

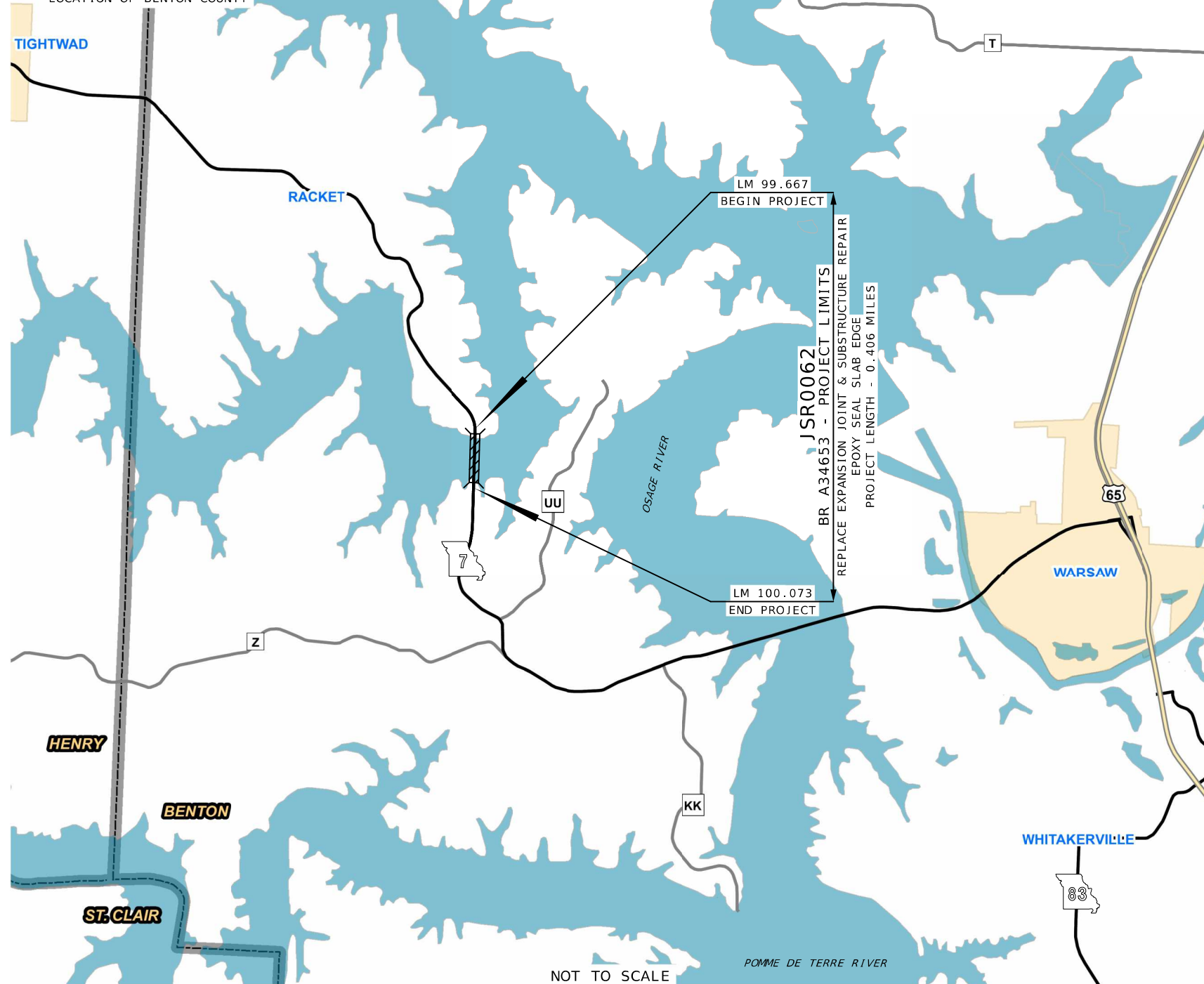
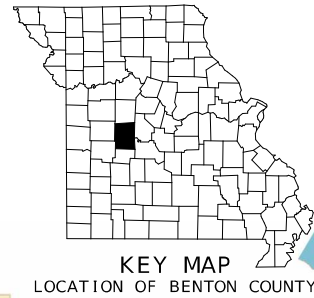
DESIGN DESIGNATION

A.A.D.T. - 2024 = 2492
 V = 55 M.P.H.
 T = 10.3%

FUNCTIONAL CLASSIFICATION- PRINCIPAL ARTERIAL

NO NEW R/W REQUIRED

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION PLANS FOR PROPOSED STATE HIGHWAY BENTON COUNTY

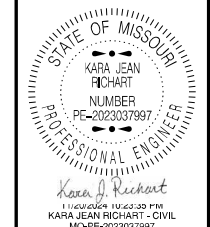


NOT TO SCALE

THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

INDEX OF SHEETS

| DESCRIPTION | SHEET NUMBER |
|-------------------------------------|--------------|
| TITLE SHEET ----- | 1 |
| TYPICAL SECTIONS (TS) (2 SHEETS)--- | 2 |
| QUANTITIES (QU) (2 SHEETS)----- | 3 |
| SPECIAL SHEETS (SS)----- | 4 |
| TRAFFIC CONTROL SHEETS (TC)----- | 5-14 |
| BRIDGE DRAWINGS (B) | |
| A34653----- | 1-6 |



DATE PREPARED
 11/20/2024
 ROUTE 7 STATE MO
 DISTRICT SW SHEET NO. 1
 COUNTY BENTON
 JOB NO. JSR0062
 CONTRACT ID.

| PROJECT NO. | BRIDGE NO. |
|-------------|------------|
| | |

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

LENGTH OF PROJECT

| | |
|---------------------------|-------------|
| BEGINNING OF PROJECT | LM 99.667 |
| END OF PROJECT | LM 100.073 |
| APPARENT LENGTH | 2145.2 FEET |
| EQUATIONS AND EXCEPTIONS: | |

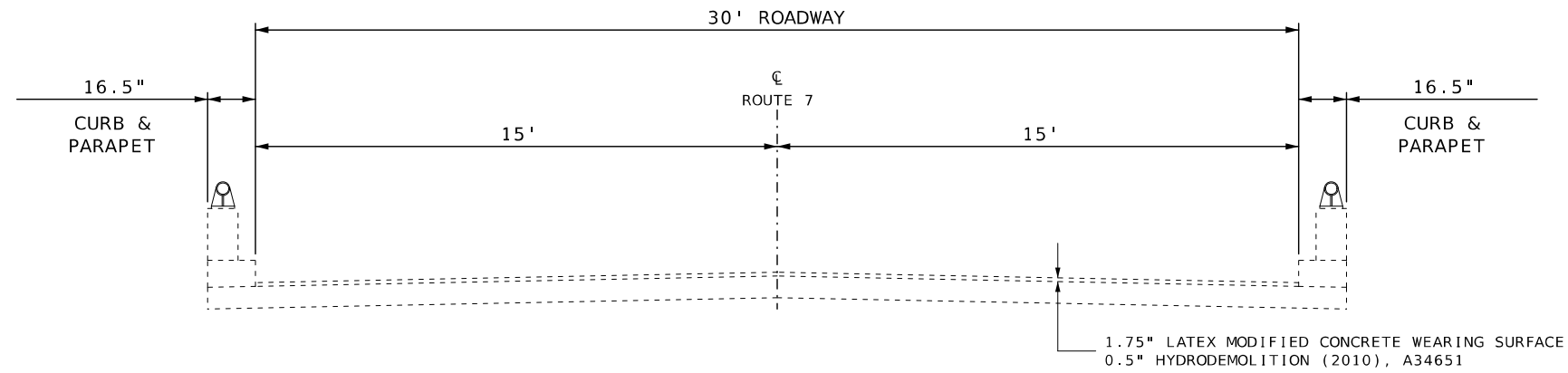
| | |
|---|-------------|
| TOTAL CORRECTIONS | 0.00 FEET |
| NET LENGTH OF PROJECT | 2145.2 FEET |
| STATE LENGTH | 0.406 MILES |
| FOR INFORMATION ONLY ESTIMATED DISTURBED ACRES | N/A ACRES |

**CONVENTIONAL SYMBOLS
 (USED IN PLANS)**

| | EXISTING | NEW |
|------------------------------|----------|-------|
| BUILDINGS AND STRUCTURES | | |
| GUARD RAIL | | |
| GUARD CABLE | | |
| CONCRETE RIGHT-OF-WAY MARKER | | |
| STEEL RIGHT-OF-WAY MARKER | | |
| LOCATION SURVEY MARKER | | |
| UTILITIES | | |
| FIBER OPTICS | -FO- | -FO- |
| OVERHEAD CABLE TV | -OTV- | -OTV- |
| UNDERGROUND CABLE TV | -UTV- | -UTV- |
| OVERHEAD TELEPHONE | -OT- | -OT- |
| UNDERGROUND TELEPHONE | -UT- | -UT- |
| OVERHEAD POWER | -OE- | -OE- |
| UNDERGROUND POWER | -UE- | -UE- |
| SANITARY SEWER | -S- | -S- |
| STORM SEWER | -SS- | -SS- |
| GAS | -G- | -G- |
| WATER | -W- | -W- |
| MANHOLE | | |
| FIRE HYDRANT | | |
| WATER VALVE | | |
| WATER METER | | |
| DROP INLET | | |
| DITCH BLOCK | | |
| GROUND MOUNTED SIGN | | |
| LIGHT POLE | | |
| H-FRAME POWER POLE | | |
| TELEPHONE PEDESTAL | | |
| FENCE | | |
| CHAIN LINK | | |
| WOVEN WIRE | | |
| GATE POST | | |
| BENCHMARK | | |

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

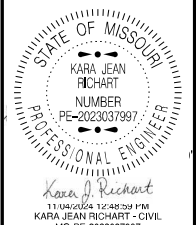
NOTES: DRAINAGE THROUGH UNDER HINGED EXPANSION JOINTS INSTALLED (2020), A34652



ROUTE 7 BRIDGE A34653
LOG MILE 99.667 TO LOG MILE 100.073

NOT TO SCALE

TYPICAL SECTION
SHEET 1 OF 2



| | |
|----------------------------|----------------|
| DATE PREPARED 11/4/2024 | |
| ROUTE 7 | STATE MO |
| DISTRICT SW | SHEET NO. 2 |
| COUNTY BENTON | |
| JOB NO. JSR0062 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

| DATE | DESCRIPTION |
|------|-------------|
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

| TEMPORARY PAVEMENT MARKINGS | | | | | | | |
|--|----------|---------|---|--------------------------|--------------------------|---------|----------|
| LOG MILE | LOG MILE | OFFSET | STANDARD WATERBORNE PAINT, TYPE P BEADS | | PREFORMED THERMOPLASTIC | REMOVAL | REMARKS |
| | | | WHITE 4" SOLID LF | YELLOW 4" SOLID LF | WHITE 24" SOLID LF | | |
| STAGE 1 MARKINGS & REMOVALS | | | | | | | |
| 99.593 | 99.654 | CL | | | | 650 | DSY |
| 99.635 | 100.105 | RT | | | | 2485 | EDGELINE |
| 99.635 | 99.654 | RT | 100 | | | | TAPER |
| 99.635 | 99.654 | LT | 100 | | | | TAPER |
| 99.593 | - | RT | | | 12 | | STOP BAR |
| 99.686 | 100.054 | RT | 1945 | | | | EDGELINE |
| 100.086 | 100.147 | CL | | | | 82 | IY |
| 100.086 | 100.105 | RT | 100 | | | | TAPERS |
| 100.086 | 100.105 | LT | 100 | | | | TAPERS |
| 100.147 | - | LT | | | 12 | | STOP BAR |
| 100.147 | 100.242 | CL | | 1000 | | | DSY |
| STAGE 2 MARKINGS & REMOVALS | | | | | | | |
| 99.635 | 99.654 | RT / LT | 200 | | | 200 | TAPERS |
| 99.635 | 100.105 | LT | | | | 2485 | EDGELINE |
| 99.686 | 100.054 | RT / LT | 1945 | | | 1945 | EDGELINE |
| 100.086 | 100.105 | RT / LT | 200 | | | 200 | TAPERS |
| CLEAN UP REMOVALS | | | | | | | |
| 99.593 | - | RT | | | | 12 | STOP BAR |
| 99.635 | 99.654 | RT / LT | | | | 200 | TAPERS |
| 99.686 | 100.054 | LT | | | | 1945 | EDGELINE |
| 100.086 | 100.105 | RT / LT | | | | 200 | TAPERS |
| 100.147 | - | LT | | | | 12 | STOP BAR |
| 100.147 | 100.242 | CL | | | | 1000 | DSY |
| TOTALS | | | 4690 | 1000 | 24 | 11416 | |

| HIGH BUILD WATERBORNE PAVEMENT MARKING, TYPE L BEADS | | | | | | |
|--|----------|--------|----------------------|---------------------|-----------------------|----------|
| LOG MILE | LOG MILE | OFFSET | 6" | 4" | 4" | REMARKS |
| | | | SOLID WHITE LF | INT YELLOW LF | SOLID YELLOW LF | |
| ROUTE 7 | | | | | | |
| 99.593 | 99.661 | CL | | | 718 | DSY |
| 99.635 | 100.105 | RT | 2485 | | | EDGELINE |
| 99.635 | 100.105 | LT | 2485 | | | EDGELINE |
| 99.661 | 99.822 | CL | | 215 | 850 | SY / IY |
| 99.822 | 100.242 | CL | | 550 | | IY |
| TOTALS | | | 4970 | 765 | 1568 | |
| USE | | | 4970 | 2333 | | |

