04-24-2020 LETTING ITEM 057

057

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 735 | (6) BDR | MACOUPIN | 13 | 1 |
| | | CONTRACT NO. 72L45 | | |

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

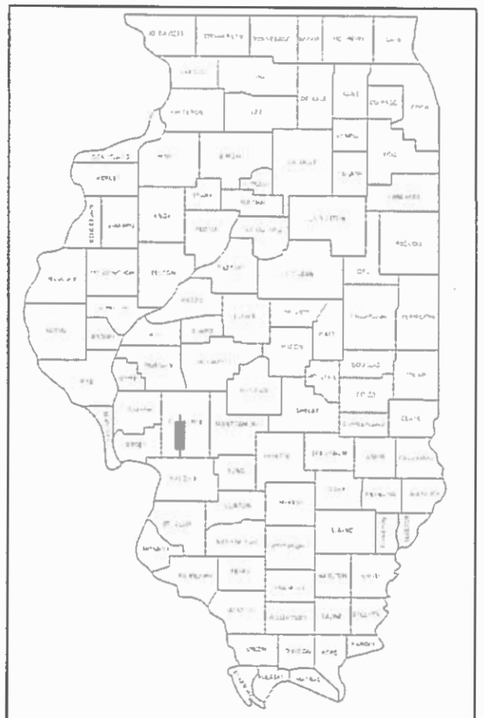
FOR INDEX OF SHEETS, SEE SHEET NO. 2

# PROPOSED HIGHWAY PLANS

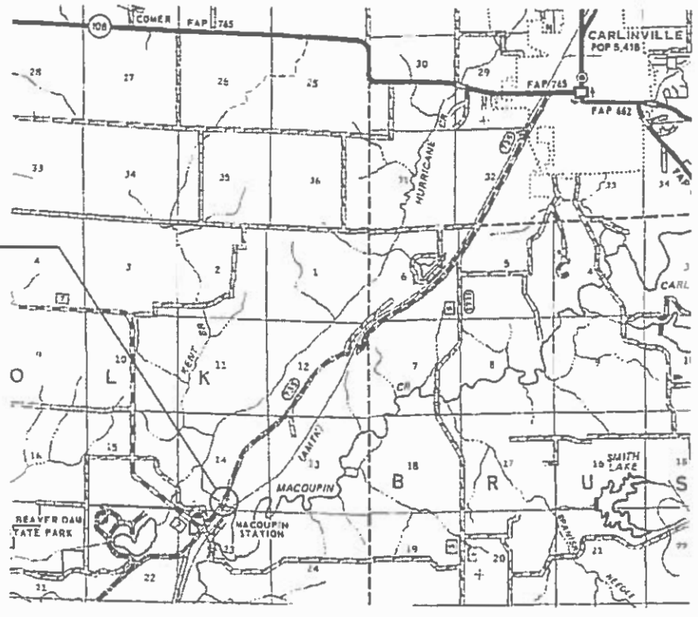
## FAS ROUTE 735 (SHIPMAN BLACKTOP)
## SECTION (6) BDR
## PROJECT STP-4BCR(897)
## BRIDGE DECK OVERLAY
## MACOUPIN COUNTY

C-96-023-20

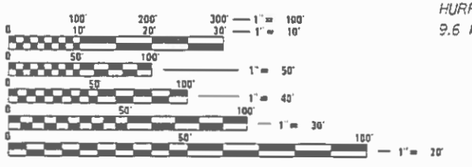
D-96-007-20



LOCATION OF SECTION INDICATED THUS: —




PROJECT LOCATION
SN 059-0053
SHIPMAN BLACKTOP OVER
HURRICANE CREEK
9.6 MI N IL 16




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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED January 30 20 20

REGIONAL ENGINEER

March 30 20 20

ENGINEER OF DESIGN AND ENVIRONMENT

March 30 20 20

DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

13

BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY – (217) 785-9290

GROSS LENGTH = 502 FT. = 0.10 MILE
NET LENGTH = 502 FT. = 0.10 MILE

CONTRACT NO. 72L45

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS



GENERAL NOTES:

BASE COURSE WIDENING SHALL BE COMPLETED PRIOR TO STAGING TRAFFIC.

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

STANDARDS

000001-07
001001-02
001006
701001-02
701006-05
701201-05
701301-04
701321-18
701326-04
701901-08
704001-08
780001-05
782006-01

PAVING SCHEDULE

| STA | TO | STA | BIT MATL (TACK CT) (POUND) | HMA SURF COURSE (TON) |
|---|---|---|---|---|
| 282+06 | - | 283+56 | 240 | 55 |
| 285+58 | - | 287+08 | 240 | 55 |
| | | | | |
| | | TOTALS | 480 | 110 |

PAVEMENT MARKING REMOVAL SCHEDULE

| STA | TO | STA | LOC. | LINE TYPE | PAVT MARK REM (SQ FT) |
|---|---|---|---|---|---|
| STAGE I | | | | | |
| 279+90 | - | 282+70 | ℄ | DOUBLE SOLID | 234 |
| 282+28 | - | 286+73 | LT | SOLID | 186 |
| 286+45 | - | 288+63 | ℄ | DOUBLE SOLID | 182 |
| | | | | | |
| STAGE II | | | | | |
| 282+28 | - | 283+56 | RT | SOLID | 54 |
| 285+58 | - | 286+95 | RT | SOLID | 57 |
| | | | | TOTAL | 713 |

SHOULDER IMPROVEMENT SCHEDULE

| STA | TO | STA | SIDE | BASE COURSE WIDENING 9" (SQ YD) | EARTH EX. WIDENING (CU YD) | AGG WEDGE SHLDR (TON) |
|---|---|---|---|---|---|---|
| 282+06 | - | 283+26 | LT | 54 | 13.5 | 5 |
| 282+06 | - | 283+26 | RT | 54 | 13.5 | 5 |
| 285+88 | - | 287+08 | LT | 54 | 13.5 | 5 |
| 285+88 | - | 287+08 | RT | 54 | 13.5 | 5 |
| | | | TOTALS | 216 | 54 | 20 |

**STATE OF ILLINOIS**
**DEPARTMENT OF TRANSPORTATION**
**DIVISION OF HIGHWAYS**
**DISTRICT 6**

EXAMINED January 27 20 20

ENGINEER OF OPERATIONS

EXAMINED January 27 20 20

ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED January 27 20 20

ENGINEER OF PROGRAM DEVELOPMENT

| MIXTURE USE(S) | HMA BASE CSE WIDENING * | HMA SURFACE CSE |
|---|---|---|
| AC/PG | PG 64-22 | PG 64-22 |
| DESIGN AIR VOIDS | 4.0% @ N50 | 4.0% @ N50 |
| MIX COMPOSITION (GRADATION MIXTURE) | IL 19.0 | IL 9.5 |
| FRICTION AGGREGATE | N/A | MIX "C" |
| QUALITY MANAGEMENT | QC/QA | QC/QA |
| SUBLOT SIZE | N/A | N/A |

* BASE COURSE PAY ITEM ALLOWS FOR HMA OR PCC USE.

