

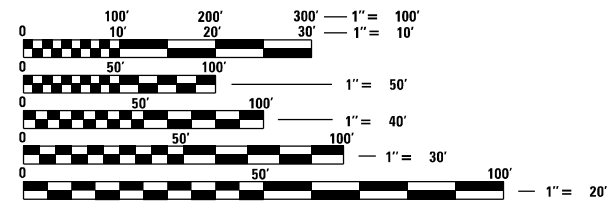
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PROPOSED**  
**HIGHWAY PLANS**

FOR INDEX OF SHEETS, SEE SHEET NO. 2  
 FOR STATE STANDARDS, SEE SHEET NO. 2

**FAP ROUTE 525 (US 20)**  
**SECTION (14 BD-1)BDR**  
**PROJECT NHPP-PAL2(183)**  
**TYPE of IMPROVEMENT: BRIDGE REPAIR**  
**SN 004-0017 OVER COON CREEK**  
**BOONE COUNTY**

C-92-074-22

**BONUS TOWNSHIP**  
**T44N R4E, SECTION 33**

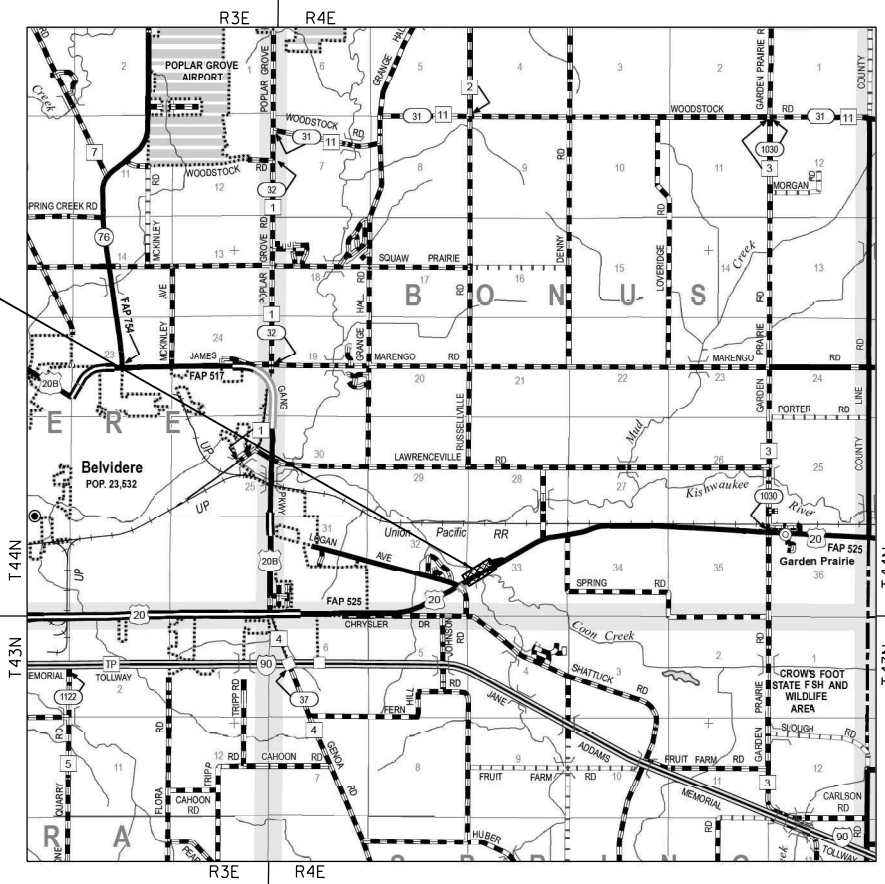


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

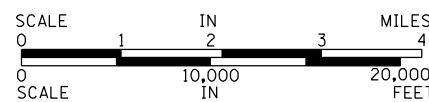
**J.U.L.I.E.**  
**JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION**  
**1-800-892-0123**  
**OR 811**

**PROJECT ENGINEER: JAMES R. PUSH, PE (630) 930-6420**  
**PROJECT MANAGER: MAHMOUD ETEMADI (815) 284-5393**

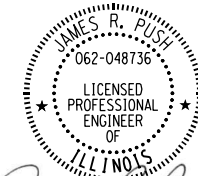
**CONTRACT NO. 64R50**



SN 004-0017



**GROSS LENGTH = 360.83 FT. = 0.068 MILE**  
**NET LENGTH = 360.83 FT. = 0.068 MILE**



*James R. Push*  
 JAMES R. PUSH, P.E.  
 LICENSE NO.: 062-048736  
 EXPIRES: NOVEMBER 30, 2023  
 DATE: 05/05/2022

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
754	(101BR)BDR	BOONE	20	1
		ILLINOIS	CONTRACT NO. 64R50	

D-92-017-22



LOCATION OF SECTION INDICATED THIS: —

**QUANDEL**  
**CONSULTANTS**

161 NORTH CLARK STREET  
 SUITE 2975  
 CHICAGO, IL 60601  
 312-634-6201

DESIGN FIRM - PROF/STRUCT ENGINEER  
 IL LIC. 184.005283-0006

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED 05/09 20 22

*James R. Push*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

July 1, 2022 *James R. Push*  
 ENGINEER OF DESIGN AND ENVIRONMENT

July 1, 2022 *Stephen M. Janda*  
 DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**PRINTED BY THE AUTHORITY  
 OF THE STATE OF ILLINOIS**

**GENERAL NOTES**

ALL BORROW/WASTE/USE SITES MUST BE APPROVED BY THE DEPARTMENT PRIOR TO REMOVING ANY MATERIAL FROM THE PROJECT OR INITIATING ANY EARTHMOVING ACTIVITIES, INCLUDING TEMPORARY STOCKPILING OUTSIDE THE LIMITS OF CONSTRUCTION.

THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONSTRUCTION OPERATIONS TO THE RESIDENT ENGINEER FOR APPROVAL BEFORE THIS PROJECT IS STARTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY DURING CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED FOR NON-EMERGENCY WORK. THE JULIE NUMBER IS 800-892-0123.

NO STREAM PERMITS HAVE BEEN PROCURED FOR THIS PROJECT. NONE ARE REQUIRED FROM THE REGULATORY AGENCIES IF THERE IS NO DEBRIS FALLING OR BEING PLACED INTO THE STREAM. ANY TEMPORARY FILL IN THE STREAM OR THE COMPROMISING OF THE DIKE (IF APPLICABLE) WILL NOT BE ALLOWED. IF THE CONTRACTOR CHOOSES TO USE ALTERNATE/MODIFIED CONSTRUCTION METHOD(S), THEY WILL BE RESPONSIBLE FOR OBTAINING THE PROPER PERMITS. NO RELIEF OR COMPENSATION WILL BE GIVEN FOR ANY DELAYS, WORKING DAYS CHARGED OR CALENDAR DAYS EXPIRED DUE TO THE LOSS OF TIME OR DELAY DURING THE RE-SUBMITTAL PROCESS TO PROCURE THE NECESSARY PERMIT(S) DUE TO THE CONTRACTOR CHOOSING ALTERNATE/MODIFIED CONSTRUCTION METHOD(S). ABSOLUTELY NO CONSTRUCTION ACTIVITIES WILL TAKE PLACE WITHOUT THE PROPER PERMITS BEING SECURED.

ALL ELEVATIONS SHOWN IN PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

IDOT DISTRICT 2 OPERATIONS TRAFFIC SIGNAL SECTION SHALL BE CONTACTED AT 815-284-2271 FOR CONTROLLER PROGRAMMING AND TIMING APPROVAL PRIOR TO ACTIVATING THE TEMPORARY BRIDGE TRAFFIC SIGNALS.

THERE ARE NO COMMITMENTS ASSOCIATED WITH THIS PROJECT.

THE QUANTITIES INCLUDED IN THE PLANS FOR HOT-MIX ASPHALT RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.

ALL SAW CUTS NECESSARY TO COMPLETE THE WORK DETAILED IN THESE PLANS SHALL BE INCLUDED IN THE COST FOR THE VARIOUS PAY ITEMS INVOLVED.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE(S):	HMA CONC SURF CSE
PG:	PG 64 -22
DESIGN AIR VOIDS:	4.0% @ N DESIGN - 50
MIXTURE COMPOSITION:	IL 9.5
FRICTION AGGREGATE:	MIX "C"
QUALITY MANAGEMENT PROGRAM:	QC / QA
SUBLOT SIZE:	N / A

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED TO CALCULATE PLAN QUANTITIES:  
 BITUMINOUS MATERIALS (TACK COAT) 0.05 LBS / SQ FT (ON PAVEMENT)  
 BITUMINOUS MATERIALS (TACK COAT) 0.025 LBS / SQ FT (FOG)  
 HOT-MIX ASPHALT MATERIAL 0.056 TON / SQ YD PER 1"  
 AGGREGATE MATERIAL 1.60 TONS / CU YD

PAVEMENT MARKING SHALL BE DONE ACCORDING TO STANDARD 780001, EXCEPT AS FOLLOWS:

- ALL WORDS, SUCH AS ONLY, SHALL BE 8 FEET HIGH.
- ALL NON-FREEWAY ARROWS SHALL BE THE LARGE SIZE.
- THE DISTANCE BETWEEN YELLOW NO-PASSING LINES SHALL BE 8 INCHES, NOT 7 INCHES, AS SHOWN IN THE DETAIL OF TYPICAL LANE AND EDGE LINES.
- CENTERLINE SKIP DASH PAVEMENT MARKING ON MULTI-LANE DIVIDED, MULTI-LANE UNDIVIDED, AND ONE-WAY ROADWAY SHALL BE ACCORDING TO DISTRICT STANDARD 41.1.

UNLESS DIRECTED BY THE ENGINEER, PAVEMENT MARKING LINES SHALL NOT BE LAID DIRECTLY OVER A LONGITUDINAL CRACK OR JOINT NOR OVER A TAR OR ASPHALT PAINTED LINE.

- THE EDGE OF A CENTERLINE OR LANE LINE SHALL BE OFFSET A MINIMUM DISTANCE OF 2" FROM A LONGITUDINAL CRACK OR JOINT.
- EDGE LINES SHALL BE APPROXIMATELY 2" FROM THE EDGE LINE OF PAVEMENT. SEE SECTION 780 OF THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS.

AREAS OF DECK REPAIRS SHOWN ARE ESTIMATED. THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK REPAIRS ON AS-BUILT PLANS.

MICROSILICA CONCRETE SHALL INCLUDE MACRO-SIZE, TYPE III, SYNTHETIC FIBERS MEETING THE 'BRIDGE DECK MICROSILICA CONCRETE OVERLAY' SPECIAL PROVISION.

**INDEX OF SHEETS**

- 1 COVER SHEET
- 2 INDEX OF SHEETS, STATE STANDARDS & GENERAL NOTES
- 3 - 5 SUMMARY OF QUANTITIES
- 6 - 7 TRAFFIC CONTROL PLAN
- 8 GENERAL PLAN & ELEVATION SN 004-0017
- 9 CROSS SECTION SN 004-0017
- 10 WEARING SURFACE PLAN SN 004-0017
- 11 DECK SLAB REPAIR SN 004-0017
- 12 TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION SN 004-0017
- 13 - 16 WORK ZONE SIGN DETAILS (DISTRICT STD 34.1)
- 17 - 19 TYPICAL PAVEMENT MARKINGS (DISTRICT STD 41.1)
- 20 GUARDRAIL REFLECTORS, TYPE C (SPECIAL) (DISTRICT STD 55.1)

**STATE STANDARDS**

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
630001-12	STEEL PLATE BEAM GUARDRAIL
631031-17	TRAFFIC BARRIER TERMINAL, TYPE 6
642006-01	SHOULDER RUMBLE STRIPS, 8 IN.
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
781001-04	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, STATE STANDARDS & GENERAL NOTES**

SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	(14BD-1)BDR	BOONE	20	2
<b>CONTRACT NO. 64R50</b>				
ILLINOIS FED. AID PROJECT				

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CODE NO.	ITEM	UNIT	URBAN	
			TOTAL QUANTITY	CONSTRUCTION CODE BRIDGE 0059 80% FED / 20% STATE
				SN 004-0016 BOONE COUNTY
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	160	160
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	533	533
40600990	TEMPORARY RAMP	SQ YD	54	54
40604050	HOT-MIX ASPHALT SURFACE COURSE, 1L-9.5, MIX "C", N50	TON	45	45
50300300	PROTECTIVE COAT	SQ YD	1,249	1,249
64200108	SHOULDER RUMBLE STRIPS, 8 INCH	FOOT	80	80
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2	2
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	12	12
* 70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	3,278	3,278
* 70107012	PAVEMENT MARKING BLACKOUT TAPE, 12"	FOOT	80	80
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14	14
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	1,446	1,446
70307120	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE IV TAPE	FOOT	3,518	3,518

\* DENOTES SPECIALTY ITEM



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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	(14 BD-1)BDR	BOONE	20	3
CONTRACT NO. 64R50			ILLINOIS FED. AID PROJECT	

