



# **INTERSTATE 59 CONTRAFLOW PLAN FOR HURRICANE EVACUATION TRAFFIC CONTROL**



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The document is maintained by the  
State Transportation Emergency Coordinator,  
Mississippi Department of Transportation,  
P.O. Box 1850  
Jackson, MS 39215-1850  
(601) 359-7111

Information relevant to the distribution of this Plan  
can be obtained by making a request to the MDOT  
State Transportation Emergency Coordinator.

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# **INTERSTATE 59 CONTRAFLOW PLAN FOR HURRICANE EVACUATION TRAFFIC CONTROL**

## **I. INITIAL DEVELOPMENT**

### **A. Introduction & Purpose**

1. The responsibility for the state highway system in Mississippi rests directly with the Mississippi Department of Transportation (MDOT).
2. In response to a request from the State of Louisiana to meet the needs of the traveling public evacuating the greater New Orleans area for a hurricane tracking towards New Orleans with the potential for a high storm surge producing unmanageable traffic congestion, the State of Mississippi has developed this **Interstate 59 Contraflow Plan For Hurricane Evacuation Traffic Control** (hereafter referred to as the Contraflow Plan) for Interstate 59 (I-59).
3. Experiences with past hurricane evacuations have revealed the need to investigate the logistics involved in reversing one direction of traffic to facilitate evacuation traffic flow. This lane reversal process will be called “*CONTRAFLOW*” for the purpose of this plan.
4. It is estimated that approximately 1.4 million persons reside in southeast Louisiana. This region is generally defined as Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John and St. Tammany Parishes. Primary evacuation routes out of the area are limited to I-10, I-12, I-55 and I-59. The I-59 route is the primary north/south interstate out of the east side of New Orleans, St. Bernard, Plaquemines and the southeast portion of St. Tammany Parishes.
5. Southwest Mississippi, including coastal Hancock County uses I-59 as their primary means for evacuation. The population of Hancock County is approximately 42,000. State routes serving as feeder arteries funneling traffic onto I-59 include Mississippi highways 607, 43, 603 and 53.
6. The initial process is to define the scope and to take the initial steps to develop a traffic control transportation implementation plan for Contraflow.

## **B. Current Hurricane Evacuation Routes**

Certain strategic routes have been historically identified as hurricane evacuation routes, and are identified as shown in *Appendix A*. These hurricane evacuation routes are “signed on the ground” as such and have been presented to the public in various manners for their knowledge and use. This hurricane evacuation route network begins with state and county routes in coastal areas that then feed into predominately north-south State routes and ultimately tying into north-south United States (US) and Interstate routes. Any impact the Contraflow Plan has on the existing evacuation routes and their use will be identified and mitigated.

## **C. Contraflow Route Identification**

### **1. Fully Controlled Access Routes**

- a. Fully controlled access routes, or Interstates, have the best potential for use in any contraflow scenario. By the very nature of their controlled access, the traffic control necessary to reverse the normal traffic flow on Interstate routes can be accomplished by concentrating on the interchanges, emergency crossovers and termini areas.
- b. The geographic area of southwest coastal Mississippi and southeastern Louisiana, encompassing the greater New Orleans area, is deemed necessary to provide a contraflow capability. In this area there are four Interstate routes, I-10, I-55, I-12 and I-59. Interstate 10 (I-10) runs east and west through Louisiana and Mississippi. Interstate 55 (I-55) runs north and south through Louisiana and Mississippi. Interstate 12 (I-12) runs westward from Slidell, Louisiana to Baton Rouge, Louisiana. Interstate 59 (I-59) originates at the junction of I-10 and I-12 near Slidell, Louisiana and runs northeasterly into Mississippi and beyond into Alabama.
- c. Contraflow involving I-10 and/or I-55 has been determined to be impractical and unnecessary at this point due to the following considerations. Use of I-10 would put additional evacuation traffic eastward into the Mississippi coastal risk area and westward affecting the west New Orleans evacuation traffic. Use of I-55 is logistically not practical due to the inability to extend the lane reversal operation from I-10 west onto I-55 at LaPlace, Louisiana.

- d. I-59 is a practical candidate for contraflow. The east half of New Orleans evacuating eastward on I-10 can be easily directed onto I-59 at the junction of I-10 / I-12. Louisiana will also use I-12 to contraflow some portion of the I-10 east traffic westward north of Lake Pontchartrain. The low sea level and the storm surge potential of this area dictate expediting evacuation traffic flow as much as possible. Therefore, due to historical experience with traffic delays, the potential for large numbers of Louisiana evacuees and I-59 being a designated evacuation route, a Contraflow Plan will be developed utilizing I-59 into Mississippi.

## 2. ***Limited Controlled Access Routes***

No other north/south routes were considered for Contraflow due to the fact that these routes are limited controlled access. Limited controlled access routes have numerous entrance and exit points, i.e. numerous intersections with state routes, county routes, city streets, private commercial access points and personal driveways that cannot be easily controlled, an example of which is US 49. The logistics involved with providing traffic control devices and the manpower to assist and enforce the traffic control measures necessary to reverse lane prove to make limited controlled access routes impractical for the contraflow strategy. Therefore, only fully controlled access routes are to be considered for contraflow.

## D. **Contraflow Route Operations**

I-59 has been selected as the practical candidate for implementation of the contraflow strategy. The method of contraflow MDOT has elected to use to accomplish this strategy is a full lane reversal of I-59. Three options (modes of operation) are possible:

1. **OPTION 1: LOUISIANA CONTRAFLOW TO STATE LINE –**  
full lane reversal only within the borders of Louisiana that does not enter Mississippi. MDOT would barricade I-59 southbound lanes at the Louisiana state line and uncover previously mounted permanent signs along I-59 advising the traveling public that I-59 southbound is closed at the Louisiana state line.
2. **OPTION 2: MISSISSIPPI CONTRAFLOW TO MILE MARKER 21 –**  
full lane reversal of I-59 into Mississippi from the Louisiana state line to mile marker 21, south of Poplarville. This operation would require MDOT to implement contraflow traffic control operations within Mississippi.

3. **OPTION 3: MISSISSIPPI CONTRAFLOW TO MILE MARKER 55** – full lane reversal of I-59 into Mississippi from the Louisiana state line to mile marker 55, south of Hattiesburg. This operation would require MDOT to implement contraflow traffic control operations within Mississippi.

## **E. Contraflow Route Termini**

The next step is to identify the beginning and ending points to convert from two-way traffic to one-way traffic traveling north. See the contraflow route limits for Mississippi in *Appendix B*.

1. Southern Terminus (*Beginning*)
  - a. The State of Louisiana will initiate the contraflow strategy. Previous discussion noted that, historically, traffic congestion has occurred during hurricane evacuations on I-59 at its junction with I-10 and I-12. Therefore, it is in the State of Louisiana that the I-10 contraflow operations will begin at the I-10 / I-510 junction (Exit 246) south of its intersection with I-59 and I-12.
  - b. Louisiana has constructed the southern (beginning) terminus crossover that will move all existing I-10 northbound traffic onto the northbound and southbound I-59 traffic lanes.
2. Northern Terminus (*Ending*)

MDOT has constructed the necessary traffic control infrastructure to return I-59 traffic to normal flow prior to the Hattiesburg interchanges.

  - a. Option 2 has Mississippi terminating the contraflow operations south of Poplarville, which is positioned at mile marker 21 just south of Exit 27 at the junction of I-59 and Mississippi Route 53 (MS 53).
  - b. Option 3 has Mississippi terminating the contraflow operations south of Hattiesburg, which is positioned at mile marker 55 just south of Exit 58 at the junction of I-59 and United States Route 98 (US 98).

## F. Southbound Traffic and Emergency Vehicle Access

1. Out of practical necessity, during the identification and development of the limits of the Contraflow Plan, consideration must be given to maintaining the availability of a southbound traffic facility. This was a consideration when selecting the beginning and ending termini.
2. During normal interstate traffic flow official and emergency vehicles are allowed access between northbound and southbound lanes by way of signed Emergency Vehicle Crossings. ***During contraflow operations these emergency vehicle crossings will be barricaded and closed to all evacuation traffic.*** There are five (5) signed Emergency Vehicle Crossings between Picayune and Hattiesburg located at the following mile markers: 22.6, 38.2, 44.1, 47.7 and 54.4.
3. US 11 runs parallel to I-59 throughout the limits of the Contraflow Plan, and therefore will serve as the general southbound access for I-59. Normal southbound traffic and emergency vehicles will be required to exit I-59 and follow US 11.
4. It also will be necessary to close an I-59 welcome center and a rest area to prevent the potential for the introduction of wrong-way traffic into contraflow operations. The truck scale just past I-59 Exit 1 will remain open to allow for the parking of any wide-loads and/or hazardous materials.

## G. Crossover Ramp Movements

The beginning and ending termini crossover ramps will be used to start or stop contraflow operations. Additional crossovers have been constructed to assist with traffic balancing. These additional crossovers will be used to allow vehicles to move from the northbound roadway to the southbound. This will ensure an equal distribution of traffic onto both roadways and will allow for termination of contraflow operations, should traffic flow warrant. Additional crossovers are identified as Intermediate Crossovers. ***(Only Option 3 will utilize an intermediate crossover located at mile marker 21.)***

## H. Interchange Control

The total number of I-59 interchanges from the Mississippi state line to below Hattiesburg is **eleven (11)**. These interchanges are classified as “**SERVICE**”, full access to travel services (travel services refers to the availability of fuel, food & lodging) or “**NON-SERVICE**”, no access to travel services. During Mississippi Contraflow operations selected interchanges will be classified as “**SOUTHBOUND LANE TERMINATION**” interchanges and will be used to remove the southbound traffic prior to beginning contraflow. All interchanges will be manned with DOT Law Enforcement and/or MDOT personnel. See *Appendix C* for identification of interchanges.

