DOUGLAS COUNTY PUBLIC WORKS
ENTRANCE INSTALLATION SPECIFICATIONS

GENERAL

1. The contractor must be qualified by Douglas County prior to commencing work. All contractors on KDOT's prequalified list of grading contractors are automatically prequalified by Douglas County. All other contractors must be qualified by Douglas County by meeting with the Engineer and exhibiting sufficient knowledge of these specifications, and by having sufficient experience, equipment, and personnel to construct entrances on county rights-of-way.
2. "Engineer" means the Douglas County Engineer acting directly or through duly authorized representive(s).
3. "KDOT specifications" means STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, latest Edition, Kansas Department of Transportation.
4. Section numbers referenced in the following Douglas County Entrance Specifications refer to the KDOT specifications.
5. The contractor shall obtain and have readily available his or her own copy of the KDOT specifications.

INSURANCE REQUIREMENTS

1) Provide Commercial General Liability insurance for a combined single limit of a minimum amount of $500,000 for bodily injury and property damage.
2) Provide Automobile Liability insurance for a combined single limit of a minimum amount of $500,000 for bodily injury and property damage that covers owned, hired, and non-owned vehicles.
3) Before starting any work, provide to the Director of Public Works copies of Certificates of Insurance showing the Contractor carries insurance in the amount and type required and showing the effective and expiration dates of such insurance.
4) Obtain insurance only from insurers authorized to transact insurance business in Kansas as an authorized insurer.

TRAFFIC CONTROL

1) Provide, erect, and maintain all traffic control devices necessary to protect the public and workers on the project. All traffic control devices must conform to the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) in terms of quality, quantity, and placement of these devices. Traffic control devices that do not meet the MUTCD are unacceptable.
2) The Contractor's obligation to provide, erect, and maintain all traffic control devices is extremely important. It is the Contractor's duty to provide, properly erect and maintain all traffic control devices. If the Engineer has not observed or reminded the Contractor to erect or maintain these devices, it does not lessen the

Contractor's responsibility or liability for failing to provide, erect, or maintain these devices.

3) Safely move traffic through the project. Sequence work to provide 2-way travel whenever possible. Do not detour traffic.
4) Attached are three typical applications from the MUTCD that would apply to construction of an entrance. Typical Application 1 will be required as a minimum in all situations. Typical Application 6 will be required when working adjacent to the traveled lane. Typical Application 10 will be required when needing to close one lane of traffic.

UTILITIES

1) The Contractor shall notify Kansas One Call and obtain utility field locates (including those utilities that do not participate in Kansas One Call) in the anticipated work area before excavating.
2) Coordinate, schedule, and perform work to minimize interference with others who are adjusting or relocating utilities.
3) Use work procedures that do not damage utilities or utility property within and adjacent to the work area.
4) Coordinate and perform work to avoid interrupting utility service.
5) Notify the utility owner of damage to or exposure of its utility or utility property. Do not hinder the utility owner from restoring utility service.
6) Assume responsibility for damages to utilities arising from Contractor's negligent acts or omissions.

PUBLIC SAFETY

1) Public safety is critical. Store vehicles, construction equipment, materials, tools and debris off the right-of-way or a minimum of 30 feet from the edge of the roadway.
2) Maintain the roadway in good condition at all time. Notify the Douglas County Public Works Department immediately if any damage is done to the public roadway. If dirt or mud is tracked onto the roadway, it shall be removed immediately to ensure the roadway is safe for the traveling public.
3) Patch damaged pavement as directed by the Engineer. Sawcutting to provide a neat patch may be required. Patch thickness shall match existing pavement thickness or minimum 6 inches depth, whichever is more. Patch material shall be HMA – Commercial Grade (Class A) asphaltic concrete per KDOT specifications, properly compacted, or as otherwise directed by the Engineer.

CONSTRUCTION REQUIREMENTS

1) Comply with Douglas County Standards for Residential/Commercial Entrances and with instructions and drawings provided with the entrance permit.
2) Excavation. Beginning at the outlet end of the pipe and proceeding toward the upper end, excavate the bottom of the channel to the line, grade, and elevation shown on the drawings. Construct the width of the trench sufficient to lay and

backfill the pipe with a minimum width equal to the diameter of the pipe plus 6 inches on each side. Follow OSHA regulations for sloping the sides of the excavation.

