OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

THE JAMES W. SHOCKNESSY OHIO TURNPIKE

PROJECT NO. 43-16-07 (REBID)
BRIDGE DECK JOINT REPAIRS

OHIO TURNPIKE OVER NORTH COAST INLAND TRAIL M.P. 83.3,
SANDUSKY COUNTY, OHIO

INDEX OF SHEETS

TITLE SHEET	1
DECK JOINT DETAILS	2
DECK JOINT DETAILS	3
MAINTENANCE OF TRAFFIC	4
MAINTENANCE OF TRAFFIC	5

APPROVED FOR
THE OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

BY Anthony D. Yanc
CHIEF ENGINEER

8-23-16
DATE

ENGINEERS SEAL:

STATE OF OHIO
DAVID EARL BUCHANAN
PE-78416
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: David Buchanan
DATE: 7/19/16

UNDERGROUND UTILITIES

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CALL TWO WORKING DAYS
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1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

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SERVICE CALL: 1-800-925-0988

OHIO TURNPIKE DIVISION SUPERINTENDENT:
(440) 234-2081 X 5700

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION STANDARD DRAWINGS

TCR-1	TEMPORARY TRAFFIC CONTROL GENERAL NOTES
TCR-2	TEMPORARY TRAFFIC CONTROL DETAILS, LEGEND, NOTES, AND STANDARD SINGLE LANE CLOSURE
TCR-10	TEMPORARY TRAFFIC CONTROL DOUBLE LANE CLOSURE

OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS

NONE

OHIO DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS

SS 800	REVISIONS TO THE 2010 CONSTRUCTION & MATERIAL SPECIFICATIONS
SS 821	ARROW BOARD
SS 921	ARROW BOARD

ST001.dwg: 8/22/16 - 4:08pm

EXPANSION JOINT - REMOVAL SECTION

EXPANSION JOINT - PROPOSED SECTION

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS (CMS) DATED JANUARY, 2010, AND THE SPECIAL PROVISIONS CONTAINED IN THE CONTRACT DOCUMENTS SHALL GOVERN THIS PROJECT.

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION FOR STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL, 2004.

DESIGN DATA

CONCRETE CLASS FS – COMPRESSIVE STRENGTH 4.5 KSI (BRIDGE DECK)
REINFORCING STEEL – ASTM A615 OR A 996 GRADE 60 (Fy = 60 KSI)

EXISTING STRUCTURE VERIFICATION

THE ORIGINAL CONSTRUCTION PLANS OR THE DECK REPLACEMENT DESIGN PLANS MAY BE EXAMINED BY PROSPECTIVE BIDDERS IN THE OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION OFFICE LOCATED AT:

682 PROSPECT STREET
BEREA, OHIO 44017
(440) 234-2081

EXISTING STRUCTURE VERIFICATION

DETAILS, DIMENSIONS, AND ELEVATIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS, DIMENSIONS, ELEVATIONS, AND SKEW ANGLES WHICH SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.

ITEM 511 – CLASS FS CONCRETE, BRIDGE DECK, AS PER PLAN

THE CONCRETE SHALL BE CLASS FS PER CMS 499.05.A AND CONFORM TO THE REQUIREMENTS OF CMS ITEM 511. HOWEVER, DO NOT SEAL WITH HMWM SEALING. THE FINISH SHALL MATCH THE EXISTING.

SP 614 – MAINTAINING TRAFFIC

IN ADDITION TO THE REQUIREMENTS OF SP 614, THE CONTRACTOR SHALL PROVIDE AND INSTALL A TEMPORARY ROAD PLATE OVER ALL OPENINGS IN THE DECK DURING PERIODS WHEN THE CONTRACTOR IS NOT ACTIVELY WORKING. THE TEMPORARY ROAD PLATES, INCLUDING INSTALLING AND REMOVING, SHALL BE INCIDENTAL TO ITEM SP 614, MAINTAINING TRAFFIC.

