OKLAHOMA DEPARTMENT OF TRANSPORTATION

DESCRIPTION	REVISIONS	DATE
⚠1	REV. DESCRIPTION	02/23/2021

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

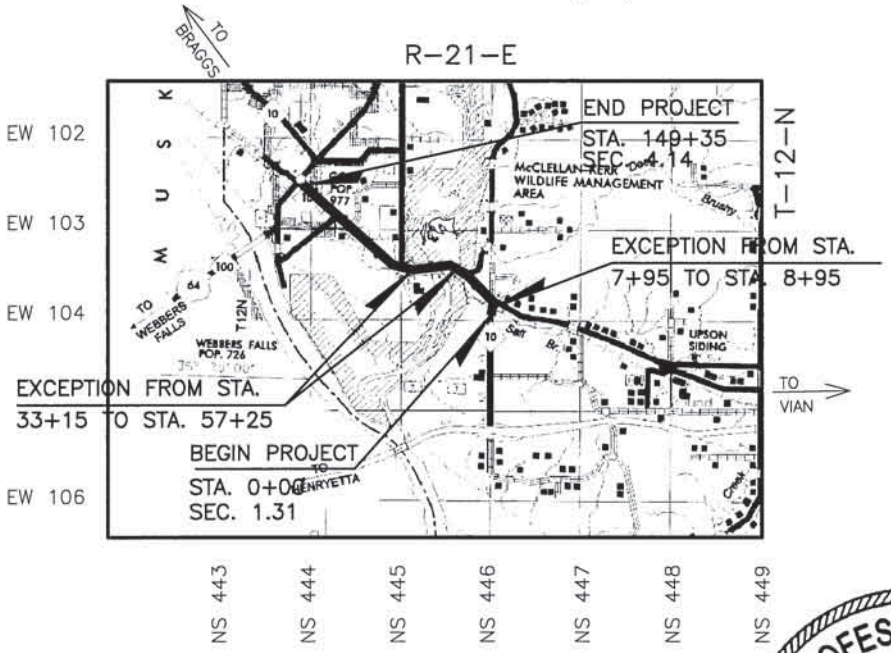
PLAN OF PROPOSED

STATE HIGHWAY

PROJECT NO. STP-268C(074)3P
PAVEMENT REHABILITATION (P.C. CONCRETE) ⚠1
SH-10 & US-64

SEQUOYAH COUNTY

CONTROL SECTION NO. 10-68-29
STATE JOB NO. 33833(04)



DESIGN DATA	
AADT 2019	= 2,486
FLEX ESALS	= 1.08M

ROADWAY LENGTH	12,425.00 FT.	2.353 M
BRIDGE LENGTH	0.00 FT.	0.00 M
PROJECT LENGTH		2.353 M

EQUATIONS : NONE
EXCEPTIONS : STA. 7+95 TO STA. 8+95 (RAILROAD)
STA. 33+15 TO STA. 57+25

LICENSED PROFESSIONAL ENGINEER
MICHAEL K. KELLY
17710
OKLAHOMA
2/23/2021

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
DIVISION ONE - MUSKOGEE
MICHAEL K. KELLY , P.E.
OKLA. REG. NO. 17710
DATE 2/23/2021

REGISTERED PROFESSIONAL ENGINEER
MICHAEL K. KELLY
17710
OKLAHOMA

PROJECT NO. STP-268C(074)3P
SHEET NO. 0001
SEQUOYAH COUNTY

1 REV. SHEET NUMBERS & ADDED SHEETS 02/23/2021

2 ADDED ENV SHEET 03/09/2021

INDEX OF SHEETS

THE FOLLOWING OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARDS WILL BE REQUIRED TO CONSTRUCT THIS PROJECT:

2009 ROADWAY STANDARDS	2009 TRAFFIC SIGNING	2009 TRAFFIC CONTROL
LECS-4-2	PM1-1-03	TCS1-1-01
PDT-1-3	PM4-1-02	TCS2-1-00
LTU-4-0	PM5-1-00	TCS3-1-01
PR-3-0	PM6-1-00	TCS4-1-01
PCPR-3-2		TCS5-1-00
		TCS6-1-02
		TCS7-1-02
		TCS9-1-01
		TCS10-1-00
		TCS11-1-01
		TCS13-1-00
		TCS14-1-00
		TCS15-1-00
		TCS18-1-01
		TCS19-1-01
		TCS20-1-00
		TCS21-1-02

SH–10 & US–64

INDEX & STANDARDS

Design	M.K.	1/20
Detail	M.K.	1/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. 0002

⚠1 REVISED NOTE OR QUANTITY 02/23/2021

SUMMARY OF PAY QUANTITIES

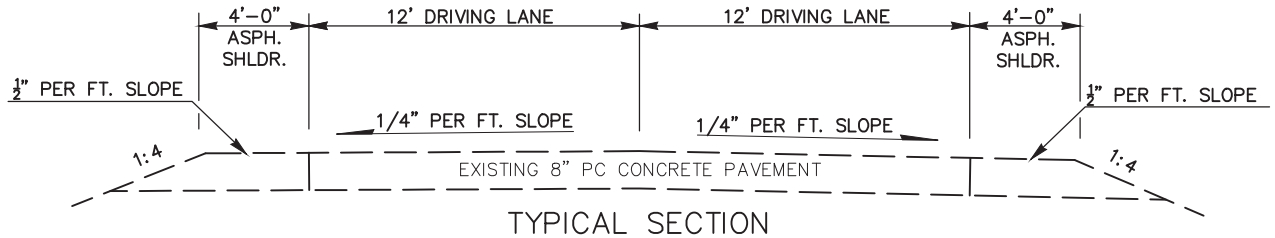
0100 ROADWAY 33833(04)

ITEM NO.	CODE NO.	DESCRIPTION		UNIT	QUANTITY
402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE (E)	(R-18)(1)	TON	50
414(E)	0225	FULL DEPTH P.C. CONCRETE PATCHING (PLACEMENT ONLY)		SY	1,149
414(G)	5275	P.C. CONCRETE FOR PAVEMENT	(2)	CY	287
415	6300	CONCRETE JOINT SEALING		LF	32,565
416	0100	DOWEL BAR RETROFIT		EA	6,680
509(A)	0319	CLASS AA CONCRETE		CY	135
425	5195	DIAMOND GRINDING CONCRETE PAVEMENT		SY	33,400

SUMMARY OF PAY QUANTITIES

0300 TRAFFIC 33833(04)

ITEM NO.	CODE NO.	DESCRIPTION		UNIT	QUANTITY	
628(B)	5125	HIGH-TENSION CABLE BARRIER (TL-4)	(TP-44,45,46,47,48,49,50)	LF	1,935	
628(C)	5110	END ANCHORS	(TP-44,52)	EA	6	
628(E)	5175	CABLE BARRIER TENSION METER	(TP-51)	EA	1	
805(A)	8702	REMOVAL OF CLASS C PAVEMENT MARKERS		EA	121	
856(A)	8530	TRAFFIC STRIPE (MULTI-POLYMER)(4" WIDE)	(3)	LF	39,575	
880(A)	8812	ARROW DISPLAY (TYPE C)	(TC-26,84)	SD	60	
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF	(TC-26,33,84)	SD	690	
880(B)	8821	CONSTRUCTION SIGNS 6.26 TO 15.99 SF	(TC-26,33,84)(4)	SD	810	⚠1
880(B)	8824	CONSTRUCTION SIGNS 16.0 TO 32.99 SF	(TC-26,30,33,84)	SD	960	
880(C)	8842	CONSTRUCTION BARRICADES(TYPE III)	(TC-26,84)	SD	300	
		(DELETED)				⚠1
880(E)	8860	WARNING LIGHTS(TYPE A)	(TC-26,84)	SD	450	
880(F)	8878	DRUMS	(TC-26,84)(SP-16)	SD	1,020	
880(G)	8890	CHANNELIZER CONES	(TC-26,84)	SD	4,860	
880(I)	8902	FLAGGER	(TC-58,84)(5)	SD	60	⚠1
882(A)	8306	PORTABLE CHANGEABLE MESSAGE SIGN	(TC-52,84,85)	SD	148	



TYPICAL SECTION
STATION 0+00 TO STATION 7+95
STATION 8+95 TO STATION 33+15
STATION 57+25 TO STATION 149+35

SCHEDULE OF FULL DEPTH PATCHING

LANE	6'X12' PANEL	8'X12' PANEL	10'X12' PANEL	15'X12' PANEL
VARIES	7	5	0	52
Total	7	5	0	52

SH–10 & US–64

TYPICAL SECTION & PAY QUANTITIES

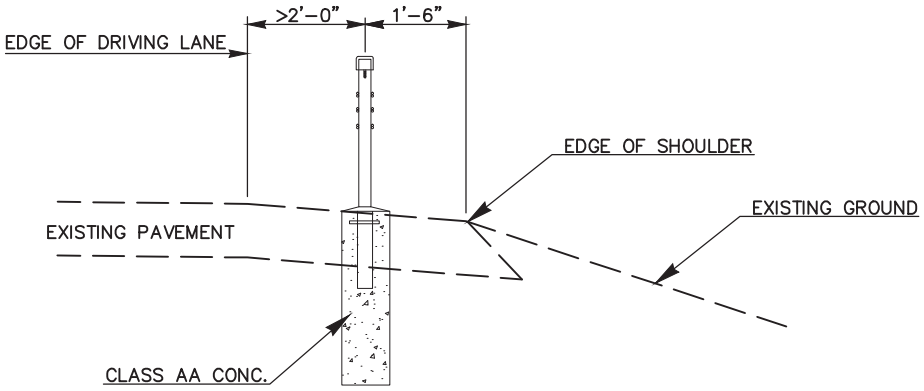
Design	M.K.	1/20
Detail	M.K.	1/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

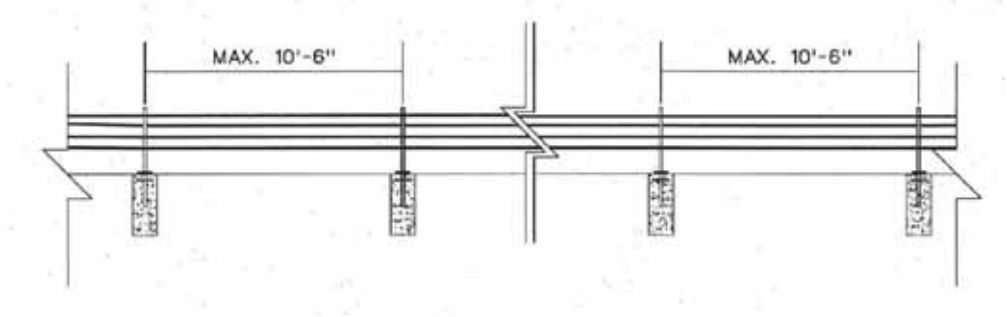
Scale 1"= NA | Project No. 33833(04) | Sheet No. 0003



TYPICAL CABLE BARRIER SECTION
STA. 13+65 TO STA. 20+45 LT.
STA. 24+15 TO STA. 31+00 LT.
STA. 24+85 TO STA. 30+55 RT.

NOTES:

CABLE BARRIER BASE SLOPE SHALL MATCH THE EXISTING SHOULDER SLOPE. BARRIER BASE SLOPE SHALL NOT EXCEED 3:1.



MINIMUM REQUIREMENTS OF CABLE BARRIER SYSTEM:

1. FULLY COMPLIES WITH NCHRP-350 TEST LEVEL 4 (TL-4).
2. 4 PRE-STRETCHED HIGH TENSION WIRE ROPES.
3. MAXIMUM OF 8' DEFLECTION
4. MAXIMUM OF 10'-6" POST SPACING.

SH-10 & US-64

CABLE BARRIER TYPICAL SECTION

Design	M.K.	1/20
Detail	M.K.	1/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. 0004

Earthwork Note: The Contractor must ensure that any material incorporated into the project is free of any hazardous, industrial or contaminated waste, refer to sub-sections 106.01 and 202.02 of The Standard Specifications for Highway Construction.

Imported material (eg. borrow) – If material is imported to the project and at any point the material is determined by the Engineer to include any type of unacceptable contamination, the material may require removal, in whole, or in part. If removal is required, then the initial placement, removal and proper disposal of this material shall be the sole responsibility of the Contractor. The disposal of unacceptable material shall be approved by the Engineer, refer to sub-section 107.15 of The Standard Specifications for Highway Construction.

2 To assist the Contractor, the "Off Project Facility/Borrow Site Hazardous Materials Questionnaire" is provided on the Department's web site:

https://oklahoma.gov/content/dam/ok/en/odot/documents/ok-gov-docs/programs-and-projects/environmental/hazard-questionnaire-2016.pdf

This questionnaire is provided for the convenience of the Contractor so that a clearer understanding of the characteristics of the proposed site/material is achieved. Completion and submittal of this form to the Engineer does not excuse the Contractor from providing materials that are free of hazardous and industrial composition in accordance with sub-sections 106.01 and 202.02 of the Standard Specifications For Highway Construction.

Non-Compliance: Failure to implement the commitments specified in the Plan Notes can result in non-compliance issues on the project. Work activities may be suspended on the project, for an undetermined duration, while working with regulators to bring the project back into compliance. The contractor will not be compensated for time lost.

Water Quality Conservation: Appropriate Best Management Practices to minimize impacts from storm water discharges and sedimentation in streams, as established by the Oklahoma Department of Environmental Quality, shall be conscientiously implemented throughout the proposed construction periods, in order to minimize any potential impacts to any listed species. The effectiveness of erosion controls shall be maintained for the duration of construction activities. Hazardous materials, chemicals, fuels, lubricating oils, and other such substances shall be stored at least 100 feet outside of the ordinary high water mark (OHWM). Refueling of construction equipment shall also be conducted at least 100 feet from the OHWMs. Sediment and erosion controls shall be installed around staging areas to prohibit discharge of materials from these sites. Construction waste materials and debris shall be stockpiled at least 25 feet outside of the OHWMs, and these materials shall be removed and disposed of properly following completion of the project. Preventative measure must be taken to prohibit the discharge of contaminants into any surface waters.

American Burying Beetle Note: The American Burying Beetle is a large carrion burying beetle that occurs within the project limits. No artificial lighting shall be used during construction without prior consultation with USFWS thru ODOT Environmental Programs Division. DO NOT PROCEED WITH ANY USE OF ARTIFICIAL LIGHTING WITHOUT WRITTEN CONSENT FROM ODOT ENVIRONMENTAL PROGRAMS DIVISION. Carcasses and all food trash shall be removed from the permanent and temporary right-of-way throughout the duration of project activities.

Bat Lighting Note: All temporary lighting, if used, will be directed away from suitable bat habitat during the active season for bats (April 1- November 15). If any permanent lighting is installed or replaced, downward-facing full cut-off lens lights shall be installed and directed away from wooded areas and streams.

SH–10 & US–64

ENVIRONMENTAL NOTES

Design	M.K.	9/20
Detail	M.K.	9/20
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ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. AE01

Bald Eagle Note: The Bald Eagle nesting season in Oklahoma extends from September 16, through May 31. A Bald Eagle survey was completed for this project in **February 2021**. No nests were observed within the expected impact area. Survey results are valid only for the nesting season in which the survey was performed. If construction activities have begun, but are not completed by September 16, 2021 the Resident Engineer shall contact the ODOT Biologist. The ODOT Biologist shall schedule any additional surveys that may be required as soon as leaves fall off the trees (approximately November 1). Because no nests were observed during the initial survey, and it can take a pair of eagles one to three months to construct a new nest, if construction activities have begun before October 31, 2021 they may continue while additional nest search surveys are conducted after leaf-off. If construction activities have not begun by October 31, 2021 a new nest survey shall be completed by the ODOT Biologist before construction activities can begin. Nest search surveys can only be conducted when leaves are not on the trees typically between December 1st and February 28th. If nests are observed, up to a 660 foot no-work buffer shall be placed around the nest. The exact distance of the buffer zone shall be established by the ODOT Biologist in consultation with US Fish and Wildlife Services. If the buffer cannot be maintained, all clearing, external construction and landscaping activities within the buffer shall be conducted between June 1 and September 15 (outside the nesting season).

2

Species	Seasonal Restriction Period
Bald Eagle	September 16 – May 31

Offsite Avoidance Note: Locations outside the project area in the following area must not be utilized for borrow, equipment staging, haul roads, spoil dumps or any off-site project-related activity.

T12N R21E:
Section 16: SE¼ NW¼ and
Section 16: NE¼ SE¼

SH–10 & US–64

ENVIRONMENTAL NOTES

Design	M.K.	9/20
Detail	M.K.	9/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. AE02

PAY QUANTITY NOTES

(R-18) ESTIMATED AT 160 LBS. PER CU. FT.

1 ESTIMATED QUANTITY TO BE USED IN A MANNER APPROVED BY THE ENGINEER.

2 EARLY STRENGTH CONCRETE MUST BE USED MEETING THE REQUIREMENTS OF PAY ITEM 513(E) 6030. A STRENGTH OF 3000 PSI IS REQUIRED WITHIN 4 HOURS. ALL CONCRETE MUST MEET THE STRENGTH REQUIREMENT PRIOR TO OPENING THE LANE TO TRAFFIC. ONLY TEMPORARY LANE CLOSURES ARE ALLOWED ON THIS PROJECT.

3 QUANTITIY INCLUDES 25,050 L.F. OF WHITE, 2,000 L.F. OF YELLOW AND 12,525 L.F. OF CONTRAST (BLACK/WHITE) MULTI-POLYMER STRIPE.

⚠1 4 QUANTITY SHOWN INCLUDES THE "CONTRACTOR SIGNS" AND "CONTRACTOR SUPPLEMENTAL PLAQUES" WHICH ARE TO BE USED IN THE PLACE OF THE WING BARRICADES WHICH ARE INDICATED ON THE STANDARD DRAWING TCS7-1-02. THESE SIGNS ARE DESCRIBED ON SHEETS T001-T003.

⚠1 5 THIS PROJECT MAY REQUIRE FLAGGING OPERATIONS LIMITED TO A DISTANCE OF 1,500 FEET OR LESS, AS DIRECTED BY THE ENGINEER. NO LANES OF TRAFFIC WILL BE CLOSED OVERNIGHT.

GENERAL CONSTRUCTION NOTES

⚠1 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING SECTION LINE ROADS

THE CONTRACTOR SHALL REMOVE ANY VEGETATION AND SOIL ENCROACHING THE EDGE OF THE EXISTING PAVEMENT IN PREPARATION OF THE PROPOSED SURFACING AS DIRECTED BY THE ENGINEER. COSTS TO BE INCLUDED IN OTHER ITEMS OF WORK.

FOR PROJECTS THAT INCLUDE WIDENING AND/OR RESURFACING, THE CONTRACTOR SHALL SCHEDULE OPERATIONS TO MINIMIZE POTENTIAL DROP-OFF HAZARDS AND SHALL SUBMIT A SEQUENCE OF CONSTRUCTION OPERATIONS TO THE RESIDENT ENGINEER FOR APPROVAL BEFORE OPERATIONS BEGIN. ANY PORTION OF THE CONSTRUCTION OPERATIONS, SUCH AS SUPERPAVE LAYING OPERATIONS, EXCAVATION FOR PAVEMENT WIDENING, OR EXTENSION OF ROADWAY STRUCTURES, SHALL BE LIMITED TO ONE SIDE AT A TIME, AND THE PROCEDURES OUTLINED IN THE PAVEMENT DROP-OFF TREATMENT STANDARD PDT-1 (LATEST REVISION) SHALL BE IMPLEMENTED. ONLY THAT AMOUNT OF OPEN TRENCH WILL BE ALLOWED THAT CAN BE SURFACED IN 1 (ONE) DAY'S TIME WITHOUT APPROVAL BY THE ENGINEER. LIGHTS, SIGNS AND BARRICADES SHALL BE MOVED AS WORK PROGRESSES.

SH–10 & US–64

PAY ITEM NOTES & GENERAL CONST. NOTES

Design	M.K.	1/20
Detail	M.K.	1/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. AR01

IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE" 1-800-522-6543 OR 811.

THE PRICE BID ON ALL ITEMS SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN IN THE PLANS.

THE CONTRACTOR SHALL TEMPORARILY RELOCATE PERMANENT TRAFFIC CONTROL DEVICES TO ACCOMMODATE CONSTRUCTION OPERATIONS. DEVICES SHALL BE MAINTAINED AND REPLACED IN THEIR ORIGINAL POSITION PROMPTLY AFTER OPERATIONS PERMIT. ANY DAMAGE TO EXISTING SIGNS, GUARDRAIL, HEADWALLS, CURBS, DELINEATORS, OR OTHER HIGHWAY APPURTENANCES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE AND AS APPROVED BY THE ENGINEER.

ANY SIGNS AND DELINEATORS WHICH ARE REMOVED DURING CONSTRUCTION OF THIS PROJECT WILL BE STORED IN A PROTECTED AREA APPROVED BY THE ENGINEER UNTIL SUCH TIME THAT THEY ARE RESET BY THE CONTRACTOR. COST OF THIS WORK SHALL BE INCLUDED IN OTHER

THE CONTRACTOR SHALL COMPLY WITH TRAFFIC STANDARD TCS1-1-01.

MOBILIZATION AND STAKING PAY ITEMS ARE NOT INCLUDED. COSTS TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AS NECESSARY AND ARE TO BE MAINTAINED IN AN UPRIGHT POSITION AND ACCESSIBLE TO MAIL CARRIERS VEHICLE DURING CONSTRUCTION. UPON COMPLETION OF ALL ITEMS, THE CONTRACTOR SHALL SECURE MAILBOXES IN STABLE, UPRIGHT POSITION AND LEAVE IN AS GOOD OR BETTER CONDITION THAN EXISTED PRIOR TO THE START OF WORK. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

SH–10 & US–64

GENERAL CONST. NOTES

Design	M.K.	1/20
Detail	M.K.	1/20
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ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. AR02

TRAFFIC NOTES

(TC-26) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THE PROJECT.

ALL SIGNS AND BARRICADES WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.

(TC-27) WHEN A PILOT CAR IS REQUIRED ON TWO LANE / TWO-WAY ROADWAYS, THE CONTRACTOR SHALL USE A PILOT CAR WITH A LICENSED OPERATOR. THE PILOT CAR OPERATOR SHALL BE IN RADIO CONTACT WITH PERSONNEL IN THE TEMPORARY TRAFFIC CONTROL ZONE. MAXIMUM SPEED OF THE PILOT CAR THROUGH THE WORK ZONE AREA SHALL BE 25 MPH. FULL COMPENSATION FOR FURNISHING AND OPERATING THE PILOT CAR (INCLUDING DRIVER, RADIO, AND ANY OTHER EQUIPMENT OR LABOR REQUIRED) SHALL BE INCLUDED IN THE PRICE BID OF PILOT CAR.

PILOT CAR SHALL BE APPROVED VEHICLE, SHOULD CARRY THE CONTRACTOR'S INSIGNIA, AND BE EQUIPPED WITH SIGNS READING "PILOT CAR—FOLLOW ME" MOUNTED A MINIMUM OF ONE (1) FOOT ABOVE THE TOP OF THE VEHICLE AND CLEARLY VISIBLE FROM BOTH DIRECTIONS.

(TC-30) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 16.00 S.F. AND 32.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION)

THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.

(TC-52) ANY USED CHANGEABLE MESSAGE SIGN TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.