3) Firm the foundation in the trench to prevent subsequent settlement by removing soft unstable materials and replacing with suitable materials.
4) If rock is encountered, remove the rock to an elevation 12 inches below the pipe flowline elevation shown on the drawings. Backfill and compact the bottom 6 inches of the excavation with suitable soil prior to placing the bedding material.
5) Bedding Material. Granular material (SCA-4, AB-3 or PB-2, Section 1102, 1104, or 1107) of sufficient moisture content and that may be adequately rolled or tamped in place shall be used for bedding material. Drain all water from trench before backfilling.
6) Place granular bedding material in uniform layers a maximum of 6 inches thick (loose measurement). Place and compact to Type B (MR-90) (Section 205.4.g.) the granular material in horizontal layers evenly on both sides of the pipe. Granular bedding material shall, at a minimum, extend to 6 inches below and outside the pipe diameter on each side of the pipe. Terminate the granular backfill, at a minimum, at the pipe spring line, and place suitable backfill in maximum 6 inches (loose measurement) lifts and compacted to Type B (MR-90) to backfill the remaining trench. Construct and compact the earthwork to Type B (MR-90) to achieve the elevation shown on the drawings for the new entrance. Take the necessary precautions to prevent distortion of the pipe while backfilling. Dispose of any excess material and leave the area in a neat presentable condition.
7) Surface the completed earthwork with minimum 6 inches of AB-3 (Section 1104) or 6 inches of SS-3 (Section 1112) per the KDOT specifications.
8) All disturbed areas shall be seeded, fertilized and mulched in accordance with the following specifications:
    (a) Slopes and disturbed areas shall have minimum 6 inches depth of soil suitable for supporting seed growth.
    (b) Before seeding, the entire area to be seeded shall be fertilized with a 13-13-13 commercial fertilizer applied at a rate of 200 pounds per acre. The entire area shall then be raked to mix the fertilizer thoroughly into the upper 2 inches of soil.
    (c) Seed shall be evenly distributed at a rate of 200 pounds (PLS) per acre Tall Fescue (endophyte free), and 45 pounds (PLS) per acre perennial ryegrass.
    (d) Prairie hay mulch shall be uniformly spread over seeded areas to 1-1/2 inches loose depth.

Approved by:

Keith A Browning — 10/31/2018

Keith A. Browning, P.E. — Date
Public Works Director

Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	100 feet	100 feet	100 feet
Urban (high speed)*	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

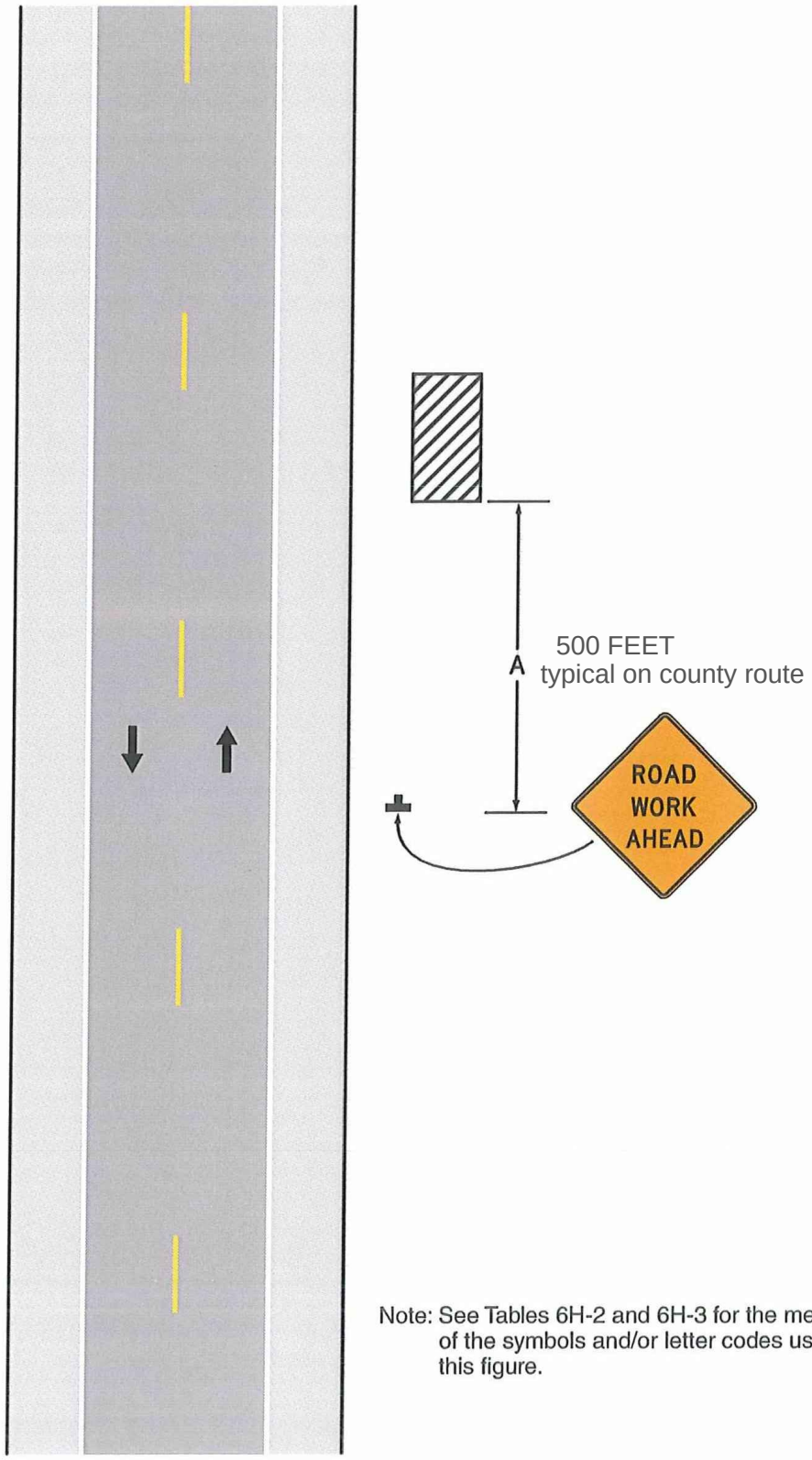
* Speed category to be determined by highway agency

** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)

Table 6H-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

Where: L = taper length in feet
W = width of offset in feet
S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

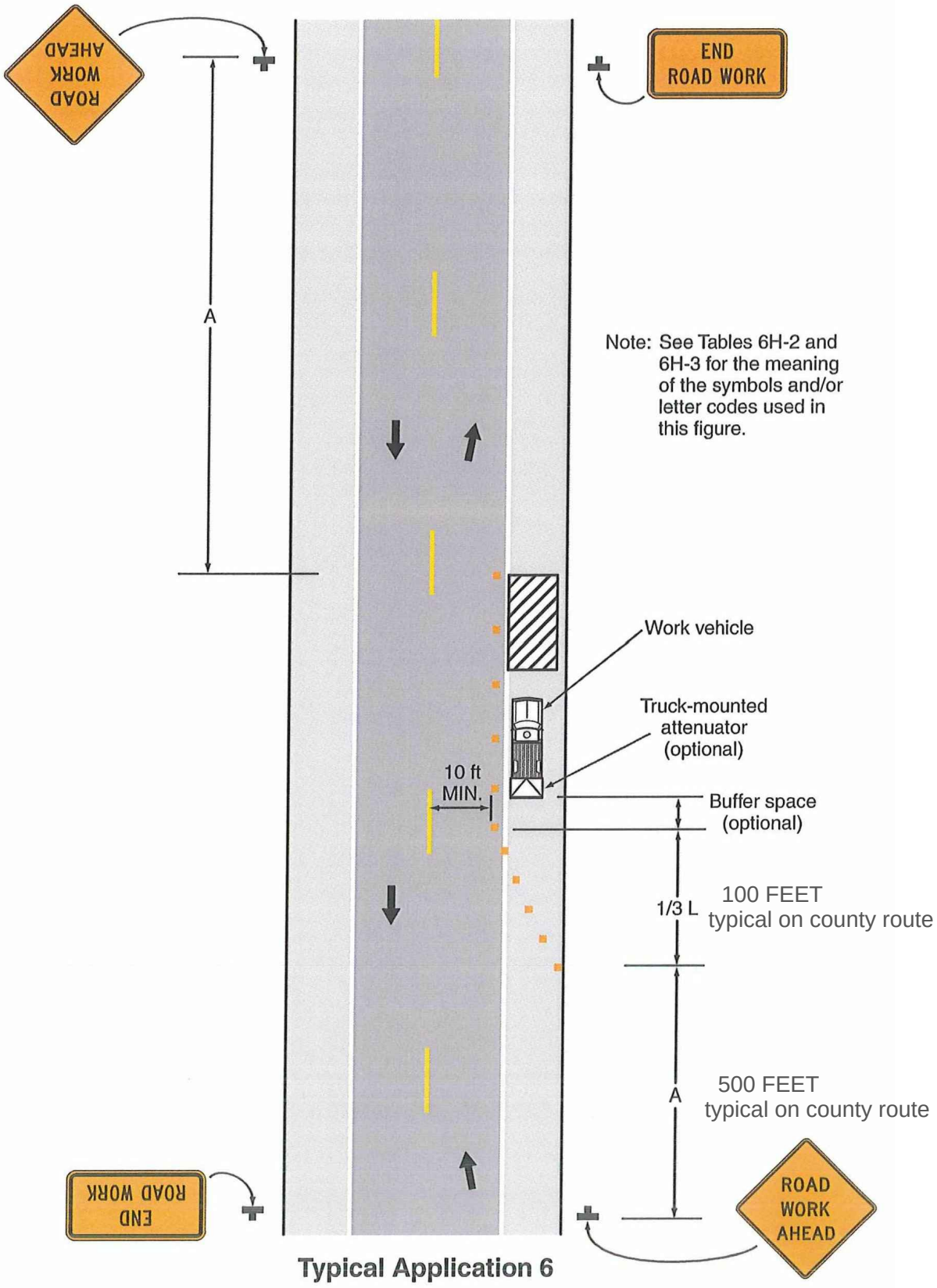


Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 1

Douglas County Public Works
3755 E. 25th Street
LAWRENCE, KANSAS 66046
Questions? Contact Public Works at
785-832-5293