1. There are eight (8) **Service Interchanges**, classified as such due to their proximity to exits that offer access to alternate routes and/or travel services. These service interchanges, proceeding north from the Louisiana / Mississippi state line, are located at the following I-59 Exits: 1, 4, 6, 15, 27, 29, 41 and 51. Evacuees will be provided full access on and off the evacuation route at these service interchanges.
2. There are three (3) **Non-Service Interchanges**, classified as such due to their remote locations, congestion potential and lack of travel services. These non-service interchanges, proceeding north from the Louisiana / Mississippi state line, are located at the following I-59 Exits: 10, 19 and 35. The southwest quadrants of these interchanges will be closed to traffic. Law enforcement vehicles will be used in conjunction with “road closed barricades” to effect closure of the southbound exit ramps. Signs will be placed ahead of the closed interchanges advising the evacuees that the next exit(s) are closed and/or offer no travel services. Traffic will be allowed to exit from the northbound lanes only.
3. The designation of **Southbound Lane Termination Interchanges** will depend on which operating Option (2 or 3) is selected. For Option 2 the southbound lane termination will be at Exits 27 and 29. For Option 3 the southbound lane termination will be at Exits 58 and 60.

## **I. Manpower Requirements**

1. MDOT personnel will, at a minimum, be required to setup the traffic control devices at the state line and ending termini, and at the route interchanges within the Contraflow Plan limits. They will also be available to provide emergency roadside assistance, as needed. MDOT Law Enforcement (hereafter referred to as DOT) officers will facilitate and enforce traffic control along the Contraflow Plan route. Contraflow staffing requirements can be seen in *Appendix E*.
2. MDOT Field personnel will need to be prepared for up to 24 hours at their respective duty stations. Preparations for this time is the responsibility of each individual employee and should include; food that does not need preparation, water, clothing and rain-suits, flashlights, personal items, medication and other supplies that might be deemed appropriate.
3. Mississippi Highway Safety Patrol (MHSP) officers will be available to respond to traffic accidents along the Contraflow Plan route and supplement DOT Law Enforcement, where needed.

## **J. Pre-Staging of Assets**

The goal of pre-staging assets is to have the necessary manpower prepared to act and the equipment on-hand and available, prior to the actual call to implement the Contraflow Plan. Essential manpower and equipment will be placed at predetermined strategic locations prior to the call for plan implementation in order to reduce the chance of needing to mobilize into the plan area after severe traffic congestion has occurred. These assets may include vehicles with motorist assistance capability (gasoline and water), traffic counting equipment, variable message signs, other traffic control equipment and personnel.

## K. Traffic Control Device Requirements

### 1. Signing

Existing traffic signing along I-59 is oriented to be viewed from the normal direction of traffic. Therefore, traffic utilizing the southbound roadway for northbound movements under the contraflow strategy will need some additional signage oriented so it can be viewed from their direction of travel. Additional signage would consist of signs pertaining to interchange and exit locations, service and non-service interchanges, as well as directional signs that may be necessary. The *Traffic Plan* section of this plan will determine the types, locations and numbers of signs required. For specific placement of traffic control devices (signs, barricades, variable message signs, arrow boards, etc.) see diagrams of contraflow traffic control in *Appendix F*.

### 2. Variable Message Signs and Arrow Boards

Other uses of traffic control devices will be Variable Message Signs (VMS) and Arrow Boards along the evacuation route corridor to notify the evacuating public of the plan implementation, and which lanes and exits are closed.

- a. VMS will be placed on I-20 either side of the I-20 / I-59 junction, US 84 at Laurel and US 98 / US 49 at Hattiesburg. Placing these VMS before motorists reach I-59 will allow the motorists the opportunity to take an alternate route toward their destination and avoid the contraflow route operations. VMS will also be stationed along the I-59 corridor to inform the evacuees of what lies ahead, i.e. I-59 westbound at Mississippi/Louisiana State Line closed (so many miles) ahead due to hurricane evacuation. **Fourteen (14) VMS** are scheduled for use in this plan.
- b. Arrow Boards will be used to direct traffic flow as a result of closed lanes/exits particularly around crossovers and termini. **Twelve (12) Arrow Boards** are scheduled for use in this plan.

## **L. Public Information**

Hurricane Emergency Information Signs have been placed on the ground along the designated hurricane evacuation routes identifying these routes to the traveling public. In addition, these signs list radio stations to tune to for emergency information. As an actual hurricane event approaches the area, the routine dissemination of plan information will be stepped up in conjunction with other methods. These other methods could include the distribution of contraflow hurricane evacuation information at the MDOT Welcome Centers and the use of the Alert Notification System (ANS) radio stations located along the plan route to convey information about current storm strength and direction, shelter and medical center locations, etc. All emergency traffic control related information will be coordinated with the State Joint Information Center at MEMA. The routine ongoing dissemination of plan information prior to storm events will include press releases, flyers, and public service announcements.

## **M. Plan Implementation and Termination**

1. An integral part of the contraflow implementation is the identification of circumstances that would call for plan implementation. Once plan implementation is called for, field personnel need written procedures to follow in regard to the placement and enforcement of traffic control to insure that no conflicting traffic movements are allowed. By its very nature, the Contraflow Plan is introducing traffic movements contrary to normal. Particular attention will be necessary to eliminate the potential for introducing “head-on” traffic patterns. The safety of the traveling public is of the utmost concern.
2. Just as procedures must be followed during the placement and enforcement of traffic control to implement contraflow, so as to insure that no conflicting traffic movements are allowed, procedures are also required when taking the Contraflow Plan out of operation.
3. The *Traffic Plan* section and Appendices of this plan will be distributed to personnel in the field describing the implementation and termination procedures.

## N. Summary

1. General physical boundaries and the basic conceptual strategy have been defined.
2. The use of I-10 and I-55 and limited controlled access routes has been eliminated from further consideration. I-59 has been identified as a candidate for *full lane reversal*, which will be the method of contraflow selected for use in this operation.
3. Historical experience revealed that traffic congestion has occurred during hurricane evacuations on I-59 at its junction with I-10 and I-12. I-59 contraflow operations will relieve this congestion.
4. The geographic area of Mississippi where it is deemed necessary to provide a contraflow capability is limited to that area of the state serviced by an Interstate System.
5. Three options of contraflow are defined. Option 1 involves Louisiana only, where contraflow operations are confined within the borders of Louisiana. Options 2 & 3 both involve addressing contraflow into Mississippi, where Mississippi implements contraflow operations upon a request for assistance from the State of Louisiana.
6. I-59 Interchanges will be classified as either *Service* or *Non-Service* depending on their location to alternate routes and travel services. US 11 is relatively parallel to I-59 throughout the limits of the Contraflow Plan and will be used for emergency and routine southbound traffic.
7. Mississippi will only consider implementing contraflow operations as a result of a request from the State of Louisiana for hurricane evacuation assistance.

## **II. TRAFFIC PLAN**

### **A. Introduction & Purpose**

In order to successfully implement an operation of this type, a well defined and coordinated effort crossing state and state agency boundaries is essential. Input and assistance is needed from the State of Louisiana, the Mississippi Emergency Management Agency (MEMA), the Mississippi Department of Public Safety (MDPS) / Mississippi Highway Safety Patrol (MHSP), the Mississippi Department of Transportation (MDOT) and possibly other agencies, state and county / city. There will be a need for a significant amount of additional traffic control devices and considerable manpower resources. This section will focus on detailing the capital improvements (crossovers, ending termini, etc.), traffic control measures and the staffing requirements to implement the Contraflow Plan. It must be remembered that any plan of this type may be amended or changed during the course of an actual emergency situation to address the actual conditions encountered in the field that day.

### **B. Pre-Hurricane Season Considerations**

#### **1. Personnel Assignments**

MDOT will identify and assign personnel from its Law Enforcement and Traffic Engineering Divisions, and District Maintenance and Construction offices to staff traffic control points and monitor traffic flow throughout the limits of the Contraflow Plan. MHSP will select and assign officers to respond to traffic problems along the contraflow route. MEMA is responsible for the operation of the State Emergency Operations Center (SEOC).

#### **2. Communications**

Communications between administrative officials and field staff, both within and between states and state agencies, is essential in order to provide the information and guidance necessary to ensure the proper implementation and operation of this plan. Currently, each state agency has reliable communications within its own agency. However, it has been demonstrated that communication between field personnel of different agencies can be troublesome and problematic. MDOT personnel will utilize the MDOT District 6 800 MHz radios as the primary means of ground communication. MDOT's satellite radio network will augment in place ground communications (cellular phone, low band, high band and 800 MHz). *(MDOT Satellite radios will serve as a redundant backup to that which is already in place.)*

### 3. Emergency Activities

- 1) MDOT will have gasoline and water on hand, at selected interchanges, for emergency purposes, as supplies last.
- 2) MHSP will respond to accidents and any other emergency situations along the contraflow route.
- 3) MEMA will coordinate request for emergency assistance in the form of fire / EMS and wrecker service at interchanges along the I-59 corridor. Emergency vehicles will access the contraflow corridor will utilizing US 11.

