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Posted Load
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Level 1 Rating Method
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Level 1 Rating Date
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Level 1 H Operating - Tons
Level 1 HS Inventory Rating - Tons
Level 1 HS Operating Rating - Tons
Level 1 M Inventory Rating - M Tons
Level 1 M Operating Rating - M Tons
Level 1 MS Inventory Rating - M Tons
Level 1 MS Operating Rating - M Tons
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Level 2 Rating Source
Level 2 Rating Date
Level 2 H Inventory Rating - Tons
Level 2 H Operating Rating - Tons
Level 2 HS Inventory Rating - Tons
Level 2 HS Operating Rating - Tons
Level 2 M Inventory Rating - M Tons
Level 2 M Operating Rating - M Tons
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(Section to be written)
**Record Code 9 - Federal Ratings**

- Deck Rating
- Superstructure Rating
- Substructure Rating
- Channel Rating
- Culvert Rating
- Inspection Date
- NBI Structural Condition
- NBI Deck Geometry
- NBI Under Clearance

**Record Code 12 - Feature Carried**

- Feature Number
- Over-Under-On Code
- Feature Code
- Description Type
- Description or Route Number/Reference Marker
- Secondary Description
- Future AADT
- Year of Future AADT
- Mile Point
- Overlap Routes
- Maximum Vertical Clearance
- State Highway Number
- Type of Highway
- Route Description
- Federal Aid System
- Functional Classification
- Toll
- Total Number of Lanes on the Bridge
- Lanes Vary
- Minimum Lane Width
- Number of Lanes (Left & Right)
- AADT
- Year of AADT
- Average Daily Truck Traffic
- Total Horizontal Clearance
- Minimum Vertical Clearance
- Bypass Detour Length
- STRAHNET Designation
- Designated National Network (for Trucks)
- National Highway System
Record Code 13 - Feature Intersected

- Feature Number (of Intersected Feature)
- Over-Under-On Code
- Feature Code
- Description Type
- Description or Route and Reference Marker
- Mile Point
- Future AADT
- Year of Future AADT
- State Highway Number
- Type of Highway
- Route Description
- Federal Aid System
- Functional Classification
- Toll
- Number of Lanes
- Maximum Vertical Clearance
- Minimum Vertical Clearance Provided for Navigation (Movable Bridges Only)
- Protection of Substructures from Navigation
- AADT
- Year of AADT
- Total Horizontal Clearance
- Minimum Horizontal Clearance (Left)
- Minimum Horizontal Clearance (Right)
- Minimum Vertical Clearance
- Navigation Control
- Maximum Vertical Clearance Available to Navigation
- Stream Bed Material
- Bank Protection
- Velocity of Current
- Features Affecting Stream Flow
- Bypass Detour Length
- STRAHLNET Designation
- Designated National Network (for Trucks)

Record Code 15 - Span

- Span Number
- Features Intersecting Spans
- Material Type
- Protective Coating Type
- Composite Action
- Simple, Continuous, Suspended, Curved
- Superstructure Span Design Type
- Structural Details
- Fracture Critical
- Fatigue Resistant
- Out-of-Plane Bending
- Load Path Redundancy
- Internal Redundancy
- Structural Redundancy
Span Length
Pier Type
Pier Height
Pier Footing
Pier Piles
Pier Skew Angle
Pier Joint Type
Deck Drainage
Type of Railing (Left/Right)
Bearing Fixity (Begin and End)
Bearing Type (Begin and End)
Structural Deck Type
Stay-In-Place Forms
Original Wearing Surface
Original Wearing Surface Still In Place
Present Wearing Surface
Surface Sealant
Ballast
Median Width

**Record Code 16 - Span Inspection**

BIN
Inspection Date
Span Number
Region
County
Wearing Surface Rating
Monolithic Surface Rating
Curbs Rating
Sidewalk/Fascia Rating
Rail/Parapets Rating
Scupper Rating
Grate Rating
Median Rating
Structural Deck Rating
Primary Member Rating
Secondary Member Rating
Superstructure Paint Rating
Superstructure Joint Rating
Superstructure Recommendation
Pier Bearing Rating
Pier Pedestal Rating
Pier Top of Cap Rating
Pier Stem Rating
Pier Cap Beam Rating
Pier Column Rating
Pier Footing Rating
Pier Erosion Rating
Pier Pile Rating
Pier Recommendation
Lighting Rating
Sign Rating
Utility Rating
Download Year
**Record Code 17 - Access**

- Span Number
- Walking
- Step Ladder
- Extension Ladder
- 40 Ft UBIU (12 m)
- 60 Ft UBIU (18 m)
- Lightweight UBIU
- Small Lift
- Medium Lift
- Large Lift
- Rowboat
- Barge
- Diving
- Railroad Flagman
- Railroad Electrical
- Scaffolding
- Lane Closure
- Shadow Vehicle
- Other Access Needs

**Record Code 18 - Delete BIN Data**

Delete BIN

**Record Code 19 - Further Investigation**

Further Investigation

**Record Code 21 - Work History**

- Type of Work
- Month
- Year
- Contract Number
- Type of Contract
- Money Value
- Comments
- Designer Name*
- Designer Organization*
- PIN*

* These codes are for future use
Record Code 68 - Activate Bridge Status

Activate Bridge Status

BSA Data

BSA Vulnerability Type Code
Vulnerability Rating Date
Vulnerability Failure Type
Vulnerability Rating Category
Vulnerability Classification Score

Data Edit/Update

Construction of New Bridges
Bridge Improvement Projects
Damage to Bridges
Deterioration by Weather and Use
Bridge Deletions
Administrative Modifications to Database

Reports/Output

Federal File(to be written)
Year End Reports(to be written)

Appendices

A. Abandoned/Deleted Bridge Report
B. Assigning a New BIN
C. Closed/Opened Bridge Report
D. Load Posting Report
E. FHWA Coding Guide Excerpts
F. Data Entry Forms
G. Named Roads
Introduction

Overview
This manual describes the NY State Bridge Data Management System (BDMS); what data is stored, how data is entered and how it is used.

Two main types of data are stored for NY State bridges in BDMS: Inventory Data and Inspection Data. Inventory and Inspection data are recorded for all bridges which carry a public highway, cross over a public highway or cross over a navigable waterway. Other types of data that is stored in BDMS are, Bridge Vulnerability Data(BSA), Historic Bridge Data, Bridge Management System Costs and Diving Inspection Data.

Bridge data is entered using the BDMS Client PC Application. Data is entered by either the Main Office Structures Bridge Data Systems Unit or the Main Office Structures Load Rating Group. Inventory and Inspection Data are organized and updated by Record Code. A Record Code is defined as a group of related bridge data.

BDMS data entry can be accomplished by coding paper forms, generating electronic files with WINBOLTS(Windows Bridge Online Transaction System) or BIPPI(Bridge Inspection Program Pen Interface), both PC based applications or by using the Bridge Load Rating Graphical User Interface within the BDMS application.

The BDMS data is used most importantly to report to Congress each year the number and condition of bridges in NY State, as well as providing the necessary data for the Departments Bridge Replacement and Rehabilitation Program.

The Main Office and Regional Personnel responsible for supporting and maintaining BDMS are:

- **OIS**  The Office of Information Services supports the mainframe database and application.
- **BDSU** The Bridge Data Systems Unit supports the updating and use of the inventory and inspection data, excluding load rating data.
- **BIU** The Bridge Inspection Unit supports the bridge inspection data.
- **RBIICs** The Regional Bridge Inventory and Inspection Coordinators oversee the collection and processing of the data in the Regional Offices.
- **SDLRG** The Structures Division Load Rating Group supports the updating and use of bridge load rating data.
Introduction

Bridge Terms
The following terms are used in the Bridge Data Management System:

**Bridge** - a structure including supports erected over a depression or an obstruction, such as water, highway, or railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet* between undercopings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; it may also include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening.

*(6.1 meters)

**Inventory Bridge** - a bridge is included in the bridge inventory file when it carries a public highway or when it carries moving loads over a public highway or a navigable waterway. Any bridge which recently satisfied one of these conditions, but is now Closed or Collapsed, shall also be considered as an Inventory Bridge until it is declared Abandoned.

**Collapsed Bridge** - a bridge that once satisfied the Inventory Bridge definition, but is now closed due to the collapse of at least one span which prevents the safe passage of any service. Closure became necessary as the result of structural or foundation failure, an accident, or an act of God. If the owner has made no serious effort to restore the structural integrity and physical continuity of the bridge, within three years after its collapse, it shall be declared "Abandoned".

**Closed Bridge** - a closed bridge once satisfied the Inventory Bridge definition, but is now temporarily closed for any reason except collapse. Temporary closure is established by installing barricades to all traffic or to the primary use of the bridge. However, closed highway or railroad bridges may continue to serve secondary uses such as pedestrian traffic. If a bridge has been Closed for five years to vehicular traffic or one year to pedestrian traffic, and the owner has made no serious effort to reopen it, the bridge shall be declared "Abandoned." Closed Bridges are inspected on a regular basis just like bridges which are open to traffic and are eligible to receive Federal and State funds to rehabilitate them.

**Abandoned Bridge** - is a bridge that once satisfied the Inventory Bridge definition, but is now permanently closed. When a bridge is abandoned, it must be barricaded to all traffic with permanent obstacles. The abandoned bridge will remain in the inactive bridge file until it is demolished. An abandoned bridge is no longer inspected and is no longer eligible to receive Federal and State funds to rehabilitate it.

**Deleted Bridge** - is a bridge which has been deleted from the inventory.

**Temporary Bridge** - is used to maintain traffic during the modification or replacement of another bridge. If a Temporary Bridge will be in service for more than nine months, it should be given a temporary BIN and included in the inventory. The temporary BIN should be the same number as the BIN for the closed structure, except that the last digit is changed to a “T”.