JOINT SETTING TABLE

TEMPERATURE (FAHRENHEIT)	OPEN JOINT DIMENSION	CONCRETE DIMENSION
30°	3⅜"	1'-0⅞"
40°	3¼"	1'-1"
50°	3⅛"	1'-1⅛"
60°	3"	1'-1¼"
70°	2⅞"	1'-1⅜"
80°	2¾"	1'-1½"
90°	2⅝"	1'-1⅝"
100°	2½"	1'-1¾"

NOTES:

1. ALL UNSOUND CONCRETE SHALL BE REMOVED PRIOR TO THE POURING OF THE PROPOSED CONCRETE. LENGTH OF PROPOSED CONCRETE TO BE ADJUSTED BASED ON SETTING TEMPERATURE.
2. FOR MOT PLANS, SEE SHEETS 4/5 AND 5/5.
3. REBAR CLEARANCE MEASURED FROM THE EDGE OF REBAR TO THE FACE OF CONCRETE SHALL BE 2" MINIMUM.
4. MINIMUM REBAR LAP LENGTHS ARE AS FOLLOWS:

NO. 6 (HORIZONTAL) 3'-0"

LEGEND:

ITEM SP 202 – PORTIONS OF STRUCTURE REMOVED

DESIGN AGENCY
AECOM
AKRON, CLEVELAND, COLUMBUS
564 WHITE POND DRIVE
AKRON, OHIO 44320-1100
(330) 836-9111

NO.	REVISIONS	BY	DATE
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.	.	.	.
.	.	.	.

DESIGNED	CHECKED
DEB	SAM
DRAWN	IN CHARGE
TMR	DSB

DECK JOINT DETAILS
OHIO TURNPIKE OVER NORTH COAST INLAND TRAIL
SANDUSKY COUNTY
M.P. 83.3

PROJECT 43-16-07
DATE: 07/08/16

1 / 2

2/5

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

SX001.dwg; 7/20/16 – 11:45am

PLAN

PLAN

TYPE 2

REINFORCING TABLE									
MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS				
					A	B	C	D	INC.
S401	125	2'–3"	188	2	0'–11"	0'–7"	0'–11"		
S601	10	30'–0"	451	ST					
S602	2	26'–5"	80	ST					
S603	2	18'–0"	55	ST					
S604	2	9'–10"	30	ST					
S605	2	11'–10"	36	ST					
		TOTAL	840						

ESTIMATED QUANTITIES				
ITEM	TOTAL	UNIT	DESCRIPTION	REFERENCE SHEET
SP 202	LUMP	LUMP SUM	PORTIONS OF STRUCTURE REMOVED	
SP 509	840	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60	
511	12	CUBIC YARD	CLASS FS CONCRETE, BRIDGE DECK, AS PER PLAN	2 OF 5
SP 614	LUMP	LUMP SUM	MAINTAINING TRAFFIC	

NOTE:

1. FOR ADDITIONAL NOTES AND LEGEND, SEE SHEET (2/5).
2. IN LIEU OF LAP SPLICES, THE CONTRACTOR MAY USE MECHANICAL CONNECTORS AT NO ADDITIONAL COST TO THE COMMISSION.

SX002.dwg: 7/19/16 – 1:56pm

DESIGN AGENCY
AKRON, CLEVELAND, COLUMBUS
564 WHITE POND DRIVE
AKRON, OHIO 44320–1100
(330) 836–9111
AECOM

NO.	REVISIONS	BY	DATE

DESIGNED DEB | CHECKED SAM
DRAWN TMR | IN CHARGE DSB

DECK JOINT DETAILS
OHIO TURNPIKE OVER NORTH COAST INLAND TRAIL
SANDUSKY COUNTY
M.P. 83.3

PROJECT 43-16-07
DATE: 07/08/16

2 / 2

3 / 5

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

STAGE 1

EXISTING LANE CLOSURE
AS PER OTIC SCD TCR-2
(EXCEPT AS NOTED)

STAGE 2

NIGHT TIME LANE CLOSURE
AS PER OTIC SCD TCR-10 AND SP104
(EXCEPT AS NOTED)