MODEL: Default
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| USER NAME = dudleybm | DESIGNED - | REVISED - | |
| | DRAWN - | REVISED - | |
| PLOT SCALE = 100.0000 ' / in. | CHECKED - | REVISED - | |
| PLOT DATE = 1/27/2020 | DATE - | REVISED - | |

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

**INDEX, STANDARDS, GENERAL NOTES, SIGNATURES, & QUANTITY SCHEDULES**

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

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 735 | (6) BDR | MACOUPIN | 13 | 2 |
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS FED. AID PROJECT | | | |

| CODE NO. | ITEM | UNIT | TOTAL QUANTITY | 6-01414-0050<br>SN 059-0053<br>80/20 FED/ST<br>BRIDGE<br>0047<br>MACOUPIN |
|---|---|---|---|---|
| | | | | |
| 20200500 | EARTH EXCAVATION (WIDENING) | CU YD | 54 | 54 |
| | | | | |
| 35650400 | BASE COURSE WIDENING 9" | SQ YD | 216 | 216 |
| | | | | |
| 40600290 | BITUMINOUS MATERIALS (TACK COAT) | POUND | 480 | 480 |
| | | | | |
| 40600982 | HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT | SQ YD | 711 | 711 |
| | | | | |
| 40600990 | TEMPORARY RAMP | SQ YD | 85 | 85 |
| | | | | |
| 40604050 | HOT-MIX ASPHALT SURFACE COURSE, IL 9.5, MIX "C", N50 | TON | 110 | 110 |
| | | | | |
| 48102100 | AGGREGATE WEDGE SHOULDER, TYPE B | TON | 20 | 20 |
| | | | | |
| 50102400 | CONCRETE REMOVAL | CU YD | 3.8 | 3.8 |
| | | | | |
| 50300255 | CONCRETE SUPERSTRUCTURE | CU YD | 4.5 | 4.5 |
| | | | | |
| 50300260 | BRIDGE DECK GROOVING | SQ YD | 667 | 667 |
| | | | | |
| 50300300 | PROTECTIVE COAT | SQ YD | 722 | 722 |
| | | | | |
| 50800205 | REINFORCEMENT BARS, EPOXY COATED | POUND | 890 | 890 |
| | | | | |
| 50800515 | BAR SPLICERS | EACH | 16 | 16 |
| | | | | |
| 52000110 | PREFORMED JOINT STRIP SEAL | FOOT | 78 | 78 |
| | | | | |

| CODE NO. | ITEM | UNIT | TOTAL QUANTITY | 6-01414-0050<br>SN 059-0053<br>80/20 FED/ST<br>BRIDGE<br>0047<br>MACOUPIN |
|---|---|---|---|---|
| | | | | |
| 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 |
| | | | | |
| 70100500 | TRAFFIC CONTROL AND PROTECTION, STANDARD 701326 | L SUM | 1 | 1 |
| | | | | |
| 70106500 | TEMPORARY BRIDGE TRAFFIC SIGNALS | EACH | 1 | 1 |
| | | | | |
| 70106700 | TEMPORARY RUMBLE STRIPS | EACH | 6 | 6 |
| | | | | |
| 70300100 | SHORT TERM PAVEMENT MARKING | FOOT | 100 | 100 |
| | | | | |
| 70300150 | SHORT TERM PAVEMENT MARKING REMOVAL | SQ FT | 33 | 33 |
| | | | | |
| 70400100 | TEMPORARY CONCRETE BARRIER | FOOT | 475 | 475 |
| | | | | |
| 70400200 | RELOCATE TEMPORARY CONCRETE BARRIER | FOOT | 475 | 475 |
| | | | | |
| 70600260 | IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3 | EACH | 2 | 2 |
| | | | | |
| 70600332 | IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3 | EACH | 2 | 2 |
| | | | | |
| *78001120 | PAINT PAVEMENT MARKING - LINE 5" | FOOT | 4000 | 4000 |
| | | | | |
| 78300200 | RAISED REFLECTIVE PAVEMENT MARKER REMOVAL | EACH | 4 | 4 |
| | | | | |

* SPECIALTY ITEM

REV. - MS

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| | DRAWN - | REVISED - |
| PLOT SCALE = 100.0000 ' / in. | CHECKED - | REVISED - |
| PLOT DATE = 1/27/2020 | DATE - | REVISED - |

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

**SUMMARY OF QUANTITIES**

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

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 735 | (6) BDR | MACOUPIN | 13 | 3 |
| | | CONTRACT NO. 72L45 | | |
| | | ILLINOIS FED. AID PROJECT | | |

| | | | | 6-01414-0050 |
|---|---|---|---|---|
| | | | | SN 059-0053 |
| | | | | 80/20 FED/ST |
| CODE NO. | ITEM | UNIT | TOTAL QUANTITY | BRIDGE 0047 MACOUPIN |
| | | | | |
| X0323818 | CLEANING AND PAINTING EXPOSED REBAR | SQ FT | 5 | 5 |
| | | | | |
| X0325748 | ACRYLIC COATING | SQ YD | 1.3 | 1.3 |
| | | | | |
| X0325749 | FIBER WRAP | SQ FT | 9 | 9 |
| | | | | |
| X0327979 | PAVEMENT MARKING REMOVAL - GRINDING | SQ FT | 713 | 713 |
| | | | | |
| X7200201 | WIDTH RESTRICTION SIGNING | L SUM | 1 | 1 |
| | | | | |
| Z0012130 | BRIDGE DECK SCARIFICATION, 3/4" | SQ YD | 704 | 704 |
| | | | | |
| Z0012164 | BRIDGE DECK MICROSILICA CONCRETE OVERLAY, 2-1/2" | SQ YD | 704 | 704 |
| | | | | |
| Z0012500 | CONCRETE CURB REPAIR | FOOT | 25 | 25 |
| | | | | |
| Z0016002 | DECK SLAB REPAIR (FULL DEPTH, TYPE II) | SQ YD | 5 | 5 |
| | | | | |
| Z0043800 | PRECAST PRESTRESSED CONCRETE I-BEAM REPAIR | SQ FT | 2.5 | 2.5 |
| | | | | |
| | | | | |
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| | DRAWN - | REVISED - | |
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| PLOT DATE = 1/27/2020 | DATE - | REVISED - | |

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

**SUMMARY OF QUANTITIES**

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

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
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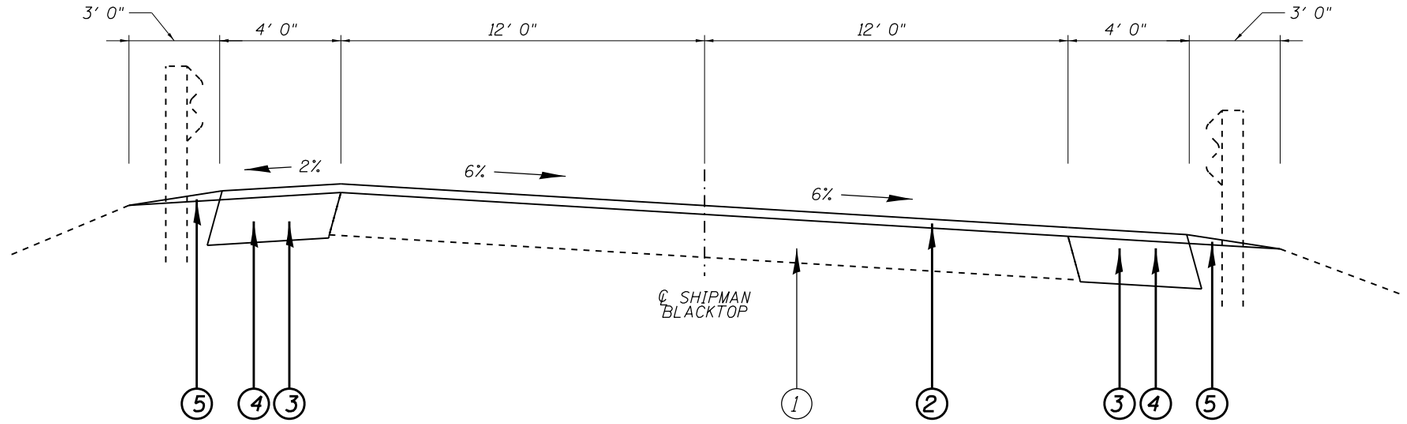
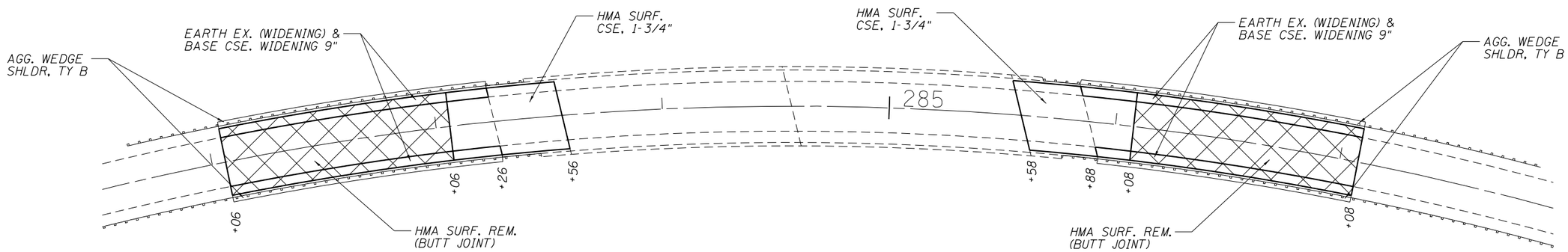
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS | FED. AID PROJECT | | |




