INDEX OF SHEETS

<table>
<thead>
<tr>
<th>No.</th>
<th>Sheet Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TITLE SHEET</td>
</tr>
<tr>
<td>2</td>
<td>TYPICAL GRADING SECTION</td>
</tr>
<tr>
<td>3</td>
<td>PLAN &amp; PROFILE SHEET</td>
</tr>
<tr>
<td>4</td>
<td>SUMMARY OF QUANTITIES</td>
</tr>
<tr>
<td>5-13</td>
<td>TEMPORARY DREDGE &amp; POLLUTION CONTROL DETAILS</td>
</tr>
<tr>
<td>14</td>
<td>SUMMARY OF SEEDING QUANTITIES</td>
</tr>
<tr>
<td>10-23</td>
<td>TRAFFIC CONTROL PLAN AND DETAILS</td>
</tr>
<tr>
<td>24-29</td>
<td>CROSS SECTIONS</td>
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</table>

STATE OF KANSAS

DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED

30 C-5056-01

FEDERAL AID PROJECT

FRANKLIN COUNTY

DESIGN DESIGNATION

AADT 635 (2020)
AADT 740 (2040)
DVT 55 mph
C.f of A Clear Zone 18'

CONVENTIONAL SIGNS

CITY LIMITS
STATE HIGHWAY LIMIT
TOWNSHIP SECTION = GRADE LINE
PROPERTY LINE
HIGHWAY FRONTAGE
EXISTING FENCE
GROUND ELEVATION
TOTAL LENGTH OF PROJECT 820.00 FT

Note: A minimum of one lane of traffic signalized shall be maintained during construction.

DEVELOPED BY
CFS ENGINEERS

cfs.com

Approved: Dec 11, 2021

KANSAS DEPARTMENT OF TRANSPORTATION

CAD Corrum Certify This File
## Earthwork

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantiy</th>
<th>Unit</th>
</tr>
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<tbody>
<tr>
<td></td>
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## Recapitulation of Road Quantities

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<tr>
<td>Clearing &amp; Cutting</td>
<td>1,500</td>
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<td>Gravel Preparation</td>
<td>6,000</td>
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<tr>
<td>Excavation</td>
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<tr>
<td>Silt Cut</td>
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<td></td>
</tr>
<tr>
<td>Sealant</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Riprap (Reinforced Concrete) (5&quot;)</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Riprap (Reinforced Concrete) (6&quot;)</td>
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<tr>
<td>Silt Cut</td>
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<tr>
<td>Sealant</td>
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</table>

**Total** | 4,000 |  |  |

## Sealing Longitudinal Asphalt Shoulder Joint

<table>
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</thead>
<tbody>
<tr>
<td>Sealant</td>
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**Total** | 400 |  |  |

## Riprap (Reinforced Concrete) (5")

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<td>Sealant</td>
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**Total** | 200 |  |  |

## Riprap (Reinforced Concrete) (6")

<table>
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</thead>
<tbody>
<tr>
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</table>

**Total** | 200 |  |  |

## Saw Cuts

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<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sealant</td>
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</table>

**Total** | 200 |  |  |

## Slope Protection (Riprap Stone) (200 LBS)

<table>
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<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Sealant</td>
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<td></td>
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</table>

**Total** | 200 |  |  |

## Summary of Quantities

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<th>Quantity</th>
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</thead>
<tbody>
<tr>
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**Total** | 800 |  |  |
**SUMMARY OF SEEDING / EROSION CONTROL QUANTITIES**

<table>
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<tr>
<th>BID ITEM</th>
<th>QUANTITY</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

**SOIL EROSION MIX**

<table>
<thead>
<tr>
<th>BID ITEM</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

**GENERAL NOTES**

The entire disturbed area, excepting the paved or surfaced areas, steep rocky slopes and areas of unpaved native soil or other desirable vegetation, shall be fertilized and treated. A soil preparation shall conform to the Standard Specifications.

Temporary seeding shall be done during any time of the year that the soil can be cultivated. After the temporary seeding has been competed on the entire project, permanent seeding shall be done during the conventional seeding season.

**Erosion Control Blanket**

Erosion control blanket shall cover all seeded areas.

The Soil Erosion Mix is to be placed under the Class 1 and/or Class 2 erosion control material.

