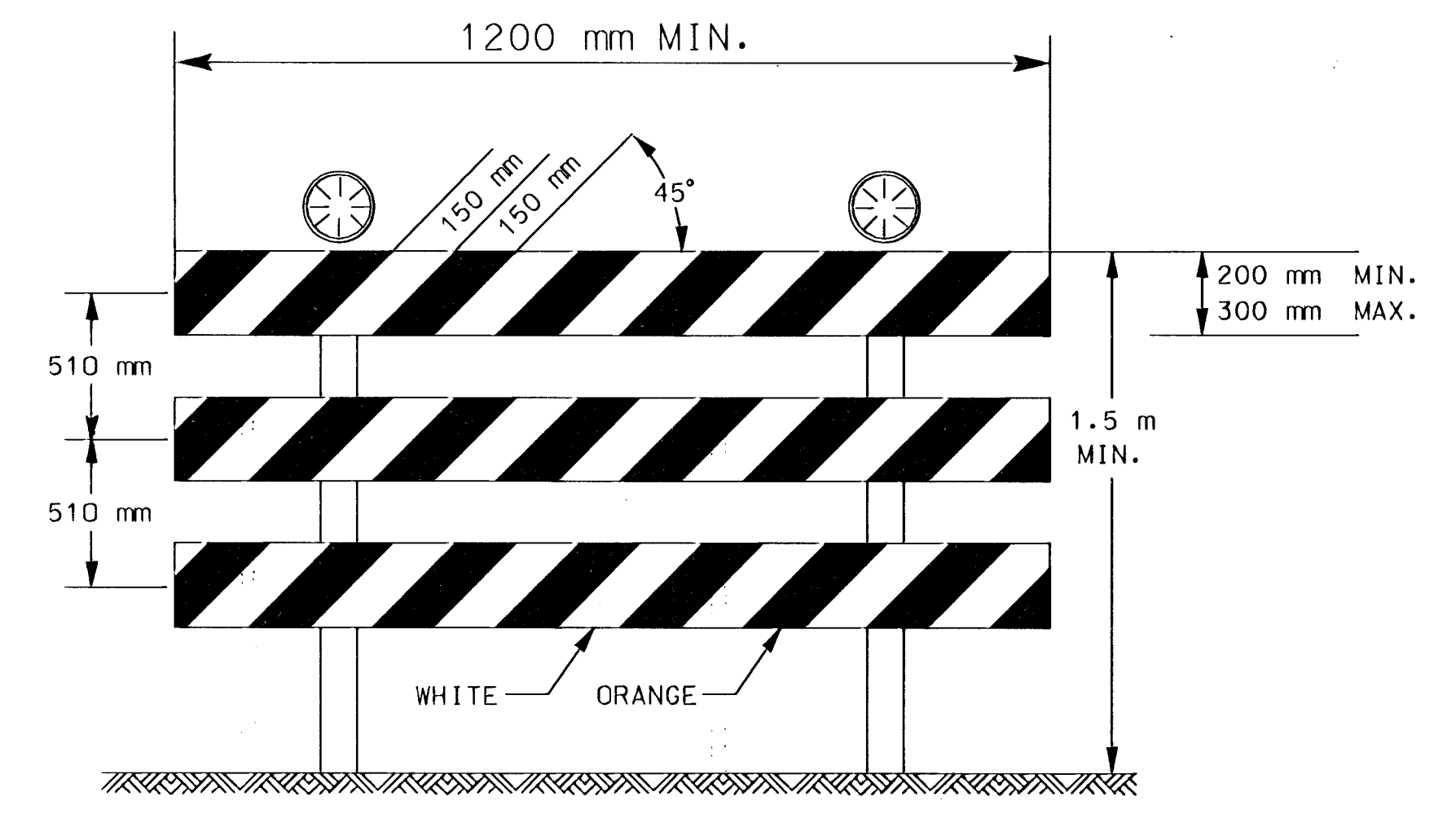


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-83537	2003	51	73

- MUTCD COMPLIANCE**  
ALL TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION AND MAINTENANCE SHALL COMPLY WITH THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS. WHENEVER THE TRAFFIC CONTROL STANDARDS CONFLICT WITH THE MANUAL, THE STANDARDS SHALL GOVERN.
- DESIGN SPEED**  
TRAFFIC CONTROL SHOULD BE DESIGNED AND INSTALLED USING THE POSTED SPEED OF THE ROADWAY PRIOR TO WORK STARTING.
- CLEAR ZONE**  
WHENEVER PRACTICAL, ALL CONSTRUCTION EQUIPMENT (INCLUDING VEHICLES), MATERIALS, AND DEBRIS SHALL BE STORED OUT OF THE CLEAR ZONE. WHERE THIS CANNOT BE ACHIEVED, THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNS, OBJECT IDENTIFIERS, AND/OR BARRICADES AS DESIGNATED BY THE ENGINEER. TRAFFIC CONTROL DEVICES NEEDED FOR THIS CONDITION SHALL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.
- MINIMUM LANE WIDTHS**  
LANE WIDTHS SHALL BE A MINIMUM OF 3.4 m (MEASURED BETWEEN CENTERLINES OF PAVEMENT MARKINGS) OR AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. A LANE WIDTH LESS THAN 3.4 m MAY REQUIRE RESTRICTED ROADWAY WIDTH SIGNING.
- FLAGGER**  
A MINIMUM OF ONE FLAGGER SHALL BE STATIONED WITHIN EACH MULTI-LANE ROADWAY WORK AREA WHERE WORK IS IN A CLOSED LANE ADJACENT TO TRAFFIC AND NOT SEPARATED BY CONCRETE SAFETY BARRIER.