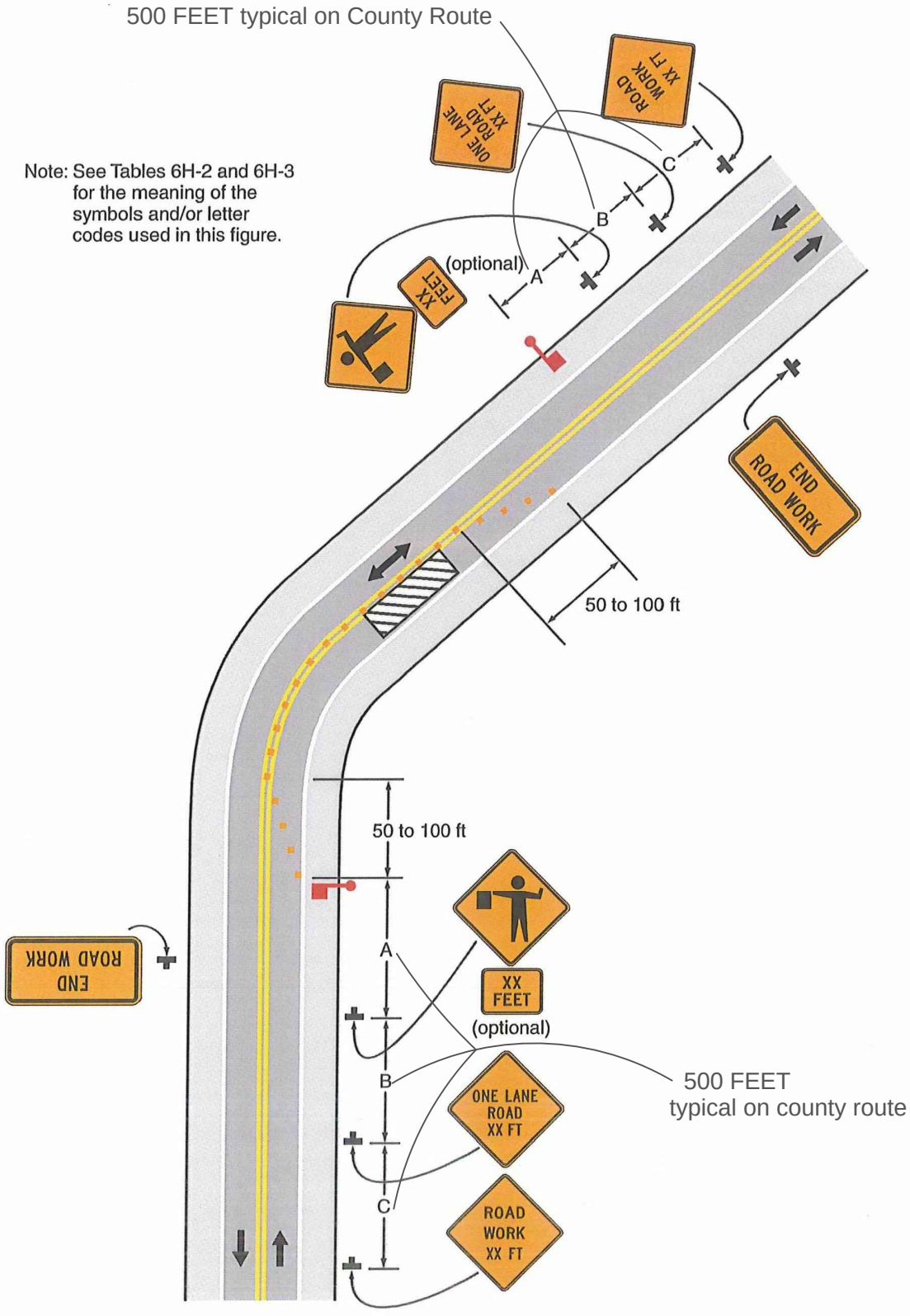
TRAFFIC CONTROL
TYPICAL APPLICATION 1



Typical Application 6

Douglas County Public Works
3755 E. 25th Street
LAWRENCE, KANSAS 66046
Questions? Contact Public Works at
785-832-5293

TRAFFIC CONTROL
TYPICAL APPLICATION 6



Typical Application 10

Douglas County Public Works

3755 E. 25th Street
LAWRENCE, KANSAS 66046

Questions? Contact Public Works at
785-832-5293

TRAFFIC CONTROL
TYPICAL APPLICATION 10