Errata to New Bridge Inventory Manual

The Highway Data Management System (HDMS) is not active at this time. Therefore, the highway data which is listed in this manual as being obtained from HDMS is unavailable. The following fields will require direct input at this time:

**Field Name**
- Route Description
- Route Number or Reference Marker
- Milepoint
- State Highway Number
- Overlap Routes
- AADT
- AADT Year
- AADT Truck %
- Functional Class
- Highway Type
- STRAHNET Designation
- National Network for Trucks
- National Highway System

Notification will be sent when this data is available.
FAQ about Winbolts.

1. Will Winbolts allow us to correct errors made to changes/edits input by the field crews? Yes. A feature added this year will allow an inspector to “disapprove” a change entered, one record at a time. The change will not go away but a “No” will show in a column for BDSU approval. This should indicate the change was not intended.

2. Will you require that the colored Inventory forms be scanned? No. For the most part. Use the colored forms only if you are not able to make the changes in Winbolts.

3. If you have never made changes directly to Winbolts, how will the changes appear in BIPPI? As the Data Edit/Update_03 (Draft) indicates that changes/edits will appear in a blue/green highlight until they are saved (Save Edits). Once saved, the "Draft" indicates the edits/changes appear in a red highlight. These are proposed changes.

The Winbolts menu has an item called “Data Source” with the choices Paradox and MS Access. The way this program is written all edits must be made in Paradox and Winbolts will change to that data source when you click on Password.

The Region office has the most recent data when the “Data Source” is set to MS Access and Current Data. Individual teams may be able to copy the “CurrentWinboltsInAccess.mdb” database file to the Laptop periodically thru the season to get the most recent data.

4. Should any notes be added to the "Improvements" box in BIPPI to reflect the changes or edits that have been made to Inventory by the Team Leader? Major changes, like any change in the number of spans or a new or replaced bridge, should be noted in the Improvements box.

5. Here are some tips for the new WinBolts.

After You run WinBolts installed or you re-run the WinBolts update from the LanDesk, there are some things that must be done.

A. The first time you use the PASSWORD, you will have to put in your name. It will be remembered the next time unless you re-run the WinBolts update.

B. The password puts you into the editing mode. If you check the “Data_Source” will change to Paradox database.

C. Go to the editing screen. Click on “ShowEdits” on the Menu Bar if it doesn’t come up. It will look something like this. The window may have to be expanded. The Inspector will have only the Disapproval button.
Data Edit/Update

A. Overview

The Bridge Inventory and Inspection System data is dynamic, reflecting changes due to: Bridge Replacement Projects, Bridge Rehabilitation Projects, Cyclical Maintenance, Bridge Inspections, and Administrative Modifications. Data is entered and processed by various methods. Our goal is to receive as much data as possible electronically via the Windows Bridge On Line Transaction System (WinBolts) and Bridge Inspection Program - Pen Interface (BIPPI).

B. Data Entry Methods

Data can be entered and updated by the following processes:

1. Inspection Data Updates (BIPPI)
2. Inspection Inventory Data Updates (WinBolts / EIForms)
3. RBIICs Inventory Updates (WinBolts / EIForms)
4. BDSU Inventory Updates/Systemic Updates (WinBolts / EIForms)
5. Adding a New Bridge (WinBolts)
6. Capital Project Updates (WinBolts)
7. Closed Bridge (WinBolts)
8. Deleting a Bridge (WinBolts)
9. Load Rating Updates (Load Rating Unit own Graphical User Interface)
10. Scour Critical Updates
11. Fracture Critical Updates
12. Diving Inspection
13. Historic Bridge Data Updates (Microsoft Access Database - updated directly)
14. Work History - Contract Maintenance (Multiple BINs) Updates (WinBolts / EIForms)
15. BSA Vulnerability Updates

1. Inspection Data Updates

The Bridge Inspection Program is the major source of updates to the bridge data. Inspectors update the data on the following Record Codes as part of their inspection of each bridge: Bridge Inspection (RC05,) Span Inspection (RC16,) Federal Rating Form (RC09,) Access Needs (RC17,) Further Investigation (RC19,) and Posting Items (RC06). This section describes this data update process.

In addition, Inspectors are responsible for verifying Inventory data to reflect improvements made to the bridge since the last inspection. Section 2. Inspection Inventory Data Updates will describe that update process. Two parts of the inspection warrant special action: Load Posting Changes and Closed or Reopened Bridge Changes.

Load Posting Changes

If the Posted Loads on the bridge differ from that shown on the bridge database, then in addition to changing the load posting on the BIPPI General Recommendation page, the change should be telephoned to the Regional Bridge Management Engineer (RBME) (NYSDOT Inspectors) or Quality Control Engineer (Consultant Inspectors) the day the change is noted. The telephone call will initiate communication which will ensure that all personnel responsible for issuing oversize vehicle permits are immediately notified of the posting.

Closed/Reopened Bridge

If the bridge is closed or reopened to traffic and this was not noted in the inspection information, the closing/reopening should be telephoned to the RBME (NYSDOT Inspectors) or Quality Control Engineer (Consultant Inspectors) the day the closing/reopening is noted. The telephone call will initiate communication which will ensure that all personnel responsible for issuing oversize vehicle permits are immediately notified of the change.

Inspections prepared by NYSDOT Inspectors and Consultants hired by NYSDOT, update inspection data using a
computer program developed by the Structures Division named Bridge Inspection Program Pen Interface (BIPPI.) Inspections prepared by other bridge owners such as Authorities and Commissions are submitted on paper forms. Each process will be described separately.

**Inspection Process – BIPPI**

The Bridge Inspection Program Pen Interface (BIPPI) PC based computer program runs on the inspection team laptop computer which also contains a copy of the Bridge Inventory data. BIPPI is used to record and report inspection results.

The Inventory Edit/Update process which processes the BIPPI data has crosschecks built into it. One crosscheck which needs special emphasis is if the GTMS structural code is a Culvert. If this is true, then there should be a valid Federal Culvert Rating and no Federal Deck, Superstructure or Substructure Ratings, and if GTMS is not a Culvert, then there should be no Federal Culvert Rating. If the GTMS changes from Culvert to non-Culvert, then the inventory changes must be processed before the inspection changes. To ensure this order is followed, the inspector should identify this file as an Inventory Problem or I-PROB.

The M.O. Inspection Liaison Engineer:
1. spot checks Submissions
2. sends the Submission data file to BDSU for processing into the BDMS
3. copies the sketches and photographs to the Main Office file server for general Main Office availability

**Inspection Process – Paper**

The inspector fills out paper inspection forms which are reviewed and processed as described in the Bridge Inspection Manual.

**2. Inspection / Inventory Data Updates**

**Inspection Inventory Updates: General**

It is the inspector’s responsibility to verify and update bridge inventory data. Bridge Inventory data verification/update through this process includes: Bridge Identification (RC01,) Structural Details (RC02,) Safety & Utilities (RC03,) Inspection Responsibility (RC04,) Feature Carried (RC12,) Feature Crossed (RC13,) Span Inventory (RC15,) and Work History (RC21.)

Bridge elements are replaced by capital projects and maintenance efforts. These changes often are first identified by the inspector.

The Inspector’s responsibilities for verifying/updating the inventory are five fold:
A. determine if a capital improvement has been undertaken since the last inspection,
B. check every bridge element whose rating has increased by 2 or more rating points since the last inspection and update inventory data as necessary
C. make other changes to the inventory as appropriate.
D. run cross-checks and address any discrepancies identified.

If a bridge is closed to traffic for the duration of a capital project, then the inspector should not submit a bridge inventory update. When the capital project is completed, the inventory will be updated and a new inspection undertaken.

If a bridge is partially closed to traffic due to a capital project; eg, staged construction, the bridge inventory update should describe the portion of the bridge which is open to traffic. When the capital project is completed, another inspection will be performed and the inventory will be updated to reflect the final bridge work.

If bridge maintenance improvements are being made with the bridge open to traffic (short term projects,) the bridge inventory update should reflect the improvements being made; eg, if the bearings are being replaced on a bridge, the bridge inventory update should reflect the new bearings being replaced.
For inspections done by NYSDOT inspectors and consultants hired by NYSDOT, update inventory data using a computer program developed by the Structures Division named WinBolts (Windows Bridge On-line Transaction System.) Inspections performed by other bridge owners such as Authorities and Railroads are submitted on paper forms.

The process for updating inventory data is described below. Regional Office’s staffing procedures are different and therefore, they should adapt this process to meet their individual needs.

**Inspection Inventory Update: WinBolts Process**

A. **Open WinBolts:** From the BIPPI menu, select “Tools” and then “Inventory Lookup.” This opens the WinBolts Program for the BIN being inspected.

From the WinBolts BIN Display Line, select “Current Data” to display the most recent updates to the WinBolts data. If the bridge has been replaced or had work performed under a capital project, select “Project Data” from the data menu. The inventory data for the proposed/completed work should be displayed.

Go back to “Current Data” and from the WinBolts menu, select “Password.” Enter the password provided to you by your RBIC or Quality Control Engineer. You will be prompted to enter your Name. Enter the initial of your first name and your complete last name; eg, MFitzpatrick.

Your password and ability to change inventory data will continue to be in effect until you either a. exit WinBolts or b. select the “Pause Editing” option from the WinBolts menu.

B. **New Bridge:** If the bridge being inspected is new and not on the current or project database, WinBolts offers the feature to add the New bridge. Select the “Identification” tab for any BIN.

Select the Add/Delete option from the menu bar. This offers two options in a drop down menu: Add New Bridge or Delete this Bridge. Select Add New Bridge.

Enter the BIN., Region and County. (the BIN is assigned by the BDSU and should be obtained prior to the inspection.)

The inventory data can then be entered into each tab. If the new bridge has more than one feature carried, feature crossed or span, another can be added by first selecting the respective feature or span tab and then select the Add/Delete option from the menu bar. The drop down list will include the respective options.

