PROJECT NUMBER

IM-0055-03(094)

## STATE OF MISSISSIPPI

### MISSISSIPPI DEPARTMENT OF TRANSPORTATION

# PLAN AND PROFILE OF PROPOSED STATE HIGHWAY FEDERAL AID PROJECT NO. IM-0055-03(094)

I-55 FROM CARROLL/MONTGOMERY CL. FMS CON. NO. 107824/301000 TO 2.5 MI. SOUTH OF CARROLL CO.

1 IN. = 100 FT.HOR. 1 IN. = 100 FT. VERT. 1 IN. = 10 FT. LAYOUT

#### BRIDGE STRUCTURES REQ'D.

**GENERAL INDEX** 

**X** ROADWAY ..... 1

ITS COMPONENTS ......3001

LIGHTING ......4001

(RESERVED) ......5001

ROADWAY STANDARD DWGS ......6001

BOX CULVERT STD. DRAWINGS (LRFD) .... 7001

**BOX CULVERT STD. DRAWINGS (STD. SPEC.)7501** 

BRIDGE .....8001

CROSS SECTIONS ......9001

**BEGIN** WITH

SHEET

**INCLUDED** 

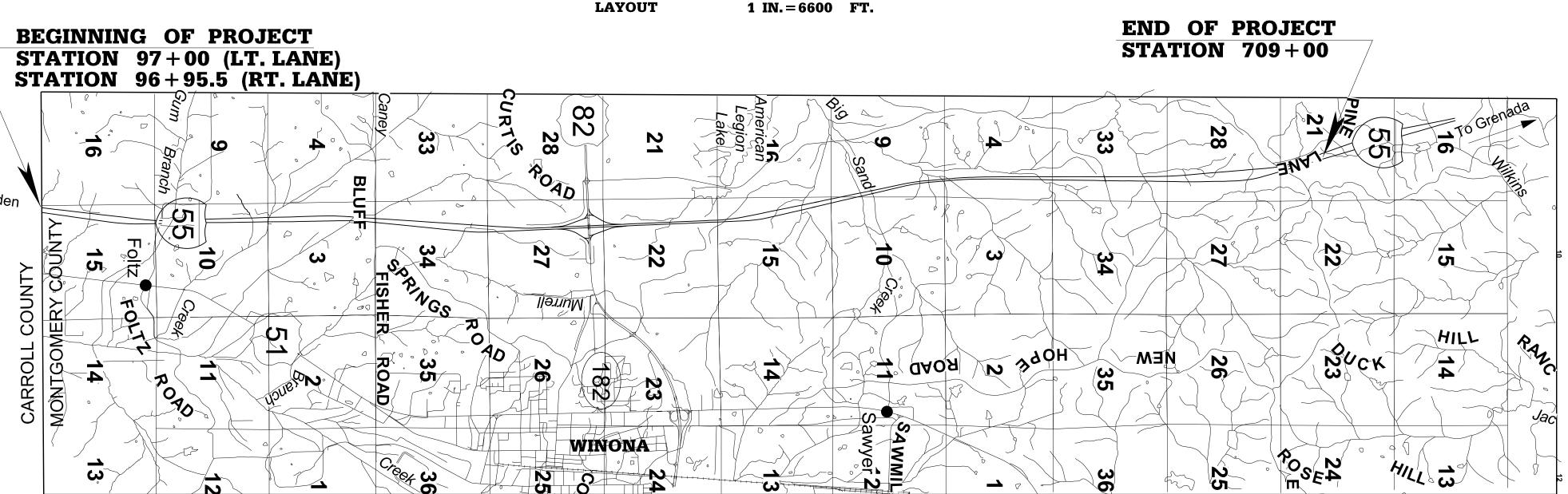
**PROJECT** 

**THIS** 

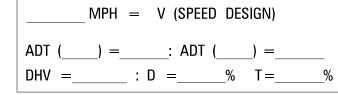


**BEGINNING OF PROJECT** 

BOX BRIDGES REQ'D. **NONE** 



## (APPROX. MIDDLE OF PROJECT **DESIGN CONTROL**



STATE MAP

INDICATES APPROXIMATE LOCATION OF PROJECT.