1. EXISTING FD HMA PAVEMENT, 8-3/4"
2. **PROPOSED HMA SURFACE COURSE, 1-3/4"**
3. **PROPOSED EARTH EXCAVATION (WIDENING)**
4. **PROPOSED BASE COURSE WIDENING, 9"**
5. **PROPOSED AGGRAGATE WEDGE SHOULDER - TYPE B**

STA 282+06.00 TO STA 283+25.71 *
STA 285+88.25 TO STA 287+08.00 *

* BRIDGE APPROACH PAVEMENT
STA 283+25.71 TO STA 283+55.71
STA 285+58.25 TO STA 285+88.25

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## ROADWAY PLAN

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| | DRAWN - | REVISED - | |
| PLOT SCALE = 100.0000 ' / in. | CHECKED - | REVISED - | |
| PLOT DATE = 1/27/2020 | DATE - | REVISED - | |

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

**TYPICAL SECTION & ROADWAY PLAN**

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

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
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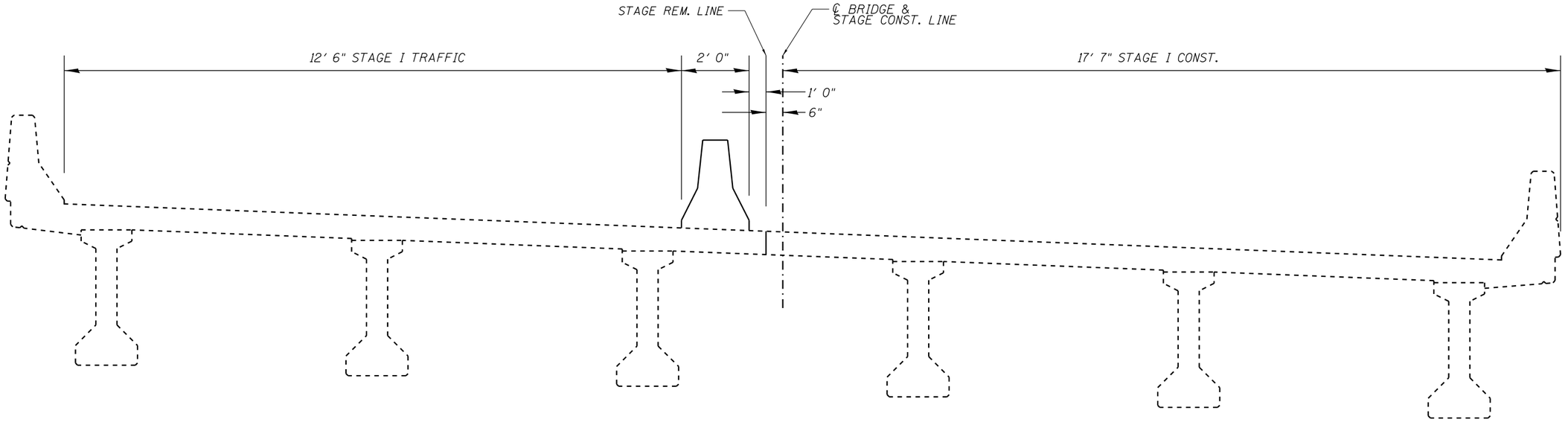
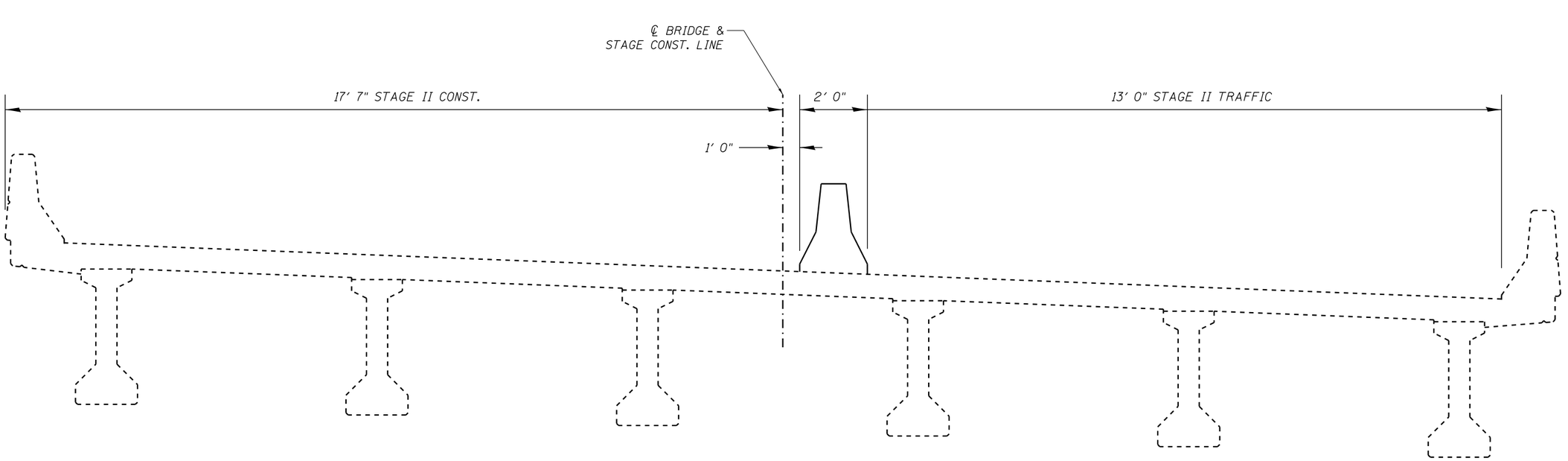
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS | FED. AID PROJECT | | |




STAGE I CROSS SECTION (LOOKING SOUTH)




STAGE II CROSS SECTION (LOOKING SOUTH)

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| | DRAWN - | REVISED - |
| PLOT SCALE = 100.0000 ' / in. | CHECKED - | REVISED - |
| PLOT DATE = 1/27/2020 | DATE - | REVISED - |