- PAVEMENT MARKING**
  - TYPE I TAPE IS TO BE APPLIED TO A FINAL SURFACE (NEW PAVEMENT OR ANY SURFACE THAT WILL REMAIN WHEN THE PROJECT IS COMPLETE) AS A TEMPORARY MARKING WHEN THE TEMPORARY MARKINGS WILL BE REMOVED. WHEN TYPE I TAPE IS SPECIFIED, ONLY TYPE I TAPE WILL BE ALLOWED.  
  
TYPE II TAPE IS TO BE APPLIED TO A SURFACE THAT IS TO BE REMOVED OR COVERED BY FUTURE CONSTRUCTION.  
  
TYPE IIA TAPE MAY BE APPLIED AS TEMPORARY BROKEN LINES ON INTERMEDIATE BITUMINOUS SURFACES ONLY.  
  
WHEN TYPE II, OR TYPE IIA TAPE IS SPECIFIED, THE CONTRACTOR HAS THE OPTION TO USE EITHER TYPE I OR TYPE II TAPE.  
  
IF RECOMMENDED BY THE MANUFACTURER, USE A PRIMER TO PRECONDITION THE PAVEMENT SURFACE.
  - ALL CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED AND ALL TRANSITION TAPERS, CROSSOVERS, AND EDGE LINES ALONG CHANNELIZING DEVICES SHALL BE MARKED WITH SOLID 100mm WIDE PAVEMENT MARKING WHEN THE WORK WILL OCCUPY A LOCATION MORE THAN THREE DAYS.  
  
WHEN LINE MASKING TAPE IS SPECIFIED TO TEMPORARILY COVER EXISTING PAVEMENT MARKINGS, ONLY LINE MASKING TAPE WILL BE ALLOWED. WHEN EXISTING PAVEMENT MARKING REMOVAL IS SPECIFIED, THE CONTRACTOR HAS THE OPTION TO EITHER REMOVE THE EXISTING PAVEMENT MARKING OR APPLY LINE MASKING TAPE.