CONTRACTOR FURNISHED SURVEYING AND STAKING
1 LUMP SUM

MOBILIZATION
1 LUMP SUM



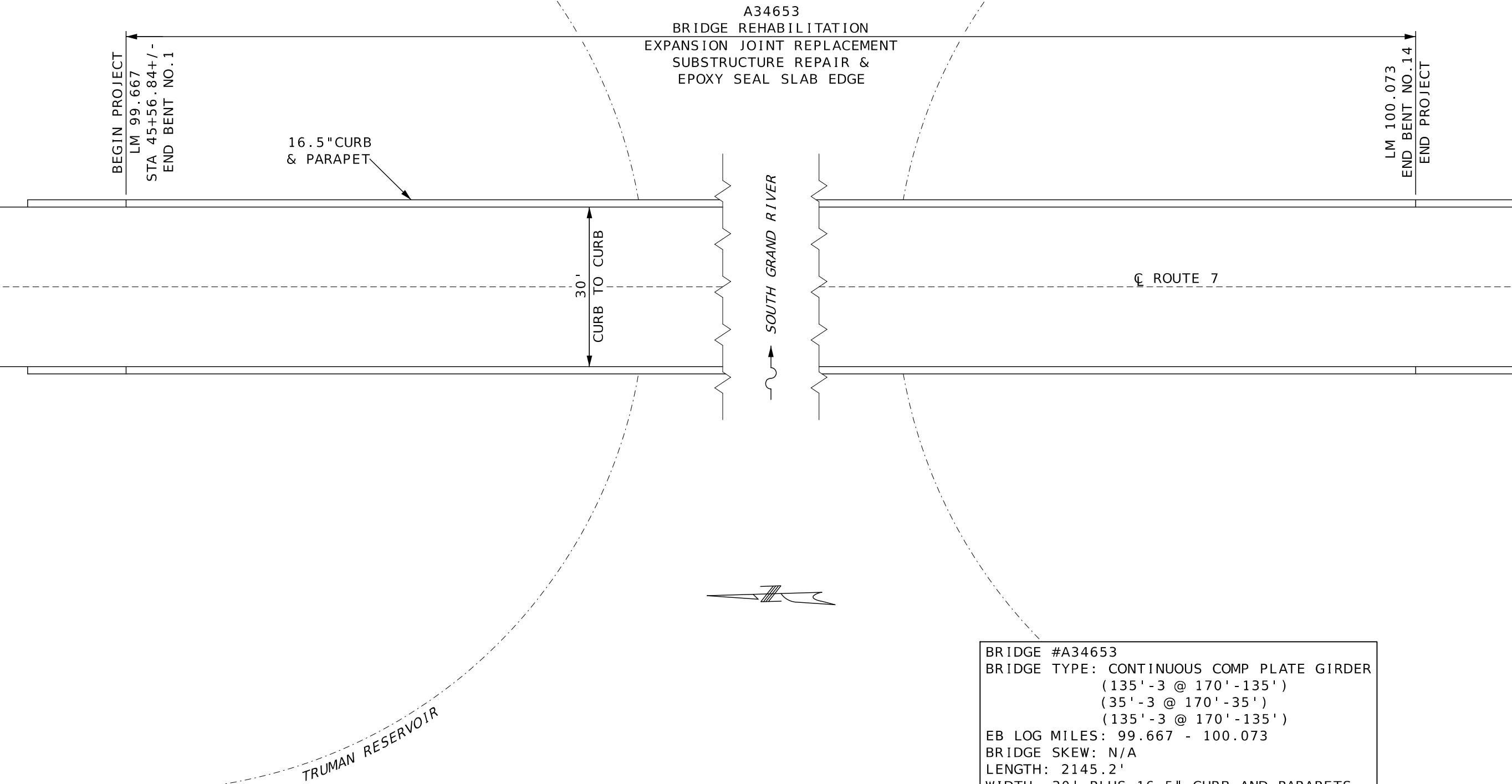
DATE PREPARED
11/4/2024
ROUTE 7 STATE MO
DISTRICT SW SHEET NO. 3
COUNTY BENTON
JOB NO. JSR0062
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

| DATE | DESCRIPTION |
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ANY WORK INDICATED ON THE PLANS THAT EXTENDS BEYOND THE PROJECT LIMITS IS CONSIDERED INCIDENTAL TO AND A PART OF THE CONSTRUCTION OF THIS PROJECT.

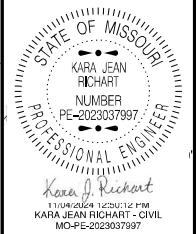
ALL STATIONS AND/OR LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND CAN VARY AS APPROVED BY ENGINEER.



BRIDGE #A34653
 BRIDGE TYPE: CONTINUOUS COMP PLATE GIRDER
 (135'-3 @ 170'-135')
 (35'-3 @ 170'-35')
 (135'-3 @ 170'-135')
 EB LOG MILES: 99.667 - 100.073
 BRIDGE SKEW: N/A
 LENGTH: 2145.2'
 WIDTH: 30' PLUS 16.5" CURB AND PARAPETS
 YEAR CONSTRUCTED: 1970, REBUILT 2010

NOT TO SCALE

SPECIAL SHEET
SHEET 1 OF 1



| | |
|----------------------------|----------------|
| DATE PREPARED 11/4/2024 | |
| ROUTE 7 | STATE MO |
| DISTRICT SW | SHEET NO. 4 |
| COUNTY BENTON | |
| JOB NO. JSR0062 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

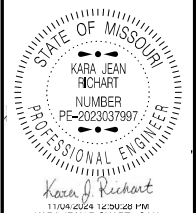
| DESCRIPTION | DATE |
|-------------|------|
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

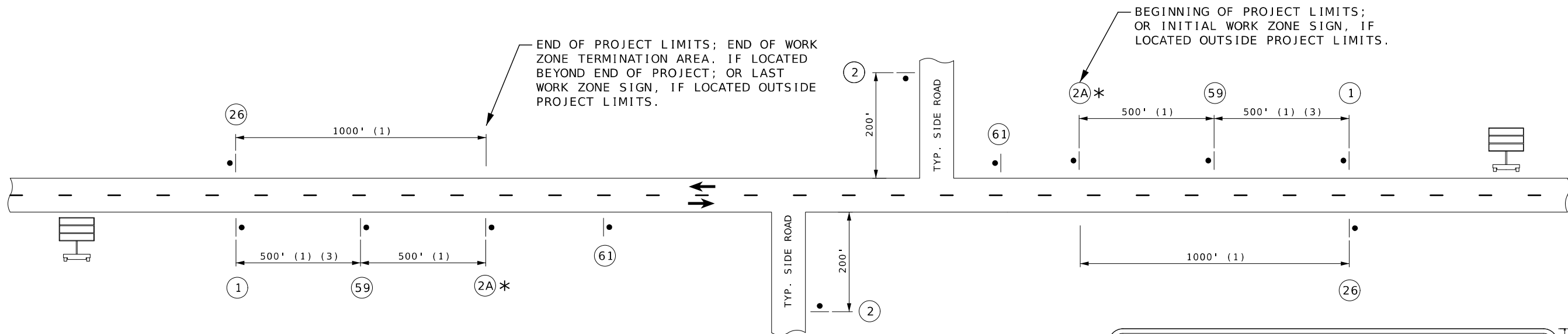
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-273-6636)

GENERAL NOTES:

1. ANY EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL SIGNING SHALL BE COMPLETELY COVERED OR REMOVED.
2. TEMPORARY SIGNING SHOWN IS FOR WORK ON ONE SIDE OF THE ROAD. FOR WORK ON THE OTHER SIDE, REVERSE ORDER OF THE SIGNS AND CHANNELIZERS.
3. SIGNING SHOWN SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
4. ALTERNATE TRAFFIC CONTROL MAY BE USED AS NEEDED AT THE APPROVAL OF THE ENGINEER.
5. REFER TO STANDARD DRAWING 616.10, 619.10, AND 620.10 FOR ADDITIONAL DETAILS AND 903.03 FOR SIGN AND SIGN MOUNTING REQUIREMENTS.
6. SPEED LIMIT SIGNS INDICATING THE NORMAL SPEED LIMIT SHALL BE INSTALLED AT THE END OF THE WORK ZONE, PROVIDED NO FURTHER WORK ZONES WILL BE ENCOUNTERED WITHIN THE NEXT 1/2 MILE.
7. TEMPORARY SPEED LIMIT SIGNS SHALL BE COVERED OR REMOVED WHEN THE CONDITIONS REQUIRING REDUCED SPEEDS DO NOT EXIST.
8. NO DIRECT PAYMENT WILL BE MADE FOR THE RELOCATION OF CHANNELIZERS, CONSTRUCTION SIGNS, OR FLASHING ARROW PANEL.
9. ALL SIGNS SHALL BE PORTABLE MOUNT AND ARE TO BE MOVED AS WORK PROGRESSES, UNLESS OTHERWISE NOTED. ALL TRAFFIC CONTROL ITEMS SHALL BE REMOVED FROM THE ROADWAY DURING NON-WORKING HOURS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING PROPER TRAFFIC CONTROL SETUPS THROUGHOUT CONSTRUCTION AS DESCRIBED IN THESE PLANS OR AS APPROVED BY THE ENGINEER.
11. WHERE MINIMUM LANE WIDTHS CANNOT BE ACHIEVED ON THE SIDE STREETS, THE CONTRACTOR SHALL CLOSE HALF OF THE APPROACH AND POSITION A FLAGGER AT EACH END OF THE WORK AREA. LOCATION TO BE DETERMINED BY THE ENGINEER. ADVANCE FLAGGER SIGNING SHALL BE INSTALLED AS OUTLINED IN THE MUTCD.
12. THE CONTRACTOR SHALL MAINTAIN PUBLIC ACCESS TO ALL BUSINESSES AND STREETS. NO STREET OR ENTRANCE SHALL BE COMPLETELY BLOCKED.
13. SPACING & DISTANCES OF TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD & APPROVED BY THE ENGINEER.
14. TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

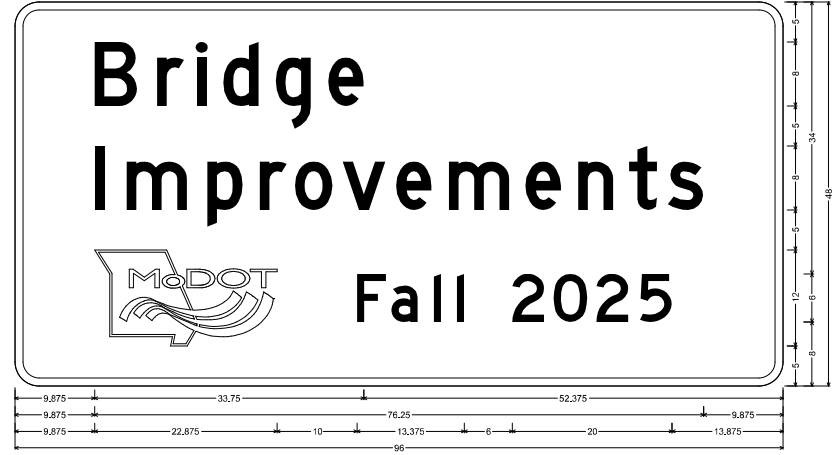
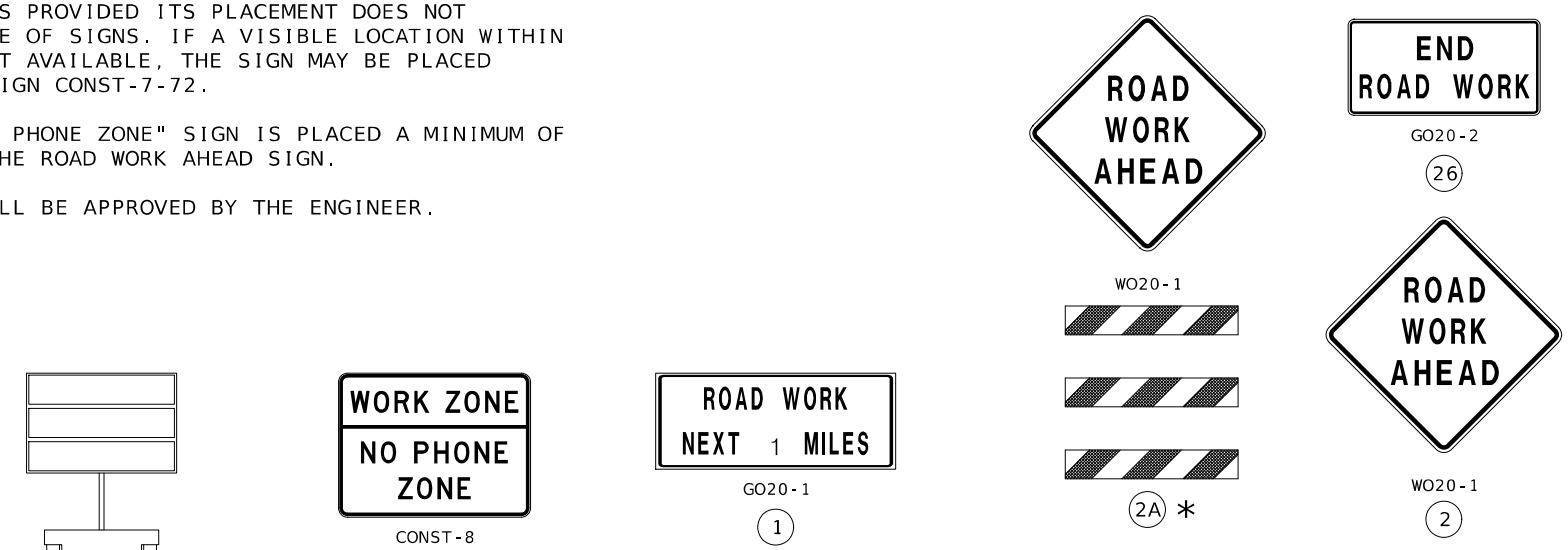


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|----------------------------|----------------|
| DATE PREPARED 11/1/2024 | |
| ROUTE 7 | STATE MO |
| DISTRICT SW | SHEET NO. 5 |
| COUNTY BENTON | |
| JOB NO. JSR0062 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |



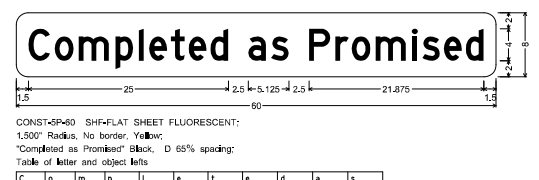
- (1) DISTANCE MAY BE ADJUSTED ACCORDING TO FIELD CONDITIONS. WHERE TRAFFIC BACKUPS ARE EXPECTED BEYOND THE ADVANCE WARNING AREA, ADDITIONAL SIGNING MAY BE NEEDED.
- (2) CONST-5-96 SIGN IS PLACED IN A VISIBLE AREA WITHIN THE PROJECT LIMITS PROVIDED ITS PLACEMENT DOES NOT DISRUPT A SEQUENCE OF SIGNS. IF A VISIBLE LOCATION WITHIN THE PROJECT IS NOT AVAILABLE, THE SIGN MAY BE PLACED 500 FEET BEFORE SIGN CONST-7-72.
- (3) THE "WORK ZONE NO PHONE ZONE" SIGN IS PLACED A MINIMUM OF 500 FEET BEFORE THE ROAD WORK AHEAD SIGN.
- (4) CMS PLACEMENT SHALL BE APPROVED BY THE ENGINEER.