C. **Capital Project:** If the bridge has been replaced or rehabilitated since the last inspection, the contract plans should be used for the inventory update. Bridge replacements and rehabilitations are characterized by new bridge elements as follows:

1) **Bridge Replacement:** all Deck, Superstructure and Substructure elements are new.

2) **Superstructure Replacement:** all the Deck and Superstructure elements (primary and secondary members, bearings, etc.) are new, but not all Substructure elements are new.

3) **Deck Replacement:** all the Deck elements (structural deck, railings, curbs, wearing surface, etc.) are new, but not all Superstructure and Substructure elements are new.

4) **Deck Rehabilitation:** the entire Deck was resurfaced, but the Structural Deck is not new, even though portions of the Structural Deck may have been rehabilitated or replaced.

5) **General Rehabilitation:** portions of the Deck, Superstructure and/or Substructure are new, but none are completely new.

If the condition of some elements has increased but there are still many elements which are in poor condition, then the bridge probably has not been rehabilitated. Contract maintenance work such as painting or doing other work on many bridges is not a rehabilitation.

**If the bridge was replaced or rehabilitated, then a complete inventory update and work history record are required.**

A complete inventory update involves changing the information on every WinBolts inventory screen, as necessary. While WinBolts displays both inventory items and inspection items, only the inventory items can be updated via WinBolts. The inspection items are updated via the BIPPI Submission. Be sure to check the following:
* Bridge Replacements
- Identification Tab - Year Built should be changed to the year the bridge was opened to traffic and the Year of Last Major Rehab to be set to “NNNN.”
* Bridge Rehabilitations require the Year of Last Major Rehab to be changed to the year the bridge was opened to traffic after the rehabilitation. Do not change the Year Built.
* Bridge Replacements or Rehabilitations
- Postings Tab should reflect the new conditions entered thru BIPPI.
- Check number of lanes on the Feature Carried Tab.
- Check Number of Main and Approach Spans on the Structural Details Tab.
- Check number of Span Records on the Spans Inventory Tab.

All State Owned Bridges and Some Locally Owned Bridges: Bridge improvement projects designed by NYSDOT and its consultants, typically have the complete inventory update prepared by the Designer at PS&E. This inventory data should be under “Project Data.” If a capital project has been undertaken, a set of contract plans should be available in the inspection folder.

If the project inventory does not reflect the capital project:
* Notify the RBIIC who will update the inventory, prepare a Work History Record and obtain a set of record plans.
* From the BIPPI menu, select “Tools” and “New Inventory Forms Needed” option which will trigger an IPROB. (IPROB was described previously in the beginning of this section Inspection Process BIPPI.”) This can be toggled off by selecting it again if desired.
* Note the Contract Number in the “Note Any Improvements Area” of the first BIPPI screen that this is a new bridge and the colored forms are included with the inspection report.

Other Non-State Owned Bridges: Inspectors will be responsible for preparing the complete inventory update and work history record if the current or project inventory data does not match the structure in the field or if there is no existing inventory on file. A set of contract plans should be obtained from your coordinator and used for the update.

If a capital project has been undertaken and the contract plans are not available, the inspection and inventory update can progress. BIPPI has the ability to store inspection information for additional spans.
* WinBolts can be used to update the inventory data on Structural Details and Spans Inventory tabs.
* note the Contract Number in the “Note Any Improvements Area” of the first BIPPI screen and explain that a capital project was undertaken and the colored forms are included.

D. Changing Inventory Item Values: From the WinBolts menu, select “Units.” Select either English Highlight the value for the Item. If it is a measurement field, enter the new measurement (in the Units previously chosen.) If it is a description field, click it and a drop down menu will appear containing the acceptable codes. Highlight the desired value. When you move the cursor to a new Item, by using the Mouse or pressing the “Tab Key,” the value you just changed will be displayed in GREEN. By selecting the SAVE/EDIT button, the changes are saved and will be displayed in RED. By highlighting any changed values with the cursor, recent changes will be displayed identifying, who made the change, the date of the change and what the prior value was.

Blanks: Some Items need to be changed from an existing value to a blank. WinBolts offers the option of entering an “@” to indicate the database should be changed to blanks. This value only appears” when editing” after a Password has been entered for those fields that are allowed to be blank.

Add Feature: If there are more features on the bridge than are recorded in WinBolts, then a feature can be added by:
* selecting the Feature Carried or Feature Crossed tab
* selecting Add/Delete from the menu bar and then Add New Feature from the drop down list.
* Enter the new Feature
* note in the “Note Any Improvements Area” of the first BIPPI screen the number of additional Features being added.
Delete Feature: If there are fewer Features on the bridge than shown in WinBolts by:
* selecting the Feature Carried or Feature Crossed tab
* selecting Add/Delete from the menu bar and then Delete Existing Feature from the drop down list. CAUTION: Verify that this is the feature to be deleted before selecting the “Save/Edits” button.
* note in the “Note Any Improvements Area” of the first BIPPI screen, the number and description of each Feature(s) which needs to be deleted. These will be deleted by BDSU.

Features Carried/Crossed: Except for complete inventory updates associated with new bridges and capital projects, the only Features Carried/Crossed data for highways and railroads which the inspector should update is the Maximum and Minimum Vertical Clearances as described in the following section “g. Field Verification.” Highway features will be linked to the highway database with the majority of data coming from that database. If an inspector believes that these descriptions should be changed, simply note it in the “Note Any Improvements Area”. Change as many Items on this screen as appropriate following this procedure.
To save the edits periodically, select the Save Edits option button.
When you select a different screen, a popup window will be displayed listing all the changes you have made and giving you the option to either “Save” or “Abandon.” If you note a change that is incorrect highlight the change and click on the “delete” button. Then save or abandon all changes. There is also a disabled button labeled “Help”. If you select “Save,” your changes will be written to a file named Changes2.db in the directory from which you are running WinBolts. When you submit your BIPPI inspection, these changes will be included with your set of BIPPI files in a file named FVChanges.db.
If after clicking on the Save button and confirming changes the inspector discovers that an incorrect edit has been made, there is a new provision for disapproving the edit.
Click on the Show Edits button on the toolbar. A new screen will appear with a table that contains all the edits entered for the current BIN. Scroll down the table and select the row that contains an incorrect edit by clicking on the Left most cell in the row. Next, click on the Disapprove This Edit button. the word "NO" will appear under the BDSU approval column for this row.
If you select “Abandon,” all your changes will be discarded.
E Field Verification: From the WinBolts menu, select “Display” and then the “Field Verification” option. This screen displays all standard and special inventory items which need to be checked for this bridge.
Standard Checks include:
* Bridge Data:
  Maximum Vertical Clearance ON
  Minimum Vertical Clearances ON
* Feature Intersected Data
  Maximum Vertical Clearance UNDER
  Minimum Vertical Clearances UNDER
* Spans Data
  Original Wearing Surface
  Original Wearing Surface Still in Place and
  Present Wearing Surface.
* Work History Data
If a deck or superstructure has been replaced, the Original Wearing Surface and Present Wearing Surface should be changed to reflect the new wearing surface type.

Special Check:

Special Check 1 - Culvert/Frame/Arc
Concern: In the past, there has been little direction provided for differentiating culverts, frames and arches. Individuals often used their personal judgment to assign General Types of Main Span (GTMS) and Span Design Types (SDTs.) Bridges with these GTMS and SDTs will be identified and the inspector asked to reassign these values using the Bridge Inventory Manual.
Special Instructions: Please update the Standard Photos to show GTMS and SDTs.

Special Check 2 - Bridge Length
Concern: Bridge Length is greater than the sum of the span lengths by definition. If our database shows the Sum of the Span Lengths exceeds the Bridge Length or the Bridge Length is greater than 110% of the sum of the Span Lengths then these lengths will be identified for checking.

Special Check 3 - Bridge Width
Concern: Bridge Out-to-Out Width is always greater than Curb-to-Curb Width. Wherever the Curb-to-Curb Width exceeds the Out-to-Out Width, these dimensions will be shown and they should be checked. Exception: This does not apply to culverts where out-to-out width is zero.

F. Work History: Review the Work History Record for any new bridge or bridge having had a capital project undertaken since the last inspection. A capital project includes: bridge replacement, superstructure replacement, deck replacement, deck rehabilitation or general rehabilitation. Compare the latest Work History Record with that provided on the contract plans.

All State Owned Bridges and Some Locally Owned Bridges:
* Inspectors should notify the RBIIC of the need to update the Work History Record with a comment in the “Note Any Improvements Area”.

Other Non-State Bridges: Inspectors will be responsible for updating the Work History Record or creating a new one to reflect the capital project. Create a new Work History Record by:
* selecting the Work History tab
* selecting Add/Delete from the menu bar and then Add New Work Record from the drop down list.
* enter the data as appropriate.

G. Other Changes: If the inspector believes that any other inventory data is incorrect, describe this need as a note in the “Note Any Improvements Area” of the first BIPPI screen.

H. Cross-Edit Checks: After all Inventory data has been updated the submission is reviewed. On the Check Edits Screen, select the option “Perform Cross Checks.” This compares data in some fields to data in other fields to ensure compatibility; eg, Out-to-Out width is greater than the Curb-to-Curb width. The results will be presented on the screen. A file of these results can be created by selecting the Save Cross Checks option.

The inspector should then resolve any inconsistent data identified by the Cross Edit Check as previously described.

I. Finish Update: Return to BIPPI.
“No Field Verification Changes: If no inventory changes are required, from the BIPPI menu, select “Tools” and then “No Field Verification Changes.” Selecting this menu option will generate a record certifying that the inventory has been checked and the inspector has determined that there are no changes to the inventory required. Whether inventory updates have been made or not, the completed BIPPI Submission will produce two electronic files, one with the new inspection information and one with the inventory update. Both of these are sent to the Quality Control Engineer for processing.

