

# **DeIDOT Inspector Guidelines**

## DelDOT Inspector Guidelines

### General Items

- During days out in the field, the inspections teams are required to get out of the office and on the road by 7:30 and are to return to office around 2:30 so as to leave enough time to take care of any various inspections issues or concerns that may need to be addressed. The more items or issues that need to be discussed, the earlier the inspection team should return to the office.
- Inspection teams are required to stay in a minimum of one day per week (5 work days) to work on various inspection tasks:
  1. NBI breakdowns for future bridge inspections
  2. Review, sign and file the downloaded inspection reports from the previous weeks
  3. Create the new inspection file folders for, both, the previous weeks' and the next week's bridge inspections
  4. Process/attach inspection photos for each bridge recently inspected using the Inspect Program
  5. Coordinate any M.O.T. Requests
  6. Discuss any inspection issues, findings or concerns with the BIE, BME or Calvin
  7. Check the online tide websites for tidal bridges (if applicable)
  8. Work on various side project assignments
  9. Insert Maximo necessary maintenance requests
  10. Work on Load Ratings for previously inspected bridges
- In general, both, the team leader and the team member for each team should communicate with each other as to what inspection tasks they are to be working on during the office and while out in the field. Any planned leave should be brought to the attention of either individual so they can plan those days accordingly.
- If additional team members are required for future inspections (boats, UBIV's, etc.) please coordinate with the BIE at least one week prior to when the inspection is planned.
- Each of the three team leaders will be assigned a day for each week in which their computers and cameras are to be downloaded. **After everything has been downloaded, there will be no changes to the inspection report by the inspection team, so it is important that everything be completed and reviewed prior to each individual Team Leader's assigned day!** This means that the Team Leaders are to have all pertinent inspection items completed by that day including the following:
  1. NBI breakdowns completed and verified that all data has been recorded and that there are no obvious mistakes.
  2. All required photos have been taken and have been processed/attached using Inspect Program
  3. Scour Sketch & Scour Sounding Sheet (if applicable) has been completed
  4. Under Record Sketch (if applicable) has been completed
  5. MSPE & Pontis computer work has been completed and reviewed for compliance with the Pontis Manual
  6. Beam Sketch Sheets (if applicable) or any other type of sketch sheets
  7. Maximo Requests

The days for each Team Leader have been assigned and are as follows:

Glen Miller = Wednesdays

Darren Sobota = Fridays

Rick Moore = Tuesdays

- Any inspection which results in any of the NBI items #58-62 being coded as a '4' or lower by the inspection team needs to be brought to the attention of the BIE and/or BME that day for discussion, regardless of how it was coded during the previous inspection. If this means coming in early that day from the field, then so be it. Proper documentation including photos and/or sketches should be created for discussion purposes.
- Regarding days in which a bridge is to be UBIV'd, Team Leader should bring extra inspection files just in case the MOT does not show up. This will prevent the inspection team from losing out on a half day of field and/or office work. This policy applies to tidal bridges as well, where the clearance is minimal due to the tide fluctuation. **The inspection team should not waste half a day because of MOT issues or because of high tide conditions – plan and be efficient!!**

## **Inspection Team Roles and Responsibilities**

### **Team Leader**

#### **Plan Bridge Inspections**

1. Prior to the start of each inspection season, review the list of bridges assigned by the Bridge Inspection Engineer to determine time and resource requirements for routine inspections, UBIV inspections, fracture critical inspections, possible low clearance or railroad bridges, or any other special inspection needs.
2. Create a weekly schedule for all assigned bridges for the entire inspection season, maintaining at least one day per week in the office for report preparation and filing.
3. Communicate the schedule with all assigned team members before the start of each inspection month.

#### **Prepare for Bridge Inspections**

1. For each assigned bridge inspection, determine which team members are responsible for gathering and recording NBI inventory data, gathering and recording NBI and Pontis field inspection data, gathering and recording scour data, taking photographs, entering MAXIMO maintenance requests, and creating new inspection files if necessary.
2. Confirm weather forecast for upcoming inspection dates.
3. Review tide charts prior to inspection in order to schedule field time to maximize inspection opportunities on bridges over tidal waterways.
4. Confirm availability of special inspection equipment such as UBIV, boats, etc.
5. Schedule MOT for UBIV inspections with Districts, giving one to two weeks notice, to allow for their work schedules.

6. Communicate the above information in advance, such that all necessary office preparation is complete prior to the field inspection date.