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

**TRAFFIC STAGING PLAN**

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

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
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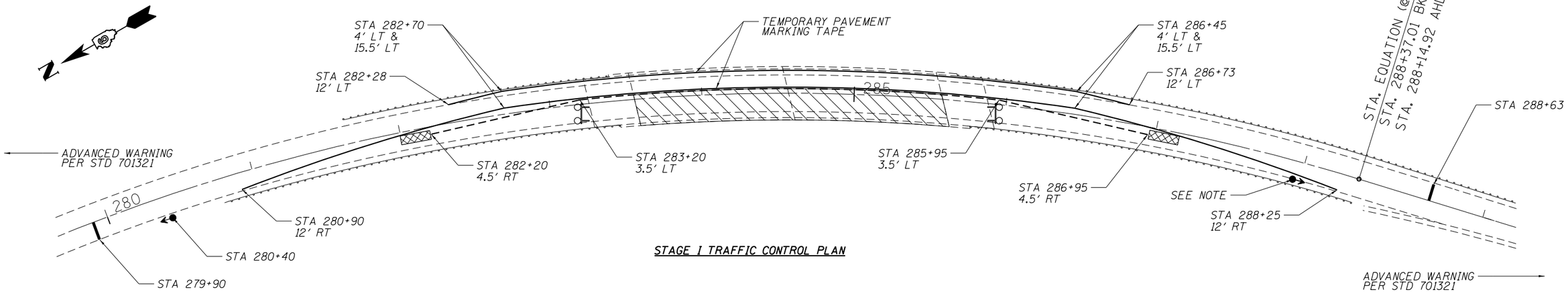
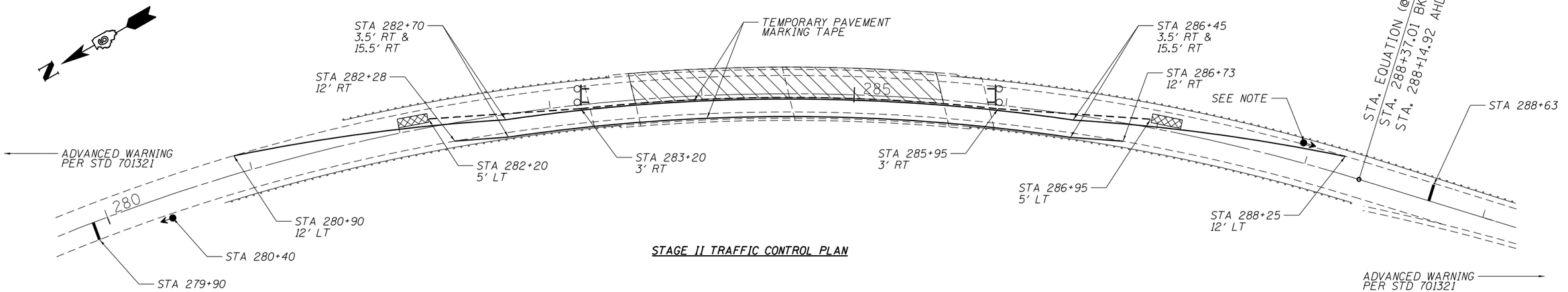
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS | FED. AID PROJECT | | |




**STAGE I TRAFFIC CONTROL PLAN**




**STAGE II TRAFFIC CONTROL PLAN**

## SYMBOLS

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR
- TRAFFIC SIGNAL
- TYPE III BARRICADE WITH FLASHING LIGHTS

*TRAFFIC CONTROL NOTES:*

1. *TRAFFIC CONTROL DEVICES NOT SHOWN IN THIS DETAIL SHALL BE PER STANDARD 701321. DEVICES AND TEMPORARY PAVEMENT MARKINGS SHOWN IN THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701321. IMPACT ATTENUATORS, AND TEMPORARY CONCRETE BARRIER SHALL BE PAID SEPARATELY.*

2. *TEMPORARY CONCRETE BARRIER OFFSETS GIVEN IN THIS DETAIL REFER TO THE EDGE OF THE BARRIER NEAREST TO LIVE TRAFFIC.*

3. *RUMBLE STRIPS SHOWN IN STANDARD 701321 WILL BE REQUIRED, AND SHALL BE PAID FOR SEPARATELY.*

4. *NORTHBOUND SIGNALS SHALL BE PLACED INSIDE THE GUARDRAIL WITHIN THE TAPER. PLACEMENT SHALL BE AS DIRECTED BY THE ENGINEER, BUT SIGNALS SHALL NOT BE PLACED MORE THAN 100' FROM THE STOP BAR. IF REQUIRED BY THE ENGINEER, THE TRAFFIC DETECTOR SHALL BE POST MOUNTED AT +/-50' FROM THE STOP BAR. ANY NECESSARY MODIFICATIONS TO THE SIGNAL HEADS OR TRAFFIC DETECTORS SHALL BE INCLUDED IN THE BID PRICE FOR TEMPORARY BRIDGE TRAFFIC SIGNALS.*

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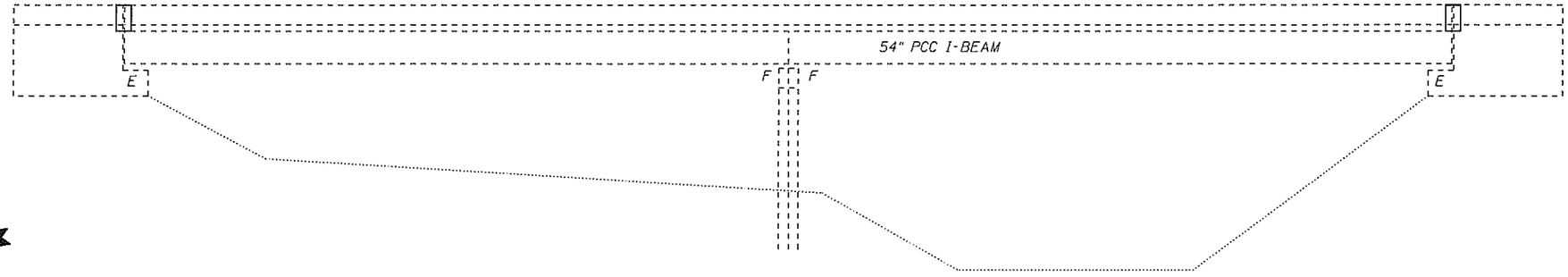
| | DRAWN - | REVISED - |
| PLOT SCALE = 100.0000 ' / in. | CHECKED - | REVISED - |
| PLOT DATE = 1/27/2020 | DATE - | REVISED - |

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

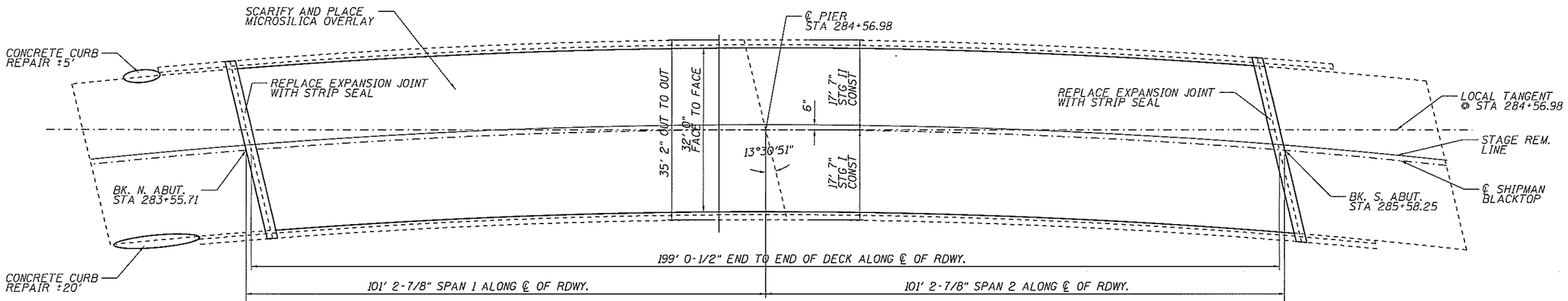
**TRAFFIC CONTROL PLAN**

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

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 735 | (6) BDR | MACOUPIN | 13 | 7 |
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS FED. AID PROJECT | | | |




ELEVATION




PLAN

DAVID CARL PUZEY
081.005470
LICENSED STRUCTURAL ENGINEER
OF
STATE OF ILLINOIS

D Carl Puzey 3/6/2020
Expires 11/30/2020

STRUCTURE GENERAL NOTES:

SYNTHETIC FIBERS SHALL BE ADDED TO THE BRIDGE DECK MICROSILICA CONCRETE OVERLAY. SEE SPECIAL PROVISIONS.

ALL STRUCTURAL STEEL SHALL BE AASHTO M-270 GRADE 36. UNLESS OTHERWISE NOTED.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

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 THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED, AND INCORPORATED INTO THE NEW CONSTRUCTION. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCLUDED WITH CONCRETE REMOVAL.

JOINT OPENINGS SHALL BE ADJUSTED ACCORDING TO ARTICLE 520.04 OF THE STANDARD SPECIFICATIONS WHEN THE DECK IS POURED AT AN AMBIENT TEMPERATURE OTHER THAN 50°F.