## PERMITS ACQUIRED BY MDOT WETLANDS AND WATERS PERMITS

**GENERAL\*** INDIVIDUAL (404)\*

STORMWATER PERMIT REQUIRED, CNOI SUBMITTED BY MDOT (DISTURBED AREA = 5 ACRES) REQUIRED, SCNOI TO BE SUBMITTED BY CONTRACTOR (1 TO 4.99 ACRES) NO STORMWATER PERMIT REQUIRED (<1 ACRE)

#### **CONVENTIONAL SYMBOLS**

COUNTY LINE TOWN CORPORATION LINE \_\_\_ SECTION LINE EXISTING ROAD OR TRAVELED WAY -PROPOSED ROAD OR TRAVELED WAY — RAILROAD\_ SURVEY LINE BRIDGES

#### **EQUATIONS**

NONE

## LENGTH DATA

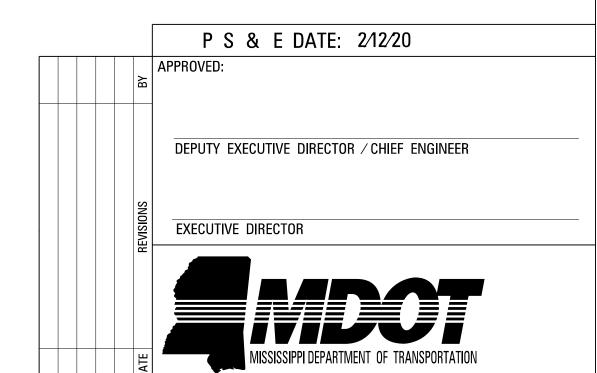
LENGTH OF ROADWAY LENGTH OF BRIDGES LENGTH OF PROJECT (NET) LENGTH OF EXCEPTIONS LENGTH OF PROJECT (GROSS)

#### 61,200 **FT.** NONE FT. 692.74 **FT**.

11.59Ø **MI**. Ø.ØØØ **MI**. 11,590 **MI**. Ø.131 **MI**. 11.46Ø ML

#### **EXCEPTIONS** (BRIDGES LEFT LANE)

STA. 152+22.37 TO STA. 153+77.62 155.25 FT. STA. 252+83.68 TO STA. 254+38.92 155.24 FT. STA. 460+21.28 TO STA. 462+21.28 200.00 FT. STA. 486+42.18 TO STA. 488+24.43 182.25 FT.