### 4. Public Education

An early education program will be developed for the traveling public to explain the existence of the Contraflow Plan. Educational efforts could include television, radio and print media, distribution of informational flyers at special events as well as at regular distribution points such as Mississippi welcome centers, drivers' license offices, etc. The more the traveling public knows about the plan and its provisions the better they could be expected to react if the plan has to be implemented. The MDOT External Affairs Division is responsible for the public education program.

## **C. Louisiana Contraflow (OPTION 1)**

If the State of Louisiana implements contraflow, but does not require Mississippi to do the same, the Louisiana Department of Transportation and Development (LDOTD) will notify MDOT of their plans to contraflow in Louisiana to the Mississippi state line. The MDOT Director, or his authorized representative, will authorize Option 1, Louisiana Contraflow implementation. This Option 1 operation is MDOT's responsibility and involves uncovering I-59 traffic control signs and placement of barricades to effect closure of the I-59 southbound lanes at the Louisiana state line.

### 1. TRAFFIC CONTROL SIGNS

Traffic Engineering Division personnel will uncover previously erected signs along I-59 from its junction with I-20 to the Louisiana state line. This work entails the use of bucket trucks capable of reaching the signs. The signs purpose is to alert the traveling public that I-59 southbound is closed, so many miles ahead, at the Louisiana state line.

## 2. SOUTHBOUND LANE CLOSURE AT LOUISIANA STATE LINE

District 6, Pearl River Maintenance Crew personnel will place barricades across I-59 at Exit 4 (MS 43) to prevent any I-59 southbound traffic from traveling further. The I-59 southbound entrance ramp at Exit 1 will also be barricaded to prevent traffic from entering I-59 southbound at this location. DOT officers will be stationed at both Exit 1 and Exit 4 to provide traffic control.

## 3. MANPOWER REQUIREMENTS

MDOT staff that respond to Option 1 may also have to respond to Options 2 or 3, if implemented. ***Upon implementation of contraflow operations all MDOT staff will report to their assigned duty stations no matter which Option is placed into action.*** (MDOT employees will need to be prepared for up to 24 hours at their respective positions. Preparations for this time is the responsibility of each individual employee and should include; food that does not need preparation, water, clothing and rain-suits, flashlights, personal items, medication and other supplies that might be deemed appropriate.) The following MDOT personnel from Jackson and Hattiesburg will comprise the manpower necessary for Option 1 operations:

- a. Traffic Engineering Division will provide **eight (8)** sign crew personnel.
- b. Law Enforcement Division will provide **twelve (12)** DOT officers.
- c. District 6, Pearl River Maintenance Yard, will provide **four (4)** personnel.
- d. **Seven (7)** MDOT Supervisory personnel, five from the District and two from MDOT Law Enforcement will be on duty at the MDOT Area Emergency Operations Center (AEOC), located at the District 6 office in Hattiesburg.
- e. The MDOT Transportation Emergency Coordinator (EC), **one (1)**, will be located in the State Emergency Operations Center (SEOC) in Jackson to coordinate Louisiana Contraflow operations with the Mississippi Emergency Management Agency.

- f. Option 1 will require MDOT Traffic Engineering Division, Law Enforcement Division and District 6 personnel enough response time to mobilize personnel and equipment, uncover or erect traffic control signs and close southbound I-59 at the state line. **A minimum advance notice of three (3) hours is needed from Louisiana in order for MDOT to implement Option 1.** *(This time frame begins when the Louisiana Department of Transportation and Development contacts MDOT that they intend to implement Louisiana Contraflow.)*

#### 4. COMMAND AND CONTROL

- a. The **MDOT Contraflow Supervisor** will assume operational command and control of MDOT resources during Option 1 (Louisiana Contraflow) operations from the MDOT AEOC located at the MDOT District 6 office in Hattiesburg. The physical address for this location is 6356 Highway 49 North, Laboratory Building, Hattiesburg, 39401. Phone numbers are (601) 544-6511 through 6514.
- b. The MDOT Area Emergency Operations Center (AEOC) staff will coordinate ESF-1 emergency response activities with the State EOC (SEOC) located in Jackson, Mississippi. (ESF-1 is a FEMA designation referring to the Emergency Service Function dealing with transportation.) MDOT point of contact at the SEOC is the MDOT Emergency Coordinator (EC) or a member of the MDOT Emergency Coordination staff. Coordination of the overall State emergency response activities will occur at the SEOC.

#### D. Mississippi Contraflow (OPTIONS 2 or 3)

Upon request from the Louisiana Governor to the Mississippi Governor for assistance with New Orleans hurricane evacuation, the Governor of Mississippi will implement either Mississippi Contraflow Options 2 or 3. These operations will require MDOT to fully implement I-59 contraflow in Mississippi. Mississippi Contraflow operations will travel no further than Hattiesburg, Mississippi.

1. BEGINNING AND ENDING TERMINI

- a. The State of Louisiana will initiate the contraflow operations. The ***beginning termini*** will be located in Louisiana at the I-10 / I-510 junction (Exit 246) south of its intersection with I-59 and I-12. Louisiana will assist contraflow operations into Mississippi by managing traffic flow as follows:

- 1) ***Louisiana will limit I-10 east evacuation traffic into Mississippi during contraflow operations as storm conditions in Mississippi dictate.***
- 2) ***Wide-load cargo vehicles will be parked in Louisiana and denied access to the contraflowed evacuation route.***
- 3) ***Louisiana's Pearl River crossover near I-59 Exit 11 will be used to facilitate the equalization of traffic loading on both sides of the Interstate heading into Mississippi.***

- b. The ***ending termini*** for Option 2 will be located in Mississippi at I-59 mile marker 21, just south of Poplarville, Mississippi. For Option 3 the ending termini will be located at I-59 mile marker 55, just south of Hattiesburg, Mississippi.

2. INTERMEDIATE CROSSOVER (*Option 3 ONLY*)

One (1) Intermediate Crossover will be positioned six miles south of Poplarville at **mile marker 21**, only for Option 3 operations. (During Option 2 implementation this crossover will serve as the ending termini site.)

3. INTERCHANGES

**Eleven (11) interchanges** are located along I-59 from the Louisiana state line to the city limits of Hattiesburg within the limits of the Contraflow Plan. Eight (8) of these will be classified as **SERVICE** and three (3) will be classified as **NON-SERVICE**. Two (2) additional interchanges are listed as **Southbound Lane Terminations** depending on which option is implemented. Additional traffic control devices and/or staffing will be required for these locations in order to aid in the safe functioning of these interchanges during plan operation. To aid in the identification of the I-59 interchanges, a strip map of I-59 has been modified and included in this plan as *Appendix D*. The design of specific I-59 interchanges is found in *Appendix F*.

#### 4. TRAFFIC CONTROL DEVICE REQUIREMENTS

- a. MDOT District 6 personnel will be assigned specific Variable Message Sign (VMS) and Arrow Board placement responsibilities. VMS will be placed along the I-59 corridor to advise the evacuating public of the contraflow operations. The design of the ending termini, crossovers and interchanges will require different types of traffic control devices, i.e. both VMS and Arrow Board.
- b. "Secondary traffic locations" outside of the actual Contraflow Plan limits have been identified for the placement of VMS. These VMS would be placed in advance of the actual contraflow limits notifying the traveling public of the existence and enactment of the plan. This would allow the traveling public to select an alternate route to reach their destination prior to encountering the contraflow operation. The placement of VMS would be on I-20 east and west of its junction with I-59, US 98 east and west of Hattiesburg, US 49 north and south of Hattiesburg and I-10 west at the Louisiana state line. Additional MDOT employees will be required to monitor the operation of these VMS.

#### 5. MANPOWER REQUIREMENTS

The design of the ending termini, intermediate crossover and I-59 interchanges require specific staffing requirements which have been presented in this document. *(Note that MDOT employees will need to be prepared for up to 24 hours at their respective positions. Preparations for this time is the responsibility of each individual employee and should include; food that does not need preparation, water, clothing and rain-suits, flashlights, personal items, medication and other supplies that might be deemed appropriate.)* The following MDOT personnel will comprise the manpower necessary for Option 2 or 3 operations:

- a. MDOT personnel, including maintenance, construction, law enforcement and administrative staff will be required at the ending termini, intermediate crossover, interchanges and command / control locations to ensure that the required traffic control devices are in place and in good working order throughout the duration of the contraflow operation.
- b. MDOT Traffic Engineering Division and District Maintenance and Construction personnel (labeled on diagrams as MDOT) will be required to staff the following locations:

- 1) **Seven (7)** to uncover in-place signs
  - 2) **Eighteen (18)** will staff eight Service Interchanges
  - 3) **Nine (9)** will staff three Non-Service Interchanges
  - 4) **Six (6)** will staff two Southbound Lane Termination Interchanges
  - 5) **Two (2)** at the Ending Termini
  - 6) **Two (2)** will staff the one Intermediate Crossover
  - 7) **Ten (10)** will staff five Emergency Vehicle Crossings
  - 8) **Eighteen (18)** will transport and place Variable Message Signs & Arrow Boards
  - 9) **Twelve (12)** additional personnel will be used for operational support
- c. MDOT Law Enforcement Officers (hereafter referred to and labeled on diagrams as "DOT officers") will be required to staff the following locations:
- 1) **Twenty-nine (29)** will staff eight Service Interchanges
  - 2) **Five (5)** will staff three Non-Service Interchanges
  - 3) **Five (5)** will staff two Southbound Lane Termination Interchanges
  - 4) **Three (3)** will staff the one Intermediate Crossover
  - 5) **Four (4)** at the Ending Termini
  - 6) **One (1)** at the Scales
  - 7) **One (1)** at the beginning termini in Louisiana
  - 8) **Two (2)** DOT supervisors, at a minimum, will be required to support field operations
  - 9) **Ten (10)** additional DOT officers will be on standby in the area to provide assistance, where needed

- d. **Seven (7)** Supervisory personnel, five from the District 6 and two from MDOT Law Enforcement will be on duty at the MDOT Area Emergency Operations Center (AEOC) in Hattiesburg, during Mississippi Contraflow operations.
- e. **One (1)** Transportation Emergency Coordinator (EC) will be located in the State Emergency Operations Center (SEOC) in Jackson to coordinate Mississippi Contraflow operations with the Mississippi Emergency Management Agency. Additional personnel from the MDOT emergency coordination staff will be available to assist, if needed.
- f. ***A minimum advance notice of four (4) hours is needed from Louisiana in order for Mississippi to implement Mississippi Contraflow. (This time frame begins after the Governor of Mississippi notifies MDOT to implement Mississippi Contraflow. If it is necessary to immediately implement either Option 2 or 3 without Option 1, then a total of seven (7) hours advance notice will be necessary.)***

## 6. COMMAND AND CONTROL

- a. For Options 2 and 3 of Mississippi Contraflow operations the **MDOT AEOC** will be located at the MDOT District 6 office in Hattiesburg, Mississippi. The physical address for this location is 6356 Highway 49 North, Laboratory Building, Hattiesburg, 39401. Phone numbers are (601) 544-6511 through 6514. *The **MDOT Contraflow Supervisor** in the MDOT AEOC will assume overall operational command and control of MDOT resources during Mississippi contraflow operations.* A DOT officer will locate to the Mississippi Highway Safety Patrol (MHSP) Troop J Headquarters Building in Hattiesburg and a MHSP officer will locate to the MDOT AEOC, both serving as a law enforcement traffic control operations liaison between MDOT and MHSP.
- b. The MDOT AEOC staff will coordinate ESF-1 emergency response activities with the State EOC (SEOC) in Jackson. (ESF-1 is a FEMA designation referring to the Emergency Service Function dealing with transportation.) MDOT point of contact at the SEOC is the MDOT Emergency Coordinator (EC) or a member of the MDOT Emergency Coordination staff. Coordination of the overall State emergency response activities will occur at the SEOC.

## E. Operating Conditions

Operating condition levels have been identified that specify what actions are to be taken when certain external conditions occur. These external conditions are also based on whether or not the State of Louisiana orders an evacuation of the metropolitan New Orleans area. (It should be noted that criteria specified to call a level into operation are general in nature and other conditions may arise which may necessitate placing a certain level into operation.) The MDOT operating levels are described below:

### 1. **LEVEL 1** (Hurricane Season)

Operating Level 1 begins at the onset of hurricane season, June 1<sup>st</sup> through November 30<sup>th</sup>. Typical day-to-day operations will be maintained and any development of tropical disturbances in the Atlantic Ocean, Gulf of Mexico or Caribbean Sea will be monitored. Actions during Level 1 include:

- a. Weather information from National Hurricane Center advisories shall be continuously monitored for the development of tropical disturbances and storms.
- b. District and State offices will review personnel assignments with staff and adjustments/updates made as necessary.
- c. All necessary traffic control devices and equipment shall be inventoried to insure that they are placed at their required staging areas and are in proper working order. These traffic control devices and equipment include barricades, cones, signs, trailers, etc.
- d. All permanently mounted and installed signs will be inventoried and inspected, cleaned and/or replaced as necessary.
- e. Electronic components of Variable Message Signs (VMS), arrow boards, generators (both portable and stationary) and communications equipment will be periodically checked and routine operational checks performed to assure reliability. VMS and Arrow Boards called for in this plan must be made available to District 6 at any time during the hurricane season, even if this means pulling them off another job site.
- f. Level 1 status will remain in effect unless the next level is enacted or until the end of the hurricane season.

2. **LEVEL 2** (*Hurricane Watch*)

Operating Level 2 would be enacted anytime the National Hurricane Center issues a **HURRICANE WATCH** for any portion of the Louisiana Gulf Coast, Mississippi Gulf Coast, Alabama Gulf Coast or the Florida panhandle. Actions during Level 2 include:

- a. The State Emergency Operations Center (SEOC) in Jackson is partially activated and the MDOT Emergency Coordination (EC) staff is notified by MEMA to report. MDOT EC staff will notify District 6 of the SEOC activation.
- b. All supervisors are to review this plan and their specific procedures with employees. Personnel staffing assignments shall be reviewed and adjusted as necessary. Personnel assigned to Level 3 operations should be contacted and informed of the Hurricane Watch and placed on stand-by.
- c. Review necessary assets and make provisions to ensure that all equipment and material is in the predetermined staging locations and in good working order.
- d. All equipment and materials are to be loaded and ready for transport to assigned locations and final operational checks preformed. All vehicles are to be fueled and ready for use. **Any VMS and Arrow Boards in use outside District 6 are to be immediately returned to the Hattiesburg District 6 office.**
- e. Weather information sources shall be continuously monitored for the further development of hurricane conditions.
- f. Level 2 status will remain in effect until a more critical level is enacted or until the hurricane watch for the Gulf Coast is canceled.

3. **LEVEL 3** (*Hurricane Warning*)

Operating Level 3 would be enacted when the National Hurricane Center upgrades a hurricane watch for the Louisiana Gulf Coast, Mississippi Gulf Coast, Alabama Gulf Coast or the Florida panhandle to a **HURRICANE WARNING**.

Actions during Level 3 include:

- a. The MDOT Area Emergency Operations Center (AEOC) at the MDOT District 6 office in Hattiesburg is activated and partially staffed.
- b. The State Emergency Operations Center (SEOC) in Jackson is fully activated and the MDOT Emergency Coordination (EC) staff is present. MDOT EC staff will be in contact with District 6 to confirm activation of the MDOT AEOC and to check on the status of MDOT personnel and resources.
- c. *Personnel with Level 4 responsibilities will be notified of the hurricane warning and **placed on stand-by**.*
- d. All District storage tanks and vehicles shall be filled and/or topped off with fuel.
- e. Communications equipment will be checked for proper operation.
- f. Weather information sources shall be monitored for the further development of hurricane conditions.
- g. Level 3 status will remain in effect unless the next level is enacted or until the hurricane warning for the Gulf Coast is canceled.

4. **LEVEL 4** (*Louisiana Contraflow – Option 1*)

Operating Level 4 would be enacted when the Louisiana Department of Transportation and Development (LDOTD) contacts MDOT to announce their intent to implement contraflow within Louisiana (Louisiana Contraflow) up to the Mississippi state line. The MDOT Director, or his authorized representative, will make the decision to implement Option 1 based upon the Louisiana's announcement to contraflow to the Mississippi state line. Level 4 does not require contraflow operations into Mississippi.

Actions during Level 4 include:

- a. The MDOT Emergency Coordinator, working from the State Emergency Operations Center (SEOC) in Jackson, will contact the MDOT Area Emergency Operations Center (AEOC) located at the MDOT District 6 office, in Hattiesburg to advise of the decision to implement Level 4 (Option 1).
- b. The MDOT AEOC is fully activated with the MDOT Contraflow Supervisor assuming command and control.
- c. All MDOT staff with responsibilities under Level 4 and Level 5 response are notified to report to their assigned duty stations.
- d. Traffic Engineering Division personnel will uncover previously erected signs along I-59 from its junction with I-20 to the Louisiana state line.
- e. District 6, Pearl River Maintenance Crew personnel, will place barricades across I-59, Exit 4 (MS 43) to prevent any southbound traffic from traveling further and provide exiting southbound traffic a better access to a state highway. Pearl River Maintenance Crew personnel will also barricade the I-59 southbound entrance ramp at Exit 1 to prevent traffic from accessing I-59 southbound at this location. DOT officers will provide traffic control at these exits.
- f. All MDOT vehicles, equipment, variable message signs and arrow boards that have not been pre-positioned in the field shall be moved into their designated positions.
- g. Louisiana Contraflow (Level 4 response) will be implemented per the implementation procedures listed within this section.
- h. Level 4 status will remain in effect until the termination of Louisiana Contraflow operations or the Level 5 condition is enacted.

5. **LEVEL 5** (*Mississippi Contraflow – Options 2 or 3*)

If contraflow into Mississippi (Option 2 or Option 3) is needed, the Louisiana Governor will contact the Mississippi Governor. The Mississippi Governor will then make the decision to implement Mississippi Contraflow after consultation with the Directors of MDOT, the Mississippi Emergency Management Agency (MEMA) and the Mississippi Department of Public Safety (MDPS) / Mississippi Highway Safety Patrol (MHSP). In turn the respective directors would notify their own agency personnel to proceed with Mississippi Contraflow implementation.