The Soil Erosion Mix consists of the Shoulder Area of the Permanent Seed Mix used on the project.
<table>
<thead>
<tr>
<th>STATION TO STATION</th>
<th>LENGTH</th>
<th>PERM</th>
<th>SQ YARD</th>
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</thead>
<tbody>
<tr>
<td>183+30 - 191+50</td>
<td>820'</td>
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</tbody>
</table>

TOTAL 1,143

EROSION CONTROL (Class I, Type C)

KANSAS DEPARTMENT OF TRANSPORTATION

EROSION CONTROL
SEEDING-SODDING

KANSAS DEPARTMENT OF TRANSPORTATION

LA952A-EC

DESIGNED
DESIGN CK.
DETAILED
DETAIL CK.
QUANTITIES
QUAN.CK.
APP'D
FHWA APPROVAL
CADD
CADD CK.

1/04/2006
Scott H. Shields

Sheet No. 0
**Temporary Slope Drain**

1. Temporary Slope Drain and Temporary Berm may be used on either project foreslopes or project backslopes.
2. Discharge of Slope Drains shall be into stabilized ditch or area or into Sediment Basins.
3. Pipe shall be secured in place as approved by Engineer.
4. Temporary Berms under 2,000 feet shall be bid by Set Price.

---

**Temporary Berm**

- Pipe size may vary
- Place 1 pipe buried 6” into stream bottom, in the lowest point of the channel to allow the passage of aquatic organisms, with additional pipes placed along the remainder of the stream channel bottom such that ordinary high water (OHW) flows designated in the Contract Documents shall flow through the pipes without overtopping the crossing.

---

**Temporary Stream Crossing (Articulated Concrete Blocks)**

- Pipe size may vary
- Place 1 pipe buried 6” into stream bottom, in the lowest point of the channel to allow the passage of aquatic organisms, with additional pipes placed along the remainder of the stream channel bottom such that ordinary high water (OHW) flows designated in the Contract Documents shall flow through the pipes without overtopping the crossing.

---

**NOTES:**

- TYPICAL PROFILE OF TEMPORARY SLOPE DRAIN
- TYPICAL PROFILE OF TEMPORARY BERM
- TEMPORARY STREAM CROSSING (ARTICULATED CONCRETE BLOCKS)
- TEMPORARY STREAM CROSSING (AGGREGATE)

---

See KDOT Specifications for more information.
Material Requirements:

1. Use of high flow material is acceptable.
2. Use of high flow material is acceptable.
3. Use of high flow material is acceptable.
4. Use of high flow material is acceptable.
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56. Use of high flow material is acceptable.
**TYPICAL ELEVATION**

**STAKE**

- Stake (typ.)
- Stake shall be 4' (min.) long and of one of the following materials:
  1. Hardwood - 1" x 1"; d = 3.5 lbs.
  2. Southern Pine No. 2 - 1 1/4" x 1 1/4"; d = 4.5 lbs.
  3. Steel U, T, L, or C Section - 3/8" thick, per -24" or
  4. Synthetic - same strength as wood stakes.
- Attach fence fabric with 3 zip ties within the top 8" of the fence.

**INSTALLATION NOTES**

- Refer to plan sheets to estimate length of silt fence required.
- Use of high flow material is acceptable.
- Refer to plan sheets to estimate length of silt fence required.

**BIODEGRADABLE LOG OR FILTER Sock**

1. Place biodegradable logs or filter sock tightly together minimum overlap of 18".
2. Wood stakes shall be 2" x 2" (nom.).
3. Refer to plan sheets to estimate length of biodegradable log and filter sock required.
4. Each log or sack (except compost filter socks) should be keyed into the ground at a minimum of 20", of its height. Compost filter socks should be placed on smooth prepared ground with no gaps between the sock and soil.
5. Length of stakes shall be 3 times the height of the log at a minimum with minimum ground embedment equal to the height of the log / sock.

**SILT FENCE**

- Silt Fence Fabric
- Silt Fence Fabric
- Silt Fence Fabric

**GENERAL NOTES**

- Stakes shall be 4' (min.) long and of one of the following materials:
  1. Hardwood - 1" x 1"; d = 3.5 lbs.
  2. Southern Pine No. 2 - 1 1/4" x 1 1/4"; d = 4.5 lbs.
  3. Steel U, T, L, or C Section - 3/8" thick, per -24" or
  4. Synthetic - same strength as wood stakes.
- Attach fence fabric with 3 zip ties within the top 8" of the fence.