TYPICAL BEGINNING AND END OF PROJECT
(UNDIVIDED HIGHWAY)



CONST-5-96 SH-FLAT SHEET:
3,000" Radius, 1,000" Border, White on Black
"Safety", D; "Improvements", D; "Fall 2025", D;
Table of letter and object letter

| B | I | L | O | P | S | T | W | Z |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 9.875 | 17.750 | 22.750 | 28.000 | 32.825 | 39.125 | | | |
| 9.875 | 14.000 | 24.000 | 30.825 | 35.000 | 41.000 | 47.625 | 54.250 | 63.750 |
| 9.875 | 42.750 | 47.000 | 52.375 | 55.250 | 62.125 | 67.375 | 72.625 | 78.125 |



CONST-6P40 SH-FLAT SHEET FLUORESCENT:
1,500" Radius, No border, Yellow
"Completed as Promised" Black, D 65% spacing
Table of letter and object letter

| C | P | R | S | T | W | Z |
|-------|--------|--------|--------|--------|--------|--------|
| 1.500 | 4.875 | 7.875 | 12.375 | 15.375 | 19.875 | 21.500 |
| 1.500 | 36.825 | 39.875 | 41.875 | 44.875 | 49.500 | 50.750 |
| 1.500 | 50.750 | 53.500 | 56.250 | 59.000 | 62.750 | 66.500 |

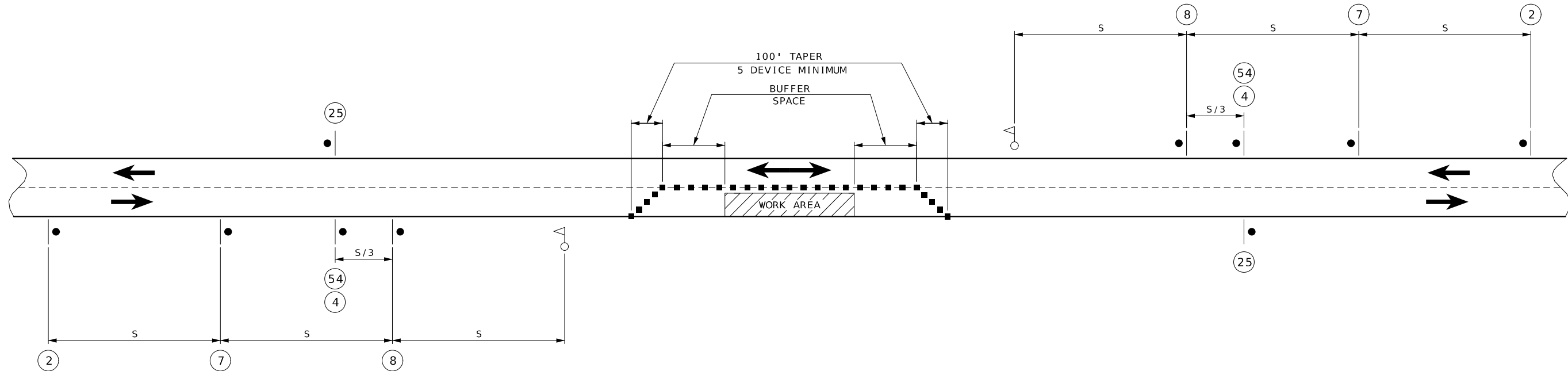
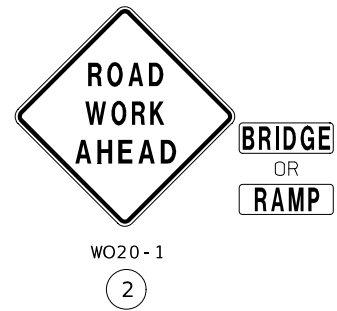
CONST-5-96
(61) (2)

NOT TO SCALE

TRAFFIC CONTROL SHEET 1 OF 10

| DESCRIPTION | DATE |
|-------------|------|
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



NOTES:

CHANNELIZING DEVICES LOCATED DOWNSTREAM OF THE ONE-LANE, TWO-WAY TAPER ARE OPTIONAL. THESE DEVICES SHOULD BE ELIMINATED WHEN THEIR USE WILL REDUCE THE USABLE LANE WIDTH, INCLUDING ANY ACCEPTABLE SHOULDERS, TO LESS THAN 10' OR WILL SIGNIFICANTLY AFFECT THE RESURFACING OPERATION.

FLAG ASSEMBLIES FOR SIGN W020-7a ARE SUBSIDIARY TO THE SIGN.

■ - CHANNELIZERS

○ - FLAGGER

IF USED AT NIGHT, THE FLAGGER STATIONS SHALL BE ILLUMINATED WITH AN AVERAGE MAINTAINED INTENSITY OF 0.6 FOOTCANDLES (6.5 LUX).

| SPEED | SIGN SPACING (FT) (1) | CHANNELIZER SPACING (FT) | OPTIONAL |
|------------------------|------------------------|--------------------------|--------------------|
| PERMANENT POSTED (MPH) | UNDIVIDED HIGHWAYS (S) | BUFFER/WORK AREAS | BUFFER LENGTH (FT) |
| 0-35 | 200 | 40 | 250 |
| 40-45 | 350 | 80 | 360 |
| 50-55 | 500 | 80 | 495 |
| 60-70 | 1000 | 120 | 730 |

SPACING NOTES:

(1) SPACING BETWEEN SIGNS, BETWEEN LAST SIGN AND FLAGGER, BEGINNING OF TAPER OR SIGNED CONDITION.

SPACINGS MAY BE ADJUSTED AS NECESSARY TO MEET FIELD CONDITIONS, AS APPROVED BY ENGINEER.

LANE CLOSURE USING FLAGGERS
(UNDIVIDED HIGHWAY)

NOT TO SCALE



| | |
|----------------------------|----------------|
| DATE PREPARED 11/1/2024 | |
| ROUTE 7 | STATE MO |
| DISTRICT SW | SHEET NO. 6 |
| COUNTY BENTON | |
| JOB NO. JSR0062 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

| DESCRIPTION | DATE |
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



WO20-1

(2)

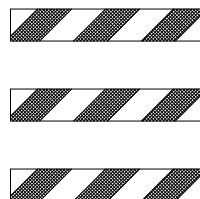
BRIDGE
OR
RAMP



WO20-1

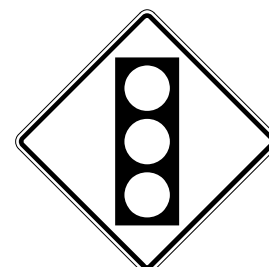
(2A) *

BRIDGE
OR
RAMP



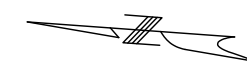
WO20-4

(7)

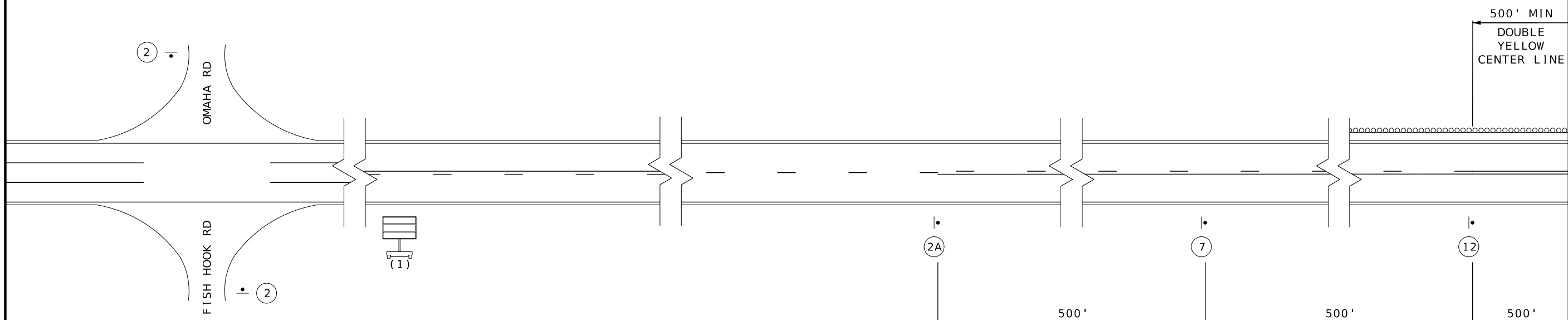


WO3-3

(12)



TRAFFIC CONTROL STAGE 1 & 2



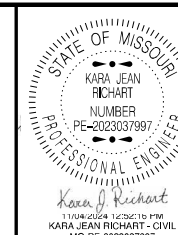
NOTE: (1) CMS PLACEMENT SHALL BE APPROVED BY THE ENGINEER.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- ▢ CHANGEABLE MESSAGE BOARD
- ▨ WORK AREA

NOT TO SCALE

TRAFFIC CONTROL
SHEET 3 OF 10



DATE PREPARED
11/4/2024

ROUTE 7 STATE MO

DISTRICT SW SHEET NO. 7

COUNTY BENTON

JOB NO. JSR0062

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

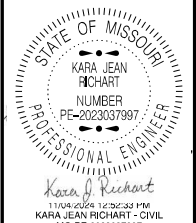
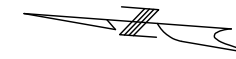




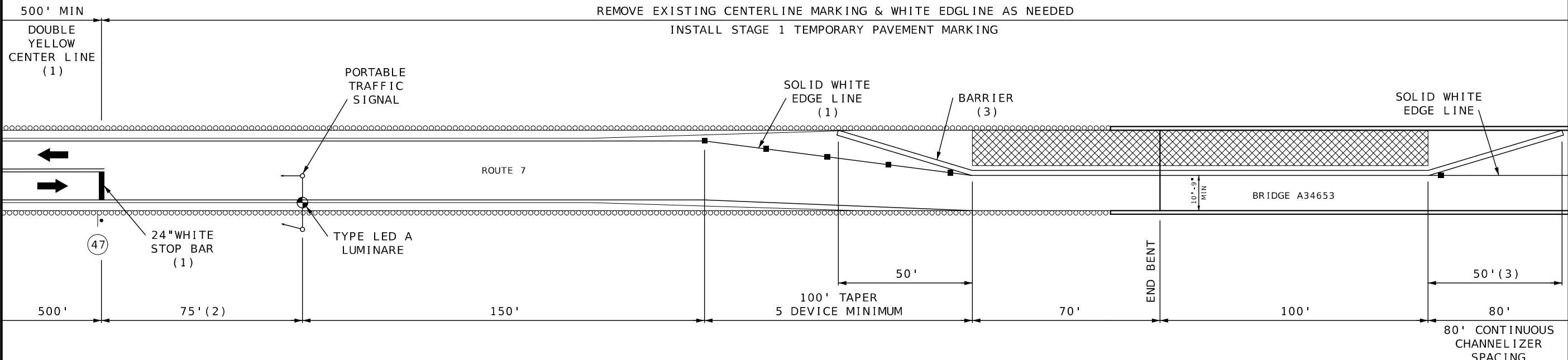
R10-6L

(47)

TRAFFIC CONTROL STAGE 1
CLOSE NB LANE AT BRIDGE
UTILIZE TEMPORARY SIGNAL AND SHIFT TRAFFIC ONTO SB LANE



DATE PREPARED
11/4/2024
ROUTE 7 STATE MO
DISTRICT SW SHEET NO. 8
COUNTY BENTON
JOB NO. JSR0062
CONTRACT ID.
PROJECT NO.
BRIDGE NO.



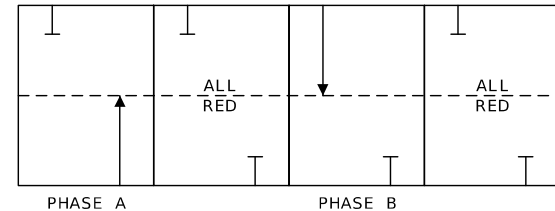
NOTES:
DIMENSIONS IN FEET UNLESS OTHERWISE NOTED.
(1) SIGNING AND PAVEMENT MARKING IDENTICAL ON BOTH APPROACHES.
(2) 75- FEET RECOMMENDED SPACING. SPACING MAY BE BETWEEN 40-FT AND 180- FEET.
(3) FLARE BARRIER TO EXTEND BEYOND CLEAR ZONE OR FLARE BARRIER TO EDGE LINE AND USE APPROVED END TREATMENT.
TEMPORARY TRAFFIC CONTROL SIGNALS SHALL MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF CONVENTIONAL TRAFFIC CONTROL SIGNALS.
TEMPORARY TRAFFIC CONTROL SIGNAL TIMING SHALL BE ESTABLISHED BY AUTHORIZED OFFICIALS. DURATION OF RED CLEARANCE INTERVALS SHALL BE ADEQUATE TO CLEAR THE ONE-LANE SECTION OF CONFLICTING VEHICLES.
WHEN THE TEMPORARY TRAFFIC CONTROL SIGNAL IS CHANGED TO THE FLASHING MODE, EITHER MANUALLY OR AUTOMATICALLY, RED SIGNAL INDICATIONS SHALL BE FLASHED TO BOTH APPROACHES.
STOP LINES SHALL BE INSTALLED WITH TEMPORARY TRAFFIC CONTROL SIGNALS FOR INTERMEDIATE AND LONG-TERM CLOSURES. EXISTING CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS BETWEEN THE ACTIVITY AREA AND THE STOP LINE SHALL BE REMOVED, THE STOP LINES AND OTHER TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND THE PERMANENT PAVEMENT MARKINGS RESTORED.

| SPEED | SIGN SPACING (FT.) | | TAPER LENGTH (FT.) | | OPTIONAL BUFFER LENGTH (FT.) (B) | CHANNELIZER SPACING (FT.) | |
|-------|--------------------|---------------|--------------------|-------------------|----------------------------------|---------------------------|--------|
| | PERM. POST (MPH) | UNDIVIDED (S) | DIVIDED (S) | SHOULDER (1) (T1) | | LANE (2) (T2) | TAPERS |
| 50-55 | 500 | - | - | - | 560 | 25 | 80 |

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET.
2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- ▨ CHANGEABLE MESSAGE BOARD
- ▩ WORK AREA



PHASE A AND PHASE B SHALL ALWAYS BE FOLLOWED BY AN ALL RED PHASE OR INTERVAL.
SIGNALS SHALL REST IN ALL RED WHEN THERE ARE NO VEHICLE CALL.

NOT TO SCALE

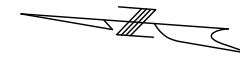
DESCRIPTION
DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



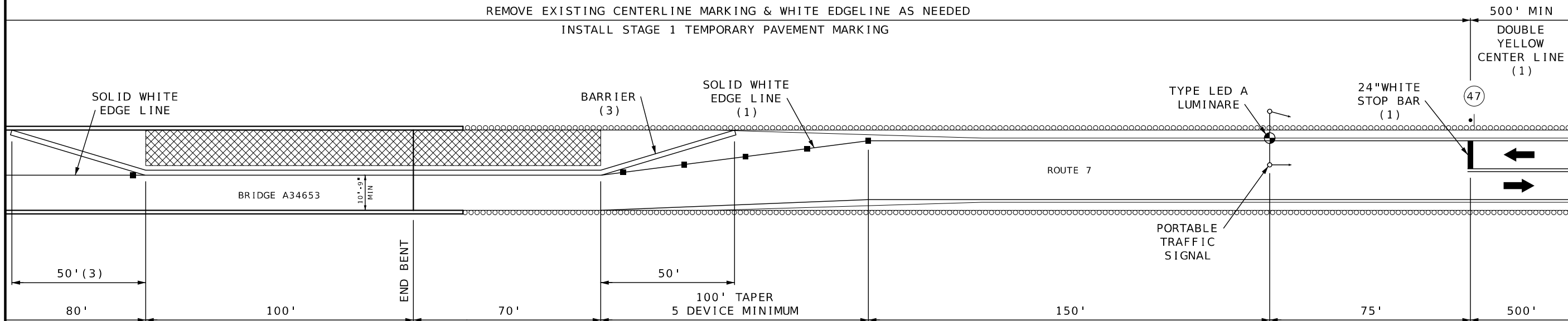
R10-6L

(47)

TRAFFIC CONTROL STAGE 1
CLOSE NB LANE AT BRIDGE
UTILIZE TEMPORARY SIGNAL AND SHIFT TRAFFIC ONTO SB LANE



REMOVE EXISTING CENTERLINE MARKING & WHITE EDGELINE AS NEEDED
INSTALL STAGE 1 TEMPORARY PAVEMENT MARKING



80' CONTINUOUS CHANNELIZER SPACING

NOTES:

DIMENSIONS IN FEET UNLESS OTHERWISE NOTED.