NOTE:

1. UPON COMPLETION OF THE PROJECT, ALL MOT DEVICES SHALL BE RETURNED TO THE OTIC ELMORE MAINTENANCE GARAGE.

MOT1.dwg; 7/19/16 – 1:56pm

DESIGN AGENCY
AECOM
AKRON CLEVELAND COLUMBUS
5454 WHITE POND DRIVE
AKRON, OHIO 44320-1100
(330) 836-9111

NO.	REVISIONS	BY	DATE
-	-	-	-
-	-	-	-
-	-	-	-

DESIGNED	CHECKED	IN CHARGE
TKI	KPW	DSB
DRAWN		
TKI		

MAINTENANCE OF TRAFFIC
STAGE 1 AND STAGE 2

PROJECT 43-16-07
DATE: 07/08/16

1 / 2

4 / 5

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

STAGE 3

DAY TIME LANE CLOSURE
AS PER OTIC SCD TCR-2
(EXCEPT AS NOTED)

STAGE 4

NIGHT TIME LANE CLOSURE
AS PER OTIC SCD TCR-10 AND SP104
(EXCEPT AS NOTED)

NOTE:

1. UPON COMPLETION OF THE PROJECT, ALL MOT DEVICES SHALL BE RETURNED TO THE OTIC ELMORE MAINTENANCE GARAGE.

MOT2.dwg: 7/19/16 – 1:56pm

DESIGN AGENCY
AECOM
AKRON CLEVELAND COLUMBUS
5454 WHITE POND DRIVE
AKRON, OHIO 44320-1100
(330) 836-9111

NO.	REVISIONS	BY	DATE
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DESIGNED	CHECKED
TKI	KPW
DRAWN	IN CHARGE
TKI	DSB

MAINTENANCE OF TRAFFIC
STAGE 3 AND STAGE 4

PROJECT 43-16-07
DATE: 07/08/16

2 / 2

5 / 5

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

GENERAL NOTES

(1) ALL TRAFFIC CONTROL DEVICES, DRUMS, TRAFFIC CONTROL SIGNS, FLASHING ARROW PANELS, FLAGGERS, ETC., AS SHOWN AND LOCATED ON THE TEMPORARY TRAFFIC CONTROL DRAWINGS, SHALL BE INCORPORATED FOR THE VARIOUS TYPES OF WORK AREAS UNDER NORMAL TRAFFIC CONDITIONS. IF SPECIAL TRAFFIC CONDITIONS EXIST, THE TEMPORARY TRAFFIC CONTROL PLANS MAY HAVE TO BE MODIFIED. HOWEVER, NO MODIFICATIONS OF THE TEMPORARY TRAFFIC CONTROL PLANS SHALL BE MADE UNLESS APPROVED BY THE CHIEF ENGINEER.

(2) THE CONTRACTOR'S VEHICLES AND EQUIPMENT MAY BE MOVED ACROSS THE MEDIAN AT DESIGNATED CROSSINGS ONLY UPON PRIOR AUTHORIZATION OF THE CHIEF ENGINEER OR HIS DULY AUTHORIZED REPRESENTATIVE AND IN STRICT COMPLIANCE WITH THE PROCEDURES SO DESIGNATED BY THE CHIEF ENGINEER. WITH THE EXCEPTION OF SUPERVISORS' VEHICLES AND ZONE TRUCKS, A FLAGGER IS REQUIRED TO ASSIST MEDIAN CROSSINGS OF ALL CONSTRUCTION VEHICLES AND EQUIPMENT. A FLAGGER SHALL BE STATIONED AT EACH LOCATION WHERE VEHICLES AND EQUIPMENT ARE REQUIRED TO ENTER, EXIT, OR CROSS ACTIVE TRAFFIC LANES WHEN ENTERING OR EXITING THE WORK ZONES.

