDS (WITH SIGNS), TYPE II AND III BARRICADES, AND VERTICAL PANELS) USED ON THE PROJECT. WORK ZONE FHWA NCHRP REPORT 350 ACCEPTANCE LETTERS (WZ-xxx) ARE AVAILABLE ON THE INTERNET AT: http://safety.fhwa.dot.gov/roadway_dept/road_hardware/listing.cfm?code=workzone

3) CERTIFY THAT THE TRUCK MOUNTED ATTENUATORS (TMA'S) (WHICH ARE DEFINED AS CATEGORY 3 DEVICES BY THE FHWA MEMORANDUM) WERE PURCHASED PRIOR TO OCTOBER 1, 1998, AND INCLUDE A COPY OF THE ENTIRE FHWA ACCEPTANCE LETTER STATING THAT THE TMA'S ARE NCHRP REPORT 230 COMPLIANT; OR IF THE DEVICES WERE PURCHASED AFTER OCTOBER 1, 1998, INCLUDE A COPY OF THE ENTIRE FHWA'S ACCEPTANCE LETTER STATING THAT THE TMA'S ARE NCHRP REPORT 350 COMPLIANT.

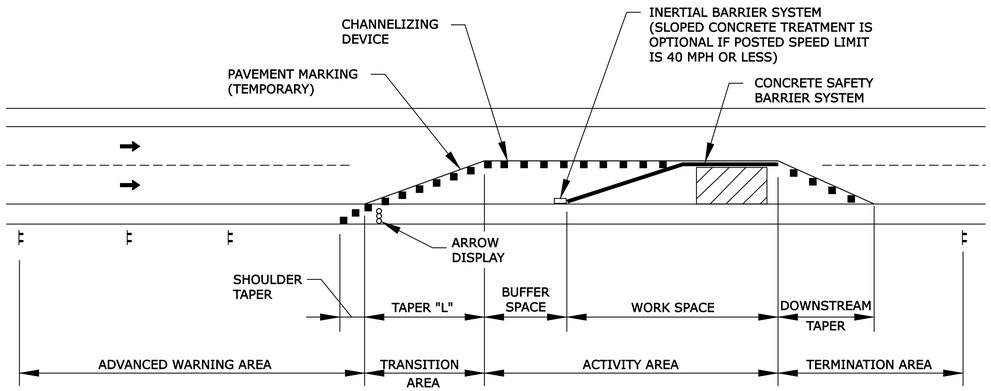
ALL CATEGORY 1 & 2 DEVICES SHALL BE NCHRP REPORT 350 COMPLIANT. TMA'S, PURCHASED PRIOR TO OCTOBER 1, 1998, MAY BE USED UNTIL THE END OF THEIR SERVICEABLE LIVES.

13. TYPE "A" LOW INTENSITY WARNING LIGHTS:

A TYPE "A" LOW INTENSITY WARNING LIGHT IS AN L.E.D. BI-DIRECTIONAL FLASHING WORK ZONE WARNING LIGHT.

14. LEAD IN CONES ON CENTERLINE:

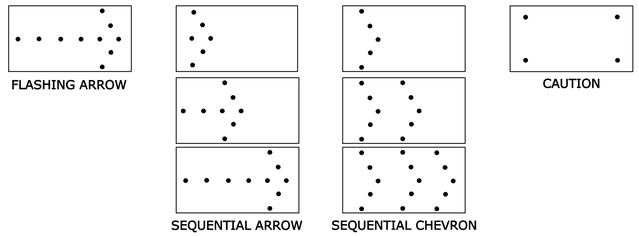
LEAD IN CENTERLINE CONES MAY BE ELIMINATED FROM TE728, TE729, TE730, TE731, AND TE732 WHEN THE ROADWAY INCLUDING SHOULDERS IS LESS THAN OR EQUAL TO 30' (FEET) AND THE ENGINEER DETERMINES THAT EXTENUATING CIRCUMSTANCES EXIST.



NOTE:
REFER TO STD. TE702 FOR TAPER "L" FORMULA.

TYPICAL WORK ZONE COMPONENTS

ARROW DISPLAYS



ARROW DISPLAY ELEMENTS SHALL BE CAPABLE OF A MINIMUM 50 PERCENT DIMMING FROM THEIR FULL-RATED LAMP VOLTAGE. FULL LAMP VOLTAGE SHOULD BE USED DURING THE DAY AND DIMMED MODE SHALL BE USED AT NIGHT. FOR SHOULDER WORK, ROADSIDE WORK NEAR THE SHOULDER, BLOCKING THE SHOULDER, OR FOR TEMPORARY CLOSING ONE LANE ON A TWO-LANE, TWO-WAY ROADWAY, AN ARROW PANEL SHALL BE USED ONLY IN THE CAUTION MODE.

BUFFER SPACE

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

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

✳ POSTED SPEED PRIOR TO WORK STARTING

IF TEMPORARY CONCRETE SAFETY BARRIER SYSTEM IS USED TO SEPARATE 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.

NO.	DATE	REVISIONS	BY	APP'D
3	11/30/09	Added Note 14	J.M.	A.A.A.
2	4/20/09	Revised Note 7	J.M.	A.A.A.
1	8/8/07	Add Note 13, Revise Note 8 & WZ Components	M.B.	A.A.A.

KANSAS DEPARTMENT OF TRANSPORTATION

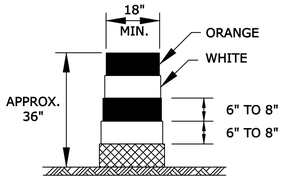
GENERAL TRAFFIC CONTROL

TE700 9/1/00

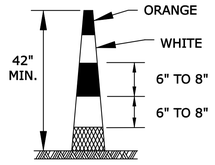
FHWA APPROVAL		11/30/2009	APP'D	Anthony A. Airobaire	
DESIGNED	B.A.H.	DETAILED	B.A.H.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Plotted : 13-SEP-2011 15:03
Drawn By : drp
File : I:\2009\09520-0021\Traffic Control\TC Standards\te700.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84817 PHASE 1	2011	95	113



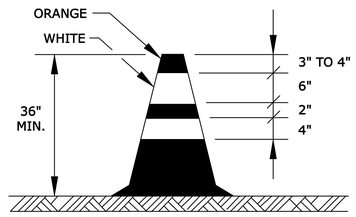
DRUM



CONICAL DELINEATOR

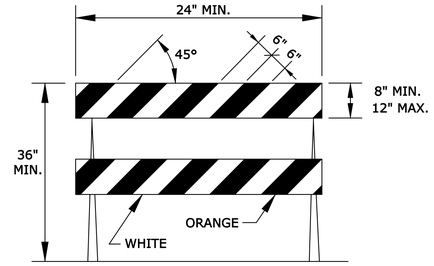
DRUMS AND CONICAL DELINEATORS SHALL HAVE AT LEAST TWO ORANGE AND TWO WHITE 6" TO 8" WIDE RETROREFLECTIVE STRIPES. ADDITIONAL STRIPES MAY BE NON-RETROREFLECTIVE. IF THERE ARE NON-RETROREFLECTIVE SPACES BETWEEN ADJACENT STRIPES, THEY SHALL BE NO MORE THAN 3" WIDE.

ALL RETROREFLECTIVE STRIPES ON DRUMS SHALL BE ASTM TYPE III SHEETING. THE WHITE STRIPES ON CONICAL DELINEATORS SHALL BE ASTM TYPE III SHEETING. ORANGE STRIPES ON ALL CONICAL DELINEATORS SHALL BE FLUORESCENT ORANGE ASTM TYPE IV SHEETING.



TRAFFIC CONE

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

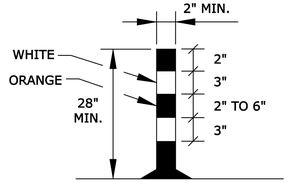


TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED.

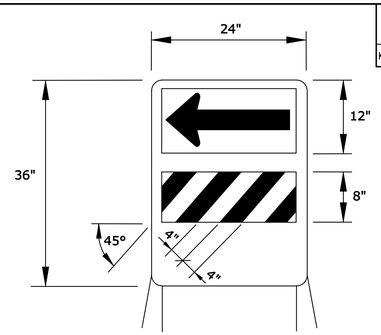
THE ENTIRE AREA OF BARRICADE RAILS, BOTH FRONT AND BACK, SHALL BE ASTM TYPE III SHEETING.

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



TUBULAR MARKER

THE TWO WHITE RETROREFLECTIVE STRIPES SHALL BE ASTM TYPE III SHEETING.

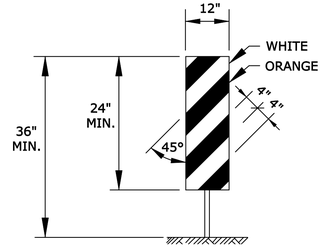


DIRECTION INDICATOR BARRICADE

THE ARROW PANEL SHALL BE BLACK ON FLUORESCENT ORANGE ASTM TYPE IV SHEETING. THE STRIPES SHALL BE ORANGE AND WHITE ASTM TYPE III SHEETING SLOPING 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.

THE ARROW PANEL SHOULD NOT BE VISIBLE TO OPPOSING TRAFFIC.



VERTICAL PANEL

THE ENTIRE AREA OF VERTICAL PANELS, BOTH FRONT AND BACK, SHALL HAVE ASTM TYPE III SHEETING. THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.

ITEM	LOCATION	CROSS-OVERS	SHOOFLY DIVERSIONS	TANGENTS	TAPERS	RAMPS	HEAD TO HEAD	OBJECT IDENTIFIER	
PORTABLE	DRUMS	YES	YES	YES	YES	YES	(1)	YES	
	CONICAL DELINEATORS	YES	YES	YES	YES	YES	(1)	YES	
	VERTICAL PANELS	(2)	(2)	(2)	(2)	(2)	(1,2)	YES	
	DIRECTION INDICATOR BARRICADE	NO	NO	NO	YES	NO	NO	NO	
	TYPE II BARRICADE	(2)	(2)	(2)	(2)	NO	NO	YES	
FIXED									
	TUBULAR MARKERS	(3)	(3)	(3)	NO	(3)	YES	NO	
	VERTICAL PANELS	(3)	(3)	(3)	(3)	(3)	(3)	YES	

(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.

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 = NUMERICAL VALUE OF POSTED SPEED PRIOR TO WORK STARTING IN MPH
W = WIDTH OF OFFSET IN FEET

CHANNELIZER PLACEMENT:

(A) 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.

(B) 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.

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

(D) CHANNELIZING DEVICES PLACED ALONG SHOULDER EDGES OR IN DROPOFFS SHALL HAVE A MINIMUM OF 24" FROM THE TOP OF THE CHANNELIZING DEVICE TO THE TOP OF THE PAVEMENT.

NO.	DATE	REVISIONS	BY	APP'D
3	4/20/09	Channelizer Placement & Traffic Cone Detail	J.M.	A.A.A.
2	8/8/07	Trimline Changed to ConicalDelineator	M.B.	A.A.A.
1	8/19/03	Changed Border	B.A.H.	S.A.B.

KANSAS DEPARTMENT OF TRANSPORTATION

CHANNELIZING DEVICES

TE702 9/1/00

FHWA APPROVAL		4/20/2009	APP'D	Anthony A. Airobaire	
DESIGNED	L.E.R.	DETAILED	B.A.H.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Drawn By : drp
Plotted : 13-SEP-2011 15:04
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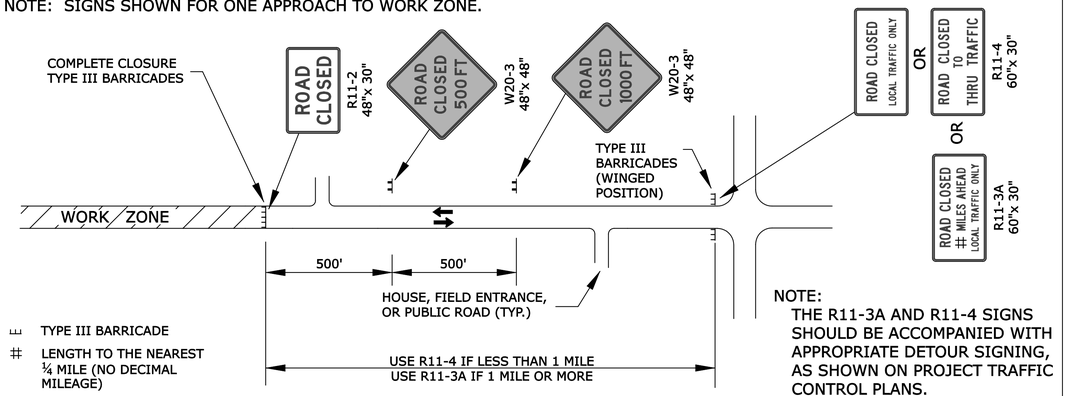
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84817 PHASE 1	2011	96	113

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

NOTE: SIGNS SHOWN FOR ONE APPROACH TO INTERSECTION (WORK ZONE).