(TC-58) INCLUDED IN THIS ITEM IS THE COST OF PROVIDING TWO (2) FLAGGERS FOR A 24 HOUR PERIOD OF TIME. DURING NON-DAYLIGHT HOURS THE FLAGGER STATIONS SHALL BE ADEQUATELY LIGHTED TO PROVIDE A SAFE WORK AREA FOR FLAGGERS. COST OF THIS LIGHTING WILL BE INCLUDED IN THE PRICE BID FOR FLAGGER.

(TC-84) 60 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION

(TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT:
http://www.okladot.state.ok.us/traffic/cpl/index.php

SH–10 & US–64

TRAFFIC SAFETY NOTES

Design	M.K.	1/20
Detail	M.K.	1/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. T001

TRAFFIC SAFETY NOTES

(TP-44) INCLUDED IN THIS PAY ITEM WILL BE TWO (2) DAYS OF TRAINING FROM THE MANUFATURER'S REPRESENTATIVE FOR MAINTAINING WIRE ROPE SAFETY FENCE SYSTEM. THE TRAINING SESSION(S) SHALL INCLUDE TRAINING TO PERTINENT ODOT AND LOCAL EMERGENCY PERSONNEL. PARTICIPANT SELECTION AND TRAINING LOCATION SHALL BE APPROVED BY THE ENGINEER.

(TP-45) MANUFACTURER TO BE USED FOR INSTALLATION OF SOCKETED CABLE BARRIER SYSTEM. ALSO, AN ADDITIONAL 100 POSTS AND POST ACCESSORIES (CAPS, PLASTIC HARDWARE, GROUND COVER, ETC.) SHALL BE DELIVERED TO THE ODOT MAINTENANCE FACILITY IN SALLISAW, OKLAHOMA.

(TP-46) CABLE WILL BE MEASURED FROM THE BEGINNING OF WIRE ROPE CABLE TO END OF WIRE ROPE CABLE.

(TP-47) ALL POSTS SHALL HAVE CAPS WHICH SHALL BE AFFIXED TO THE POST WITH A DURABLE LIQUID ADHESIVE, SUCH AS LIQUID NAILS. EVERY FIFTH POST SHALL BE DELINEATED IN EACH DIRECTION WITH RETROFLECTIVE SHEETING MEETING SPECIFICATION ASTM D-4956 TYPE VII, VIII, OR IX (MIN. 7 SQ. IN. YELLOW)

(TP-48) IF THE SYSTEM POSTS FALL ON THE TOP OF A CROSS DRAIN BOX OR OTHER CONFLICTING UNDERGROUND STRUCTURE, SPECIAL POST DESIGN WILL BE REQUIRED. CABLE MANUFACTURER SHALL PROVIDE THE POST DESIGN TO THE ENGINEER FOR APPROVAL. ALL INSTALLATIONS MUST BE IN ACCORDANCE TO THE MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATION.

(TP-49) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE LETTER OF APPROVAL FROM THE F.H.W.A. INDICATING THE INSTALLED CABLE BARRIER SYSTEM MEETS ALL TEST CRITERIA OF NCHRP-350 TEST LEVEL 4 (TL-4), AND SUBMIT IT TO THE RESIDENT ENGINEER AND THE CHIEF TRAFFIC ENGINEER.

(TP-50) TURNBUCKLES SHALL BE NO CLOSER THAN 1' TO A CABLE POST, IF IT INTERFERES WITH THE TENSIONING OPERATION OF THE SYSTEM. THE HEIGHTS FOR ALL ROWS OF CABLES SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS. THE BOTTOM CABLE MUST BE WITHIN THE TOLERANCE LIMITS RECOMMENDED BY THE MANUFACTURER.

(TP-51) THE TENSION METER SHALL BE OF THE TYPE RECOMMEDED BY THE MANUFACTURER OF THE CABLE BARRIER SYSTEM PROVIDED, AND SHALL BE APPROVED BY THE ODOT TRAFFIC ENGINEERING DIVISION. IT SHALL ALSO BE NEW, CALIBRATED, FUNCTIONAL, AND CAPABLE OF READING THE TENSION ON THE CABLE BARRIER SYSTEM TO WITHIN THE MANUFACTURER'S RECOMMENDED TOLERANCES. THE DEVICE SHALL ALSO BE DEMONSTRATED BY THE INSTRUCTOR(S) ON HOW TO OPERATE THEM AND PROVIDE OTHER HELPFUL INFORMATION TO THE PARTICIPANTS. IT SHALL BE DELIVERED TO THE ODOT MAINTENANCE FACILITY IN SALLISAW, OKLAHOMA.

(TP-52) PRICE BID FOR THIS ITEM INCLUDES A SOIL REPORT TO BE PROVIDED BY THE CONTRACTOR TO THE CABLE MANUFACTURER INDICATING ALL NECESSARY SOIL INFORMATION REQUIRED FOR THE MANUFACTURER TO DESIGN POST FOOTINGS AND ANCHOR UNITS FOR THIS PROJECT. THE SOIL REPORT AND FOUNDATION FOOTING DESIGN SHALL BE COMPLETED AND APPROVED BY THE ENGINEER, PRIOR TO EXCAVATION OF THE END ANCHOR AND POST FOOTINGS. ALL POSTS AND ANCHOR UNIT FOUNDATION DESIGNS RECOMMENDED BY THE MANUFACTURER FOR THIS PROJECT SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER. THE POST FOOTINGS SHALL NOT BE LESS THAN 12" DIAMETER BY 36" DEEP. FOOTINGS SHALL NOT EXTEND ABOVE GROUND MORE THAN 1".

SH–10 & US–64

TRAFFIC SAFETY NOTES

Design	M.K.	1/20
Detail	M.K.	1/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. T002

CS-CONTRACTOR 1

CONTRACTOR SIGN

OKLAHOMA LOGO IS CENTERED VERTICALLY ON PANEL
OKLAHOMA LOGO SIZE PROPORTIONAL BASED ON DIAMETER OF CIRCLE
CONTRACTOR NAME AND LOCATION ARE VARIABLE, TEXT IS TO BE PLACED WITHIN THE DASHED AREA
FONT SIZE AND SPACING MUST BE AT LEAST THE MINIMUM LISTED

*SEE PAGE 6-59 OF THE 2004 STANDARD HIGHWAY SIGNS MANUAL FOR SYMBOL DESIGN

ALL DIMENSIONS IN INCHES

A	B	C	D	E	F	G	H	I	J	K
48	24	1.75	6	0.75	2	10	3	1.5	0.5	0.5
72	36	2.63	9	1.12	3	15	4.5	1.5	.75	.75
96	48	2.63	12	1.5	4	20	6	1.5	1	1

L	M	N	O	P MINIMUM	Q MINIMUM
5	7	33	10	2.5C	2.5
7.6	10.5	49.5	15	3.75C	3.75
10.1	14	66	20	5C	5

		UPPER SECTION	LOWER SECTION
COLORS:	LEGEND, BORDER	- BLACK	BLACK
	BACKGROUND	- WHITE (RETROREFLECTIVE)	ORANGE (RETROREFLECTIVE)

SH–10 & US–64

CONSTRUCTION SIGNING

Design	M.K.	1/20
Detail	M.K.	1/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

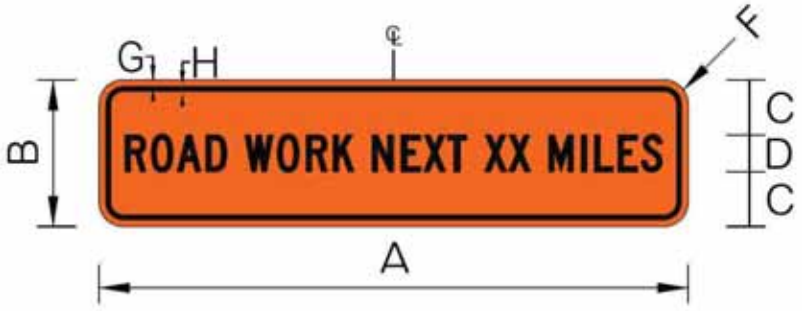
Filename:

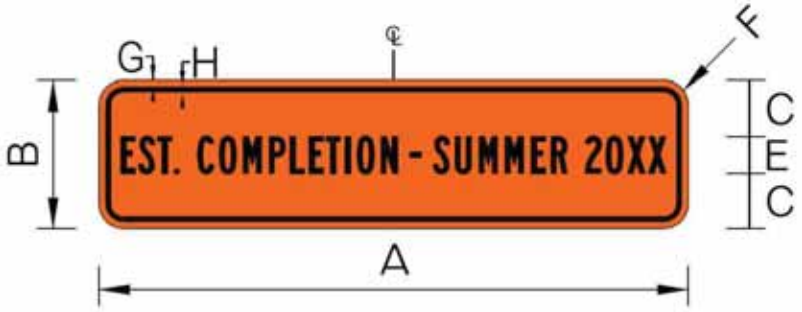
Scale 1"= NA | Project No. 33833(04) | Sheet No. T001

CS-CONTRACTOR 2 & 3

CONTRACTOR SUPPLEMENTAL PLAQUES

TEXT LENGTH IS VARIABLE, STRING IS CENTERED VERTICALLY ON PANEL
COMPLETION SIGN TEXT CAN READ EITHER "SPRING", "SUMMER", "FALL", OR "WINTER"
ALTERNATIVELY MONTH NAMES MAY BE USED AND ABBREVIATED IF NECESSARY
ONE OF THE FOLLOWING SIGNS SHOULD BE PLACED BELOW THE CONTRACTOR SIGN





ALL DIMENSIONS IN INCHES

USE GUIDANCE	A	B	C	D	E	F	G	H
LOW SPEED URBAN/TOWN	48	12	4.5	3 C	3 B	1.5	0.5	0.5
CONVENTIONAL TWO LANE HIGHWAY	72	18	6.75	4.5C	4.5B	1.5	0.75	0.75
FREEWAY/ EXPRESSWAY	96	24	9	6 C	6 B	1.5	1	1

COLORS: LEGEND, BORDER - BLACK
BACKGROUND - ORANGE (RETROREFLECTIVE)

SH–10 & US–64

CONSTRUCTION SIGNING

Design	M.K.	1/20
Detail	M.K.	1/20
Check		

ODOT DIVISION ONE

STATE OF OKLAHOMA

Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. T002

OKLAHOMA TRANSPORTATION LOGO

DIMENSIONS ARE ALL APPROXIMATE
COLORS ARE LISTED AS RGB AND PANTONE VALUES
DESIGN GUIDELINES AND IMAGES MAY BE FOUND AT _____

A	B	C	D
6	21.4	1.8	1.3
9	32.1	2.7	2
12	42.8	3.6	2.7

1	2	3	4	5	6	7	8	9	10	11	12
SKY BLUE BRIGHT	SKY BLUE DARK	WOODLAND GREEN BRIGHT	WOODLAND GREEN DARK	CLAY RED BRIGHT	CLAY RED DARK	PRAIRIE GOLD BRIGHT	PRAIRIE GOLD DARK	WATER BLUE BRIGHT	WATER BLUE DARK	SLATE GRAY BRIGHT	SLATE GRAY DARK
2171	2384	7490	2280	7580	7587	131	132	660	7686	COOL GRAY 8	COOL GRAY 10

SH–10 & US–64

CONSTRUCTION SIGNING

Design	M.K.	1/20
Detail	M.K.	1/20
Check		

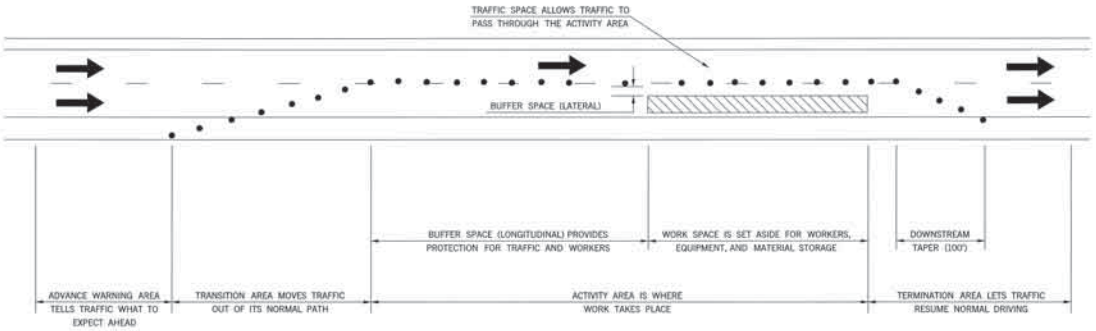
ODOT DIVISION ONE

STATE OF OKLAHOMA

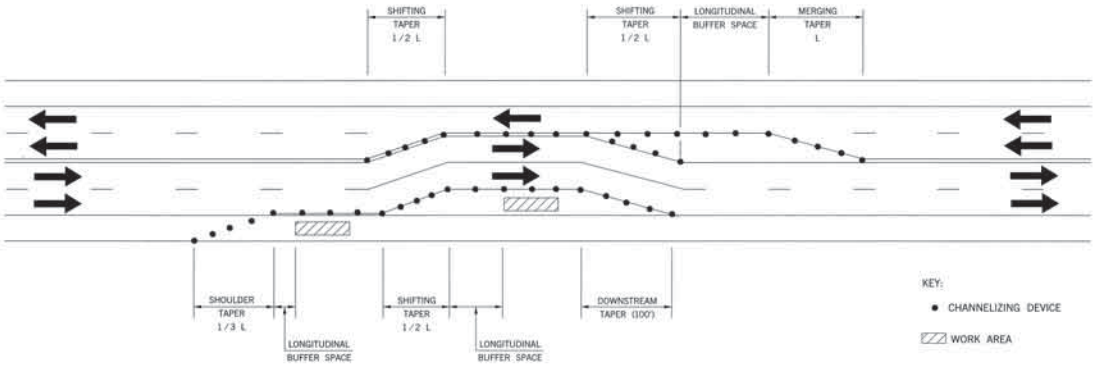
Filename:

Scale 1"= NA | Project No. 33833(04) | Sheet No. T003

REVISIONS	
DESCRIPTION	DATE
CHANGED TRANSITION NOTATION	5/31/2011



COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL ZONE



TAPERS AND BUFFER SPACE

TEMPORARY TRAFFIC CONTROL ELEMENTS

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 5/31/2011

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TEMPORARY TRAFFIC CONTROL ELEMENTS

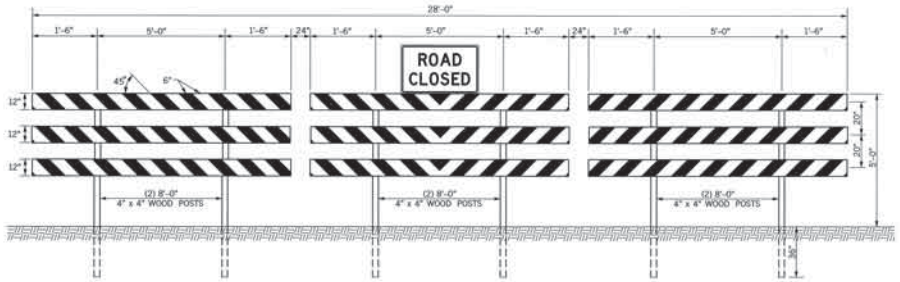
2009 SPECIFICATIONS

TCS3--1 | 01

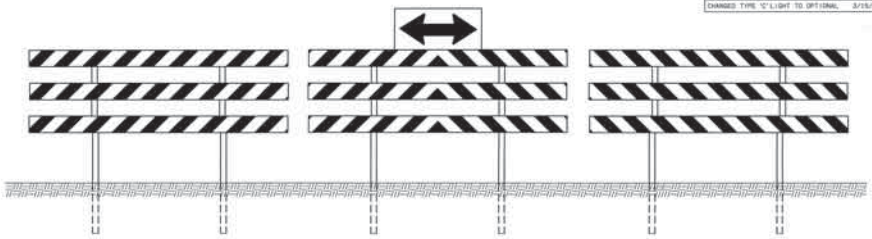
T-503

$$date$$

REVISIONS	
DESCRIPTION	DATE
CHANGED TYPE "C" LIGHT TO OPTIONAL	3/15/2011



WHEN ROAD ENDS



FOR T-INTERSECTIONS

PERMANENT TYPE III(A/B) BARRICADE

(DIMENSIONS ARE TYPICAL FOR BOTH BARRICADES)

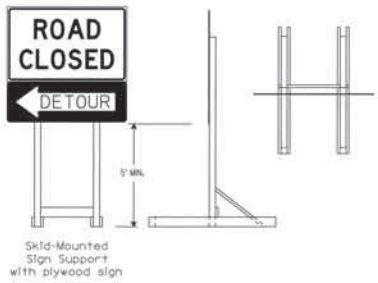
NOTES: A PERMANENT BARRICADE TYPE III(A) SHALL CONSIST OF NINE (9) PANELS AND SIX (6) POSTS.

TYPICAL INSTALLATION AS SHOWN IS FOR AN ABSOLUTE CLOSURE.

BARRICADES SHOULD NOT BE PLACED PARALLEL TO TRAFFIC IF NOT OUTSIDE OF CLEAR ZONE.

PERMANENT BARRICADE TYPE III(B) WILL BE IDENTICAL TO TYPE III(A) WITH NINE (9) ADDITIONAL RELECTORIZED 3/4"x12" LUMBER PANELS ATTACHED TO THE BACK SIDE OF THE BARRICADE.

COLOR: BACKGROUND – WHITE (REFLECTORIZED)
DIAGONAL STRIPES – RED (REFLECTORIZED)



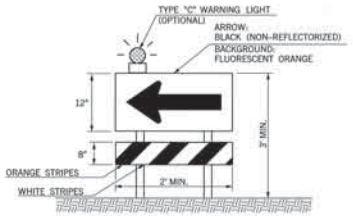
Skid-Mounted Sign Support with plywood sign

LONG/INTERMEDIATE TERM STATIONARY PORTABLE SIGN SUPPORTS

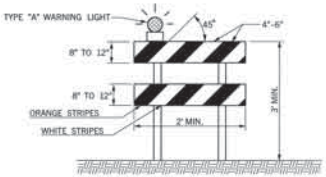
5 Foot Mounting Height

(SKID MOUNTED)

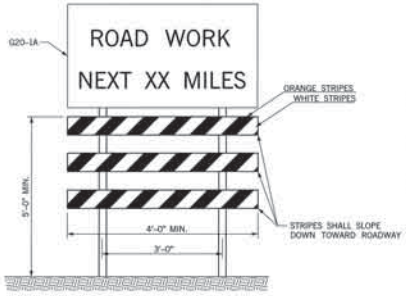
(SHALL BE PLACED BEHIND TYPE III BARRICADE)



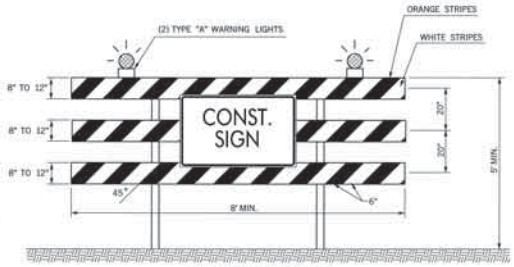
DIRECTION INDICATOR BARRICADE



TYPE II BARRICADE



WING BARRICADE



TYPE III BARRICADE

NOTES: FOR WOODEN BARRICADES NOMINAL LUMBER DIMENSIONS WILL BE SATISFACTORY.

FOR RAILS LESS THAN 3 FEET LONG, 4 INCH WIDE STRIPES SHALL BE USED.

TYPE III BARRICADES SHALL BE CONSTRUCTED USING A MINIMUM OF TWO (2) POSTS.

FOR WOODEN BARRICADES, PANEL THICKNESS SHALL NOT EXCEED ONE-HALF INCH (1/2").

BARRICADES SHOULD NOT BE PLACED PARALLEL TO TRAFFIC IF NOT OUTSIDE OF CLEAR ZONE.

PROJECTS WITH WORK LIMITS OF 2.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20-1A SIGN. THE SIGN (G20-1A) WILL BE REQUIRED ON ONE SIDE OF A 2-LANE ROADWAY AND BOTH SIDES OF A DIVIDED HIGHWAY.

ALL BARRICADE STRIPES SHALL BE RETRORFLECTIVE.
COLOR: BACKGROUND – WHITE (REFLECTORIZED)
DIAGONAL STRIPES – FLUORESCENT ORANGE (REFLECTORIZED)

IF BARRICADES ARE USED TO CHANNELIZE PEDESTRIANS, THERE SHALL BE CONTINUOUS DETECTABLE BOTTOM AND TOP RAILS WITH NO GAPS BETWEEN INDIVIDUAL BARRICADES TO BE DETECTABLE TO USERS OF LONG CANES. THE BOTTOM OF THE BOTTOM RAIL SHALL BE NO HIGHER THAN 6 INCHES ABOVE THE GROUND SURFACE. THE TOP OF THE TOP RAIL SHALL BE NO LOWER THAN 36 INCHES ABOVE THE GROUND SURFACE.

SIGNS MOUNTED ON TYPE III BARRICADES SHOULD NOT COVER MORE THAN 50 PERCENT OF THE TOP TWO RAILS OR 33 PERCENT OF THE TOTAL AREA OF THE THREE RAILS

SIGNS MOUNTED ON BARRICADES, OR OTHER PORTABLE SUPPORTS, SHALL BE NO LESS THAN 1' ABOVE THE TRAVELED WAY.

SANDBAGS MAY BE PLACED ON LOWER PARTS OF THE FRAME OR THE STAYS OF BARRICADES TO PROVIDE THE REQUIRED BALLAST.

BALLAST SHALL NOT BE PLACED ON TOP OF ANY STRIPED RAIL. BARRICADES SHALL NOT BE BALLASTED BY NONDEFORMABLE OBJECTS SUCH AS ROCKS OR CHUNKS OF CONCRETE. BALLAST SHALL NOT EXTEND INTO THE ACCESSIBLE PASSAGE WIDTH OF 60".

DIRECTION INDICATOR BARRICADE SHALL CONSIST OF A ONE-DIRECTION LARGE ARROW (W1-6) SIGN MOUNTED ABOVE A DIAGONAL STRIPED, HORIZONTALLY ALIGNED, RETRO-REFLECTIVE RAIL.

WHERE BARRICADES EXTEND ENTIRELY ACROSS A ROADWAY, THE STRIPES SHOULD SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH ROAD USERS MUST TURN.

WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE BARRICADE STRIPES SHOULD SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES.

WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD BE POSITIONED TO SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
8801(B)	CONSTRUCTION SIGNS	SD
8801(C)	CONSTRUCTION BARRICADES	SD
8801(E)	WARNING LIGHTS	SD

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

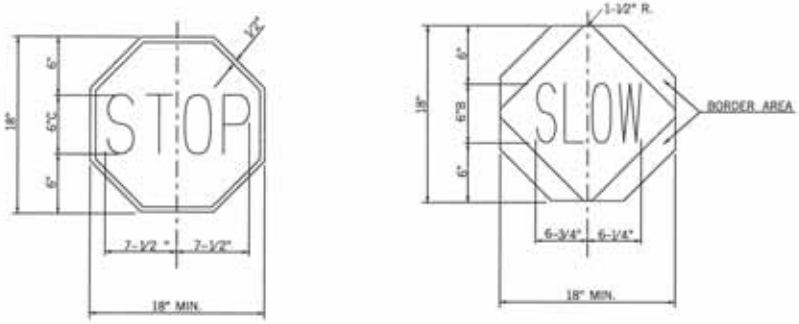
TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL DEVICES

2009 SPECIFICATIONS

TCS4-1 | 01

T-504

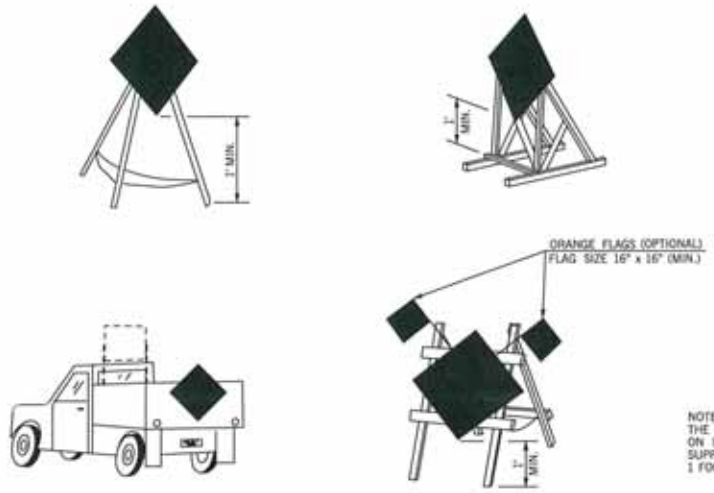
$$date$$



STOP:
LEGEND AND BORDER: WHITE (REFLECTORIZED)
BACKGROUND: RED (REFLECTORIZED)

SLOW:
LEGEND AND BORDER AREA: BLACK (NON-REFLECTORIZED)
BACKGROUND: ORANGE (REFLECTORIZED)

STOP–SLOW PADDLE

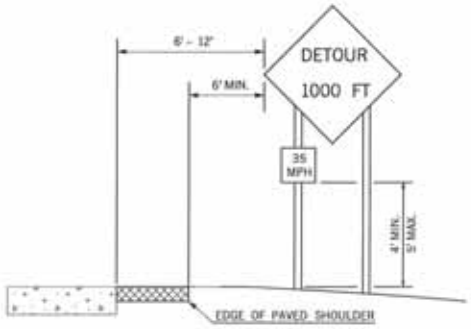


NOTE:
THE BOTTOM OF SIGNS MOUNTED ON BARRICADES OR TEMPORARY SUPPORTS SHALL NOT BE LESS THAN 1 FOOT ABOVE THE TRAVELED WAY.

PORTABLE AND TEMPORARY MOUNTINGS
METHODS OF MOUNTING SIGNS OTHER THAN ON POSTS

URBAN DISTRICT
(WITH CURB)

URBAN DISTRICT
(WITHOUT CURB)



RURAL DISTRICT WITH
ADVISORY SPEED PLATE

RURAL DISTRICT

HEIGHT AND LATERAL LOCATIONS OF SIGNS – TYPICAL INSTALLATIONS

APPROVED BY TRAFFIC ENGINEER Harold Thomas DATE 6/23/10

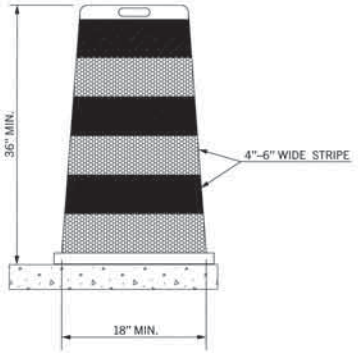
TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TYPICAL SIGN INSTALLATION

2009 SPECIFICATIONS | TCSS-1 | 00 | T-505

TRFFC3d W:\2009_Standards_TC\505.dgn 8:16:51 AM 6/2/2010 d:\use2\dla\jennyh.pen R:\TRAF_PLOT\bw.tbl

REVISIONS	
DESCRIPTION	DATE
ADD NOTE TO VERTICAL PANEL	07/15/10
CHANGED TYPE 'C' LIGHT TO OPTIONAL	3/15/2011



DRUM

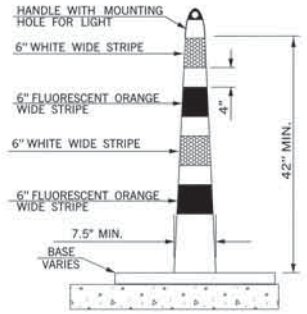
NOTES:

METAL DRUMS SHALL NOT BE USED.

EACH DRUM SHALL HAVE A MINIMUM OF TWO (2) FLUORESCENT ORANGE STRIPES ALTERNATING WITH A MINIMUM OF TWO (2) WHITE STRIPES. THESE STRIPES SHALL CONSIST OF RETROREFLECTIVE SHEETING.

BALLAST SHALL NOT BE PLACED ON TOP OF A DRUM.

DRUMS SHALL NOT BE USED TO DELINEATE AN EDGE DROP OFF IF THEY MUST BE PLACED IN THE DROP OFF AREA BELOW THE LEVEL OF THE DRIVING SURFACE.



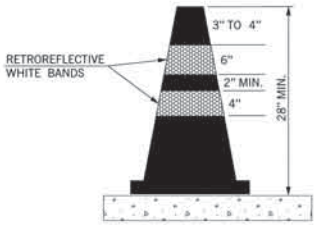
CHANNELIZER CONE

NOTES:

CHANNELIZER CONES USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 42 INCHES HIGH.

EACH CHANNELIZERS CONES SHALL HAVE A MINIMUM OF TWO (2) FLUORESCENT ORANGE STRIPES ALTERNATING WITH A MINIMUM OF TWO (2) WHITE STRIPES. THESE STRIPES SHALL CONSIST OF RETROREFLECTIVE SHEETING.

BASE SHALL WEIGH 30 LBS. OR MORE.

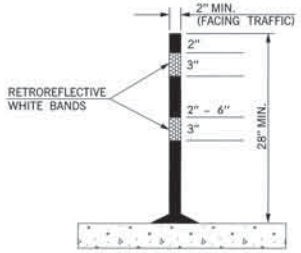


CONE

NOTES:

CONES USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 28 INCHES HIGH.

CONES SHALL BE PREDOMINANTLY ORANGE, WITH WHITE RETROREFLECTIVE SHEETING.

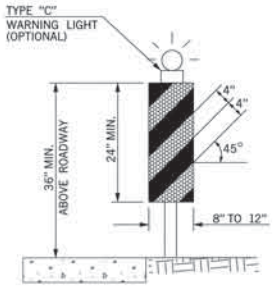


TUBE CHANNELIZER

NOTES:

TUBE CHANNELIZERS USED ON HIGH SPEED ROADWAYS, ON ALL HIGHWAYS DURING NIGHTTIME, OR WHENEVER MORE CONSPICUOUS GUIDANCE IS NEEDED SHALL BE A MINIMUM OF 28 INCHES HIGH.

TUBE CHANNELIZERS SHALL BE PREDOMINANTLY ORANGE, WITH WHITE RETROREFLECTIVE SHEETING.



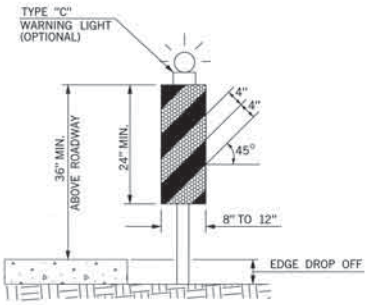
VERTICAL PANEL W/NO DROP OFF

NOTES:

PANEL STRIPE WIDTHS SHALL BE 6 INCHES EXCEPT WHERE PANELS LENGTHS ARE LESS THAN 36 INCHES, THEN 4 INCH WIDE STRIPES MAY BE USED.

MARKINGS FOR VERTICAL PANELS SHALL BE ALTERNATING FLUORESCENT ORANGE AND WHITE RETROEFLECTORIZED STRIPES (SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS).

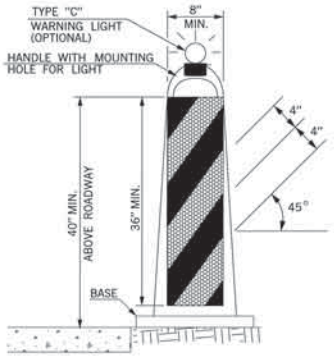
SHALL HAVE A MINIMUM OF TWO (2) FULL FLUORESCENT ORANGE STRIPES.



VERTICAL PANEL W/DROP OFF

ON UNDIVIDED HIGHWAYS, VERTICAL PANELS SHALL HAVE A MINIMUM OF 192 SQUARE INCHES OF RETROREFLECTIVE SHEETING ON EACH PANEL (FRONT AND BACK). WHEN USED ON HIGH SPEED ROADWAYS, VERTICAL PANELS SHALL HAVE MINIMUM OF 270 SQUARE INCHES OF RETROREFLECTIVE SHEETING ON EACH PANEL (FRONT AND BACK). THIS SHALL CONSTITUTE ONE (1) COMPLETE VERTICAL PANEL.

ON DIVIDED HIGHWAYS A VERTICAL PANEL MAY HAVE SHEETING ON ONLY ONE SIDE.



STACKABLE VERTICAL PANEL

NOTES:

(1) VERTICAL PANEL SIGNS SHALL BE MOUNTED BACK TO BACK WHEN USED FOR TWO-WAY TRAFFIC.

(2) BASE SHALL BE NO LARGER THAN 28" LONG BY 20" WIDE, AND 2" THICK.

(3) BASE SHALL WEIGHT 30 LBS. OR MORE.

(4) THESE DEVICES SHALL BE CONSTRUCTED OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES ON IMPACT.

KEY:

FLUORESCENT ORANGE (REFLECTORIZED)

WHITE (REFLECTORIZED)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(D)	VERTICAL PANEL	SD
880(E)	WARNING LIGHTS	SD
880(F)	DRUMS	SD
880(G)	TUBE CHANNELIZERS	SD
880(H)	CONES	SD
880(G)	CHANNELIZER CONES	SD

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 3/21/12

TRAFFIC STANDARD

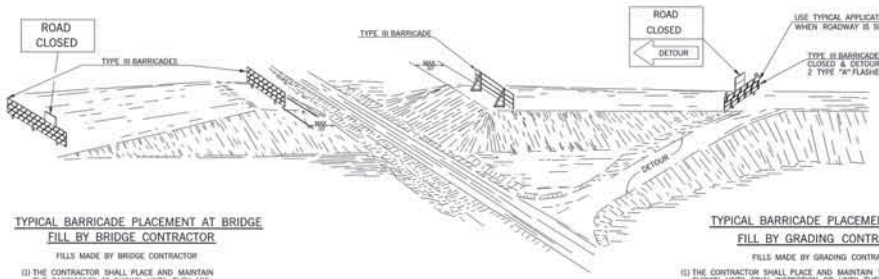
TRAFFIC CONTROL STANDARD
CHANNELIZING DEVICES

2009 SPECIFICATIONS

TC56-1 | 02

T-506

$$date$$



TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY BRIDGE CONTRACTOR

FILLS MADE BY BRIDGE CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL THEY ARE NO LONGER NEEDED.

(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) THE ENGINEER SHALL NOTIFY THE GRADING CONTRACTOR TO FURNISH AND ERECT HIS BARRICADES "IMMEDIATELY" AFTER THE BRIDGE CONTRACTOR REMOVES HIS BARRICADES. THE GRADING CONTRACTOR SHALL MAINTAIN HIS BARRICADES UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

(4) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.

TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY GRADING CONTRACTOR

FILLS MADE BY GRADING CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

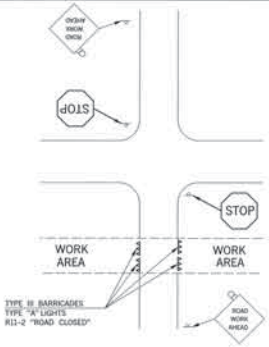
(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) IF THE BRIDGE WORK ORDER IS ISSUED PRIOR TO COMPLETION OF THE GRADING CONTRACT, THE BRIDGE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE GRADING CONTRACTOR TO ASSUME RESPONSIBILITY FOR PROTECTION OF THE BRIDGE WORK AREA. THIS WILL INCLUDE FURNISHING, INSTALLING, AND MAINTAINING ALL BARRICADES AND SIGNS NECESSARY TO PROVIDE THAT PROTECTION UNTIL THE BRIDGE IS COMPLETED AND THE FINAL INSPECTION IS COMPLETED.

(4) IF THE BRIDGE WORK ORDER HAS NOT BEEN ISSUED PRIOR TO THE FINAL INSPECTION OF THE GRADING, THEN THE GRADING CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION FOR STATE FORCES TO SUPPLY, INSTALL AND MAINTAIN ANY NECESSARY TRAFFIC CONTROL DEVICES NEEDED TO PROTECT THE WORK AREA. THESE STATE OWNED DEVICES SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT THE BRIDGE WORK ORDER IS ISSUED. AT THAT TIME THE BRIDGE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR TRAFFIC CONTROL AND REPLACE THE STATE OWNED DEVICES WITH HIS OWN.

(5) SUFFICIENT NUMBER OF TYPE II BARRICADES WITH SIGNS SHALL BE USED TO COMPLETELY CLOSE THE WORK AREA TO THROUGH TRAFFIC.

(6) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.



TYPICAL SIGN PLACEMENT FOR INTERSECTING ROADS AND STREETS

NOTES:

(1) SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.

(2) FLASHING WARNING LIGHTS SHALL BE USED TO CALL ATTENTION TO THE EARLY WARNING SIGNS.

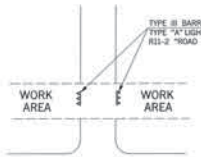
(3) WARNING LIGHTS SHOULD BE USED TO MARK CHANNELIZING DEVICES AT NIGHT AS NEEDED.

(4) PLACEMENT OF TYPE III BARRICADES SHALL BE APPROVED BY THE ENGINEER.

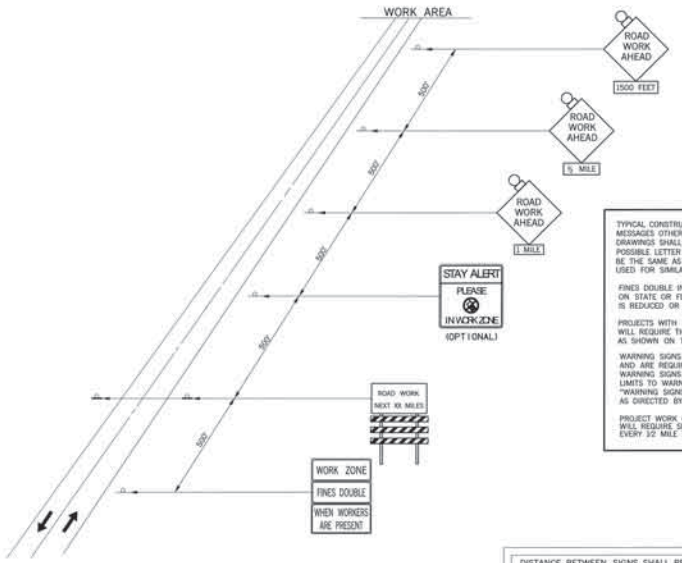
(5) TYPE II BARRICADES, DRUMS AND/OR VERTICAL PANELS MAY BE SUBSTITUTED FOR TYPE III BARRICADES TO AVOID OBSTRUCTING THE MOTORISTS VIEW.

(6) IF TWO OR MORE DRIVEWAYS ARE IN CLOSE PROXIMITY, THE BARRICADES BETWEEN THE DRIVEWAYS MAY BE OMITTED AT THE DISCRETION OF THE ENGINEER.

(7) THE "ROAD WORK AHEAD" SIGN, WHICH SERVES AS A GENERAL WARNING OF OBSTRUCTIONS OR RESTRICTIONS, SHALL BE LOCATED ON ALL INTERSECTING ROADS AND STREETS.



TYPICAL SIGN PLACEMENT FOR PRIVATE DRIVE OR RESIDENCE



TYPICAL CONSTRUCTION WARNING SIGNS WITH MESSAGES OTHER THAN DETAILED ON STANDARD DRAWINGS SHALL BE CONSTRUCTED USING THE LARGEST POSSIBLE LETTER SIZE. SIGN SIZE AND COLOR SHALL BE THE SAME AS OTHER CONSTRUCTION WARNING SIGNS USED FOR SIMILAR CONDITIONS.

FINES DOUBLE IN WORK ZONE SIGNS ARE TO BE USED ONLY ON STATE OR FEDERAL HIGHWAYS WHERE THE SPEED LIMIT IS REDUCED OR AS DIRECTED BY THE ENGINEER.

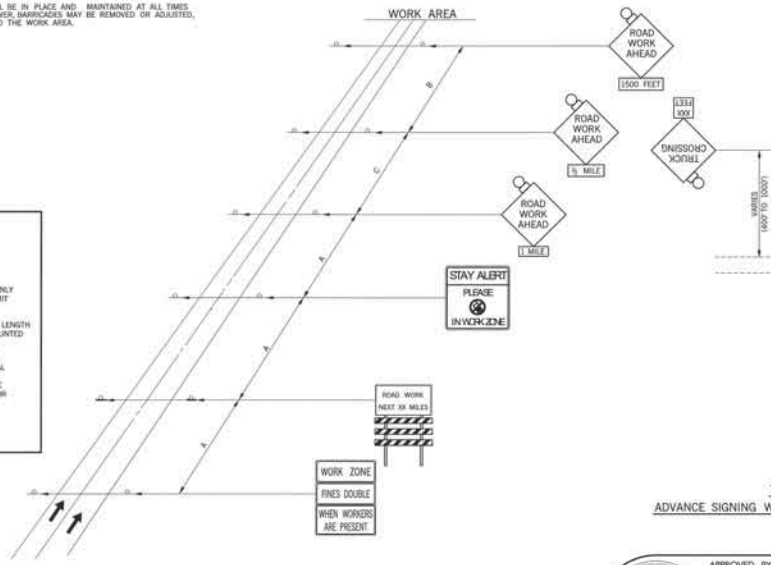
PROJECTS WITH WORK LIMITS OF 1.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20-1A SIGN. THE SIGN SHALL BE MOUNTED AS SHOWN ON TC34-1-(LATEST REVISION).

WARNING SIGNS SHOWN ARE "ADVANCE" WARNING SIGNS AND ARE REQUIRED ON ALL STATE HIGHWAYS. ADDITIONAL WARNING SIGNS MAY BE REQUIRED WITHIN THE PROJECT LIMITS TO WARN DRIVERS OF SPECIFIC HAZARDS. ADVANCE "WARNING SIGNS" MAY CHANGE AS CONDITIONS CHANGE OR AS DIRECTED BY THE ENGINEER.

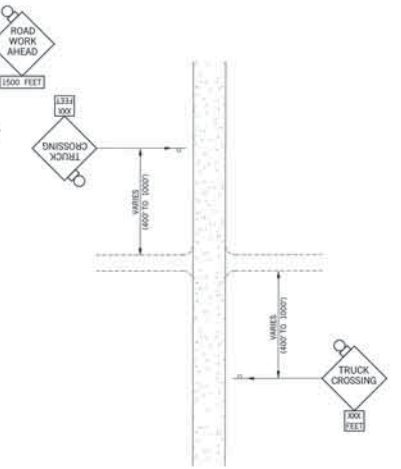
PROJECT WORK OF 1.0 MILE OR MORE IN LENGTH WILL REQUIRE SIGNS CS-14 AND R2-1 TO BE PLACED EVERY 1/2 MILE THROUGH WORK ZONE.

DISTANCE BETWEEN SIGNS SHALL BE A (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	100
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1,000	1,500	2,640

TYPICAL APPLICATION ADVANCE WARNING SIGNS ON 2-LANE HIGHWAY



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON A DIVIDED HIGHWAY



TYPICAL APPLICATION ADVANCE SIGNING WHERE TRUCKS ARE CROSSING

DESCRIPTION	REVISIONS	DATE
MODIFY (E) NOTE		3/15/2011
ADD "NO CELL PHONE" USAGE IN WORK ZONE; DISTANCE SIGN TO WARNING SIGNS		4/2/2013

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 4/8/2013

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD PLACEMENT OF ADVANCE WARNING SIGNS

2009 SPECIFICATIONS

TCS7-1 | 02

T-507

$$date$$

REVISIONS	
DESCRIPTION	DATE
CHANGED SIGN DESIGNATION	3/15/2011

ROAD CLOSED

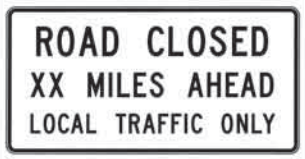
R11-2 48 x 30 10.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

LANE CLOSED

R11-2(LANE) 48 x 30 10.00 SF

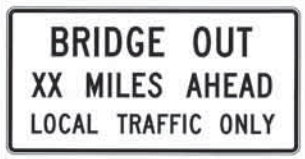
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



ROAD CLOSED XX MILES AHEAD

R11-3a 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



BRIDGE OUT XX MILES AHEAD

R11-3b 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

ROAD CLOSED TO THRU TRAFFIC

R11-4 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

DETOUR SIGN

M4-8 24 x 12 2.00 SF
M4-8E 30 x 15 3.13 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(R) 30 x 24 5.00 SF
M4-9(R)E 48 x 36 12.00 SF
M4-9(R)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(L) 30 x 24 5.00 SF
M4-9(L)E 48 x 36 12.00 SF
M4-9(L)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(V) 30 x 24 5.00 SF
M4-9(V)E 48 x 36 12.00 SF
M4-9(V)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-10(R) 48 x 18 6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

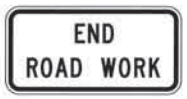
M4-10(L) 48 x 18 6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

ROAD WORK NEXT XX MILES SIGN

G20-1A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



END ROAD WORK SIGN

G20-2A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

PILOT CAR FOLLOW ME SIGN

G20-4 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

NOTES:
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ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALL BE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS9-1 01

T-509

$$date$$

TURN LEFT

W1-1(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

TURN RIGHT

W1-1(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

CURVE LEFT

W1-2(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

CURVE RIGHT

W1-2(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE TURN

W1-3(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE TURN

W1-3(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4B(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4B(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

LEFT REVERSE CURVE

W1-4C(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

RIGHT REVERSE CURVE

W1-4C(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

ARROW

W1-6 48 x 24 8.00 SF
W1-6E 60 x 30 12.50 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DOUBLE ARROW

W1-7 48 x 24 8.00 SF
W1-7E 60 x 30 12.50 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DESCRIPTION	REVISIONS	DATE

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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER [signature] DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TC510-1 00

T-510

CHEVRON

W1-8	18 x 24	3.00 SF
W1-8E	30 x 36	7.50 SF
W1-8F	36 x 48	12.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

STOP AHEAD

W3-1 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
WHITE BORDER ON RED BACKGROUND
(REFLECTORIZED)

YIELD AHEAD

W3-2 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
WHITE BORDER ON RED BACKGROUND
(REFLECTORIZED)

SIGNAL AHEAD

W3-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
R = RED (REFLECTORIZED)
Y = YELLOW (REFLECTORIZED)
G = GREEN (REFLECTORIZED)

BE PREPARED TO STOP SIGN

W3-4 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SPEED REDUCTION

W3-5 48 x 48 16.00 SF

COLOR:
BORDER AND ARROW:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)
SYMBOL:
BLACK BORDER AND TEXT ON
WHITE BACKGROUND (REFLECTORIZED)