				STATE MISS.		
DESCRIPTION OF SHEET	WKG. NO.	SH. NO.	DESCRIPTION OF SHEET	WKG. NO.	SH. NO.	
TITLE SHEET		1	SPECIAL DESIGN SHEETS (CONTINUED )			
DETAILED INDEX & GENERAL NOTES (3)			DETAIL OF GUARD POSTS	DDT-1	35	
DETAILED INDEX DETAILED INDEX	DI-1 DI-2	2	TYPICAL CRC PAVEMENT REPAIR TYPICAL CRC PAVEMENT REPAIR (OPTIONAL WELDING METHOD)	PR-1A PR-1B	36 37	
GENERAL NOTES	GN-1	4	FAILURE REPAIR DETAILS JOINTED REINFORCED CONCRETE PAVEMENT	PR-1C	38	
OLINLIVAL INOTES		ı	LANE CLOSURE DETAILS FOR FULL DEPTH CONCRETE PAVEMENT REPAIR BARRIER DETAIL - BRIDGE 88.1 A&B @ I-55 & U.S. 82	LCD-1 BD-1	39 4Ø	
TYPICAL SECTION SHEETS (5)			BARRIER DETAIL - BRIDGE 188.7 A&B @ I-55 & N.MISSION RD.	BD-2	41	
EXISTING AND PROPOSED CONSTRUCTION OF MAINLINE (B.O.P. TO E.O.P.)  TYPICAL SECTION OF RAMPS (MILL & OVERLAY) HWY.82 & I-55 INTERCHANGE	TS-2	5 6				
INTERCHANGE RAMP EXTENSIONS AT HWY. 82 & I-55 U.S. HWY. 82 & RAMP SHOULDERS	TS-3 TS-4	7 8				
TYPICAL SECTION AT ROADSIDE HAZARDS	TS-4R-1	9				
QUANTITY SHEETS (7)						
SUMMARY OF QUANTITIES (ROADWAY ) SUMMARY OF QUANTITIES (ROADWAY )	SQ-1 SQ-2	1Ø 11				
SUMMARY OF QUANTITIES (ROADWAY)	SQ-3	12	STANDARD DRAWINGS - LIGHTING (9 )			
ESTIMATED QUANTITIES FOR TRAFFIC CONTROL SIGNS	EQ-1	13	LIGHTING NOTES, LEGEND AND ABBREVIATIONS	LN-1	4001	
ESTIMATED QUANTITIES (FOR CLEARING LIMITS AND CONCRETE PUNCHOUTS )	EQ-2	14	ESTIMATED QUANTITIES - LIGHTING	LQ-1	4002	
ESTIMATED QUANTITIES (DIRECTIONAL SIGNS & EARTHWORK )	EQ-3	15	LIGHTING LAYOUT	L-1	4003	
ESTIMATED QUANTITIES (FOR GUARDRAIL )	EQ-4	16	LIGHTING LAYOUT	L-2	4004	
			LIGHTING LAYOUT	L-3	4005	
PLAN PROFILE SHEETS (6)	WIZ 7	_	LIGHTING LAYOUT	L-4	4006	
SOUTHEAST RAMP EXTENSION @ HWY. 82 INTERCHANGE (STA. 333+26 - STA. 33 NORTHEAST RAMP EXTENSION @ HWY. 82 INTERCHANGE (STA. 370+69 - STA. 37		17 18	LIGHTING DETAIL	LD-1	4007	
SOUTHWEST RAMP EXTENSION @ HWY. 82 INTERCHANGE (STA. 327+66 - STA. 33 NORTHWEST RAMP EXTENSION @ HWY. 82 INTERCHANGE (STA. 367+90 - STA. 37	336+46 ) WK-5	19 2Ø	LIGHTING DETAIL	LD-2	4008	
U.S. HWY. 82 INTERCHANGE (EAST) U.S. HWY. 82 INTERCHANGE (WEST)	WK-7 WK-8	21 22	LIGHTING DETAIL	LD-3	4009	
					J	
SPECIAL DESIGN SHEETS - ROADWAY ITEMS - (19)	RUD-1	23				
UNDERDRAIN DETAILS FOR STA. 56+20 NW RAMP US 82 & I-55 PAVING DETAILS AT RAMPS	PD-1	23				
DETAIL OF CONSTRUCTION SIGNING	DCS-1	25				
BRIDGE APPROACH MILLING DETAIL	BAD-2	26				
GUARDRAIL: SHOULDER & SLOPE DETAILS	SD-4R-1	27				
VEGETATION SCHEDULE	VS-1	28				
EROSION CONTROL	EC-1	29		PI DEPARTMENT OF TRAI	NSPORTATION	
PRELIMINARY EROSION CONTROL PLAN - SE RAMP EXT. @ HWY 82	ECP-1	3Ø	M. Lambert  PS & E PLANS-DATE: 9/21/20		OF TRANSA	
PRELIMINARY EROSION CONTROL PLAN - NE RAMP EXT. @ HWY 82  PRELIMINARY EROSION CONTROL PLAN - SW RAMP EXT. @ HWY 82	ECP-2	31	FMS CON. # 107824/301000  REVISIONS	ETAILED INDEX	A A A A A A A A A A A A A A A A A A A	
PRELIMINARY ERUSION CONTROL PLAN - SW RAMP EXT. @ HWY 82  PRELIMINARY EROSION CONTROL PLAN - NW RAMP EXT. @ HWY. 82	ECP-3 ECP-4	32 33	DATE SHEET NO. BY		DEPA.	
DETAIL OF BRIDGE CONNECTOR	BGRC-1	34		: IM-0055-03(094)	WORKING NUMBER	
			COUNTY:	MONTGOMERY	DI-1	
			L FILENAME:_F  DESIGN TEAM	RWD-DI-001	SHEET NUMBER	