Thus, the inspector’s inventory update report will include 3 types of information:
* WinBolts value changes in the Changes2.db and Changes2.px files.
* inventory comments in the BIPPI field “Note Any Improvements Area.”
* text file describing edits.

Inspection Inventory: Update Paper Process (Authorities and Other Agencies)
Bridge Inspection Inventory Updates are accomplished through the following process.
A. New Bridge: A complete set of Inventory Forms must be completed for a new bridge by using the Standard Forms. Clearly identify at the top of each form either “English” or “Metric” as the units of all measurements.
B. Capital Project: If the bridge has been replaced or rehabilitated since the last inspection, the contract plans should be used for the inventory update.

Bridge replacements and rehabilitations are characterized by new bridge elements as follows:
1) Bridge Replacement: all Deck, Superstructure and Substructure elements are new.
2) Superstructure Replacement: all the Deck and Superstructure elements (primary and secondary members, bearings, etc.) are new, but not all Substructure elements are new.
3) Deck Replacement: all the Deck elements (structural deck, railings, curbs, wearing surface, etc.) are new, but not all Superstructure and Substructure elements are new.
4) Deck Rehabilitation: the entire Deck was resurfaced, but the Structural Deck is not new, even though portions of the Structural Deck may have been rehabilitated or replaced.
5) General Rehabilitation: portions of the Deck, Superstructure and/or Substructure are new, but none are completely new.

If the condition of some elements has increased, but there are still many elements which are in poor condition, then the bridge probably has not been rehabilitated. Contract maintenance work such as painting or doing other work on many bridges is not rehabilitation.

If the bridge was replaced or rehabilitated, a complete inventory update and work history record are required.
A complete inventory update involves changing the information on every Inventory form as necessary. A couple of reminders include:
* Bridge Replacements
Year Built to be changed to the year the bridge was opened to traffic and the Year of Last Major Rehab to be set to “NNNN.”
* Bridge Rehabilitations require the Year of Last Major Rehab to be changed to the year the bridge was opened to traffic.
* Bridge Replacements or Rehabilitations
Load Posting should reflect the new conditions.
Check number of lanes.
Check Number of Main and Approach Spans.
Check number of Span Records on Span Inventory.

C. Changing Inventory Item Values: Cross out the old data and clearly write the new data above it on the paper form. Write “ENGLISH” or “METRIC” at the top of the form to identify the units of measure used.
Blanks: Some Items need to be changed from an existing value to a blank. To change those fields which allow a blank value, write in the word “blank”.
Add Feature: If there are more features on the bridge than are recorded in the existing inventory, then a feature can be added by:
* using a copy of another Feature record or a blank Feature record write in the data for the new feature on the form.
* note in the “Bridge Improvements Comments” the number of additional Features being added.

Delete Feature: If there are fewer Features on the bridge than shown in the inventory:
* Complete the following fields on the Feature Intersected record (RC13) to be deleted: Region, County, BIN, Feature Number. For Feature Code, enter @@. For Transaction Type, enter “2.”
* note in the transmittal letter that one or more Features are being deleted for this BIN.

Highway and Railroad Features Carried/Crossed: Except for Complete Inventory Updates associated with new bridges and capital projects, the only Features Carried/Crossed data which the inspector should update is the Maximum and Minimum Vertical Clearances for each highway or railroad feature carried or crossed as described in the following section “f. Field Verification.” Highway features will be linked to the highway database with the majority of data coming through the link. If an inspector believes that these descriptions should be changed, simply note it in the transmittal letter.

D. Field Verification: Each year there are Standard and Special inventory items which need to be checked for each bridge as part of the Field Verification part of an inspection which are independent of improvements having been made to a bridge. Mark any appropriate changes on the printed forms which display this information. Standard Checks include:
* Bridge Data:
- Maximum Vertical Clearance ON
- Minimum Vertical Clearances ON
* Intersected Features
- Maximum Vertical Clearance UNDER
- Minimum Vertical Clearances UNDER
* Spans Data
- Original Wearing Surface
- Original Wearing Surface Still in Place and
- Present Wearing Surface.
If a deck or superstructure has been replaced, then the Original Wearing Surface and Present Wearing Surface should be changed to reflect the new wearing surface type.

Special Checks

Special Check 1 - Culvert/Frame/Arch

Concern: In the past, there has been little direction provided for differentiating culverts, frames and arches. Individuals often used their personal judgment to assign General Types of Main Span (GTMS) and Span Design Types (SDTs.) For bridges with these GTMS and SDTs, the inspector is asked to reassign these values using the Bridge Inventory Manual.

Special Instructions: Also, please update the Standard Photos to show GTMS and SDTs.

Special Check 2 - Bridge Length

Concern: Bridge Length is greater than the sum of the span lengths by definition. If the Sum of the Span Lengths exceeds the Bridge Length or the Bridge Length by more than 110% of the sum of the Span Lengths then verify these lengths.

Special Check 3 - Bridge Width

Concern: Bridge Out-to-Out width is always greater than Curb-to-Curb Width. Wherever the Curb-to-Curb Width exceeds the Out-to-Out width, then verify these widths. Exception: This does not apply to culverts where out-to-out width is zero.

E. Work History: If a capital project was undertaken since the last inspection, a Work History Record must be completed. A capital project includes: bridge replacement, superstructure replacement, deck replacement, deck rehabilitation or general rehabilitation. Compare the latest work history record with that provided on the contract plans.

Complete the blank Work History record provided with the existing data. Note in the transmittal letter that there is a Work History Record included.

F. Other Changes: The inspector may make additional changes needed or describe these changes in the transmittal letter.

G. Finish Update:

Assemble the following three items:
* Transmittal Letter
* Inspection Forms
* Inventory Forms

Send to the Quality Control Engineer for processing.

Inspector’s Submission to QC Engineer: WinBolts

The inspector submits the BIPPI inspection and the inventory updates for one or more BINs to the QC Engineer by the normal BIPPI process of running the program TRANSFR3.exe. This generates an email to the QC Engineer and attaches both the inspection and inventory update files for each BIN in the Submission directory and the linked document files. If the files are too large to email, then the program stores the results in the Submission’s directory for later manual transfer by CD, FTP or network copy.
Inspector’s Submission to QC Engineer: Paper Process (Authorities)

The inspector submits the entire Bridge Inspection Report including the inventory updates to the Liaison Engineer.

QC Engineer’s Review

The QC Engineer is responsible for reviewing the entire Bridge Inspection Report including the inventory update. If someone other than the QC Engineer will review the inventory edits, then follow the procedure specified by your Regional Office.

QC Engineer’s Review: WinBolts Process

The QC Engineer can review the inventory update for the submitted bridges by using the following procedure:

A. Open WinBolts Program. From the WinBolts menu, select “Password.” Enter the password provided to you by your Liaison Engineer. You will be prompted to enter your Name. Enter the initial of your first name and your complete last name. If your GroupWise program is running, WinBolts will default to your User ID and simply accept it.

B. An Edits Window will appear. Left click the file to process box and a window will appear. Navigate to the Submits folder you are reviewing and select the FVChanges.db file.

C. A list of all the changes which the inspector submitted will appear. These are identified by table and Field; eg, Span Inventory, Span Design Type, along with the values being changed.

D. Double click the first BIN you want to review. This will cause WinBolts to switch to that BIN.

E. Review each of the WinBolts Screens on which changes were made. The changes will be displayed with a RED background. Click on a RED item and the history of recent changes to that data will be displayed in a drop down box. Opening the BIPPI program to review the inspection for this bridge may provide additional insights such as Improvement notes and/or scanned inventory forms.

F. Select the Perform Cross Checks option and WinBolts will compare data in various fields to ensure compatibility. The results will be displayed on the Edit Review Screen. There should be no errors identified. If there are, then select the Save Cross Checks option to save the error report to a text file and return the Submission to the inspector to address the errors.

G. Review the changes. If you disagree, you can make a change which will supercede the inspector’s change and identify you as the one having made the change. Any inventory data in WinBolts can be changed as appropriate; however, we ask you to change only the inventory data that was described earlier in this chapter. Changes to the Bridge Improvement Comments and the forms should be noted in the transmittal of the Submission; eg, email or cover letter.

QC Engineer’s Submission to RBIIC/BDSU

Inventory updates, whether paper or electronic, must accompany the corresponding inspections for the BINs being submitted. Submission numbering is defined in the Bridge Inspection Manual. Procedurally, there are differences between the two processes.

QC Engineer’s Submission to RBIIC/BDSU: WinBolts Process

The QC Engineer submits one or more BIPPI inspections by running the TRANSFR3.exe program which automatically numbers the submission (can be overridden by the QC Engineer with a different submission number) and generates an email to the Liaison Engineer as described in the BIPPI Users Guide.

The Inventory update is also submitted using the TRANSFER3.exe program as follows:

a. it generates an email to either the RBIIC or the BDSU depending on the Region.

b. it zips all the inventory changes in the Submission directory (FVChanges.db, FVChanges.px, extracts the “Note Any Improvements Area” and linked files into one zipped file named with the QC Engineer’s Submission number; eg, FV09104.db or FV59102.db and a FV......px, for Region 9.

The QC Engineer reviews the Submission, adds any additional comments to the email or cover letter and sends it to
the RBIIC either by: email, mailing a CD or passing the data through the FTP process.