Actions during Level 5 include:

- a. The MDOT Emergency Coordinator, working from the State Emergency Operations Center (SEOC) in Jackson, will contact the MDOT Area Emergency Operations Center (AEOC) located at the MDOT District 6 office, in Hattiesburg to advise of the decision to implement Level 5 (Options 2 or 3).
- b. The MDOT AEOC is fully activated with the MDOT Contraflow Supervisor assuming command and control.
- c. If not already on station, all MDOT personnel with responsibilities under Level 5 response are notified to report to their assigned duty stations.
- d. Mississippi Contraflow (Level 5 response) will be implemented per the implementation procedures listed within this section.
- e. The determination of which Level 5 operating option to be implemented will be based on the traffic conditions observed by Louisiana officials. Louisiana State Police, MHSP and MDOT Law Enforcement will be in contact to coordinate this decision.
- f. Level 5 status will remain in effect until the termination of Mississippi contraflow operations. The decision to terminate Level 5 operations is based on the status of the Louisiana evacuation and traffic congestion information gathered by DOT and MHSP officers.

## F. Implementation

### 1. Louisiana Contraflow (Level 4) Implementation Procedures

- a. The Louisiana Department of Transportation and Development (LDOTD) will contact the **MDOT Transportation Emergency Coordinator (EC)**, or member of the MDOT Emergency Coordination staff, to announce their intent to implement contraflow within Louisiana up to the Mississippi state line. The EC will contact the MDOT Director, or his authorized representative, for authority to implement Level 4 response for Louisiana Contraflow - Option 1.
- b. Upon notification of Level 4 implementation the EC will notify the MDOT Contraflow Supervisor in District 6 and the following MDOT Divisions: Traffic Engineering, Law Enforcement and External Affairs.
- c. The MDOT Area Emergency Operations Center (AEOC), located at the MDOT District 6 office in Hattiesburg, is activated with the **MDOT Contraflow Supervisor** assuming command and control of the Louisiana Contraflow transportation operations from this location.
- d. All MDOT personnel with responsibilities at Level 4 are notified to report to their duty stations and carry out their assigned tasks. (All other MDOT personnel with responsibilities under Level 5 operations are also activated at this time.)
- e. Traffic Engineering Division personnel will proceed to their assignments and uncover previously erected signs along I-59. Mobilization time constraints will not allow all signs to be uncovered prior to the implementation of Louisiana Contraflow. Any remaining signs will be uncovered as soon as possible.
- f. District 6 crews from the Pearl River Maintenance Yard, will place barricades across I-59 at Exit 4 (MS 43) to prevent any southbound traffic from traveling further. MDOT personnel will also barricade the I-59 southbound entrance ramp at Exit 1 to prevent traffic from accessing I-59 southbound at this location. MDOT crews will remain at these exits to assist with traffic control, as needed.

- g. DOT officers will report to I-59 Exit 4 and Exit 1 to provide traffic control. MHSP officers will also respond to assist and establish contact with DOT and LSP officers.
- h. District 6 personnel assigned to traffic control device operation and maintenance will proceed to the junction of I-20 and I-59 to position Level 4 Variable Message Signs (VMS). VMS will be directed at oncoming traffic and turned on at this time.
- i. Other District 6 personnel shall place and anchor all remaining (Level 5) VMS and position all "flip-down" signs so they may be read by contraflow traffic. Level 5 VMS will **not** be turned on. These VMS and flip-down signs cannot be seen until Mississippi Contraflow begins.
- j. Each of the two traffic control locations at Exits 1 and 4 will have a **MDOT Crew Leader** assigned. Once each MDOT employee completes his tasks under Level 4, he/she will report to the Crew Leader. Once all tasks have been completed and the Crew Leader notified, the Crew Leader will in turn notify the MDOT Contraflow Supervisor at the MDOT AEOC.
- k. The MDOT Contraflow Supervisor will keep a checklist of both traffic control locations. Not until both have reported that Level 4 tasks are completed will the MDOT Contraflow Supervisor confirm that they are ready for Louisiana Contraflow implementation. The MDOT Contraflow Supervisor will then contact the MDOT EC at the SEOC to confirm Level 4 readiness.
- l. The MDOT EC will contact LDOTD advising them that Mississippi is ready for Louisiana contraflow to be initiated.
- m. MDOT personnel are to monitor the operation of all traffic control devices and ensure their proper operation throughout the duration of the Level 4 (Louisiana Contraflow) operation.
- n. DOT officers are to remain at their stations at Exits 1 and 4 to enforce the traffic control provisions. Significant traffic problems are to be reported to the MDOT Contraflow Supervisor at the MDOT AEOC.
- o. Hourly status reports are to be made by the MDOT Contraflow Supervisor to the MDOT EC at the State Emergency Operations Center (SEOC) in Jackson.

## 2. Mississippi Contraflow (Level 5) Implementation Procedures

- a. The Governor of Louisiana will contact the Mississippi Governor to request implementation of Mississippi Contraflow. The Mississippi Governor, upon consultation with the appropriate State agencies (MDOT, MHSP and MEMA), will authorize implementation of Mississippi Contraflow for a Level 5 response.
- b. MDOT personnel will be notified by the MDOT Transportation Emergency Coordinator (EC) that Level 5, either Option 2 or Option 3 has been authorized. The EC will notify the MDOT Contraflow Supervisor in District 6 and will make notifications to the following MDOT Divisions: Traffic Engineering, Law Enforcement and External Affairs.
- c. The MDOT Contraflow Supervisor assumes command and control of the Mississippi Contraflow (Level 5) transportation operations from the MDOT Area Emergency Operations Center (AEOC), at the MDOT District 6 office, in Hattiesburg.
- d. At the inception of Level 5, all assigned MDOT personnel, if not already on station, will report to their assigned duty stations.
- e. MDOT personnel assigned to traffic control device operation and maintenance shall place and anchor all Variable Message Signs (VMS) / Arrow Boards and position all "flip-down" signs so they may be read by the contraflow traffic. *VMS will not be turned on until the actual contraflow operation begins.*
- f. Each traffic control location (interchange, crossover, etc.) will have a **MDOT Crew Leader** assigned. Once each MDOT employee completes his tasks under Level 5, he/she will report to the Crew Leader. Once all tasks have been completed and the Crew Leader notified, the Crew Leader will in turn notify the **MDOT Contraflow Supervisor** at the MDOT AEOC.
- g. The **MDOT Contraflow Supervisor** will keep a checklist of each traffic control location. Not until all traffic control locations have reported that Level 5 tasks are completed will the MDOT Contraflow Supervisor confirm that they are ready for Mississippi Contraflow implementation.

- h. Depending on the operating option selected, once MDOT personnel are in place, MDOT employees will barricade the southbound lanes of I-59, at either Exits 27 and 29 for Option 2 or Exits 58 and 60 for Option 3. No new traffic will be allowed to enter I-59 southbound, but rather will be forced to exit onto either MS 53 and MS 26 or US 98 and US 11.
- i. If Option 2 or Option 3 is selected **Clearance Officers**, comprised of DOT and MHSP officers or a combination of both, will proceed through each I-59 southbound interchange from either Exit 27 or Exit 58 clearing all southbound traffic all the way to the Louisiana state line. The **Clearance Officers** will ensure that each intersection has the necessary traffic control devices in place and that access to the southbound lanes have been blocked prior to continuing on. **NO TRAFFIC WILL BE ALLOWED ONTO THE CONTRAFLOWED LANES UNTIL THE CLEARANCE OFFICERS HAVE ENSURED THAT ALL SOUTHBOUND TRAFFIC HAS BEEN CLEARED.** Upon reaching the Louisiana state line the Clearance Officers will notify the MDOT AEOC that the route is clear and ready for Mississippi Contraflow. A DOT officer will then proceed into Louisiana and take a position at the Louisiana Exit 11 crossover to serve in a liaison capacity with LSP (Louisiana State Police) and LDOTD (Louisiana Department of Transportation and Development).
- j. At the MDOT AEOC the **MDOT Contraflow Supervisor** shall keep a checklist of each section of I-59 and will coordinate with all parties, including the State of Louisiana, to ensure everything is ready to introduce northbound traffic onto the southbound I-59 traffic lanes.
- k. Not until all Mississippi sections of I-59 have been cleared for contraflow, will the *MDOT Contraflow Supervisor* confirm that MDOT is ready to introduce northbound traffic onto the southbound I-59. When all is ready, MDOT field personnel will be notified by radio that the introduction of contraflow traffic is about to begin. *At this time the VMS and Arrow Boards for Level 5 operations will be turned on.*

- l. The MDOT Contraflow Supervisor shall then contact the DOT officer, who is positioned at the I-59 Exit 11 crossover at the Pearl River Bridge in Louisiana and instruct the officer to request the Louisiana State Police place the crossover into operation and thereby introduce northbound traffic onto the southbound I-59 traffic lanes. This DOT officer shall remain in Louisiana at I-59 Exit 11 to assist with termination of the contraflow operations when ordered.
- m. For the **Service Interchanges** the I-59 northbound evacuation traffic **will be allowed to exit** and/or enter freely from either side of the interstate. DOT officers and MDOT crews are to pay particular attention to these locations to prevent the introduction of southbound traffic onto the contraflow lanes of I-59.
- n. For the **Non-Service Interchanges** the I-59 northbound evacuation traffic **will not be allowed to exit** from the contraflowed southwest quadrant ramps. MDOT personnel and DOT officers will man the barricaded I-59 southwest quadrant ramps and will not to allow vehicles to exit I-59 from the contraflowed (southbound) roadway.
- o. MDOT personnel are to monitor the operation of all traffic control devices and ensure their proper operation throughout the duration of the Level 5 operation. DOT officers are to remain at their stations at the junctions of the exit / entrance ramps and enforce the traffic control provisions, paying particular attention to preventing the introduction of southbound traffic onto I-59. Significant traffic problems and congestion are to be reported to the MDOT Contraflow Supervisor at the MDOT AEOC. MDOT vehicles will be stationed along the plan route to assist disabled motorists, as conditions and supplies allow.
- p. MHSP officers and/or possibly a MDPS helicopter, as weather conditions permit, will monitor I-59 and its feeder routes to confirm traffic conditions during Level 5 operations. MHSP operations will be directed from the MHSP Troop J Headquarters in Hattiesburg with a DOT officer stationed there serving as a liaison between MDOT and MHSP.