**ALTERNATE STAKING**

- Alternating stake every 3 ft.
- Alternating stake every 4 ft.
- Alternating stake every 5 ft.
- Alternating stake every 6 ft.

**TYPICAL ELEVATION**

- Trench
- Trench
- Trench

**SECTION A - A**

- 6'' long x 1'' wide
- 2' (min.)
- 2' (max.)

**SECTION B - B**

- 4' (max.)
- 4' (max.)
- 4' (max.)

**GENERAL NOTES**

1. Slope interruptions shall be placed along contour lines, with a short section turned upgrade at each end of the barrier.
2. The maximum length of the slope interruptions shall not exceed 250 feet, and the barrier units need to be staggered.
3. Slope interruptions caused by Contractor's negligence, including improper maintenance or lack of maintenance, shall be repaired immediately by Contractor at no additional cost to KDOT.
4. Agricultural products, such as native prairie hay, used for erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards.
**TYPICAL DITCH CHECK LAYOUT PLAN**

**GENERAL NOTES**

1) The choice of ditch check method is at the option of the Contractor.

2) Use only rock checks in situations where the ditch slope is 6 percent or greater.

3) Ditch checks damaged by Contractor's negligence, including improper maintenance or lack of maintenance, shall be repaired by Contractor at no extra cost to KDOT.

**DITCH CHECK SPACING**

<table>
<thead>
<tr>
<th>Ditch Slope (%)</th>
<th>Spacing (Ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
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<td>55</td>
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<tr>
<td>60</td>
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</tbody>
</table>

**NOTE:** Use this spacing for all except Rock Ditch Checks.

**FILTER SOCK CHECK SPACING**

<table>
<thead>
<tr>
<th>Ditch Slope (%)</th>
<th>Spacing (Ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
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<tr>
<td>60</td>
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</table>

**NOTE:** Use this spacing for all except Rock Ditch Checks.

**REVISIONS**

- 6/01/13
- 8/10/16
- 9/14/2016

**DESIGNED**

- Scott H. Shields

**DETAILED**

- Revised Standard

**QUANTITIES**

- SHS

**APPL'D**

- FHWA APPROVAL

**CADD**

- CADD CK.

**CADD CONFORM CERTIFY THIS FILE**

- CADconform Certify This File

**KANSAS DEPARTMENT OF TRANSPORTATION**

- Sheet No. LA852E

**TOTAL SHEETS**

- 10

**PROJECT NO.**

- 30 C-5056-01

**DATE**

- 2021 10 29
**ROCK DITCH CHECK NOTES**

1. Rock shall be clean aggregate, D50-6" and aggregate filter.
2. Place rock in such manner that water will flow over, not around ditch check.
3. Do not use rock ditch checks in clear zone.
4. Elevation: The ditch area shall be reshaped to fill any eroded areas. Prior to placement of the rock, the ditch shall be excavated to the dimensions of the Rock Ditch Check and to a minimum depth of D50-6". After placement of the rock, backfill and compact any over-weathered soil to ditch grade. This work shall be subsidiary to the bid item Temporary Ditch Check (Rock).
5. Aggregate excavated on site may be used as an alternate to the D50-6" rock, if approved by the Engineer.
6. The Engineer may approve the use of larger aggregates for the downstream portion of the check when conditions warrant their use.
7. When the use of larger rock is approved, D50-6" rock will be placed between the larger aggregate and the aggregate filter.
8. Aggregate filter will be placed on the upstream face of the ditch check. Aggregate filter will comply with Filter Course Type I, Division 1114.

**BIODEGRADABLE LOG DITCH CHECK NOTES**

1. Use as many biodegradable log sections as necessary to ensure water does not flow around end of ditch check.
2. Overlap sections a minimum of 18".
3. Stakes shall be wood or steel according to Section 2114 of the Standard Specifications. Length of stakes shall be a minimum of 2 x the diameter of the log.
4. Use Erosion Control (Class 1) (Type C) as the downstream apron when required.
5. A downstream apron is required when directed by the Engineer. Apron material will be paid at the contract unit price.
6. Each log or sock (except compost filter socks) should be placed into the ground at a minimum of 75% of its height. Compost filter socks should be placed on smooth prepared ground with no grass between the sock and soil.