\_\_\_\_DATE **2016-11-10** 

					STATE MISS.	PROJECT NO. IM-0055-03(094)
	DESCRIPTION OF SHEET	WKG. NO.	SH. NO.	DESCRIPTION OF SHEET	WKG. NO.	SH. NO.
	STANDARD DRAWINGS - ROADWAY SHEETS (70)			STANDARD DRAWINGS - ROADWAY SHEETS (CONTINUED )		
	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 24'-0" WIDE CONCRETE PAVEMENT JOINTS	CRP-1 PJ-1	6ØØ1 6ØØ4	TRAFFIC CONTROL PLAN WITH FLAGGER (ONE-LANE CLOSURE OF TWO-WAY TRAFFIC )	TCP-1	6351
	CONCRETE PAVEMENT JOINTS  CONCRETE ISLAND PAVEMENT DETAILS	PJ-2 CIP-1	6005 6011	TRAFFIC CONTROL PLAN FOR POSTED SPEED LIMIT OF 65 OR 70 MPH (INTERSTATES AND OTHER 4-LANE DIVIDED HIGHWAYS)(MEDIAN LANE OR OUTSIDE LANE CLOSURE)(EXTENDED PERIOD)	TCP-4	6354
	PAVEMENT MARKING DETAILS FOR 2 & 4 LANE DIVIDED ROADWAYS PAVEMENT MARKING DETAILS FOR INTERCHANGE ENTRANCE RAMPS (PARALLEL & TAPER )	PM-1 PM-3	6Ø51 6Ø53	TRAFFIC CONTROL PLAN FOR POSTED SPEED LIMIT OF 65 OR 70 MPH (INTERSTATES AND OTHER 4-LANE DIVIDED HIGHWAYS ) (MEDIAN LANE OR OUTSIDE LANE CLOSURE )		
	PAVEMENT MARKING DETAILS FOR INTERCHANGE EXIT RAMPS (PARALLEL & TAPER )	PM-4	6054	(WORK DAY ONLY)	TCP-5	6355
	PAVEMENT MARKING LEGEND DETAIL	PM-6	6056	HIGHWAY SIGN AND BARRICADE DETAILS FOR CONSTRUCTION PROJECTS	TCP-8	6358
	RUMBLE STRIP DETAIL FOR OGFC OR CONCRETE ROADWAY WITH ASPHALT SHOULDERS	RS-3	6066	DETAILS OF OUTSIDE LANE CLOSURE AT EXIT AND ENTRANCE RAMPS	TCP-1Ø	636Ø
	TYPICAL TEMPORARY EROSION/SEDIMENT CONTROL APPLICATION	ECD-1	6101	TRAFFIC CONTROL PLAN FOR TEMPORARY CONSTRUCTION CROSS-OVER (WORK DAY ONLY )	TCP-11	6361
	DETAILS OF SEDIMENT BARRIER APPLICATIONS	ECD-2	6102	TRAFFIC CONTROL PLANS UNEVEN PAVEMENT DETAILS	TCP-12	6362
	DETAILS OF SILT FENCE INSTALLATION	ECD-3	6103	TEMPORARY STRIPING FOR TRAFFIC CONTROL 2-LANE AND 4-LANE DIVIDED HIGHWAYS	TCP-13	6363
	DITCH CHECK STRUCTURES, TYPICAL APPLICATIONS & DETAILS	ECD-4	61Ø4	LOCATION OF R16-3 SIGNS (SPEEDING FINES DOUBLED)	TCP-15	6365
	TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES,			TRAFFIC CONTROL DETAILS DRUM PLACEMENT AND SHOULDER CLOSURE	TCP-16	6366
	(SILT FENCE AND HAY BALE DITCH CHECKS)	ECD-5	61Ø5	SUPERELEVATION CASE I ROTATION ABOUT CENTERLINE (2% NORMAL SUBGRADE)	SE-2A	64Ø8
	DETAILS OF EROSION CONTROL WATTLE DITCH CHECKS	ECD-6	61Ø6	SUPERELEVATION CASE II ROTATION ABOUT EDGE OF TRAVELED WAY (2% NORMAL SUBGRADE)	SE-2B	64Ø9
	DETAILS OF EROSION CONTROL SILT DIKE DITCH CHECKS	ECD-7	6107	SUPERELEVATION RUNOFF CASE I ROTATION ABOUT CENTERLINE	SE-3A	6413
	ROCK DITCH CHECK	ECD-8	61Ø8	SUPERELEVATION RUNOFF CASE II ROTATION ABOUT EDGE OF TRAVELED WAY	SE-3B	6414
z	ROCK FILTER DAM	ECD-9	6100	INTERCHANGE DESIGN FOR HIGH SPEED TAPERED EXIT RAMP	IR-1	6415