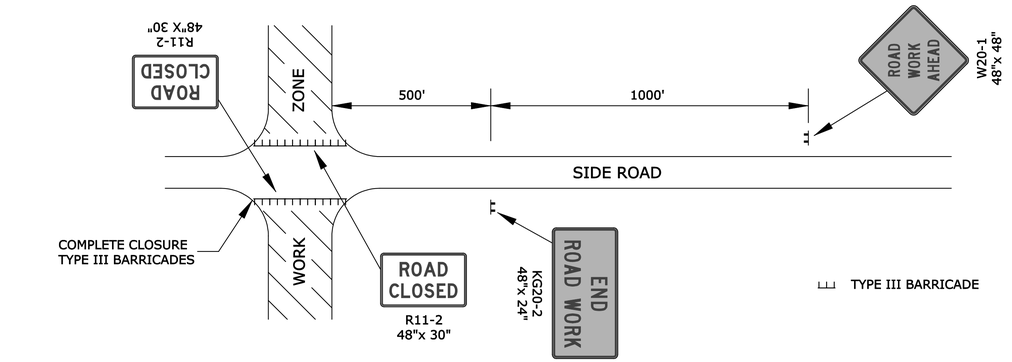


FIGURE 2: TYPICAL SIGNING FOR SIDE ROAD OPEN

NOTE: SIGNS SHOWN FOR ONE APPROACH TO INTERSECTION (WORK ZONE).

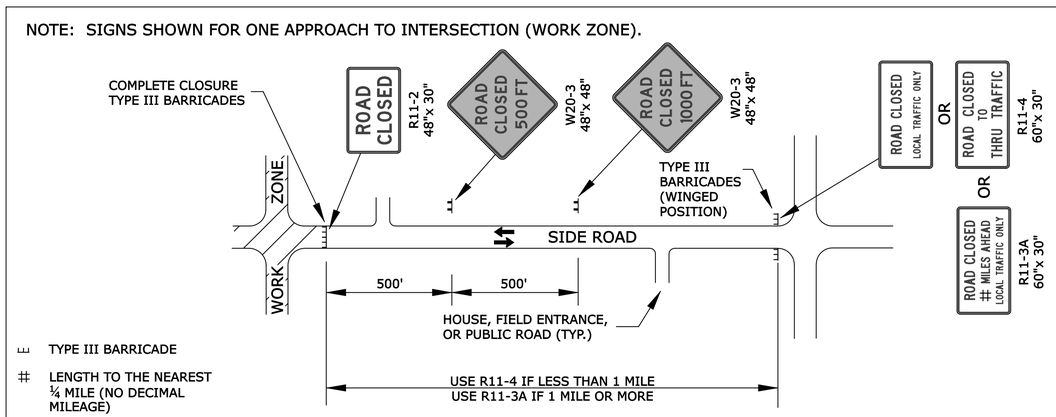


FIGURE 3: TYPICAL SIGNING FOR SIDE ROAD CLOSED

NOTE: SIGNS SHOWN FOR ONE APPROACH TO WORK ZONE.

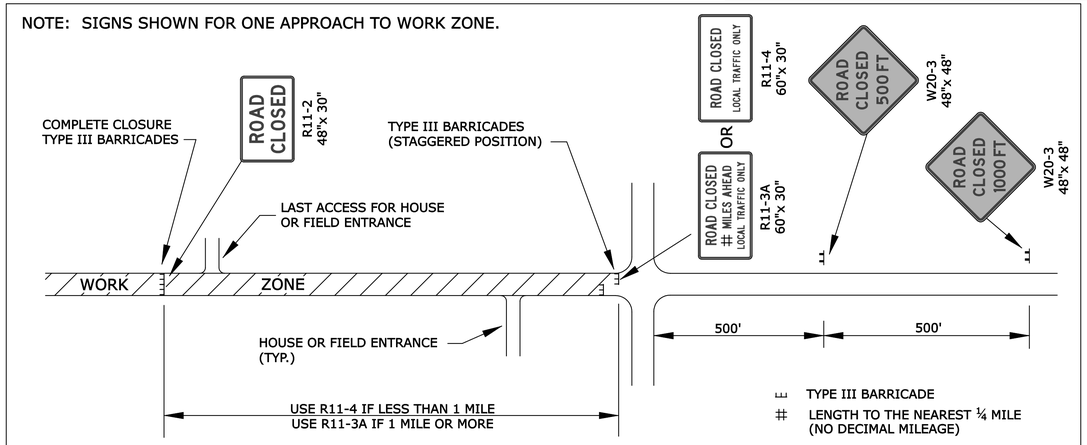


FIGURE 4: TYPICAL SIGNING FOR ROAD CLOSURE - LOCAL TRAFFIC ACCESS

NOTES:

1. SIGNS:

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.

2. BARRICADE PLACEMENT:

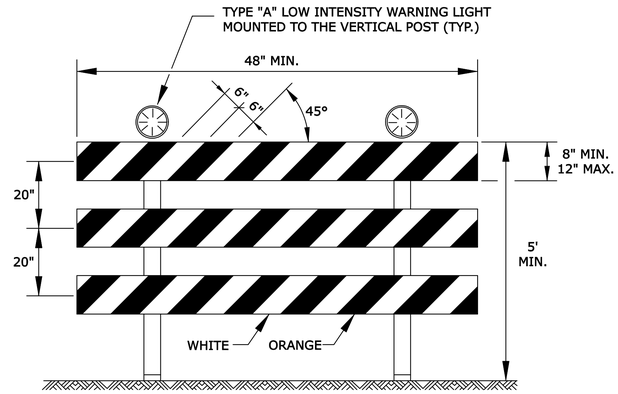
A) COMPLETE ROAD CLOSURE

WHEN A ROADWAY IS CLOSED, TYPE III BARRICADES SHALL BE PLACED END-TO-END TO COMPLETELY COVER THE ROADWAY AND SHOULDERS. WHEN ACCESS MUST BE ALLOWED FOR CONSTRUCTION OR OTHER OFFICIAL/GOVERNMENT VEHICLES, TYPE III BARRICADES SHALL BE LONGITUDINALLY STAGGERED FAR ENOUGH APART FROM ONE ANOTHER TO ALLOW SAFE PASSAGE OF VEHICLES AND MAINTAIN THE APPEARANCE OF A CLOSED ROADWAY. TYPE III BARRICADES SHALL BE REALIGNED AND PLACED END-TO-END TO DENY ANY ACCESS WHEN THE CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY.

B) ROAD CLOSED - LOCAL TRAFFIC

AS SHOWN IN FIGURE 4, WHEN LOCAL TRAFFIC MUST BE ALLOWED ACCESS INTO THE WORK ZONE, TYPE III BARRICADES SHALL BE LONGITUDINALLY STAGGERED TO MAINTAIN THE APPEARANCE OF A CLOSED ROADWAY. A SECOND LINE OF END-TO-END TYPE III BARRICADES SHALL BE PLACED JUST BEYOND THE LAST ACCESS POINT IN THE WORK ZONE, TO COMPLETELY CLOSE THE ROADWAY AS DESCRIBED IN NOTE 2-A.

AS SHOWN IN FIGURE 1 AND FIGURE 3, 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 III BARRICADES (WINGED POSITION), PLACED ON THE SHOULDERS OF ROADWAY.



TYPE III BARRICADE WITH LIGHTS

THE ENTIRE AREA OF BARRICADE RAILS, BOTH FRONT AND BACK, SHALL HAVE ASTM TYPE III SHEETING.

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

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

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.

TYPE "A" LOW INTENSITY WARNING LIGHTS SHALL BE MAINTAINED SO AS TO BE VISIBLE ON A CLEAR NIGHT FROM A DISTANCE OF 3000'.

NO.	DATE	REVISIONS	BY	APP'D
3	8/08/07	Added Position to Type III Barricades	M.B.	A.A.A.
2	12/29/05	Note #1 Modified	M.B.	A.A.A.
1	2/01/05	Modified Notes Type III Barricades w/Lights	B.H.	A.A.A.

KANSAS DEPARTMENT OF TRANSPORTATION

TYPICAL TRAFFIC CONTROL
ROAD CLOSURES

TE704 9/26/02

FHWA APPROVAL		8/8/2007	APP'D	Anthony A. Airobaire	
DESIGNED	B.A.H.	DETAILED	B.A.H.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Plotted : 13-SEP-2011 15:05
Drawn By : drp
File : I:\2009\09520-002\Traffic Control\TC Standards\te704.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84817 PHASE 1	2011	97	113

GENERAL NOTES

1. MAINTENANCE:

THE CONTRACTOR SHALL MAINTAIN ALL SIGNS AND DEVICES IN AN UPRIGHT POSITION. THE CONTRACTOR SHALL CLEAN OR REPLACE ANY DAMAGED OR ILLEGIBLE SIGN OR DEVICE AS DIRECTED BY THE ENGINEER.

2. EXISTING SIGNS:

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

3. CONFLICTING SIGNS, SIGNS NOT IN USE, AND TRAFFIC SIGNALS:

SIGNS AND TRAFFIC SIGNALS THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLAN OR DO NOT APPLY TO THE TRAFFIC OPERATIONS SHALL BE IMMEDIATELY REMOVED, TURNED SO NOT VISIBLE TO TRAFFIC FROM ANY DIRECTION, OR COMPLETELY COVERED WITH ADEQUATE OPAQUE WATERPROOF MATERIAL. TAPE SHALL NOT BE APPLIED TO THE FACE OF THE SIGN.

4. PORTABLE AND POST MOUNTED SIGNS:

TEMPORARY TRAFFIC CONTROL SIGNS THAT ARE ANTICIPATED TO REMAIN IN PLACE FOR 3 DAYS OR LESS ARE CONSIDERED "PORTABLE." PORTABLE SIGNS SHALL BE MOUNTED ON AN APPROVED SUPPORT AT A MINIMUM HEIGHT OF 12" ABOVE THE TRAVELED WAY. TRAFFIC CONTROL SIGNS IN PLACE FOR OVER 3 DAYS ARE REQUIRED TO BE MOUNTED ON APPROVED POSTS. A MINIMUM OF 42" OF THE APPROVED POST MUST BE BELOW THE GROUND SURFACE WITH ADEQUATE BACKFILL AND COMPACTION. ALL POSTS AT MINIMUM SHALL EXTEND TO THE TOP EDGE OF THE SIGN AND NO GREATER THAN 6" ABOVE THE SIGN.

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.

"ROLL-UP" SIGNS MAY BE USED FOR PORTABLE WARNING SIGNS. THEY MUST BE FLUORESCENT ORANGE ASTM TYPE IV SIGNS OF OPAQUE MATERIAL. MESH SIGNS ARE NOT ALLOWED.

5. SHEETING:

ALL ORANGE SIGNS SHALL HAVE FLUORESCENT ORANGE ASTM TYPE IV SHEETING. ALL OTHER SIGNS SHALL HAVE ASTM TYPE III SHEETING OF STANDARD COLORS.

6. SIGNS INVOLVING SPEEDS:

THE W3-5 (SPEED REDUCTION) SHOULD BE USED ONLY IF THE ENGINEER DETERMINES THAT A REDUCED SPEED IS REQUIRED ON THE PROJECT.

THE KM4-20 (WORK ZONE) PLAQUE SHALL BE PLACED ABOVE ALL SPEED LIMIT SIGNS, (R2-1), EXISTING AND TEMPORARY. MOUNT THE WORK ZONE PLAQUES TO THE POST. DO NOT OVERLAP THE R2-1 AND KM4-20 SIGNS.

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

7. SIGNS CONTROLLING WORK ZONE:

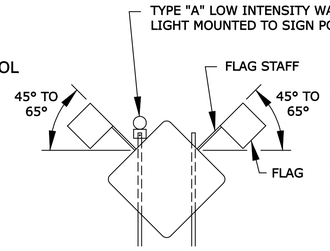
THE KG20-2(END ROAD WORK) SHOULD BE PLACED 500' FROM THE END OF THE ACTUAL WORK SPACE, NOT NECESSARILY AT THE EXTREME LIMITS OF THE PROJECT. THE KG20-2 SHOULD BE MOUNTED ON TWO POSTS. THE KG20-2 MAY BE MOUNTED ON ONE POST IF IN URBAN AREAS WHERE UTILITIES ARE A PROBLEM AND WIND LOADS ARE NOT AN ISSUE.

WHERE TWO WORK ZONES ARE LESS THAN 1 MILE APART IN RURAL AREAS OR ¼ MILE APART IN URBAN AREAS, THE KG20-2(END ROAD WORK) FOR THE FIRST WORK ZONE AND THE W20-1(ROAD WORK) FOR THE SECOND WORK ZONE SHOULD BE ELIMINATED.

8. WARNING LIGHTS ON SIGNS:

TYPE "A" LOW INTENSITY WARNING LIGHTS SHOULD BE USED WITH ALL CONSTRUCTION ACTION WARNING SIGNS AND SHALL NOT BE USED ON SIGNS MOUNTED LESS THAN 5' HIGH ON TEMPORARY SUPPORTS. ON ALL OTHER CONSTRUCTION WARNING SIGNS, TYPE "A" LOW INTENSITY WARNING LIGHTS ARE TO BE USED AS DIRECTED BY THE ENGINEER.