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				CONSTRUCTION CODE BRIDGE 0059 80% FED / 20% STATE	
				URBAN	
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	SN 004-0016 BOONE COUNTY	
70307160	TEMPORARY PAVEMENT MARKING - LINE 12" - TYPE IV TAPE	FOOT	48	48	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	713	713	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	713	713	
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,225	1,225	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	2	2	
78112000	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	2	2	
* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	47	47	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	2	2	
X5030250	BRIDGE DECK GROOVING (LONGITUDINAL)	SQ YD	749	749	
* X7820007	GUARDRAIL REFLECTORS, TYPE C (SPECIAL)	EACH	43	43	
Z0001800	APPROACH SLAB REPAIR (PARTIAL DEPTH)	SQ YD	17	17	
Z0005876	BONDED PREFORMED JOINT SEALER, 4 INCH	FOOT	80	80	
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	1,249	1,249	
Z0012164	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/2"	SQ YD	1,249	1,249	
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	2	2	

\* DENOTES SPECIALTY ITEM



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PLOT DATE = 5/5/2022	DATE - 05/05/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

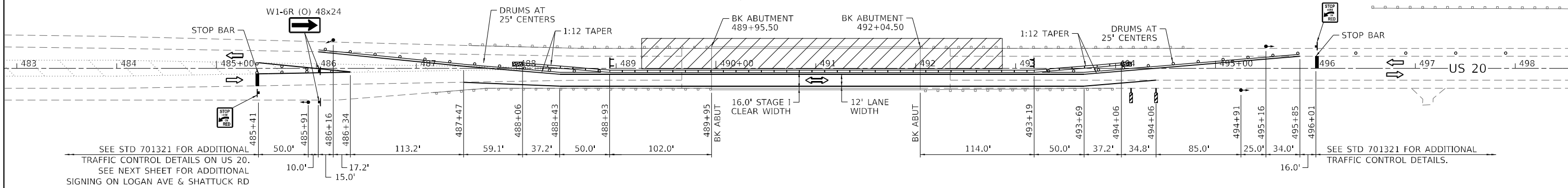
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CONTRACT NO. 64R50				
ILLINOIS FED. AID PROJECT				

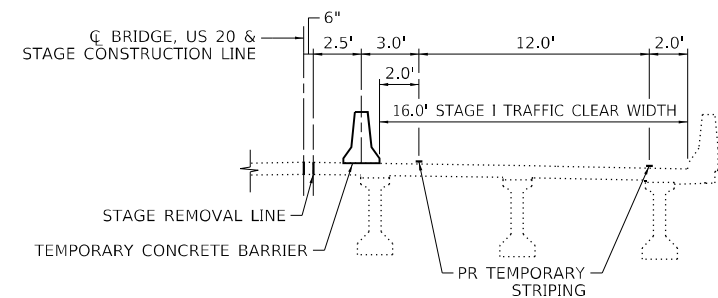
REV. 6/8/22 REV. 5/19/22



NOTE:  
DIMENSIONS TO TEMPORARY TRAFFIC BARRIER TERMINAL ARE TO CENTER OF BARRIER.



**STAGE I TRAFFIC**



**STAGE I TYPICAL SECTION**

**STAGING NOTES:**

ALL STAGING DETAILS SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701321 AND PAID FOR AT THE CONTRACT UNIT PRICE PER EACH LOCATION.

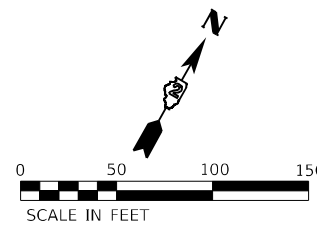
ALL WORK WITHOUT TEMPORARY CONCRETE BARRIER IN PLACE SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701201.

FOR ADDITIONAL DETAILS ASSOCIATED WITH TEMPORARY CONCRETE BARRIER, SEE HIGHWAY STANDARD 704001.

EXISTING OR TEMPORARY PAVEMENT MARKINGS SHALL BE ON BOTH SIDES OF THE OPEN LANE FROM STOP BAR TO STOP BAR. PAVEMENT MARKINGS THAT CONFLICT WITH STAGED TRAFFIC MARKINGS SHALL BE TEMPORARILY COVERED WITH PAVEMENT MARKING BLACKOUT TAPE. THIS WORK SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

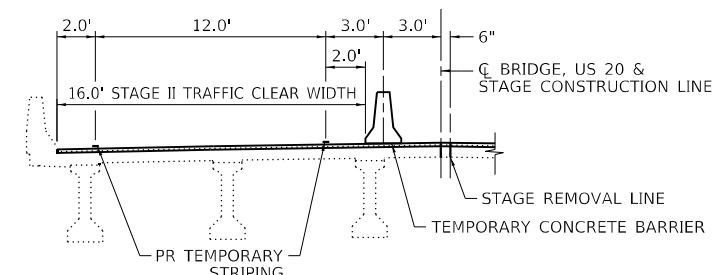
REFLECTORS SHALL BE ATTACHED TO GUARDRAIL AND BARRIER WALL AT 25-FOOT CENTERS. COST INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

ADDITIONAL SIGNAGE SHOWN ON THE TRAFFIC CONTROL SHEETS WHICH ARE NOT PART OF HIGHWAY STANDARD 701321 SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION STANDARD 701321.



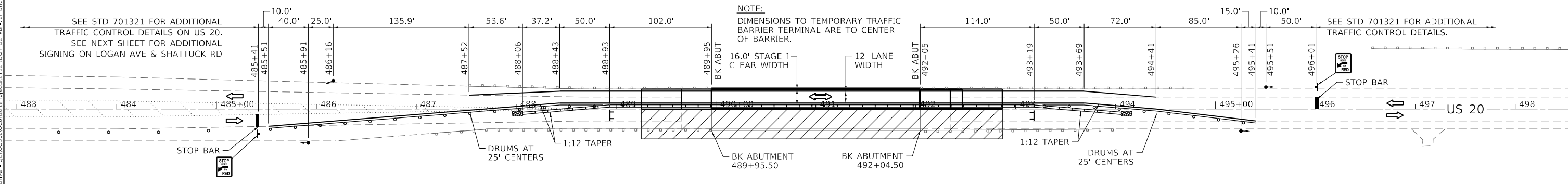
**LEGEND**

- WORK AREA
- SIGN
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TRAFFIC SIGNAL
- IMPACT ATTENUATOR
- DRUMS WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER
- DRUM



**STAGE II TYPICAL SECTION**

NOTE:  
DIMENSIONS TO TEMPORARY TRAFFIC BARRIER TERMINAL ARE TO CENTER OF BARRIER.



**STAGE II TRAFFIC**

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

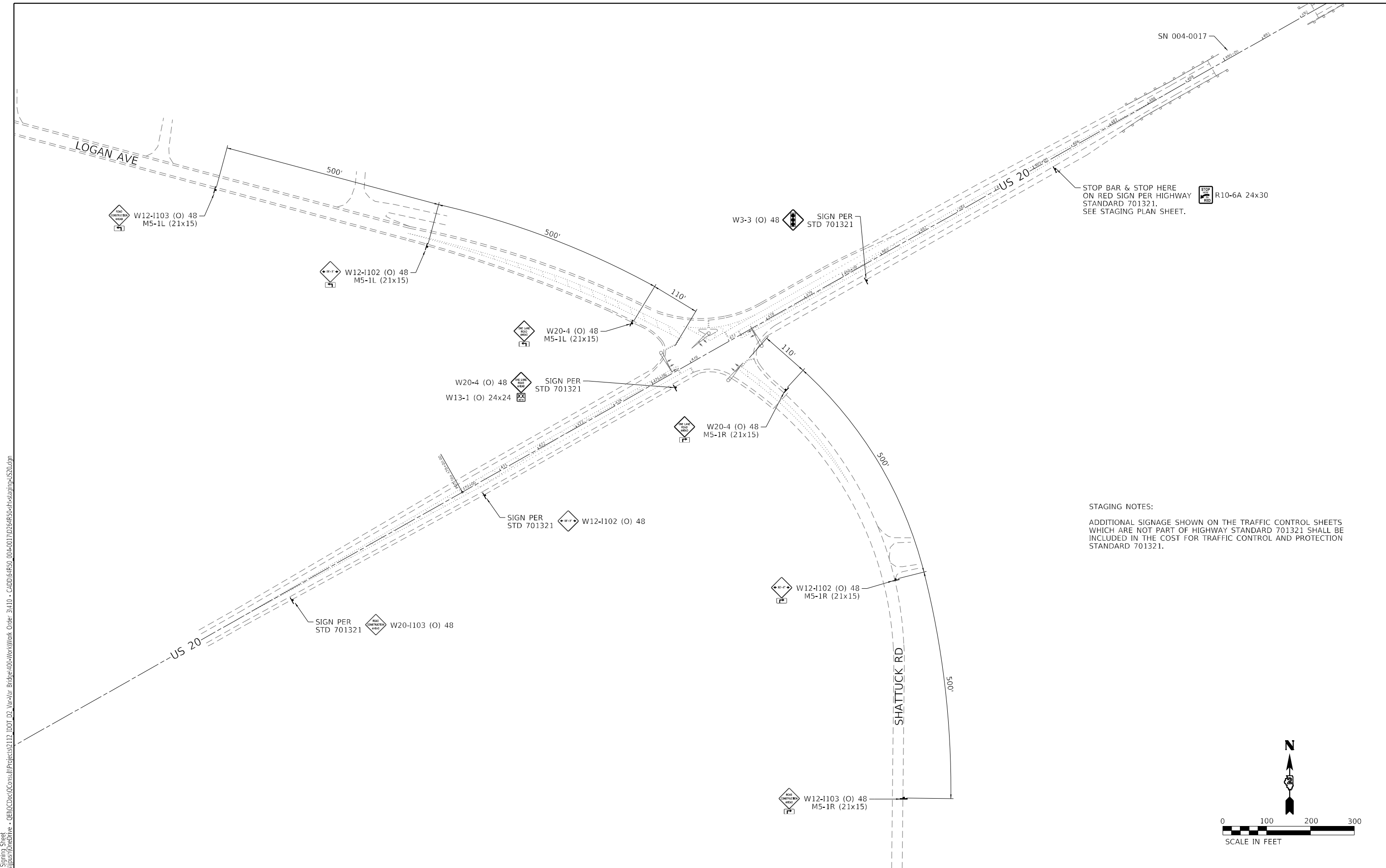
**STAGING PLAN  
SN 004-0017**

**Prairie Engineers, P.C.**  
22484 Grosenbach Road  
Washington, IL 61571  
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	DATE - 05/05/2022	REVISED -

SCALE: 1"=50'	SHEET 1 OF 2 SHEETS	STA. TO STA.	F.A.P. RTE. 525	SECTION (14 BD-1)BDR	COUNTY BOONE	TOTAL SHEETS 20	SHEET NO. 6
						CONTRACT NO. 64R50	
						ILLINOIS FED. AID PROJECT	

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STAGING NOTES:  
 ADDITIONAL SIGNAGE SHOWN ON THE TRAFFIC CONTROL SHEETS WHICH ARE NOT PART OF HIGHWAY STANDARD 701321 SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STAGING PLAN - ADVANCE SIGNING  
 SN 004-0017**

SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE. 525	SECTION (14 BD-1)BDR	COUNTY BOONE	TOTAL SHEETS 20	SHEET NO. 7
CONTRACT NO. 64R50				
ILLINOIS FED. AID PROJECT				

Existing Structure S.N. 004-0017 built in 1995 as a 3-Span PPC I-Beam Superstructure, with a R.C. Deck.  
 Total width out to out = 43'-2". Total length bk. to bk. abut. = 209'-0". P.P.C. I-Beams with R.C. Piers and  
 Integral Abuts.

Traffic to be maintained during Stage Construction.

**INDEX OF SHEETS**

1. General Plan & Elevation
2. Cross Section
3. Wearing Surface Plan
4. Deck Slab and Approach Slab Repair Plan

**SCOPE OF WORK:**

1. Complete bridge scarification, 3/4".
2. Complete full-depth deck patching.
3. Complete approach slab repair.
4. Place bridge deck microsilica concrete overlay, 2 1/2".
5. Complete diamond grinding 1/4" and bridge deck grooving (longitudinal).

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Contractor shall use extreme care during concrete removal so as not to damage the PPC I-beams.

Protective coat shall be applied to the new overlay only.

Areas of repairs shown are estimated. The Engineer shall show actual locations of the repairs on AS-BUILT PLANS.