- q. During Option 3 operations if it becomes apparent that the northbound traffic lanes are experiencing a much heavier traffic volume the MDOT Contraflow Supervisor will call for the intermediate crossover at mile marker 21 to be placed into operation. It will be at the discretion of the MDOT Contraflow Supervisor, upon consultation with MDOT Law Enforcement, to call into service or take out of service this intermediate crossover.
- r. Hourly status reports are to be made by the MDOT Contraflow Supervisor to the MDOT EC at the State Emergency Operations Center (SEOC) in Jackson.

## **G. Termination (Returning Traffic Flow to Normal Conditions)**

Depending on which contraflow option is being terminated, once I-59 traffic has been returned to normal flow, MDOT personnel will inventory and return all equipment and traffic control devices to their assigned locations and prepare to redeploy should an emergency response to the Mississippi Gulf Coast become necessary.

### **1. Louisiana Contraflow (LEVEL 4) Termination**

- a. Level 4 will terminate upon notification that Louisiana has ceased contraflow operations, or conditions worsen resulting in escalation to a Level 5 response. The Louisiana Department of Transportation and Development (LDOTD) Emergency Coordinator (EC) will contact the MDOT EC to confirm termination of I-59 Louisiana contraflow operations.
- b. The MDOT EC will contact the MDOT Director for authorization to terminate Level 4 operations. (The termination of Level 4 operations will be authorized by the MDOT Director, or his authorized representative.) The MDOT EC will then forward the decision to terminate Louisiana Contraflow to the MDOT Contraflow Supervisor at the MDOT AEOC.
- c. I-59 Exit 4 barricades will not be removed until confirmation from Louisiana that contraflow traffic has been cleared and I-59 is again ready to accept southbound traffic.
- d. Covering and removing signs, securing VMS and inventorying equipment will be addressed as soon as possible depending on current conditions and whether or not a response by MDOT to the Mississippi Gulf Coast is necessary.

2. **Mississippi Contraflow (LEVEL 5) Termination**

After consultation with Louisiana and the appropriate State agencies (MDOT, MHSP & MEMA), the Mississippi Governor will authorize the MDOT Director to terminate Mississippi Contraflow (Level 5) operations. The decision to terminate Mississippi Contraflow will then be forwarded to the MDOT Contraflow Supervisor at the MDOT AEOC by the MDOT Emergency Coordinator at the State EOC.

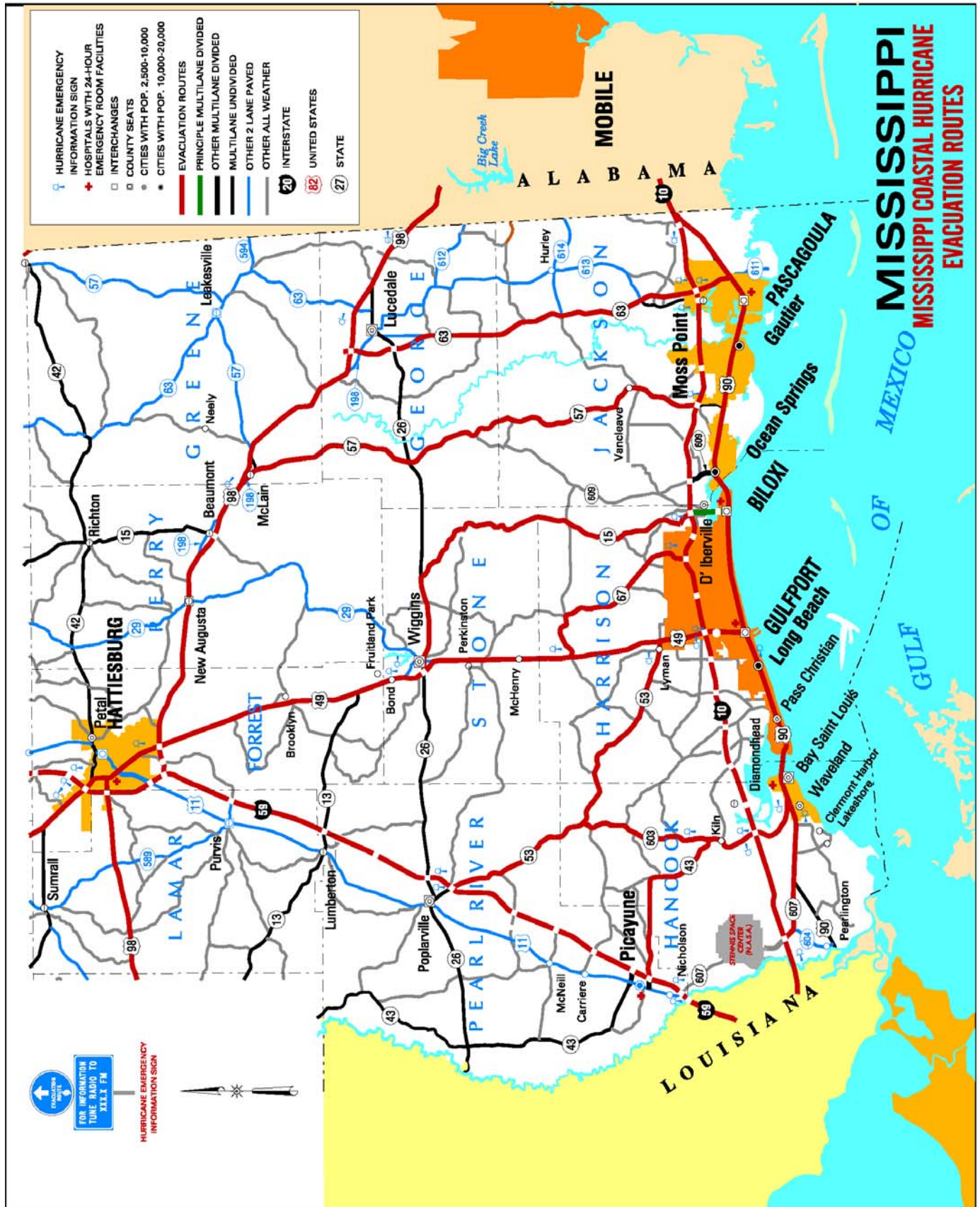
- a. MDOT and MHSP, at the AEOC and the SEOC respectfully, will confer with each other concerning the decision to terminate Level 5 operations.
- b. The MDOT Contraflow Supervisor shall notify the field personnel by radio that Level 5 is about to be terminated (taken out of operation).
- c. The MDOT Contraflow Supervisor shall then contact the Louisiana State Police officer at the beginning crossover to confirm when the crossover will be taken out of operation thereby restricting the northbound traffic flow to the northbound I-59 traffic lanes.
- d. MDOT personnel and DOT officers, at each interchange, are responsible for assuring all ramps into and out of that interchange are clear and ready to accept normal traffic flow.
- e. The MDOT Contraflow Supervisor will notify the DOT Clearance Officer that was stationed at the beginning crossover in Louisiana, to proceed northbound on the southbound traffic lanes ensuring that all northbound traffic is cleared behind him/her. As the DOT Clearance Officer passes an interchange, that interchange may be placed back into normal operation. This procedure is to continue northward until the entire limits of the contraflow operation have been returned to normal traffic flow.
- f. All traffic control devices, including VMS and Arrow Boards are to be picked up, inventoried and returned to storage locations.
- g. MDOT personnel are to be prepared to redeploy to the Mississippi Gulf Coast should an emergency response there be required.