### **Perform Bridge Inspections**

1. Direct and oversee activities at the bridge in accordance with assignments made during preparations, maintaining safety of all team members.
2. Act as technical expert for team members, assisting them with any questions that arise during the inspection process.
3. Confirm that all necessary inventory and inspection data, notes, measurements, sketches, and photographs are complete prior to leaving the bridge.
4. Confirm that all field data and maintenance requests are reviewed by a team member prior to leaving the bridge.
5. Address any discrepancies in the data and maintenance requests with team members prior to leaving the bridge.
6. Inform the Bridge Inspection Engineer of any critical findings, or if any NBI condition rating is 4 or less, or if any Pontis element has quantity in the worst condition state, on the day of the inspection.
7. Submit laptop computer, digital camera, scour sketch sheets, NBI inventory sheets, and underclearance sketches to the Bridge Inspection Engineer within one week of the field inspection.
8. Review the completed report, including any changes made by the Bridge Inspection Engineer.
9. Sign the completed report when all information is satisfactory.
10. File the report within one week of the date the report is returned by the Bridge Inspection Engineer.
11. Review Load Ratings if applicable – only applies to Engineer Team Leaders

### **Team Member**

#### **Plan Bridge Inspections**

1. Review inspection schedules provided by team leaders prior to the start of each inspection month.
2. Coordinate Annual Leave or any non-inspection project activities with the team leader.

#### **Prepare for Bridge Inspections**

1. Complete NBI inventory sheets and any other office preparations as assigned by the team leader prior to the field inspection date.

#### **Perform Bridge Inspections**

1. Perform all assigned field inspection activities in a safe manner, as directed by the team leader.
2. Assist the team leader or other team members as necessary to complete the inspection.
3. Perform reviews of field inspection data as assigned.
4. Review Load Ratings if applicable

## **Load Ratings**

- Any structural element that has a Pontis condition rating that contains the phrase “warrants analysis” shall have the load ratings evaluated by the and engineer team member. If there is no engineer team member on the inspection team for a specific bridge, then consult the Load Rating Engineer (Ping Jiang) and provide all necessary beam sketches and section details so analysis can be performed. Do not use percentages for describing section loss – instead give actual measured thickness using calipers and micrometers.
- Prior to the engineer team member performing the actual load rating analysis, previous load rating and section assumptions should be compared to see if a new analysis is justified.
- In the case of an engineer team leader and an engineer team member; the team leader is to decide who does the load rating. However, load ratings should not be assigned to an engineer team member during the last week of that member’s rotation with the team leader. This is required in order to prevent the engineer member with being assigned work that would have to be completed while rotating and working with a different team leader.

## **Inspection Files**

- Inspectors are to create new file folders for the bridge if it hasn’t been done so already. This includes creating the “In-Active” files and properly inserting the necessary documents into, both, the “Active” and “In-Active” files.
- An example of, both, and “Active” and an “in-Active” file along with what types of contents each is suppose to have is provided on top of the filing cabinets.
- The proper order of all inspection related forms and documentation for each inspection year is given below:
  1. SDR Sheet
  2. MSPE Sheets (if applicable) – Do not need the MSPE Total Sheet
  3. Beam Sheets or any other detailed sketches (if applicable)
  4. Under Record Info Sheet(s) (if applicable)
  5. Under Record Sketch Sheet (if applicable)
  6. Scour Related Data Sheet (if applicable)
  7. Waterway Sketch Sheet (if applicable)
  8. Scour Sounding Sheet (if applicable)
  9. Photos

## **NBI Coding& Ratings**

Inspection Team Leaders are to perform a NBI Data check for each inspection, unless it has been previously done during the last inspection as noted in the Notes page of Pontis. There is also a complete

list of all bridges that have had the NBI data assessment completed and can be found in the Insp. Forms, Manuals & Policies folder in the Bridge Management section of the “g: drive”. NBI data sheets, NBI Manual and the necessary Appendices are also located in the folder. NBI data assessments are to be completed in accordance with the 2008 NBI Manual that is located on the g: drive.

If a bridge has been previously had the NBI data assessment completed, then there is no need to complete another one. The following items are the only items that are to be changed or updated by the inspection team in the case that a NBI assessment has already been performed:

1. Items 58, 59, 60, 61 & 62 (Deck, Super, Sub, Channel & Culvert ratings)
2. Items #29 & 30 (Average Daily Traffic & Year of ADT)
3. Item #109 (Average Daily Truck %)
4. Items #36A,B,C & D

All other data is to be left alone, however, if the Inspection Team Leader notices something wrong or a change that needs to be made to any item – they should report it or bring it to the Bridge Inspection Engineer’s attention.

## **Inspection Trucks & Equipment**

Inspectors are encouraged not to take inspection tools or equipment out of another inspectors’ truck. If a team leader has any missing, lost or damaged inspection tools or equipment – notify Rick Moore for replacement. The inspectors are also encouraged to take care of all inspection equipment, especially electronic devices. Inspection Team Leaders shall report any concerns with their assigned work truck to the Central District vehicle maintenance shop. Any concerns with the UBIV and/or bucket truck shall be brought to the attention of Rick Moore or the BIE immediately so that the problem can be rectified and the safety of future inspection personnel using the equipment is not jeopardized.