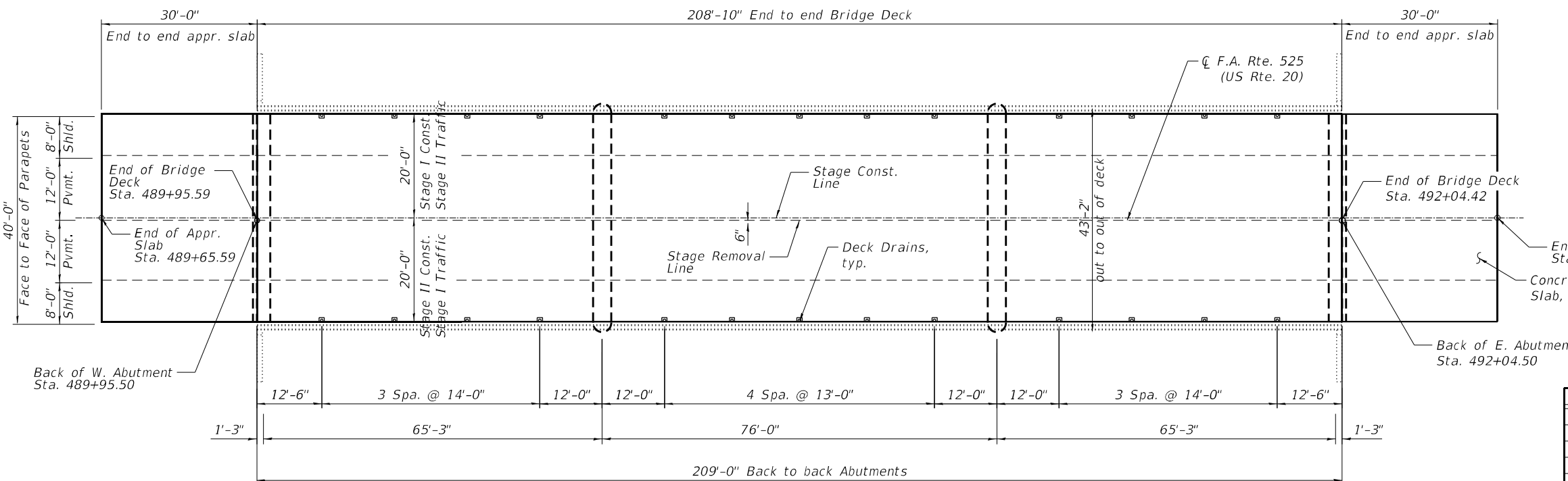
Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Cost included with Deck Slab Repair.

Microsilica concrete shall include macro-size, Type III, synthetic fibers meeting the 'Bridge Deck Microsilica Concrete Overlay' special provision.

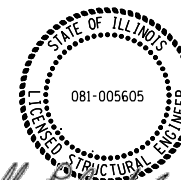
End of Bridge Deck Sta. 492+04.42  
 End of Approach Slab Sta. 492+34.42  
 Concrete Approach Slab, typ.



**ELEVATION**



**PLAN**



05/05/2022  
 JEFFREY P. BUCHOLC, S.E.  
 LICENSE NO.: 081-005605  
 EXPIRES: NOVEMBER 30, 2022

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	749
Protective Coat	Sq. Yd.	1,249
Bridge Deck Microsilica Concrete Overlay 2 1/2"	Sq. Yd.	1,249
Bridge Deck Scarification 3/4"	Sq. Yd.	1,249
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	3
Diamond grinding (Bridge Section)	Sq. Yd.	1,123
HMA Surface Removal - Butt Joint	Sq. Yd.	533
HMA Surface Course, IL 9.5 Mix "C" N50	Ton	45
Approach Slab Repair (Partial Depth)	Sq. Yd.	17
Bonded Preformed Joint Seal 4"	Foot	80
Structural Repair of Concrete <5"	Sq. Ft.	2

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CHECKED -	-	REVISIONS -	-	REVISIONS -	-
PLOT SCALE =	0.166666" / in.	DRAWN -	JLM	REVISED -	-
PLOT DATE =	5/5/2022	CHECKED -	-	REVISED -	-

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

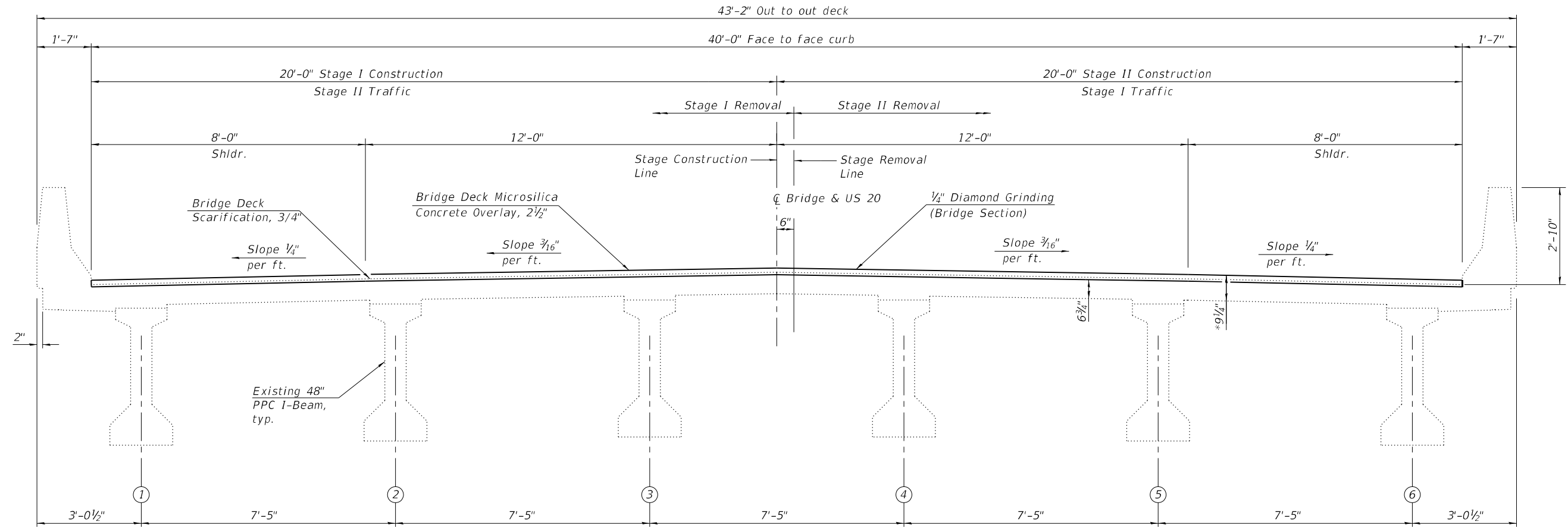
**GENERAL PLAN AND ELEVATION  
 S.N. 004-0017**

SHEET 1 OF 4 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	(14 BD-1)BDR	BOONE	20	8
CONTRACT NO. 64R50				
ILLINOIS		FED. AID PROJECT		

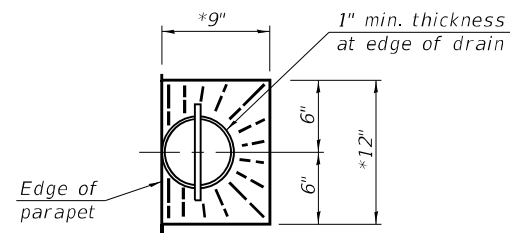


MODEL: 2D Sheet H  
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**CROSS SECTION**  
 (Looking East)

\*Prior to grinding



**DECK DRAIN DETAIL**

\*Slope to Drain

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CROSS SECTION**  
**S.N. 004-0017**

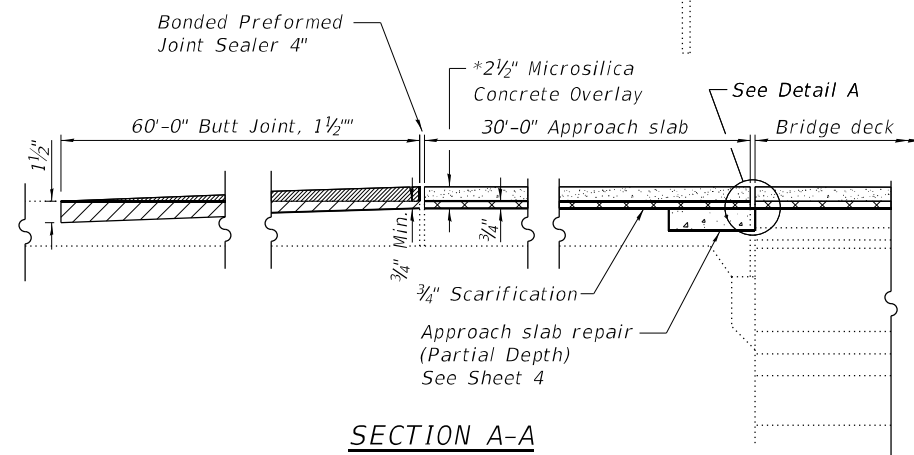
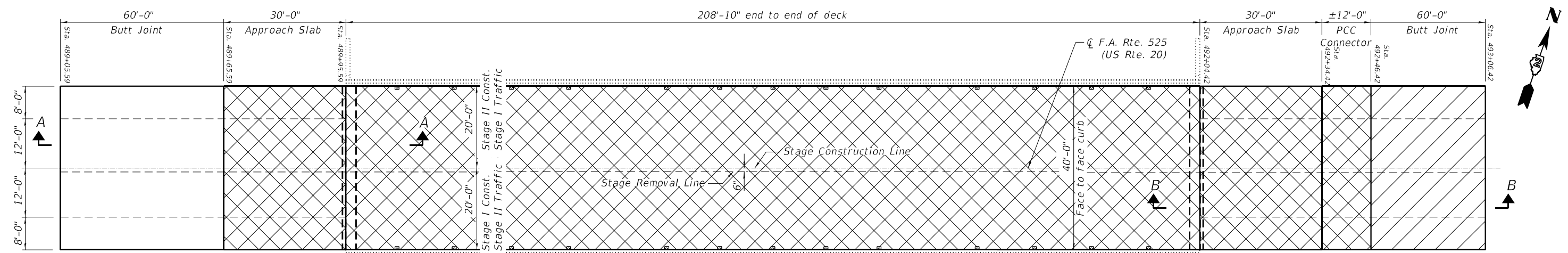
SHEET 2 OF 4 SHEETS

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CONTRACT NO. 64R50				

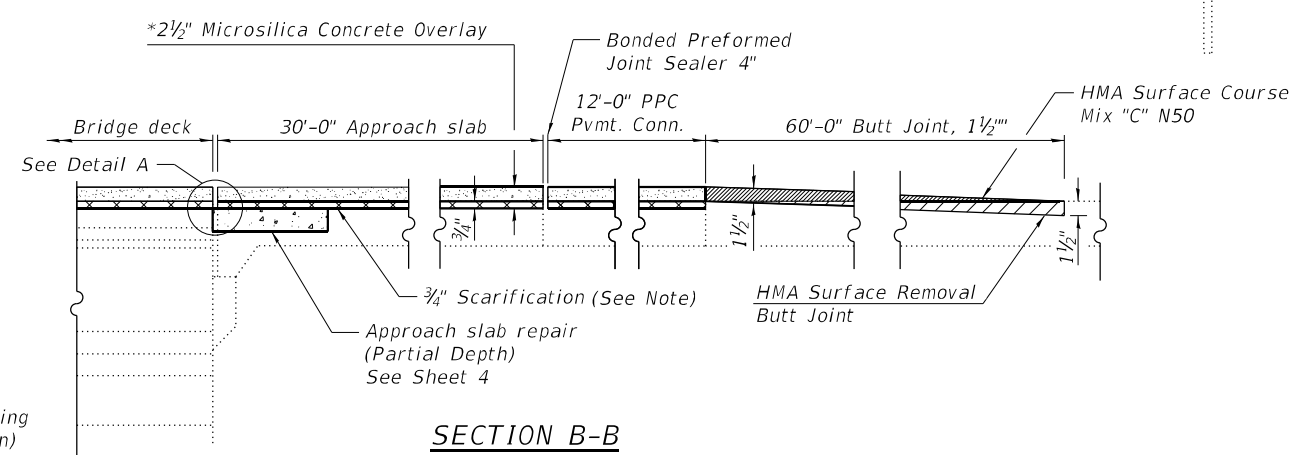
ILLINOIS FED. AID PROJECT

USER NAME =	jippett	DESIGNED -	-	REVISED -	-
PLOT SCALE =	0.166666" / in.	CHECKED -	-	REVISED -	-
PLOT DATE =	5/5/2022	DRAWN -	JLM	REVISED -	-
		CHECKED -	-	REVISED -	-

MODEL: 2D Sheet H  
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SECTION A-A



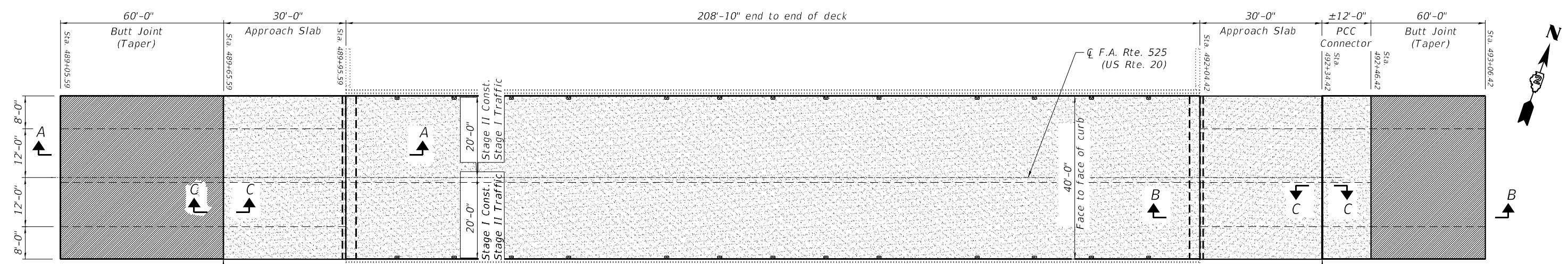
SECTION B-B

LEGEND

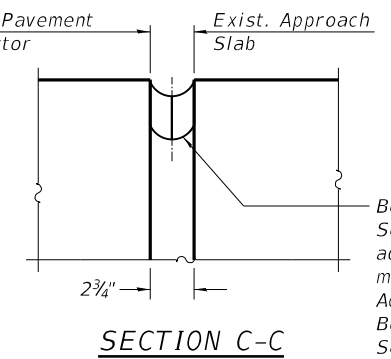
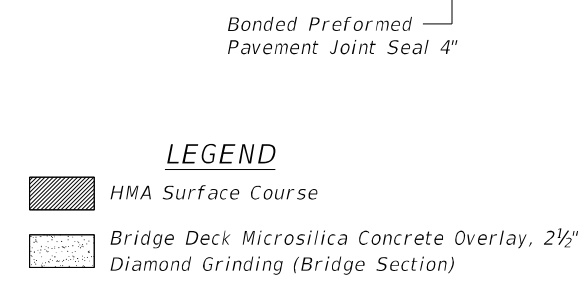
- HMA Surface Removal - Butt Joint
- Scarification 3/4"
- Approach Slab Repair