**RBIIC Review**

The RBIIC reviews the electronic Submissions received from the QC Engineer.
Upon receipt of a Submission from the QC Engineer, we suggest:
A. create a new Submission folder in the FV Submissions 2002 directory of your PC named with the Submission number; eg, D:/FV Submissions 2002/02205/
B. save the zipped file attached to the email to this directory; make sure the box “Use Folder Names” is **NOT CHECKED**
C. unzip the file to this same folder
D. move the email to the GroupWise “FV Submissions 2” folder

The RBIIC reviews each Submission as an entity; ie, all BINs are reviewed before the Submission is forwarded, following the same process as the QC Engineer with the following exceptions.
A. Having reviewed the entire Submission and either confirmed the changes or made appropriate changes to them, the RBIIC approves the changes by selecting each change, BIN or the entire Submission on the WinBolts Edit pop-up window and selects the appropriate “Approved” command button. This is used by the BDSU to know that the changes have been reviewed and approved.
B. For State bridges which incurred a capital project since the last inspection, the RBIIC will prepare an inventory update and include it as part of this Submission if it has not previously been submitted. If the inventory Update is added to the Submission, this should be noted in the email transmitting the Submission to the BDSU.
C. Forward the original email from the QC Engineer to the Main Office BDSU along with any additional comments and attach all the files in the Submission folder. It is important to include the inv_data.txt files as they identify which bridges are IPROBs. If there is an IPROB with any of the BINs included in the Submission, please note it in the email. If the files total a megabyte, then we suggest that you zip them together.
D. Save your email in your GroupWise folder: “Submissions Sent.”

**Note**, if the RBIIC has concern with one or more BIN updates, then the Submission should be held until all concerns are resolved and then the Submission should be approved and passed along to BDSU.

**BDSU Review**

BDSU reviews the inventory updates for each submission. The process used depends on whether the Submission was prepared using the electronic BIPPI/WinBolts process or the paper process. Both are described below.

**BDSU Review: WinBolts Process**

BDSU will process the Submission received from either the QC Engineer or the RBIIC using the following procedure:
A. BDSU will receive the FV Submission by email from RBIICs/Inspectors and
   -save the email to a GroupWise folder named - FV Submissions (Year)
   -determine which Submissions have IPROBs
   -log receipt of Submission

**BDSU Review: Paper Process**

BDSU will then process the Submission received from the Liaison Engineer using the following procedure:
A. BDSU will receive the Submission
   -determine which Submissions have IPROBs
   -log receipt of Submission
BDSU Processing

This process enters the Updated data onto the Bridge Inventory. This is accomplished through the following procedure.

BDSU Processing: WinBolts Process

A. Prepare Update file
   - receive email with Update File.kpn
   - convert Update File.kpn to an Update File.txt
B. Upload the Text File using the BDMS application
C. Delete Update File and Text File
D. Delete email
E. Record that the Submission has been processed in the Inventory Tracking System.

3. RBIICs Inventory Updates

Quality control of the bridge inspection data is the responsibility of the Regional Bridge Inventory and Inspection Coordinator (RBIIC). The need for new inventory data is identified by: updating data to reflect bridge improvement projects, checking data, encountering problems with data, changing definition of values, etc.

Thus, this process does not actually change the data, but creates a Submission of changes which are sent to BDSU and are processed by them to change the corporate data. Each Submission is assigned a unique, 6 digit Submission Number using the following convention:

Digits 1 - 3 “RBC” indicating the Submission was created by the RBIIC
Digit 4 Region: 1, 2, 3...0, N
Digit 5 the last digit of the current year; eg, 2003 would be “3”
Digit 6 & 7 the sequential number of the Submission for the year for your Region: 01, 02, 03... 99. Submissions greater than 99 should use 1a, 1b, 1c, etc. followed by 2a, 2b, 2c ..... 

Examples: RBC9301, RBC2313, etc.

RBIICs Inventory Update: WinBolts Process

The following 3 step process can be used.
1. Make data updates via WinBolts
2. Submit changes to the Bridge Data Systems Unit (BDSU) for processing against the Corporate database.
3. Archive the Submission.

The process used to make these inventory updates is the same as described in section “2. Inspection Inventory Updates” in the paragraph “f. Changing Inventory Item Values” with some variation required due to BIPPI not being used in the process.

1. Make data updates via WinBolts
A. Open WinBolts
B. From the WinBolts menu, select “Password.” Enter the password provided to you by BDSU. You will be prompted to enter your Name. Enter the initial of your first name and your complete last name. If your GroupWise program is running, WinBolts will default to your User ID.
C. An Edits Window will appear. Left click the “File to Process” field. A pop-up window will appear titled “Find File of Inventory Edits - OR Create a New File.” If you are starting a new file to transfer your updates to BDSU then in the box “File Name:” enter the Submission Number as name of a new file following the naming convention previously described; eg, RBC9201. A “.DB” file extension is added automatically to identify it as a Paradox file. If you have already created a file which has not yet been submitted, simply select it.
D. Go to WinBolts screen, select the BIN you want to Edit and make the changes as appropriate. They will be saved to the selected file; eg, “RBC8201.DB” and will appear in the Edit window when you return to it. To select a BIN from this Edit list, simply double click the BIN and WinBolts will change to that BIN.
2. Submit changes to BDSU for processing against the Corporate database
   When you are ready to submit updates to BDSU, eg, once a week, send an email BDSU and attach the Submission
files; eg, RBC901.DB and RBC9201.PX. We recommend filing the email in a GroupWise folder named “Inventory Submissions (Year).”

3. Archive the Submission
Move the two Submission files; eg, RBC901.DB and RBC9201.PX from \Inventory Updates\ to the subdirectory \(Year) Updates\.

4. BDSU Inventory/Systemic Updates

The Bridge Data Systems Unit (BDSU) is responsible for: a. processing all inventory updates to the corporate database, except Load Rating data. b. reviewing inventory updates submitted by others, and c. performing systemic checks on the data.

Processing bridge inventory changes submitted by others includes:
A. All updates to the Bridge Inventory data are reviewed by BDSU.
B. Upon acceptance the BDSU reviewer processes the update to the corporate database.

BDSU will periodically check the bridge inventory data for inconsistencies and will modify codes as necessary to reflect current practice. When the need for changes are identified, each affected Region, will be sent a list of the proposed changes and the RBIIC asked to confirm the appropriateness of the change. Those changes approved by the RBIIC will be made programmatically by BDSU.

5. Adding A New Bridge

A BIN is generally retained for bridges that are reconstructed in the same general location, carrying and crossing the same features as the bridge they replace. If a bridge is replaced by two parallel bridges, the BINs for the new are the same first 6 digits as the old BIN with a different last digit. If two parallel bridges are replaced by a single bridge, the new bridge will be assigned the same BIN as the original two bridges with a last character of “0.” When a new bridge does not replace an existing bridge, a new BIN is added to the bridge inventory.

The following steps are taken:
A. Assign a Bridge Identification Number (BIN). (See Appendix “B”)
B. Submit Bridge Inventory Forms
C. Submit Bridge Inspection Forms
A: Assign a Bridge Identification Number (BIN)
A BIN can be assigned early in the project development process for the construction of new bridges. A request for a new BIN is made to the Bridge Data Systems Unit by completing and submitting a Bridge BIN Request Form. (See Appendix “B”)
B: Submit Inventory Data
For a new bridge, a complete set of inventory data is submitted to the BDSU via WinBolts or paper forms using the procedure described below or in section 2. Inspection Inventory Updates.
At PS&E, the RBIIC or BDSU personnel will obtain from the Designer, a preliminary set of the following inventory data: Identification (RC01), Structural Details (RC02), Safety and Utility (RC03), Inspection Responsibility (RC04), Feature Carried (RC12), Feature Crossed (RC13), Spans Inventory (RC15) and Work History (RC21.)
The Work History provides information about each bridge improvement project. The first Work History for a bridge provides information about its original construction, such as date, cost, contract number, etc.
C: Submit Inspection Data
A complete set of inspection data is submitted through the Bridge Inspection Unit soon after construction is completed and the bridge is opened to traffic. This data is submitted through the Bridge Inspection Program - Pen Interface (BIPPI.)
The bridge inspection data can only be entered after the inventory data has been entered as the Inventory Data creates the computer records on which the inspection data is stored; eg, Inventory data establishes the number of span records to create.

6. Capital Project Updates

Bridges improved by capital projects may take several years to program, design and construct. The Bridge
Inventory System enables the inventory data for the proposed projects to be recorded and updated separate from the existing bridge data. This separate data coding is named “Project Data.” Project data is typically entered at the time of PS&E. Either the RBIIC or BDSU personnel can process Project Data via WinBolts. Main Office designers, Regional Office designers, and contract Managers/Reviewers should contact the BDSU to coordinate the generation and entry of this data.

The project data remains in the Project database until construction has been completed and the bridge is open to traffic. The Project data is then updated to reflect any changes and the current active data is replaced by the Project data.

To enter a proposed Project via WinBolts, follow the steps below:
* the RBIIC or BDSU personal can enter a Password and User ID in the same fashion required to make any edits.
* create a Submission in the same fashion required to make any edits.
* display the bridge for which a Project is being proposed.
* from the Data Source field, select “Project Data” from the drop down list
* select the Add/Delete option from the menu bar and then Add New Bridge (Note, while this is an existing bridge in the April and Current databases, this will be a new bridge for the Project Database.)
* you will be asked to enter the BIN for the project.
* enter the inventory data for the proposed project as you would for a New Bridge
* save the edits.
* submit the update in the same fashion required to make any edits.

To enter a proposed Project via paper forms, simply update a set of forms prepared for the existing project. Blank forms are available if preferred. All Project Record Code Numbers will be 50 higher than the forms indicate, ie, RC01 = RC51. Completed forms should be submitted to the RBIIC for Region designs or Regionally managed consultant designs or to BDSU for Main Office designs or Main Office managed consultant designs.

7. Closed /Reopened Bridge

If a bridge is closed to traffic for more than several days, then the closure should be reported to the BDSU on the Closed/Opened Bridge Report.

When the bridge is reopened to traffic the report should be resubmitted reflecting the opening.

BDSU will record the bridge is Closed or Reopened by the following process:
* enter a Password and User ID in the same fashion required to make any edits.
* create a Submission in the same fashion required to make any edits.
* display the bridge being Closed.
* edit the following fields as appropriate for the actions: Feature Code, Posted Load, Posting Date, Type Service On and Type Service Under
* save the edits
* submit the update in the same fashion required to make any edits.