TATIO	TYPICAL APPLICATIONS & DETAILS FOR INLET CONSTRUCTION			INTERCHANGE DESIGN FOR HIGH SPEED PARALLEL EXIT RAMP	IR-1A	6416
NO 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		ECD-11	6111	INTERCHANGE DESIGN FOR HIGH SPEED PARALLEL ENTRANCE RAMP	IR-2A	6418
DIVIS]	INLET PROTECTION DETAILS OF SAND BACS	ECD-13	6113	EMERGENCY / OFFICIAL USE MEDIAN CROSSOVERS	EXO-1	6427
N N N N N N N N N N N N N N N N N N N	INLET PROTECTION DETAILS OF SAND BAGS	ECD-15	6115	PIPE CULVERT INSTALLATION CONCRETE PIPE COLLAR	PI-1 PC-1	65Ø1 65Ø3
PAY DE	STABILIZED CONSTRUCTION ENTRANCE	ECD-16	6116	FLARED END SECTION FOR CONCRETE PIPE	FE-1	6530
ROADW	DETAILS OF EROSION CONTROL SANDBAG DITCH CHECK	ECD-21	6121			
A SSIPP	DETAILS OF TYPICAL DITCH TREATMENTS	DT-1	6123			
MISSI	GUARDRAIL "W" BEAM (WOOD POSTS)	GR-1	62Ø1			
	GUARDRAIL "W" BEAM (STEEL POSTS )	GR-1B	62Ø3			
	GUARDRAIL: BRIDGE END SECTION - TYPE A & C	GR-2	6204	ROADWAY SHEETS & STANDARDS - (111)		
	GUARDRAIL: BRIDGE END SECTION TYPE "I" (WOOD POSTS )	GR-2F	6210	LIGHTING SHEETS - (9)		
	GUARDRAIL: BRIDGE END SECTION TYPE "I" (STEEL POSTS )(NEW CONSTRUCTION)	GR-2G	6211			
	GUARDRAIL: TYPE 1 CABLE ANCHORAGE (FOUNDATION TUBE )	GR-3	6212	TOTAL ALL SHEETS - (120)		
	GUARDRAIL: TYPE 1 CABLE ANCHORAGE (CONCRETE FOOTING)	GR-3A	6213			
	GUARDRAIL: TYPICAL INSTALLATION AT BRIDGE APPROACHES FOR DIVIDED HIGHWAYS	GR-4	6214			
	GUARDRAIL: TYPICAL INSTALLATION FOR ROADSIDE HAZARDS ON DIVIDED HIGHWAYS	GR-4B	6216			
	GUARDRAIL: TYPICAL INSTALLATION FOR ROADSIDE HAZARDS ON 2-LANE, 2-WAY HIGHWAYS	GR-4C	6217			
	GUARDRAIL: RUB RAIL HARDWARE	GR-RR	6218			
	GUARDRAIL: MISCELLANEOUS HARDWARE	GR-HW PPD-B1	6221 6231			
	4' - 6" PIER PROTECTION DETAILS (1 OF 3) 4' - 6" PIER PROTECTION DETAILS (2 OF 3)	PPD-B2	6232			
	4' - 6" PIER PROTECTION DETAILS (3 OF 3)	PPD-B3	6233			
	STANDARD ROADSIDE SIGN ASSEMBLY AND INSTALLATION	SN-4	6306			
	STANDARD ROADSIDE SIGN ASSEMBLY AND INSTALLATION	SN-4A	6307			
	STANDARD ROADSIDE SIGN ASSEMBLY AND INSTALLATION	SN-4B	63Ø8			
	TYPICAL INSTALLATION OF GROUND MOUNTED DIRECTIONAL SIGNS	SN-5	63Ø9		TMENT OF TRA	NSPORTATION
Z		SN-6				
2.00	BREAKAWAY SIGN SUPPORTS		6310		D INDEX	OF TRANSA
_ IO	BREAKAWAY SIGN SUPPORTS	SN-6A	6311		U INDEX	
Σ «I	SIGN FACE CONST. AND ATTACHMENT OF GROUND MOUNTED DIRECTIONAL SIGNS TO STEEL BEAMS (EXTRUDED ALUMINUM PANELS )	SN-7	6313			d a look
9: 36	TYPICAL INSTALLATION OF DELINEATORS	SN-8A	6315	<sup>   </sup>     PROJ. NO.: IM-0055	5-03(094)	\$51551PP
120	TYPICAL CROSSOVER DELINEATION	SN-8B	6316	COUNTY: MONTGO	•	working number DI-2
1/20	TYPICAL GUARDRAIL DELINEATION	SN-8C	6317	비		SHEET NUMBER
9/21				DESIGN TEAMCHECK		—  • • •