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Bridge Deck Scarification 3/4"	Sq. Yd.	1,249
HMA Surface Removal - Butt Joint	Sq. Yd.	534

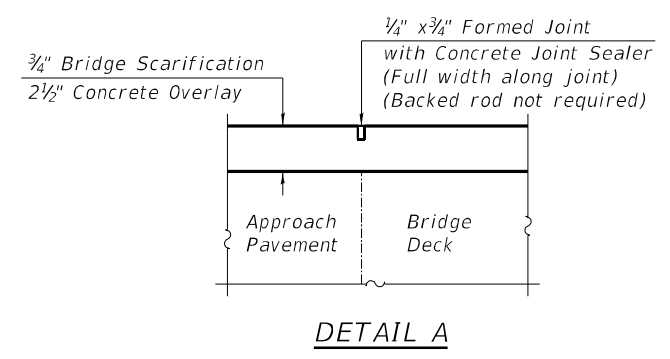


PLAN



SECTION C-C

Bonded Preformed Joint Sealer, Installed with adhesive in accordance with manufacturer's instructions. Adhesive to be paid for with Bonded Preformed Joint Sealer, 4 Inch.



DETAIL A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
HMA Surface Course, IL 9.5 Mix "C" N50	Ton	45
Bridge Deck Microsilica Conc. Ovly. 2 1/2"	Sq. Yd.	1,249
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	749
Diamond Grinding (Bridge Section)	Sq. Yd.	1,124
Preformed Joint Seal 4"	Foot	80
Protective Coat	Sq. Yd.	1,249

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

WEARING SURFACE PLAN  
 S.N. 004-0017

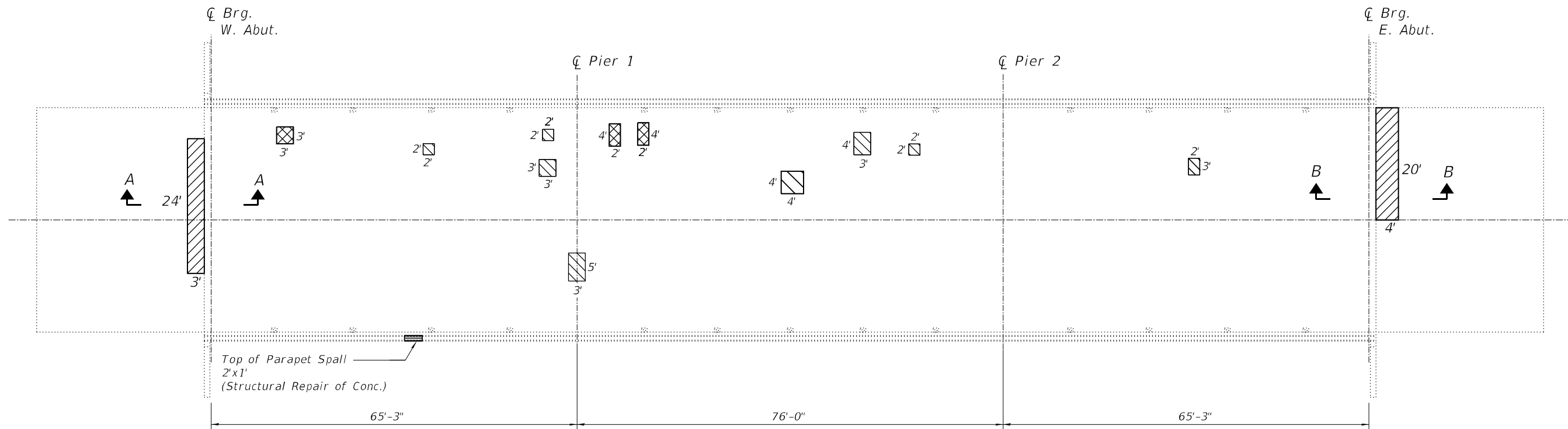
SHEET 3 OF 4 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	(14 BD-1)BDR	BOONE	20	10

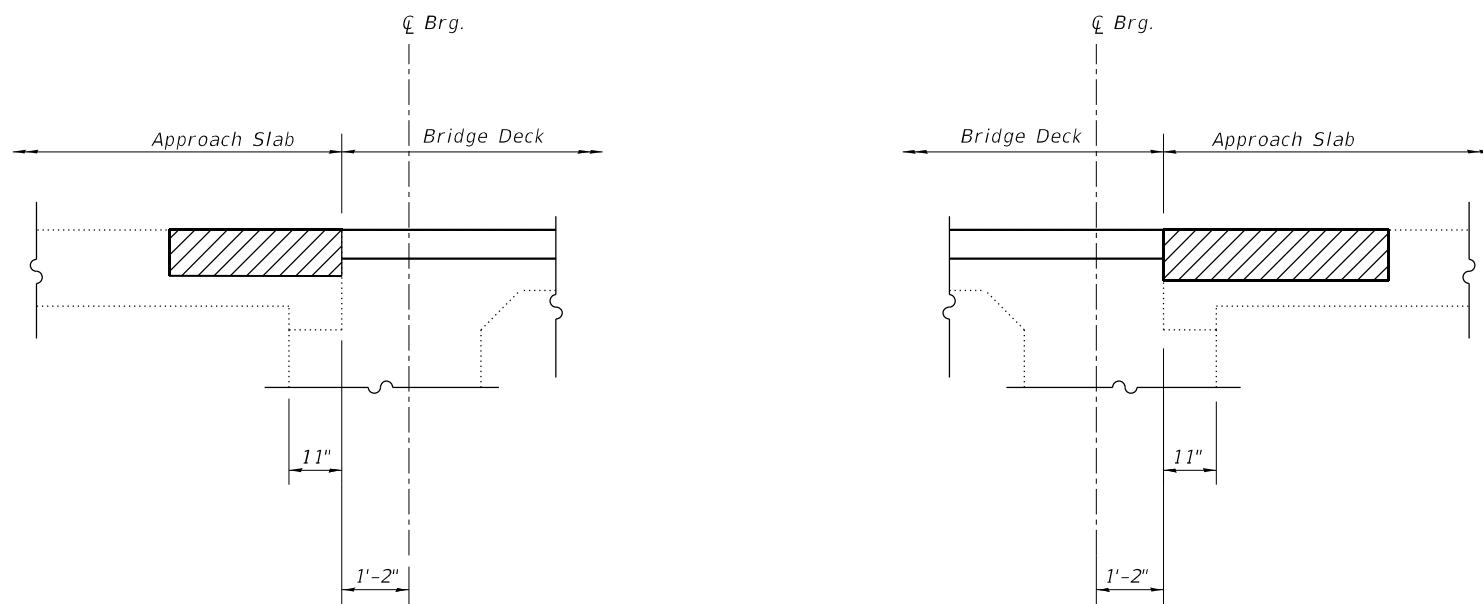
CONTRACT NO. 64R50

ILLINOIS FED. AID PROJECT

USER NAME =	jippett	DESIGNED -	-	REVISED -	-
PLOT SCALE =	0.166666" / in.	CHECKED -	-	REVISED -	-
PLOT DATE =	5/5/2022	DRAWN -	JLM	REVISED -	-
		CHECKED -	-	REVISED -	-



PLAN



SECTION A-A

SECTION B-B

LEGEND

- Indicates Deck Slab Repair, Partial Depth (For Information Only)
- Indicates Deck Slab Repair, Full Depth, Type II
- Approach Slab Repair (Partial Depth) - See Note
- Structural Repair of Concrete (Depth Less Than 5 inches)

Notes:  
Areas of deck slab repair shown are estimated. The Engineer shall show actual locations of the repairs on AS-BUILT PLANS.

Approach Slab Repair (Partial Depth) depth may vary, with a maximum depth of 7 inches.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	3
Approach Slab Repair (Partial Depth)	Sq. Yd.	17
Structural Repair of Concrete (Depth Less than 5 inches)	Sq. Ft.	2

MODEL: 2D Sheet H  
FILE NAME: C:\Users\jippett\OneDrive - QEI\OneDrive\Projects\1112\_IDOT\_D2\_Var-Var\_Bridge\400-Work\Work Order 31410 - CADD\64R50\_004-0017\0040017-64R50-004-Deck Slab Repair.dgn

**Prairie Engineers, P.C.**  
22484 Grossenbach Road  
Washington, IL 61571  
(217) 605-0403  
www.prairieengineers.com  
PROFESSIONAL DESIGN FIRMS NO. 1544-005955  
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USER NAME =	jippett	DESIGNED -	-	REVISED -	-
PLOT SCALE =	0.166666" / in.	CHECKED -	-	REVISED -	-
PLOT DATE =	5/5/2022	DRAWN -	JLM	REVISED -	-
		CHECKED -	-	REVISED -	-

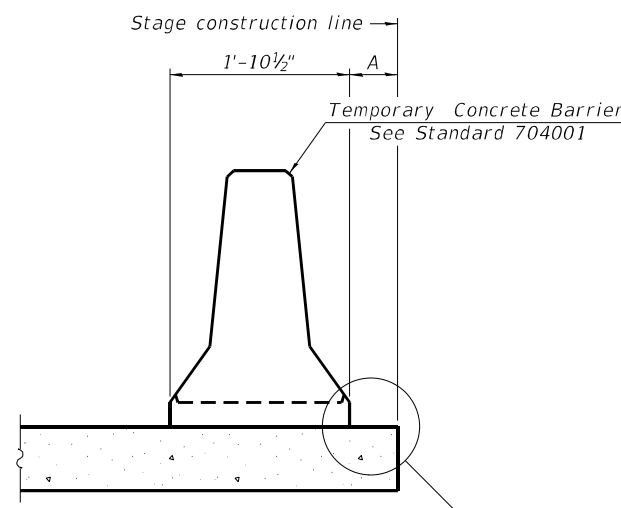
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DECK SLAB REPAIR  
S.N. 004-0017

SHEET 4 OF 4 SHEETS

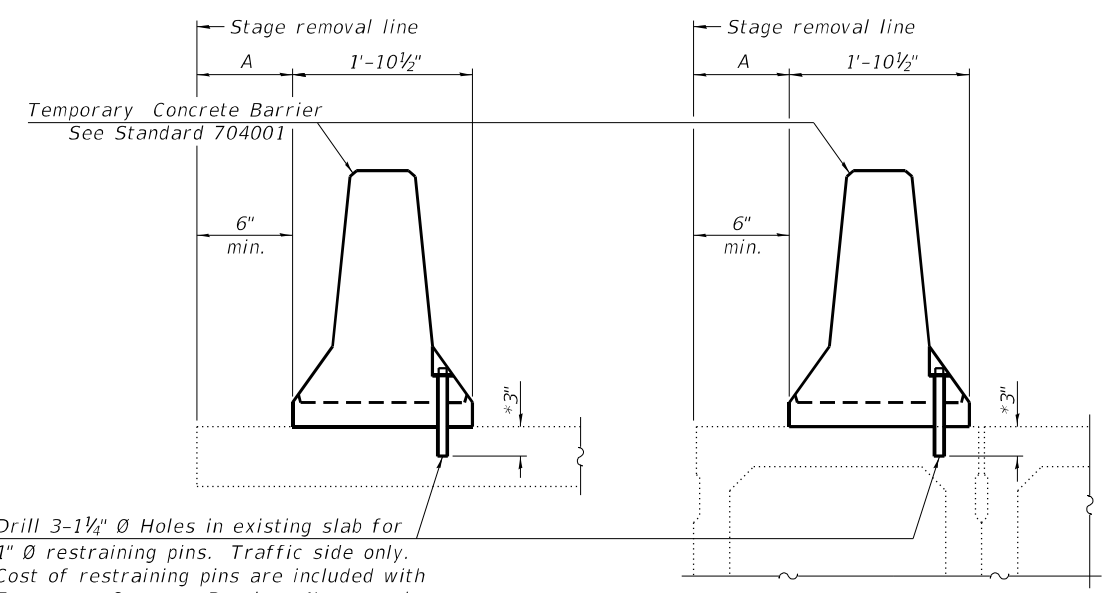
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	(14 BD-1)BDR	BOONE	20	11
			CONTRACT NO. 64R50	
		ILLINOIS	FED. AID PROJECT	