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

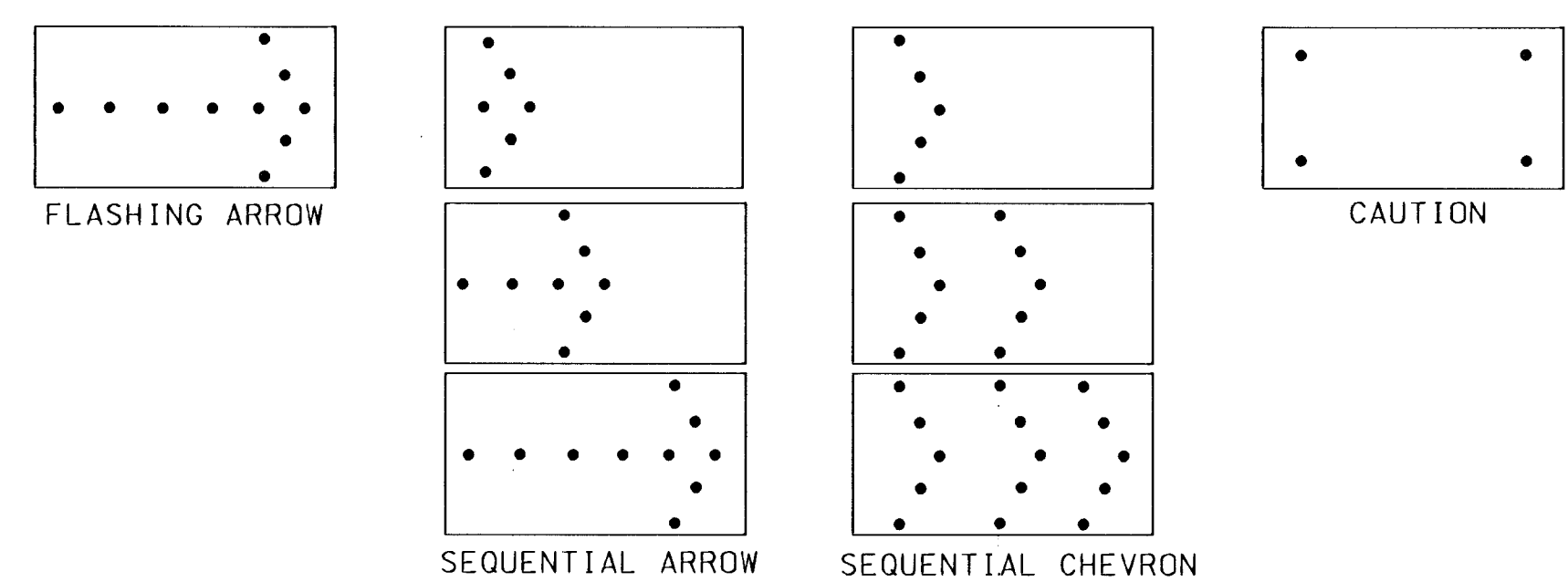
- THE CONTRACTOR SHALL:
- PROVIDE TO THE ENGINEER A COPY OF THE MANUFACTURER'S SELF-CERTIFICATION THAT ANY CATEGORY 1 DEVICES (AS DEFINED IN THE FHWA MEMORANDUM) USED ON THE PROJECT ARE NCHRP REPORT 350 COMPLIANT.
  - PROVIDE TO THE ENGINEER A COPY OF THE ENTIRE FHWA NCHRP REPORT 350 ACCEPTANCE LETTER FOR ANY CATEGORY 2 DEVICE (AS DEFINED IN THE FHWA MEMORANDUM) USED ON THE PROJECT.
  - 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 USED ON PROJECTS LET AFTER JANUARY 1, 2002 SHALL BE NCHRP REPORT 350 COMPLIANT. TMA'S PURCHASED PRIOR TO OCTOBER 1, 1998, MAY BE USED UNTIL THE END OF THEIR SERVICEABLE LIVES.



**TYPE III BARRICADE WITH LIGHTS**

**BARRICADES:**  
WHEN CLOSING A ROAD, TYPE III BARRICADES SHALL BE PLACED END-TO-END TO SUFFICIENTLY COVER THE ROADWAY. WHEN AUTHORIZED ACCESS MUST BE ALLOWED, THE BARRICADES SHALL BE LONGITUDINALLY STAGGERED TO MAINTAIN THE APPEARANCE OF A CLOSED ROADWAY. IF THE ACCESS IS FOR CONSTRUCTION VEHICLES, THE BARRICADES SHALL BE REALIGNED TO DENY ANY ACCESS WHEN THE CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY. IF THE ACCESS IS FOR LOCAL TRAFFIC, THE BARRICADES SHALL REMAIN LONGITUDINALLY STAGGERED AND A SECOND LINE OF END-TO-END BARRICADES SHALL BE PLACED AT THE WORK AREA TO CLOSE THE ROAD.  
  
FOR WOODEN BARRICADES, NOMINAL LUMBER DIMENSIONS WILL BE SATISFACTORY. THE ENTIRE AREA OF BARRICADE RAILS, BOTH FRONT AND BACK, SHALL BE FULLY REFLECTORIZED WITH TYPE III HIGH PERFORMANCE RETROREFLECTIVE SHEETING. THE STRIPES SHALL SLOPE DOWNWARD TO THE SIDE TRAFFIC IS TO PROCEED OR TOWARD THE CENTER OF THE ROADWAY AT ROAD CLOSURES.  
  