TYPE "A" LOW INTENSITY WARNING LIGHTS SHALL BE MAINTAINED SO AS TO BE CAPABLE OF BEING VISIBLE ON A CLEAR NIGHT FROM A DISTANCE OF 3000 FT. IF A TYPE "A" LOW INTENSITY WARNING LIGHT HAS A SEPARATE BATTERY CASE, THE BATTERY CASE SHALL BE MOUNTED NO HIGHER THAN 12" ABOVE THE GROUND AND MOUNTED BEHIND THE SIGN POST. A TYPE "A" LOW INTENSITY WARNING LIGHT WHERE THE LENS AND BATTERY ARE ONE UNIT SHALL BE MOUNTED ON THE TEMPORARY SIGN POST NEAREST TO THE TRAVELED WAY. FLAGS SHALL NOT INTERFERE WITH THE VISABILITY OF THE TYPE "A" LOW INTENSITY WARNING LIGHT.



TWO (2) 18" x 18" FLUORESCENT RED-ORANGE FLAGS SHALL BE ATTACHED (IN THE POSITION SHOWN) ON THE W20-2(DETOUR), W1-1(TURN), W1-2(CURVE), W1-3(REVERSE TURN), W1-4(REVERSE CURVE), W3-3(SIGNAL AHEAD), W4-2(LANE REDUCTION), W20-4(ONE LANE ROAD), W20-5(LANE CLOSED), W20-7A(FLAGGER), AND W3-4 (BE PREPARED TO STOP) SIGNS AND ANY OTHER ACTION SIGNS AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. THE FLAGS AND STAFFS ARE TO BE ATTACHED IN SUCH A MANNER THAT THE SIGN WILL NOT BE OBSCURED. THE FLAGS MAY BE EITHER A CLOTH OR VINYL MATERIAL. THE FLAGS SHALL BE SUBSIDIARY TO THE CONSTRUCTION SIGN BID ITEMS.

9. AUTOMATED FLAGGER ASSISTANCE DEVICE REQUIREMENTS:

STOP/SLOW AUTOMATED FLAGGER ASSISTANCE DEVICE:

THE AFAD'S STOP/SLOW SIGN SHALL HAVE AN OCTAGONAL SHAPE, SHALL BE FABRICATED OF RIGID MATERIAL, AND SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGN A MINIMUM OF 6' ABOVE THE PAVEMENT ON AN APPROPRIATE SUPPORT. THE SIZE OF THE STOP/SLOW SIGN SHALL BE AT LEAST 30"X30" WITH LETTER AT LEAST 10" HIGH. THE BACKGROUND OF THE STOP FACE SHALL BE RED WITH WHITE LETTER AND BORDERS. THE BACKGROUND OF THE SLOW FACE SHALL BE DIAMOND SHAPED AND ORANGE WITH BLACK LETTERS AND BORDER. BOTH FACES OF THE STOP/SLOW SIGN SHALL BE RETROREFLECTORIZED. THE AFAD'S STOP/SLOW SIGN SHALL HAVE A MEANS TO POSITIVELY LOCK, ENGAGE, OR OTHERWISE MAINTAIN THE SIGN ASSEMBLY IN A STABLE CONDITION WHEN SET IN THE STOP OR SLOW POSITION.

THE AFAD'S STOP/SLOW SIGN SHALL BE SUPPLEMENTED WITH ACTIVE CONSPICUITY DEVICES BY INCORPORATING

1. WHITE OR RED FLASHING LIGHTS WITHIN THE STOP FACE AND WHITE OR YELLOW FLASHING LIGHTS WITHIN THE SLOW FACE.
2. A STOP BEACON MOUNTED NO MORE THAN 24" ABOVE THE STOP FACE AND A WARNING BEACON MOUNTED NO MORE THAN 24" ABOVE, BELOW, OR TO THE SIDE OF THE SLOW FACE. THE STOP BEACON SHALL NOT BE FLASHED OR ILLUMINATED WHEN THE SLOW FACE IS DISPLAYED, AND THE WARNING BEACON SHALL NOT BE FLASHED OR ILLUMINATED WHEN THE STOP FACE IS DISPLAYED.

RED/YELLOW LENS AUTOMATED FLAGGER ASSISTANCE DEVICE:

RED/YELLOW LENS AUTOMATED FLAGGER ASSISTANCE DEVICE SHALL ALTERNATELY DISPLAY A STEADILY ILLUMINATED CIRCULAR RED LENS AND A FLASHING CIRCULAR YELLOW LENS TO CONTROL TRAFFIC WITHOUT THE NEED FOR A FLAGGER IN THE IMMEDIATE VICINITY OF THE AFAD OR ON THE ROADWAY. THE STEADILY ILLUMINATED CIRCULAR YELLOW CHANGE INTERVAL SHOULD HAVE DURATION OF AT LEAST 5 SECONDS, UNLESS A DIFFERENT DURATION, WITHIN THE RANGE OF DURATIONS IS JUSTIFIED BY AN ENGINEERING JUDGMENT. RED/YELLOW LENS AFAD'S SHALL HAVE AT LEAST ONE SET OF CIRCULAR RED AND CIRCULAR YELLOW LENSES THAT ARE 12" IN DIAMETER. CIRCULAR RED ON TOP AND CIRCULAR YELLOW BELOW, SHALL CONFORM TO AND BE OPERATED ACCORDING TO THE REQUIREMENTS OF THE LATEST VERSION OF THE MUTCD ADOPTED BY THE SECRETARY. IF THE SET OF LENSES IS POST- MOUNTED, THE BOTTOM OF THE HOUSING (INCLUDING BRACKETS) SHALL BE 7' ABOVE THE PAVEMENT. IF THE SET OF LENSES IS LOCATED OVER ANY PORTION OF THE HIGHWAY THAT CAN BE USED BY MOTOR VEHICLES, THE BOTTOM OF THE HOUSING (INCLUDING BRACKETS) SHALL BE AT LEAST 15' ABOVE THE PAVEMENT.

ALL AFAD'S SHALL INCLUDE A GATE ARM THAT DESCENDS TO A DOWN POSITION ACROSS THE APPROACH LANE OF TRAFFIC WHEN THE STOP FACE IS DISPLAYED AND THEN ASCENDS TO AN UPRIGHT POSITION WHEN THE SLOW FACE IS DISPLAYED. THE GATE ARM SHALL BE COVERED WITH ALTERNATING RED AND WHITE ASTM TYPE IV RETROREFLECTIVE STRIPES AT 6" INTERVALS MEASURED HORIZONTALLY. WHEN THE ARM IS IN THE DOWN POSITION BLOCKING THE APPROACH LANE THE MINIMUM VERTICAL ASPECT OF THE ARM AND SHEETING SHALL BE 2". THE STRIPES SHALL SLOPE DOWNWARD AT AN ANGLE OF 45 DEGREES FROM THE UPPER RIGHT TO THE LOWER LEFT ON THE SIDE OF THE ARM FACING STOPPED TRAFFIC, AND FROM THE UPPER LEFT TO THE LOWER RIGHT ON THE SIDE OF THE ARM FACING MOVING TRAFFIC IN THE ONCOMING DIRECTION. THE END OF THE ARM SHALL REACH AT LEAST TO THE CENTER OF THE LANE BEING CONTROLLED. ALL AFAD'S SHALL HAVE A PILOT LIGHT MOUNTED BEHIND EACH UNIT SO A SINGLE OPERATOR, OPERATING TWO UNITS, CAN VERIFY WHICH COLOR IS BEING DISPLAYED.

SIGN LAYOUT INFORMATION

KG20-2
(BLACK ON ORANGE)

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

LETTER SIZES FOR BLACK ON ORANGE "DESTINATION" SIGNS

STD. SIZE	EXPWY/FREEWAY
6" C	10" D

KM4-20
(BLACK ON ORANGE)

STD. SIZE	EXPWY/FREEWAY
3" C	6" C
24"x 6"	48"x 12"

W7-3a

COLORS:
LEGAND - BLACK (NON-REFLECTIVE)
BACKGROUND - ORANGE (REFLECTIVE)

MILEAGE TO BE DETERMINED BY THE ENGINEER.

NOTE:
TEXT DIMENSIONS ARE IN INCHES.
BORDER IS BLACK NON-REFLECTIVE.
SEE STD. TE730 OR TE731 FOR KG20-5 SIGN LAYOUT.

W8-11

COLORS:
LEGAND - BLACK (NON-REFLECTIVE)
BACKGROUND - ORANGE (REFLECTIVE)

W8-9a

COLORS:
LEGAND - BLACK (NON-REFLECTIVE)
BACKGROUND - ORANGE (REFLECTIVE)

THIS SIGN IS TO BE INSTALLED FOR CONDITIONS OF HEIGHT DIFFERENTIAL BETWEEN ADJACENT LANES OVER ONE (1) INCH. IT IS TO BE PLACED AT EACH INTERSECTING CROSSROAD, MAJOR TRAFFIC GENERATOR, OR AT APPROXIMATELY ONE-HALF (1/2) MILE INTERVALS. THE SIGNS ARE TO BE REMOVED OR COVERED WHEN NOT APPLICABLE.

MINIMUM ADVANCE WARNING SIGN SPACING (IN FEET):

	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*

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.

NO.	DATE	REVISIONS	BY	APP'D
3	2/24/10	Modified AFAD Note	J.M.	A.A.A.
2	10/28/09	Modified AFAD Note	J.M.	A.A.A.
1	9/1/09	Modified AFAD Note	J.M.	A.A.A.

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SIGNS

TE710 9/1/00

FHWA APPROVAL		10/28/2009	APP'D	Anthony A. Airobaire	
DESIGNED	B.A.H.	DETAILED	B.A.H.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Drawn By : drp
File : I:\2009\09520-0021\Traffic Control\TC Standards\te710.dgn
Plotted : 13-SEP-2011 15:05

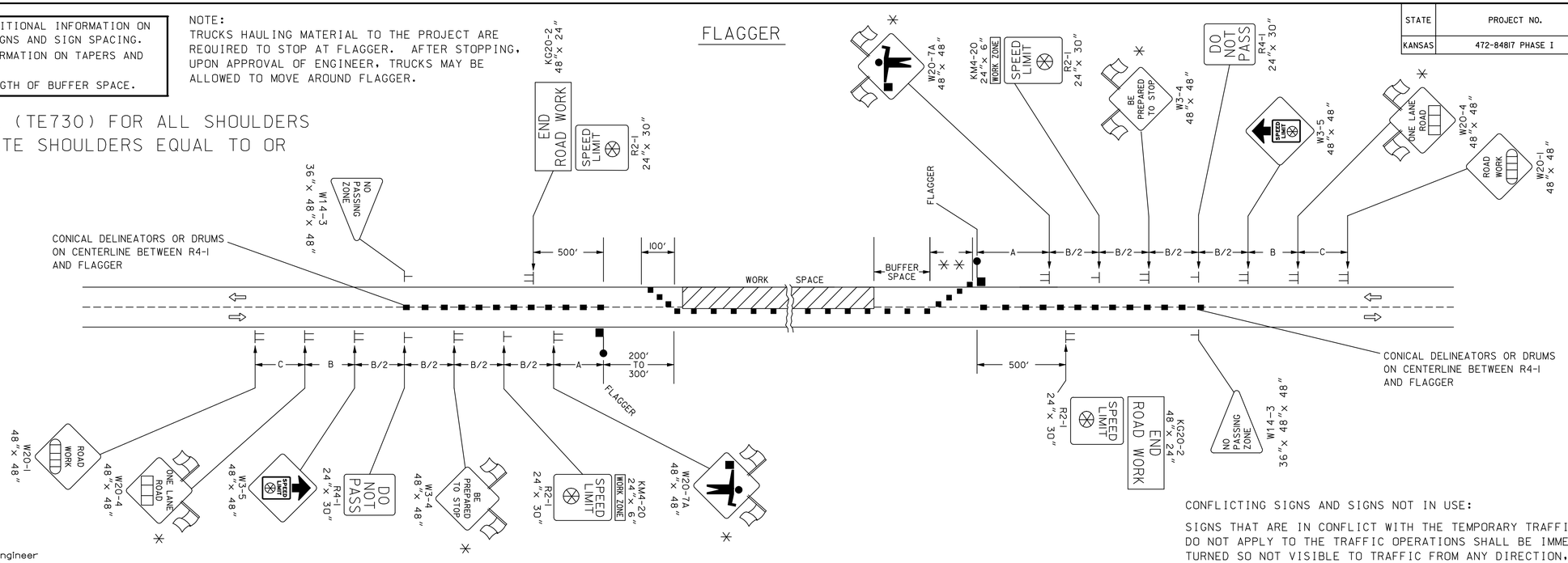
REFER TO STD. TE710 FOR ADDITIONAL INFORMATION ON TEMPORARY TRAFFIC CONTROL SIGNS AND SIGN SPACING.
REFER TO STD. TE702 FOR INFORMATION ON TAPERS AND CHANNELIZING DEVICES.
REFER TO STD. TE700 FOR LENGTH OF BUFFER SPACE.