- (1) SIGNING AND PAVEMENT MARKING IDENTICAL ON BOTH APPROACHES.
- (2) 75-FEET RECOMMENDED SPACING. SPACING MAY BE BETWEEN 40-FT AND 180-FEET.
- (3) FLARE BARRIER TO EXTEND BEYOND CLEAR ZONE OR FLARE BARRIER TO EDGE LINE AND USE APPROVED END TREATMENT.

TEMPORARY TRAFFIC CONTROL SIGNALS SHALL MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF CONVENTIONAL TRAFFIC CONTROL SIGNALS.

TEMPORARY TRAFFIC CONTROL SIGNAL TIMING SHALL BE ESTABLISHED BY AUTHORIZED OFFICIALS. DURATION OF RED CLEARANCE INTERVALS SHALL BE ADEQUATE TO CLEAR THE ONE-LANE SECTION OF CONFLICTING VEHICLES.

WHEN THE TEMPORARY TRAFFIC CONTROL SIGNAL IS CHANGED TO THE FLASHING MODE, EITHER MANUALLY OR AUTOMATICALLY, RED SIGNAL INDICATIONS SHALL BE FLASHED TO BOTH APPROACHES.

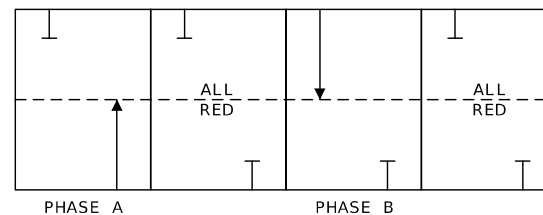
STOP LINES SHALL BE INSTALLED WITH TEMPORARY TRAFFIC CONTROL SIGNALS FOR INTERMEDIATE AND LONG-TERM CLOSURES. EXISTING CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS BETWEEN THE ACTIVITY AREA AND THE STOP LINE SHALL BE REMOVED, THE STOP LINES AND OTHER TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND THE PERMANENT PAVEMENT MARKINGS RESTORED.

| SPEED | SIGN SPACING (FT.) | | TAPER LENGTH (FT.) | | OPTIONAL BUFFER LENGTH (FT.) (B) | CHANNELIZER SPACING (FT.) | |
|-------|--------------------|-------------|--------------------|---------------|----------------------------------|---------------------------|-------------------|
| | UNDIVIDED (S) | DIVIDED (S) | SHOULDER (1) (T1) | LANE (2) (T2) | | TAPERS | BUFFER/WORK AREAS |
| 50-55 | 500 | - | - | - | 560 | 25 | 80 |

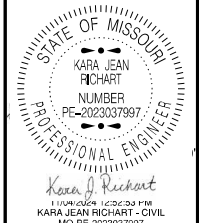
1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET.
2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- ▩ CHANGEABLE MESSAGE BOARD
- ▨ WORK AREA



PHASE A AND PHASE B SHALL ALWAYS BE FOLLOWED BY AN ALL RED PHASE OR INTERVAL.
SIGNALS SHALL REST IN ALL RED WHEN THERE ARE NO VEHICLE CALL.



DATE PREPARED
11/4/2024

ROUTE
7

STATE
MO

DISTRICT
SW

SHEET NO.
9

COUNTY
BENTON

JOB NO.
JSR0062

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

| DESCRIPTION | DATE |
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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NOT TO SCALE



BRIDGE
OR
RAMP



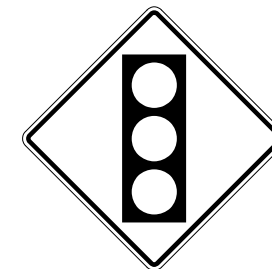
WO20-1

(2A) *



WO20-4

(7)



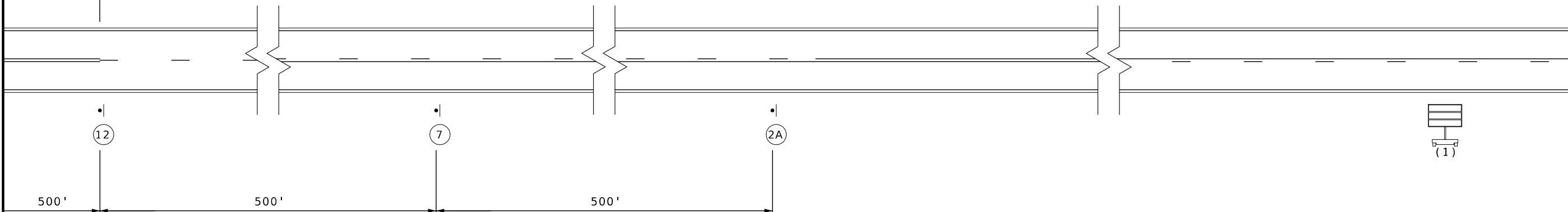
WO3-3

(12)



TRAFFIC CONTROL STAGE 1 & 2

500' MIN
DOUBLE
YELLOW
CENTER LINE



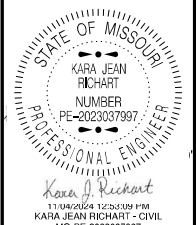
NOTE: (1) CMS PLACEMENT SHALL BE APPROVED BY THE ENGINEER.

TRAFFIC CONTROL LEGEND

- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- ▮ CHANGEABLE MESSAGE BOARD
- ▨ WORK AREA

NOT TO SCALE

TRAFFIC CONTROL
SHEET 6 OF 10



| | |
|----------------------------|-----------------|
| DATE PREPARED 11/4/2024 | |
| ROUTE 7 | STATE MO |
| DISTRICT SW | SHEET NO. 10 |
| COUNTY BENTON | |
| JOB NO. JSR0062 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

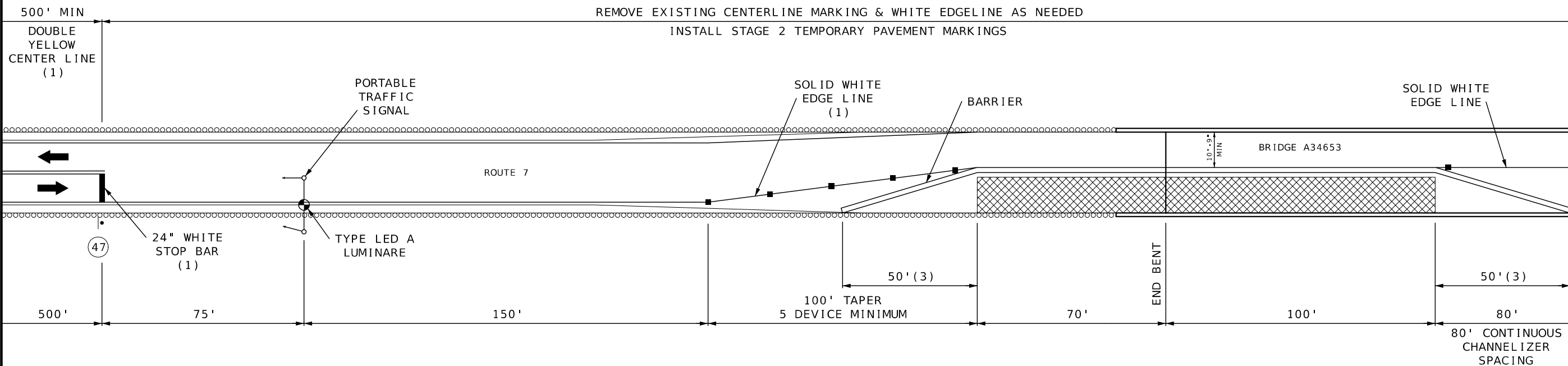
105 WEST CAPITOL
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R10-6L

(47)

TRAFFIC CONTROL STAGE 2
 CLOSE SB LANE AT BRIDGE
 UTILIZE TEMPORARY SIGNAL AND SHIFT TRAFFIC ONTO NB LANE



NOTES:

DIMENSIONS IN FEET UNLESS OTHERWISE NOTED.

(1) SIGNING AND PAVEMENT MARKING IDENTICAL ON BOTH APPROACHES.

(2) 75- FEET RECOMMENDED SPACING. SPACING MAY BE BETWEEN 40- FT AND 180- FEET.

(3) FLARE BARRIER TO EXTEND BEYOND CLEAR ZONE OR FLARE BARRIER TO EDGE LINE AND USE APPROVED END TREATMENT.

TEMPORARY TRAFFIC CONTROL SIGNALS SHALL MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF CONVENTIONAL TRAFFIC CONTROL SIGNALS.

TEMPORARY TRAFFIC CONTROL SIGNAL TIMING SHALL BE ESTABLISHED BY AUTHORIZED OFFICIALS. DURATION OF RED CLEARANCE INTERVALS SHALL BE ADEQUATE TO CLEAR THE ONE-LANE SECTION OF CONFLICTING VEHICLES.

WHEN THE TEMPORARY TRAFFIC CONTROL SIGNAL IS CHANGED TO THE FLASHING MODE, EITHER MANUALLY OR AUTOMATICALLY, RED SIGNAL INDICATIONS SHALL BE FLASHED TO BOTH APPROACHES.

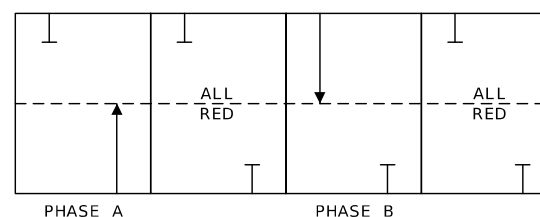
STOP LINES SHALL BE INSTALLED WITH TEMPORARY TRAFFIC CONTROL SIGNALS FOR INTERMEDIATE AND LONG-TERM CLOSURES. EXISTING CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS BETWEEN THE ACTIVITY AREA AND THE STOP LINE SHALL BE REMOVED, THE STOP LINES AND OTHER TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND THE PERMANENT PAVEMENT MARKINGS RESTORED.

| SPEED | SIGN SPACING (FT.) | | TAPER LENGTH (FT.) | | OPTIONAL BUFFER LENGTH (FT.) (B) | CHANNELIZER SPACING (FT.) | |
|-------|--------------------|-------------|--------------------|---------------|----------------------------------|---------------------------|--------------------|
| | UNDIVIDED (S) | DIVIDED (S) | SHOULDER (1) (T1) | LANE (2) (T2) | | TAPERS | BUFFER/ WORK AREAS |
| 50-55 | 500 | - | - | - | 560 | 25 | 80 |

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET.
 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

TRAFFIC CONTROL LEGEND

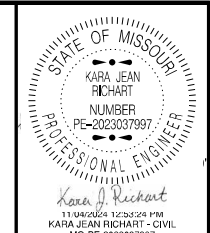
- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- ▩ CHANGEABLE MESSAGE BOARD
- ▨ WORK AREA



PHASE A AND PHASE B SHALL ALWAYS BE FOLLOWED BY AN ALL RED PHASE OR INTERVAL.

SIGNALS SHALL REST IN ALL RED WHEN THERE ARE NO VEHICLE CALL.

NOT TO SCALE



DATE PREPARED 11/4/2024

ROUTE 7 STATE MO

DISTRICT SW SHEET NO. 11

COUNTY BENTON

JOB NO. JSR0062

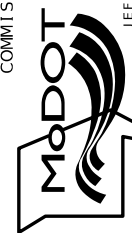
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
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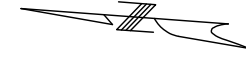




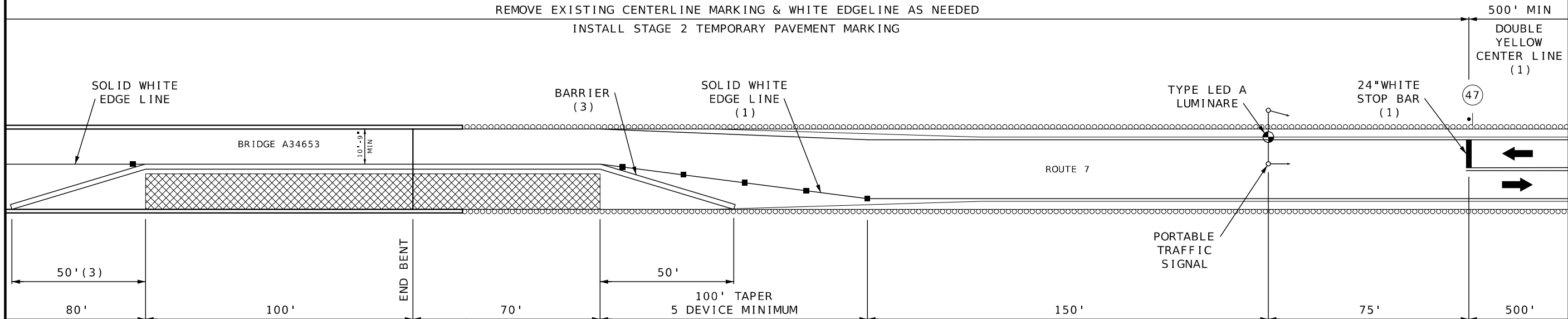
R10-6L

(47)

TRAFFIC CONTROL STAGE 2
 CLOSE SB LANE AT BRIDGE
 UTILIZE TEMPORARY SIGNAL AND SHIFT TRAFFIC ONTO NB LANE



REMOVE EXISTING CENTERLINE MARKING & WHITE EDGELINE AS NEEDED
 INSTALL STAGE 2 TEMPORARY PAVEMENT MARKING



80' CONTINUOUS CHANNELIZER SPACING

NOTES:

DIMENSIONS IN FEET UNLESS OTHERWISE NOTED.

(1) SIGNING AND PAVEMENT MARKING IDENTICAL ON BOTH APPROACHES.

(2) 75- FEET RECOMMENDED SPACING. SPACING MAY BE BETWEEN 40- FT AND 180- FEET.

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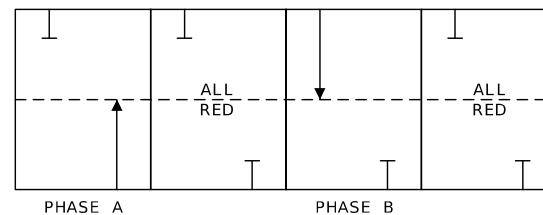
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| SPEED | SIGN SPACING (FT.) | | TAPER LENGTH (FT.) | | OPTIONAL BUFFER LENGTH (FT.) (B) | CHANNELIZER SPACING (FT.) | |
|-------|--------------------|-------------|--------------------|---------------|----------------------------------|---------------------------|--------------------|
| | UNDIVIDED (S) | DIVIDED (S) | SHOULDER (1) (T1) | LANE (2) (T2) | | TAPERS | BUFFER/ WORK AREAS |
| 50-55 | 500 | - | - | - | 560 | 25 | 80 |

1. SHOULDER TAPER LENGTH BASED ON 10 FT. (STANDARD SHOULDER WIDTH) OFFSET.
 2. LANE TAPER LENGTH BASED ON 12 FT. (STANDARD LANE WIDTH) OFFSET.

TRAFFIC CONTROL LEGEND

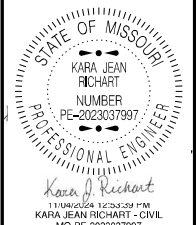
- SIGN (SINGLE SIDED)
- FLAGGER
- CHANNELIZER
- ▨ CHANGEABLE MESSAGE BOARD
- ▩ WORK AREA



PHASE A AND PHASE B SHALL ALWAYS BE FOLLOWED BY AN ALL RED PHASE OR INTERVAL.