**TYPICAL ELEVATION**

**PLAN**

**ALTERNATIVE STAKING (OPTIONAL)**
### SEDIMENT STORAGE BASIN LOCATIONS

<table>
<thead>
<tr>
<th>STATION TO STATION</th>
<th>SIDE</th>
<th>REQUIRED STORAGE CAPACITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

### NOTES:

1. Temporary Sediment Basins shall be constructed at locations as directed by the Engineer, or as approved in the SWPPP Schedule. All work and materials necessary, including fill, aggregates, and all other incidental necessary to construct the basin, shall be paid as "Temporary Sediment Basin".
2. Lengths and top dimensions shall be determined in the field by the Engineer.
3. Skimmer dewatering device required and must be used regardless the size of the drainage area.

### General Information:

- Anti-seep collar (6" conc.)
- 18" (min.)
- Toe of berm
- Freeboard
- 3:1 or flatter
- Stormwater Storage
- Sediment Storage
- Trash Rack
- 1' á
- Existing ground line
- Embankment stabilized with vegetation
- 2.5:1 or flatter

### Cross Section (Emergency Spillway):

- 18" pipe (min.)
- Toe of berm
- Anti-flotation Concrete Block
- 1'-0" overlap
- 4 x 6" riser
- Principal spillway
- Principal spillway
- 3 x pipe diameter
- 48" (min.)
- 4 x 4" concrete or stone pad for skimmer

### Front View:

- Skimmer comes to rest on pad.
- Use tether's or guide post's to ensure skimmer comes to rest on pad.
- Skimmer dewatering device required and must be used regardless the size of the drainage area.

### Principal Spillway:

- 4" (typ.)
- Orifice
- Inlet pipe should be 6" to 12" from bottom of riser.
- Must be water tight.
- Flange and coupler assemblies.

### Sediment Storage:

- 15 rows of 6" dia. holes
- 1' C.C.
- 3' minimum thickness
- 4' x 6' concrete or stone pad for skimmer

### Sediment Storage Basin Plan:

- Embankment stabilized with vegetation
- 2.5:1 or flatter
- Existing ground line
- Embankment stabilized with vegetation

### Sediment Storage Basin Elevation:

- 18" (min.)
- 3:1 or flatter
- Temporary Erosion and Pollution Control

### Sediment Storage Basin (Plan):

- Embankment stabilized with vegetation
- 2.5:1 or flatter
- Existing ground line
- Embankment stabilized with vegetation

### Sediment Storage Basin (Elevation):

- Embankment stabilized with vegetation
- 2.5:1 or flatter
- Existing ground line
- Embankment stabilized with vegetation
ANCHOR SLOTS:
The top of the blanket should be "slotted" at the top of the slope and anchored in place with anchors 6 inches apart. The slots should be 6 inches wide x 6 inches deep with the blanket anchored in the bottom of the slot, then backfilled, tamped and seeded.

LONGITUDINAL SEAMS:
3. SPLICE SEAM:
When splices are necessary, overlap end of stagger splice seams. Avoid stretching.

5. 6 inches apart. The slots should be 6 inches wide x 6 inches deep with the blanket anchored in the bottom of the slot, then backfilled, tamped and seeded.

6. TERMINAL FOLD:
The bottom edge of the blanket shall be turned under a minimum of 4 inches, then anchored in place with anchors 9 inches apart.

TYPICAL ANCHORS:
Anchor design shall be as recommended by the manufacturer.

NOTE:
Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards. Single post ring and shank staple is acceptable.
1) Design Speed: Those items delegated to temporary traffic control should be designed and installed using the posted/legal speed of the roadway prior to work starting.

2) Minimum Lane Width: Lane widths shall be a minimum of 11' (measured between centers 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 sighting.

3) Consideration should be made to separate pedestrian and, if needed, bicycle movements from both work site activity and vehicular traffic. Unless a reasonable safe route does not involve crossing the roadway, or access to the opposite side of the roadway in urban and suburban areas with high vehicular traffic volumes, these facilities should be placed at intersections (other than midblock locations) so that pedestrians are not confronted with midblock work sites that will induce them to attempt skirting the work site or make a midblock crossing.