SIGNS MOUNTED ON TYPE III BARRICADES SHOULD NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.  
  
A MINIMUM OF TWO TYPE A LIGHTS SHALL BE USED AT EACH LOCATION WHERE A TYPE III BARRICADE OR BARRICADES ARE USED. A LIGHT SHALL BE MOUNTED ON THE OUTSIDE CORNER OF THE END BARRICADES WHEN MORE THAN ONE BARRICADE IS USED.  
  
WARNING LIGHTS SHALL COMPLY WITH THE CURRENT ITE PURCHASE SPECIFICATIONS FOR FLASHING AND STEADY BURN WARNING LIGHTS. THE LENS SHALL BE A MINIMUM OF 175 mm IN DIAMETER AND BE MOUNTED AT A MINIMUM HEIGHT OF 1.5 m.  
  
TYPE A LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE MAINTAINED SO AS TO BE CAPABLE OF BEING VISIBLE ON A CLEAR NIGHT FROM A DISTANCE OF 1000 m.

**ARROW DISPLAYS**



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

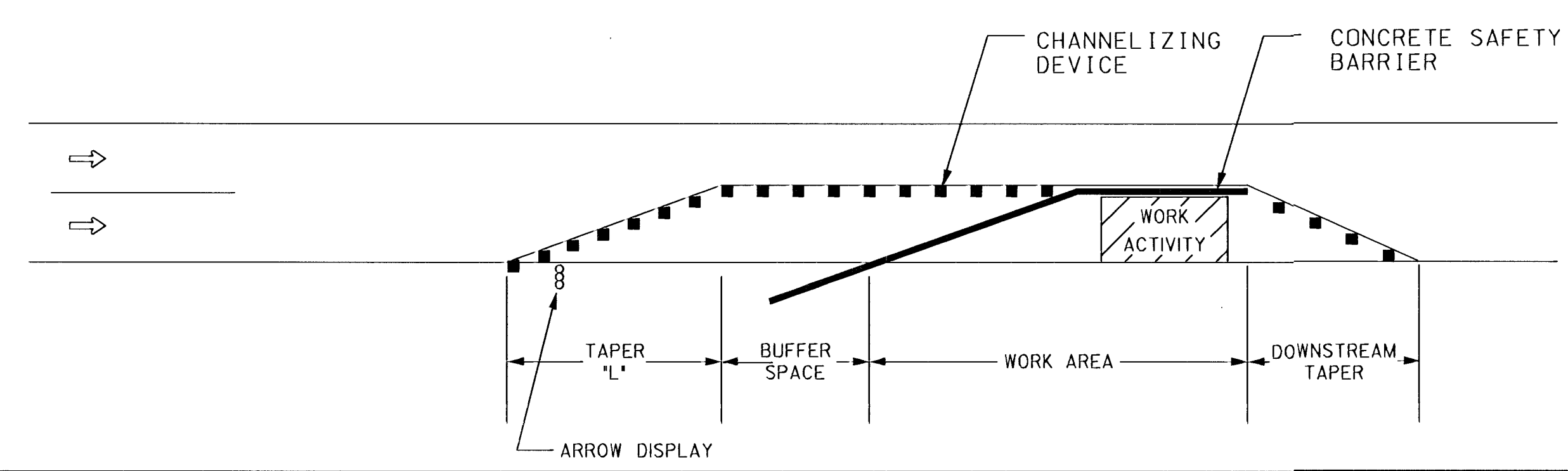
**BUFFER SPACE:**

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

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

\* POSTED SPEED PRIOR TO WORK STARTING

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



Plotted By : mark  
 Plot File : H:\CIVIL\01053\03\VT E70051.DGN  
 Plot Date : 04/30/03

3					
2					
1	11-13-01	MODIFIED NOTES 6 & 10	JH	S.A.B	
NO.	DATE	REVISION	BY	APP'D	

KANSAS DEPARTMENT OF TRANSPORTATION  
GENERAL TRAFFIC CONTROL

TE70051 51

FHWA APPROVAL	11-21-01	APP'D Michael P. McKenna
DESIGNED L.E.R.	DETAILED B.A.H.	QUANTITIES TRACED
DESIGN CK.	DETAIL CK.	QUAN. CK.