(3) SINCE FLAGGERS ARE RESPONSIBLE FOR HUMAN SAFETY AND MAKE THE GREATEST NUMBER OF CONTACTS WITH THE TRAVELING PUBLIC OF ALL CONSTRUCTION PERSONNEL, IT IS IMPORTANT THEY ARE MENTALLY ALERT, COURTEOUS BUT WITH A FIRM MANNER, PROPERLY ATTIRED WITH A NEAT APPEARANCE, AWARE OF THEIR RESPONSIBILITY FOR THE SAFETY OF THE MOTORISTS AND CONSTRUCTION PERSONNEL, AND INFORMED OF THE EXACT TRAFFIC MOVEMENTS THAT THEY ARE TO CONTROL. FLAGGERS SHALL WEAR APPROVED VESTS. FLAGGERS ARE TO USE RED FLAGS. (RED FLAGS SHALL BE A MINIMUM OF 24"x24" IN SIZE.)

(4) AT ALL ACTIVE HIGH SPEED CROSSOVERS, THE EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED AND CONSTRUCTION ZONE MARKERS AND EDGE LINE SHALL BE INSTALLED TO THE LIMITS AS INDICATED ON THE TRAFFIC CONTROL DRAWINGS PRIOR TO OPENING THE ZONE TO TRAFFIC. REMOVAL OF THE EXISTING PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NOTE (7) AND (8).

(5) SUPPLEMENTAL GUIDE SIGNS WITHIN A BI-DIRECTIONAL ZONE:

A) ADVANCE GUIDE SIGNS FOR SERVICE OR TOLL PLAZAS: WHEN BI-DIRECTIONAL TRAFFIC IS SITUATED SO THAT PERMANENT MAINLINE ADVANCED GUIDE SIGNS FOR SERVICE AND TOLL PLAZAS ARE NOT READILY VISIBLE TO THE RELOCATED TRAFFIC LANE, SUPPLEMENTAL GUIDE SIGNS SHALL BE INSTALLED ADJACENT TO THE APPROPRIATE BI-DIRECTIONAL TRAFFIC LANE TO ALERT MOTORISTS OF THE APPROACHING PLAZA OR EXIT.

B) ADVANCED GUIDE SIGNS FOR BI-DIRECTIONAL ZONES EXCEEDING TWO (2) MILES IN LENGTH: WHEN BI-DIRECTIONAL TRAFFIC ZONES EXCEED TWO (2) MILES IN LENGTH, SUPPLEMENTAL GUIDE SIGNS ARE TO BE PLACED EVERY 2 MILES TO INFORM MOTORISTS OF THE NUMBER OF MILES OF SINGLE LANE TRAFFIC REMAINING AS WELL AS THE POSTED CONSTRUCTION ZONE SPEED LIMIT.

(6) CONSTRUCTION ZONE MARKERS AND TEMPORARY CONCRETE BARRIERS SHALL BE PLACED IN ACCORDANCE WITH OTC STANDARD DRAWINGS.

(7) REMOVAL OF EXISTING LANE LINES SHALL INCLUDE THE PLACEMENT, MAINTENANCE, REMOVAL, AND DISPOSAL OF BLACKOUT TAPE APPROVED BY THE CHIEF ENGINEER. BLACKOUT TAPE INSTALLATION AND REMOVAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. TAPE WHICH FAILS TO ADHERE SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT TAPE SHALL NOT BE MEASURED FOR PAYMENT. MEASUREMENT OF THIS ITEM SHALL BE IN ACCORDANCE WITH SP641A AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO FURNISH, INSTALL, MAINTAIN, REMOVE AND DISPOSE OF BLACKOUT TAPE.

(8) REMOVAL OF EXISTING EDGE LINES SHALL BE IN ACCORDANCE WITH SP641B- REMOVAL OF PAVEMENT MARKINGS, GRINDING. MEASUREMENT AND PAYMENT OF THIS ITEM SHALL BE IN ACCORDANCE WITH SP641B AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO REMOVE THE EDGE LINE TO THE SATISFACTION OF THE ENGINEER.