NOTE:
TRUCKS HAULING MATERIAL TO THE PROJECT ARE REQUIRED TO STOP AT FLAGGER. AFTER STOPPING, UPON APPROVAL OF ENGINEER, TRUCKS MAY BE ALLOWED TO MOVE AROUND FLAGGER.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84817 PHASE I	2011	98	113

FLAGGER

APPLY THIS DETAIL (TE730) FOR ALL SHOULDERS (EXCLUDING CONCRETE SHOULDERS EQUAL TO OR GREATER THAN 8′)



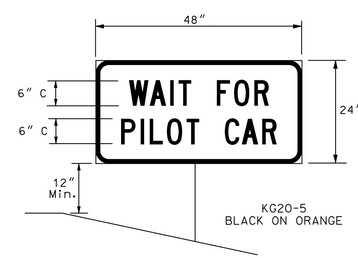
- Channelizing Device
- AHEAD, 1500 FT, OR 1 MILE
- AHEAD, 1000 FT, 1500 FT, OR 1/2 MILE
- Speed To Be Determined By The Engineer
- Type 'A' Low Intensity Warning Light

✳ WHEN APPLICABLE, USE TYPE "A" LOW INTENSITY WARNING LIGHTS FOR NIGHTTIME OPERATIONS ONLY OR AS DIRECTED BY ENGINEER.

✳✳ THERE SHOULD BE A MINIMUM OF SIX (6) CHANNELIZERS SPACED AT 20′ INTERVALS.

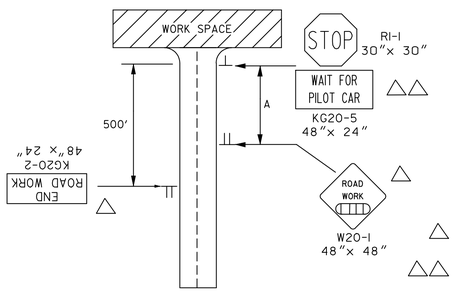
CONFLICTING SIGNS AND SIGNS NOT IN USE:

SIGNS THAT ARE IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL PLAN OR DO NOT APPLY TO THE TRAFFIC OPERATIONS SHALL BE IMMEDIATELY REMOVED, TURNED SO NOT VISIBLE TO TRAFFIC FROM ANY DIRECTION, OR COMPLETELY COVERED WITH ADEQUATE OPAQUE WATERPROOF MATERIAL. TAPE SHALL NOT BE APPLIED TO THE FACE OF THE SIGN.



NOTE:
PLACE A FLAGGER AT ALL HIGHWAY AND MAJOR COLLECTOR INTERSECTIONS IN THE WORK SPACE. THE NEED FOR A FLAGGER AT A MINOR SIDE ROAD INTERSECTION SHALL BE DETERMINED BY THE ENGINEER. A SINGLE FLAGGER AT EACH INTERSECTION IS SUBSIDIARY TO OTHER ITEMS. IF REQUESTED BY THE ENGINEER, EACH ADDITIONAL FLAGGER WILL BE MEASURED AND PAID FOR EACH HOUR THEY ARE REQUIRED. PLACE A W20-7A (FLAGGER SYMBOL) SIGN ON EACH SIDE ROAD APPROACH THAT IS CONTROLLED BY A FLAGGER.

TYPICAL SIGNING FOR A MINOR SIDE ROAD APPROACH TO WORK SPACE

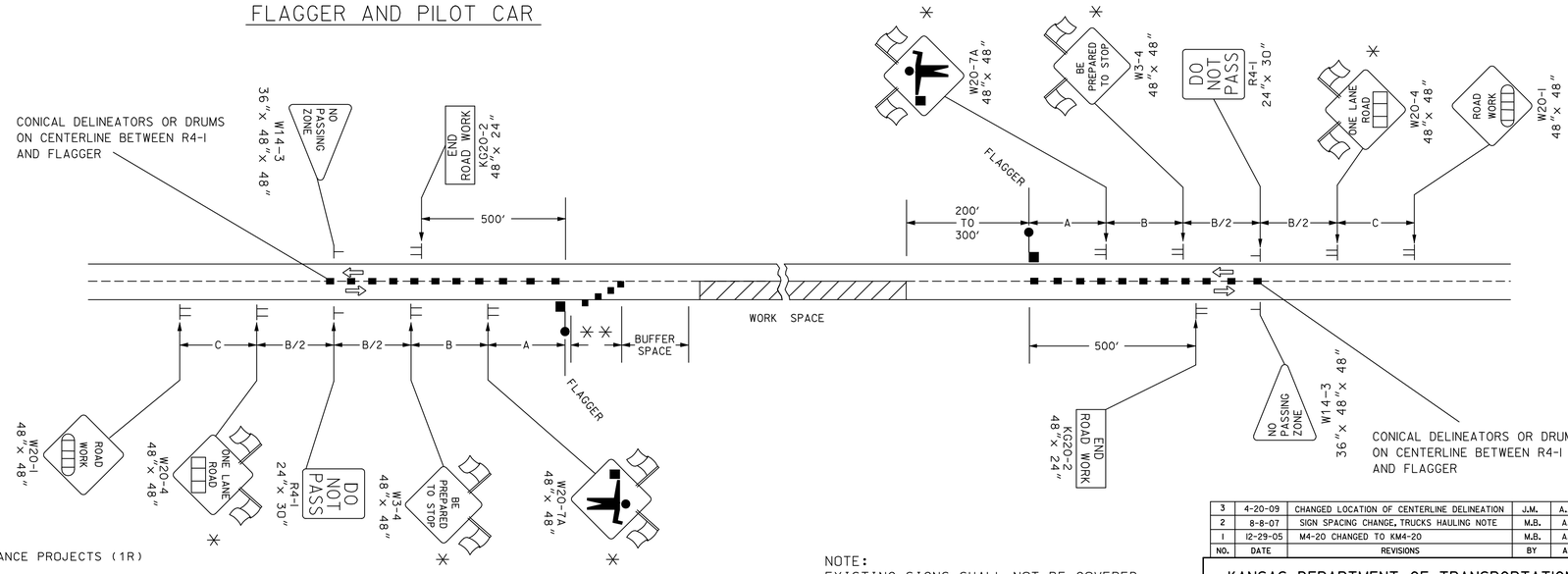


△ NOT REQUIRED ON SUBSTANTIAL MAINTENANCE PROJECTS (1R)

△△ THE KG20-5 (WAIT FOR PILOT CAR) SIGN SHALL BE MOUNTED ON AN APPROVED PORTABLE SUPPORT AND NOT ATTACHED TO THE EXISTING STOP SIGN POST.

THE KG20-5 SIGN SHALL BE PLACED IMMEDIATELY IN FRONT OF THE EXISTING STOP SIGN, A MINIMUM OF 6″ BELOW THE BOTTOM OF THE STOP SIGN. THE SIGN SHOULD BE REMOVED OR COVERED WHEN THERE IS NO PILOT CAR.

FLAGGER AND PILOT CAR



✳ WHEN APPLICABLE, USE TYPE "A" LOW INTENSITY WARNING LIGHTS FOR NIGHTTIME OPERATIONS ONLY OR AS DIRECTED BY ENGINEER.

✳✳ THERE SHOULD BE A MINIMUM OF SIX (6) CHANNELIZERS SPACED AT 20′ INTERVALS.

NOTE:
EXISTING SIGNS SHALL NOT BE COVERED OR REMOVED BETWEEN FLAGGER STATIONS.

NO.	DATE	REVISIONS	BY	APP'D
3	4-20-09	CHANGED LOCATION OF CENTERLINE DELINEATION	J.M.	A.A.A.
2	8-8-07	SIGN SPACING CHANGE, TRUCKS HAULING NOTE	M.B.	A.A.A.
1	12-29-05	M4-20 CHANGED TO KM4-20	M.B.	A.A.A.

KANSAS DEPARTMENT OF TRANSPORTATION

TYPICAL TRAFFIC CONTROL FLAGGER OR PILOT CAR TWO-LANE ONE LANE CLOSED

EXCLUDING CONCRETE SHOULDERS EQUAL TO OR GREATER THAN 8′

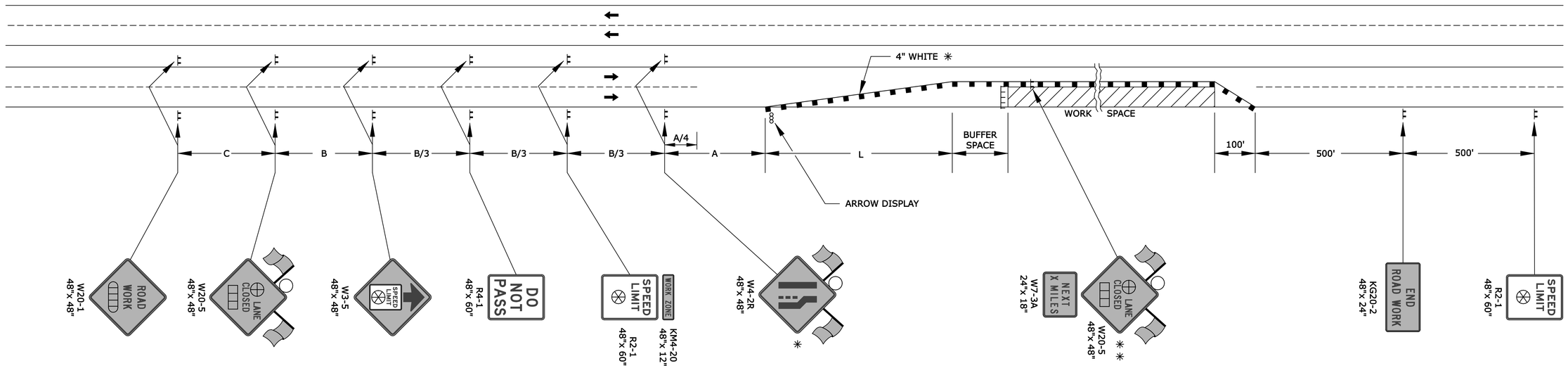
TE730 9/1/00

FHWA APPROVAL	4-20-09	APP'D Anthony A. Airobaire	
DESIGNED B.A.H.	DETAILED B.A.H.	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.

Plotted By : drp
Plot File : I:\2009\09520-002\Traffic Control\TC Standards\te730.dgn
Plot Date : 13-SEP-2011 15:06
.6th Floor

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84817 PHASE 1	2011	99	113

REFER TO STD. TE710 FOR ADDITIONAL INFORMATION ON TEMPORARY TRAFFIC CONTROL SIGNS AND SIGN SPACING.
REFER TO STD. TE704 FOR TYPE III BARRICADES.
REFER TO STD. TE702 FOR INFORMATION ON TAPERS AND CHANNELIZING DEVICES.
REFER TO STD. TE700 FOR LENGTH OF BUFFER SPACE.



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

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

✳ ✳ THE W20-5 (⊕ LANE CLOSED) AND W7-3A (NEXT X MILES) SIGNS SHOULD BE PLACED AT 2 MILE INCREMENTS ON A PROJECT OF 4 MILES OR LONGER.

- TYPE III 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

NO.	DATE	REVISIONS	BY	APP'D
3	8/8/07	Sign Spacing Change	M.B.	A.A.A.
2	12/29/05	M4-20 Changed to KM4-20	M.B.	A.A.A.
1	2/1/05	Clarified Notes, Updated Warning Signs	B.H.	A.A.A.