SIGNALS SHALL REST IN ALL RED WHEN THERE ARE NO VEHICLE CALL.

NOT TO SCALE

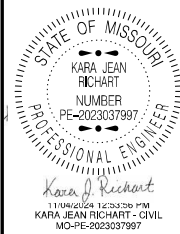


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| DATE PREPARED 11/4/2024 | |
| ROUTE 7 | STATE MO |
| DISTRICT SW | SHEET NO. 12 |
| COUNTY BENTON | |
| JOB NO. JSR0062 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |

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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
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DATE PREPARED
11/1/2024
ROUTE 7 STATE MO
DISTRICT SW SHEET NO. 13
COUNTY BENTON
JOB NO. JSR0062
CONTRACT ID.

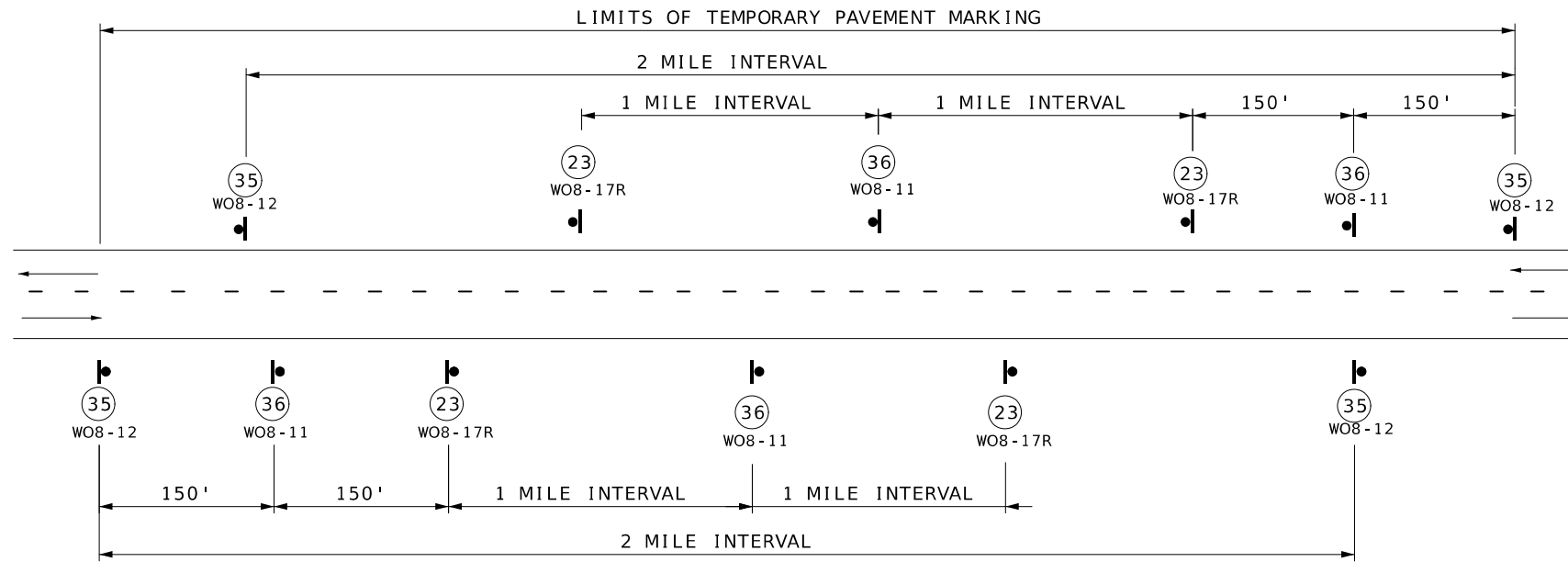
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

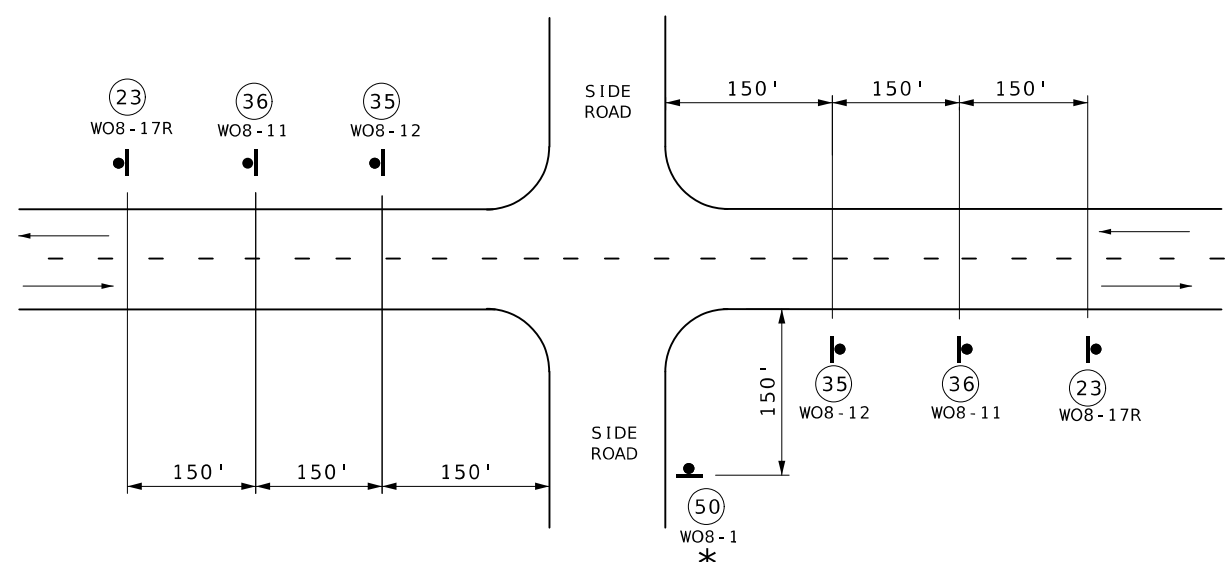


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SIGN SPACING FOR MAINLINE

(DETAIL SHOWN IS BASED ON A PROJECT MEETING ALL CONDITIONS: NO CENTER STRIPE, UNEVEN LANES, SHOULDER DROP-OFF AND BUMP.)
WHEN BOTH UNEVEN LANES AND SHOULDER DROP-OFF SIGNS ARE USED, BOTH SIGNS SHALL STAY IN PLACE UNTIL BOTH CONDITIONS NO LONGER EXIST.
IF ONLY ONE CONDITION EXISTS (UNEVEN LANES OR SHOULDER DROP-OFF). THE SIGN SPACING SHALL BE AT 1 MILE INTERVALS.



SIGN SPACING AT STATE ROUTE INTERSECTIONS

* BUMP SIGN SHOULD BE IN ACCORDANCE WITH STANDARD PLAN 619.10.
UNLESS REQUIRED BY STANDARD PLAN 619.10, BUMP SIGN AT CONTRACTOR'S EXPENSE, NO DIRECT PAY. SEE STANDARD SPECIFICATION 622.2.4.



SHOULDER
DROP-OFF

WO8-17R
WO8-17p
(23)



WO8-1
(50) *



WO8-11
(36)

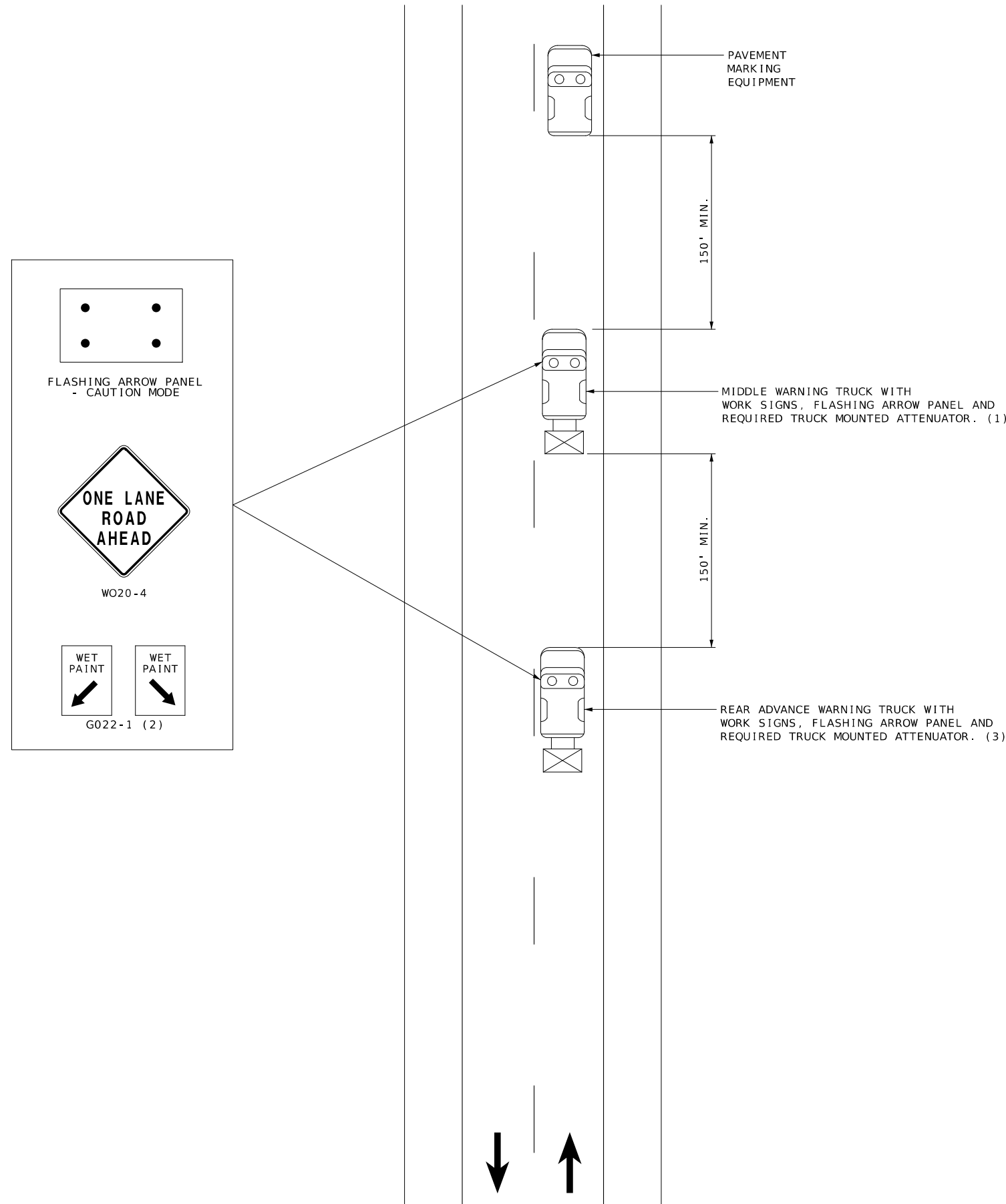


WO8-12
(35)

GENERAL NOTES:
FOR DETAILS OF TEMPORARY PAVEMENT MARKING, SEE STD. 620.10, SHEET 1 OF 5.
SIGN (35) AND TEMPORARY PAVEMENT MARKING INSTALLED WHERE CENTERLINE STRIPING HAS BEEN COVERED OR REMOVED. SIGNS ARE TO REMAIN IN PLACE UNTIL THE PERMANENT CENTERLINE PAVEMENT MARKINGS ARE IN PLACE. SIGNS SHALL BE COVERED OR REMOVED WHEN PAVEMENT CENTERLINE MARKING HAS BEEN INSTALLED.
SIGN (35) IS PLACED AT APPROXIMATELY TWO-MILE INTERVALS AND AT STATE ROUTE JUNCTIONS. WHEN THE INSTALLATION AT A JUNCTION IS WITHIN ONE-EIGHTH MILE OF THE NORMAL MAINLINE SIGN (35), THE LATTER MAY BE ELIMINATED.
ALL SIGNS SHALL BE POST MOUNTED AND IN ACCORDANCE WITH STANDARD PLAN 616.10 AND 903.03.
WHEN SHOULDER DROP-OFF SIGNS ARE IN PLACE FOR GREATER THAN THREE DAYS, THE SHOULDER DROP-OFF PLAQUE SHOULD BE USED IN ADDITION WITH THE SHOULDER DROP-OFF SIGN.
FOR BRIDGE EXCEPTIONS AND COLDMILLED AREAS, LOCATION OF SIGN (50) TO BE APPROVED BY THE ENGINEER. UNLESS REQUIRED BY STANDARD PLAN 619.10, SIGN (50) AT CONTRACTOR'S EXPENSE, NO DIRECT PAY. SEE STANDARD SPECIFICATION 622.2.4.

NOT TO SCALE

TRAFFIC CONTROL SHEET 9 OF 10



NOTES:

UPON APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY PROVIDE ADDITIONAL PROTECTIVE TRUCKS EQUIPPED WITH PROPER WARNING DEVICES.

PROTECTIVE TRUCKS AND WORK VEHICLES SHALL DISPLAY HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.

VEHICLE-MOUNTED SIGNS SHALL BE MOUNTED IN A MANNER SUCH THAT THEY ARE NOT OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS ON VEHICLE-MOUNTED SIGNS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.

FLASHING ARROW PANELS AND SIGNS SHALL BE INCIDENTAL TO TRUCK MOUNTED ATTENUATORS, WHEREVER USED. NO ADDITIONAL PAYMENT WILL BE MADE.

(1) TRUCK IS OPTIONAL ON TWO-LANE UNDIVIDED HIGHWAYS IF SIGNING AND ARROW BOARD ARE MOUNTED ON THE PAVEMENT MARKING EQUIPMENT.

(2) WET PAINT SIGNS ARE INSTALLED TO INDICATE THE SIDE IN WHICH THE PAVEMENT MARKING MATERIAL IS BEING APPLIED. AT THE CONTRACTOR'S OPTION, A FRONT FACING WET PAINT SIGN MAY BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT MARKING EQUIPMENT.

(3) REAR WARNING TRUCK IS POSITIONED AT THE NO TRACK POINT OF THE PAVEMENT MARKING MATERIAL, OR VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE, OR SPACING SHOWN, WHICHEVER IS GREATER.