LEFT LANE ENDS

W4-2(L) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

RIGHT LANE ENDS

W4-2(R) 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD NARROWS

W5-1 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NARROW BRIDGE

W5-2 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

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ONE LANE BRIDGE

W5-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIVIDED HIGHWAY

W6-1 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DIVIDED HIGHWAY

W6-2 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TWO WAY TRAFFIC SIGN

W6-3 48 x 48 16.00 SF

COLOR:
SYMBOL AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
680(8)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER [signature] DATE 4/6/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TC511-1 01
T-511

DESCRIPTION	REVISIONS	DATE
CHANGE DESIGN NUMBER		07/19/10

LOW SHOULDER SIGN

W8-9 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

UNEVEN LANES SIGN

W8-11 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NO CENTER LINE SIGN

W8-12 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

GROOVED PAVEMENT SIGN

W8-15 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MOTORCYCLE (PLAQUE) *

W8-15P 18 x 36 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SHOULDER DROP-OFF (SYMBOL)

W8-17 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SHOULDER DROP-OFF (PLAQUE) *

W8-17P 18 x 36 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LANE ENDS MERGE LEFT SIGN

W9-2(L) 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LANE ENDS MERGE RIGHT SIGN

W9-2(R) 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

TRUCK CROSSING SIGN

W11-10 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DOUBLE ARROW SIGN

W12-1 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

CLEARANCE SIGN

W12-2 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ADVISORY SPEED SIGN *

W13-1P 18 x 18 2.25 SF
W13-1PE 24 x 24 4.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

XX FEET SIGN *

W16-2P 24 x 18 3.00 SF
W16-2PE 30 x 24 5.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DESCRIPTION	REVISIONS	DATE

NOTES:
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BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
8801(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Chad Crouch DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS13-1 00

T-513

ROAD WORK SIGN

W20-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

DETOUR SIGN

W20-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD CLOSED SIGN

W20-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

STREET CLOSED SIGN

W20-3A 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ONE LANE ROAD SIGN

W20-4 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

LEFT LANE CLOSED SIGN

W20-5(L) 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

RIGHT LANE CLOSED SIGN

W20-5(R) 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FLAGGER SIGN

W20-7 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FLAGGER SIGN

W20-7a 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

WORKERS SIGN

W21-1 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

FRESH OIL SIGN

W21-2 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

ROAD MACHINERY AHEAD SIGN

W21-3 48 x 48 16.00 SF
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

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DESCRIPTION	REVISIONS	DATE

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SQ

APPROVED BY TRAFFIC ENGINEER [signature] DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS14-1 00
T-514

DESCRIPTION	REVISIONS	DATE

SHOULDER WORK SIGN

W21-5 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

SURVEY CREW SIGN

W21-6 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

UTILITY WORK AHEAD SIGN

W21-7 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MOWING AHEAD SIGN

W21-8 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BRIDGE REPAIR SIGN

W21-9 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MATERIAL ON SHOULDER SIGN

W21-10 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

MATERIAL ON ROADWAY SIGN

W21-11 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

BLASTING ZONE AHEAD SIGN

W22-1 48 x 48 16.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

CELL TELEPHONES SIGN

W22-2 36 x 30 7.50 SF
W22-2E 42 x 36 10.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

END BLASTING ZONE SIGN

W22-3 36 x 30 7.50 SF
W22-3E 42 x 36 10.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE (REFLECTORIZED)

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALLBE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

* SUPPLEMENTAL SIGNS SHALL ONLY BE USED IN CONJUCTION WITH DIAMOND SHAPE CONSTRUCTION WARNING SIGNS. THE SIZE OF SUPPLEMENTAL SIGNS SHALL BE APPROPRIATE FOR USE WITH A 48 INCH x 48 INCH WARNING SIGN UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

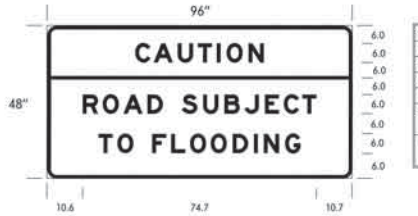
APPROVED BY TRAFFIC ENGINEER [signature] DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

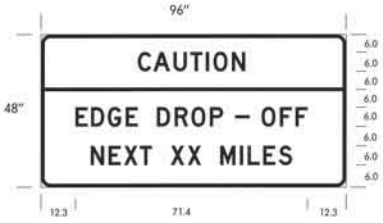
2009 SPECIFICATIONS

TC515-1 00
T-515



SIGN	CONSTRUCTION SIGN-7
WIDTH x HEIGHT	96" x 48"
BORDER WIDTH	2"
CORNER RADIUS	3"
MOUNTING	GROUND
BACKGROUND	TYPE: REFLECTIVE
	COLOR: ORANGE
LEGEND/BORDER	TYPE: NON-REFLECTIVE
	COLOR: BLACK

HT FONT	LETTER SPACINGS															LEN
6.0 D		C	A	U	T	I	O	N								40.6
	28.0	5.9	7.6	6.3	6.0	3.5	6.5	4.8	27.9							96.0
6.0 D		R	O	A	D		S	U	B	J	E	C	T			74.7
	10.6	6.3	6.5	7.6	4.8	6.0	6.7	6.3	6.3	6.3	6.0	5.9	6.0	10.7		96.0
6.0 D		T	O		F	L	O	O	D	I	N	G				63.3
	16.3	6.0	6.5	6.0	6.0	6.0	6.5	6.5	4.8	3.5	6.7	4.8	16.4			96.0



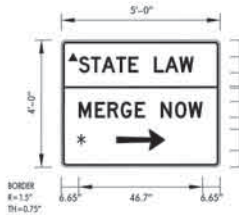
SIGN	CONSTRUCTION SIGN-8
WIDTH x HEIGHT	96" x 48"
BORDER WIDTH	2"
CORNER RADIUS	3"
MOUNTING	GROUND
BACKGROUND	TYPE: REFLECTIVE
	COLOR: ORANGE
LEGEND/BORDER	TYPE: NON-REFLECTIVE
	COLOR: BLACK

HT FONT	LETTER SPACINGS															LEN
6.0 D		C	A	U	T	I	O	N								40.2
	27.9	5.9	7.6	6.3	6.0	3.1	6.5	4.8	27.9							96.0
6.0 D		E	D	G	E		D	R	O	P	–	O	F	F		71.4
	12.3	4.8	5.2	5.4	3.7	6.0	5.2	5.2	5.7	7.8	8.2	5.7	4.8	3.7	12.3	96.0
6.0 D		N	E	X	T		X	X		M	I	L	E	S		63.3
	16.8	5.6	4.8	4.8	3.7	6.0	5.2	4.1	6.0	6.1	2.4	4.8	4.8	4.1	16.9	96.0

DESCRIPTION	REVISIONS	DATE
CHANGED MOUNTING DECRIPTION		3/15/2011

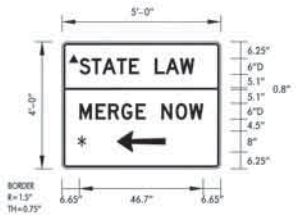
SIGN	CONSTRUCTION SIGN-9
WIDTH x HEIGHT	96" x 48"
BORDER WIDTH	2"
CORNER RADIUS	3"
MOUNTING	GROUND
BACKGROUND	TYPE: REFLECTIVE
	COLOR: ORANGE
LEGEND/BORDER	TYPE: NON-REFLECTIVE
	COLOR: BLACK

HT FONT	LETTER SPACINGS															LEN
8.0 D		C	O	N	G	E	S	T	I	O	N					65.3
	15.3	6.9	7.5	7.3	7.3	6.4	6.9	6.5	3.1	8.0	5.4	15.4				96.0
8.0 D		B	E		P	R	E	P	A	R	E	D				76.3
	9.8	7.3	5.0	8.0	7.3	7.3	6.4	7.3	8.1	7.3	5.0	7.3	9.9			96.0
8.0 D		T	O		S	T	O	P								48.1
	23.9	6.4	5.6	8.0	6.9	6.4	7.5	7.3	24.0							96.0



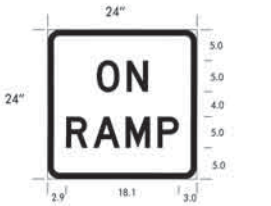
SIGN NUMBER	CONSTRUCTION SIGN-10			
WIDTH x HGHT.	5'-0" x 4'-0"			
BORDER WIDTH	0.75"			
CORNER RADIUS	1.5"			
MOUNTING	Ground			
SIGN AREA	20.0 Sq.Ft.			
BACKGROUND	TYPE: Reflective			
	COLOR: SEE NOTES			
LEGEND/BORDER	TYPE: Reflective			
	COLOR: Black			
SYMBOL	X	Y	WID	HT
ARLONG	20.8	6.3	8	18.4

LETTER POSITIONS (X)														LENGTH	SERIES/SIZE
S	T	A	T	E		L	A	W							D 2000
6.6	11.2	15.3	20.7	25.4	29.1	35.1	39.2	44.6						43.3	
M	E	R	G	E		N	O	W							D 2000
6.6	12.8	17.5	22.5	27.9	31.6	37.6	43	48						46.7	



SIGN NUMBER	CONSTRUCTION SIGN-11			
WIDTH x HGHT.	5'-0" x 4'-0"			
BORDER WIDTH	0.75"			
CORNER RADIUS	1.5"			
MOUNTING	Ground			
SIGN AREA	20.0 Sq.Ft.			
BACKGROUND	TYPE: Reflective			
	COLOR: SEE NOTES			
LEGEND/BORDER	TYPE: Reflective			
	COLOR: Black			
SYMBOL	X	Y	WID	HT
ARLONG	20.8	6.3	8	18.4

LETTER POSITIONS (X)														LENGTH	SERIES/SIZE
S	T	A	T	E		L	A	W							D 2000
6.6	11.2	15.3	20.7	25.4	29.1	35.1	39.2	44.6						43.3	
M	E	R	G	E		N	O	W							D 2000
6.6	12.8	17.5	22.5	27.9	31.6	37.6	43	48						46.7	



SIGN	CONSTRUCTION SIGN-12
WIDTH x HEIGHT	24" x 24"
BORDER WIDTH	1"
CORNER RADIUS	2"
MOUNTING	GROUND
BACKGROUND	TYPE: REFLECTIVE
	COLOR: ORANGE
LEGEND/BORDER	TYPE: NON-REFLECTIVE
	COLOR: BLACK

HT FONT	LETTER SPACINGS								LEN
5.0 D		O	N						8.2
	7.9	4.8	3.4	7.9					24.0
5.0 D		R	A	M	P				18.1
	2.9	4.4	5.2	5.1	3.4	3.0			24.0

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

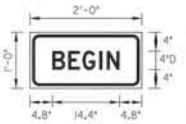
2009 SPECIFICATIONS

TCS18-1 | 01

T-518

SSdata55

REVISIONS		
DESCRIPTION		DATE
CHANGES DESCRIPTIONS		3/15/2011



SIGN NUMBER	CS-13
WIDTH x HGHT.	2'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	2.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

Dimensions are in Inches.tenths

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
B	E	G	I	N						D 2000
4.8	8.2	11.3	14.9	16.5					14.4	

SIGN NUMBER	CS-13E
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

Dimensions are in Inches.tenths

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
B	E	G	I	N						D 2000
7.2	12.3	16.9	22.3	24.7					21.6	

SIGN NUMBER	CS-13F
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

Dimensions are in Inches.tenths

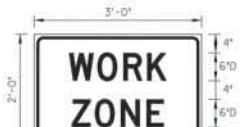
LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
B	E	G	I	N						E 2000
7.1	15.2	22.6	30.9	34.4					33.8	

FLO* = FLUORESCENT ORANGE

SIGN NUMBER	CS-14
WIDTH x HGHT.	2'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

Dimensions are in Inches.tenths

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
W	O	R	K							D 2000
5	9.1	12.8	16.2						14	
Z	O	N	E							D 2000
5.4	8.7	12.5	16.1						13.2	



SIGN NUMBER	CS-14E
WIDTH x HGHT.	3'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

Dimensions are in Inches.tenths

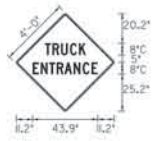
LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
W	O	R	K							D 2000
7.5	13.6	19.2	24.3						21	
Z	O	N	E							D 2000
8.1	13.1	18.7	24.2						19.8	

SIGN NUMBER	CS-14F
WIDTH x HGHT.	4'-0" x 3'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	12.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

Dimensions are in Inches.tenths

LETTER POSITIONS (X)									LENGTH	SERIES/SIZE
W	O	R	K							E 2000
7.6	17.2	25.7	33.8						32.9	
Z	O	N	E							E 2000
8.5	16.4	24.9	33.5						31	

CONSTRUCTION
BEGIN WORK ZONE
SPEED LIMIT
ASSEMBLY



SIGN NUMBER	CS-15
WIDTH x HGHT	4'-0" x 4'-0"
BORDER WIDTH	0.75"
CORNER RADIUS	1.38"
MOUNTING	Ground
SIGN AREA	16.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Yellow
LEGEND&BORDER	TYPE: Reflective
	COLOR: Black

Dimensions are in Inches.tenths

LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
T	R	U	C	K							C 2000
19.3	24.5	30.4	36.5	42.5						27.7	
E	N	T	R	A	N	C	E				C 2000
11.2	16.7	22.3	27.5	32.7	38.9	45	51.1			43.9	

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

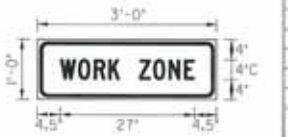
2009 SPECIFICATIONS

TCS19-1 | 01

T-519

$$date$$

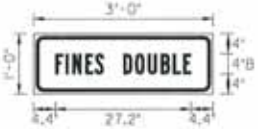
DESCRIPTION	REVISIONS	DATE



Dimensions are in Inches,tenths

SIGN NUMBER	CS-16
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	L5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)												LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E					C 2000
4.5	8	11.2	14.1	16.3	20.3	23.2	26.3	29.5		27			



Dimensions are in Inches,tenths

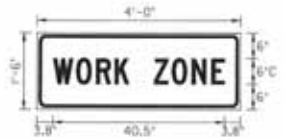
SIGN NUMBER	CS-17
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	L5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S		D	O	U	B	L	E			B 2000
4.4	6.5	7.9	10.5	12.4	14.1	18.1	20.5	23.1	25.7	28	30.1	27.2		

Dimensions are in Inches,tenths

SIGN NUMBER	CS-18
WIDTH x HGHT.	3'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	L5"
MOUNTING	Ground
SIGN AREA	4.5 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

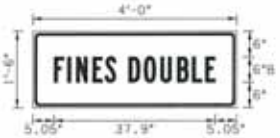
LETTER POSITIONS (X)														LENGTH	SERIES/SIZE
W	H	E	N		W	O	R	K	E	R	S				B 2000
3	6.1	8.7	10.9	12.6	16.6	19.6	22.2	24.6	27	29.1	31.3	30			
A	R	E		P	R	E	S	E	N	T			25.5		B 2000
5.3	8	10.3	6.9	15.9	18.1	20.5	22.4	24.8	26.9	29.2					



Dimensions are in Inches,tenths

SIGN NUMBER	CS-16E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	L5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

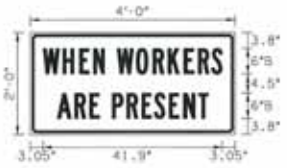
LETTER POSITIONS (X)												LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E					C 2000
3.8	9	13.8	18.2	21.5	27.5	31.8	36.5	41.2		40.5			



Dimensions are in Inches,tenths

SIGN NUMBER	CS-17E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	L5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S	D	O	U	B	L	E				B 2000
5.1	8.2	10.3	14.2	17.1	22.7	26.2	30.1	34	37.5	40.7	37.9			



Dimensions are in Inches,tenths

SIGN NUMBER	CS-18E
WIDTH x HGHT.	4'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	L13"
MOUNTING	Ground
SIGN AREA	8.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND&BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
W	H	E	N		W	O	R	K	E	R	S			B 2000
3	7.7	11.6	14.9	20.4	24.9	28.8	32.4	36	39.2	42.4	44.9			
A	R	E	P	R	E	S	E	N	T			35.2		B 2000
6.4	10.5	14	19.3	22.7	26.3	29.1	32.7	35.9	39.3					

CS-16, E

CS-17, E

CS-18, E

CONSTRUCTION
FINES DOUBLE
ASSEMBLY

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER Harold Summers DATE 6/23/10

TRAFFIC STANDARD

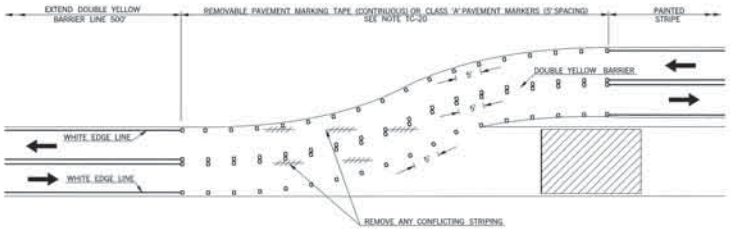
TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS20-1	00
T-520	

TRAFFIC D:\use2\2009_Standards_TC\t520.dgn 1:34:29 PM 6/18/2010 R:\TRAF_PLOT\Jacob.pen R:\TRAF_PLOT\bw.tbl

REVISIONS		
DESCRIPTION		DATE
ADDED TRAFFIC STRIPE NOTES		4/10/12
REDEFINED TERMS, MOD. PM SPACING		4/2/2013



CONSTRUCTION ZONE PAVEMENT MARKINGS THRU SHOO-FLY

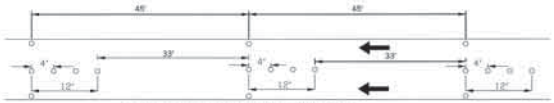
ONE-WAY PAVEMENT MARKING REMOVABLE TAPE OR PAINT

PAVEMENT MARKINGS: REMOVABLE TAPE OR PAINT

WIDTH OF STRIPED LANE LINES SHALL BE A MINIMUM OF 4".

INTERMEDIATE-TERM STATIONARY PAVEMENT MARKINGS ARE THOSE THAT MAY BE USED UNTIL THE EARLIEST DATE WHEN IT IS PRACTICAL AND POSSIBLE TO INSTALL PERMANENT PAVEMENT MARKINGS THAT MEET THE FULL OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARDS FOR PAVEMENT MARKINGS.

TWO-WAY PAVEMENT MARKING REMOVABLE TAPE OR PAINT



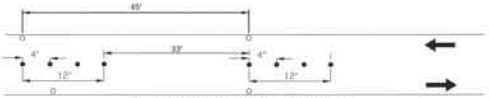
ONE-WAY PAVEMENT MARKING FLEX TABS

PAVEMENT MARKINGS: FLEX TABS

TYPE I – FLEX TAB MARKERS SHALL HAVE REFLECTORIZED MATERIAL ON BOTH SIDES.

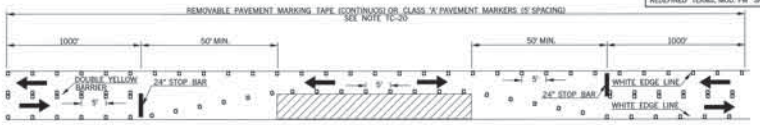
TYPE II – FLEX TAB MARKERS SHALL HAVE REFLECTORIZED MATERIAL ON BOTH SIDES AND SHALL HAVE A CLEAR REMOVABLE COVER.

FLEX TABS MAY BE INSTALLED AS SHOWN FOR LONG-TERM STATIONARY PAVEMENT MARKINGS.



TWO-WAY PAVEMENT MARKING FLEX TABS

INTERMEDIATE-TERM STATIONARY PAVEMENT MARKINGS



TYPICAL PAVEMENT MARKINGS FOR ONE LANE CLOSURE ON TWO LANE /TWO WAY ROADWAY REMOVABLE TAPE OR CONSTRUCTION ZONE PAVEMENT MARKERS

NOTES:

CONSTRUCTION ZONE PAVEMENT MARKINGS SHALL CONSIST OF EITHER PAINT, CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS) OR REMOVABLE MARKING TAPE. THERMO-PLASTIC STRIPE MAY BE USED IN CONJUNCTION WITH PAINT, FLEX TABS OR TAPE WHEN SPECIFIED IN THE PLANS.

ALL PAVEMENT MARKINGS TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE SHOWN IN THE PLANS OR STANDARD DRAWINGS. ALL FINAL OR FINISHED SURFACES SHALL BE MARKED WITH EITHER REMOVABLE PAVEMENT MARKING TAPE OR CONSTRUCTION ZONE PAVEMENT MARKERS, UNLESS OTHERWISE NOTED ON THE PLANS.

WIDTH OF STRIPED LANE LINES SHALL BE A MINIMUM OF 4".

KEY:

- WORK ZONE
- WHITE LANE LINE (PAINT OR TAPE)
- YELLOW LANE LINE (PAINT OR TAPE)
- WHITE FLEX TAB
- YELLOW FLEX TAB
- CLASS A PAVEMENT MARKER

TWO-LANE /TWO-WAY

4 -LANE DIVIDED ROADWAY

WHITE DOTTED LINE

LONG-TERM STATIONARY PAVEMENT MARKINGS

MUTCD DEFINITIONS OF THE FIVE CATEGORIES OF WORK DURATION, AND THEIR TIME AT A LOCATION SHALL BE:

A. LONG-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B. INTERMEDIATE-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.
C. SHORT-TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D. SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E. MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

APPROVED BY TRAFFIC ENGINEER: [signature] DATE: 4/2/2013

TRAFFIC STANDARD

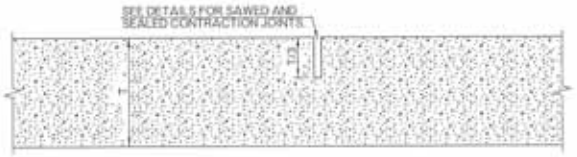
TRAFFIC CONTROL STANDARD CONSTRUCTION ZONE PAVEMENT MARKINGS

2009 SPECIFICATIONS

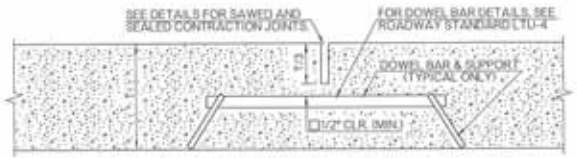
TCS21-1	02

T-521

$$date$$



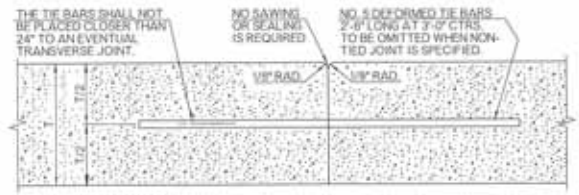
NON-DOWELED CONTRACTION JOINT



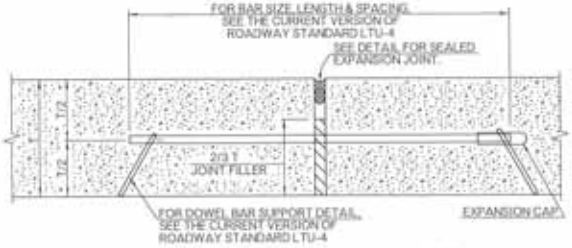
◁DOWELED CONTRACTION JOINT

◁ ON JOINTED PORTLAND CEMENT CONCRETE PAVEMENTS, DOWELLED CONTRACTION JOINTS SHALL BE USED ON DRIVING LANES ONLY. CONCRETE SHOULDERS SHALL NOT BE DOWELLED UNLESS SPECIFIED ON THE PLANS.