- 2. FLUORESCENT ORANGE SHEETING SHALL BE USED ON ALL CONSTRUCTION AND TRAFFIC CONTROL SIGNS EXCEPT FOR THOSE DESIGNATED IN PLANS TO BE BLACK LEGEND AND BORDER ON WHITE BACKGROUND.
- 3. VOIDS CREATED BY THE REMOVAL OF POSTS, CONCRETE ANCHORS, FOOTINGS, ETC. SHALL BE BACKFILLED AND TAMPED IN ACCORDANCE WITH SECTION 203 OF THE 2017 MISSISSIPPI STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
- 4. SOME WORK MAY BE REQUIRED OUTSIDE OF THE PROJECT LIMITS BEYOND THE B.O.P. AND OR E.O.P.. NO ADDITIONAL COMPENSATION WILL BE MADE FOR SUCH WORK EXCEPT AS PROVIDED BY SPECIFIC PAY ITEMS SHOWN ON THE PLANS.
- 5. MAXIMUM LANE CLOSURE ALLOWED IS 3 MILES. A 3 MILE INTERVAL IS REQUIRED BETWEEN WORK ZONES IN ADJACENT LANES IN THE SAME DIRECTION OF TRAVEL AND A 2 MILE INTERVAL IS REQUIRED BETWEEN WORK ZONES IN THE SAME LANE IN THE SAME DIRECTION OF TRAVEL.
- 6. ANY VEGETATION OR SOD THAT IS DISTURBED SHALL BE RE-ESTABLISHED. THE COST OF THIS WORK SHALL BE INCLUDED IN OTHER ITEMS OF WORK, EXCEPT AS REQUIRED BY PLANS.
- 7. WHERE MILLING OF THE ROADWAY LANES IS REQUIRED, THE CONTRACTOR SHALL PROVIDE OUTLETS IN THE EXISTING SHOULDERS AT SUFFICIENT INTERVALS TO PREVENT POOLING OR STANDING WATER ON THE MILLED SURFACE. THE COST OF THIS WORK SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
- 8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT EXISTING STRUCTURES SUCH AS PIPES, INLETS, APRONS, BRIDGES, ETC. FROM DAMAGE WHICH MIGHT OCCUR DURING CONSTRUCTION. EXTREME CARE SHALL BE EXERCISED IN UNDERCUT AREAS AND THE UNDERCUT DEPTH MAY BE ADJUSTED AT CROSS DRAINS, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL REPLACE OR REPAIR, AS DIRECTED BY THE ENGINEER, ANY STRUCTURES DAMAGED DUE TO THE CONTRACTORS OPERATIONS DURING THE LIFE OF THE CONTRACT. NO PAYMENT WILL BE MADE FOR REPLACEMENT OR REPAIR OF DAMAGED ITEMS.
- 9. THE USE OF EMERGENCY CROSSOVERS IS NOT ALLOWED FOR CONSTRUCTION TRAFFIC.
- 10. SEE SHEET WORKING NO. TCP-4, TCP-5 AND TCP-15 FOR DETAILS ON SPEEDING FINES DOUBLED SIGNS. THE COST OF THIS WORK SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