STRIPING ON TWO-LANE HIGHWAY

NOT TO SCALE



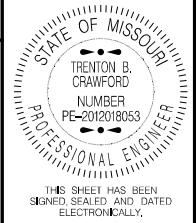
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| ROUTE | 7 | STATE | MO |
| DISTRICT | SW | SHEET NO. | 14 |
| COUNTY | BENTON | | |
| JOB NO. | JSR0062 | | |
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102
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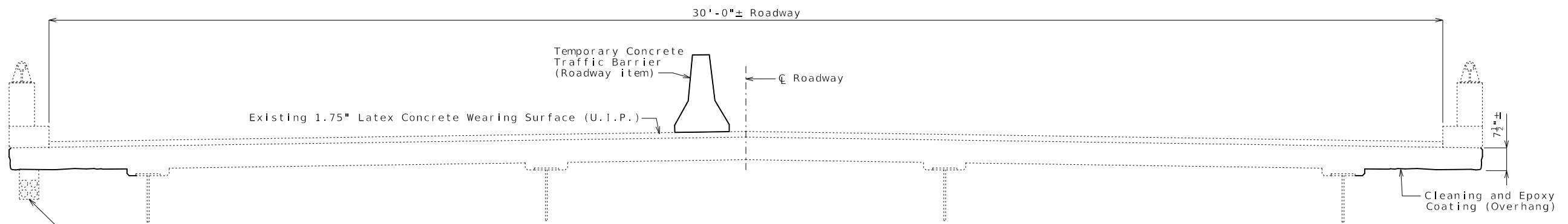
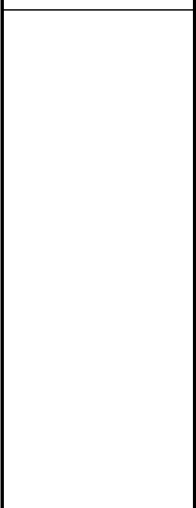
U.I.P. AND REHABILITATE EXISTING (135'-3@170'-135')(35'-3@170'-35')(135'-3@170'-135') CONTINUOUS COMPOSITE PLATE GIRDER SPANS



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| 11/19/2024 | |
| ROUTE | STATE |
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| DISTRICT | SHEET NO. |
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| COUNTY | |
| BENTON | |
| JOB NO. | |
| JSR0062 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. | |
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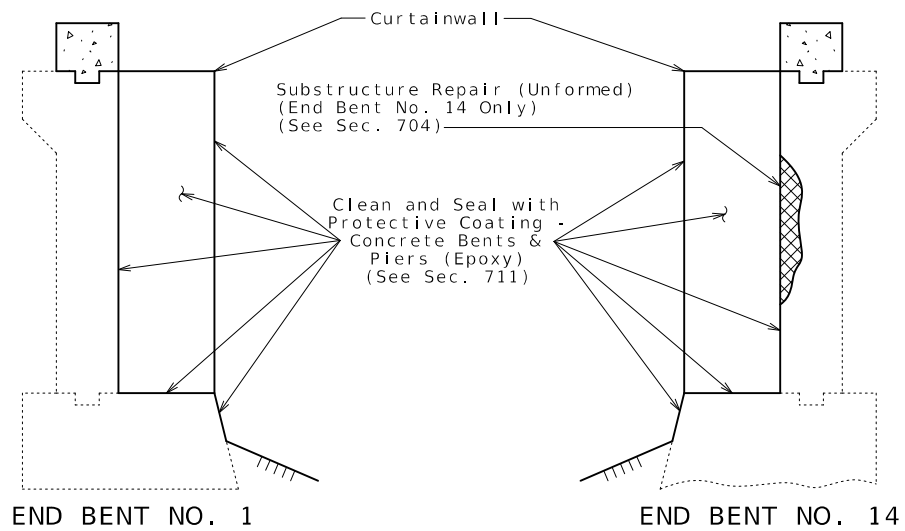
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL JEFFERSON CITY, MO 65102
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TYPICAL SECTION THRU EXISTING DECK

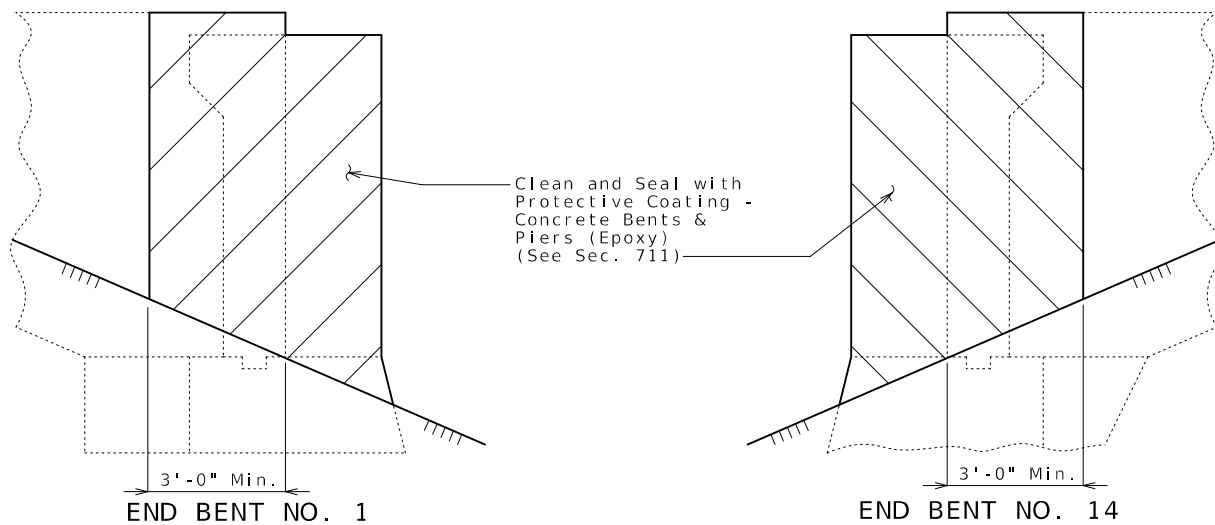
Existing Conduit System (Remove for Cleaning & Epoxy Coating Overhang & Reinstall)



END BENT NO. 1

END BENT NO. 14

TYPICAL SECTION THRU END BENTS SHOWING PROTECTIVE COATING & SUBSTRUCTURE REPAIR



END BENT NO. 1

END BENT NO. 14

TYPICAL ELEVATION @ END BENTS SHOWING PROTECTIVE COATING EXTENT ON WINGS

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 6

| Item | Unit | Total |
|---|-------------|--------|
| Removal of Miscellaneous ACM (Non-Friable) | sq. foot | 4 |
| Removal of Existing Expansion Joint & Adjacent Concrete | linear foot | 60 |
| Remove & Replace Barrier Curb | linear foot | 11 |
| Remove & Reinstall Conduit System | linear foot | 4,289 |
| Class B-2 Concrete | cu. yard | 5.40 |
| Substructure Repair (Unformed) | sq. foot | 200 |
| Cleaning and Epoxy Coating | sq. foot | 14,864 |
| Reinforcing Steel (Epoxy Coated) | pound | 780 |
| Protective Coating - Concrete Beams & Piers (Epoxy) | lump sum | 1 |
| Strip Seal Expansion Joint System | linear foot | 60 |
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General Notes:

Design Specifications:

2002 AASHTO LFD (17th Ed.) Standard Specifications
 Bridge Deck Rating = 6

Design Loading:

H20-44 (1967), HS20-44 (New Construction)

Design Unit Stresses:

Class B-1 Concrete (Barrier) $f'c = 4,000$ psi
 Class B-2 Concrete (Superstructure, Except Barrier) $f'c = 4,000$ psi
 Reinforcing Steel (Grade 60) $fy = 60,000$ psi

Reinforcing Steel:

Minimum clearnace to reinforcing steel shall be 1 1/2", unless otherwise noted.

Concrete Protective Coating:

Protective coating for concrete bents and piers (Epoxy) shall be applied as shown on the bridge plans and in accordance with Sec 711.

Miscellaneous:

Roadway surfacing adjacent to bridge ends shall match new bridge wearing surface (Roadway Item).

All concrete repairs shall be in accordance with Sec 704, unless otherwise noted.

Outline of existing work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering new material.

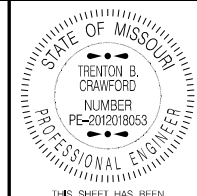
Bars bonded in existing concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, existing bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars, unless otherwise noted.

Traffic Handling:

Traffic to be maintained on structure during construction. See roadway plans for traffic control.

REPAIRS TO BRIDGE: ROUTE 7 OVER TRUMAN RESERVOIR

ROUTE 7 FROM ROUTE PP TO ROUTE Z
 ABOUT 1.7 MILES NORTH OF ROUTE Z
 BEGINNING STATION 45+56.84± (Match Existing)



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11/19/2024

ROUTE 7 STATE MO

DISTRICT BR SHEET NO. 2

COUNTY
BENTON

JOB NO.
JSR0062

CONTRACT ID.

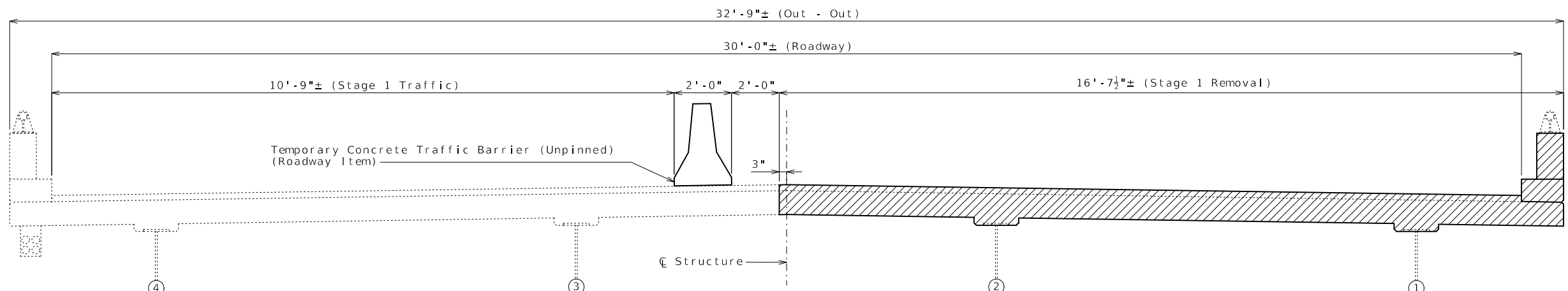
PROJECT NO.

BRIDGE NO.
A34653

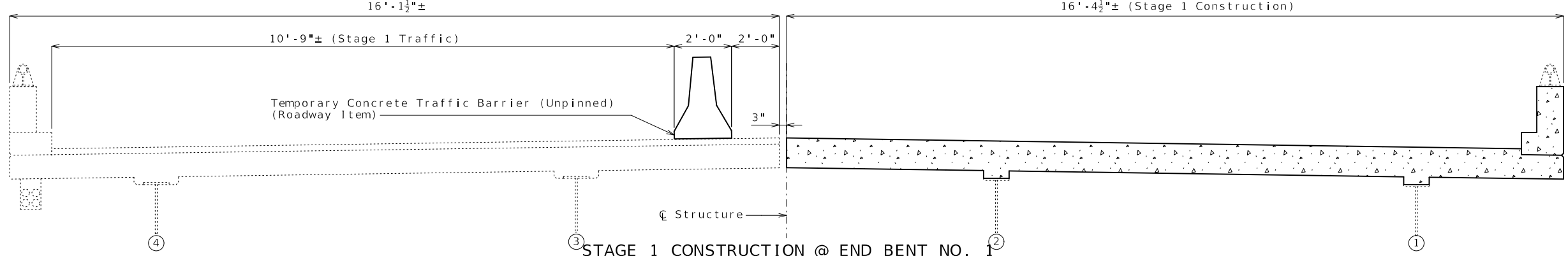
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MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

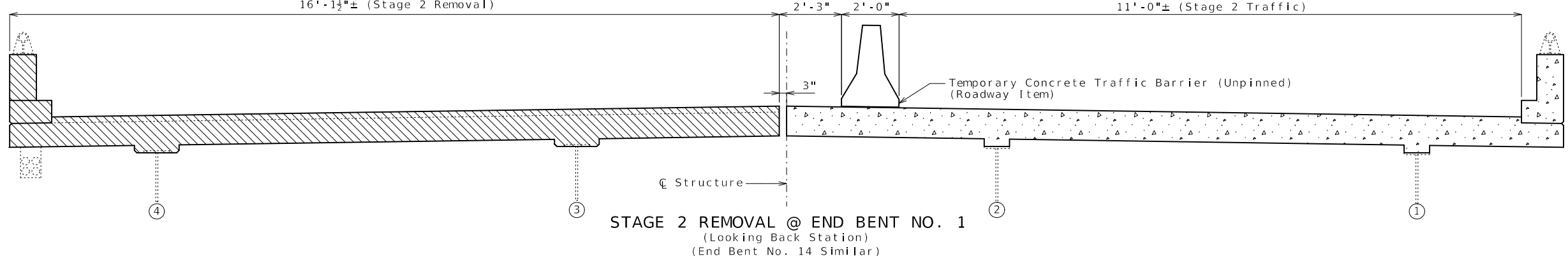
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



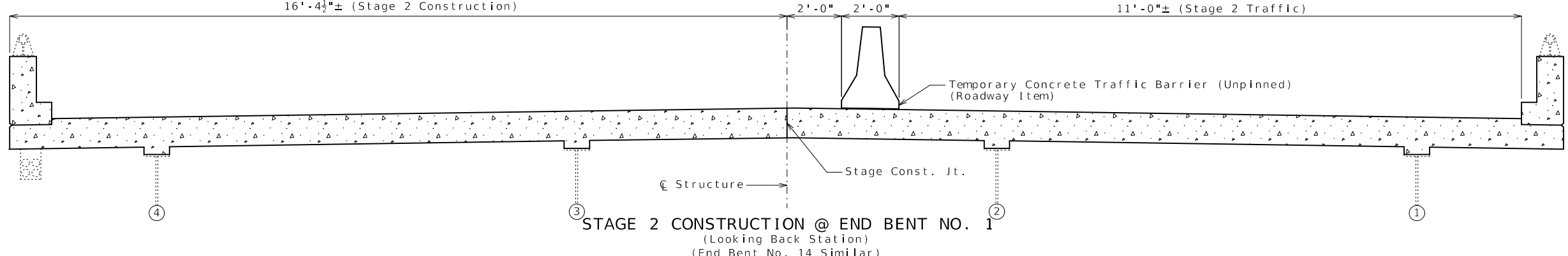
STAGE 1 REMOVAL @ END BENT NO. 1
(Looking Back Station)
(End Bent No. 14 Similar)



STAGE 1 CONSTRUCTION @ END BENT NO. 1
(Looking Back Station)
(End Bent No. 14 Similar)



STAGE 2 REMOVAL @ END BENT NO. 1
(Looking Back Station)
(End Bent No. 14 Similar)