## H. Summary

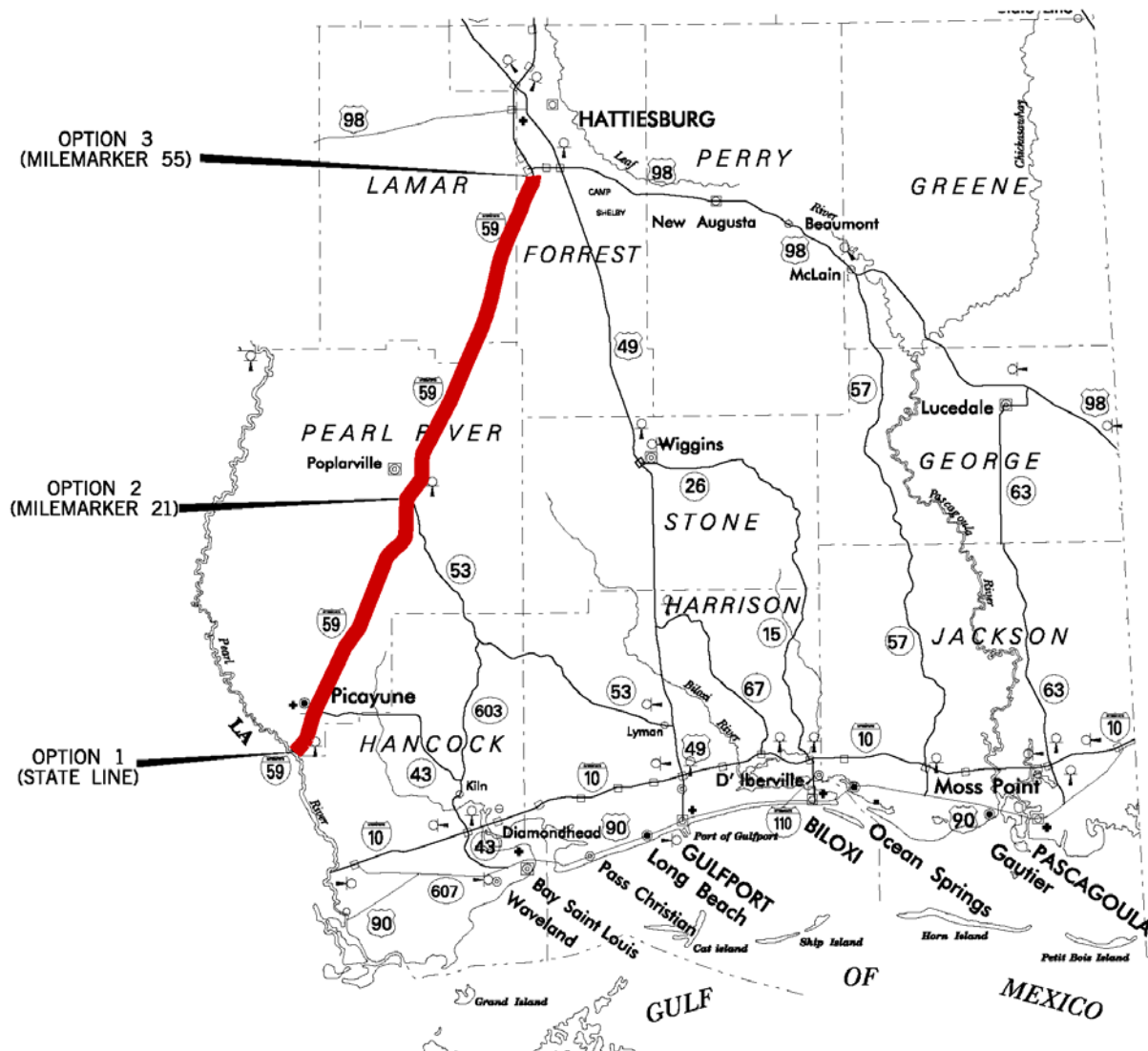
1. The operational differences between Louisiana (Option 1) and Mississippi contraflow (Options 2 and 3) have been detailed.
2. The I-59 Service and Non-Service Interchanges, Crossover and Southbound Lane Terminations have been located.
3. The conceptual design for the capital improvements and traffic control devices for the operation of the plan have been provided, and furthermore, detailed initial staffing plans for plan operation.
4. All MDOT personnel will report to their assigned duty stations no matter which Option is activated and will remain in place until the termination of contraflow operations.
5. *In order to implement and manage the traffic associated with contraflow operations, the State of Louisiana has been asked to agree to the following:*
  - a. *Implement contraflow operations only for a hurricane tracking towards the greater New Orleans metropolitan area with the potential for a high storm surge producing unmanageable traffic congestion.*
  - b. *Provide a minimum three (3) hours advance notice to MDOT prior to the decision to implement **Louisiana Contraflow (Option 1)**. This notice will be between the two State DOTs.*
  - c. *Provide a minimum four (4) hours advance notice to Mississippi prior to the need for Louisiana to implement **Mississippi Contraflow (Options 2 or 3)** provided Mississippi is already conducting Option 1 operations. (If Option 1 is by-passed, then a minimum of seven (7) hours advance notice is needed.) This notice will be between the two State Governors.*
  - d. *Limit I-10 east evacuation traffic into Mississippi during contraflow operations as storm conditions in Mississippi dictate.*
  - e. *Wide-load cargo vehicles will be denied access to I-59 north during contraflow operations into Mississippi.*
  - f. *Louisiana's Pearl River crossover near I-59 Exit 11 will be used to facilitate the equalization of traffic loading on both sides of the Interstate prior to contraflow traffic entering Mississippi.*

6. Individuals have been assigned to strategic traffic control locations and dedicated equipment has been obtained for Contraflow Plan implementation.
7. An Operating Condition Level structure has been defined that is generally based on the beginning of hurricane season and the issuance of hurricane watches or warnings that could result in a New Orleans area hurricane evacuation based on a certain category hurricane. The structure identifies what measures are to be taken based on these external conditions.
8. Implementation procedures have been presented which outline the steps to be taken to establish and operate either Louisiana or Mississippi Contraflow activities; along with termination procedures for returning traffic flow to normal conditions should either contraflow option be placed into action.
9. It is important that periodic training and "mock" testing of this plan take place to insure smooth implementation, when the Governor calls for it to be implemented. As with any plan of this scope and type, this kind of training could identify areas where amendments and changes to the plan may be warranted.
10. This Contraflow Plan addresses only the transportation operational aspects of the I-59 contraflow (lane reversal) evacuation operations. Any other evacuation planning considerations resulting from the implementation of this plan will be addressed by the Mississippi Emergency Management Agency (MEMA).

## Appendix A - EXISTING HURRICANE EVACUATION ROUTES



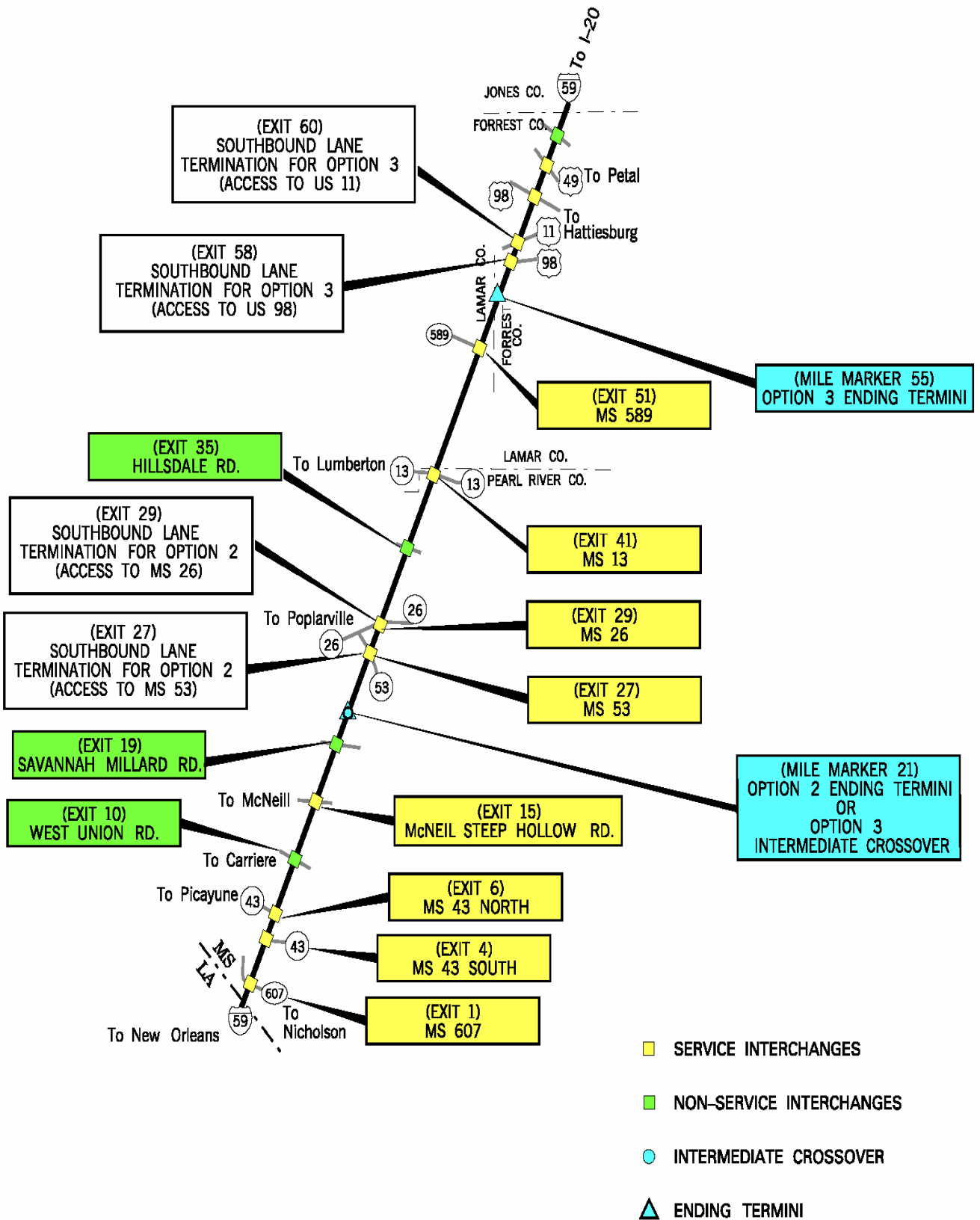
## Appendix B - I-59 CONTRAFLOW ROUTE LIMITS