PROTECTIVE COAT SHALL BE APPLIED TO THE NEW CONCRETE AND THE MICROSILICA OVERLAY.

TOTAL BILL OF MATERIAL (059-0053)

| ITEM | UNIT | QUANTITY |
|---|---|---|
| Concrete Removal | Cu. Yd. | 3.8 |
| Concrete Superstructure | Cu. Yd. | 4.5 |
| Bridge Deck Grooving | Sq. Yd. | 667 |
| Reinforcement Bars, Epoxy Coated | Pound | 890 |
| Bar Splicers | Each | 16 |
| Preformed Joint Strip Seal | Foot | 78 |
| Bridge Deck Scarification, 3/4" | Sq. Yd. | 704 |
| Bridge Deck Microsilica Concrete Overlay, 2-1/2" | Sq. Yd. | 704 |
| * Deck Slab Repair (Full Depth, Type II) | Sq. Yd. | 5 |
| Protective Coat | Sq. Yd. | 722 |
| Fiber Wrap | Sq. Ft. | 9.0 |
| Acrylic Coating | Sq. Yd. | 1.3 |
| Precast Prestressed Concrete I-Beam Repair | Sq. Ft. | 2.5 |
| Cleaning and Painting Exposed Rebar | Sq. Ft. | 5.0 |
| Concrete Curb Repair | Foot | 25 |

* No FD patches anticipated, nominal quantity included

MODEL: Default
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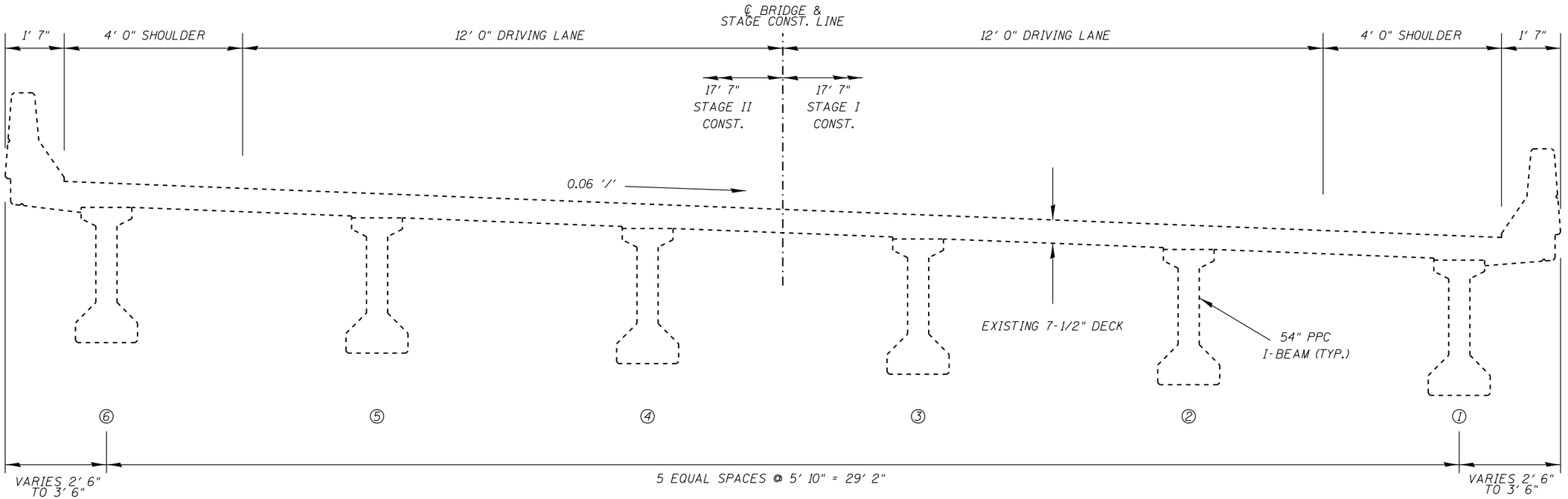
| | | | |
|---|---|---|---|
| USER NAME = dudleybm | DESIGNED - BRANDON DUDLEY | REVISED - | |
| | DRAWN - BRANDON DUDLEY | REVISED - | |
| PLOT SCALE = 100.0000 ' / in. | CHECKED - JASON JONES | REVISED - | |
| PLOT DATE = 3/6/2020 | DATE - 1/27/2020 | REVISED - | |

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

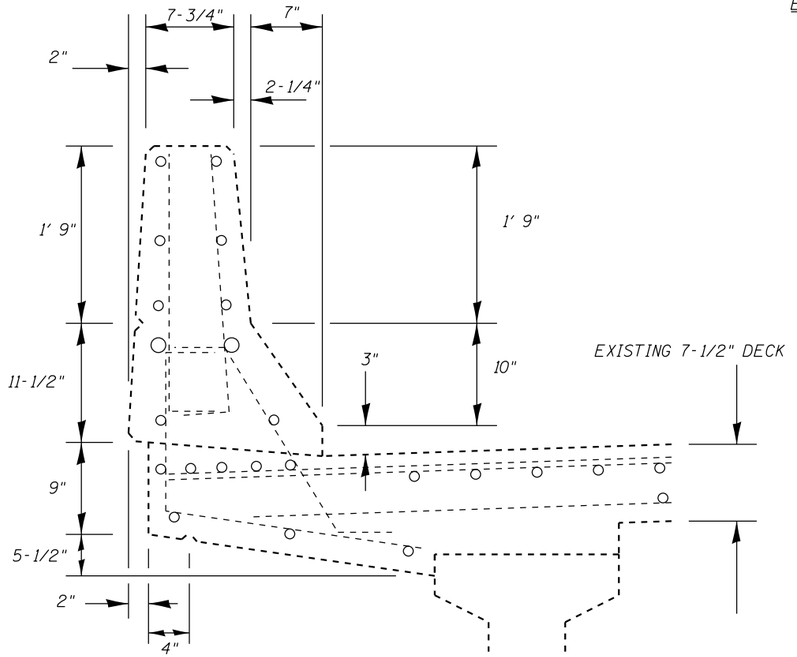
**BRIDGE PLAN & ELEVATION**
**SN 059-0053**

SCALE: | SHEET 1 OF 6 SHEETS | STA. | TO STA.

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 735 | (6) BDR | MACOUPIN | 13 | 8 |
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS FED. AID PROJECT | | | |




BRIDGE CROSS SECTION (LOOKING SOUTH)




TYPICAL PARAPET CROSS SECTION

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| | DRAWN - | REVISED - | |
| PLOT SCALE = 100.0000 ' / in. | CHECKED - | REVISED - | |
| PLOT DATE = 1/27/2020 | DATE - | REVISED - | |

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

**BRIDGE CROSS SECTION**
**SN 059-0053**

SCALE: | SHEET 2 OF 6 SHEETS | STA. | TO STA.