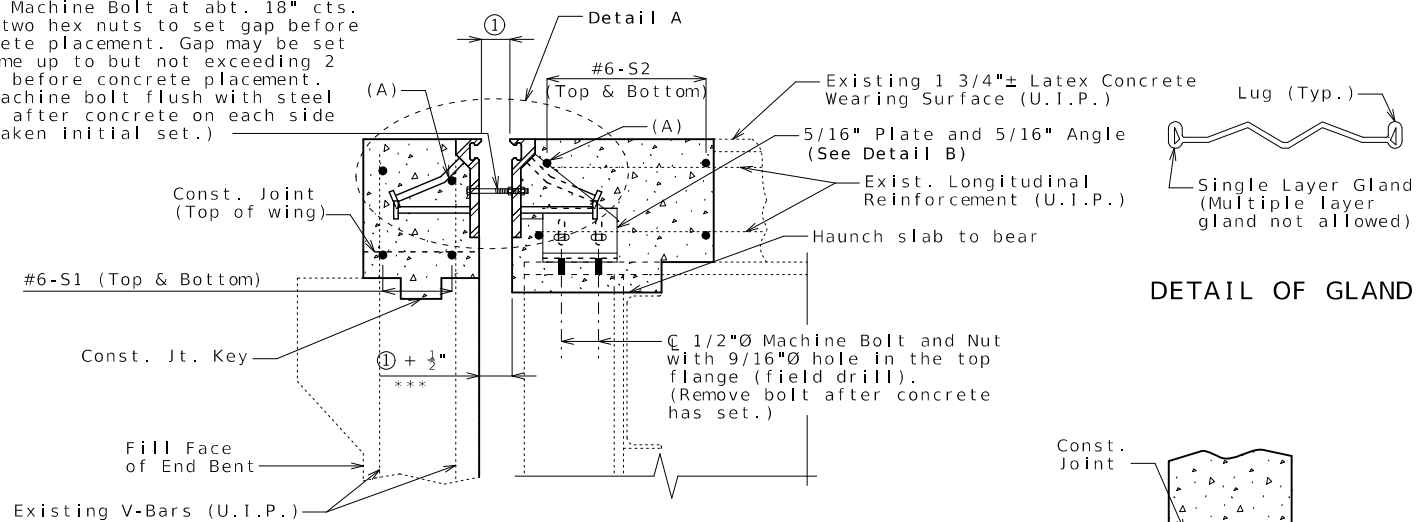
STAGE 2 CONSTRUCTION @ END BENT NO. 1
(Looking Back Station)
(End Bent No. 14 Similar)

Detailed Sept. 2024
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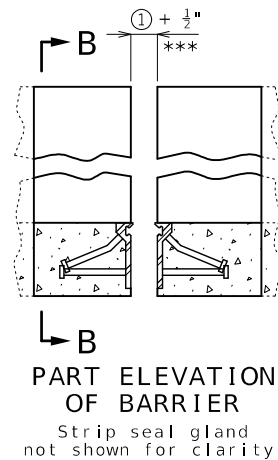
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 6

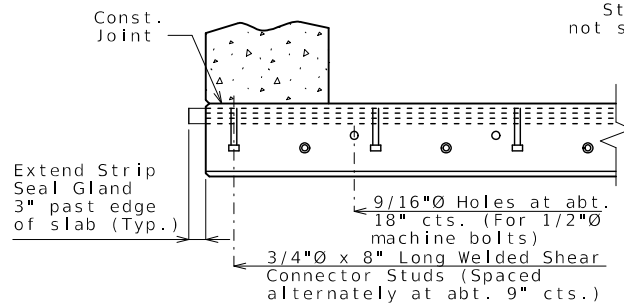
1/2"Ø Machine Bolt at abt. 18" cts.
(Use two hex nuts to set gap before
concrete placement. Gap may be set
anytime up to but not exceeding 2
hours before concrete placement.
Cut machine bolt flush with steel
armor after concrete on each side
has taken initial set.)



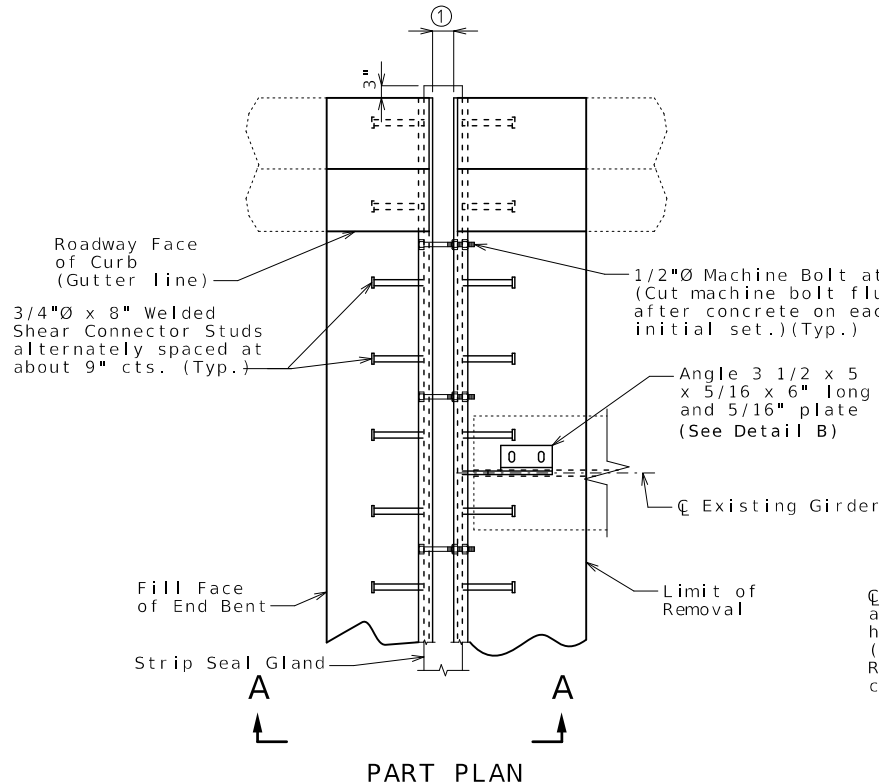
SECTION A-A
Strip seal gland not shown for clarity.
(A) Will allow bar to be segmented into lengths no less than 6'-0".



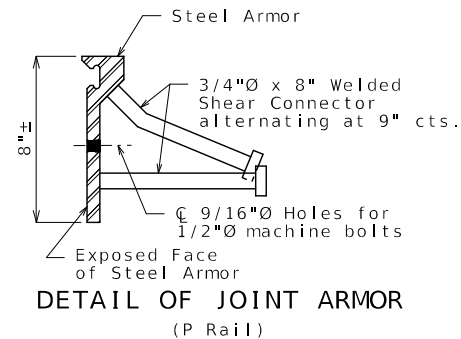
PART ELEVATION OF BARRIER
Strip seal gland not shown for clarity.



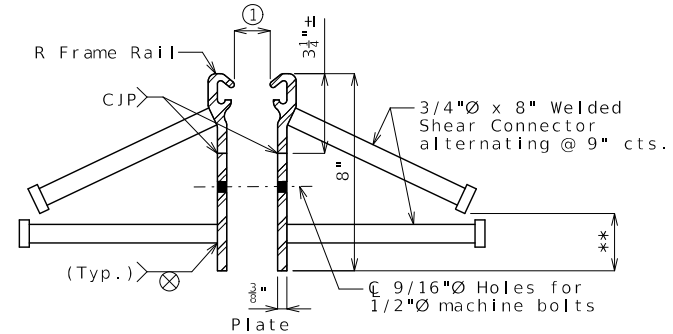
PART SECTION B-B



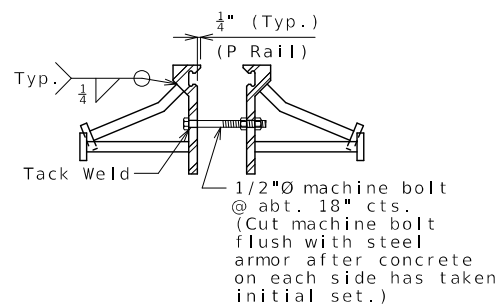
PART PLAN



DETAIL OF JOINT ARMOR (P Rail)

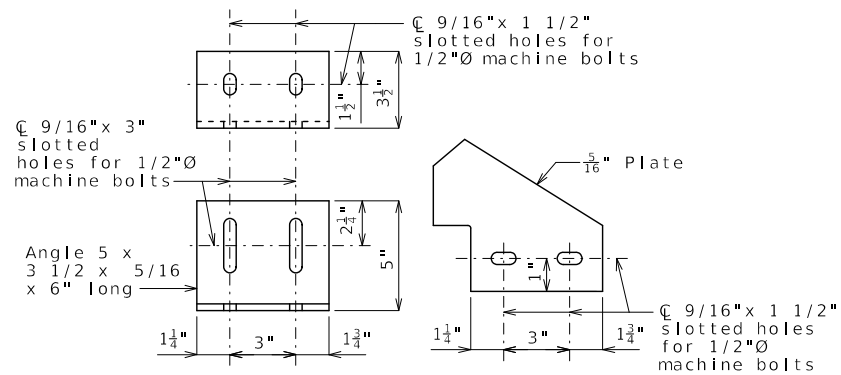


OPTIONAL R RAIL DETAIL



DETAIL A

(P Rail shown, R Rail similar)



DETAIL B

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for staged construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Longitudinal reinforcing steel shall be cut/bent so that ends shall be 1" from the vertical leg of the steel armor at the expansion joint system.

Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

② The installation temperature shall be taken as the actual air temperature averaged over the 24-hour period immediately preceding installation.

③ MoDOT Construction personnel will indicate the strip seal expansion joint system installed.

Steel armor may also be referred to as extrusion or rail.

The terms P and R rail are used for identification only, and are not endorsements for any particular manufacturer.

*** Because of variation in armor dimensions, the concrete opening will vary if the optional R rail is used. Dimensions shown are based on the P rail option.

Table of Allowed Transverse Strip Seal Expansion Joint System

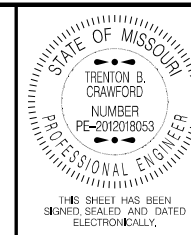
| Manufacturer | Strip Seal System (Designated Name) | Movement Parallel to RDWY | Allowed Installation Gap Normal to Joint at RDWY Surface @ Air/Surface Temperature | | | | | | ③ |
|---------------------------|-------------------------------------|--------------------------------|--|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|
| | | | @ 40°F | @ 50°F | @ 60°F | @ 70°F | @ 80°F | @ 90°F | |
| D S Brown | Strip seal L2-400 | 2 ⁹ / ₁₆ | 2 ³ / ₈ | 2 ⁷ / ₁₆ | 2 ¹ / ₄ | 2 ¹ / ₈ | 1 ⁵ / ₈ | 1 ³ / ₄ | □ |
| D S Brown | Strip seal L2-500 | 2 ⁹ / ₁₆ | 2 ³ / ₈ | 2 ⁷ / ₁₆ | 2 ¹ / ₄ | 2 ¹ / ₈ | 1 ⁵ / ₈ | 1 ³ / ₄ | □ |
| Watson Bowman Acme (Wabo) | Strip seal SE-400 | 2 ⁹ / ₁₆ | 2 ³ / ₈ | 2 ⁷ / ₁₆ | 2 ¹ / ₄ | 2 ¹ / ₈ | 1 ⁵ / ₈ | 1 ³ / ₄ | □ |
| Watson Bowman Acme (Wabo) | Strip seal SE-500 | 2 ⁹ / ₁₆ | 2 ³ / ₈ | 2 ⁷ / ₁₆ | 2 ¹ / ₄ | 2 ¹ / ₈ | 1 ⁵ / ₈ | 1 ³ / ₄ | □ |

STRIP SEAL EXPANSION JOINT SYSTEM AT END BENT NO. 1 & END BENT NO. 14

Detailed Sept. 2024
Checked Oct. 2024

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3 of 6



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11/19/2024

ROUTE **7** STATE **MO**

DISTRICT **BR** SHEET NO. **3**

COUNTY **BENTON**

JOB NO. **JSR0062**

CONTRACT ID.

PROJECT NO.