MODEL: Sheet  
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When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

**NEW SLAB OR NEW DECK BEAM**



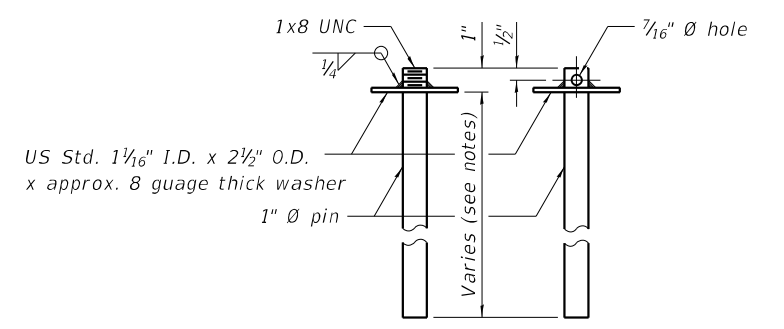
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

**EXISTING SLAB**

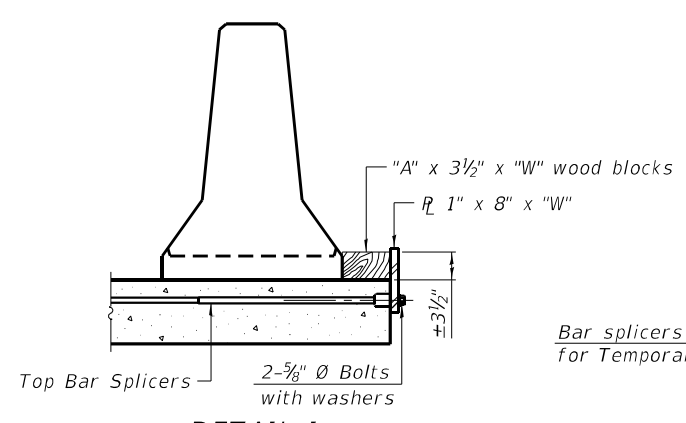
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

**EXISTING DECK BEAM**

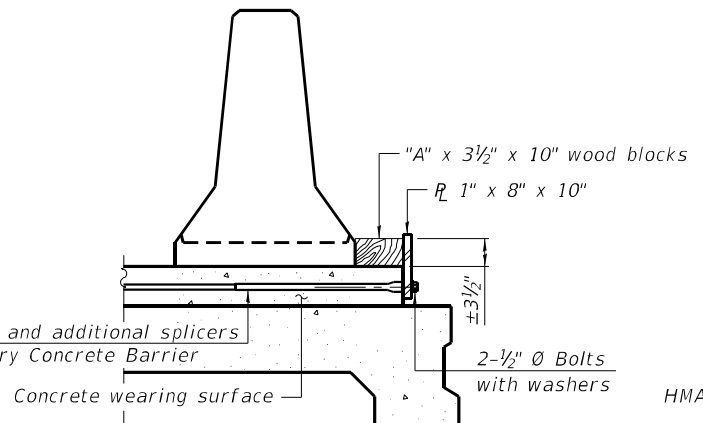
**SECTIONS THRU SLAB OR DECK BEAM**



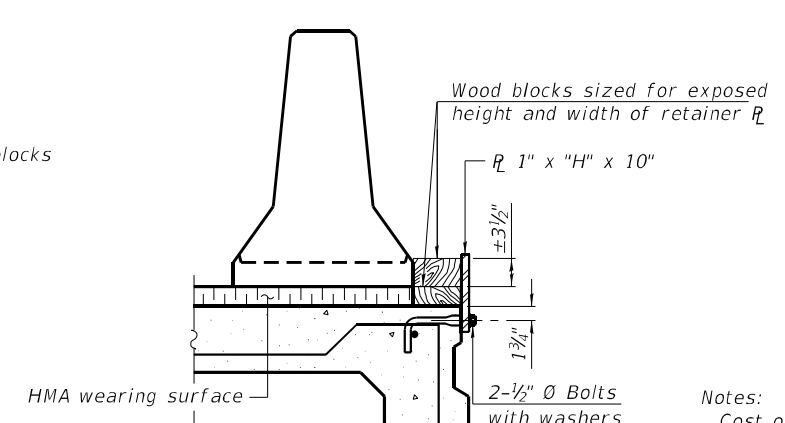
**RESTRAINING PIN**



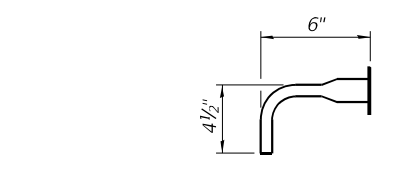
**DETAIL I**



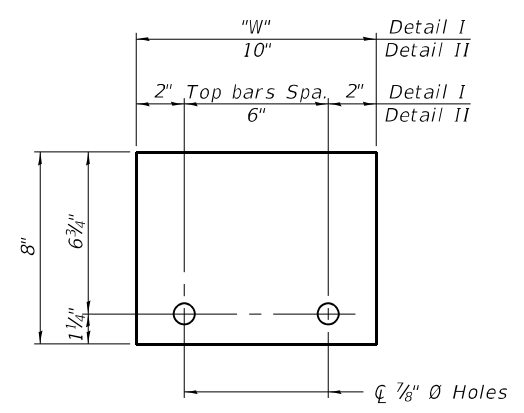
**DETAIL II**



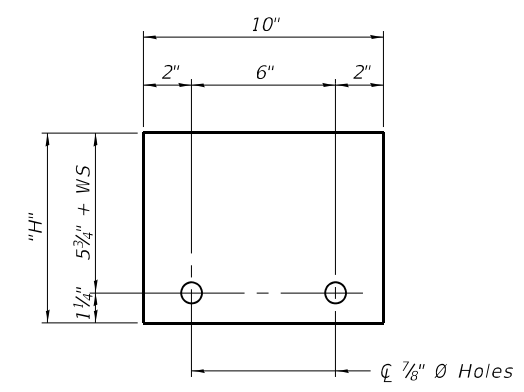
**DETAIL III**



**BAR SPLICER FOR #4 BAR - DETAIL III**



**STEEL RETAINER R 1" x 8" x "W"**  
(Detail I and II)



**STEEL RETAINER R 1" x "H" x 10"**  
(Detail III)

**Notes:**  
 Cost of retainer assembly is included with Temporary Concrete Barrier.  
 A retainer assembly shall be located at the approximate  $\bar{C}$  of each temporary concrete barrier.  
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
 When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.  
**Detail I** - Installation for a new bridge deck or bridge slab.  
**Detail II** - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.  
**Detail III** - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

R-27

2-17-2017



USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE =	DRAWN - JRT	REVISED -
	CHECKED -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

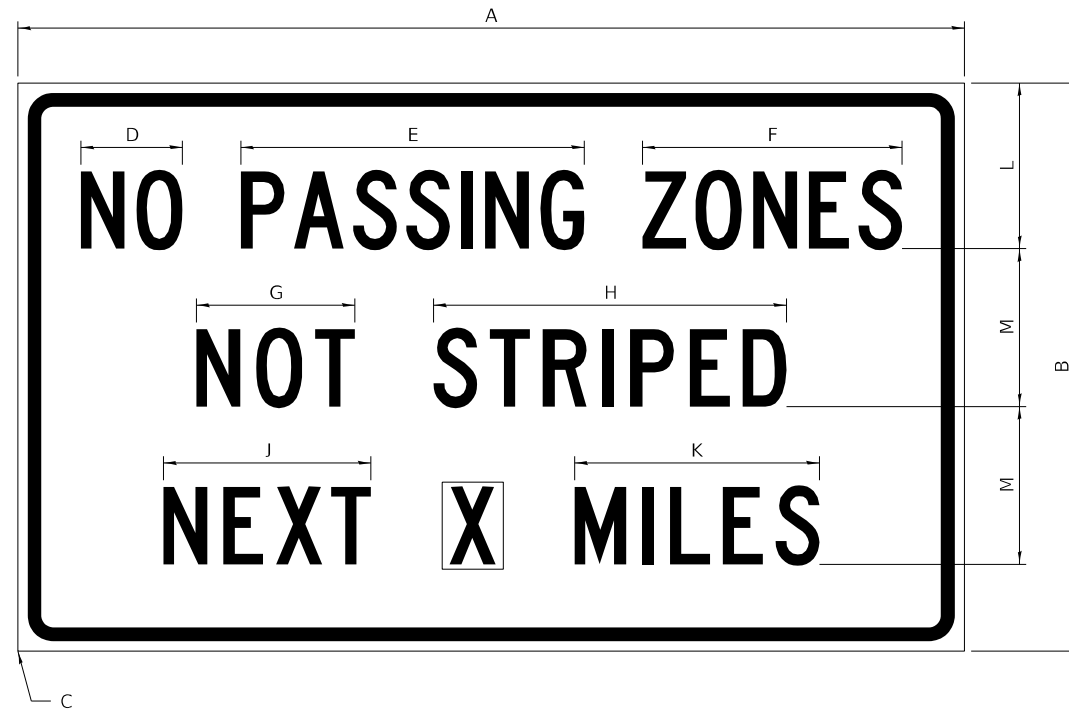
**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 004-0017**

SHEET 1 OF 1 SHEETS

F.A.P. RTE. 754	SECTION (101BR)BDR	COUNTY BOONE	TOTAL SHEETS 20	SHEET NO. 12
ILLINOIS FED. AID PROJECT			CONTRACT NO. 64R50	

# WORK ZONE SIGN DETAILS

**ILLINOIS STANDARD G20-I100**



COLOR    LEGEND AND BORDER BACKGROUND    BLACK ORANGE    NON-REFLECTORIZED REFLECTORIZED

SIGN SIZE	DIMENSIONS											
	A	B	C	D	E	F	G	H	J	K	L	M
60 x 36	60.00	36.00	2.25	6.4	21.80	16.40	10.00	22.40	13.20	15.50	10.50	10.00

SIGN SIZE	SERIES BY LINE			MARGIN	BORDER
	1	2	3		
60 x 36	5C	5C	5C	0.625	0.875

Sign not to scale

**GENERAL NOTES**

All work to furnish and install these signs shall be included in the cost of the specified traffic control standards and shall not be paid separately.

All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" in effect on the date of invitation for bids.

Signs shall meet the applicable portions of Sections 701 and 720 of the Standard Specifications.

All dimensions are in inches unless otherwise noted.

**ILLINOIS STANDARD W8-I107**



COLOR    LEGEND AND BORDER BACKGROUND    BLACK ORANGE    NON-REFLECTORIZED REFLECTORIZED

SIGN SIZE	DIMENSIONS								
	A	B	C	D	E	F	G	H	J
48 x 48	48.00	3.00	25.00	34.80	34.20	24.94	9.00	1.00	10.00

SIGN SIZE	SERIES BY LINE			MARGIN	BORDER
	1	2	3		
48 x 48	7C	7C	7C	1.250	0.750

Sign not to scale

USER NAME = jpush	DESIGNED -	REVISED - 3-02-16
FILE NAME: C:\Users\jpush\OneDrive - QEI\Documents\Projects\2112_IDOT_D2_Var-Var Bridge\400-Work\Drawings\64R50_004-0017\Z64R50-004-0017-01-01-2022.dgn	DRAWN BY 3/410 - CADD\64R50_004-0017\Z64R50-004-0017-01-01-2022.dgn	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 5/5/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**REGION 2 / DISTRICT 2 STANDARD**

SCALE: N.T.S. SHEET 1 OF 4 SHEETS STA. TO STA.