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
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| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS | FED. AID PROJECT | | |

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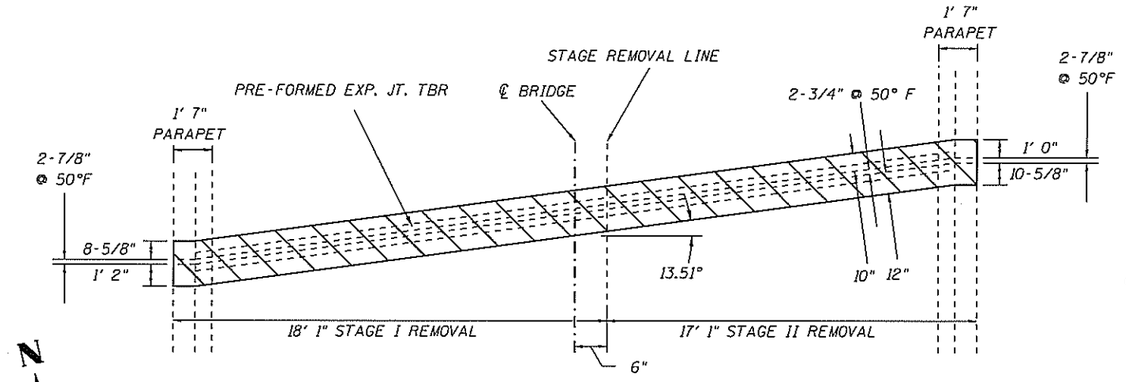
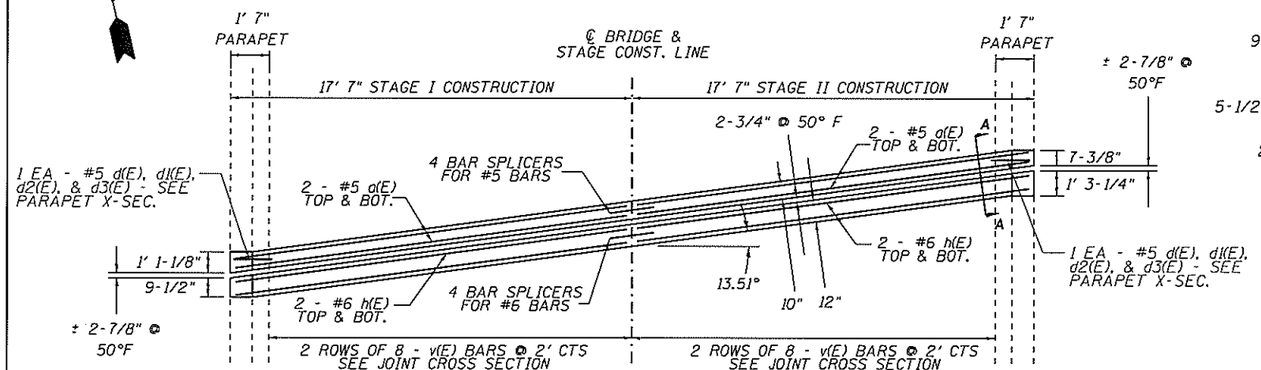
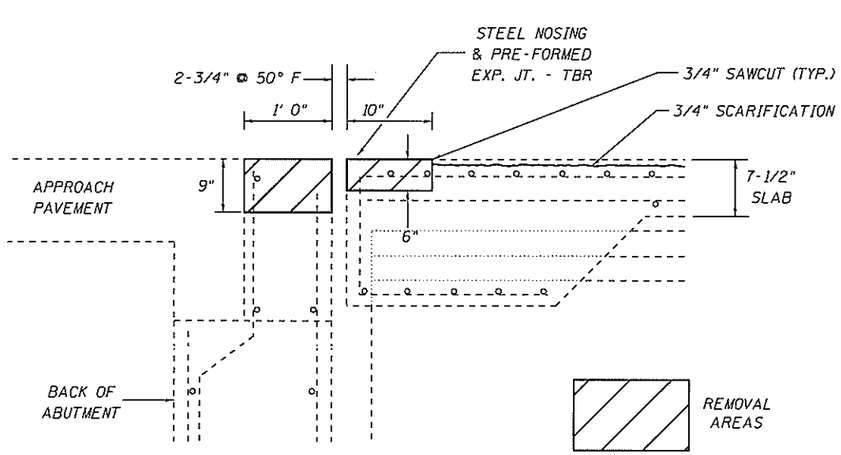


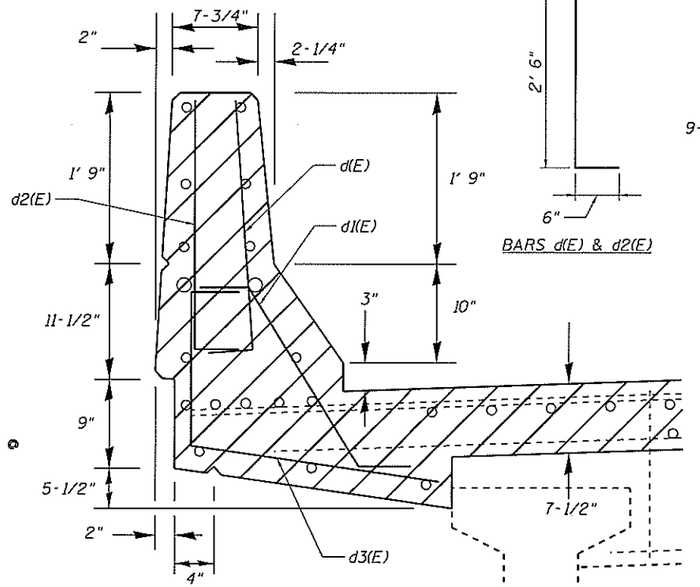

JOINT REMOVAL PLAN
SOUTH JT SHOWN, NORTH JT SIMILAR



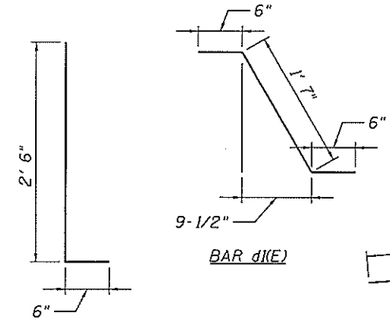

JOINT REMOVAL PLAN
SOUTH JT SHOWN, NORTH JT SIMILAR




JOINT REMOVAL CROSS SECTION



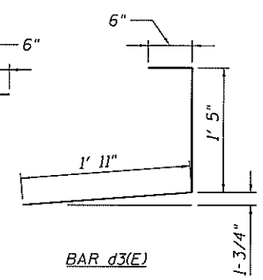

PARAPET REMOVAL CROSS SECTION



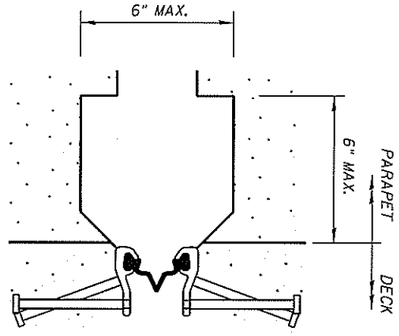

BARS d(E) & d2(E)



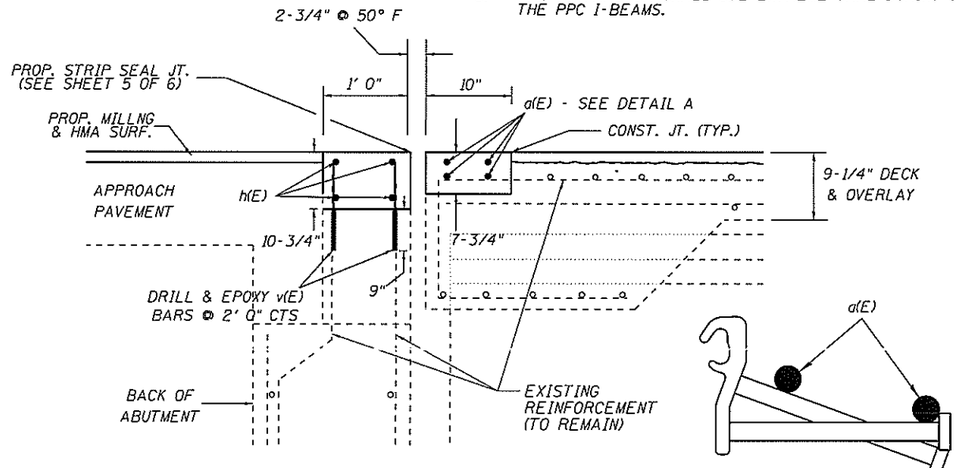

BAR d1(E)




BAR d3(E)




SECTION A-A
JOINT BLOCKOUT DETAIL




JOINT CROSS SECTION




DETAIL A - d(E)
TOP MAT PLACEMENT

NOTES:

1. REMOVAL OF EXISTING EXPANSION JOINT SHALL BE INCLUDED IN THE COST OF CONCRETE REMOVAL.
2. A 6" X 6" BLOCKOUT WILL BE PERMITTED IN THE BASE OF THE PARAPET AT THE EXPANSION JOINT IN ORDER TO FACILITATE JOINT SEAL INSTALLATION.
3. THE CONTRACTOR SHALL USE EXTREME CARE DURING CONCRETE REMOVAL SO AS NOT TO DAMAGE THE PPC I-BEAMS.