## Appendix C - CROSSOVER & INTERCHANGE IDENTIFICATION

<u>LOCATION #</u>	<u>IDENTIFICATION</u>	<u>DESCRIPTION</u>	<u>STATUS</u>
1	EXIT 1	INTERCHANGE	SERVICE
2	EXIT 4 (Picayune)	INTERCHANGE	SERVICE
3	EXIT 6 (Picayune)	INTERCHANGE	SERVICE
4	EXIT 10	INTERCHANGE	NON-SERVICE
5	EXIT 15	INTERCHANGE	SERVICE
6	EXIT 19	INTERCHANGE	NON-SERVICE
7	Mile Marker 21	CROSSOVER	INTERMEDIATE or ENDING TERMINI FOR OPTION 2
8	mile marker 22.6	Emergency Vehicle Crossing	
9	EXIT 27	INTERCHANGE	SERVICE or SOUTHBOUND LANE TERMINATION FOR OPTION 2
10	EXIT 29	INTERCHANGE	SERVICE or SOUTHBOUND LANE TERMINATION FOR OPTION 2
11	EXIT 35	INTERCHANGE	NON-SERVICE
12	mile marker 38.2	Emergency Vehicle Crossing	
13	EXIT 41 (Lumberton)	INTERCHANGE	SERVICE
14	mile marker 44.1	Emergency Vehicle Crossing	
15	mile marker 47.7	Emergency Vehicle Crossing	
16	EXIT 51	INTERCHANGE	SERVICE
17	mile marker 54.4	Emergency Vehicle Crossing	
18	Mile Marker 55	CROSSOVER	ENDING TERMINI FOR OPTION 3
19	EXIT 58 (Hattiesburg)	INTERCHANGE	SERVICE SOUTHBOUND LANE TERMINATION FOR OPTION 3
20	EXIT 60 (Hattiesburg)	INTERCHANGE	SERVICE SOUTHBOUND LANE TERMINATION FOR OPTION 3

## Appendix D - CROSSOVER & INTERCHANGE STRIP MAP



## Appendix E - CONTRAFLOW STAFFING REQUIREMENTS

<u>LOCATION</u>	<u>MDOT Staff Div/Dist/Admin (vehicles)</u>	<u>DOT Law Enforcement (vehicles)</u>
<ul style="list-style-type: none"> <li>AEOC @ MDOT D6 office, in Hattiesburg</li> <li>SEOC @ Jackson</li> </ul>	<p>5</p> <p>1</p>	<p>2 (2)</p> <p>-</p>
<u>LA Contraflow Operations</u>		
<ul style="list-style-type: none"> <li>Uncovering In-Place Signs</li> <li>SB Lane Closure Barricades (Exits 1 &amp; 4)</li> </ul>	<p>8 (7)</p> <p>4 (3)</p>	<p>-</p> <p>12 (6)</p>
<u>MS Contraflow Operations</u>		
<ul style="list-style-type: none"> <li>Uncovering In-Place Signs</li> <li>Service Interchanges (8)</li> <li>Non-Service Interchanges (3)</li> <li>Intermediate Crossover @ mm 21 for Option 2</li> <li>Ending Termini @ mm 21 for Option 2 or mm 55 for Option 3</li> <li>SB Lane Terminations (2): Exits 27 &amp; 29 for Option 2 or Exits 58 &amp; 60 for Option 3</li> <li>Beginning Termini in Louisiana</li> <li>Emergency Vehicle Crossings (5)</li> <li>VMS (14) &amp; Arrow Board (12) Placement</li> <li>Scales</li> <li>Supervising/Support Staff</li> <li>Additional Personnel</li> </ul>	<p>7 (6)</p> <p>18 (17)</p> <p>9 (6)</p> <p>2 (1)</p> <p>2 (1)</p> <p>6 (4)</p> <p>-</p> <p>10 (5)</p> <p>18 (9)</p> <p>-</p> <p>-</p> <p>-</p> <p>12 (7)</p>	<p>-</p> <p>29 (19)</p> <p>5 (3)</p> <p>3 (2)</p> <p>4 (2)</p> <p>5 (5)</p> <p>1 (1)</p> <p>-</p> <p>-</p> <p>1 (1)</p> <p>2 (2)</p> <p>10 (10)</p>
<b>STAFFING TOTALS</b>	<b>102 (66)</b>	<b>74 (53)</b>

## Appendix F - INDEX OF CONTRAFLOW TRAFFIC CONTROL DIAGRAMS

<u>Operation</u>	<u>Page #</u>
<b>OPTION 1 – Lane Reversal Ending at the MS/LA State Line.....</b>	<b>OPT1-COVER</b>
Signing Plan for Louisiana Contraflow to MS State Line .....	OPT1-01
Signing Plan for Louisiana Contraflow to MS State Line .....	OPT1-02
Signing Plan for Louisiana Contraflow to MS State Line .....	OPT1-03
Signing Plan for Louisiana Contraflow to MS State Line .....	OPT1-04
Signing Plan for Louisiana Contraflow to MS State Line (Exit 1 SB Barricade Placement) .....	OPT1-05
Signing Plan for Louisiana Contraflow to MS State Line (Exit 4 SB Detour) .....	OPT1-06
<b>OPTION 2 – Lane Reversal Ending Near Milemarker 21.....</b>	<b>OPT2-COVER</b>
<b>Exit 1</b> (Service Interchange) .....	OPT2-01
Scales (just North of Exit 1) .....	OPT2-02
Welcome Center (just South of Picayune) .....	OPT2-03
<b>Exit 4</b> (Service Interchange) .....	OPT2-04
<b>Exit 6</b> (Service Interchange) .....	OPT2-05
Rest Area (just South of Exit 10) .....	OPT2-06
<b>Exit 10</b> (Non-Service Interchange) .....	OPT2-07
Rest Area (between Exit 10 & Exit 15) .....	OPT2-08
<b>Exit 15</b> (Service Interchange) .....	OPT2-09
<b>Exit 19</b> (Non-Service Interchange) .....	OPT2-10
<b>Termination Crossover</b> near Mile Marker 21 .....	OPT2-11
Emergency Crossing (near Mile Marker 22.6) .....	OPT2-12
<b>Exit 27</b> ( <i>Southbound Lane Termination with Access to MS 53</i> ).....	OPT2-13
<b>Exit 29</b> ( <i>Southbound Lane Termination with Access to MS 26</i> ).....	OPT2-14
Variable Message Sign Locations around Hattiesburg .....	OPT2-15
Variable Message Sign Locations around Laurel .....	OPT2-16
Variable Message Sign Locations for I-59 near Meridian .....	OPT2-17
<b>OPTION 3 – Lane Reversal Ending Near Milemarker 55.....</b>	<b>OPT3-COVER</b>
<b>Exit 1</b> (Service Interchange) .....	OPT3-01
Scales (just North of Exit 1) .....	OPT3-02
Welcome Center (just South of Picayune) .....	OPT3-03
<b>Exit 4</b> (Service Interchange) .....	OPT3-04
<b>Exit 6</b> (Service Interchange) .....	OPT3-05
Rest Area (just South of Exit 10) .....	OPT3-06
<b>Exit 10</b> (Non-Service Interchange) .....	OPT3-07
Rest Area (between Exit 10 & Exit 15) .....	OPT3-08
<b>Exit 15</b> (Service Interchange) .....	OPT3-09
<b>Exit 19</b> (Non-Service Interchange) .....	OPT3-10
<b>Intermediate Crossover</b> near Mile Marker 21 .....	OPT3-11
Emergency Crossing (near Mile Marker 22.6) .....	OPT3-12
<b>Exit 27</b> (Service Interchange) .....	OPT3-13
<b>Exit 29</b> (Service Interchange) .....	OPT3-14
<b>Exit 35</b> (Non-Service Interchange) .....	OPT3-15
Emergency Crossing (near Mile Marker 38.2) .....	OPT3-16
<b>Exit 41</b> (Service Interchange) .....	OPT3-17
Emergency Crossing (near Mile Marker 44.1) .....	OPT3-18
Emergency Crossing (near Mile Marker 47.7) .....	OPT3-19
<b>Exit 51</b> (Service Interchange) .....	OPT3-20
Emergency Crossing (near Mile Marker 54.4) .....	OPT3-21
<b>Termination Crossover</b> near Mile Marker 55 .....	OPT3-22
Rest Area (just South of Hattiesburg) .....	OPT3-23
<b>Exit 58</b> ( <i>Southbound Lane Termination with Access to US 98</i> ) .....	OPT3-24
<b>Exit 60</b> ( <i>Southbound Lane Termination with Access to US 11</i> ) .....	OPT3-25
Variable Message Sign Locations around Hattiesburg.....	OPT3-26
Variable Message Sign Locations around Laurel.....	OPT3-27
Variable Message Sign Locations for I-59 near Meridian.....	OPT3-28

(OPT designates the Contraflow Option 1, 2 or 3.)