LONGITUDINAL JOINT

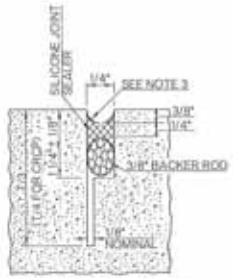


TIED BUTT JOINT AND
LONGITUDINAL CONSTRUCTION JOINT

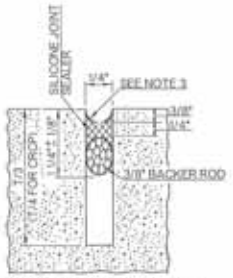


EXPANSION JOINT / ISOLATION JOINT

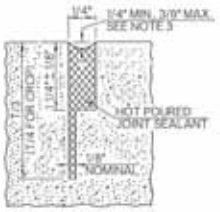
OMIT DOWEL BARS, CAPS & SUPPORTS FOR ISOLATION JOINTS.



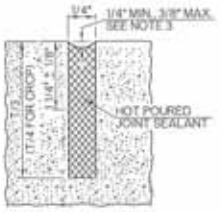
SILICONE SEALANT OPTION



SILICONE SEALANT OPTION



HOT POUR OPTION



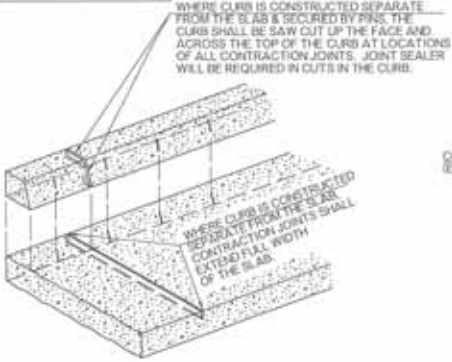
HOT POUR OPTION

NO SEALANT OPTION

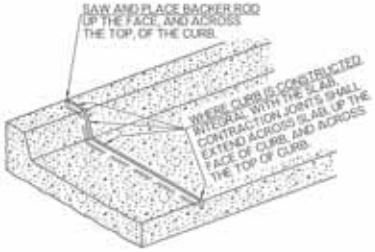
SAWED AND SEALED, CONTRACTION AND LONGITUDINAL JOINTS ALTERNATE DETAILS

UNLESS OTHERWISE SPECIFIED IN THE PLANS, ONLY THE SILICONE SEALANT OPTIONS WILL BE ALLOWED.

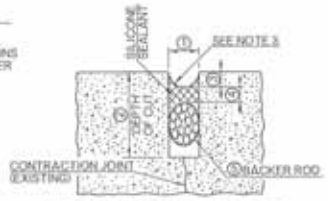
□ NOTE: ON ALL SAWED JOINTS, THE KERF DEPTH SHALL CLEAR DOWEL BARS, TIE BARS AND/OR REINFORCING STEEL BY A MINIMUM OF 1/2".



CONTRACTION JOINT WITH
SEPARATE CURB

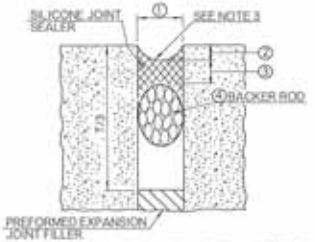


CONTRACTION JOINT WITH
INTEGRAL CURB



JOINT REHABILITATION DETAILS

JOINT REHABILITATION TREATMENT TABLE				
SILICONE SEALANT				
JOINT WIDTH ①	DEPTH OF CUT ②	SEALANT RECESS DEPTH ③	SEALANT THICKNESS ④	BACKER ROD DIAMETER ⑤
3/8"	1 1/4"	3/8"	3/16"	1/2"
1/2"	1 3/4"	3/8"	1/4"	5/8"
3/4"	1 3/4"	3/8"	3/8"	7/8"
7/8"	1 3/4"	1/2"	7/16"	1"
1"	2"	1/2"	1/2"	1 1/8"
OVER 1"	OVER 2"	1/2"	1/2"	1 1/4"



EXPANSION JOINTS / ISOLATION JOINTS

HOT POURED JOINT SEALANT MAY BE USED IN LIEU OF BACKER ROD AND SILICONE SEALANT, IF APPROVED BY THE ENGINEER.

EXPANSION JOINT / ISOLATION JOINT TREATMENT TABLE			
JOINT WIDTH ①	SEALANT RECESS DEPTH ②	SILICONE SEALANT THICKNESS ③	BACKER ROD DIAMETER ④
1/2"	3/8"	1/4"	5/8"
3/4"	3/8"	3/8"	7/8"
1"	3/8"	1/2"	1 1/4"
1 1/2"	1/2"	3/4"	2"
2"	1/2"	3/4"	2 1/2"

EXPANSION OR ISOLATION JOINT WIDTH SHALL BE 1/2", UNLESS OTHERWISE SPECIFIED ON THE PLANS. TABLE VALUES, AS SHOWN IN THIS TABLE, SHALL BE USED IN THOSE SPECIFIED CASES.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ALL CONCRETE JOINT SEALING SHALL BE IN ACCORDANCE WITH SECTION 415 OF THE SPECIFICATIONS.
3. THE SHAPE FACTOR, COMBINED WITH THE JOINT CLEANLINESS, IS THE CRITICAL COMBINATION NECESSARY TO GUARANTEE DESIRED BONDING AND FUNCTION OF SEALED JOINTS. THE JOINT SHAPE FACTOR IS DEFINED AS THE FINAL PRESSED SHAPE OF THE SILICONE MATERIAL. THE TOOLING OPERATION WILL FIRMLY PRESS THE FRESHLY APPLIED MATERIAL INTIMATELY AGAINST THE CUT SIDES OF THE RECESS AND THE BACKER ROD SURFACES. THE ROUNDED SHAPE ON TOP AND BOTTOM OF THE SILICONE ALLOWS THE SEALANT TO PROPERLY FLEX BUT MAINTAIN ADHERENCE TO THE PAVING. SELF LEVELING SEALANTS WILL BE INSTALLED TO BE FLUSH WITH THE PAVEMENT SURFACE, OR BY MANUFACTURER'S RECOMMENDATION.
4. LONGITUDINAL JOINTS BETWEEN PAVEMENT AND TIED CONCRETE SHOULDERS SHALL NOT BE SAWED OR SEALED UNLESS OTHERWISE SHOWN ON THE PLANS.
5. CONTRACTION JOINTS IN JOINTED P. C. PAVEMENT SHALL BE AT APPROXIMATELY 15'-0" CENTERS, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
6. TRANSVERSE GROOVING SHALL BE CONSTRUCTED TO THE FOLLOWING DIMENSIONS: 1/8" TO 3/16" WIDE, 3/16" TO 7/16" DEEP, AND EQUALLY SPACED AT 3/4" TO 1" APART. GROOVES SHALL BE NEAT IN APPEARANCE, OF UNIFORM DEPTH, AND LOCATED 1" TO 3" FROM NEAREST CONTRACTION JOINTS.

APPROVED BY ROADWAY ENGINEER: Calvin A DATE: 01/29/19

ROADWAY DESIGN DIVISION STANDARD

ODOT JOINTS AND SEALERS - LONGITUDINAL, EXPANSION / ISOLATION, & CONTRACTION

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

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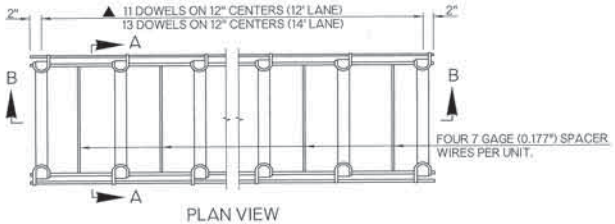
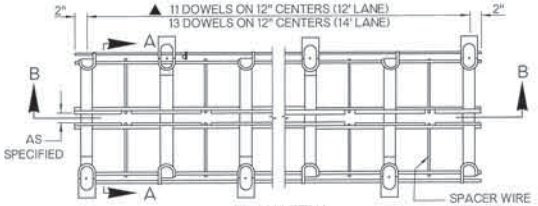
OKLAHOMA DEPARTMENT OF TRANSPORTATION	
STANDARD REVISIONS	
DESCRIPTION	DATE



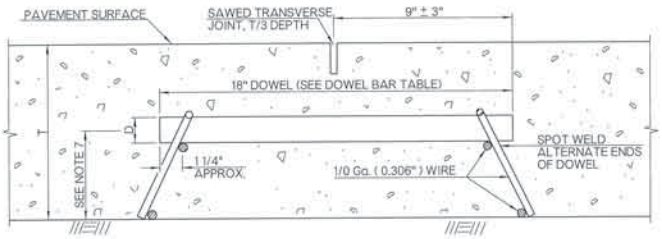
PLAN VIEW



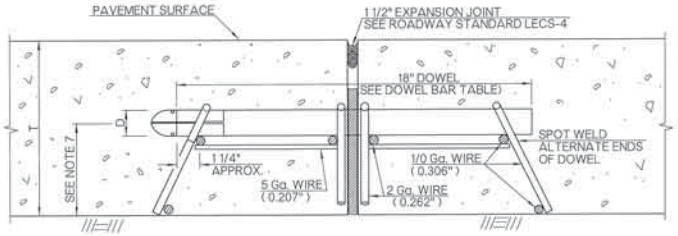
PLAN VIEW

DOWEL BAR TABLE			
▲ SPACING & SIZE DATA			
(T) SLAB DEPTH	DOWEL DIA.	TOTAL DOWEL LENGTH	C/C DOWEL SPACING
6" - 8"	1"	18"	12"
8 1/2" - 10"	1¼"	18"	12"
10 1/2" & UP	1½"	18"	12"

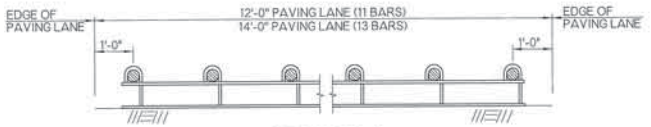
DOWEL DIAMETER WILL BE DETERMINED BY THE SLAB DEPTH (T) OR THE NOMINAL DEPTH WHEN SLAB DEPTH VARIES. WHEN NOMINAL DEPTH VALUE IS TO BE USED, THE CALCULATED NOMINAL DEPTH WILL BE SHOWN ON THE PLANS.



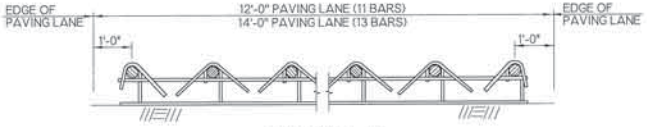
SECTION A - A



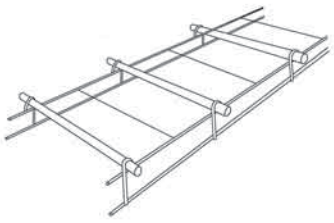
SECTION A - A



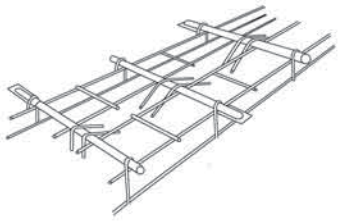
SECTION B - B



SECTION B - B



WELDED CONTRACTION JOINT ASSEMBLY



WELDED EXPANSION JOINT ASSEMBLY

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. ANY DEVICE USED FOR SUPPORTING DOWELS SHALL HAVE SUFFICIENT RIGIDITY AND BE HELD IN PLACE DURING CONCRETE PLACEMENT SO THAT DOWELS WILL BE IN SPECIFIED POSITION IN THE FINISHED PAVEMENT. ANY DEVICE NOT PRODUCING THE SPECIFIED RESULTS SHALL BE REJECTED.
3. PRODUCER AND CONTRACTOR SHALL AVOID PATENT INFRINGEMENT OF THE BASKET AND SHALL SAVE THE STATE HARMLESS IN THE USE OF ANY BASKET.
4. THE CONTRACTOR MAY SELECT THE TYPE OF BASKET TO BE USED. AFTER THE SELECTION IS MADE, THE SAME TYPE BASKET SHALL BE USED THROUGHOUT THE PROJECT, UNLESS APPROVED OTHERWISE BY THE ENGINEER.
5. COLD-DRAWN STEEL WIRE, USED FOR DOWEL BASKETS, SHALL BE ACCEPTED BY VISUAL FIELD INSPECTION, AS PROVIDING SUFFICIENT DOWEL BAR SUPPORT DURING PAVING PROCESS.
6. ▲ DOWEL BARS SHALL BE GRADE 60 PLAIN BARS, IN ACCORDANCE WITH SECTION 723.01 OF THE SPECIFICATIONS. DOWEL BARS SHALL BE CENTERED ON THE BASKET REGARDLESS OF THE WIDTH OF THE BASKET OR THE LENGTH OF THE DOWEL BAR.
7. THE HEIGHT OF THE LOAD TRANSFER UNIT (MEASURED TO THE CENTER OF THE DOWEL BAR FROM THE PAVEMENT SURFACE) SHALL BE 1/2 THE THICKNESS OF THE PAVEMENT, PLUS OR MINUS 1/2 THE DIAMETER OF DOWEL BAR OF THE UNIT.
8. DOWEL BARS SHALL HAVE A SHOP APPLIED EPOXY COATING OVER THEIR ENTIRE LENGTH (ENDS EXCEPTED). ADDITIONALLY, DOWELS SHALL BE COMPLETELY COATED WITH A FORM RELEASE AGENT (OR APPROVED EQUIVALENT BOND BREAKER) APPLIED IN THE FIELD, IMMEDIATELY PRIOR TO PAVING. THE FORM RELEASE AGENT SHALL NOT BE ALLOWED TO EVAPORATE FROM THE BARS PRIOR TO PAVING.
9. FOR EXPANSION JOINTS, THE DOWEL BARS SHALL HAVE EXPANSION CAPS WITH A MINIMUM 1" AND A MAXIMUM 2" AIR SPACE IN THE END OF THE EXPANSION CAPS (EXPANSION JOINT ASSEMBLIES).
10. THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER A STAKING PATTERN THAT SHALL SECURE ALL DOWEL BASKETS SUCH THAT THE FINAL DOWEL POSITION IS WITHIN SPECIFICATION LIMITS.
11. FOR EXPANSION JOINTS, IN ADDITION TO THE SUPPORTS INDICATED, THE CONTRACTOR SHALL PROVIDE SUITABLE INSTALLING DEVICES AND SUCH ADDITIONAL STAKES AS MAY BE REQUIRED TO HOLD THE JOINT FILLER VERTICAL AND SECURELY IN LINE AND POSITION. THE CONTRACTOR WILL ALSO BE REQUIRED TO SATISFACTORILY FORM THE UPPER PORTION OF THE JOINT FOR RECEIVING THE SEAL. SEE ROADWAY STANDARD LECS-4.

APPROVED BY ROADWAY ENGINEER: Calvin F. K DATE: 04/16/15

ROADWAY DESIGN DIVISION STANDARD

LOAD TRANSFER UNITS FOR CONCRETE PAVEMENT JOINTS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

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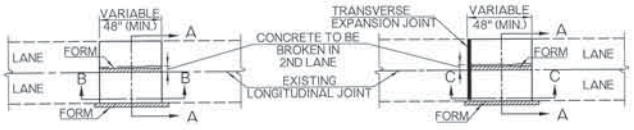
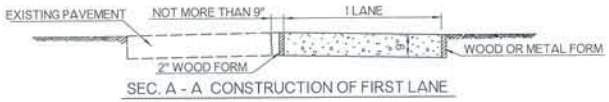
R-15	

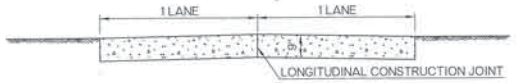


PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINT

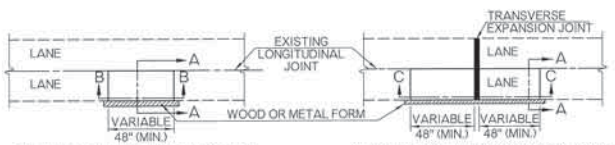


SEC. A - A CONSTRUCTION OF FIRST LANE



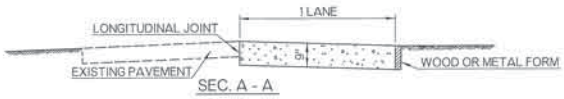
SEC. A - A CONSTRUCTION COMPLETED

MULTI LANE PATCH (CONSTRUCTED ONE LANE AT A TIME)

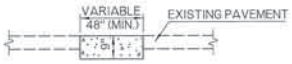


PLAN PATCH BETWEEN JOINTS

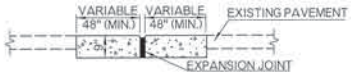
PLAN PATCH AT EXPANSION JOINT



SEC. A - A

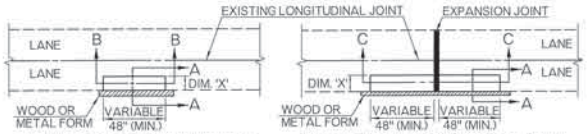


SEC. B - B



SEC. C - C

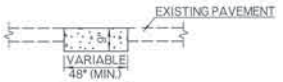
SINGLE LANE PATCH



PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINT

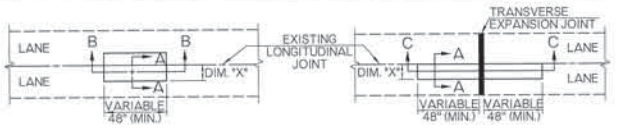
SEC. A - A



SEC. B - B

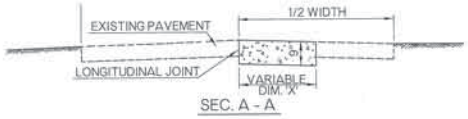
SEC. C - C

EXTERIOR EDGE PATCH



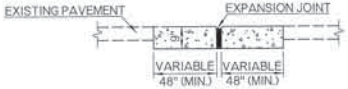
PLAN PATCH BETWEEN JOINTS

PLAN PATCH AT EXPANSION JOINTS



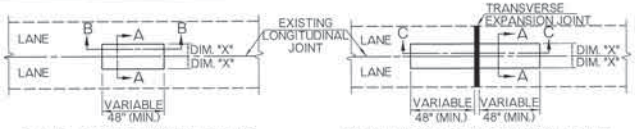
SEC. A - A

SEC. B - B



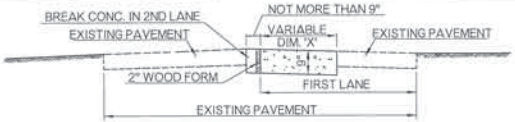
SEC. C - C

INTERIOR EDGE PATCH

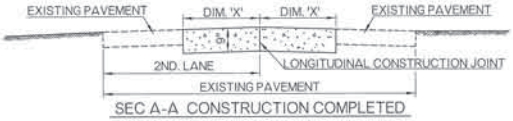


PLAN PATCH BETWEEN JOINTS

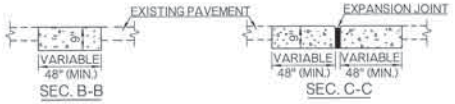
PLAN PATCH AT EXPANSION JOINT



SEC A-A CONSTRUCTION OF FIRST LANE



SEC A-A CONSTRUCTION COMPLETED



SEC. B-B SEC. C-C

RECTANGULAR PLUG PATCH

GENERAL NOTES

1. CROWN OF PATCH TO MATCH CROWN OF EXISTING PAVEMENT.
2. EDGES OF PAVEMENT SLAB, OPEN JOINTS AND CONSTRUCTION JOINTS SHALL BE EDGED WITH AN EDGER HAVING A 1/2" RADIUS. JOINT ALONG A BROKEN EDGE OF THE EXISTING PAVEMENT SHALL NOT BE EDGED.
3. CONCRETE FOR PATCHES SHALL BE HIGH-EARLY-STRENGTH CONCRETE PAVEMENT MADE WITH THE USE OF HIGH-EARLY-STRENGTH PORTLAND CEMENT OR 25% ADDITIONAL STANDARD PORTLAND CEMENT. TRAFFIC SHALL NOT BE ALLOWED ON THE PATCH FOR THE FIRST 24 HOURS, OR FOR LONGER WHEN DIRECTED BY THE RESIDENT ENGINEER.
4. DIMENSION 'X' TO BE NOT LESS THAN 4 FEET, NOR SHALL IT EXCEED 5 FEET FOR 18 FOOT PAVEMENT OR EXCEED 6 FEET FOR 20 FOOT PAVEMENT. IF EITHER OF THESE LIMITS ARE EXCEEDED USE A HALF WIDTH PATCH.
5. PAVEMENT SECTION DEPTH TO BE SHOWN ON PLANS.
6. IN AREAS WHERE PATCHING IS REQUIRED, UNDERCUTTING AND BACK FILLING OF SUBGRADE SHALL BE DONE IN A MANNER APPROVED BY THE ENGINEER. BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% OF STANDARD DENSITY. COST OF UNDERCUTTING AND BACKFILLING TO BE INCLUDED IN OTHER ITEMS OF WORK.
7. FOR DETAILS OF JOINTS AND SEALERS, SEE ROADWAY STANDARD LECS-4.

OKLAHOMA DEPARTMENT OF TRANSPORTATION
STANDARD REVISIONS

DESCRIPTION	DATE

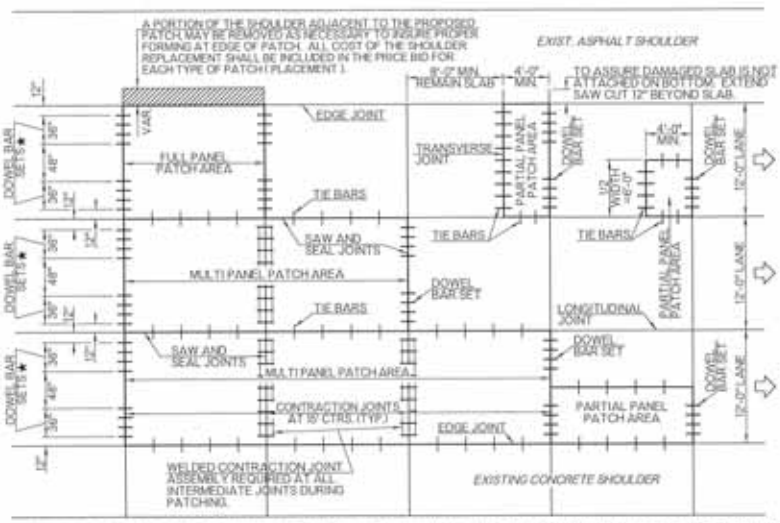
APPROVED BY
ROADWAY ENGINEER: Calvin E. A DATE 04/16/15

ROADWAY DESIGN DIVISION STANDARD

ODOT PAVEMENT RECONSTRUCTION DETAILS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PR-3	0
R-18	



★ DOWEL BAR SETS (FOUR BARS AT 12"CTRS.) SHALL BE USED AS SHOWN FOR ALL CONTRACTION JOINTS. IF PATCH EXTENDS IN BOTH DIRECTIONS, FROM A CONTRACTION JOINT, THEN APPROVED LOAD TRANSFER DEVICES MEETING THE REQUIREMENTS OF SECTION 414.04, AND AS SHOWN ON ROADWAY STANDARD LTU-4 SHALL BE USED IN LIEU OF DOWEL BAR SETS. IF PARTIAL PANEL PATCH IS GOING TO EXCEED 7' (FOR 15' JOINTED PAVEMENT) OR 15' (FOR 62' JOINTED PAVEMENT), THEN USE A FULL PANEL PATCH.

