



**Letter from City of Pittsburgh Chief Engineer to NTSB investigators dated January 27,  
2023**

**Pittsburgh, PA**

**HWY22MH003**

**(4 pages)**

TO: Dennis Collins, NTSB  
FROM: Eric J. Setzler, PE, Chief Engineer, City of Pittsburgh  
DATE: January 27, 2023  
RE: Inspection of Locally Owned Bridges through  
PennDOT Contracts

The City of Pittsburgh's Department of Mobility and Infrastructure (DOMI), in response to the NTSB's request, is issuing the following summary of my understanding of how bridge inspections are conducted for locally-owned bridges (local bridges) in the state of Pennsylvania that are subject to the National Bridge Inspection Standards (NBIS). My understanding is based on experience inspecting and managing inspection contracts for local bridges while an employee of SAI Consulting Engineers from 2008 – 2018, and as Chief Engineer for the City of Pittsburgh from 2019 – present. At SAI, I managed inspection contracts for local bridges in Armstrong County, through PennDOT District 10, and a district-wide contract for local bridges in PennDOT District 12.

Municipalities (cities, counties, townships, etc.) that own bridges subject to the NBIS are required to inspect their bridges in accordance with the NBIS requirements. PennDOT has responsibility to make sure that all bridges in the state, including local bridges, are inspected in compliance with the NBIS. Each PennDOT District manages one or more inspection contracts specifically for local bridges. PennDOT solicits for and selects a consulting firm, and holds a contract with that firm, to conduct the local inspections. Each local bridge owner has the option to conduct their own inspections (through in-house staff or a consultant inspection contract), or to have PennDOT conduct the inspections through one of PennDOT's inspection contracts. Procedures for this are provided in PennDOT Publication 238. If PennDOT conducts the inspections, PennDOT will pay for 80% of the cost, and the local owner pays for 20% of the cost through a deduction to their Liquid Fuels Tax payment. If the local owner conducts their own inspections, they can request reimbursement for 80% of the cost from PennDOT if certain procedures are followed. The City of Pittsburgh elects to have our local bridges that fall under the jurisdiction of the NBIS inspected through PennDOT District 11.

A general outline of the inspection process is as follows:

- PennDOT solicits, selects, negotiates with, and enters into a multi-year contract with a consulting engineering firm to provide inspection services for local bridges. In the City’s case, PennDOT District 11 selects a consultant specifically for local bridges owned by the City of Pittsburgh. Other local bridges throughout District 11 are inspected under separate contract(s). PennDOT manages this process without input from the local owner(s).
- The inspection contracts are typically structured with “units of work”, where there is a lump sum price for the inspection and report of bridges that fall within certain criteria. For example, all multi-beam bridges under 80’ in length would be paid at a certain lump sum price, while longer bridges or bridges with more complex structure types may fall under a different lump sum price. Likewise, units of work for load rating updates would exist in the contract, as well as for other items that may be necessary.
- PennDOT provides a list of bridges and inspection due dates to the consultant, and the consultant schedules the inspections in the required months. For bridges that require access equipment or traffic control, the consultant solicits bids for these services and obtains approval from PennDOT, then engages with a sub-contractor to provide those services. If railroad permits or other permits are needed, the consultant obtains the necessary permits and schedules railroad flaggers as required.
- The consultant performs the inspection in the required timeframes. After completing the inspection, they have 4 weeks/30 days to submit the draft inspection report to PennDOT. PennDOT reviews the draft inspection report and provides comments if needed. After any comments are addressed, PennDOT marks the report approved in the BMS2 system. Then the consultant provides a copy of the approved report to the bridge owner. Typically, a hard copy report is provided, unless the owner has indicated that electronic copies are sufficient.
- In the case of the current inspection contract for City bridges:
  - At the start of the contract (circa 2020), I requested that the City be provided a copy of the draft inspection report. The consultant provides concurrent notification to the City and PennDOT that the electronic draft report has been submitted and is available for review.
  - I indicated that the City would like the opportunity to review but, due to manpower constraints, PennDOT should not hold up their process waiting for the City. PennDOT reviews and accepts reports as they are able on their schedule, and does not require the City to provide concurrence.
- If, during an inspection, the consultant discovers a high priority maintenance item (priority code 0 or 1), they provide immediate notification to PennDOT and the local owner. In our current contract, this typically is done through an initial phone call followed up by a letter sent via email. For more complicated issues, any party may request a meeting/phone call to discuss, but typically the city indicates our planned course of action and then parties follow up via email to track completion of these items. Notification of lower priority maintenance items (priority code 2 through 5) is provided through the inspection report.

- If, during an inspection, the consultant discovers corrosion/section loss, additional wearing surface on the bridge deck, or other changes that could affect the load capacity of the bridge, they will make a request to PennDOT for approval to update the load rating analysis. If PennDOT agrees, they will authorize a unit of work for the effort needed for the load rating update. The inspection report contains a load rating summary section that indicates the current load capacity of the bridge, and states either that load rating analysis on file is still valid based on the current condition of the bridge, or that changes have been observed and an update to the load rating analysis is recommended.
  - If the updated load rating analysis indicates that the bridge cannot carry all legal vehicles, or if the capacity of a bridge that is already load posted has been reduced, the consultant will notify PennDOT and the local owner that the bridge must be posted for load. If the city is notified of this need, we will place a work order request with our traffic division, who will fabricate and install the required signage.
- After an inspection, the consultant will evaluate the inspection frequency. Based on certain criteria listed in Publication 238, they may recommend an inspection cycle shorter than the typical 24 months. If PennDOT agrees with the recommendation, the next inspection will be scheduled accordingly.
- The City tracks all Priority 0 and 1 items as they are reported to us through completion. Based on review of inspection reports, and through reporting functions of the BMS2 database, we also track lower-priority maintenance items. We use these items when developing work plans, such as our current construction contract for replacement of leaking expansion dam seals on 11 bridges.