ITEMS INCLUDED IN FEDERAL RATINGS (RC09)

Deck Rating
Superstructure Rating
Substructure Rating
Channel Rating
Culvert Rating
Inspection Date
NBI Structural Condition
NBI Deck Geometry
NBI Under Clearance
Historic Note: This Record Code was formerly used to record information about Defense Highways. It is now used to record the Federal Ratings. The NYSDot Bridge Inspection Manual describes how to rate the various bridge components. The ratings are presented here to identify the inspection data which is stored in BDMS and to identify the values which may be recorded.

**DECK RATING**

**SUPERSTRUCTURE RATING**

**SUBSTRUCTURE RATING**

FHWA 58, 59 & 60

**PROCEDURE:**
Each of these items record the federal ratings assigned to individual bridge components by the inspector. Any bridge not listed as a culvert in the inventory must have these ratings assigned.

The assignment of Federal Ratings must be consistent with the inventory superstructure code in the RC02 table (Superstructure Type – Main Span). For culverts (type 19), FHWA items 58, 59, and 60 are not to be rated. Otherwise, the FHWA will note a data error after NYSDOT submits the annual report.

**CODING:**
The following general condition ratings shall be used as a guide in evaluating Deck, Superstructure and Substructure Ratings:

- **N** - NOT APPLICABLE
- **9** - EXCELLENT CONDITION
- **8** - VERY GOOD CONDITION no problems noted.
- **7** - GOOD CONDITION some minor problems.
- **6** - SATISFACTORY CONDITION structural elements show some minor deterioration.
- **5** - FAIR CONDITION all primary structural elements are sound, but may have minor section loss, cracking, spalling or scour.
- **4** - POOR CONDITION advanced section loss, deterioration, spalling or scour.
- **3** - SERIOUS CONDITION loss of section, deterioration, spalling, or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
- **2** - CRITICAL CONDITION advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.
- **1** - "IMMINENT" FAILURE CONDITION major deterioration or section loss present in critical structural components, or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic, but corrective action may put the bridge back in light service.
- **0** - FAILED CONDITION out of service beyond corrective action.

**CHANNEL RATING**

FHWA 61

**PROCEDURE:** Records the federal rating assigned to the Channel by the inspector.

**CODING:**
- **N** - NOT APPLICABLE - use when bridge is not over a waterway (channel).
9 - There are no noticeable or noteworthy deficiencies which affect the condition of the channel.
8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.
7 - Bank protection is in need of minor repairs. River control devices and embankment protection have a little minor damage. Banks and/or channel have minor amounts of drift.
6 - Bank is beginning to slump. River control devices and embankment protection have widespread minor damage. There is minor stream bed movement evident. Debris is restricting the waterway slightly.
5 - Bank protection is being eroded. River control devices and/or embankment have major damage. Trees and brush restrict the channel.
4 - Bank and embankment protection is severely undermined. River control devices have severe damage. Large deposits of debris are in the channel.
3 - Bank protection has failed. River control devices have been destroyed. Stream bed aggradations, degradation or lateral movement has changed the channel to now threaten the bridge and/or approach roadway.
2 - The channel has changed to the extent the bridge is near a state of collapse.
1 - Bridge closed because of channel failure. Corrective action may put bridge back in light service.
0 - Bridge closed because of channel failure. Replacement is necessary.

CULVERT RATING

PROCEDURE:
Records the federal rating assigned to the Culvert by the inspector. This item is to be coded only if the inventory superstructure code in the RC02 table (Superstructure Type – Main Span) equals 19 for culvert. Otherwise, the FHWA will note a data error after NYSDOT submits the annual report.

CODING:
N -    NOT APPLICABLE - Use if structure is not a culvert
9 -    No deficiencies.
8 -    No noticeable or noteworthy deficiencies which affect the condition of the culvert. Insignificant scrape marks caused by drift.
7 -    Shrinkage cracks, light scaling, and insignificant spalling which does not expose reinforcing steel. Insignificant damage caused by drift with no misalignment and not requiring corrective action. Some minor scouring has occurred near curtain walls, wingwalls, or pipes. Metal culverts have a smooth symmetrical curvature with superficial corrosion and no pitting.
6 -    Deterioration or initial disintegration, minor chloride contamination, cracking with some leaching, or spalls on concrete or masonry walls and slabs. Local minor scouring at curtain walls, wingwalls, or pipes. Metal culverts have a smooth curvature, non-symmetrical shape, significant corrosion or moderate pitting.
5 -    Moderate to major deterioration or disintegration, extensive cracking and leaching, or spalls on concrete or masonry walls and slabs. Minor settlement or misalignment. Noticeable scouring or erosion at curtain walls, wingwalls, or pipes. Metal culverts have significant distortion and deflection in one section, significant corrosion or deep pitting.
4 -    Large spalls, heaving scaling, wide cracks, considerable efflorescence, or opened construction joint permitting loss of backfill. Considerable settlement or misalignment. Considerable scouring or erosion at curtain walls, wingwalls, or pipes. Metal culverts have significant distortion and deflection throughout, extensive corrosion or deep pitting.
3 -    Any condition described in Code 4, but which is excessive in scope. Severe movement or differential settlement of the segments, or loss of fill. Holes may exist in walls or slabs. Integral
wingwalls nearly severed from culvert. Severe scour or erosion at curtain walls, wingwalls, or pipes. Metal culverts have extreme distortion and deflection in one section, extensive corrosion, or deep pitting with scattered perforations.

2 - Integral wingwalls collapsed, severe settlement of roadway due to loss of fill. Section of culvert may have failed and can no longer support embankment. Complete undermining at curtain walls and pipes. Corrective action required to maintain traffic. Metal culverts have extreme distortion and deflection throughout with extensive perforations due to corrosion.

1 - Bridge closed. Corrective action may put bridge back in light service.

0 - Bridge closed. Replacement is necessary.

INSPECTION DATE
NYSDoT

PROCEDURE:
Record the Month, Day and last two digits of the Year (MM/DD/YY) of the inspection.

CODING:
Accepts any date in MM/DD/YY format.

ITEM: NBI STRUCTURAL CONDITION
FHWA 67

ITEM: NBI DECK GEOMETRY
FHWA 68

ITEM: NBI UNDER CLEARANCE
FHWA 69

PROCEDURE:
Each of these items is calculated using ratings from other items, these items are not directly recorded by the bridge inspector. (Refer to the current FHWA NBI Coding Guide for specific details)

CODING:
Each of these Items is given a single digit, numeric rating using the following rating scale:

Code Description:
N    Not applicable
9    Superior to present desirable criteria
8    Equal to present desirable criteria
7    Better than present minimum criteria
6    Equal to present minimum criteria
5    Somewhat better than minimum adequacy to tolerate being left in place as is
4    Meets minimum tolerable limits to be left in place as is
3    Basically intolerable requiring high priority of corrective action
2    Basically intolerable requiring high priority of replacement
1    This value of rating code not used
0    Bridge closed