FULL DEPTH PATCHING DETAIL

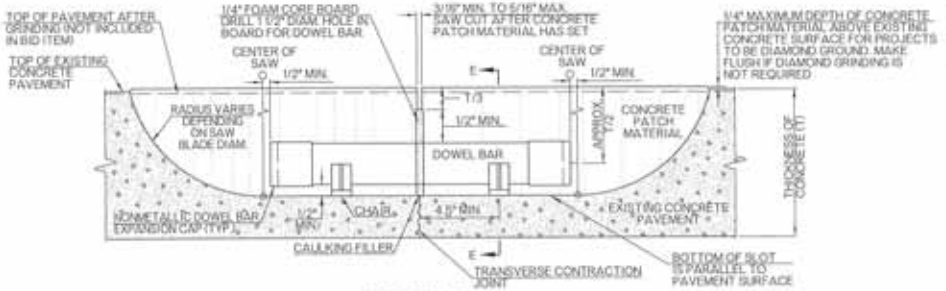
DETAIL OF TIE BAR JOINT

NOTE

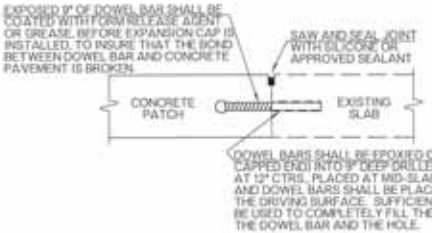
LONGITUDINAL JOINT - TIE BARS - NO. 5 DEFORMED REINFORCING STEEL BARS, 2'-6" LONG, SHALL BE EPOXIED INTO 3/4" DIA. (MAX.) DRILLED HOLES AT 3'-0" CTRS. TIED LONGITUDINALLY. JOINT SHALL BE SAWED AND SEALED.

TRANSVERSE JOINT - TIE BARS - NO. 10 DEFORMED REINFORCING STEEL BARS, 1'-6" LONG, SHALL BE EPOXIED INTO 1 3/8" DIA. (MAX.) DRILLED HOLES AT 18" CTRS. FULL WIDTH, TRANSVERSE, TIED JOINTS SHALL NOT BE SAWED OR SEALED.

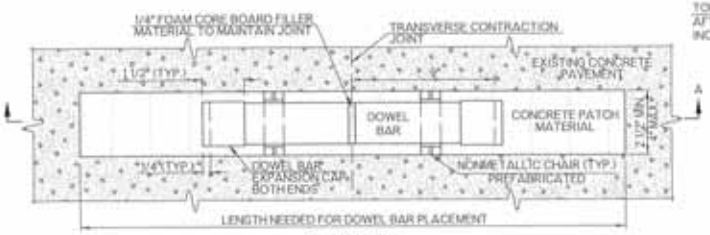
DETAIL OF DOWEL BAR WITH CAP



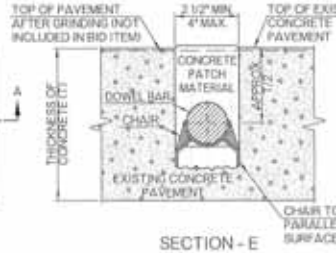
SECTION - A
DOWEL BAR RETROFIT PLACEMENT DETAIL



DETAIL OF DOWEL BAR AT CONSTRUCTION JOINT



PLAN VIEW
DOWEL BAR RETROFIT INSTALLATION



SECTION - E

BASE REPAIR AND PREPARATION

IN AREAS WHERE PATCHING IS RE-QUIRED, THE REMOVAL OF THE DAMAGED PAVEMENT SHALL BE PERFORMED IN A MANNER THAT WOULD MINIMIZE FURTHER DAMAGE TO THE UNDERLYING SUBBASE (S), SUBGRADE OR ADJACENT PAVEMENT(S). NO COMPENSATION WILL BE MADE TO CONTRACTOR FOR REPAIRING DAMAGE SUSTAINED DURING THE REMOVAL PROCESS.

COST OF ANY INCIDENTAL BASE REPAIR, LEVELING OR BACKFILLING, UP TO 2", WILL BE INCLUDED IN FULL DEPTH PCC PATCH (PLACEMENT) PAY ITEM. INCIDENTAL REPAIR, LEVELING AND BACKFILLING MATERIAL SHALL CONSIST OF SAME MATERIAL ENCOUNTERED, CRUSHED LIMESTONE OR BY THICKENING THE FULL DEPTH PATCH.

BASE REPAIR, LEVELING AND RELATED BACKFILLING OF SUBBASE (S) OR SUBGRADE IN EXCESS OF 2" SHALL BE PAID FOR AS UNCLASSIFIED EXCAVATION WITH QUANTITIES COMPUTED FROM BOTTOM OF SLAB DOWNWARD TO LIMITS OF REMOVAL.

GENERAL SEQUENCE OF PAVEMENT REPAIR

STEP 1 CONCRETE PATCHING

(1) AREAS TO BE PATCHED WILL BE DESIGNATED BY THE ENGINEER.

(2) FOR REMOVAL OF FULL DEPTH PATCHES, SAWING IS TO BE FULL DEPTH. LIFT OUT DAMAGED PAVEMENT WHENEVER PRACTICAL.

(3) THE FLOW OF TRAFFIC MAY BE RESTRICTED TO ONE LANE DUE TO PATCHING OPERATION FOR A MAXIMUM DISTANCE OF ONE MILE.

STEP 2 DOWEL BAR RETROFIT INSTALLATION

(1) INSTALL DOWEL BARS AS SHOWN. BAR PLACEMENT SHALL CONSIST OF 3 BARS PER WHEEL PATH, PLACED 12" TO 15" APART, AND 18" FROM EDGE OF DRIVING LANE.

(2) DOWEL BARS SHALL NOT BE PLACED ON TOP OF A LONGITUDINAL CRACK.

(3) PAYMENT FOR "DOWEL BAR RETROFIT" SHALL ONLY BE MADE FOR DOWELS PLACED BY THE PROCESS OF CUTTING A SLOT.

(4) IF SLOTS ARE SAWED BUT NOT RETROFITTED WITH A BAR, THE SAW CUTS SHALL BE CLEANED AND SEALED WITH AN EPOXY RESIN.

STEP 3 DIAMOND GRINDING CONCRETE PAVEMENT

(1) AFTER SLAB STABILIZATION AND/OR DOWEL BAR RETROFIT INSTALLATION, & APPROPRIATE CURE TIME HAS BEEN DETERMINED, GRINDING OPERATIONS MAY BEGIN.

STEP 4 CONCRETE JOINT SEALING

(1) CUT SHALL BEGIN AT THE LOW EDGE OF THE DRIVING LANES AND MOVE TOWARD THE INITIAL JOINT.

(2) INSTALLATION OF BOND BREAKER AND SILICONE JOINT SEALANT SHALL BE FROM THE END OF THE INITIAL JOINT TO THE LOW EDGE OF THE DRIVING LANES.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 ODOT STANDARD SPECIFICATIONS.
2. COST OF SAWING AND REMOVAL OF PAVEMENT FOR FULL DEPTH PATCHING, COST OF DOWEL BARS, TIE BARS AND ANY/ALL INCIDENTALS REQUIRED FOR INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR FULL DEPTH PCC PATCH (PLACEMENT), UNLESS OTHERWISE SHOWN ON THE PLANS.
3. HIGH EARLY STRENGTH (HE) CONCRETE, WHEN USED FOR FULL DEPTH PATCHING, WILL BE PAID FOR AS PC CONCRETE FOR PAVEMENT.
4. BID ITEM FOR CONCRETE JOINT SEALING (JOINT REHABILITATION) WILL INCLUDE SAWING, CLEANING OF JOINT, BACKER ROD, SILICONE SEALANT AND ANY/ALL INCIDENTALS REQUIRED TO COMPLETE THE WORK.
5. FOR SKEWED TRANSVERSE JOINTS, DOWEL BARS SHALL ALWAYS BE PLACED PARALLEL TO THE ROADWAY.
6. HOLES ARE TO BE DRILLED IN DIAMETER BASED ON DOWEL BAR SIZE AND TYPE OF GLUE USED.
   - FOR EPOXY, HOLE DIAMETER SHALL BE DOWEL DIA. + (2 x 1/8").
   - FOR CEMENT GROUT, HOLE DIAMETER SHALL BE DOWEL DIA. + (2 x 1/4").

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
202 (A)	UNCLASSIFIED EXCAVATION	CY
414 (E)	FULL DEPTH P. C. C. PATCH (PLACEMENT)	SY
414 (G)	P. C. CONCRETE FOR PAVEMENT	CY
415	CONCRETE JOINT SEALING	LF
416	DOWEL BAR RETROFIT	EA
425	DIAMOND GRINDING CONCRETE PAVEMENT	SY

APPROVED BY ROADWAY ENGINEER ..... DATE 04/23/19

ROADWAY DESIGN DIVISION STANDARD

PORTLAND CEMENT CONCRETE PAVEMENT REPAIR

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

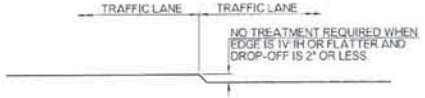
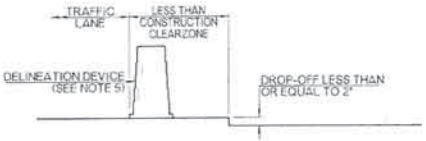
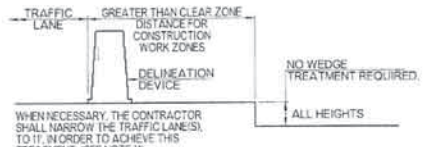
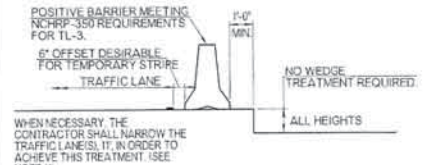
PCPR-3 | 2

R-19

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS

DESCRIPTION	DATE

CROSS SECTION	CONDITION		DROP-OFF TREATMENT	SIGN
	DIFFERENTIAL	TIME		
 TREATMENT 1	BETWEEN TRAFFIC LANES PAVEMENT EDGE DIFFERENTIAL LESS THAN OR EQUAL TO 2"	NON-WORKING HOURS NOTE: FOR WORKING HOURS, USE DELINEATION LIKE TREATMENT 2	NO WEDGE REQUIRED FOR OVERLAYS 1:1 WEDGE TREATMENT FOR MILLED DROP-OFFS	 W8-11 (SEE NOTE 4)
 TREATMENT 2	INSIDE CONSTRUCTION CLEARZONE PAVEMENT EDGE DIFFERENTIAL LESS THAN OR EQUAL TO 2"	NON-WORKING AND WORKING HOURS	NO WEDGE REQUIRED	 W8-17 W8-17P (SEE NOTE 3)
 TREATMENT 3 FOR POSTED SPEEDS 45 MPH OR LESS. NOT TO BE USED ON INTERSTATES.	INSIDE CONSTRUCTION CLEARZONE WITH DIFFERENTIAL GREATER THAN 2" AND LESS THAN OR EQUAL TO 18" NOTE: FOR DIFFERENTIAL GREATER THAN 18", USE TREATMENT 4 OR 5	NON-WORKING HOURS	WEDGE TREATMENT SLOPE =1V:4H OR FLATTER	 W8-17 W8-17P (SEE NOTE 3)
		WORKING HOURS	NO WEDGE REQUIRED	
 TREATMENT 4	OUTSIDE CONSTRUCTION CLEARZONE ALL HEIGHTS OF EDGE DIFFERENTIAL	NON-WORKING AND WORKING HOURS WHERE PLANS REQUIRE ADJACENT LANE CLOSURE WITH CHANNELIZATION OR PARTIAL LANE CLOSURE WITH BARRIER	NO WEDGE REQUIRED	ONLY NORMAL CONSTRUCTION SIGNING REQUIRED
 TREATMENT 5	INSIDE CONSTRUCTION CLEARZONE POSITIVE BARRIER FOR SEPARATION ALL HEIGHTS OF EDGE DIFFERENTIAL	NON-WORKING AND WORKING HOURS WHERE PLANS REQUIRE ADJACENT LANE CLOSURE WITH CHANNELIZATION OR PARTIAL LANE CLOSURE WITH BARRIER	NO WEDGE REQUIRED	ONLY NORMAL CONSTRUCTION SIGNING REQUIRED

OKLAHOMA DEPARTMENT OF TRANSPORTATION

STANDARD REVISIONS	
DESCRIPTION	DATE

RECOMMENDED CLEAR ZONE DISTANCE (FT.) FOR CONSTRUCTION WORK ZONES

DESIGN SPEED	DESIGN ADT	FILL SLOPES (V:H)			CUT SLOPES (V:H)		
		1:6 OR FLATTER	1:5 TO 1:4	1:3	1:3	1:4 TO 1:5	1:6 OR FLATTER
40 MPH OR LESS	UNDER 750	4	4	SEE PROCEDURE IN SECTION 11.2.2 OF THE ODOT ROADWAY DESIGN MANUAL	4	4	4
	750 - 1500	5	6		5	5	5
	1500 - 6000	6	7		6	6	6
	OVER 6000	7	8		7	7	7
45 - 50 MPH	UNDER 750	5	6		4	4	5
	750 - 1500	7	8		5	6	7
	1500 - 6000	8	10		6	7	8
	OVER 6000	10	12		7	9	10
55 MPH	UNDER 750	6	7		4	5	5
	750 - 1500	8	10		5	7	8
	1500 - 6000	10	12		7	8	10
	OVER 6000	11	13		8	10	11
60 MPH	UNDER 750	8	10		5	6	7
	750 - 1500	10	13		6	8	10
	1500 - 6000	13	16★		7	9	12
	OVER 6000	15	18★		10	12	13
65 - 70 MPH	UNDER 750	9	10		5	7	7
	750 - 1500	12	14		6	9	10
	1500 - 6000	14	17★		8	11	13
	OVER 6000	15	19★		11	13	14

★ THE CLEARZONE MAY BE LIMITED TO 15' FOR PRACTICALITY AND TO PROVIDE A CONSISTENT ROADWAY TEMPLATE.

ALL DISTANCES ARE MEASURED FROM THE EDGE OF THE DRIVING LANE.

FOR CLEAR ZONES, THE "DESIGN ADT" WILL BE THE TOTAL ADT ON TWO-WAY ROADWAYS AND DIRECTIONAL ADT ON ONE-WAY ROADWAYS.

V:H = VERTICAL : HORIZONTAL

GENERAL NOTES

1. EDGE DROP-OFF TREATMENTS SHOWN ON THIS STANDARD, ARE INTENDED FOR TEMPORARY DROP-OFFS IN CONSTRUCTION WORK ZONES.
2. DELINEATION DEVICES, AND WARNING DEVICES WILL BE REQUIRED IN ACCORDANCE WITH M.U.T.C.D. AND APPLICABLE TRAFFIC STANDARDS.
3. EDGE DROP-OFF SIGNS TO REMAIN IN PLACE UNTIL PERMANENT SHOULDER SHAPING IS COMPLETE.
4. UNEVEN LANES SIGNS TO REMAIN IN PLACE UNTIL THIS SITE CONDITION IS NO LONGER VALID.
5. THE FOLLOWING ARE THE ONLY ACCEPTABLE DELINEATION DEVICES FOR DROP-OFF APPLICATIONS, AND SHALL BE PLACED ON TOP OF PAVEMENT SURFACE:
   A. DRUMS
   B. CONES
   C. TUBULAR MARKERS
   D. VERTICAL PANELS
6. ALL WEDGES FOR DROP-OFF TREATMENTS, SHALL BE STABILE AND COMPACTED MATERIAL CAPABLE OF SUPPORTING TRAFFIC.
7. THE CONTRACTOR MAY USE TREATMENT 5 IN LIEU OF WEDGE TREATMENT WHEN ALTERNATE CONSTRUCTION TRAFFIC CONTROL PLANS, ARE APPROVED BY THE ENGINEER.
8. DAILY INSPECTIONS SHALL BE CONDUCTED BY THE CONTRACTOR TO ASSURE THAT NO EROSION, EXCESSIVE SLOPES, RUTTING OR OTHER DEFICIENCIES EXIST. ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
9. THE SPACING OF THE DELINEATION DEVICES (FT.) SHALL BE EQUAL TO THE DESIGN SPEED OF THE DETOUR (MILES PER HOUR).
10. WORKING HOURS ARE DEFINED AS WHEN WORKERS ARE PRESENT AND WORKING ON CONSTRUCTION RELATED ITEMS AND IN AN AREA WHERE EDGE DROP OFFS NEED TO BE REDUCED OR REMOVED.
11. FOR ALL NON-INTERSTATE AND NON-DIVIDED HIGHWAYS, A TRAFFIC LANE WIDTH OF 11' IS DESIRED. HOWEVER, ON A SITE BY SITE BASIS THE CONTRACTOR CAN ADJUST THE TRAFFIC LANE AND SHOULDER (IF ANY) TO NO LESS THAN A 10' TRAFFIC LANE WIDTH.

APPROVED BY ROADWAY ENGINEER: _____ DATE: 4/7/15

ROADWAY DESIGN DIVISION STANDARD

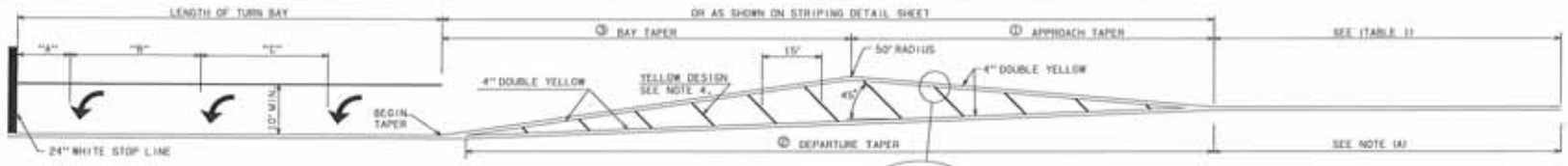
ODOT

PAVEMENT DROP-OFF TREATMENTS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
2009 SPECIFICATIONS

PDT-1 | 3

R-65



DESCRIPTION	REVISIONS	DATE
ADDED GENERAL NOTE 4.		7/08/2011
UPDATED SYMBOLS		4/2/2013
CHANGE DASHED LINE DIMENSION		7/21/2016

LEFT TURN BAY AND STRIPED MEDIAN DETAIL

SEE PLANS FOR LENGTH OF LEFT TURN BAYS AND TAPERS ON STRIPED MEDIANS

① THE PREFERRED APPROACH TAPER RATE IS V:1, WHERE V IS THE DESIGN SPEED. FOR V≤40 MPH, IT IS ACCEPTABLE FOR THE APPROACH TAPER TO BE (V^2/60):1.

② THE PREFERRED DEPARTURE TAPER RATE IS V:1, WHERE V IS THE DESIGN SPEED. FOR V≤40 MPH, IT IS ACCEPTABLE FOR THE DEPARTURE TAPER TO BE (V^2/60):1.

③ SEE RECOMMENDED BAY TAPER RATES TABLE.

RECOMMENDED BAY TAPER RATES

DESIGN SPEED (MPH)	TAPER RATE
V < 30	8:1
30 ≤ V ≤ 50	10:1
50 < V	15:1

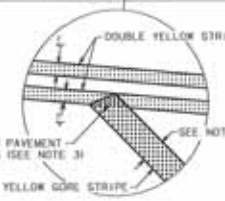


TABLE 1	
POSTED SPEED	NO PASS LENGTH (MINIMUM)
60 MPH	790'
55 MPH	725'
50 MPH	660'
45 MPH	590'
40 MPH	360'
35 MPH	260'
30 MPH	200'
25 MPH	150'

THE FOLLOWING MINIMUM VALUES MAY APPLY IN RESTRICTED LOCATIONS:
1. RIGHT-TURN LANES. A 4:1 BAY TAPER MAY BE USED WHERE PAINTED CHANNELIZATION IS USED.
2. LEFT-TURN LANES. IN SEVERELY RESTRICTED LOCATIONS, A 4:1 BAY TAPER MAY BE USED WHERE PAINTED CHANNELIZATION IS USED.

(A) NO PASS LINE ON APPROACH SIDE WITH SKIP CENTER LINE ON DEPARTURE SIDE UNLESS DOUBLE YELLOW CENTER LINE IS REQUIRED.

TURN BAY TABLE			
LENGTH OF BAY FT.	"A" FT.	"B" FT.	"C" FT.
75 TO 99	20	35	—
100 TO 149	20	35	35
150 TO 200	30	55	55

MATERIAL SPECIFICATIONS

A. UNLESS OTHERWISE SPECIFIED, RETROREFLECTIVE PAVEMENT MARKING SHALL BE APPLIED BY THE EXTRUSION METHOD.

B. THE THICKNESS OF THE PLASTIC PAVEMENT MARKING SHALL BE MEASURED FROM THE PLANE OF THE PAVEMENT SURFACE WITH A DEVICE SUPPLIED BY CONTRACTOR AND SUITABLE TO THE ENGINEER. THICKNESSES ARE AS FOLLOWS:

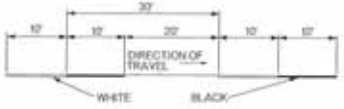
LANE LINES, STOP LINES, WORDS, ARROWS AND SYMBOLS.....0.120" MIN. & 0.188" MAX.
EDGE, GORE AND DIAGONAL LINES.... 0.090" MIN. & 0.188" MAX.

C. THE THICKNESS OF THE MULTI-POLYMER PAVEMENT MARKING SHALL BE MEASURED FROM THE PLANE OF THE PAVEMENT SURFACE WITH A DEVICE SUPPLIED BY CONTRACTOR AND SUITABLE TO THE ENGINEER. THICKNESSES ARE AS FOLLOWS:

LANE LINES, STOP LINES, WORDS, ARROWS, SYMBOLS, EDGE, GORE AND DIAGONAL LINES.... 0.020" MIN. & 0.025" MAX.