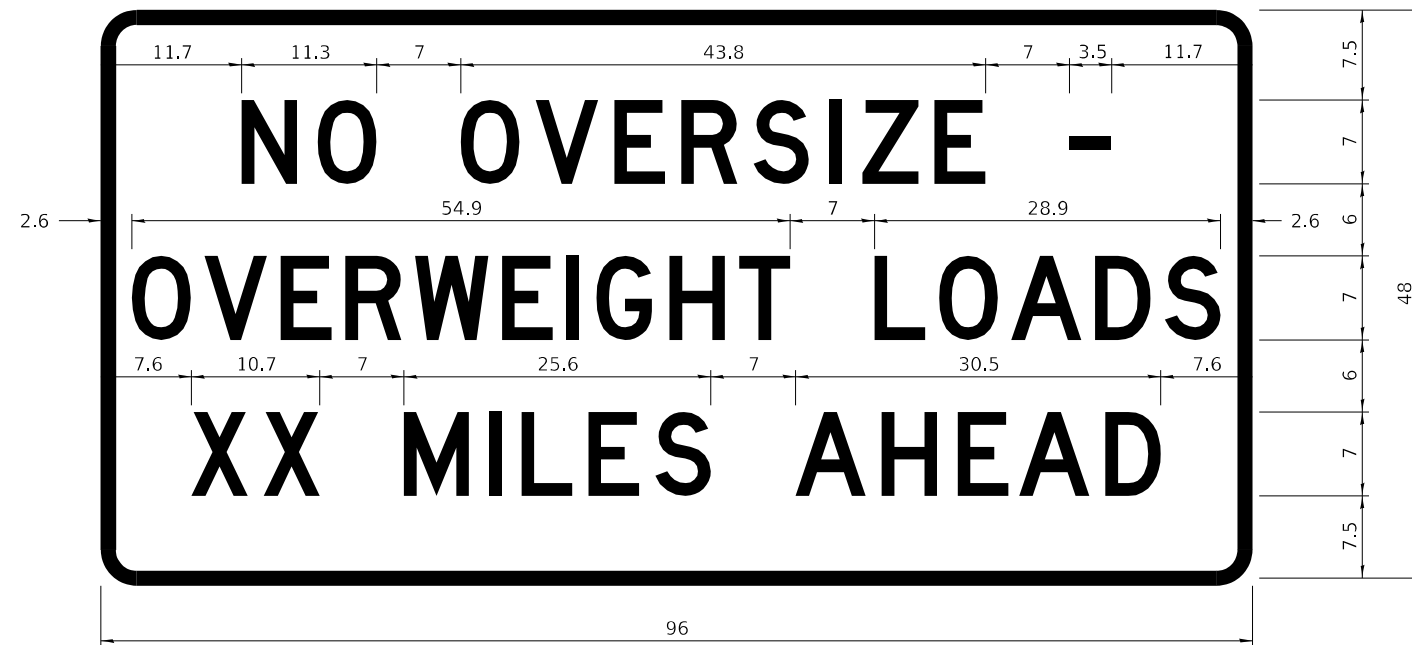
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	(14 BD-1)BDR	BOONE	20	13
CONTRACT NO. 64R50				
ILLINOIS FED. AID PROJECT				



# WORK ZONE SIGN DETAILS

## ROAD CLOSED TO OVERSIZED LOADS

## STOP LINE SIGN FOR TEMPORARY SIGNALS



COLOR	LEGEND AND BORDER BACKGROUND	BLACK ORANGE	NON-REFLECTORIZED REFLECTORIZED
-------	------------------------------	--------------	---------------------------------

COLOR	LEGEND AND BORDER BACKGROUND	BLACK WHITE	NON-REFLECTORIZED REFLECTORIZED
-------	------------------------------	-------------	---------------------------------

Permit Loads - Loads Over 13 Feet; 3.0" Radius, 1.3" Border;  
 [NO OVERSIZE -] D; [OVERWEIGHT LOADS] D 85% spacing; [XX MILES AHEAD] D;  
 Table of letter and object lefts.

SIGN SIZE	SERIES BY LINE		
	1	2	3
24 x 24	4C	4C	4C

N	O	O	V	E	R	S	I	Z	E	-
11.7	18.1	30.0	36.2	42.8	48.4	54.4	60.7	63.5	69.5	80.8

O	V	E	R	W	E	I	G	H	T	L	O	A	D	S
2.6	8.6	15.0	20.4	26.2	33.4	38.8	41.3	47.4	53.2	64.5	69.9	75.9	82.9	88.7

X	X	M	I	L	E	S	A	H	E	A	D
7.6	13.6	25.3	32.3	35.1	40.6	46.2	57.9	65.1	71.4	76.6	83.7

Sign not to scale

Sign not to scale

### GENERAL NOTES

All work to furnish and install these signs shall be included in the cost of the specified traffic control standards and shall not be paid separately.

All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" in effect on the date of invitation for bids.

Signs shall meet the applicable portions of Sections 701 and 720 of the Standard Specifications.

All dimensions are in inches unless otherwise noted.

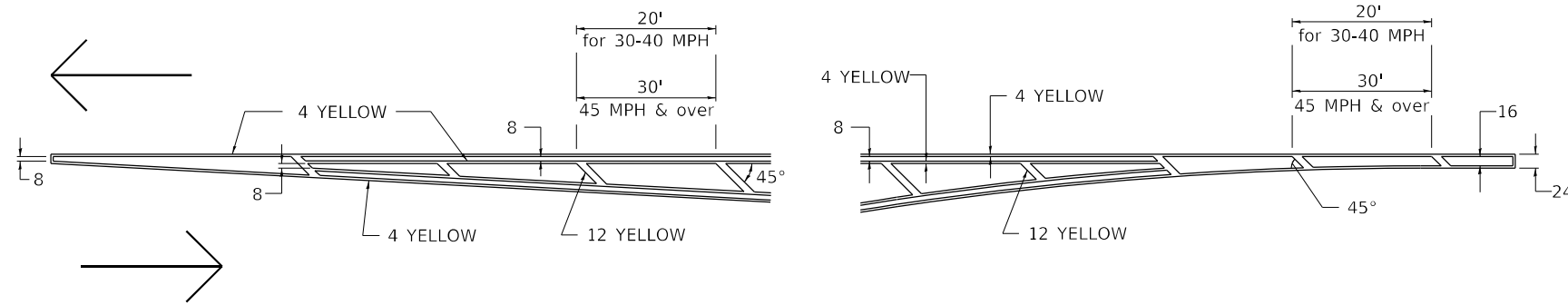
FILE NAME: C:\Users\push\OneDrive - QEI\Documents\Projects\2112_IDOT_D2_Var-Var Bridge\400-Work\Drawings\64R50_004-0017\Z64R50_SignDetails.dgn	USER NAME = jpush	DESIGNED -	REVISED - 3-02-16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -		525	(14 BD-1)BDR	BOONE	20	15			
PLOT DATE = 5/5/2022	DATE -	REVISED -		SCALE: N.T.S.	SHEET 3	OF 4 SHEETS	STA.	TO STA.	CONTRACT NO. 64R50			
								ILLINOIS FED. AID PROJECT				



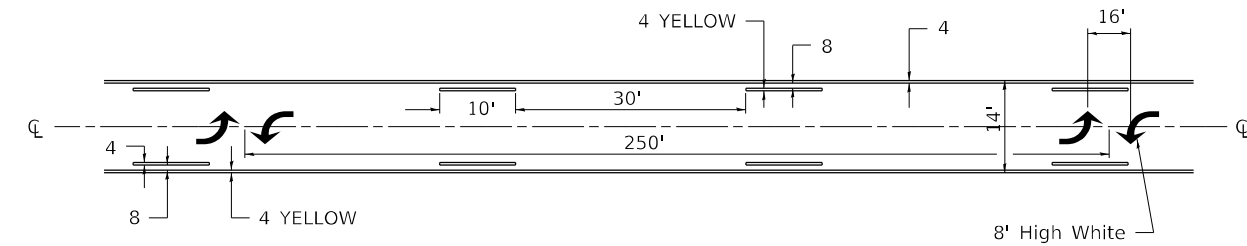


# TYPICAL PAVEMENT MARKINGS

## TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN AT LEFT TURN LANE

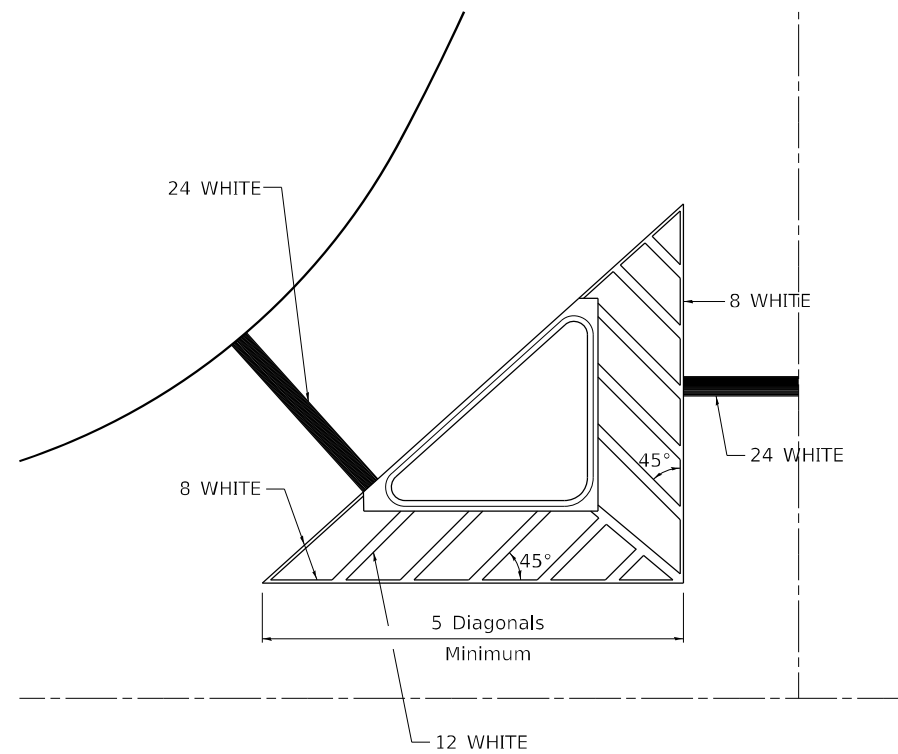


## MEDIAN PAVEMENT MARKING



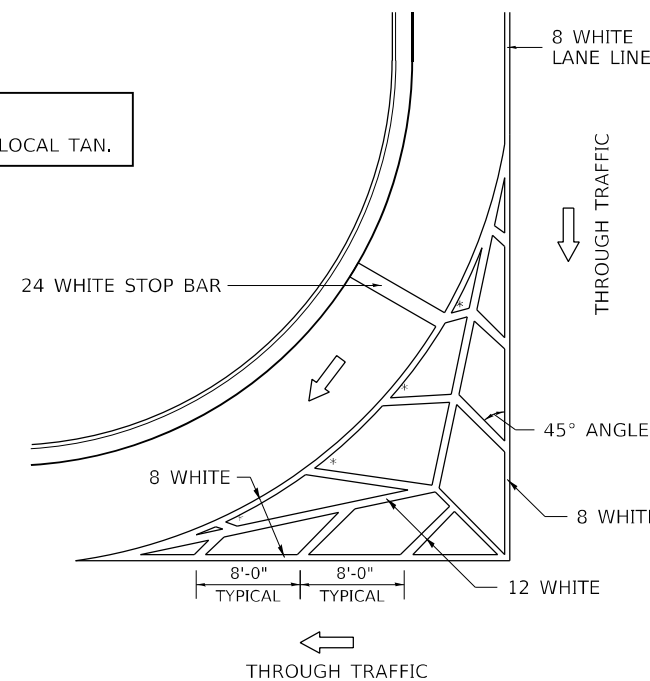
\*\* ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

## TYPICAL ISLAND OFFSET SHOULDER WIDTH



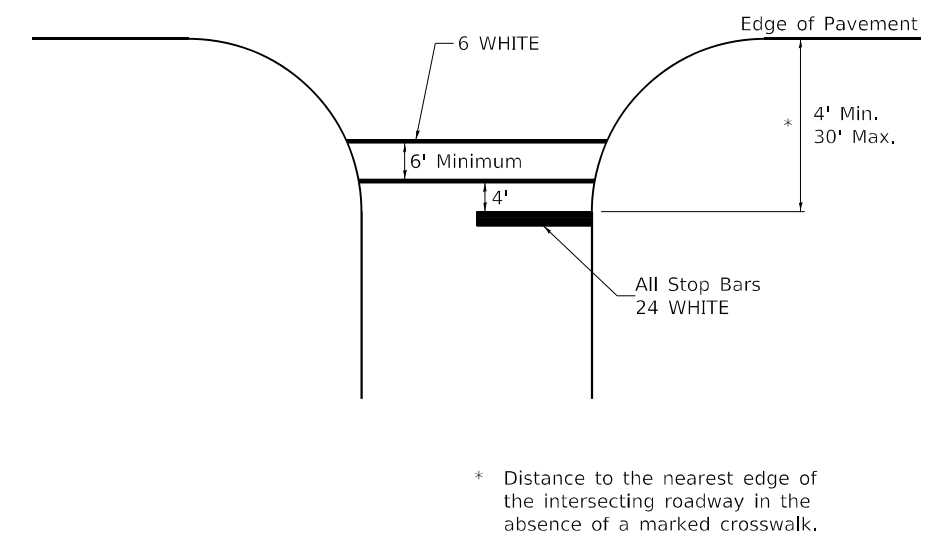
## TYPICAL MARKING FOR PAINTED ISLANDS

NOTE:  
\* 45° TO LOCAL TAN.



## STANDARD CROSSWALK MARKING

See Schedules for Locations

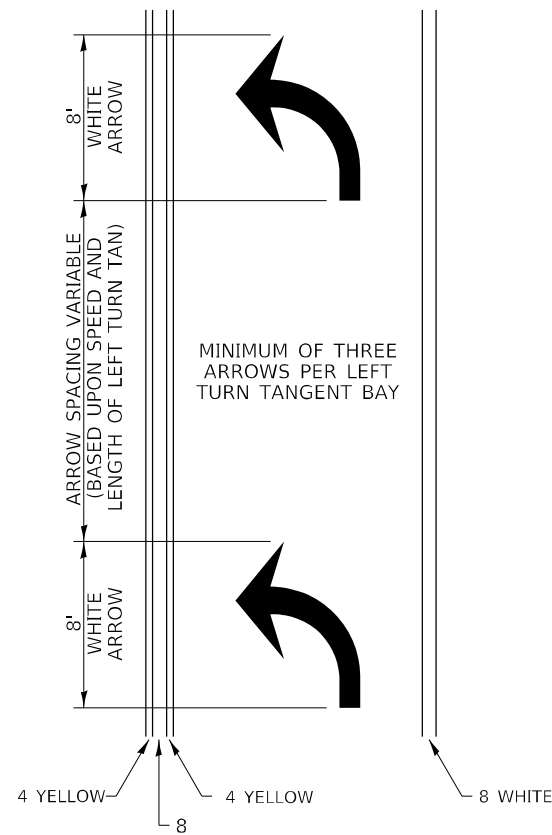


\* Distance to the nearest edge of the intersecting roadway in the absence of a marked crosswalk.