BILL OF MATERIAL - 2 JOINTS

| BAR | # | SIZE | LENGTH | SHAPE |
|---|---|---|---|---|
| a(E) | 16 | #5 | 17' 9" | —— |
| h(E) | 16 | #6 | 17' 9" | —— |
| v(E) | 72 | #5 | 1' 6" | —— |
| d(E) | 4 | #5 | 3' 0" | L |
| d1(E) | 4 | #5 | 2' 7" | ⌐ |
| d2(E) | 4 | #5 | 3' 0" | L |
| d3(E) | 4 | #5 | 3' 10" | ⌐ |

| | | |
|---|---|---|
| REINFORCEMENT BARS (EPOXY COATED) | POUND | 890 |
| CONC. SUPERSTRUCTURE | CU YD | 4.5 |
| CONC. REMOVAL | CU YD | 3.8 |

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

**EXPANSION JOINT DETAILS**
**SN 059-0053**

SCALE: | SHEET 3 OF 6 SHEETS | STA. | TO STA.

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
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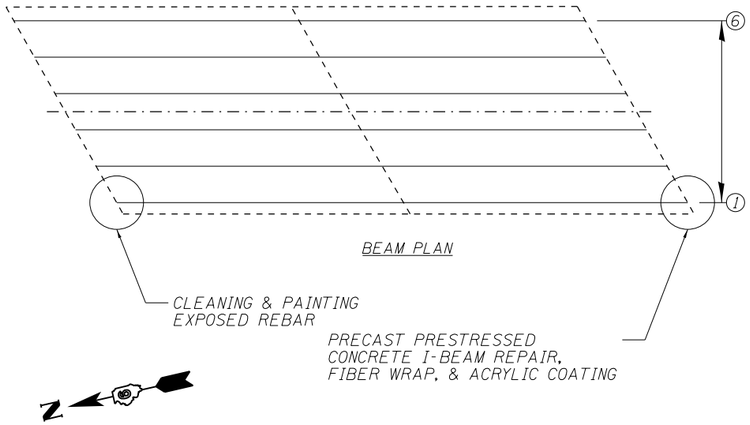
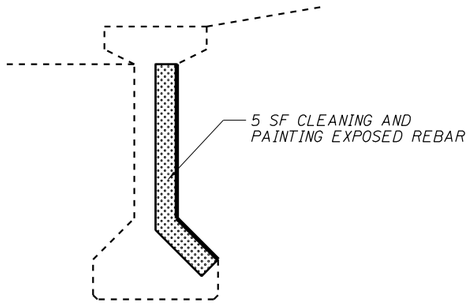
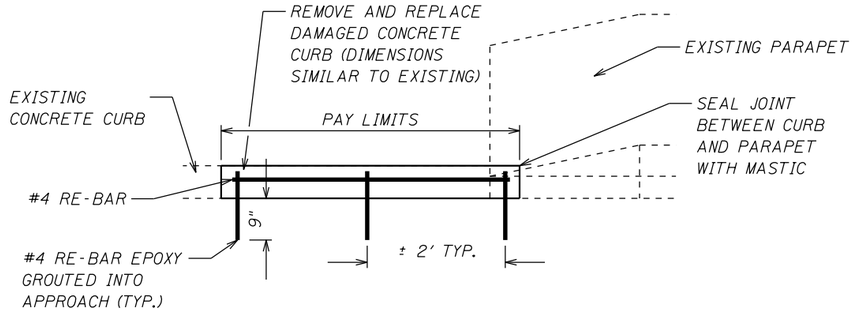
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS | FED. AID PROJECT | | |

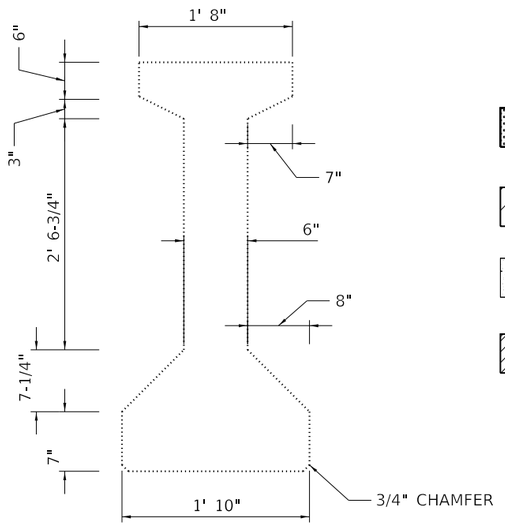


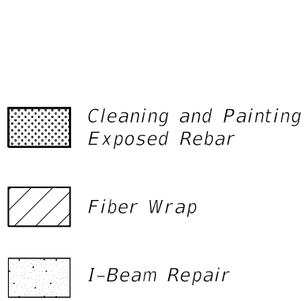

NORTH ABUTMENT BEAM #1
END CROSS SECTION - LOOKING SOUTH

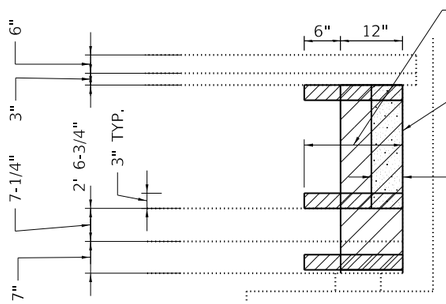



CONCRETE CURB REPAIR ELEVATION
(SEE BRIDGE PLAN FOR LOCATIONS)

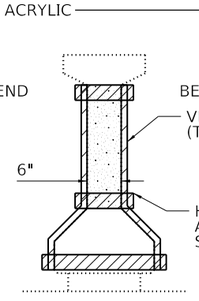



TYPICAL BEAM END CROSS SECTION

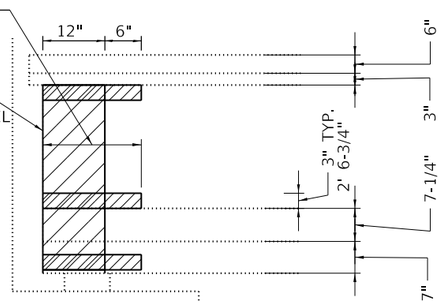



WEST ELEVATION LOOKING EAST




END ELEVATION LOOKING NORTH




EAST ELEVATION LOOKING WEST

SOUTH ABUTMENT BEAM #1
ELEVATIONS & CROSS SECTION

Notes:
- Acrylic coating shall be placed over fiber wrap repairs.
- See Special Provisions for "Fiber Wrap for PCC I-Beam Repairs."
- See Special Provisions for "Precast Prestressed Concrete I-Beam Repairs."
- Vertical panels must be between 10" and 12". Vertical panels shall extend beyond the repair zone by a minimum of 3". Vertical panelslocated above the bearing location shall be placed in two pieces.
- Horizontal anchorage strips shall be 3" wide and extend a minimum of 6" beyond the vertical panels. The horizontal strips shall be placed on top of the vertical panels.

**BILL OF MATERIAL**

| ITEM | UNIT | QUANTITY |
|---|---|---|
| Fiber Wrap | Sq. Ft. | 9.0 |
| Acrylic Coating | Sq. Yd. | 1.3 |
| Precast Prestressed Concrete I-Beam Repair | Sq. Ft. | 2.5 |
| Cleaning and Painting Exposed Rebar | Sq. Ft. | 5.0 |
| Concrete Curb Repair | Foot | 25 |
| | | |

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| PLOT DATE = 1/27/2020 | DATE - | REVISED - |

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

**MISC. BRIDGE DETAILS**
**SN 059-0053**

SCALE: | SHEET 4 OF 6 SHEETS | STA. | TO STA.