(9) SHADOW VEHICLE: A MEDIUM TRUCK LOCATED A SHORT DISTANCE BEHIND A MOVING OPERATION WITH A TRUCK MOUNTED ATTENUATOR (TMA) AND CHANGEABLE MESSAGE BOARD (CMB) OR APPROPRIATE SIGN.

BARRIER VEHICLE: AN UNOCCUPIED MEDIUM DUTY OR HEAVIER TRUCK PARKED WITHIN A STATIONARY WORK ZONE PRIOR TO A LOCALIZED WORK AREA. THE TRUCK'S BRAKE SHOULD BE SET, THE TRANSMISSION PLACED IN PARK OR GEAR, AND THE FRONT WHEELS TURNED AWAY FROM THE WORK AREA.

ADVANCED WARNING VEHICLE: A VEHICLE LOCATED A CONSIDERABLE DISTANCE PRIOR TO A MOVING OR STATIONARY OPERATION. THIS VEHICLE MAY BE A PATROL CAR, MAINTENANCE VEHICLE, OR ZONE TRUCK WITH FLASHING LIGHTS. FOR ANY PLANNED OPERATIONS, A CHANGEABLE MESSAGE BOARD SHOULD ALSO BE UTILIZED.

(10) SCHEDULED DURATION OF WORK ZONES:

LONG TERM STATIONARY ZONES: MORE THAT 5 DAYS, POST MOUNTED SIGNS, REFLECTORIZED TRAFFIC DRUMS. (RESURFACING PROJECTS, 3RD LANE PROJECTS, ETC.)

INTERMEDIATE TERM STATIONARY ZONES: OVERNIGHT TO 5 DAYS, ROLL UP SIGNS ON X-FOOTPRINT SIGN STANDS, REFLECTORIZED TRAFFIC DRUMS. (FULL DEPTH PAVEMENT REPAIRS, ETC.)

SHORT TERM STATIONARY ZONES: FROM 1 TO 12 HOURS, SIGNS ON X-FOOTPRINT SIGN STANDS, 28" OR 42" CONES IN DAYTIME HOURS AND REFLECTORIZED 42" CONES OR TRAFFIC DRUMS AT NIGHTTIME. (CRACK SEALING OPERATIONS, RPM REFLECTOR REPLACEMENT, GUARDRAIL REPAIR, WASH-OUT REPAIRS, PAVEMENT BLOW-UPS, ETC.)

SHORT DURATION INTERMITTENT ZONES: LESS THAN 1 HOUR, APPROPRIATE TRUCK MOUNTED SIGNS. (SPRING CLEAN-UP, CATCH BASIN CLEANING, ETC.)

MOVING ZONES: SLOW MOVING CONTINUOUS OR MOVING WITH INTERMITTENT SHORT STOPS, SHADOW VEHICLE WITH A TMA AND CMB OR APPROPRIATE SIGN. (SWEEPING OPERATIONS, WEED SPRAYING, ROADWAY POLICING, POTHOLE REPAIR, DELINEATOR CLEANING / REPAIR / REPLACEMENT, RPM CASTING INSTALLATION, LINE STRIPING, ETC.)

(11) TRUCK MOUNTED ATTENUATORS (TMA) ARE CRASH CUSHIONS THAT ARE ATTACHED TO THE REAR OF PROTECTIVE VEHICLES TO REDUCE THE SEVERITY OF REAR-END COLLISIONS. TMA'S ARE INTENDED TO BE USED ON SHADOW VEHICLES IN MOVING OPERATIONS (THAT PARTIALLY OR TOTALLY ENCROACH ON THE PAVED SHOULDER OR TRAVELED LANE), OPERATIONS IN WHICH THE SHADOW VEHICLE IS BEING OCCUPIED, AND WHEN THERE ARE FEW OR NO ADVANCED WARNING SIGNS OR TRAFFIC CONTROL DEVICES. TMA'S ARE TO BE ATTACHED TO MEDIUM TRUCKS AND ARE TO BE LOCATED IN ADVANCE (AT THE BACK) OF MOVING OPERATIONS.