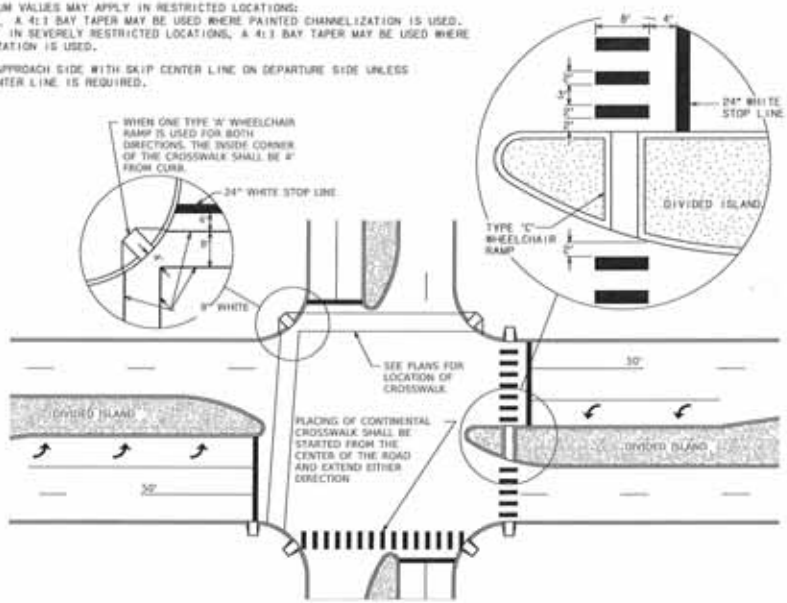
GENERAL NOTES

1. LANE WIDTH IS THE DISTANCE BETWEEN PAVEMENT MARKINGS, OR PAVEMENT MARKING AND EDGE OF PAVEMENT. LANE WIDTH IS MEASURED FROM CENTER OF STRIPE TO CENTER OF STRIPE.
2. LANE LINES SHALL BE PLACED LEFT OF THE LONGITUDINAL PAVEMENT JOINTS.
3. ALL PAVEMENT MARKING SHALL OVERLAP WHERE IT MEETS OTHER PAVEMENT MARKING.
4. WIDTH OF DIAGONALS ARE AS FOLLOWS:
   ≤45 MPH - 12" WIDE
   >45 MPH - 8" WIDE



DASHED WHITE LANE LINE
TYPICAL CONCRETE PAVEMENT MARKING DETAILS

DASHED WHITE LANE LINE
TYPICAL ASPHALT PAVEMENT MARKING DETAILS



CROSSWALK INSTALLATIONS

FOR SPACING OF ARROWS SEE "TURN BAY TABLE"

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
654(A)	TRAFFIC STRIPE (PAINT) (4" WIDE)	LF
654(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
655(A)	TRAFFIC STRIPE (PLASTIC) (4" WIDE)	LF
655(A)	TRAFFIC STRIPE (PLASTIC) (6" WIDE)	LF
655(A)	TRAFFIC STRIPE (PLASTIC) (8" WIDE)	LF
655(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	LF
655(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
655(B)	TRAFFIC STRIPE (PLASTIC) (WORDS)	EA
656(A)	TRAFFIC STRIPE (MULTI-POLYMER) (4" WIDE)	LF
656(A)	TRAFFIC STRIPE (MULTI-POLYMER) (6" WIDE)	LF
656(A)	TRAFFIC STRIPE (MULTI-POLYMER) (8" WIDE)	LF
656(A)	TRAFFIC STRIPE (MULTI-POLYMER) (24" WIDE)	LF
656(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

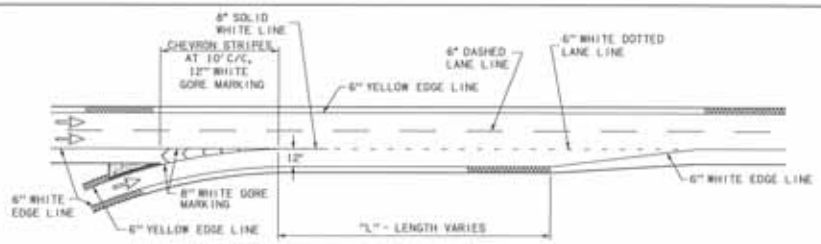
APPROVED BY TRAFFIC ENGINEER _____ DATE 7/31/19

TRAFFIC STANDARD
PAVEMENT MARKING (CROSSWALKS AND LEFT TURN BAY)

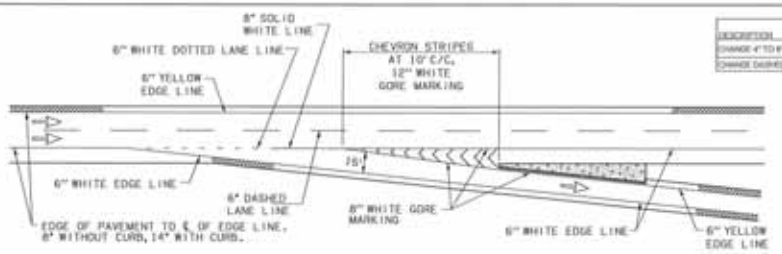
2009 SPECIFICATIONS

PM1-1

T-101

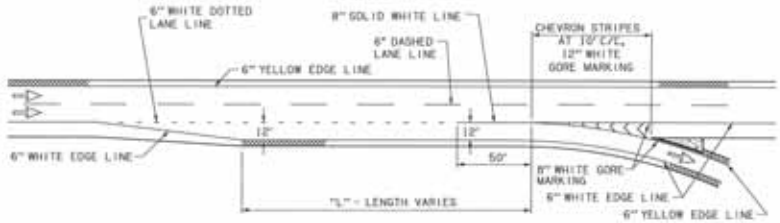


PAVEMENT MARKINGS OF PARALLEL ACCELERATION LANE

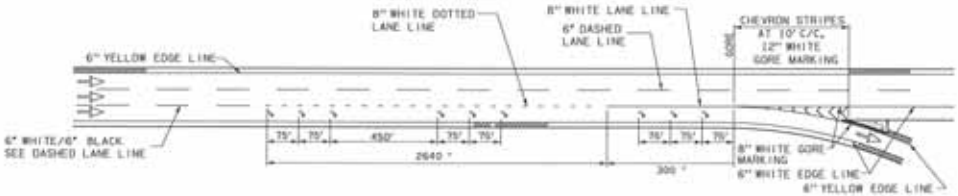


PAVEMENT MARKINGS OF TAPERED DECELERATION LANE

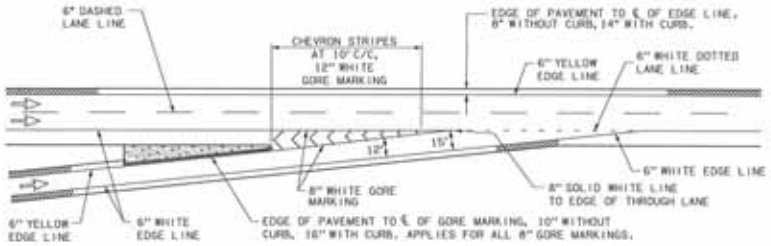
REVISIONS	
DESCRIPTION	DATE
CHANGE 4" TO 6" STRIPE	6/10/2013
CHANGE DASHED & DOTTED LINE DIMENSION	7/29/2014



PAVEMENT MARKINGS OF PARALLEL DECELERATION LANE



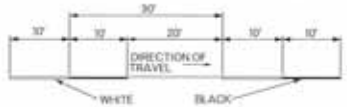
PAVEMENT MARKINGS OF LANE DROP AT EXIT RAMP



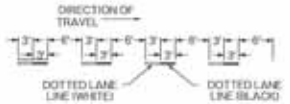
PAVEMENT MARKINGS OF TAPERED ACCELERATION LANE

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
8541(B)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
8551(A)	TRAFFIC STRIPE (PLASTIC) (6" WIDE)	LF
8551(A)	TRAFFIC STRIPE (PLASTIC) (8" WIDE)	LF
8551(A)	TRAFFIC STRIPE (PLASTIC) (12" WIDE)	LF
8551(A)	TRAFFIC STRIPE (PLASTIC) (24" WIDE)	LF
8551(B)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
8561(A)	TRAFFIC STRIPE (MULTI-POLYMER) (6" WIDE)	LF
8561(A)	TRAFFIC STRIPE (MULTI-POLYMER) (8" WIDE)	LF
8561(A)	TRAFFIC STRIPE (MULTI-POLYMER) (12" WIDE)	LF
8561(A)	TRAFFIC STRIPE (MULTI-POLYMER) (24" WIDE)	LF
8561(B)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA



DASHED WHITE LANE LINE
TYPICAL CONCRETE PAVEMENT MARKING DETAILS



DOTTED LANE LINE
ON CONCRETE PAVEMENT

DASHED LANE LINE
ON ASPHALT PAVEMENT

DOTTED LANE LINE
ON ASPHALT PAVEMENT

APPROVED BY TRAFFIC ENGINEER: DATE: 7/31/19

DOT

TRAFFIC STANDARD

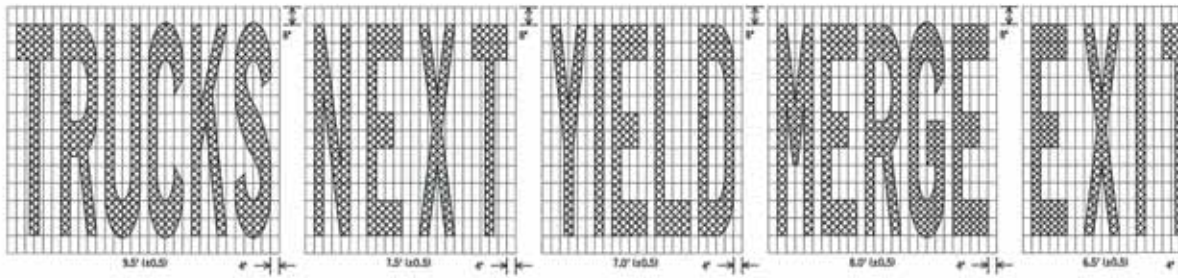
PAVEMENT MARKING (INTERCHANGE)

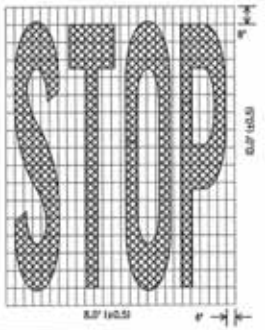
2009 SPECIFICATIONS

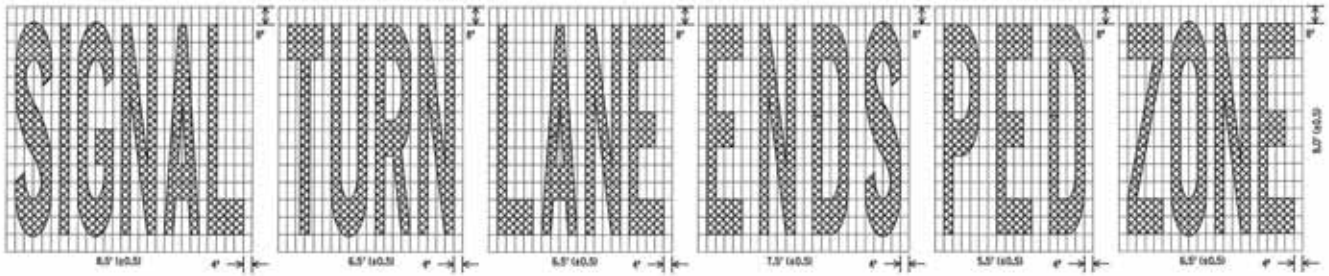
FM4-1

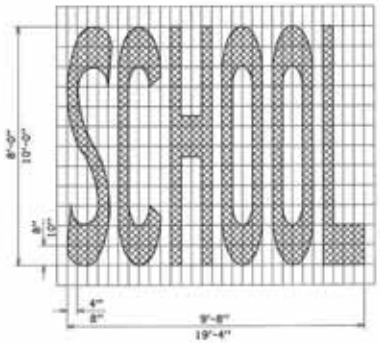
T-104

pro2

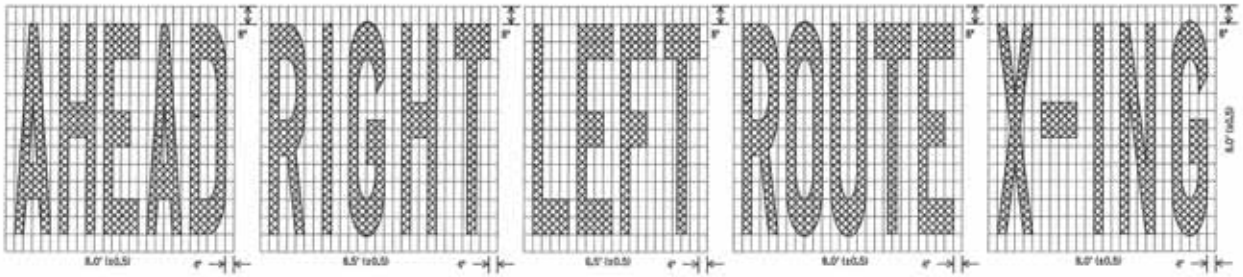


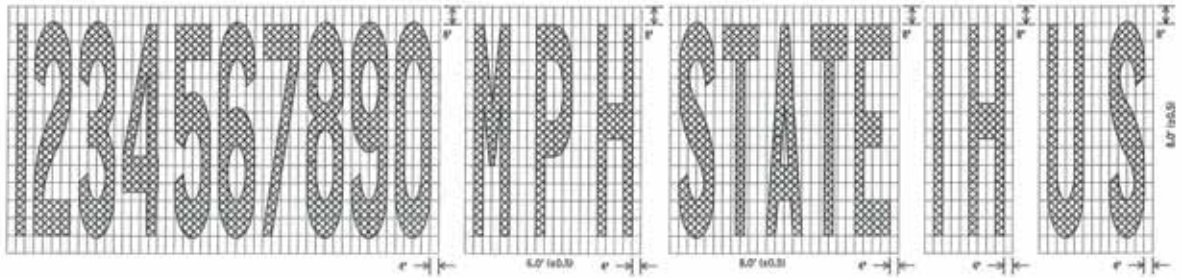






SINGLE LANE (TOP DIMENSIONS)
TWO LANE (BOTTOM DIMENSIONS)





BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
8540(8)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
8550(8)	TRAFFIC STRIPE (PLASTIC) (WORDS)	EA
8660(8)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

GENERAL NOTES

1. PAVEMENT MARKINGS SHALL BE WHITE RETROREFLECTORIZED PLASTIC UNLESS OTHERWISE SPECIFIED. WHEN THE MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD READ "UP" I.E. THE FIRST WORD SHOULD BE NEAREST THE DRIVER. THE SPACE BETWEEN LINES SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTERS.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION).
3. ALL DIMENSIONS ARE TYPICAL FOR SINGLE LANE UNLESS OTHERWISE NOTED.

APPROVED BY TRAFFIC ENGINEER: Harold Stanley DATE: 8/15/10

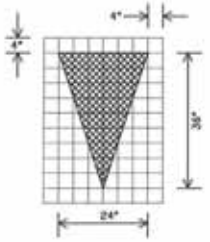
TRAFFIC STANDARD

PAVEMENT MARKING (WORDS AND NUMERALS)

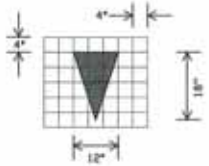
2009 SPECIFICATIONS

PMS-1	00
	T-105

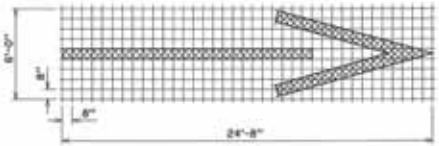
DESCRIPTION	REVISIONS	DATE



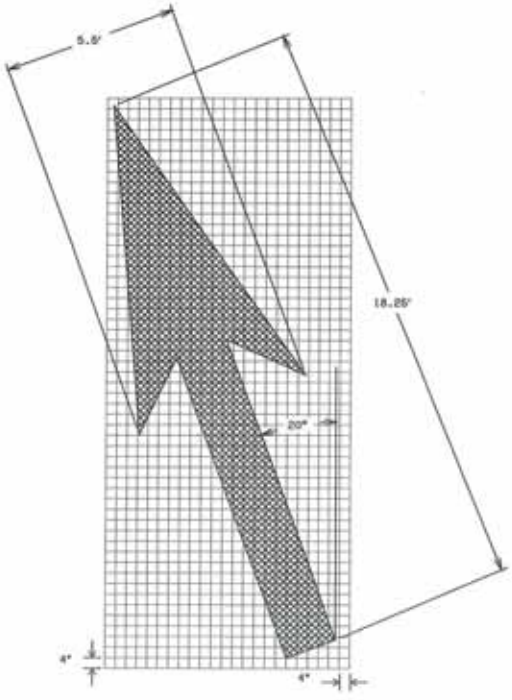
MAXIMUM
YIELD LINE TRIANGLE



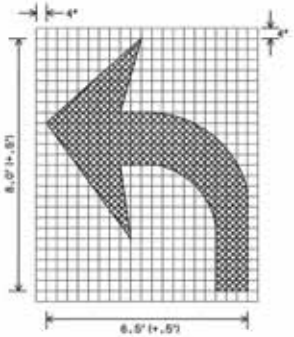
MINIMUM
YIELD LINE TRIANGLE

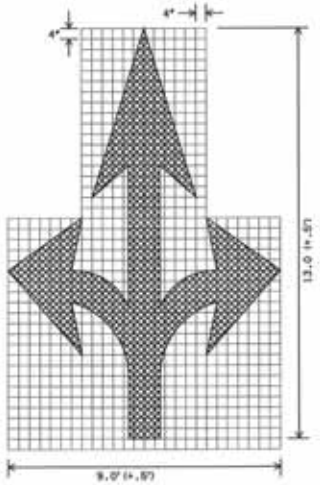


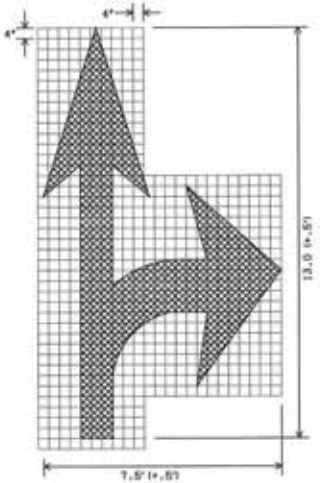
FREEWAY, EXPRESSWAY, AND RAMP PAVEMENT ARROW

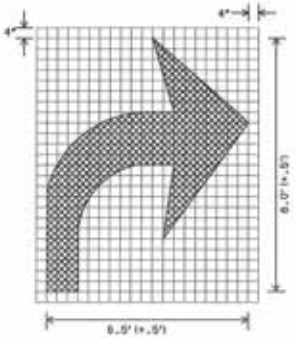


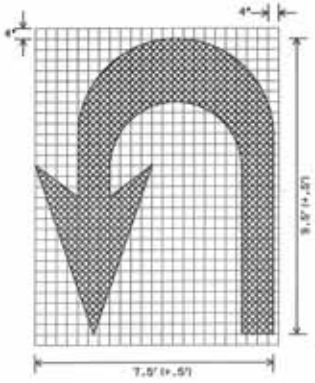
LANE-REDUCTION ARROW

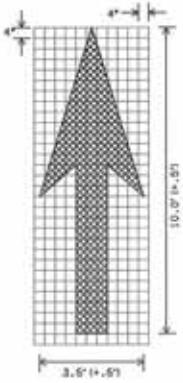












GENERAL NOTES

1. PAVEMENT MARKINGS SHALL BE WHITE RETROREFLECTORIZED PLASTIC UNLESS OTHERWISE SPECIFIED. WHEN THE MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD READ "UP" I.E. THE FIRST WORD SHOULD BE NEAREST THE DRIVER. THE SPACE BETWEEN LINES SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTERS.
2. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST REVISION).
3. ALL DIMENSIONS ARE TYPICAL FOR SINGLE LANE UNLESS OTHERWISE NOTED.

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
8541(S)	TRAFFIC STRIPE (PAINT) (ARROW, WORDS, OR SYMBOLS)	EA
8551(S)	TRAFFIC STRIPE (PLASTIC) (ARROW)	EA
8552(S)	TRAFFIC STRIPE (PLASTIC) (SYMBOLS)	EA
8561(S)	TRAFFIC STRIPE (MULTI-POLYMER) (SYMBOLS, WORDS, ETC)	EA

APPROVED BY TRAFFIC ENGINEER [signature] DATE 9.5.10

TRAFFIC STANDARD

PAVEMENT MARKING
(ARROWS)

2009 SPECIFICATIONS

PM6-1 | 00

T-106

ALL GENERAL NOTES SHOWN BELOW SHALL APPLY
TO ALL OF THE STANDARD DRAWINGS IN TCS SERIES

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTES	3/15/2017

CONTRACTOR

ON CONSTRUCTION PROJECTS IT WILL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL THE NECESSARY TRAFFIC CONTROL BEFORE CONSTRUCTION BEGINS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL DEVICES TO ASSURE A HIGH DEGREE OF BOTH DAY AND NIGHT VISIBILITY, WHICH WILL INCLUDE ANY WASHING, REPLACEMENT AND/OR REPOSITIONING WHERE DEEMED NECESSARY BY THE ENGINEER.

THE CONTRACTOR SHALL REPAIR OR REPLACE ANY NEW OR EXISTING PERMANENT STATE OWNED SIGNS WHICH ARE DAMAGED DUE TO HIS NEGLIGENCE OR CARELESS HANDLING DURING THE CONSTRUCTION OF THIS PROJECT. THIS SHALL BE DONE AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY TRAFFIC CONTROL WORK ZONE AND EXISTING PAVEMENT MARKINGS ON ALL ROADWAYS OPEN TO TRAFFIC WITHIN THE PROJECT. SUFFICIENT QUANTITIES HAVE BEEN PROVIDED FOR MAINTAINING PAVEMENT MARKINGS FOR PRESCRIBED DETOUR ROUTES WHEN DEEMED NECESSARY BY THE ENGINEER.

SIGN MATERIALS

ALL SIGN BLANK MATERIALS SHALL BE THE OPTION OF THE CONTRACTOR BUT SHALL BE OF SUCH MATERIAL THAT WILL RETAIN A SATISFACTORY APPEARANCE THROUGHOUT THE LIFE OF THE PROJECT.

ALL SIGNS, LIGHTS, FLAGS, ETC. SHALL CONFORM IN SIZE, SHAPE, COLOR, LEGENDS AND APPLICATIONS TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND/OR OKLAHOMA STATE STANDARD DRAWINGS FOR SIGNS. STANDARD DRAWINGS ARE AVAILABLE FROM THE DEPARTMENT OF TRANSPORTATION. INTERPRETATIONS THAT MAY BE NECESSARY SHALL BE REFERRED TO THE ENGINEER.

SIGN SHEETING

REFLECTORIZATION OF TRAFFIC CONTROL DEVICES SHALL BE BY MEANS OF WIDE ANGLE, FLAT TOP REFLECTIVE SHEETING MEETING THE REQUIREMENTS OF 2009, OKLAHOMA STANDARD SPECIFICATIONS.

SIGN INSTALLATION

ALL SIGNS SHALL BE SECURELY PLACED OR WEIGHTED TO PREVENT BLOWING OVER. ROCKS, BROKEN CONCRETE OR OTHER SUCH OBJECTS SHALL NOT BE CONSIDERED AN ACCEPTABLE SUBSTITUTE FOR SAND BAGS WHEN USED TO OBTAIN ADDED STABILITY FOR MOVABLE SIGNS AND BARRICADES.

SPACING OF SIGNING, ON THE PLANS OR TCS STANDARDS, SHOULD BE NO LESS THAN THE DISTANCES SHOWN. THE DISTANCE BETWEEN SIGNS SHOULD BE INCREASED ON HIGH SPEED OR MORE HEAVILY TRAVELED HIGHWAYS, OR WHERE SIGHT DISTANCE IS RESTRICTED.

IN ALL CONSTRUCTION ZONES, THE 48 INCH X 48 INCH WARNING SIGNS SHALL HAVE ATTACHED THERETO FLORESCENT FLAGS AND TYPE "A" WARNING LIGHTS. THIS SHALL ALSO APPLY WHEN SIGNS ARE USED ON BOTH SIDES OF THE ROADWAY. ADDITIONAL FLASHING LIGHTS MAY BE REQUIRED WHEN SO DESIRED BY THE ENGINEER.