FILE NAME: C:\Users\jpush\OneDrive - QEI\OCDoc\Consult\Projects\2112_IDOT_D2_Var-Var Bridge\400-Work\Drawings\64R50_004-0017\Z64R50_004-0017.dgn	USER NAME = jpush	DESIGNED -	REVISED - 6-27-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A.P. RTE. 525	SECTION (14 BD-1)BDR	COUNTY BOONE	TOTAL SHEETS 20	SHEET NO. 17
	PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -		SCALE: N.T.S.	SHEET 1 OF 3 SHEETS	STA. TO STA.	CONTRACT NO. 64R50				
PLOT DATE = 5/5/2022	DATE -	REVISED -			ILLINOIS FED. AID PROJECT							

# TYPICAL PAVEMENT MARKINGS

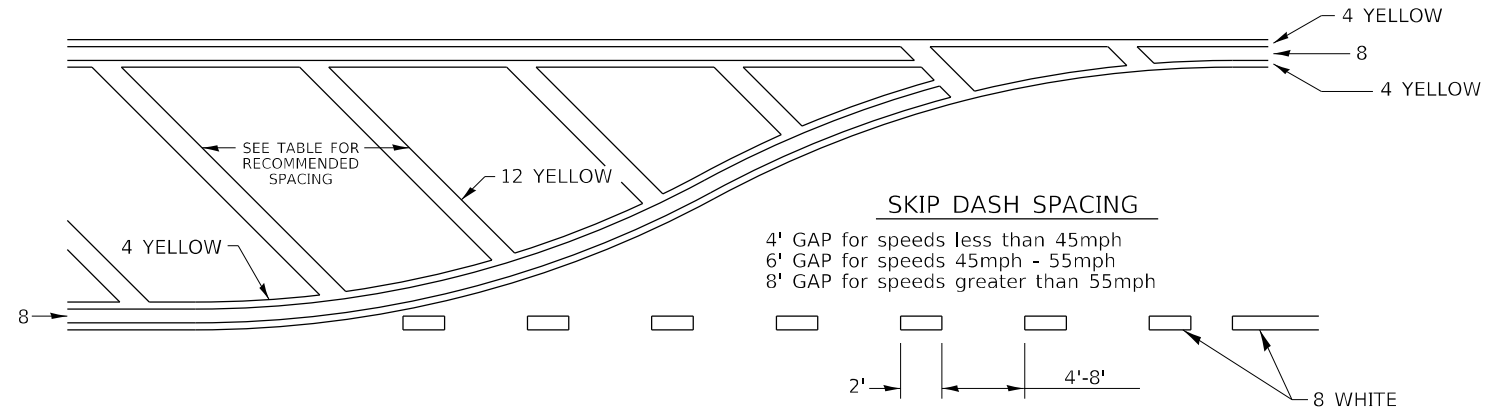
## ARROW LAYOUT



- ◄ ONE-WAY AMBER MARKER
- ◄ ONE-WAY CRYSTAL MARKER
- ◆ TWO-WAY AMBER MARKER

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

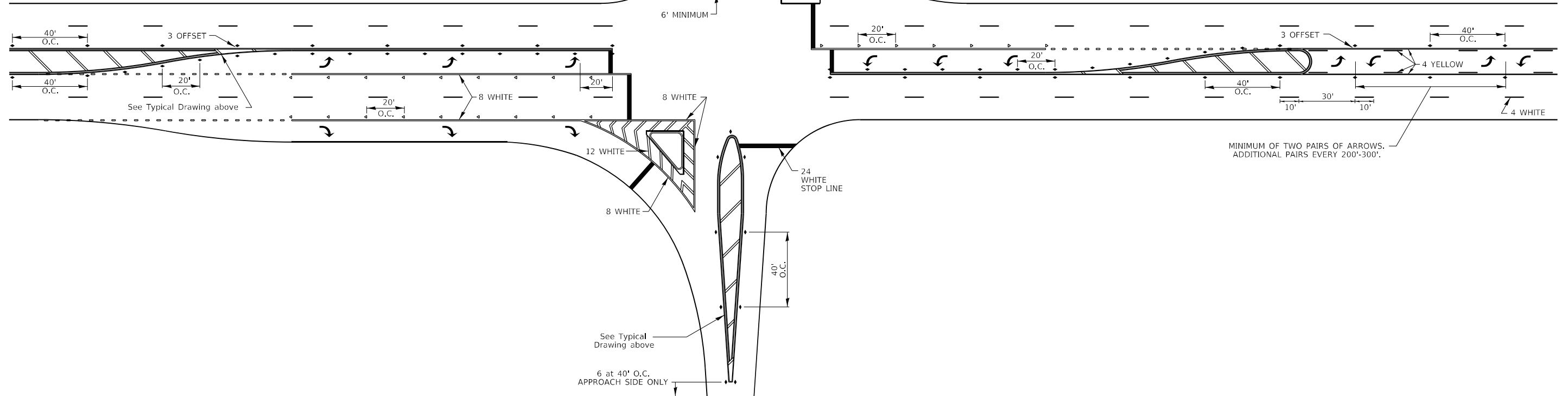
## TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN



### RECOMMENDED SPACING BETWEEN DIAGONALS (IN FEET)

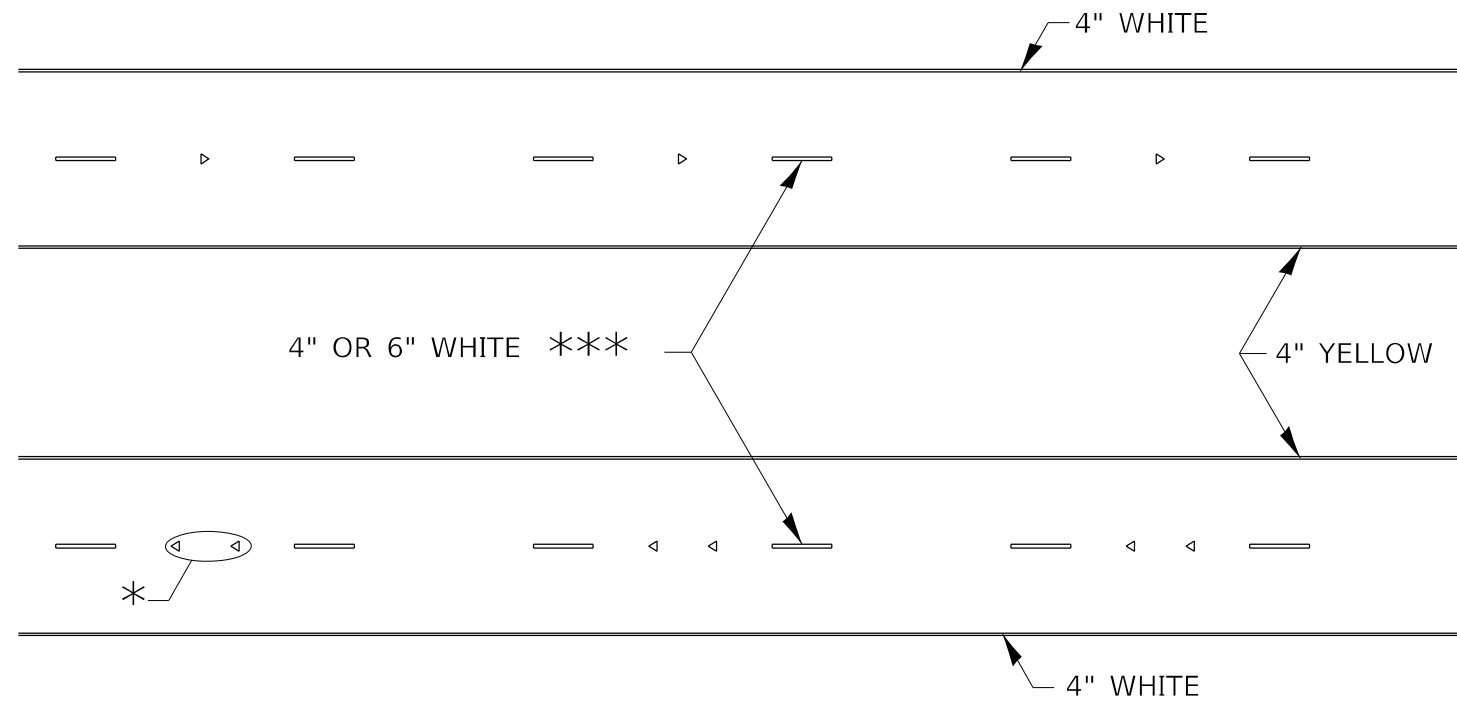
Speed Limit Range	Continuous Median Area	Intersection Channelization	Objects (Islands)
less than 30MPH	50'	15'	10'
30-40MPH	75'	20'	15'
45MPH & over	75'	30'	20'

NOTE: if the spacing recommended in the Table does not permit at least five diagonal lines in the area being marked, the spacing from the next lowest speed range should be used. The recommended spacing is measured parallel to the pavement center line.



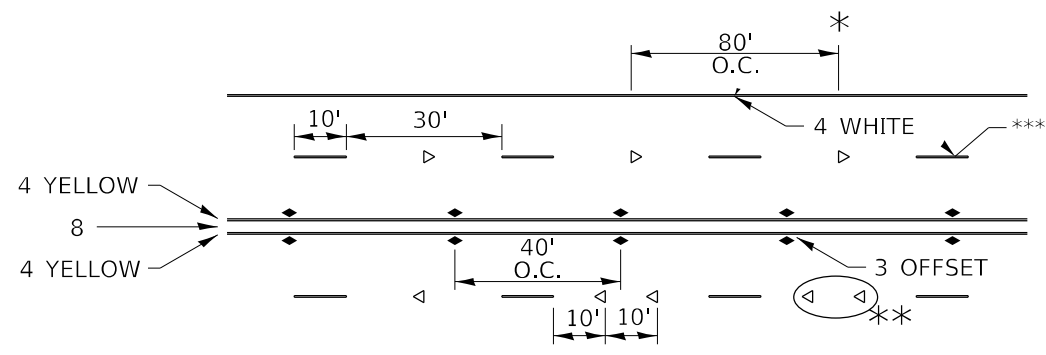
FILE NAME: C:\Users\push\OneDrive - QEI\Documents\Projects\2112_JDOT_D2_Var-Var Bridge\400-Work\Drawings\3-410 - CADD\64R50_004-0017\264850-Details.dgn	USER NAME = jpush	DESIGNED -	REVISED - 6-27-14	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>REGION 2 / DISTRICT 2 STANDARD</b>			F.A.P. RTE. = 525	SECTION = (14 BD-1)BDR	COUNTY = BOONE	TOTAL SHEETS = 20	SHEET NO. = 18
	PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -		SCALE: N.T.S.	SHEET 2	OF 3	SHEETS	STA.	TO STA.	CONTRACT NO. 64R50	
	PLOT DATE = 5/5/2022	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							

# TYPICAL PAVEMENT MARKINGS



\* SEE HIGHWAY STANDARD 781001 FOR SPACING DETAILS.  
USE DOUBLE MARKERS WHEN ADT ≥ 20,000.

## MULTI-LANE / DIVIDED



\* REDUCE TO 40' O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH LOWER THAN POSTED SPEEDS.

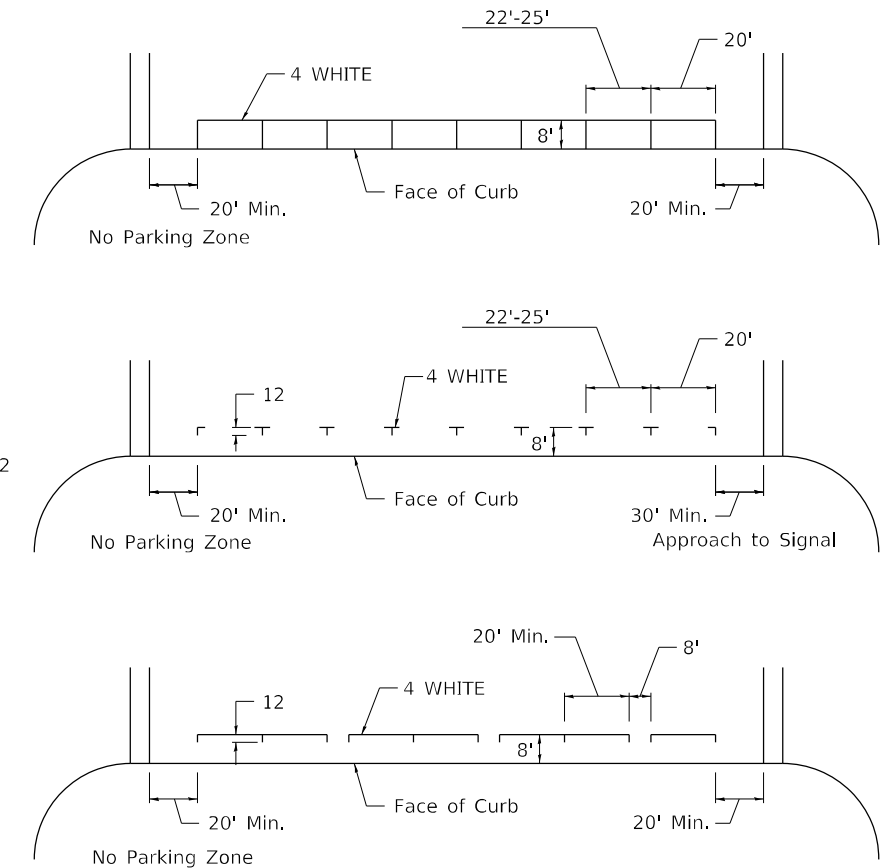
\*\* USE DOUBLE MARKERS WHEN ADT ≥ 20,000

\*\*\* CENTERLINE SKIP DASH PAVEMENT MARKING SPEED LIMIT LESS THAN 40 MPH USE 4" LINE. SPEED LIMIT 40 MPH AND OVER USE 6" LINE.

