APPENDIX U

Appendix/Attachment Title

Extreme Event Response Plan (EERP)

Appendix/Attachment Revision and Year:

Version 1.0, 2024

Appendix/Attachment Introduction and Discussion

Extreme events—like wildfires, hurricanes, floods, storms and earthquakes—threaten the stability of critical infrastructure that is relied upon every day. Bridges are often considered the most critical link in the highway network. In the event of extreme event in South Carolina, the BMO will be responsible for promptly and efficiently deploying resources to assess damage. While safety is the primary objective of any post extreme event bridge inspection program, the need for continued mobility is also important. The highway network is needed to provide emergency services, ensure security, provide access for relief and reconstruction, and to facilitate the revitalization of the economy after a devastating event.

Preparedness is the first step toward the mitigation of losses. The Extreme Event Response Plan (EERP) proposed herein provides a framework so that, in the event of an extreme event, DOT managers will be prepared to respond quickly and confidently in their deployment of damage assessment teams so that it is done in an expeditious yet logical fashion that utilizes resources efficiently while attending to the most critical structures first. The intent of this plan is to provide clear guidance to inspectors, so they are prepared to conduct damage assessments of bridges and recommend appropriate action. In particular, it will help ensure the safety of staff and the traveling public, establish when a callout is needed, how a response is to be conducted, establish clear lines of responsibility, describe appropriate phases and levels of response, what first responders and bridge inspectors should look for, how to report their findings, what training and resources are needed, how to determine appropriate follow-up action (such as closure, restriction of traffic, issuance of Critical Findings, recommendations for repairs), and where to get additional information.

Appendix/Attachment Description

This guidance is separated into sections as listed below:

- 1.0 Preparations and General Inspection Procedures
- 2.0 Hurricane, Flood and High-Water Extreme Events
- 3.0 Seismic Extreme Events

1.0 PREPARATIONS AND GENERAL INSPECTION PROCEDURES

1.1 Safety

As with all activities, safety must be at the forefront of our pre-event planning and preparation activities. Inspectors may be briefed by BMO, a district office, or other SCDOT offices on hazards they may encounter and are expected to follow established safety guidelines.

1.2 Pre-Event Planning

If possible for forecasted events, SCDOT inspection teams and consultant inspection teams shall take the necessary precautions to secure their homes, offices, and equipment. Equipment shall be maintained at all times, vehicles and boats shall be fueled, and inspectors shall maintain a supply of batteries for cameras, fathometer, and flashlights.

1.3 Communications

It is essential lines of communications stay open between BMO in Columbia and all inspection teams. If possible for forecasted events, all the DBISs and BITLs will take their cellular phones home with them. Cellular phones shall be turned on if home or office service is interrupted. All bridge inspection personnel are considered essential employees.

If an inspector lives in the affected area and has to evacuate, he or she shall let the DBIS, DME, and BMO know where he or she is as soon as he or she is able to.

1.4 Staging Area

The BMO will determine the initial staging area for inspection teams at least 48 hours ahead of landfall for hurricanes or at least 24 hours ahead of forecasted peak storm intensity for other storms. Inspection teams from outside the affected area will assemble at the staging area to receive assignments prior to being deployed to the affected areas. Assignments, arrangements, and accommodations shall be made, with the assistance of the BMO, when the storm path forecast is more defined.

As soon as the danger has passed and it is safe to proceed, teams will be deployed to the affected areas if needed by the BMO. The DBIS and local inspection teams will be consulted as to the number of teams needed and location of these teams. All directives to the inspection teams will come from the BMO.

Some bridges may require an underwater inspection even if an underwater inspection has not been performed previously for that bridge. In this case, an initial UW inspection should be requested.

If the BMO in Columbia is in the affected area, SCDOT will notify all members of the inspection program of a new staging area.

1.5 Procedures

When arriving at site, the BITL shall determine immediate needs to evaluate the condition of the structure with emphasis added to safeguard the public.

The inspectors shall appropriately document inspection findings. Critical Findings shall be reported and repair recommendations recorded in accordance with Chapter 8.

If the bridge requires closure because of high water, damage, or some other issue, the bridge closing procedure in Chapter 8 shall be followed. If any bridges are recommended for closure, DBIS should contact the appropriate county office for the closure. Maintenance would then barricade these bridges for temporary closure as evaluations, repairs, or replacement will be performed. Bridges will be closed if underwater (over topped) and/or in a pressure flow condition. Superstructures and substructures will be evaluated for displacement and/or damage. If substantial scour is noted in reference to previous inspection reports, the bridge could be closed after review of the pile logs or as-built drawing (see Chapter 8).

2.0 HURRICANE, FLOOD AND HIGH-WATER EXTREME EVENTS

All triggered bridges will receive scour inspections and, if required, some bridges will receive damage inspections. Reporting requirements are included in Chapter 5.

SCDOT has prioritized bridges over water based on bridge criticality and has developed a risk evaluation for bridges. SCDOT uses a monitoring program as part of the scour and POA programs to assist with tracking and POA management. As soon as it is safe to begin inspections, bridges will be evaluated based on the pre-determined priority. Additionally, the

bridge's scour assessment will be utilized during inspections. Bridges which are on the scour critical list shall be inspected per their POAs. The POAs include requirements for inspection and for special consideration. POAs are included in the Bridge File for bridges which are scour critical.

3.0 SEISMIC EXTREME EVENTS

All bridges inspected after a seismic extreme event will receive unscheduled inspections and, if required, some bridges will receive damage inspections. Reporting requirements are included in Chapter 5.

SCDOT has prioritized bridges according to seismic risk priorities and the recommended order of inspections. SCDOT uses a monitoring program assist with tracking, triggering thresholds, and response management. As soon as it is safe to begin inspections, bridges will be evaluated based on the pre-determined priority. The priority order may be altered based upon detailed understanding of infrastructure condition, or the strategic prioritization of re-establishing specific travel corridors throughout the state.