BRIDGE NO. **A34653**

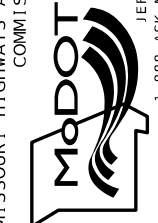
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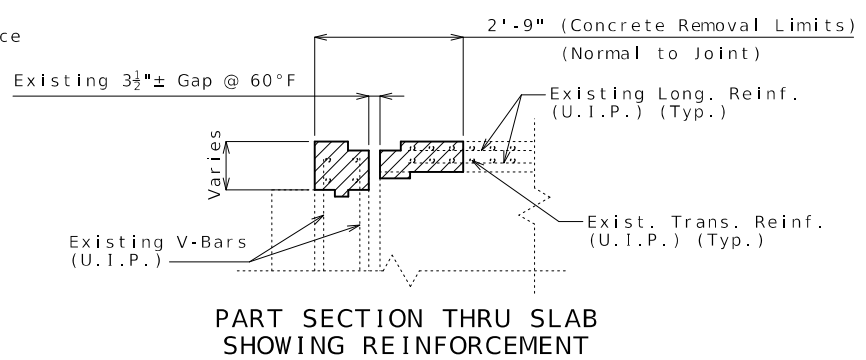
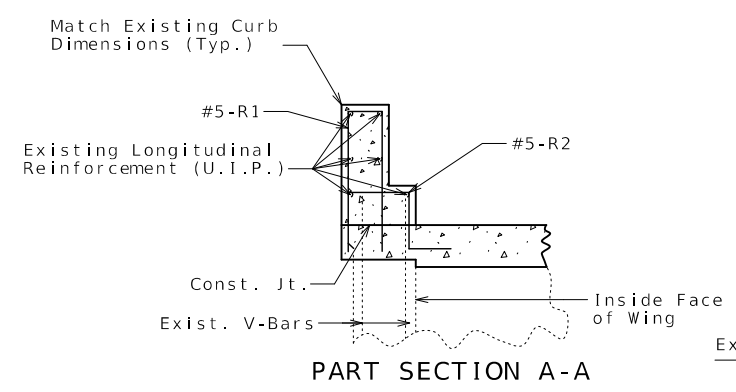
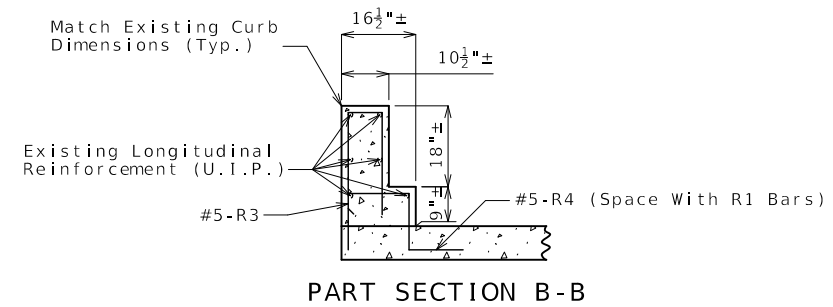
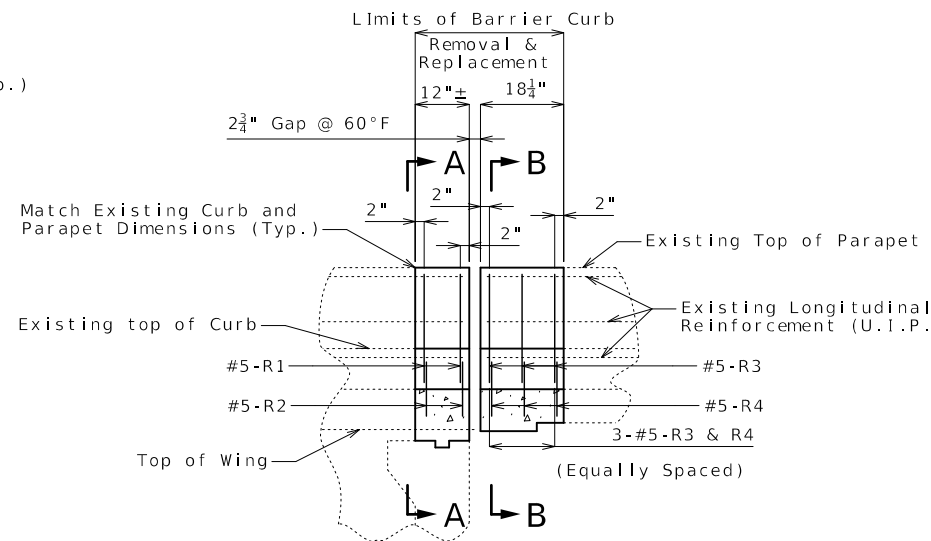
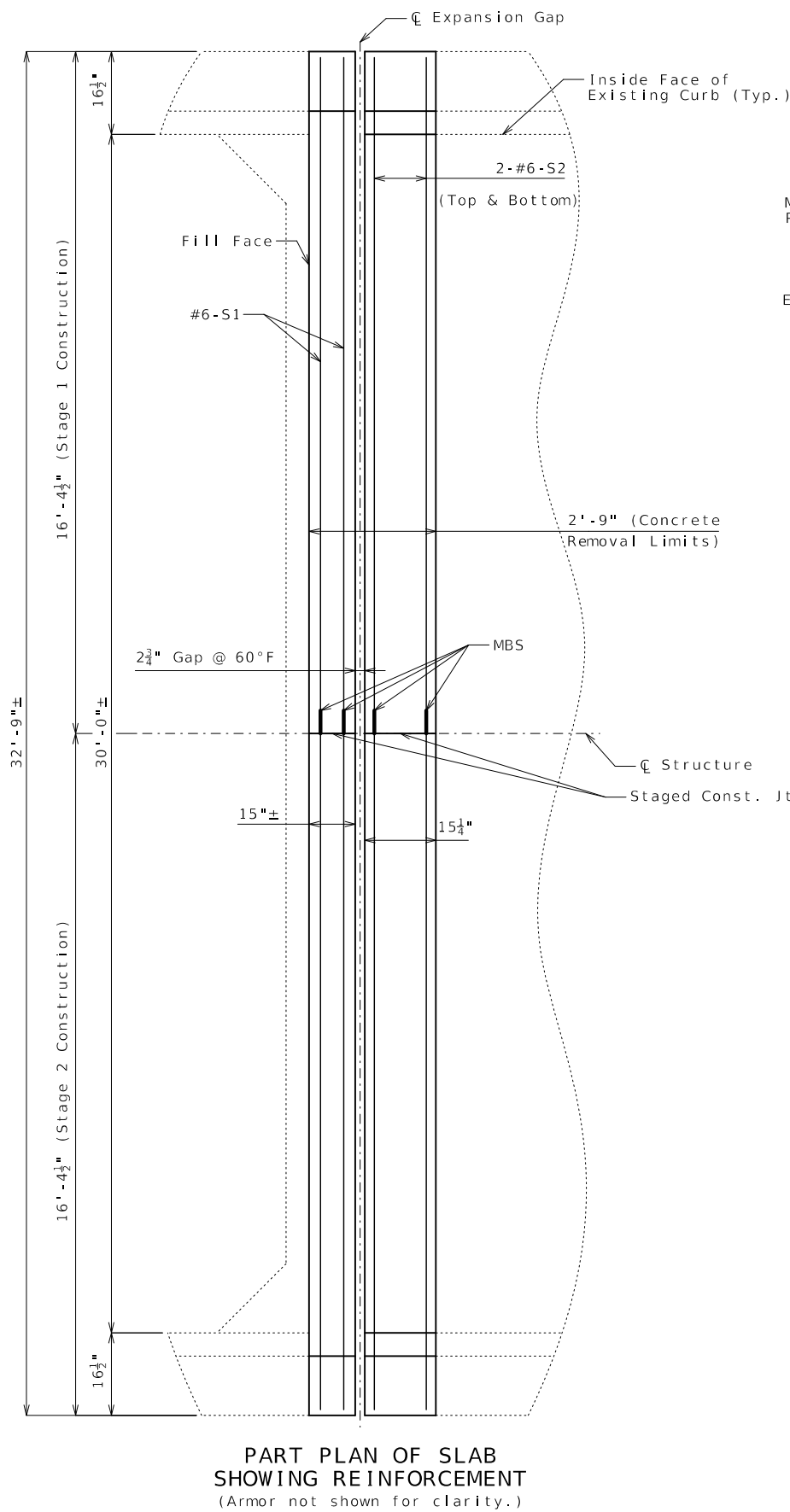
DATE

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105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)





Notes:

- Concrete for slab replacement shall be Class B-2.
- For details of expansion joint system not shown, see Sheet No. 3.
- #5-S1 bars shall be shifted where necessary to clear shear connector studs on the expansion joint system.
- Payment for slab concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Class B-2 Concrete.
- Payment for furnishing and installing slab reinforcement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).
- Cost of removing existing expansion device and slab concrete within the limits shown will be considered completely covered by the contract unit price for Removal of Existing Expansion Joints & Adjacent Concrete.
- Concrete for barrier curb replacement shall be Class B-1.
- Payment for curb removal and all new concrete and reinforcement for barrier curb, complete-in-place, will be considered completely covered by the contract unit price for Remove and Replace Barrier Curb.
- All exposed edges of new barrier curb shall match existing barrier curb.
- The #6-S1 & #6-S2 bars shall be segmented to accommodate staged construction. The contractor shall use a mechanical bar splice in lieu of a lap splice. The actual bar segment length will be determined by the contractor to accommodate the manufacturer's recommendations for installation and staged construction.
- The cost of furnishing and installing the mechanical bar splices will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).
- Top of backwall for end bents shall be formed to the crown and grade of the roadway.

SLAB AND BARRIER REPLACEMENT DETAILS AT END BENTS NO. 1 & 14
(End Bent No. 1 Shown, End Bent No. 14 Similar)

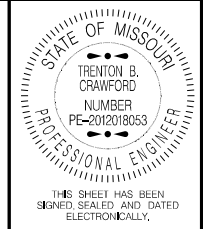
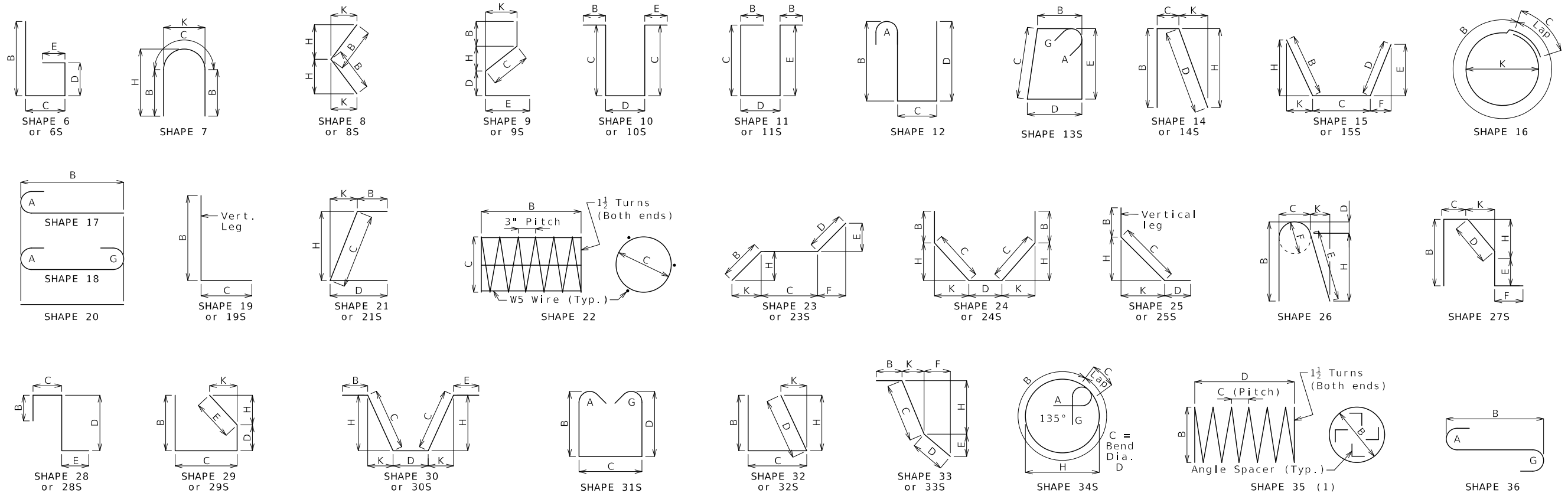
Detailed Sept. 2024
Checked Oct. 2024

Note: This drawing is not to scale. Follow dimensions. Sheet No. 4 of 6

TRENTON B. CRAWFORD
NUMBER PE-2012018053
PROFESSIONAL ENGINEER

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| DATE PREPARED 11/19/2024 | |
| ROUTE 7 | STATE MO |
| DISTRICT BR | SHEET NO. 4 |
| COUNTY BENTON | |
| JOB NO. JSR0062 | |
| CONTRACT ID. | |
| PROJECT NO. | |
| BRIDGE NO. A34653 | |
| DESCRIPTION | |
| DATE | |
| MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION | <div style="display: flex; justify-content: space-between; align-items: center;"> <p>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</p> </div> |



DATE PREPARED
11/19/2024
ROUTE 7 STATE MO
DISTRICT BR SHEET NO. 5
COUNTY BENTON
JOB NO. JSR0062
CONTRACT ID.
PROJECT NO.
BRIDGE NO. A34653

| DESCRIPTION |
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DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes

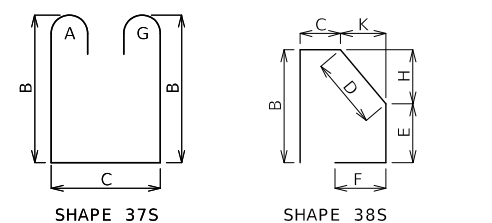
| Size | Case | D | A or G | | J |
|------|------|---------|---------|---------|---------|
| | | | 90° | 180° | 180° |
| #4 | 1 | 3" | 8" | 6" | 4" |
| #5 | 1 | 3 3/4" | 10" | 7" | 5" |
| #6 | 1 | 4 1/2" | 12" | 8 1/4" | 6" |
| #7 | 2 | 5 1/4" | 14" | 9 3/4" | 7" |
| | 3 | 7" | 15" | 11 1/2" | 8 3/4" |
| #8 | 2 | 6" | 16" | 11" | 8" |
| | 3 | 8" | 17" | 13 1/4" | 10" |
| #9 | 1 | 9 1/2" | 19 1/2" | 15 1/2" | 11 3/4" |
| #10 | 1 | 10 3/4" | 22" | 17 1/2" | 13 1/4" |
| #11 | 1 | 12" | 24 1/2" | 19 1/2" | 14 7/8" |
| #14 | 1 | 18 1/4" | 31 1/4" | 27 1/2" | 21 5/8" |
| #18 | 1 | 24" | 41 1/2" | 36 1/4" | 28 1/2" |

Stirrup Pin Bend Shapes (S)

| Size | Case | D | A or G | | H | J | |
|------|------|--------|--------|--------|--------|--------|--------|
| | | | 90° | 135° | 180° | 135° | 180° |
| #4 | 2 | 2" | 4 1/2" | 4 1/2" | 5" | 2 7/8" | 3" |
| | 3 | 3" | 5" | 5 1/4" | 6" | 3" | 4" |
| #5 | 2 | 2 1/2" | 5 3/4" | 5 3/4" | 5 3/4" | 3 3/8" | 3 3/4" |
| | 3 | 3 3/4" | 6 1/4" | 6 1/2" | 7" | 3 7/8" | 5" |
| #6 | 1 | 4 1/2" | 12" | 7 3/4" | 8 1/4" | 4 7/8" | 6" |

6d for #4 & #5, 12d for #6

Applicable for all grades of steel.
Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.



BENDING DIAGRAMS

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.
Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.
Four angle or channel spacers are required for each column spiral. Spacers are to be placed on inside of spirals. Length and weight of column spirals do not include splices or spacers.
Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

Reinforcing Steel Totals (Pounds)

| Size | Substructure | | Superstructure | | | Entire Bridge | |
|---------|--------------|-------|----------------|---------|-----------|---------------|-------|
| | Plain | Epoxy | Slab | Barrier | Slip Form | Plain | Epoxy |
| W5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 174 | 0 | 0 | 174 |
| 6 | 0 | 0 | 782 | 0 | 0 | 0 | 782 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| By Type | 0 | 0 | 782 | 174 | 0 | 0 | 956 |

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

Detailed Sept. 2024
Checked Oct. 2024

| Bill of Reinforcing Steel | | | | | | | | | | | | | | | | |
|---------------------------|-----------|----------|-------|----|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------------------|--------------|-----|
| No. Req. | Size/Mark | Location | Codes | | | Dimensions | | | | | | | Nom. Length ft in. | Actual Length ft in. | Weight lb | |
| | | | C | SH | V | B ft in. | C ft in. | D ft in. | E ft in. | F ft in. | H ft in. | K ft in. | | | | |
| Superstructure | | | | | | | | | | | | | | | | |
| Slab | | | | | | | | | | | | | | | | |
| 8 | 6 S1 | SLAB | E | 20 | | 32 | 6.00 | | | | | | | 32 6 | 32 6 | 391 |
| 8 | 6 S2 | SLAB | E | 20 | | 32 | 6.00 | | | | | | | 32 6 | 32 6 | 391 |
| Barrier | | | | | | | | | | | | | | | | |
| Curb & Parapet | | | | | | | | | | | | | | | | |
| 8 | 5 R1 | BARRIER | E | 10 | | | 2 7.00 | | 7.50 | | | | | 5 10 | 5 6 | 46 |
| 8 | 5 R2 | BARRIER | E | 10 | | | 13.50 | | 13.50 | | 12.00 | | | 3 5 | 3 1 | 26 |
| 12 | 5 R3 | BARRIER | E | 10 | | | 2 0.00 | | 7.50 | | | | | 4 8 | 4 4 | 54 |
| 12 | 5 R4 | BARRIER | E | 10 | | | 13.50 | | 12.00 | | 12.00 | | | 4 3 | 3 10 | 48 |

| Bill of Reinforcing Steel | | | | | | | | | | | | | | | | |
|---------------------------|-----------|----------|-------|----|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------------------------|--------------|--|
| No. Req. | Size/Mark | Location | Codes | | | Dimensions | | | | | | | Nom. Length ft in. | Actual Length ft in. | Weight lb | |
| | | | C | SH | V | B ft in. | C ft in. | D ft in. | E ft in. | F ft in. | H ft in. | K ft in. | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
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Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

All bars shall be Grade 60.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized.

SH = Required shape, see bending diagrams.

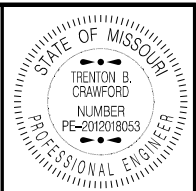
V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

For bending diagrams and steel reinforcing totals, see Sheet No. 5.

Detailed Sept. 2024
Checked Oct. 2024

BILL OF REINFORCING STEEL

Note: This drawing is not to scale. Follow dimensions.



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11/19/2024

ROUTE 7 STATE MO
DISTRICT BR SHEET NO. 6

COUNTY
BENTON

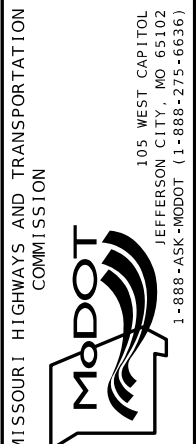
JOB NO.
JSR0062

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
A34653

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