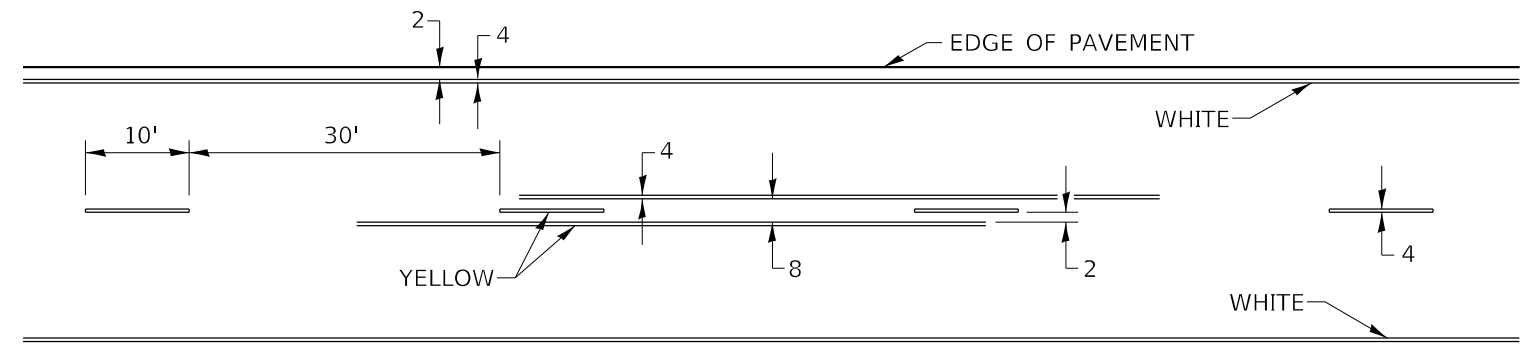
## MULTI-LANE / UNDIVIDED & ONE WAY

(FOR MULTI-LANE UNDIVIDED HIGHWAYS USE THIS DETAIL NOT HIGHWAY STANDARD 781001)

## TYPICAL PARKING SPACING



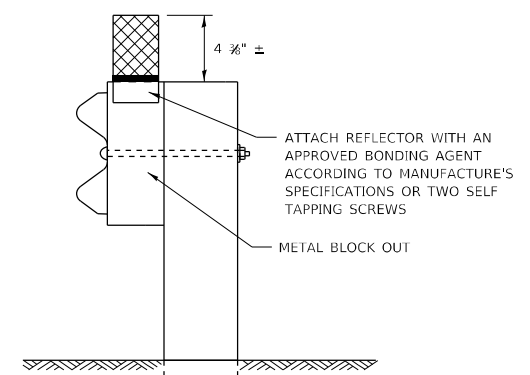
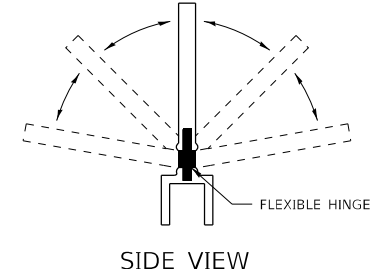
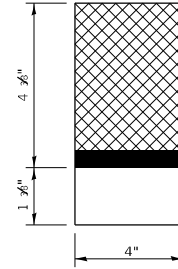
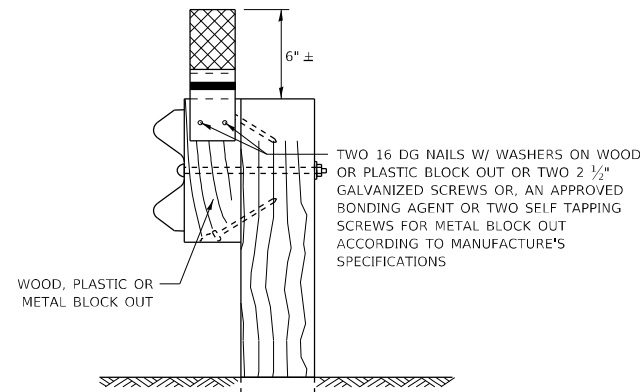
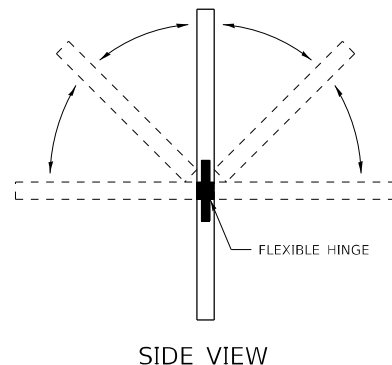
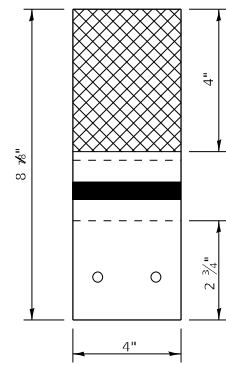
## TYPICAL PAVEMENT MARKING FOR TWO LANE SECTION – NO PASSING ZONES



## SYMBOLS

FILE NAME: C:\Users\jpush\OneDrive - QEI\OCDoc\Consult\Projects\2112_IDOT_D2_Var-Var Bridge\400-Work\Drawings\64R50_004-0017\Z64R50_004-0017.dgn	USER NAME = jpush	DESIGNED -	REVISED - 6-27-14	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN BY 3/410 - CADD\64R50_004-0017\Z64R50_004-0017.dgn	CHECKED -	REVISED - 8-27-13					525	(14 BD-1)BDR	BOONE	20	19
	PLOT SCALE = 100,0000' / in.	DATE -	REVISED - 11-28-12		SCALE: N.T.S.	SHEET 3	OF 3 SHEETS	STA.	TO STA.	CONTRACT NO. 64R50		
	PLOT DATE = 5/5/2022		REVISED -		ILLINOIS FED. AID PROJECT							

# GUARDRAIL REFLECTORS, TYPE C (SPECIAL)



REFLECTORS SHALL BE MOUNTED DIRECTLY TO WOOD OR PLASTIC BLOCK OUTS.

REFLECTORS MOUNTED ON WOODEN OR PLASTIC BLOCK OUT SHALL BE MOUNTED USING TWO 16 DG NAILS AND TWO 3/16" WASHERS OR TWO 1/2" GALVANIZED SCREWS WITH WASHERS.

MOUNTED ON A WOOD OR PASTIC GUARDRAIL BLOCK OUT

REFLECTORS SHALL BE MOUNTED DIRECTLY TO METAL BLOCK OUT.

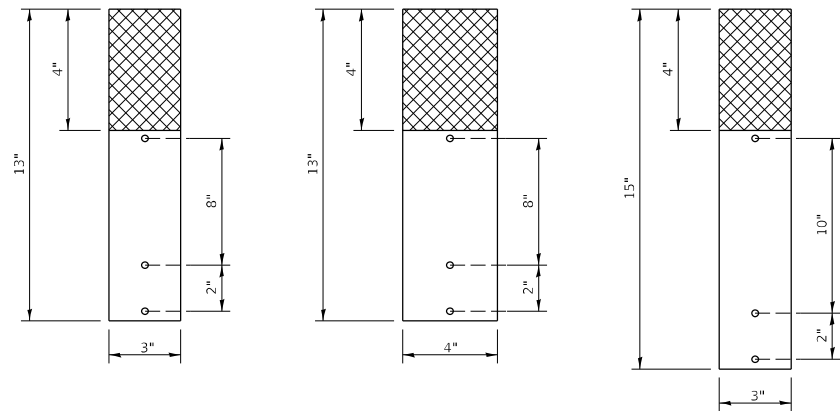
REFLECTORS MOUNTED ON METAL BLOCK OUT SHALL BE MOUNTED USING AN APPROVED BONDING AGENT PER THE MANUFACTURE'S SPECIFICATIONS OR TWO SELF TAPPING GALVANIZED SCREWS WITH WASHERS.

MOUNTED ON A METAL GUARDRAIL BLOCK OUT

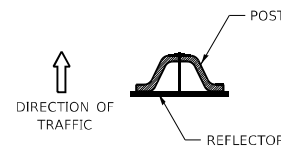
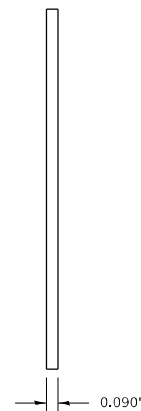
## REFLECTORS MOUNTED ON WOOD OR PLASTIC GUARDRAIL BLOCK OUT

## REFLECTORS MOUNTED ON METAL GUARDRAIL BLOCK OUT

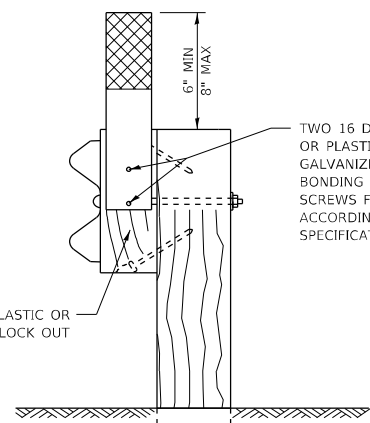
### STRAIGHT GUARDRAIL / DELINEATOR REFLECTOR



### SIDE VIEW



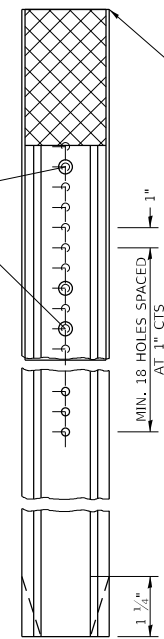
DELINEATORS SHALL BE INSTALLED ACCORDING TO STANDARD 635001 EXCEPT THAT THE POST SHALL BE ROTATED 180°. THE POST WILL HAVE THE WIDE SIDE FACING TRAFFIC AND THE REFLECTOR ATTACHECD AS SHOWN ABOVE.



MOUNTED ON A WOOD OR PASTIC GUARDRAIL BLOCK OUT

ADDITIONAL SHEETING MAY BE ADDED AS NEEDED FOR TURN AROUNDS AS SHOWN IN THE PLANS

10/24 X 1 1/2" BOLTS WITH WASHERS AND NUT (ADDITIONAL HOLES MAY BE DRILLED AS NEEDED)



TOP OF REFLECTOR PLACED FLUSH WITH TOP OF POST UNLESS DOUBLE SIDED REFLECTOR IS CALLED FOR, THEN REFLECTOR SHALL BE PLACED SUCH THAT THE REFLECTOR IS ABOVE THE TOP OF THE POST AND VISIBLE.

**NOTE:**

REFLECTORS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR GUARDRAIL REFLECTORS, TYPE C (SPECIAL), WHICH PRICE SHALL ALSO INCLUDE SCREWS/NAILS, WASHERS OR BONDING AGENT.

REFLECTORS INSTALLED ON TWO LANE ROADS SHALL BE DOUBLE SIDED AND BOTH SIDES SHALL BE CRYSTAL.

REFLECTORS INSTALLED ON DIVIDED HIGHWAYS SHALL BE SINGLE SIDED CRYSTAL.

SHEETING COLOR SHALL BE CALLED OUT IN THE PLANS.

SPACING FOR REFLECTORS SHALL BE ACCORDING TO STANDARD 782006 UNLESS OTHERWISE NOTED IN THE PLANS.

REFLECTORS MOUNTED ON GUARDRAIL SHALL BE 4" WIDE.

REFLECTORS MOUNTED ON DELINEATOR POST SHALL BE 3" WIDE.

USER NAME = jpush	DESIGNED -	REVISED - 6-21-21
FILE NAME: C:\Users\jpush\OneDrive - QEI\OCDoc\Consult\Projects\2112_IDOT_D2_Var-Var Bridge\400-Work\Drawings\64R50_004-0017\264R50-0017\REFLECTOR.dgn	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 5/5/2022	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**REGION 2 / DISTRICT 2 STANDARD**

SCALE: N.T.S. SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
525	(14 BD-1)BDR	BOONE	20	20
CONTRACT NO. 64R50				
ILLINOIS FED. AID PROJECT				