8. Deleting a Bridge

Bridges may be eliminated or replaced with a culvert or a structure that does not meet the definition of a bridge; a Railroad line may no longer be used and the bridge removed; or a bridge may be removed and an at-grade crossing constructed. In these cases, the bridge is deleted from BDMS by submitting a Bridge Deletion Report by email or memorandum, stating the reason for deletion.

BDSU will process the bridge deletion request.

BDSU will delete the bridge from the database by this process:
* enter a Password and User ID in the same fashion required to make any edits.
* create a Submission in the same fashion required to make any edits.
* display the bridge for which a Project is being proposed.
* select from the “Data Source” box drop down list “Current Data”
* select the Add/Delete option from the menu bar and then the Delete Bridge from the drop down list. Enter the BIN you want to delete. This will Delete the bridge from the Current database and all future April snapshots.
* save the edits
9. Load Rating Updates

Every highway bridge in New York State is analyzed to determine its structural capacity. This section first provides an overview of Load Rating to explain the differences in what appears to be similar data. It then describes how Load Rating data is updated in the Bridge Inventory.

Load Rating Overview

A comprehensive system has been established to determine how much live load each bridge can support. The Load Rating Unit of the Structures Division can be contacted for specific information on load rating data. The following description is presented solely for the purpose of understanding how the load rating data is entered and stored in the bridge inventory.

There are 3 levels of analysis:
Level 1: Hand calculated or PE Certified computer analyses
Level 2: Computer generated (Virtis or BLRS)
Level 3: Computer generated indication of Load Rating ability used solely to provide to FHWA when neither a Level 1 or 2 rating is available.

The Level 1 is the most comprehensive and reliable analysis. Its findings are used whenever they are available. Level 2 analyses are performed as a part of each biennial bridge inspection.

Load Rating Data Entry

The Structures Division Load Rating Unit enters all load rating data using their own Graphical User Interface within the BDMS application.

10. Scour Critical Updates (BSA)

The Bridge Safety Assurance Unit identifies bridges which have scour critical conditions. Their findings are stored in the bridge inventory and are entered using the BDMS application.

11. Fracture Critical Updates

The Bridge Safety Assurance Unit identifies data about fracture critical bridges. Once a year, prior to the preparation of the Federal File, they would transmit a list of fracture critical bridges to BDSU.

12. Diving Inspection

The Bridge Inspection Unit annually identifies the dates when all diving inspections have been performed during the year. This data is entered into BDMS using the BDMS application.

13. Historic Bridge Data Updates

The Environmental Analysis Bureau identifies bridges which are of historic significance and records associated data per bridge. This data is recorded in the Bridge Inventory extract and viewed through WinBolts.

Any changes to the Historic Bridge database are submitted to the Main Office Environmental Analysis Bureau. The EAB then review and approve the updates. The updates are then sent to BDSU for processing.
14. Work History - Contract Maintenance (Multiple BINs)

For multi-bridge contracts, where the same bridge work is performed on many bridges under one contract; eg, cleaning or painting; only a single work history record need be submitted to BDSU along with a list of all BINs. BDSU will then update the database.

15. BSA Vulnerability Updates

The Structures Division Bridge Safety Assurance Section provides monthly updates to the BDSU for processing into BDMS.
BSA Data

BDMS includes the findings of the Bridge Safety Assurance assessment of the 6 bridge vulnerabilities: Hydraulic, Overload, Steel, Collision, Concrete and Seismic. How these findings are determined is described fully in the Manuals prepared for each Vulnerability by the BSA Unit. They are presented here solely for the purpose of identifying what data is recorded in the BDMS and what values may be recorded.

For each of the six vulnerabilities, the following data is recorded.

ITEM: Region, County, BIN
NYSDoT

PROCEDURE:
See General Coding Instructions under Section III of this Manual.

ITEM: BSA Vulnerability Type Code
NYSDoT

PROCEDURE:
Identify which of the six vulnerabilities the data is for.

CODING:
- HYD  Hydraulics Vulnerability
- OVL  Overload Vulnerability
- STL  Steel Vulnerability
- COL  Collision Vulnerability
- CON  Concrete Vulnerability
- SMC  Seismic Vulnerability

ITEM: Vulnerability Rating Date
NYSDoT

PROCEDURE:
The date of the Vulnerability assessment which yielded this data.

CODING:
4 digit year, slash, two digit Month, slash and two digit Day
ITEM: **Vulnerability Failure Type**

**PROCEDURE:**
Enter the single character Vulnerability Failure Type describes the way a bridge would fail due to this vulnerability.

**CODING:**

<p>| | |</p>
<table>
<thead>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Structural Damage</td>
</tr>
<tr>
<td>1</td>
<td>Partial Collapse</td>
</tr>
<tr>
<td>2</td>
<td>Catastrophic</td>
</tr>
</tbody>
</table>

ITEM: **Vulnerability Rating Category**

**PROCEDURE:**
Enter the single character Vulnerability Rating Category which describes the type of corrective action needed to reduce the failure vulnerability for the bridge and the urgency in which these actions should be implemented.

**CODING:**

<p>| | |</p>
<table>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Safety Priority</td>
</tr>
<tr>
<td>2</td>
<td>Safety Program</td>
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<td>3</td>
<td>Capital Program</td>
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<td>4</td>
<td>Inspection Program</td>
</tr>
<tr>
<td>5</td>
<td>No Action</td>
</tr>
<tr>
<td>6</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

ITEM: **Vulnerability Classification Score**

**PROCEDURE:**
Enter the single character Vulnerability Classification Score which indicates the potential vulnerability of a structure to fail relative to other structures.

**CODING:**

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>H</td>
<td>High</td>
</tr>
<tr>
<td>L</td>
<td>Low</td>
</tr>
<tr>
<td>M</td>
<td>Medium</td>
</tr>
<tr>
<td>N</td>
<td>Not Vulnerable</td>
</tr>
<tr>
<td>blank</td>
<td>Not yet assessed</td>
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</tbody>
</table>
Short Version of Edit/Update

Load Posting and Closed/reopened Changes
1. If the Posted Loads on the bridge differ from that shown on the bridge database, the change should be telephoned to the Regional Bridge Management Engineer (RBME) (NYSDOT Inspectors) or Quality Control Engineer (Consultant Inspectors) the day the change is noted.

2. If the bridge is closed or reopened to traffic, the closing/reopening should be telephoned to the RBME (NYSDOT Inspectors) or Quality Control Engineer (Consultant Inspectors) the day the closing/reopening is noted.

Inspection process special emphasis
3. Check the GTMS structural code is a Culvert or the Span Design Type on the Span Inventory screen for consistency.

4. Vertical Clearances remain very important.

Inventory Update: WinBolts Process
5. Open WinBolts: From the BIPPI menu, select “Tools” and then “Inventory Lookup.”

6. Select “Current Data” to display the most recent updates.

7. To make changes, select “Password.” First time used enter your name.

8. Select English or Metric from “Units” Menu not both for the same screen.

9. If it is a measurement field, enter the new measurement. If it is a coded field, select from drop down menu. Changes are displayed in GREEN.

10. By selecting the SAVE/EDIT button, the changes are saved and will be displayed in RED.

10. Enter an “@” to indicate the database should be blank, like the Pier height of the last span. Values that are zero may display as blank.

New in Winbolts.

11. Add work history. Select “Add/Delete” from Menu, select a Type of Work code, month and year. Click “Next Task” to find next record just entered.

12. Add Spans or Feature Crossed. Select add from “Add/Delete” Menu, Winbolts will select the next span number or feature. Update all fields on the new record.
13. **New Bridge**: Go to the “Identification” tab for BIN. Select Add a New Bridge from “Add/Delete” from Menu. Enter the BIN, Region and County. Region and County **MUST** be correct.

**Bridge Replacements**
- Year Built to be changed to the year the bridge was opened to traffic.
- Year of Last Major Rehab should be “NNNN.” **Do not enter same year as built, or “00”**. The old manual says 00. This indicated the year of last rehab was 2000.

**Bridge Rehabilitations**: Change the Year of Last Major Rehab to the year the bridge was opened to traffic.
- Load Posting is updated in BIPPI.
- Check number of lanes.
- Check number of Span Records on Span Inventory.
- GTMS and the Span Design type.
**General Coding Instructions**

**ITEM: Region**  
FHWA 2

**PROCEDURE:**
Record the New York State Department of Transportation Region where the bridge is located. If a bridge spans between regions, record the region where the beginning abutment is located.

**CODING:**
Use the following codes to record the NYSDoT Region in which the bridge is located.

<table>
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<tr>
<th>Region</th>
<th>Code</th>
<th>Region Name</th>
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<tbody>
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<td>7 - Watertown</td>
</tr>
<tr>
<td>2</td>
<td>Utica</td>
<td>8 - Poughkeepsie</td>
</tr>
<tr>
<td>3</td>
<td>Syracuse</td>
<td>9 - Binghamton</td>
</tr>
<tr>
<td>4</td>
<td>Rochester</td>
<td>0 - (10) Hauppauge</td>
</tr>
<tr>
<td>5</td>
<td>Buffalo</td>
<td>N - (11) New York City</td>
</tr>
<tr>
<td>6</td>
<td>Hornell</td>
<td></td>
</tr>
</tbody>
</table>

**ITEM: County**  
FHWA 3

**PROCEDURE:**
Record the county where the bridge is located. If the bridge spans between counties, record the county where the beginning abutment is located.