KANSAS DEPARTMENT OF TRANSPORTATION

TYPICAL TRAFFIC CONTROL FOUR-LANE HIGHWAY ONE LANE CLOSED

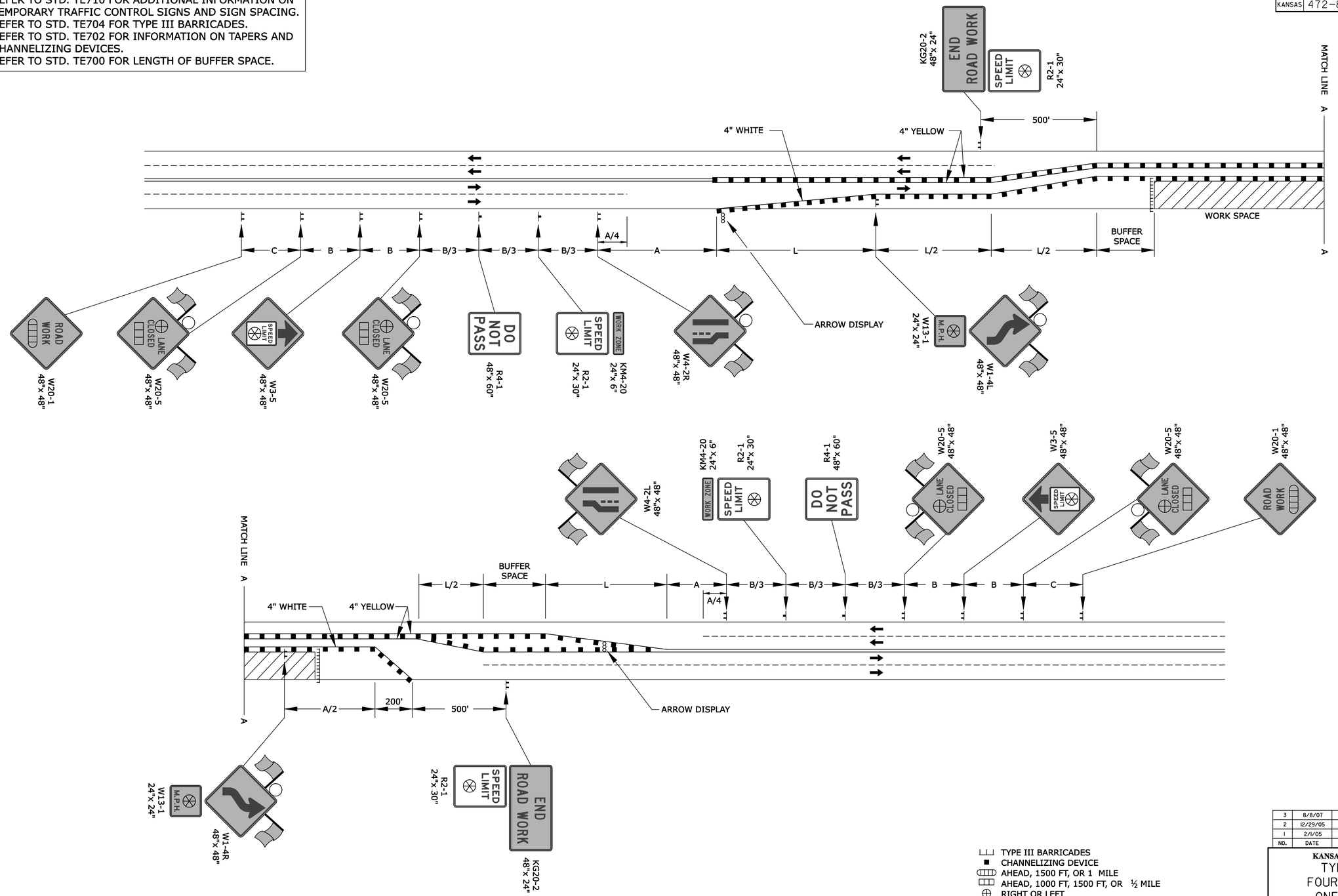
TE744 9/1/00

FHWA APPROVAL		8/8/2007	APP'D	Anthony A. Airobaire	
DESIGNED	B.A.H.	DETAILED	B.A.H.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Drawn By : drp
Plotted : 13-SEP-2011 15:07
File : I:\2009\09520-002\Traffic Control\TC Standards\te744.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84817 PHASE 1	2011	100	113

REFER TO STD. TE710 FOR ADDITIONAL INFORMATION ON TEMPORARY TRAFFIC CONTROL SIGNS AND SIGN SPACING.
REFER TO STD. TE704 FOR TYPE III BARRICADES.
REFER TO STD. TE702 FOR INFORMATION ON TAPERS AND CHANNELIZING DEVICES.
REFER TO STD. TE700 FOR LENGTH OF BUFFER SPACE.



- TYPE III BARRICADES
- 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

NO.	DATE	REVISIONS	BY	APP'D
3	8/8/07	Sign Spacing Change	M.B.	A.A.A.
2	12/29/05	M4-20 Changed to KM4-20	M.B.	A.A.A.
1	2/1/05	Carlfied Notes, Updated Warning Signs	B.H.	A.A.A.

KANSAS DEPARTMENT OF TRANSPORTATION

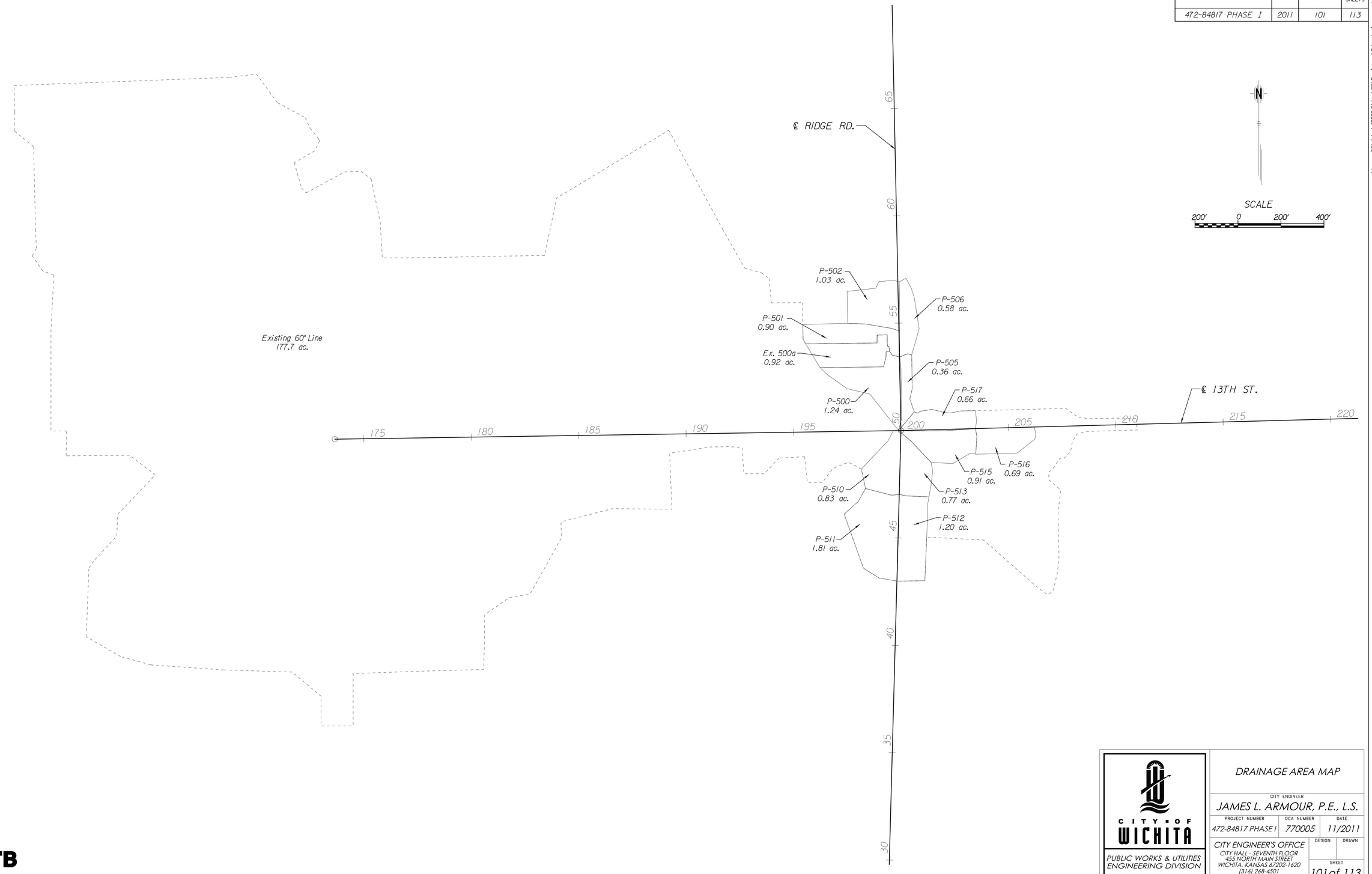
TYPICAL TRAFFIC CONTROL FOUR-LANE UNDIVIDED HIGHWAY ONE-HALF ROADWAY CLOSED

TE748 9/1/00

FHWA APPROVAL		8/8/2007	APP'D	Anthony A. Airobaire	
DESIGNED	B.A.H.	DETAILED	B.A.H.	QUANTITIES	TRACED
DESIGN CK.		DETAIL CK.		QUAN. CK.	TRACE CK.

Plotted : 13-SEP-2011 15:07
Drawn By : drp
File : I:\2009\09520-002\Traffic Control\TC Standardsite748.dgn

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	101	113



N

SCALE

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HNTB

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

DRAINAGE AREA MAP

CITY ENGINEER
JAMES L. ARMOUR, P.E., L.S.

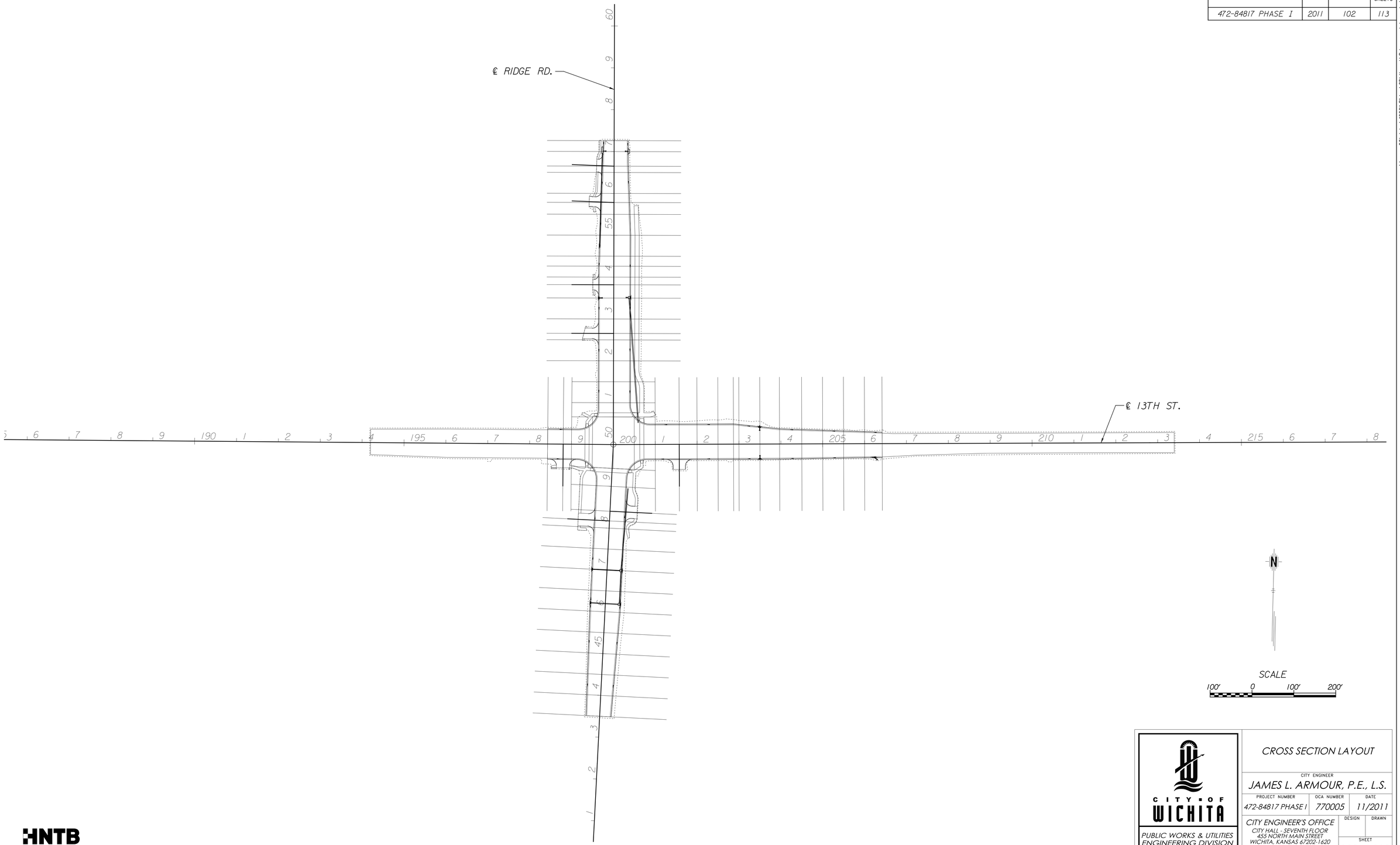
PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

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

DESIGN	DRAWN

SHEET
101 of 113

PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	102	113



N

SCALE

100′ 0 100′ 200′

HNTB

CITY OF WICHITA

PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

CROSS SECTION LAYOUT

CITY ENGINEER

JAMES L. ARMOUR, P.E., L.S.