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

5) When the driving surface is open to traffic is milled or is a temporary surface made of loose material, or when directed by the engineer a W8-15 (Grooved Pavement) or W8-7 (Loose Gravel) sign shall be used on mainline approaches. This sign should be placed a "C" distance after the W20-1 (Road Work Ahead) sign. A W8-15p motorcycle plaque shall be used to supplement the W8-15 or W8-7 signs. All signs shall be displayed as long as the condition is present.

6) Alternative temporary rumble strip options may be available. Please contact the Temporary Traffic Control Unit for more information at 785-296-1183 or 785-296-1179.

TYPICAL WORK ZONE COMPONENTS

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

### Taper Formulas:

**Transition Taper**

- **B1000 YEAR**
  - Formula: \( L = \frac{S}{15} \) for speeds of 45 MPH or more
  - Formula: \( L = \frac{S}{15} \) for speeds of 40 MPH or less

**Pavement Marking (Temporary)**

- **Shall:**
  - Use Channelizing Devices
  - Use Shoulder Taper: \( L = \frac{S}{3} \)
  - Use Shifting Taper: \( L = \frac{S}{2} \)

**Buffer Space**

- **Posted speed prior to work starting**
  - The minimum spacing between signs shall be no less than 100', unless directed by the engineer.
  - The spacing between any signs may be increased beyond the minimum values in the table above as approved by the engineer in order to maximize visibility.

### Channelizer Placement:

1. The spacing between devices in the advance warning area and the activity area should not exceed a distance in feet equal to 1/2 the posted speed limit in mph prior to work starting.
2. The spacing between devices in the advanced warning area and the activity area should not exceed a distance in feet equal to two times the posted speed limit in mph prior to work starting.
3. Channelizing devices shall be placed for optimum visibility, normally at right angles to the traffic flow.
4. Place directional indicator barriers in series to direct traffic onto the new path. The arrow sign should not be visible to opposing traffic.
5. Alternating diagonal orange and white striping must slope downward in the direction traffic is expected to pass.

### Minimum advance warning signing spacing (in feet):

<table>
<thead>
<tr>
<th>SPEED (MPH)</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN (40 MPH OR LOWER)</td>
<td>100</td>
<td>700</td>
<td>1700</td>
</tr>
<tr>
<td>URBAN (45 MPH OR LOWER)</td>
<td>250</td>
<td>350</td>
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<tr>
<td>RURAL (55 MPH OR LOWER)</td>
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<tr>
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</tbody>
</table>
For rails less than 36" long, 4" wide stripes may be used. All stripes shall slope downward to the traffic side for channelization.

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

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

Support device shall not project beyond the detection plate into the pathway.

Hand trailing edges and detection plates are optional for continuous walls.

Alternate pathways shall be firm, stable, and slip resistant. Treat height differentials > 1/2" in the surfaces of alternate paths with a firm, stable, and slip resistant temporary ramp having a slope of 12:1 or flatter and having a width equal to the alternate path.

Allow alternating orange/white on interconnected devices.

1. Not allowed on centerline delineation along freeways or expressways.
2. The stripes shall slope downward to the traffic side for channelization.
3. May be used upon the approval of the engineer.
4. Daytime operations only.
FIGURE 1: TYPICAL SIGNING FOR ROAD CLOSURE (MAINLINE OR SIDE ROAD)

Note: Signs shown for one approach to work zone.

Complete closure
Type 3 barricades

Type 3 barricade
XX

Complete Closure
Type 3 barricades

Type 3 barricade

Length to the nearest
5, 30, or 48" (no decimal
mixing)

FIGURE 2: TYPICAL SIGNING FOR SIDE ROAD OPEN

Note: Signs shown for one approach to work zone.

Complete closure
Type 3 barricades

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

Note: Signs shown for one approach to work zone.

Complete closure
Type 3 barricades

Type 3 barricade

Length to the nearest
5, 30, or 48" (no decimal
mixing)

FIGURE 4: TYPICAL SIGNING FOR SIDEWALK CLOSED

With opposite sidewalk available

KANSAS DEPARTMENT OF TRANSPORTATION

ROAD CLOSED

Notice: Signs shown for one approach to work zone.