**CODING:**
Region 1  Region 2  Region 3  Region 4  Region 5  Region 6  Region 7  Region 8  Region 9  Region 0 (10)
<table>
<thead>
<tr>
<th>Region 1</th>
<th>Region 2</th>
<th>Region 3</th>
<th>Region 4</th>
<th>Region 5</th>
<th>Region 6</th>
<th>Region 7</th>
<th>Region 8</th>
<th>Region 9</th>
<th>Region 0 (10)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1 - Fulton</td>
<td>1 - Cayuga</td>
<td>1 - Genesee</td>
<td>1 - Cattaraugus</td>
<td>1 - Allegany</td>
<td>1 - Clinton</td>
<td>1 - Columbia</td>
<td>1 - Broome</td>
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<td>2 - Cortland</td>
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<td>4 - Madison</td>
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<td>4 - Ontario</td>
<td>4 - Niagara</td>
<td>4 - Steuben</td>
<td>4 - Lewis</td>
<td>4 - Putnam</td>
<td>4 - Otsego</td>
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<td>5 - St. Lawrence</td>
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<td>6 - Oneida</td>
<td>6 - Tompkins</td>
<td>6 - Wyoming</td>
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Region N (11)
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<th>Region 5</th>
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<td>2 - Kings</td>
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</tr>
<tr>
<td>3 - New York</td>
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</tr>
<tr>
<td>4 - Queens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - Richmond</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ITEM: Bridge Identification Number
FHWA 8
PROCEDURE:
A unique seven character bridge identification number (BIN) assigned to each bridge. Record the BIN assigned to the bridge. If the bridge does not have a BIN assigned, contact the Bridge Data Services Unit (BDSU). Also, refer to the Assigning New BIN Form in Appendix “B”.

CODING:
Accepts numeric characters only, except for the last position which accepts alpha or numeric.

ITEM: Contractor Code
PROCEDURE:
This code is no longer used.

The original purpose was to facilitate the sorting of the data submitted by individual consulting firms.

CODING:
Leave this field blank.

ITEM: Record Code
PROCEDURE:
Bridge Inventory data is processed into Oracle tables as 120 character text files identified as Record Codes.

All file transactions have to identify which Record Code the changes are associated with. This code is included in WinBolts, the colored paper forms, or the Electronic Forms whichever is being used. No separate coding is required by the user.

CODING:
None

ITEM: Transaction Code
PROCEDURE:
For each edit/update, the system (BDMS) requires a transaction code which identifies the changes being made to the data. This code is generated by WinBolts, but needs to be entered by the user on the colored paper forms. The user should enter one of the following codes.

CODING:
1 - Delete
2 - Update/change data on a record using English values
3 - Create a new record using English values
5 - Used for RC68, Change Bridge Status from Project to Active(see RC68), also used with RC18 to copy the current data to project data for the specified BIN (See RC18).
6 - Used with RC65 to re-number spans in project data after a span(s) has been deleted (See RC65)
8 - Update/change data on a record using Metric values
9 - Create a new record using Metric values
RC01: Identification

ITEMS INCLUDED IN IDENTIFICATION (RC01)

Local Bridge Number
Political Unit
Latitude
Longitude
Location
Direction of Orientation
Owner
Maintenance Responsibility
Federal-Aid/Federal Funding Status
Type of Service
Map Number
Contract Plans Available
Hydrological Report Available
Original Contract Number
Year Built
Year of Last Major Rehabilitation
Acquisition Method
Order Number
Year Acquired
Ramps Attached
Critical Facility
Historical Significance
State Priority Ranking
RC01: Identification

ITEM: Local Bridge Number
NYSDoT

PROCEDURE:
Record the Local Bridge Number. This is defined as any identifying number which has been assigned by a Locality, a Railroad, etc. A maximum of 5 characters are available for local bridges. For Thruway bridges, it is also possible to add the 4 digit mile point (rounded to the nearest tenth of a mile).

CODING:
Alphanumeric or blank

ITEM: Political Unit
FHWA 4

PROCEDURE:
The “Political Unit” data (also known as FIPS code) will be obtained from the Geographic Information System (GIS). This data will be generated internally. It will not usually have to be manually entered. However, if this data is missing or incorrect, it shall be manually recorded.

Separate tables are presented for Village, City and Town within an Indian Reservation. Municipalities are listed in ascending code order. Some municipalities were added after the initial list was prepared. They appear at the end of the list, in code order, but not in alphabetical order. These tables also provide Region and County codes for each municipality.

If the bridge is located in a Village, City or Indian Reservation, record the appropriate code for the Village, City or Indian Reservation.

If the bridge is not located in a Village, City or Indian Reservation, record the code for the Town where it is located.

If the bridge is located in more than one Political Unit, record the Political Unit where the Beginning Abutment is located. See the “Direction of Orientation” Item for a definition of the Beginning Abutment.

CODING:
Numeric 1 - 3999
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<th>RC</th>
<th>Town</th>
<th>Unit</th>
<th>RC</th>
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<td>1554</td>
<td>02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pomona</td>
<td>1556</td>
<td>85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Grove</td>
<td>1557</td>
<td>02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round Lake</td>
<td>1558</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sylvan Beach</td>
<td>1560</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harrison</td>
<td>1561</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lansing</td>
<td>1562</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiryas Joel</td>
<td>1563</td>
<td>83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cuba</td>
<td>3212</td>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Great Valley</td>
<td>3340</td>
<td>51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanover</td>
<td>3370</td>
<td>52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischua</td>
<td>3420</td>
<td>51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rye Brook</td>
<td>1564</td>
<td>87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>Unit</td>
<td>RC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albany</td>
<td>2001</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amsterdam</td>
<td>2002</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auburn</td>
<td>2003</td>
<td>31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ITEM: Latitude

PROCEDURE:
The “Latitude” data will be obtained from the Geographic Information System (GIS). This data is normally generated internally, and will not usually have to be manually entered. However, if this data is missing or if it is incorrect, it shall be manually recorded.

CODING:
Accepts codes: 40 00.0 - 46 00.0 - Latitude

ITEM: Longitude

PROCEDURE:
The “Longitude” data will be obtained from the Geographic Information System (GIS). This data is normally generated internally, and will not usually have to be manually entered. However, if this data is missing or incorrect, it shall be manually recorded.

CODING:
Accepts codes 071 00.0 - 080 00.0 - Longitude

ITEM: Location

PROCEDURE:
Record a narrative description of the bridge location with reference to features identified on Highway Road Maps using a maximum of 25 characters. Features include: the junction of highways, major waterways, or the distance to the nearest town, village, hamlet or topographic feature shown on this map. Use standard abbreviations as presented in Appendix C - Standard Abbreviations.

If the Feature Carried and the Feature Crossed are both shown on the planimetric map, record the Location as the Feature Carried over the Feature Crossed; e.g., 87I over Mohawk River.

If only the Feature Carried or the Feature Crossed is on the map, record the Location as the identified Feature Carried or Crossed being a specified distance from the nearest mapped feature; for example,
- 1.5 m S Rt9 + Mohawk Riv
- .4 m S I-87 Exit 22
- 1.2 m W MA border + I90

Distances should be identified in miles, NOT kilometers, even when entering other data in metric units.

CODING:
Accepts all standard keyboard characters.
ITEM: Direction of Orientation

PROCEDURE:
The Direction of Orientation is the compass direction of the centerline of the bridge measured from the Beginning Abutment, along the bridge centerline, to the End Abutment. This value is determined when the bridge is first inventoried and it is not to be changed because it establishes the numbering order for spans.

Generally, for bridges carrying State or Interstate highways, the Beginning Abutment and the End Abutment are identified in the order of increasing Reference Markers or Mile points. Reference Markers generally increase from West to East and South to North along the route. Therefore, the End Abutment is generally East or North of the Beginning Abutment. This may not be true if a section of highway twists around from its generally West/East or South/North direction. For parallel state highway bridges, e.g., one bridge carries northbound traffic and one carries southbound traffic; both bridges have the same direction of orientation. For Ramp Bridges, the Direction of Orientation is the compass direction of the centerline of the Ramp Bridge as measured from the Main Bridge.

CODING:
1 - North  
2 - Northeast  
3 - East  
4 - Southeast  
5 - South  
6 - Southwest  
7 - West  
8 - Northwest

ITEM: Owner (Primary and Secondary)

PROCEDURE:
Record the agency or agencies responsible for the non-federal share of the cost of replacement or rehabilitation of the bridge. Ownership of a bridge cannot normally be proven by the existence of a deed or some other form of title. Therefore, the owner shall be assumed to be the agency or agencies identified as having maintenance responsibility for the bridge. A different agency should be recorded as Owner only if there is tangible evidence, such as legislation or a written agreement indicating that the above assumptions are incorrect. The agencies responsible for Ownership and Maintenance Responsibility are identified on the Contract Plans when capital improvements are made. The Highway Design Manual describes how Maintenance Responsibilities are assigned by law.

This item is divided into two parts: Owner, Primary and Owner, Secondary. If there is only one owner, record the owner code for the Owner, Primary and record "99" for Owner, Secondary. The agency having greater responsibility should be listed as Owner, Primary and the agency with lesser responsibility listed as Owner, Secondary. If two agencies share equal responsibility, list them in either order.