LANE DESIGNATIONS

DATE: 2/1/2016

STANDARD DRAWING

TEMPORARY TRAFFIC CONTROL GENERAL NOTES

TCR-1

1 / 1

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

TCR-01_1-8-16.dwg; 1/20/16 - 1:59pm

STANDARD SINGLE LANE CLOSURE
TWO & THREE-LANE ROADWAY

DETAILS

28" TRAFFIC CONE:

TRAFFIC CONES SHALL BE THE SLIMLINE OR TRIMLINE STYLE WITH THE BODY OF THE TRAFFIC CONE CONSTRUCTED OF POLYVINYL CHLORIDE MATERIAL. THE BASE OF THE TRAFFIC CONE SHALL BE CONSTRUCTED OF POLYVINYL CHLORIDE OR MOLDED RUBBER MATERIAL. THE CONE SHALL BE HOLLOW. THE NET WEIGHT OF THE CONE SHALL NOT BE LESS THAN 5 1/2 POUNDS.

THE EXTERIOR OF THE CONE SHALL BE HIGH VISIBILITY, FADE RESISTANT, IMPREGNATED FLUORESCENT ORANGE. THE GUIDE SHALL HAVE ONE RETROREFLECTIVE WHITE STRIPE ENCIRCLING THE CONE AND BE NOT LESS THAN 4" IN WIDTH. THE STRIPE SHALL BE PERMANENTLY APPLIED SO THAT THE TOP EDGE IS APPROXIMATELY 3" FROM THE CONE APEX.

EACH CONE IS TO HAVE A SLIP-OVER COLLAR BASE. THE SLIP-OVER COLLAR BASE SHALL BE BLACK IN COLOR AND SHALL BE CONSTRUCTED OF A RUBBER MATERIAL AND SHALL WEIGH NOT LESS THAN 5 POUNDS. THE SLIP-OVER COLLAR BASE SHALL BE FULLY COMPATIBLE WITH THE PHYSICAL PROPERTIES OF THE CONE.

A ONE-PIECE TRAFFIC CONE MEETING THE ABOVE MATERIAL REQUIREMENTS AND HAVING A NET WEIGHT OF APPROXIMATELY 10 1/2 POUNDS, WITH THE WEIGHT DISTRIBUTED TO ENSURE MAXIMUM STABILITY, MAY BE USED.

42" TRAFFIC CONE:

42" TRAFFIC CONES SHALL BE A TWO PIECE DESIGN CONSISTING OF A HOLLOW STEM AND A WEIGHTED BASE. THE STEM SHALL BE MANUFACTURED FROM ULTRAVIOLET STABILIZED, HIGH VISIBILITY ORANGE IMPACT RESISTANT LOW DENSITY POLYETHYLENE AND SHALL HAVE AN INTEGRAL MOLDED HANDLE AT THE TOP OF THE STEM AND SHALL BE CERTIFIED BY THE MANUFACTURER TO MEET NCHRP 350 CRASH TEST STANDARDS.

EACH CONE IS TO HAVE A SLIP-OVER COLLAR BASE. THE SLIP-OVER COLLAR BASE SHALL BE BLACK IN COLOR AND SHALL BE MANUFACTURED FROM MOLDED RUBBER MATERIAL AND SHALL WEIGH 16 POUNDS. THE SLIP-OVER COLLAR BASE SHALL BE FULLY COMPATIBLE WITH THE PHYSICAL PROPERTIES OF THE CONE.

THE 42" CONE SHALL HAVE A MINIMUM OF 4 EACH, NOMINAL 6" WIDE RETROREFLECTIVE STRIPES STARTING FROM THE TOP IN ORANGE, WHITE, ORANGE, WHITE SEQUENCE. ANY NONRETROREFLECTIVE SPACES BETWEEN THE ORANGE AND WHITE STRIPES SHALL NOT EXCEED 3" IN WIDTH.