Complete closure
Type 3 barricades

Type 3 barricade

Length to the nearest
5, 30, or 48" (no decimal
mixing)

ROAD CLOSED

FIGURE 4: TYPICAL SIGNING FOR SIDEWALK CLOSED

With opposite sidewalk available

Audible device location when used

A warning light shall be mounted to the vertical post.

DETECTABLE BARRICADE

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

ROAD CLOSED GENERAL NOTES

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

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

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

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

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

END ROAD WORK
KDOT-2

WAIT FOR PILOT CAR
KDOT-5

NOTICE ZONE
KMA-2D

NEXT MILES
WF-3a

SHOULDER DROP-OFF
WF-17P (Optional)

NB US-75 CLOSED FOLLOW DETOUR
SP-01 (Special Sign)

US-75 CLOSED NORTH OF Topeka FOLLOW DETOUR
SP-02 (Special Sign)

6' C 48" x 48'

8' D 48" x 48'

9' C 24" x 6'

10' D 48" x 12'

30' C 30" x 24'

8" C 60" x 144"

5' M in.

60° to 90°

Min.

6'

3'-0"

48"

48" x 24"

48" x 48"

48" x 144"

30" x 24"

48" x 48"

48" x 144"

GROOVED PAVEMENT
WH-15

LOOSE GRAVEL
WH-7

UNEVEN LAKES
WH-11

RURAL
1) Ground-mounted signs shall be mounted at a minimum height of 7' measured from the bottom of sign to the near edge of the pavement.
2) Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.
3) The height of the secondary sign mounted below another sign may be 4' measured from the bottom of the sign to the near edge of the pavement. Signs shall not overlap each other.

URBAN
1) Signs shall be mounted at a minimum height of 7' measured from the bottom of sign to the near edge of the pavement.
2) Neither portable nor permanent sign supports should be located on sidewalks or areas designated for pedestrian or bicycle traffic.
3) Signs mounted lower than 7' should not project more than 4" into pedestrian facilities.
4) The height from the bottom of the secondary sign mounted below an additional sign shall be measured from the bottom of sign to the near edge of the pavement. Signs shall not overlap each other.
5) Large signs having an area exceeding 50 square feet installed on multiple breakaway posts shall be mounted a minimum of 7' above the ground.
6) Pedestrian detour signage shall be a minimum of 2' measured from the top of the pedestrian pathway to the bottom of the sign and shall not protrude into the walkway nor shall it project beyond the back of curb.

FINES DOUBLE IN WORK ZONES
KI-104a

FINES DOUBLE IN WORK ZONES
KI-105a

When the sign width is equal to or greater than 2', three or more wood posts may be used with a minimum of 6' between the centers of each post. All signs less than 2' in width shall use a maximum of two wood posts.

In the case of hitting rock when driving posts:
1. Shift the sign location. Do not violate minimum sign spacing.
2. With the engineer's approval, use acceptable alternative sign stands.
Perforated square steel tube (P.S.S.T.) post setup

Details for 2", 2 1/4", or 2 1/2" sign posts
Place bolts in the same corner along each sign post.

Notes:
Place two bolts at both ends of the splice through the holes nearest the ends of the splice.
Use manufacturer recommended spacers over the bolts between the spliced pieces of U-Channel.

3 lb/f U-Channel setup
NOTE: Refer to TE733 and TE734 for additional temporary traffic signal details.

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.

- Post speed prior to work starting

- Uni-Directional Yellow Temporary Raised Pavement Marker (Type 1) (Facing Right)
- Channelizing Device
- Ahead, 1000 ft. or 1 Mile
- Ahead, 1500 ft. or 3 Mile
- Speed to be determined by the Engineer
- Signed Hand with Back Plate
- Temporary Signal Pole or Trailer
- Type 'A' Low Intensity Warning Light

Temporary traffic signal details.

NOTE: Refer to TE733 and TE734 for additional

W20-1

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Temporary traffic signal details.

NOTE: Refer to TE733 and TE734 for additional
TEMPORARY TRAFFIC SIGNAL DETAILS

GENERAL NOTES

The engineer in charge of construction will need to approve all locations for traffic signal to be installed. Final positions & aiming of signal faces to be determined in the field.

Trailer mounted portable traffic signals may be substituted for span wire signals.