- 11. ALL VERTICAL BRIDGE CLEARANCES MUST BE CONFIRMED AND MAINTAINED.
- 12. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING BRACING, SHORING, OR ANY GROUND SUPPORT SYSTEM THAT IS DEEMED NECESSARY TO PREVENT A FAILURE FROM OCCURRING DURING EXCAVATION. ALL COSTS FOR ANY PROTECTIVE MEASURES INCLUDING THE MATERIALS AND LABOR, FOR DESIGNING, DRAWING, AND CONSTRUCTING THE FACILITY, SHALL BE INCLUDED IN THE PRICE BID FOR CONTRACT ITEMS.
- 13. EXCEPT AS NOTED ELSEWHERE IN THE PLANS, ALL EXISTING LOGO SIGNS ARE TO REMAIN IN PLACE. LOGO SIGNS WHICH CONFLICT WITH PROPOSED CONSTRUCTION SIGNING WILL BE RELOCATED BY MS LOGOS, INC.
- 14. THE COST FOR REMOVAL OF ALL HEADWALLS AND WINGWALLS (PIPES, BOX CULVERTS AND BOX BRIDGES) SHALL BE PAID FOR IN CLEARING AND GRUBBING.
- 15. STORAGE OF FLAMMABLE MATERIALS WILL NOT BE ALLOWED UNDER ANY BRIDGE STRUCTURES.
- 16. DOUBLE DROP THERMOPLASTIC STRIPE WILL BE USED ON ALL BRIDGE DECKS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT THE PREFORMED JOINT MATERIAL. ANY DAMAGE CAUSED BY THE THERMOPLASTIC WILL BE REPAIRED AT NO COST TO THE STATE.
- 17. ALL TRAFFIC CONTROL DEVICES ON THIS PROJECT SHALL COMPLY WITH PART VI OF THE MUTCD (LATEST EDITION).
- 18. ALL ITEMS OF WORK ASSOCIATED WITH THE INSTALLATION OF A CONSTRUCTION ENTRANCE SHALL BE ABSORBED IN OTHER ITEMS OF WORK.
- 19. ALL POST, PIPE, AND I—BEAM LENGTHS IN THESE PLANS ARE ESTIMATES. POST LENGTHS FOR ALL SIGNS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO FABRICATION.
- 20. ALL PIPE JOINTS ARE TO BE WRAPPED IN 24-INCH WIDE TYPE V GEOTEXTILE FABRIC. ALL PICKUP HOLES SHALL BE PLUGGED WITH PLASTIC INSERTS AND BITUMINOUS SEALER TO THE SATISFACTION OF THE ENGINEER (NOT A SEPARATE PAY ITEM).

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

PROJ. NO.: IM-0055-03(094)
COUNTY: MONTGOMERY

FILENAME: GeneralNotes.dgn

DESIGN TEAM CHECKED DATE 2016-06-20

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER

GN-1

SHEET NUMBER

4

PLAN ROADWAY DESIGN DIVISION

AM GN-1. DGN