THE RETROREFLECTIVE SHEETING SHALL BE NO. 3910 WHITE AND NO. 3914 FLUORESCENT ORANGE SCOTCHLITE DIAMOND GRADE WORK ZONE SHEETING AS MANUFACTURED BY 3M, OR EQUAL AS APPROVED BY THE CHIEF ENGINEER, CONSIDERING REFLECTIVITY, DURABILITY, PLIABILITY AND ADHESION QUALITIES.

TRAFFIC DRUM:

THE TRAFFIC DRUM SHALL BE A TWO PIECE, BREAKAWAY STYLE, DESIGNED THAT DAMAGE AFTER IMPACT WILL BE MINIMAL THROUGH A TEMPERATURE OF -15F TO +125F. THE DRUM SHALL BE CONSTRUCTED OF NOT LESS THAN 1/8 INCH THICK, IMPACT RESISTANT, POLYETHYLENE, FORMULATED TO ALLOW THE DRUM TO RETURN TO THE ORIGINAL DESIGN AFTER IMPACT.

THE DRUM SHALL BE A MINIMUM OF 36" IN HEIGHT AND A MINIMUM OF 18" IN DIAMETER. THE DRUM SHALL CONTAIN 5 RECESSED BANDS WHICH SHALL ACCEPT RETROREFLECTIVE SHEETING BANDS OF 6" WIDTH. THE DRUM SHALL BE DESIGNED WITH ONE OR MORE FLAT SIDES OR WITH AN ANTI-ROLL DEVICE, TO MINIMIZE ROLLING, SHOULD THE UNIT BE KNOCKED OVER. TOTAL WEIGHT OF THE DRUM SHALL BE NOT LESS THAN 12 LBS.

COLOR OF THE DRUM SHALL BE COLOR STABILIZED, SAFETY ORANGE. TO PROVIDE STABILITY OF THE DRUM THE WEIGHTED BASE PORTION SHALL BE THE RUBBER COLLAR WEIGHTING TYPE WITH COMPATIBLE DRUM. DOUBLE WEIGHTING OF DRUMS MAY BE NECESSARY TO PREVENT MOVEMENT.

THE TRAFFIC DRUM SHALL HAVE A MINIMUM OF 4 EACH, NOMINAL 6" WIDE, RETROREFLECTIVE STRIPES APPLIED TO THE DRUM RECESSED BANDS, STARTING FROM THE TOP, IN ORANGE, WHITE, ORANGE, WHITE SEQUENCE. THE RETROREFLECTIVE SHEETING SHALL BE NO. 3810 WHITE AND NO. 3814 ORANGE AS MANUFACTURED BY THE 3M COMPANY, HIGH IMPACT CHANNELIZER MATERIAL AS MANUFACTURED BY REFLEXITE NORTH AMERICA, OR EQUAL AS APPROVED BY THE CHIEF ENGINEER, CONSIDERING REFLECTIVITY, DURABILITY, PLIABILITY AND ADHESION QUALITIES.