PROJECT NUMBER	OCA NUMBER	DATE
472-84817 PHASE I	770005	11/2011

DESIGN	DRAWN

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

SHEET 102 of 113

Plotted on Tuesday September 27, 2011 09:46 AM
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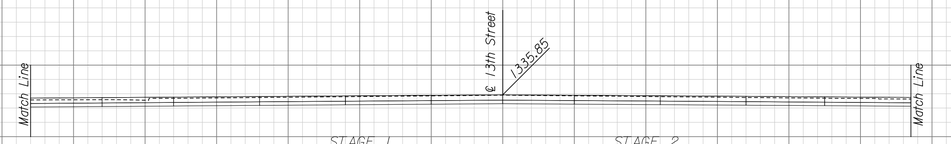
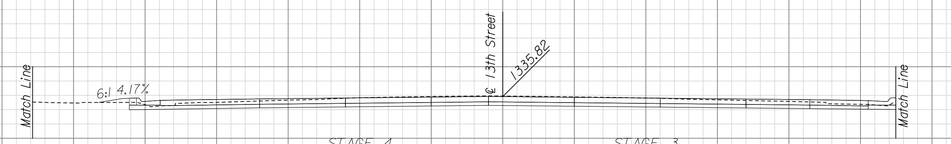
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	103	113

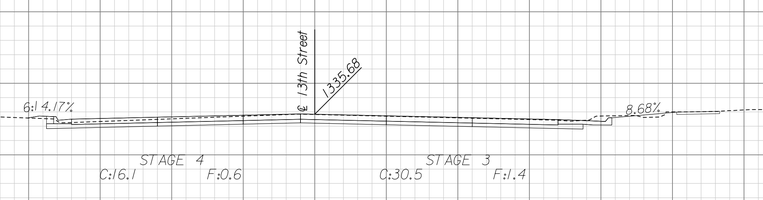
200+50



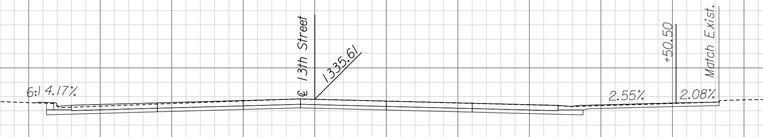
200+00



199+50



199+00



198+80

198+43

HNTB

# 13th Street
# STA. 198 + 43 TO STA. 200 + 50
Scale = 1:10

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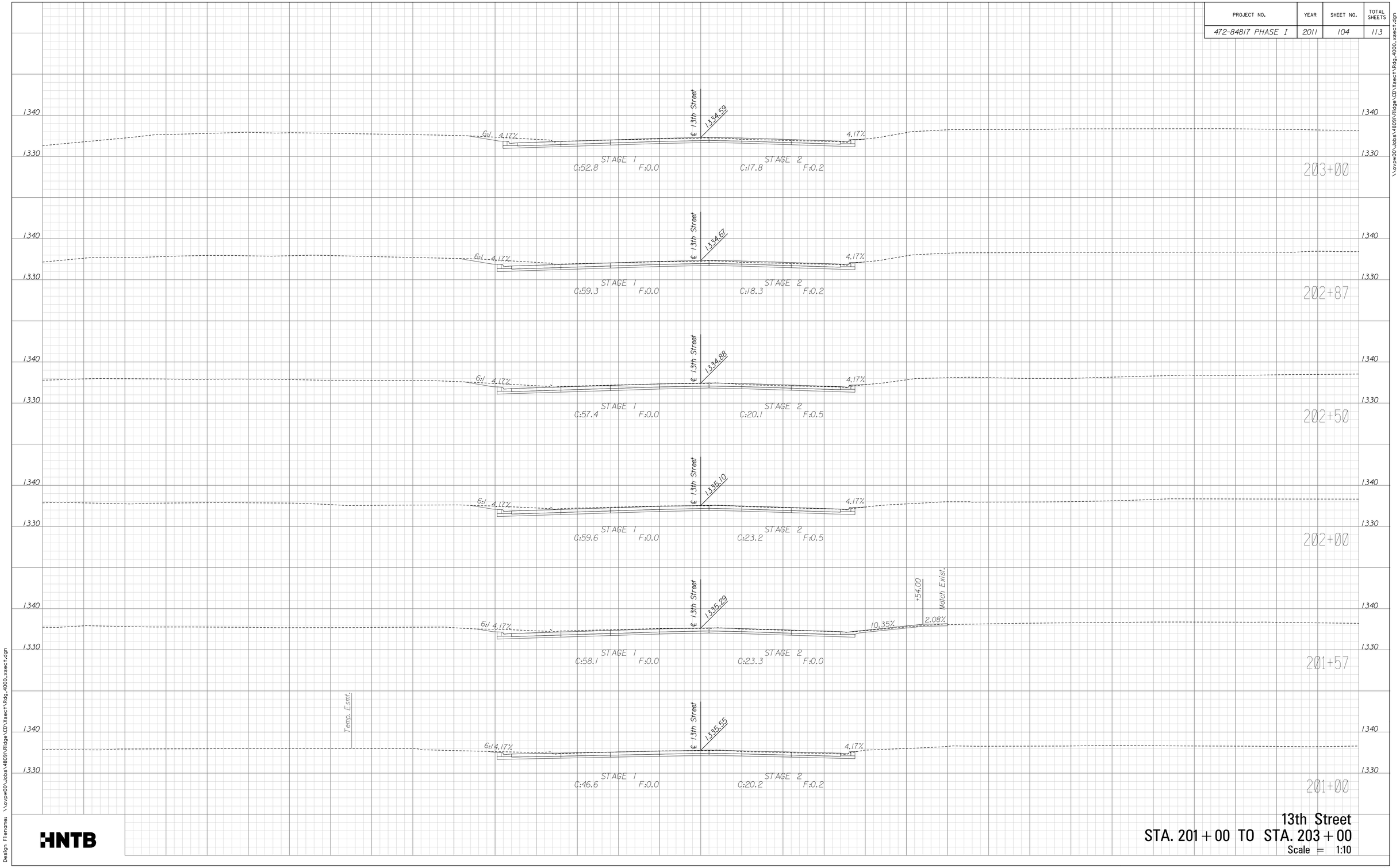
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	104	113



HNTB

13th Street
STA. 201+00 TO STA. 203+00
Scale = 1:10

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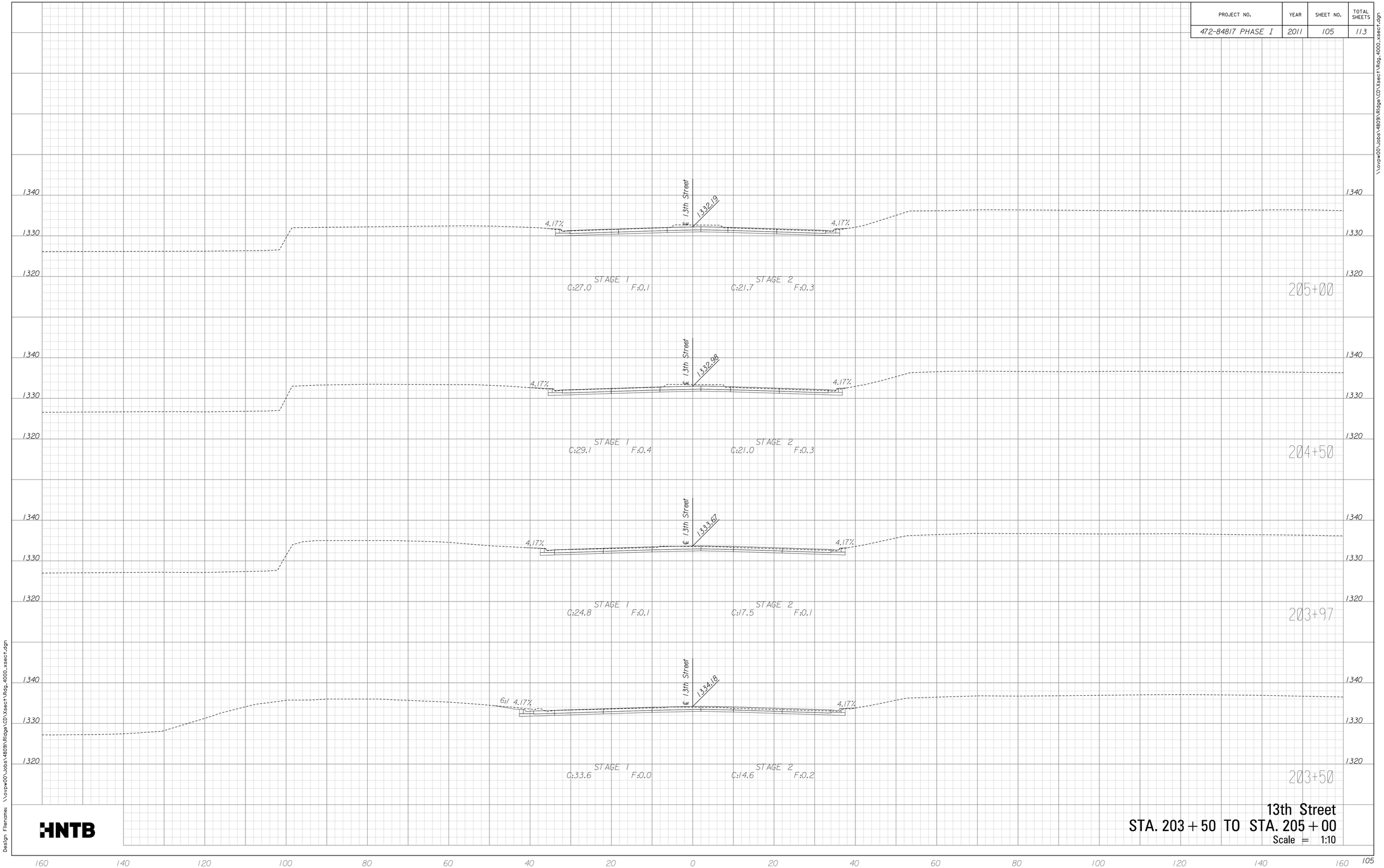
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE 1	2011	105	113



HNTB

13th Street
STA. 203+50 TO STA. 205+00
Scale = 1:10

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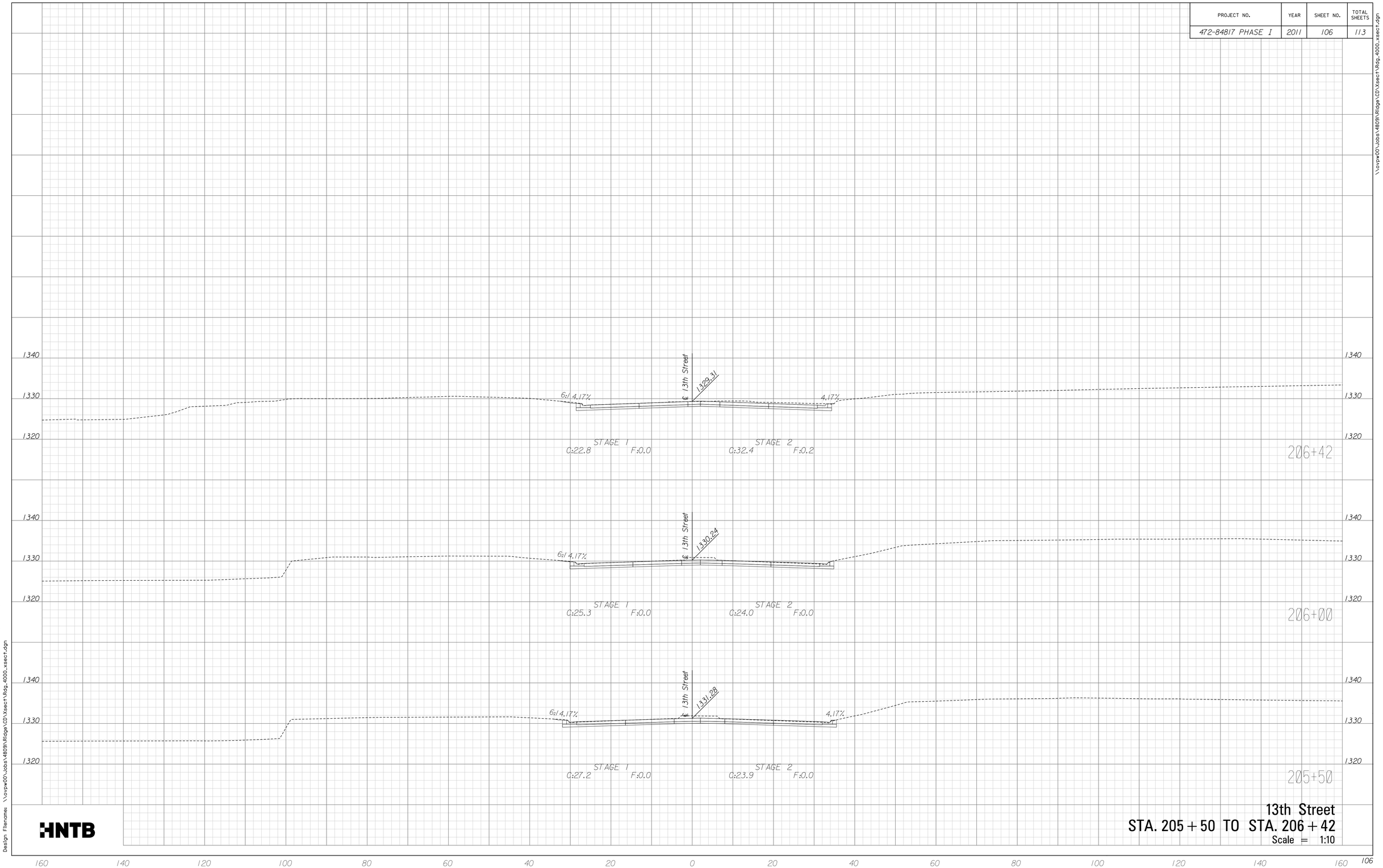
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	106	113