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
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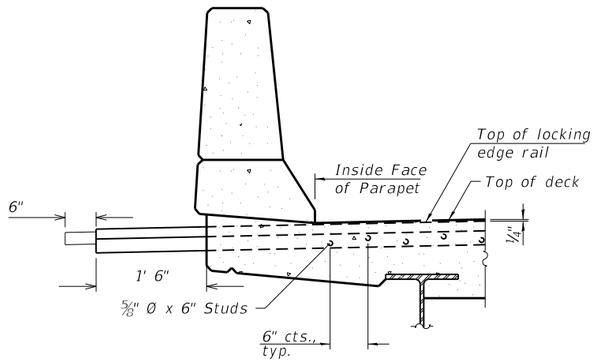
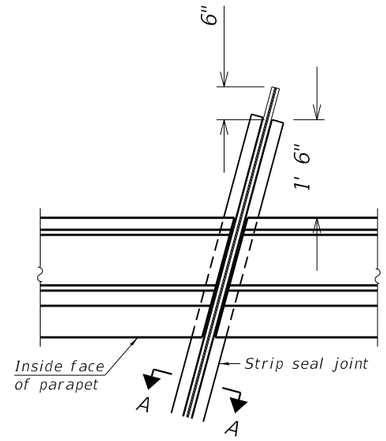
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS | FED. AID PROJECT | | |




## ELEVATION AT PARAPET

*(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)*




## PLAN AT PARAPET

*(Skews < 30°)*

*Notes:*

*The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.*

*The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.*

*The manufacturer's recommended installation methods shall be followed.*

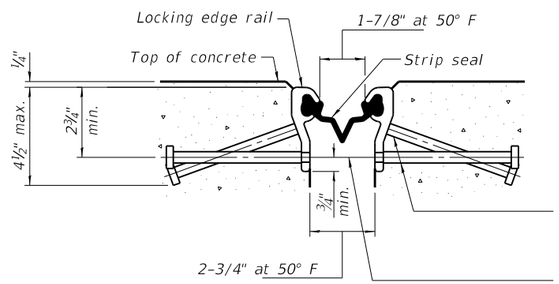
*All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.*

*The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.*

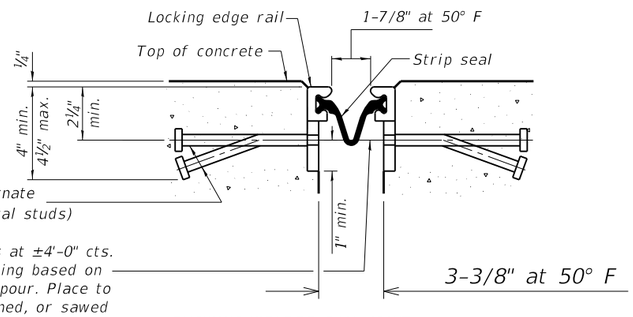
*Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.*

*34" F-shape barrier shown, 42" F-shape similar as noted.*

*The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.*




## SHOWING ROLLED RAIL JOINT



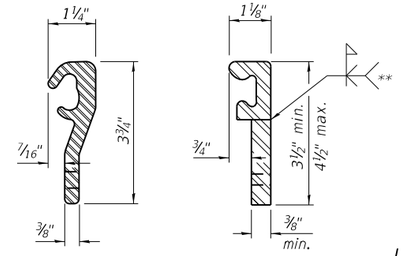

## SHOWING WELDED RAIL JOINT

* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

⅜" ϕ threaded rods in 7/16" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

## SECTION A-A

** Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.*




ROLLED (EXTRUDED) RAIL

WELDED RAIL

## LOCKING EDGE RAILS

*** Back gouge not required if complete joint penetration is verified by mock-up.*

## LOCKING EDGE RAIL SPLICE

*The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.*

## BILL OF MATERIAL

| Item | Unit | Total |
|---|---|---|
| Preformed Joint Strip Seal | Foot | 78 |
| | | |

EJ-SS (MODIFIED) 8-11-17

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| PLOT DATE = 1/27/2020 | DATE - | REVISED - | |

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

**PREFORMED JOINT STRIP SEAL**
**STRUCTURE NO. 059-0053**

SCALE: | SHEET 5 OF 6 SHEETS | STA. | TO STA.

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
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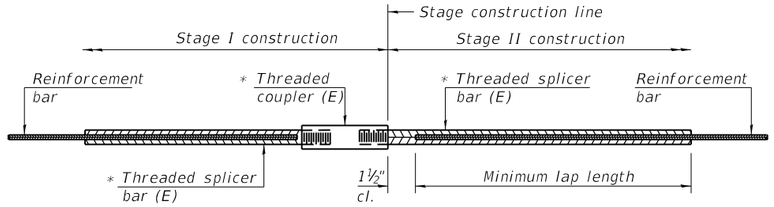
| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS | FED. AID PROJECT | | |

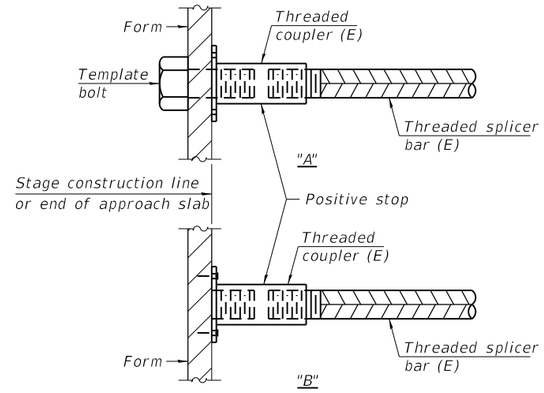



## STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½" + thread length

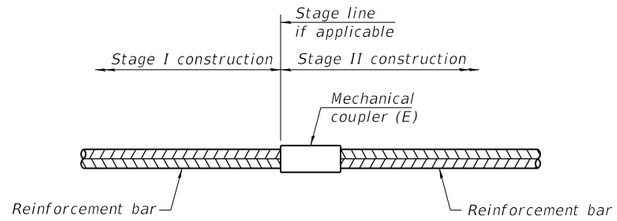
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location | Bar size | No. assemblies required | Minimum lap length |
|---|---|---|---|
| Abuts. (deck side) | #5 | 8 | 3' 6" |
| Abuts. (appr. side) | #6 | 8 | 4' 0" |
| | | | |
| | | | |
| | | | |



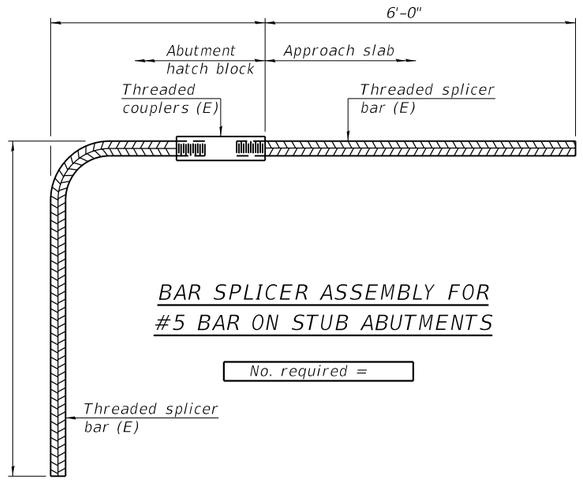

## INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.




## STANDARD MECHANICAL SPLICER

| Location | Bar size | No. assemblies required |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |




## NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

2-17-2017

| | | | |
|---|---|---|---|
| USER NAME = dudleybm | DESIGNED - | REVISED - | |
| | DRAWN - | REVISED - | |
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**STATE OF ILLINOIS**
**DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS**
**SN 059-0053**

SCALE: | SHEET 6 OF 6 SHEETS | STA. | TO STA.

| F.A.S. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
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| | | CONTRACT NO. 72L45 | | |
| | ILLINOIS | FED. AID PROJECT | | |

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