NOTES

1. TRAFFIC DRUMS ARE TO BE UTILIZED IN ALL LONG TERM STATIONARY ZONES AND ALL INTERMEDIATE TERM STATIONARY ZONES. 28" OR 42" TRAFFIC CONES MAY BE USED FOR SHORT TERM STATIONARY ZONES DURING DAYLIGHT HOURS. 42" TRAFFIC CONES OR TRAFFIC DRUMS SHALL BE USED FOR SHORT TERM STATIONARY ZONES AT NIGHTTIME.
2. TYPICAL DRUM/CONE SPACING IS 50' ON-CENTER IN TAPERS, CROSSOVERS AND RAMPS; 100' ON-CENTER IN TANGENTS UNLESS OTHERWISE NOTED.
3. FINAL LOCATION OF ARROW PANELS MAY NEED TO BE ADJUSTED TO PROVIDE MAXIMUM VISIBILITY.
4. SIGNS USED FOR LONG TERM CONSTRUCTION ZONES, WHICH ARE LOCATED ON THE LEFT SIDE OF AN OPEN 3-LANE SECTION OF ROADWAY ARE TO BE MOUNTED ON MEDIAN BARRIER CLAMPS WHEN THE MEDIAN BARRIER WALL HEIGHT IS SIX FEET OR LESS. WHEN THE MEDIAN BARRIER WALL IS OVER SIX FEET HIGH, SIGNS SHALL BE MOUNTED ON APPROVED SIGN SUPPORTS LOCATED ON THE SHOULDER.
5. FOR SHORT TERM AND DAYTIME ZONES, SIGNS SHALL BE MOUNTED ON X-FOOTPRINT SIGN STANDS. FOR BI-DIRECTIONAL AND LONG TERM STATIONARY ZONES SIGNS ARE TO BE MOUNTED ON BREAKAWAY POSTS OR APPROVED SIGN SUPPORTS, UNLESS OTHERWISE SHOWN.
6. "END ROAD WORK" SIGN SHALL BE OMITTED IF ANOTHER ACTIVE WORK ZONE IS LOCATED LESS THAN 3 MILES FROM THE INTENDED LOCATION OF THE "END ROAD WORK" SIGN.
7. REMOVE REFLECTORS FROM ALL EXISTING RAISED PAVEMENT MARKERS (RPM'S) THAT ARE IN CONFLICT WITH TEMPORARY TRAVEL LANES AND PAVEMENT MARKINGS.
8. ALL MAINTENANCE OF TRAFFIC DEVICES AND ZONES SHALL FOLLOW THESE STANDARDS. IF SITE SPECIFIC TRAFFIC CONDITIONS EXIST, THE MAINTENANCE OF TRAFFIC PLANS MAY BE MODIFIED TO SUIT THESE CONDITIONS. NO MODIFICATIONS TO THE MAINTENANCE OF TRAFFIC PLANS SHALL BE MADE UNLESS APPROVED BY THE CHIEF ENGINEER.

LEGEND

- TYPE III PORTABLE BARRICADE WITH APPROPRIATE SIGN
- SIGN MOUNTED ON X-FOOTPRINT SIGN STAND (SEE NOTES 4 & 5)
- SIGN MOUNTED ON BREAKAWAY OR YIELDING POST(S)
- SIGN MOUNTED ON PERFORATED STEEL SQUARE TUBE SUPPORT (PSST)
- REFLECTORIZED TRAFFIC DRUMS
- REFLECTORIZED TRAFFIC CONES
- WORK AREA
- ROADWAY CLOSED TO TRAFFIC
- BUFFER SPACE
- FLAGGER LOCATION (ALL WORKING HOURS)
- FLASHING ARROW PANEL TYPE C PER ODOT SUPPLEMENTAL SPECIFICATION 821
- BARRIER VEHICLE

DATE: 2/1/2016

STANDARD DRAWING

TEMPORARY TRAFFIC CONTROL DETAILS, LEGEND, NOTES AND STANDARD SINGLE LANE CLOSURE

TCR-2

1 / 1

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

TCR-02.0_1-8-16.dwg; 1/20/16 - 2:13pm

FOR LEGEND, DETAILS AND NOTES, SEE OTIC STANDARD DRAWING TCR-2.

* SUBSTITUTE "RIGHT LANE(S) CLOSED" SIGNS (TC-12R, TC-12.5R, TC-4R) FOR "LEFT LANE(S) CLOSED" SIGNS (SHOWN) WHEN RIGHT LANES ARE CLOSED.

‡ THE BUFFER SPACE SHALL BE KEPT FREE OF WORK ACTIVITIES, EQUIPMENT, VEHICLES AND MATERIALS.

DOUBLE LANE CLOSURE
THREE-LANE ROADWAY

DATE: 2/1/2016

STANDARD DRAWING

TEMPORARY TRAFFIC CONTROL
DOUBLE LANE CLOSURE

TCR-10

1 / 1

OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION

TCR-10_1-7-16.dwg; 1/21/16 – 10:14am