HNTB

13th Street
STA. 205 + 50 TO STA. 206 + 42
Scale = 1:10

106

Plotted on: Tuesday September 21, 2011 09:47 AM
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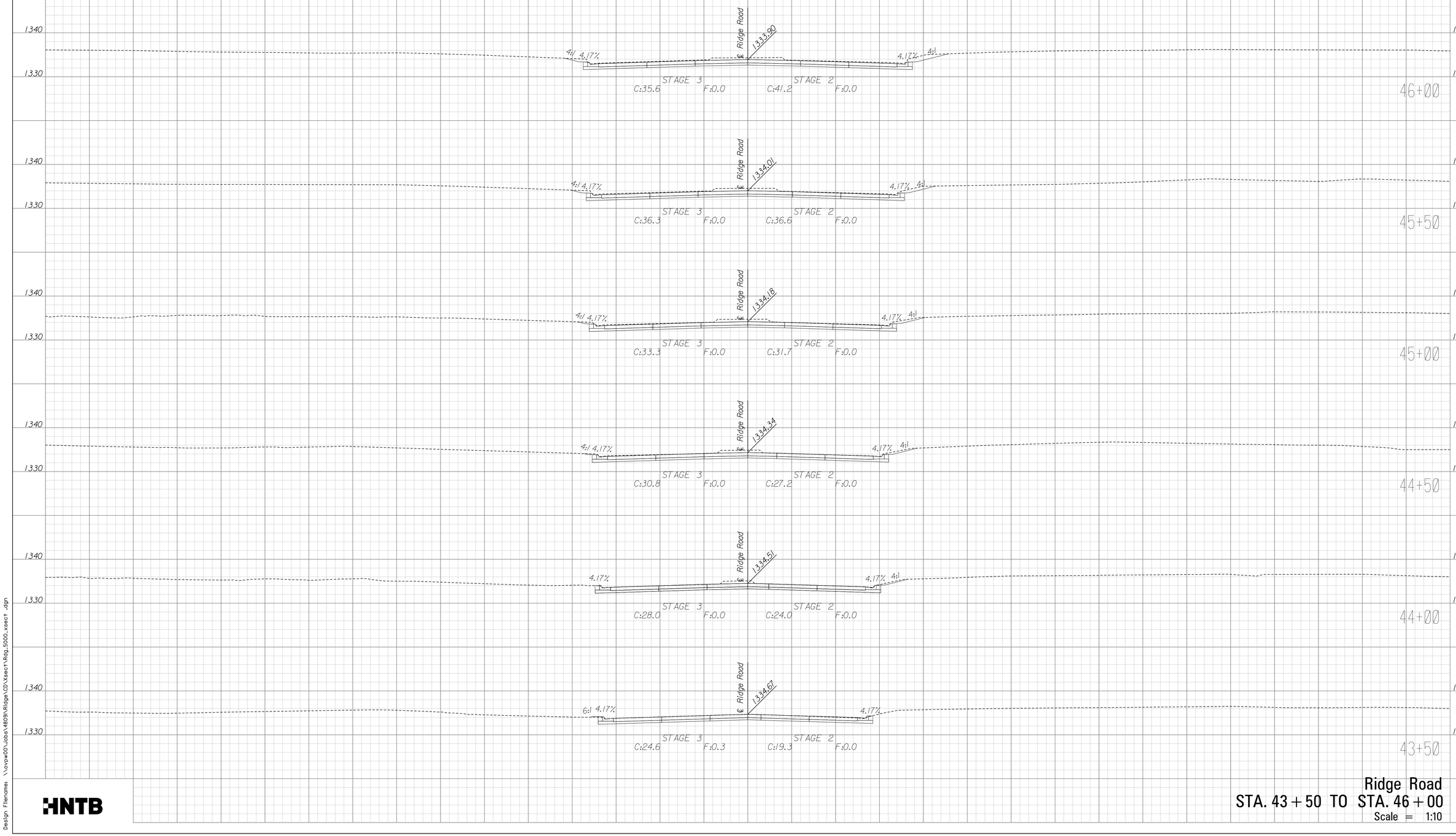
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	107	113



HNTB

Ridge Road
STA. 43+50 TO STA. 46+00
Scale = 1:10

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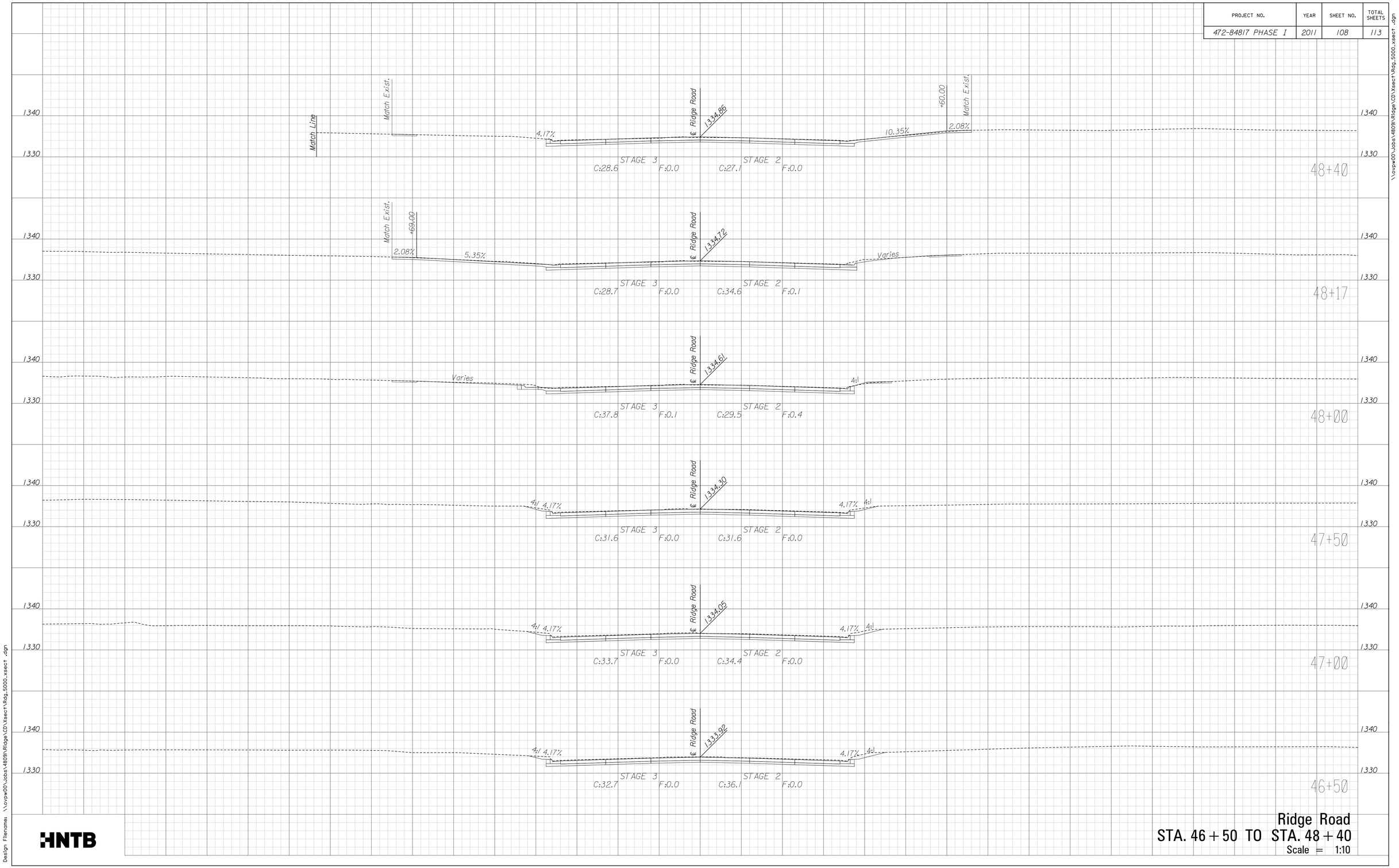
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	108	113



HNTB

Ridge Road
STA. 46+50 TO STA. 48+40
Scale = 1:10

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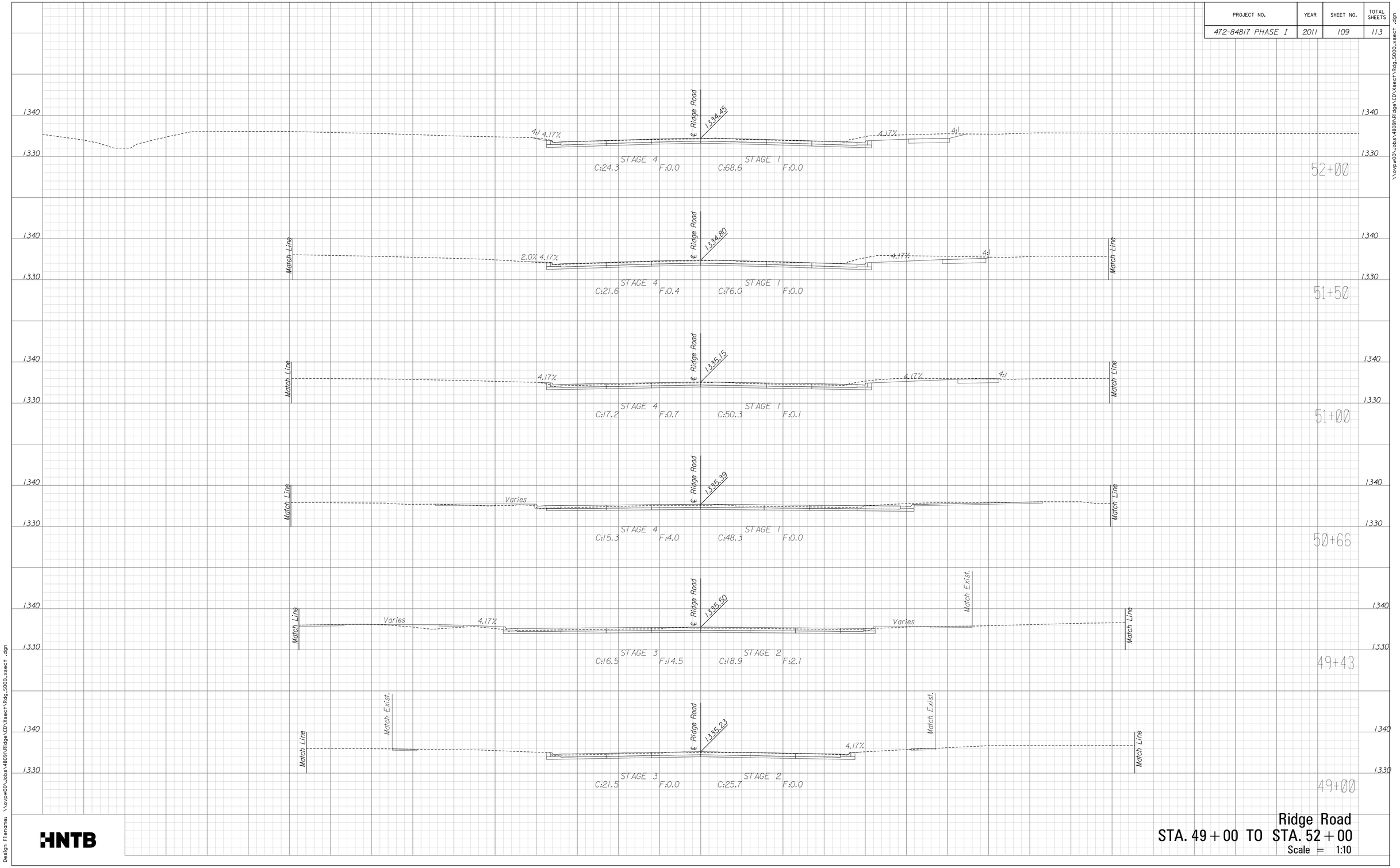
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	109	113