ALL DIAMOND SHAPED CONSTRUCTION WARNING SIGNS ON EXPRESSWAYS OR FREEWAYS SHALL BE 48 INCH X 48 INCH, WITH THE APPROPRIATE ADVISORY SIGN WHERE REQUIRED UNLESS OTHERWISE NOTED IN THE PLANS.

DUE TO THE TEMPORARY NATURE OF CONSTRUCTION, SIGNS WHICH ARE 33 S.F. AND OVER WILL HAVE NO REINFORCING STEEL IN THEIR FOOTINGS.

ALL SIGNS AND SIGN ASSEMBLIES WITH A TOTAL SURFACE AREA OF 10 S.F. OR MORE SHALL BE INSTALLED ON TWO (2) POSTS. THE EXCEPTION BEING SINGLE ROUTE MARKER ASSEMBLIES.

SIGNS MOUNTED ON BARRICADES SHALL BE MOUNTED AS HIGH AS NECESSARY TO BE VISIBLE.

BARRICADES

ONE (1) WING BARRICADE SHALL BE SET ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN. THE EXCEPTIONS ARE MINOR CROSS STREETS AND SECTION LINE ROADS WHICH INTERSECT THE WORK AREA.

WING BARRICADES SHALL BE INSTALLED ON TWO (2) BREAKAWAY POSTS.

WORK DURATION

THE FIVE CATEGORIES OF WORK DURATION AND THIER TIME AT A LOCATION SHALL BE:
A) LONG-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B) INTERMEDIATE-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORKLASTING MORE THAN 1 HOUR.
C) SHORT-TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D) SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E) MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

LIGHTING

TYPE "A" WARNING LIGHTS SHALL BE USED ON BARRICADES (AS REQUIRED) AND WARNING SIGNS.

TYPE "C" WARNING LIGHTS MAY BE USED ON VERTICAL PANELS (OPTIONAL).

CONSTRUCTION NOTES

SHOULD THE REQUIRED WORK ON ANY PROJECT, INCLUDING ANY TRAFFIC CONTROL, OVERLAP OR OTHERWISE INTERFERE WITH THE ON-GOING WORK OR TRAFFIC CONTROL OF ANOTHER PROJECT, IT SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS TO COORDINATE THEIR WORK ACTIVITIES TO FACILITATE THE SAFE MOVEMENT OF TRAFFIC THROUGHOUT OR AROUND THEIR COLLECTIVE WORK AREAS. ANY SUCH RECOMMENDED CHANGES SHALL BE SUBMITTED IN WRITING TO EACH PROJECT RESIDENT ENGINEER FOR REVIEW AND APPROVAL.

ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC OR OTHERWISE TAKEN OUT OF SERVICE. DEVICES SHALL NOT BE STORED ALONG THE ROADWAY, WITHIN 15 FEET (15') OF AN OPEN DRIVING LANE, EITHER BEFORE OR AFTER THEY ARE TO BE USED UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE TEMPORARY TRAFFIC CONTROL ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS 15 FEET (15') SETBACK, THE CONTRACTOR SHALL DETERMINE ALTERNATE LOCATIONS AND REQUEST THE ENGINEERS APPROVAL TO USE THEM.

TRAFFIC CONTROL DEVICES, WARNING DEVICES, AND BARRIERS SHALL BE KEPT IN CORRECT POSITION, PROPERLY DIRECTED, CLEARLY VISIBLE AND CLEAN AT ALL TIMES. DAMAGED, DEFACED OR DIRTY DEVICES OR BARRICADES SHALL IMMEDIATELY BE REPAIRED, REPLACED OR CLEANED BY THE CONTRACTOR AND APPROVED FOR USE BY THE ENGINEER.

NO EQUIPMENT OR VEHICLES BELONGING TO THE CONTRACTOR, HIS SUB-CONTRACTORS OR EMPLOYEES SHALL BE PARKED OR STOPPED WITHIN 30 FEET (30') OF A LANE CARRYING TRAFFIC, AT ANY TIME, UNLESS REQUIRED BY ONGOING WORK OPERATIONS.

ALL DETOURS AND DIVERSIONS SHOULD BE IN PLACE, WITH SIGNING, STRIPING AND CHANNELIZING DEVICES, AS SHOWN IN THE PLANS OR STANDARD DRAWINGS, BEFORE THEY ARE OPENED TO TRAFFIC.

WHEN IT BECOMES NECESSARY TO CLOSE THE ROAD TO THROUGH TRAFFIC, NO LESS THAN SEVEN DAYS PRIOR TO THE CLOSURE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES DESCRIBING THE AFFECTED ROAD AND THE APPROXIMATE DURATION OF THE CLOSURE. THOSE TO BE NOTIFIED INCLUDE BUT ARE NOT LIMITED TO 1) LOCAL LAW ENFORCEMENT OFFICIALS, 2) LOCAL FIRE OFFICIALS, 3) AMBULANCE SERVICES, 4) LOCAL SCHOOL SUPERINTENDENT, 5) UNITED STATES POSTAL SERVICE, AND 6) CITY OR COUNTY ROAD SUPERINTENDENT.

ALL TEMPORARY TRAFFIC CONTROL DEVICES, AND THIER CONDITIONS THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT, SHALL MEET O.D.O.T.'S LATEST "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES". THE O.D.O.T. RESIDENT ENGINEER WILL MAKE FINAL DECISION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES BASED ON THE O.D.O.T. GUIDELINES.

NO GENDER BIAS SIGNS ARE ALLOWED.

ARROW DISPLAY

USE OF AN ARROW DISPLAY, IN THE ARROW OR CHEVRON MODE, SHALL BE LIMITED TO STATIONARY OR MOVING LANE CLOSURES.

AN ARROW DISPLAY, IN THE CAUTION MODE, SHALL BE USED ONLY FOR SHOULDER WORK, BLOCKING THE SHOULDER, ROADSIDE WORK NEAR THE SHOULDER, OR FOR MOBILE OPERATIONS (I.E. STRIPING).

AN ARROW DISPLAY IN THE ARROW OR CHEVRON MODE, SHALL NOT BE USED ON A TWO-LANE, TWO-WAY ROADWAY FOR TEMPORARY ONE-LANE OPERATION.

AN ARROW DISPLAY SHALL NOT BE USED ON A MULTI-LANE ROADWAY TO LATERALLY SHIFT TRAFFIC.

CHANNELIZING DEVICES

IN THOSE AREAS WHERE DRIVERS ARE ASKED TO MAKE A DECISION OR MUST BE GUIDED THROUGH A PRECISE MOVEMENT, BY USE OF CHANNELIZING DEVICES, IT IS ESPECIALLY IMPORTANT TO PROVIDE A CLEARLY DEFINED PATH. EXAMPLES OF THIS COULD BE IN DESIGNING A TEMPORARY GORE OR TURNING RADIUS. IN SUCH AREAS THE SPACING OF CHANNELIZING DEVICES MAY BE REDUCED TO 10 FEET FOR SPEEDS OF 40 M.P.H. OR LESS, AND 20 FEET FOR SPEEDS GREATER THAN 40 M.P.H.

WHEN CHANNELIZING DEVICES ARE USED TO DIRECT TRAFFIC ACROSS EXISTING LANE LINES OR EDGE LINES, THE SPACING BETWEEN CHANNELIZING DEVICES SHALL BE REDUCED 50%. SPACING SHOULD ALSO BE REDUCED WHEN CHANNELIZING DEVICES ARE PLACED ON CURVES, HILLS, OR NEXT TO POTENTIAL HAZARDS.

ALL TRAFFIC CONTROL CHANNELIZING DEVICES SHALL MEET MUTCD COLOR REQUIREMENTS.

FLAGGERS

FLAGGERS MUST BE CLEARLY VISIBLE TO APPROACHING TRAFFIC FOR A DISTANCE SUFFICIENT TO PERMIT PROPER RESPONSE BY MOTORISTS TO THE FLAGGING INSTRUCTIONS, AND TO PERMIT TRAFFIC TO REDUCE SPEED OR STOP BEFORE ENTERING THE TEMPORARY TRAFFIC CONTROL ZONE. FLAGGERS SHALL BE POSITIONED TO MAINTAIN MAXIMUM COLOR CONTRAST BETWEEN THE FLAGGER'S REFLECTIVE CLOTHING AND EQUIPMENT AND THE WORK AREA BACKGROUND.

DURING HOURS OF DARKNESS, FLAGGER STATIONS SHALL BE ILLUMINATED SUCH THAT THE FLAGGER WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC. LIGHTS TO BE USED FOR ILLUMINATING THE STATION SHALL BE APPROVED BY THE ENGINEER. REFLECTORIZED PADDLES AND REFLECTORIZED VESTS, SHIRTS OR JACKETS SHALL BE USED FOR NIGHTTIME FLAGGING.

UNLESS OTHERWISE SPECIFIED IN THE PLANS, THE COST OF FLAGGING OPERATIONS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

MINIMUM STANDARDS FOR TRAFFIC CONTROL DEVICES

(1) WARNING LIGHTS (TYPE A FLASHERS AND TYPE C STEADY BURN)
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE TOTAL NUMBER OF LIGHTS BEING USED AT ANY ONE TIME SHALL BE FULLY OPERATIONAL.
- (B) NOT MORE THAN THREE (3) LIGHTS ADJACENT TO ONE ANOTHER SHALL BE FAILING.

(2) ARROW DISPLAY
- (A) WHEN IN ARROW MODE, NO MORE THAN TWO (2) LAMPS IN THE STEM AND ZERO (0) LAMPS IN THE HEAD SHALL BE FAILING. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (B) WHEN IN CAUTION MODE (CORNERS), A MINIMUM OF FOUR (4) LAMPS SHALL BE OPERATIONAL. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (C) ANY LAMP WHICH IS LIGHTED BUT IMPROPERLY ALIGNED SHALL NOT BE CONSIDERED OPERATIONAL.

(3) CHANGEABLE MESSAGE SIGNS
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE PIXELS SHALL BE FUNCTIONAL IN EACH CHARACTER MODULE.
- (B) NO SANDBAG BALLASTING OVER 3 FEET IN HEIGHT.

(4) PAVEMENT MARKING TAPE
- (A) NOT MORE THAN TEN (10) PERCENT OF ALL TAPE, PAINT, MESSAGE OR SYMBOL SHALL BE MISSING.
- (B) NOT MORE THAN TWO (2) CONSECUTIVE DASHED LINES SHALL BE MISSING.
- (C) NOT MORE THAN FIFTY (50) CONTINUOUS FEET OF A SOLID LINE SHALL BE MISSING.

(5) CONSTRUCTION ZONE PAVEMENT MARKERS
- (A) NOT MORE THAN TEN (10) PERCENT OF THE TOTAL NUMBER OF MARKERS SHALL BE MISSING.
- (B) NOT MORE THAN THREE (3) CONSECUTIVE MARKERS SHALL BE MISSING.

STRIPING

WHENEVER THE WORK CAUSES THE OBLITERATION OF PAVEMENT MARKINGS, EITHER TEMPORARY OR PERMANENT MARKINGS SHALL BE IN PLACE PRIOR TO OPENING THE ROADWAY TO TRAFFIC. CENTERLINE PAVEMENT MARKINGS SHALL BE PROVIDED AT ALL TIMES FOR ROADWAYS OPEN TO TRAFFIC.

THE APPLICATION SURFACES FOR PAVEMENT MARKINGS SHALL BE FREE OF DUST, DIRT, MOISTURE OR OTHER FOREIGN MATTER WHICH WOULD INTERFERE WITH ADHESION. INSTALLATION OF ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED IMMEDIATELY AHEAD OF THE PERMANENT STRIPING OPERATIONS OR RE-STRIPING FOR FOLLOWING CONSTRUCTION PHASES.

WHEN REMOVABLE PAVEMENT MARKINGS TAPE IS TO BE INSTALLED ON NEW CONCRETE PAVEMENT, THE CURING COMPOUND SHALL BE REMOVED PRIOR TO INSTALLATION.

IF REMOVABLE PAVEMENT MARKING TAPE IS INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND FAILS DURING THE FIRST SIX MONTHS OF SERVICE, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. REPLACEMENT SHALL BE ACCOMPLISHED IN A TIMELY MANNER UPON BEING NOTIFIED, BY THE ENGINEER, OF SUCH FAILURE.

PILOT CAR

WHEN LANE CLOSURES ARE REQUIRED ON TWO-LANE /TWO-WAY ROADWAYS, THE CONTRACTOR MAY, AT HIS OPTION, UTILIZE A PILOT CAR. IF THE CONTRACTOR ELECTS TO USE A PILOT CAR, CHANNELIZING DEVICES ALONG THE CENTERLINE WILL NOT BE REQUIRED. THE PILOT CAR OPERATOR SHALL BE IN RADIO CONTACT WITH PERSONNEL IN THE TEMPORARY TRAFFIC CONTROL ZONE. MAXIMUM SPEED OF THE PILOT CAR THROUGH THE WORK AREA SHALL BE 25 M.P.H. FULL COMPENSATION FOR FURNISHING AND OPERATING THE PILOT CAR, (INCLUDING DRIVER, RADIOS, AND ANY OTHER EQUIPMENT OR LABOR REQUIRED) SHALL BE CONSIDERED AS INCLUDED IN THE COST OF OTHER ITEMS OF WORK.

MISCELLANEOUS

TRAFFIC CONDITIONS MAY NECESSITATE CHANGES IN THE USE AND/OR QUANTITIES OF THE TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS OR IN THE STANDARDS. ANY SUCH CHANGES ARE SUBJECT TO APPROVAL BY THE ENGINEER.

ALL CHANNELIZING DEVICES PROVIDED ON THIS PROJECT SHALL BE IN GOOD CONDITION AND SHALL BE APPROVED FOR USE ON THIS PROJECT BY THE ENGINEER.

THE REGULATORY SPEED LIMITS THROUGH THE WORK ZONE MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER WITH THE DOCUMENTED APPROVAL OF THE DIVISION ENGINEER IN ACCORDANCE WITH TITLE 47 OF THE OKLAHOMA MOTOR VEHICLE LAWS.

THE TERMINATION AREA EXTENDS FROM THE DOWNSTREAM END OF THE WORK AREA TO THE TEMPORARY TRAFFIC CONTROL DEVICE SUCH AS "END ROAD WORK" SIGNS, IF POSTED. A SPEED SIGN, OR OTHER SIGNS MAY BE USED TO INFORM ROAD USERS THAT THEY CAN RESUME NORMAL OPERATIONS.

THE CONSTRUCTION SIGNING AND BARRICADE CONTRACTOR SHOULD AFFIX THEIR COMPANY NAME AND/OR LOGO INCONSPICUOUSLY ON EACH TRAFFIC CONTROL DEVICE.

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 3/21/17

OKLAHOMA DEPARTMENT OF TRANSPORTATION

TRAFFIC STANDARD
TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL CONSTRUCTION NOTES

2009 SPECIFICATIONS | TCS1-1 | 01 | T-501

$$date$$

DESCRIPTION	REVISIONS	DATE

TAPER LENGTH CRITERIA FOR WORK ZONES

SPEED LIMIT M.P.H.	"L" FORMULA	"L" TAPER LENGTH (MINIMUM) (FT) 10' OFFSET	11' OFFSET	12' OFFSET	NUMBER OF CHANNELIZING DEVICES REQUIRED (MINIMUM) 10' OFFSET	11' OFFSET	12' OFFSET	SPACING CHANNELIZING DEVICES (MAXIMUM) ① THRU TAPER SECTION (FT.)	② THRU TANGENT SECTION (FT.)	MAXIMUM HORIZONTAL ALIGNMENT THRU DETOUR (DEGREE) (S=D)	SPEED LIMIT M.P.H.
20	$L = \frac{W \times S^2}{60}$	70	75	80	5	5	5	20	40	—	20
25		105	115	125	6	6	6	25	50	—	25
30		150	165	180	6	7	7	30	60	15	30
35		205	225	245	7	8	9	35	70	11	35
40		265	295	320	8	9	9	40	80	8	40
45	$L = W \times S$	450	495	540	11	12	13	45	90	8	45
50		600	550	600	11	12	13	50	100	9	50
55		660	605	660	12	14	15	50	100	6	55
60		600	660	720	13	15	16	50	100	3	60
65		650	715	780	14	16	17	50	100	2.5	65
70		700	770	840	15	17	18	50	100	2	70
75		750	825	900	16	18	19	50	100	1.8	75

NOTES:

① RECOMMENDED SIGNING TO BE USED THRU LANE TAPER IS (1) DW1-8 ON EVERY OTHER DRUM.

② RECOMMENDED SIGNING TO BE USED THRU TANGENT LANES IS (1) R4-7A(R) OR (1) R4-7A(L) (AS APPLIED) ON EVERY OTHER DRUM.

L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED OR OFF-PEAK 85 PERCENTILE SPEED IN MPH

TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPERS	
MERGING TAPER	L MINIMUM
SHIFTING TAPER	1/2 L MINIMUM
SHOULDER TAPER	1/3 L MINIMUM
TWO-WAY TRAFFIC TAPER	100 FEET MAXIMUM
DOWNSTREAM TAPERS (USE IS OPTIONAL)	100 FEET PER LANE

RECOMMENDED CLEAR ZONE DISTANCE (FT) (CONSTRUCTION WORK ZONES)

DESIGN SPEED	DESIGN ADT	FILL SLOPES 6:1 OR FLATTER	5:1 OR 4:1	3:1	CUT SLOPES 3:1	4:1 OR 5:1	6:1 OR FLATTER
40 MPH OR LESS	UNDER 750	4	4	SEE NOTE 3	4	4	4
	750-1500	5	6		6	6	6
	1500-6000	6	7		6	6	6
	OVER 6000	7	8		7	7	7
45-50 MPH	UNDER 750	6	6		4	4	5
	750-1500	7	8		6	6	7
	1500-6000	8	10		6	7	8
	OVER 6000	10	12		7	9	10
55 MPH	UNDER 750	6	7		4	5	6
	750-1500	8	10		6	7	8
	1500-6000	10	12		7	9	10
	OVER 6000	11	13		8	10	11
60 MPH	UNDER 750	8	10		5	6	7
	750-1500	10	13		6	8	10
	1500-6000	13	16 ★		7	9	12
	OVER 6000	15	18 ★		10	12	13
65-70 MPH	UNDER 750	9	10		5	7	7
	750-1500	12	14		6	9	10
	1500-6000	14	17 ★		8	11	13
	OVER 6000	15	19 ★		11	13	14

NOTES:

★ THE CLEAR ZONE MAY BE LIMITED TO 13 FEET FOR PRACTICALITY AND TO PROVIDE A CONSISTENT ROADWAY TEMPLATE.

(1) ALL DISTANCES ARE MEASURED FROM EDGE OF THE TRAVEL LANE.

(2) FOR CLEAR ZONES, THE "DESIGN ADT" WILL BE THE TOTAL ADT ON TWO-WAY ROADWAYS AND DIRECTIONAL ADT ON ONE-WAY ROADWAYS (E.G., RAMPS AND ONE ROADWAY OF A DIVIDED HIGHWAY).

(3) FILL SLOPES WHICH ARE 3:1 OR STEEPER ARE CRITICAL AND MAY REQUIRE A BARRIER. THEREFORE THERE IS NOT A CLEAR ZONE APPLICATION.

FLARE RATES FOR CONCRETE MEDIAN BARRIER IN TEMPORARY TRAFFIC CONTROL ZONES

SPEED ★	FLARE RATE (MINIMUM)
40 M.P.H.	9 TO 1
45 M.P.H.	10 TO 1
50 M.P.H.	11 TO 1
55 M.P.H.	12 TO 1
60 M.P.H.	13 TO 1
65 M.P.H.	14 TO 1
70 M.P.H.	15 TO 1
75 M.P.H.	16 TO 1

★ POSTED SPEED LIMIT PRIOR TO CONSTRUCTION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED ★ (MPH)	LENGTH (FEET)
20 M.P.H.	115
25 M.P.H.	155
30 M.P.H.	200
35 M.P.H.	250
40 M.P.H.	305
45 M.P.H.	360
50 M.P.H.	425
55 M.P.H.	495
60 M.P.H.	570
65 M.P.H.	645
70 M.P.H.	730
75 M.P.H.	820

★ POSTED SPEED, OFF-PEAK 85th PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

RECOMMENDED DISTANCE BETWEEN SIGNS (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	200
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,500	2,640

PAVEMENT MARKINGS THROUGH TEMPORARY TRAFFIC CONTROL ZONE

DRIVING SURFACE		FLEX TAB MARKERS	TAPE (REMOVABLE)	TAPE (NON-REMOVABLE)	PAINT	CONSTRUCTION ZONE PAVEMENT MARKERS
ASPHALT	EXISTING PAVEMENT TO BE REMOVED OR OVERLAYED IN THE NEXT PHASE	X	X	X	X	X
	EXISTING PAVEMENT TO BE LEFT IN PLACE THRU THE NEXT PHASE	X	X			X
	INTERMEDIATE LIFT	X	X	X	X	X
	MILLED SURFACE	X	X	X	X	X
	FINAL LIFT	X	X			
CONCRETE	EXISTING PAVEMENT TO BE REMOVED OR OVERLAYED IN THE NEXT PHASE	X	X	X	X	X
	EXISTING PAVEMENT TO BE LEFT IN PLACE THRU THE NEXT PHASE	X	X			X
	FINAL SURFACE	X	X		X	X

NOTE:
USE OF NON-REMOVABLE TAPE (FOLLBACK) SHALL BE LIMITED TO THESE CONDITIONS SHOWN IN THE TABLE.

CROSSOVER CRITERIA FOR WORK ZONES

WIDTH OF MEDIAN (W) (FT)	LATERAL SHIFT - (F) (FT)	V.	LENGTH OF CROSSOVER - L② ★ (FT) 30 M.P.H.	35 M.P.H.	40 M.P.H.	45 M.P.H.	50 M.P.H.	55 M.P.H.	60 M.P.H.	65 M.P.H.	70 M.P.H.	75 M.P.H.
		D.	15*	11*	8*	6*	5*	4*	3*	2.5*	2*	1.8*
		R.	282	521	728	955	1148	1433	1910	2292	2865	3183
20	32		219	256	301	348	382	427	493	541	605	637
30	42		259	293	344	398	437	488	563	618	692	730
40	52		377	325	382	443	485	543	628	688	770	812
50	62		301	354	417	483	529	593	685	751	841	886
60	72		324	381	448	519	570	638	736	809	906	955
70	82		344	405	478	554	608	680	787	863	966	1,018
80	92		363	428	505	586	643	720	833	914	1,023	1,078
90	102		381	450	531	616	676	758	877	962	1,076	1,134
100	112		398	470	555	644	708	793	918	1,007	1,127	1,189
110	122		414	489	578	671	738	827	956	1,050	1,176	1,240
120	132		429	508	601	698	767	860	995	1,092	1,223	1,290

★ CROSSOVER = REVERSE CURVE CONNECTION TYING TWO (2) PARALLEL ROADWAYS.

APPROVED BY TRAFFIC ENGINEER: Charles Gardner DATE: 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL TABLES AND CHARTS

2009 SPECIFICATIONS

TC52-1 | 00

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