The traffic signal system shall conform to and be operated according to the requirements of the M.U.T.C.D.

Contact local utility companies to advise them of installation and coordinate power hook-up if needed.

All wiring installed shall conform to the national electrical code and local ordinances & requirements.

The power supply and the operation & maintenance of the signal system shall be the responsibility of the contractor.

Note: See TE734 for additional information.

SAG Not to Exceed 5% of Span Length

Backfill with thoroughly compacted earth.

Cable Head End

120 Volt Power Source

Contact Clamp

Service Entrance

Conduit Clamp

Ground Rod

Ground Wire

Circuit Breaker

Meter

Conduit

Detector Wire

Class 4, 35' Wood Pole (Typ.)

Crown Elevation

Edge of Pavement

Service Entrance

Pipe Spacer & Fitting

Anchor Rod

Guy Clamp

Guy Wire

Pipe Spacer & Fitting

Downguy Anchor

STAND OFF GUY ALTERNATE

SIGNAL INDICATIONS

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL SUPPORT POLE.

Alternate method of mounting for spanwire & downguy.

Ground Wire

Service Entrance

Red

Yellow

Green

Clevis Attachment

Hook, Eye Hook, or Eye Turnbuckle

Eye & Eye Turnbuckle

Cabinet & Controller

Cable Dead End

Contact & Cabinet

12 Tap

Edge of Pavement

Anchor Rod

Guy Clamp

Guy Wire

Pipe Spacer & Fitting

Anchored Anchor

5" Hub Eye Bolt

" Guy Wire

" Guy Wire

" Guy Wire

" Span Wire

1 0 ' Min.

12" Typ.

7 ' Min.

19' Max.

7 ' Min.

" Eye & Eye Turnbuckle

" Hook, Eye Hook, or Eye Turnbuckle

" Hub Eye Bolt

" Span Wire

8 5

8 5

8

8

3 3

3 3

3

5

1

1
The control equipment shall be designed in such a manner that the normal dwell condition shall be an all red signal display. Upon receipt of a detector actuation from one approach, the signals facing that approach shall cycle to a green indication for a minimum period (minimum green). Subsequent detector actuations from the same direction shall result in additional green time being allocated to that movement (unit extension). In the event that an actuation exists for the direction of travel not having the right of way, a maximum green time setting shall provide a preset time limit for the direction having the right of way.

The control equipment shall provide for different clearance sequences, one for each required phase.

If the green indication has been displayed to one approach to the zone, no vehicle actuation exists on the opposite approach and another actuation occurs during the yellow display to the approach just serviced, the display shall proceed to an all red display for a period of time (red revert) to prevent the display of green - yellow - green indications to the motorist.

If the right of way is to be transferred to another approach, an all red indication shall be provided so that opposing traffic does not meet within the one way zone.

Response to a vehicle actuation from another approach shall be immediate if all timings have expired. In the event that all time settings have not expired at the point at which a vehicle actuation occurs, the system shall continue to provide the appropriate clearance interval timings before acting upon an actuation input.

Vehicle actuations received from the detector at approaches other than that which last received a green indication shall be transferred to an all red indication. If an actuation occurs before all timings have expired, response shall be as a first come, first served basis.

All time settings shall be user adjustable and shall be accomplished from the equipment front panel by way of a keyboard and menu screen format. All applicable portions of the KDOT standard specifications for vehicle actuation shall apply except that a standard NEMA conflict monitor shall be acceptable.

Signals shall be capable of actuation. On no-paint roadways, detection loops may be sawed into the road. Commercially made loop mats may also be used. Do not cut loops into concrete pavement. Other types of detection may be used if approved prior to installation by the Engineer. Do not use microwave detection systems in urban areas. Detector shall be set to operate in the locking mode.

If used, detection loops shall be 6' by 6' and have three turns of wire (see detail). Center loops in the lane of traffic and locate 100' behind the stop line. Cut slots in pavement for loops 1/8" wide with 1" maximum depth. Fill slots with asphalt or an approved elastic epoxy sealant (concrete pavement) to within 1/2" of pavement surface. Other than a "western union" type splice or approved connector at their junction, feeder cable and loop wire shall be of continuous run with no splices. The loop and the feeder cable connection shall be twisted 2 turns per foot.

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