Ridge Road
STA. 49+00 TO STA. 52+00
Scale = 1:10

HNTB

Plotted on: Tuesday September 27, 2011 09:47 AM
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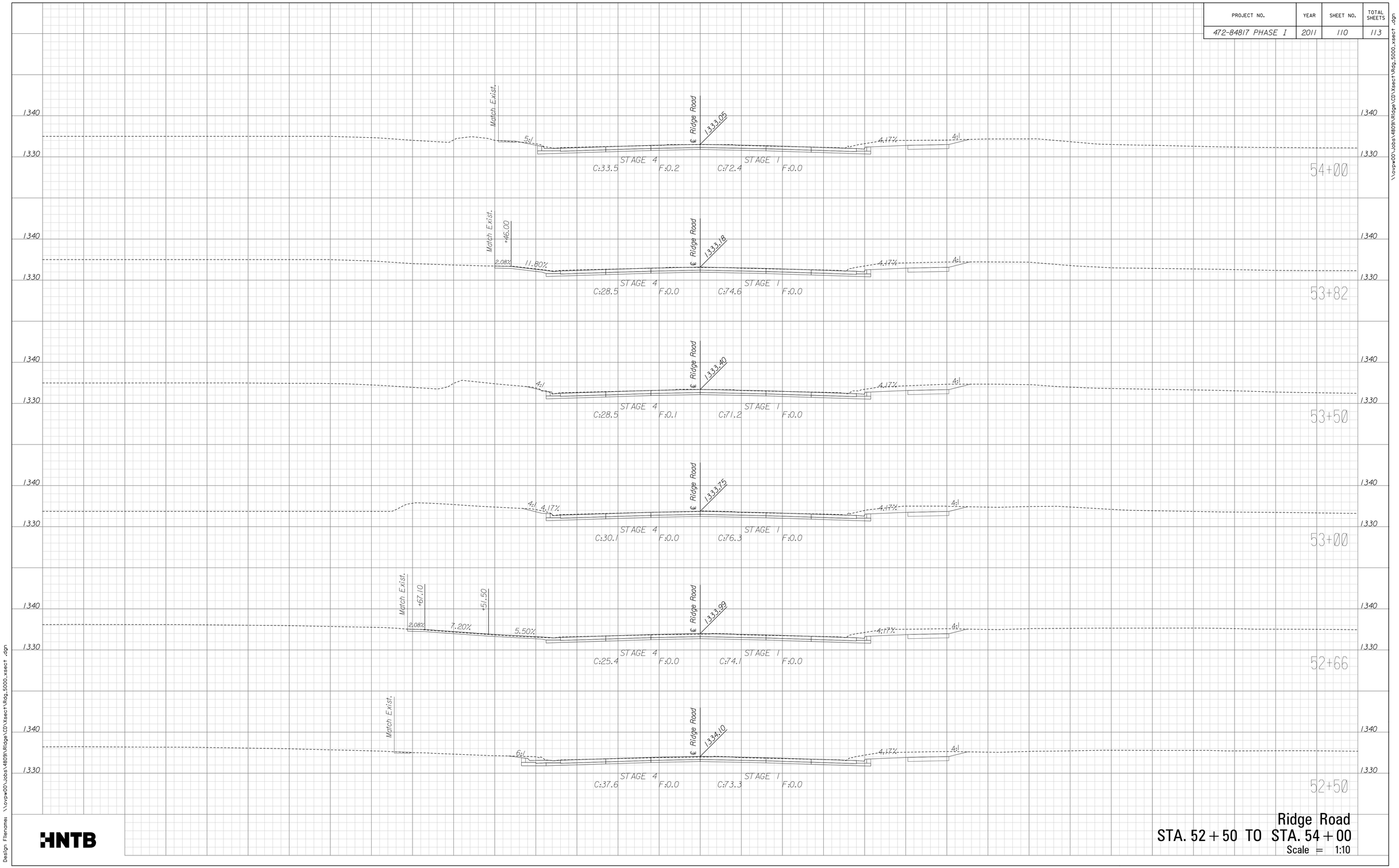
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	110	113



HNTB

Ridge Road
STA. 52+50 TO STA. 54+00
Scale = 1:10

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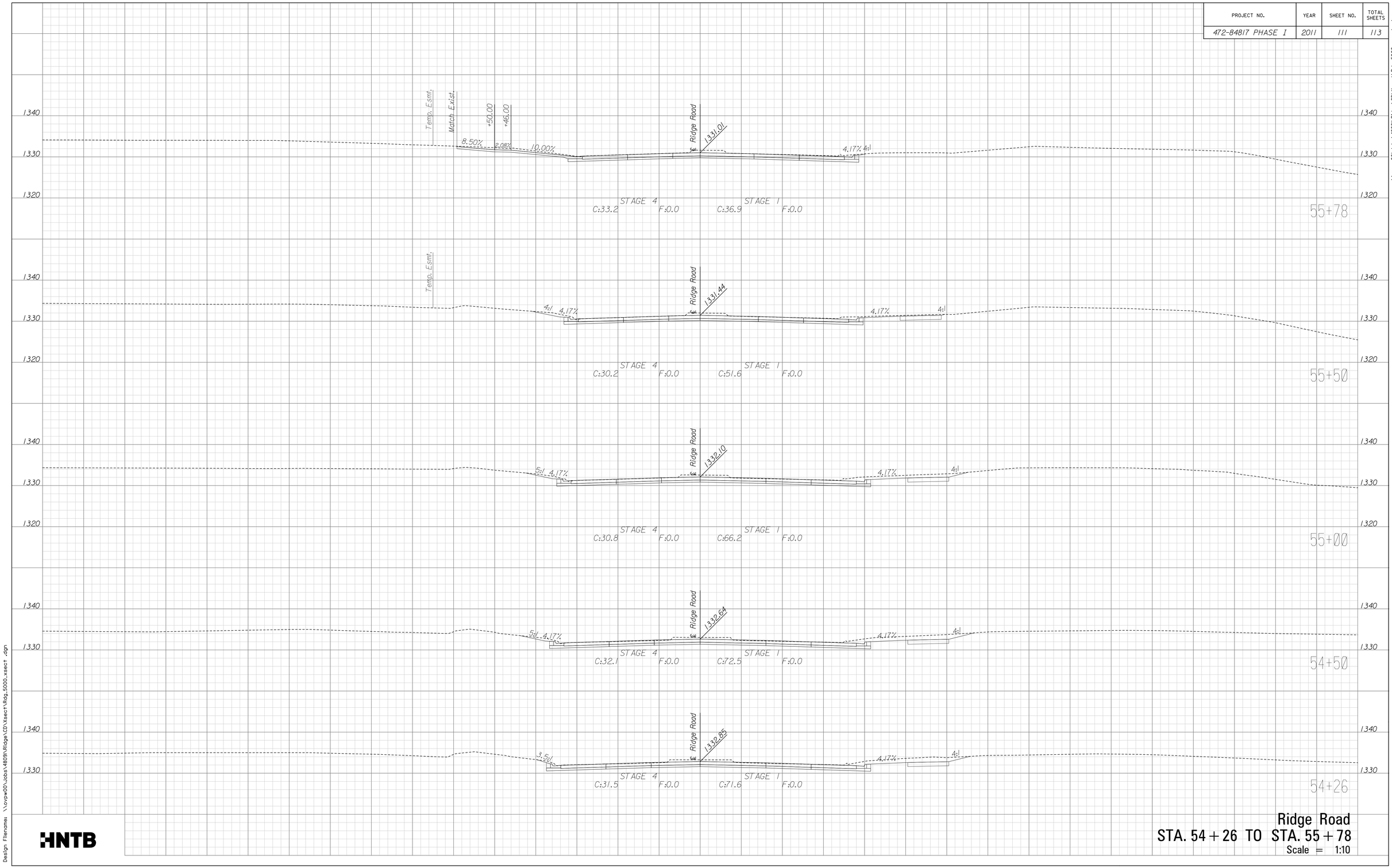
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	111	113



HNTB

Ridge Road
STA. 54+26 TO STA. 55+78
Scale = 1:10

111

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Plotted on Tuesday September 27, 2011 09:48 AM
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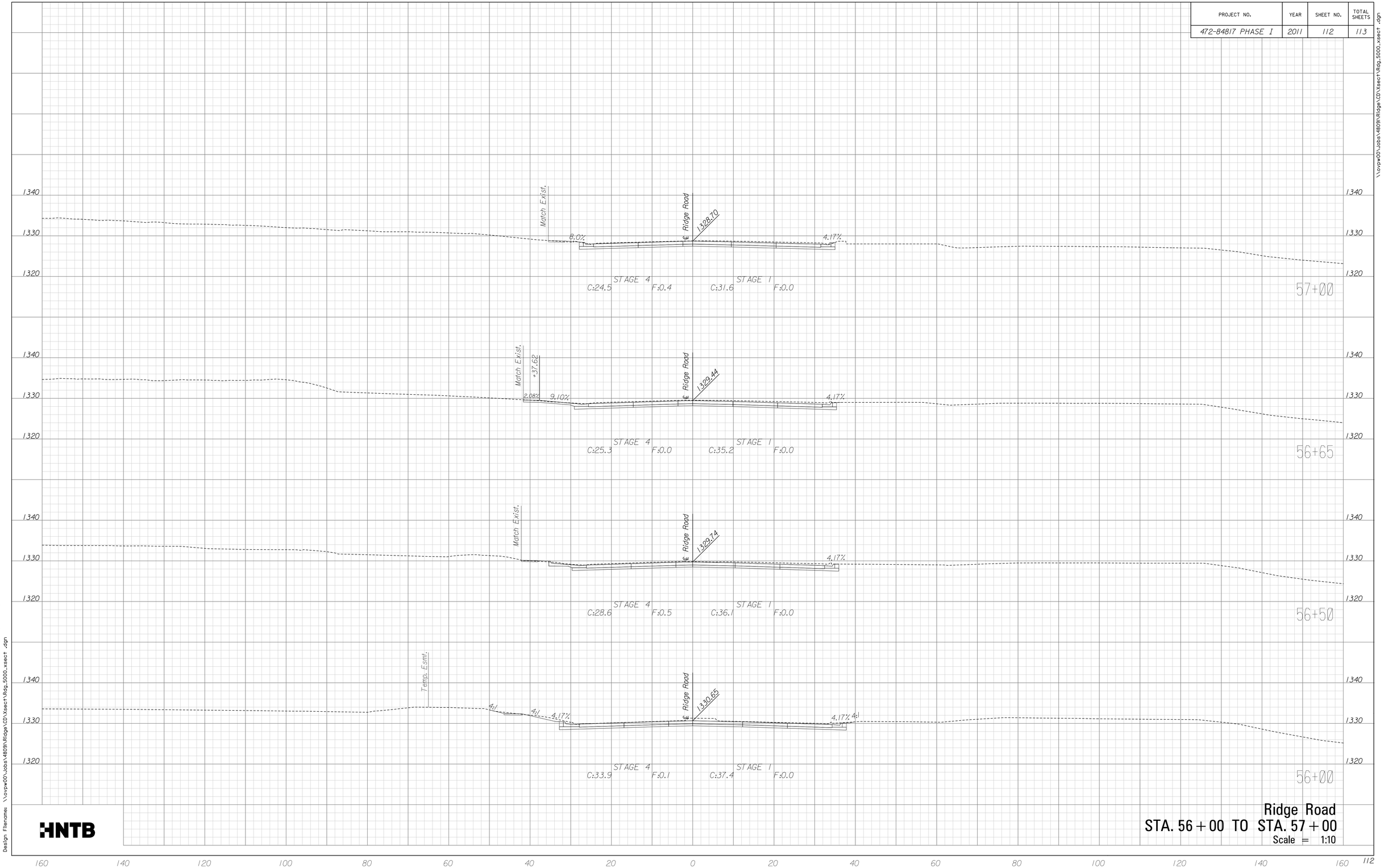
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	112	113



HNTB

Ridge Road
STA. 56+00 TO STA. 57+00
Scale = 1:10

Plotted on: Tuesday September 27, 2011 09:48 AM
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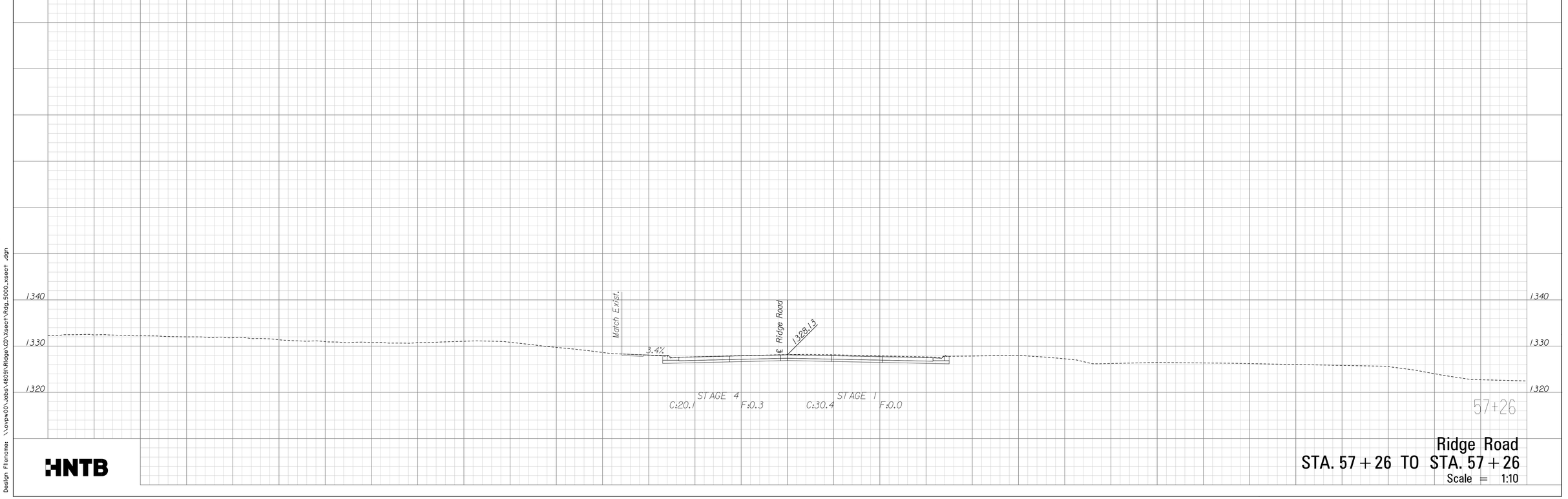
PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
472-84817 PHASE I	2011	113	113



HNTB

Ridge Road
STA. 57+26 TO STA. 57+26
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