CODING:
Following is a list of Owner codes. These codes are also used for Maintenance Responsibility.
# RC01: Identification

## Owner and Maintenance Responsibility Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Agency</th>
<th>Code</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>NYSDoT</td>
<td>22</td>
<td>Alleghany State Park Authority</td>
</tr>
<tr>
<td>11</td>
<td>Retired (State - Waterways Maintenance)</td>
<td>23</td>
<td>Nassau County Bridge Authority</td>
</tr>
<tr>
<td>12</td>
<td>State - Subcontracted to another Party</td>
<td>24</td>
<td>Peace Bridge Authority (aka Buffalo and Ft. Erie Public Bridge Authority)</td>
</tr>
<tr>
<td>2A</td>
<td>Genesee State Parks and Recreation Commission</td>
<td>25</td>
<td>Capital District State Park Commission</td>
</tr>
<tr>
<td>2B</td>
<td>Interstate Bridge Commission</td>
<td>26</td>
<td>Central NY State Park Commission</td>
</tr>
<tr>
<td>2C</td>
<td>NYS Dept of Environmental Conservation</td>
<td>27</td>
<td>City of NY State Park Commission</td>
</tr>
<tr>
<td>2D</td>
<td>Lake Champlain Bridge Commission</td>
<td>28</td>
<td>East Hudson Parkway Authority</td>
</tr>
<tr>
<td>2E</td>
<td>Lake George Park Commission</td>
<td>29</td>
<td>Finger Lakes Parks and Recreation Commission</td>
</tr>
<tr>
<td>2F</td>
<td>Long Island State Parks &amp; Recreation Commission</td>
<td>30</td>
<td>County</td>
</tr>
<tr>
<td>2G</td>
<td>Metropolitan Transportation Authority</td>
<td>40</td>
<td>Town</td>
</tr>
<tr>
<td>2H</td>
<td>Monroe County Water Authority</td>
<td>41</td>
<td>Village</td>
</tr>
<tr>
<td>2I</td>
<td>Niagara Falls Bridge Commission</td>
<td>42</td>
<td>City</td>
</tr>
<tr>
<td>2J</td>
<td>Niagara Frontier State Park Commission</td>
<td>43</td>
<td>NYC Dept of Water Supply, Gas, and Electric</td>
</tr>
<tr>
<td>2K</td>
<td>NYS Bridge Authority</td>
<td>50</td>
<td>Federal (Other than those listed below)</td>
</tr>
<tr>
<td>2L</td>
<td>NYS Thruway Authority</td>
<td>51</td>
<td>Bureau of Indian Affairs</td>
</tr>
<tr>
<td>2M</td>
<td>Ogdensburg Bridge and Port Authority</td>
<td>52</td>
<td>U. S. Forest Service</td>
</tr>
<tr>
<td>2N</td>
<td>Palisades Interstate Park Commission</td>
<td>53</td>
<td>National Park Service</td>
</tr>
<tr>
<td>2P</td>
<td>NYS Power Authority</td>
<td>54</td>
<td>Bureau of Land Management</td>
</tr>
<tr>
<td>2Q</td>
<td>Seaway International Bridge Authority</td>
<td>55</td>
<td>Bureau of Reclamation</td>
</tr>
<tr>
<td>2R</td>
<td>Retired (Taconic State Park Commission)</td>
<td>56</td>
<td>Military Reservation / Corps of Engineers</td>
</tr>
<tr>
<td>2S</td>
<td>Thousand Islands Bridge Authority</td>
<td>60</td>
<td>Railroad</td>
</tr>
<tr>
<td>2T</td>
<td>Transit Authority</td>
<td>61</td>
<td>Long Island Railroad</td>
</tr>
<tr>
<td>2U</td>
<td>MTA Tunnels &amp; Bridges (aka TBTA)</td>
<td>62</td>
<td>Retired (use to be Conrail - converted to 60)</td>
</tr>
<tr>
<td>2V</td>
<td>Tri-State Transportation Commission</td>
<td>70</td>
<td>Private - Industrial</td>
</tr>
<tr>
<td>2W</td>
<td>Port Authority of NY &amp; NJ</td>
<td>71</td>
<td>Private - Utility</td>
</tr>
<tr>
<td>20</td>
<td>State - Other</td>
<td>72</td>
<td>Other</td>
</tr>
<tr>
<td>21</td>
<td>Authority or Commission - Other</td>
<td>99</td>
<td>One Agency - Listed in first subfield</td>
</tr>
</tbody>
</table>

Note: Code 61 - Long Island Railroad is identified as a separate agency because it is one of the MTA agencies which are all identified as separate agencies.
RC01: Identification

**Item: Maintenance Responsibility (Primary and Secondary)**

FHWA 22 T

**PROCEDURE:**
Record the agency or agencies responsible for maintaining the bridge. This responsibility is established by law, agreement, or common consent. If tangible evidence is not available to establish this responsibility, it shall be assumed that the agencies which currently perform these activities are the responsible agencies. Ownership and Maintenance Responsibility are identified on the Contract Plans when capital improvements are made. The Highway Design Manual describes how maintenance responsibilities are assigned by law.

This item is divided into two parts: Maintenance Responsibility, Primary and Maintenance Responsibility, Secondary. If there is only one maintenance agency, record the agency’s code for Maintenance Responsibility, Primary and record “99” for Maintenance Responsibility, Secondary. The agency having greater responsibility should be listed as Maintenance Responsibility, Primary and the agency with lesser responsibility listed as Maintenance Responsibility, Secondary. If two agencies share equal responsibility, list them in either order.

**CODING:**
Refer to the Owner and Maintenance Responsibility codes listed for the “Owner (Primary and Secondary)” Item.

**ITEM: Federal-Aid/Federal Funding Status**

NYSDoT

**PROCEDURE:**
Record the appropriate code to indicate the relationship of the bridge to the Federal-Aid system and/or federal funding.

The use of Federal Funds can be determined at the time that the bridge is rehabilitated or replaced from the Title Sheet of the Contract Plans in the lower right table.

**CODING:**
1 - Bridge built with Federal funds and carries a Federal-Aid route.
2 - Bridge built without Federal funds and carries a Federal-Aid route.
3 - Bridge built with Federal funds, but does not carry a Federal-Aid route.
4 - Bridge built without Federal funds, does not carry a Federal-Aid route, but does cross a Federal-Aid route.
5 - Bridge built without Federal funds and does not carry or cross a Federal-Aid route.
0 - Bridge is not involved with highways in any way.
* - Unknown at this time. Determination required.

**ITEM: Type of Service (On and Under)**

FHWA 42 A/B

**PROCEDURE:**
This Item uses a two character code to identify: Type of Service On - the type of service carried by the bridge and Type of Service Under - the type of service passing under the bridge. The term “Highway” is used here to denote a road open to the traveling public. Maintenance roads should be coded as “0 - Other.” A bridge which carries a highway and a sidewalk with a width of at least 2’ is providing a “Highway- Pedestrian” Type of Service. (Code 05). All permanently abandoned bridges, regardless of
RC01: Identification

Service carried, should be coded "0" in Type of Service On only, with "99" coded in Postings: Load Posting. As per the FHWA, a type service under code of 9 (relief) is used only for floodplains or channels that remove excess flood water. For bridges crossing vacant land, code this item 0.

CODING:

<table>
<thead>
<tr>
<th>Type of Service ON Codes</th>
<th>Type of Service UNDER Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Highway</td>
<td>1 - Highway (with or without pedestrians)</td>
</tr>
<tr>
<td>2 - Railroad</td>
<td>2 - Railroad</td>
</tr>
<tr>
<td>3 - Pedestrian - Bicycle only</td>
<td>3 - Pedestrian - Bicycle only</td>
</tr>
<tr>
<td>4 - Highway - Railroad</td>
<td>4 - Highway - Railroad</td>
</tr>
<tr>
<td>5 - Highway - Pedestrian</td>
<td>5 - Waterway</td>
</tr>
<tr>
<td>6 - Second Level (Interchange)</td>
<td>6 - Highway - Waterway</td>
</tr>
<tr>
<td>7 - Third Level (Interchange)</td>
<td>7 - Railroad - Waterway</td>
</tr>
<tr>
<td>8 - Fourth Level (Interchange)</td>
<td>8 - Highway - Railroad - Waterway</td>
</tr>
<tr>
<td>9 - Building or Plaza</td>
<td>9 - Relief</td>
</tr>
<tr>
<td>0 - Other</td>
<td>0 - Other</td>
</tr>
</tbody>
</table>

ITEM: Map Number

NYSDOT

PROCEDURE:
Using the NYSDOT 1:24,000 Series Planimetric Maps, record the number of the map which shows the location of the bridge. The Map "Number" (assigned by the Structures Division) can be composed of numbers and letters (eg., 226B).

CODING:
Alphanumeric characters.

ITEM: Contract Plans Available

NYSDOT

PROCEDURE:
Record the location of the Contract Plans or "as-built" plans for the bridge.

CODING:

<table>
<thead>
<tr>
<th>Coding</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Federal</td>
</tr>
<tr>
<td>1</td>
<td>State - Main Office</td>
</tr>
<tr>
<td>2</td>
<td>State - Region Office</td>
</tr>
<tr>
<td>3</td>
<td>Railroad</td>
</tr>
<tr>
<td>4</td>
<td>County</td>
</tr>
<tr>
<td>5</td>
<td>Authority/Commission</td>
</tr>
<tr>
<td>6</td>
<td>Consultant</td>
</tr>
<tr>
<td>7</td>
<td>City</td>
</tr>
<tr>
<td>8</td>
<td>Town</td>
</tr>
<tr>
<td>9</td>
<td>Village</td>
</tr>
<tr>
<td>X</td>
<td>Not Available</td>
</tr>
<tr>
<td>*</td>
<td>Unknown</td>
</tr>
<tr>
<td>0</td>
<td>Other</td>
</tr>
</tbody>
</table>

ITEM: Hydrological Report Available

NYSDOT

PROCEDURE:
Record the location of the Hydrological Report or the Hydraulic Study which was prepared for the
RC01: Identification

A waterway that is intersected by the bridge. If both reports were prepared, record the location of the Hydraulic Study. Record this Item as “N - Not Applicable”, if the bridge does not intersect water.

CODING:
F - Federal
1 - State - Main Office
2 - State - Region Office
3 - Railroad
4 - County
5 - Authority / Commission
6 - Consultant
7 - City
8 - Town
9 - Village
0 - Other
N - Not Applicable
* - Unknown, requires determination

ITEM: Original Contract Number
NYSDoT

PROCEDURE:
Record the number of the contract under which the bridge was originally constructed or replaced. Enter the Original Contract Number from the Contract Plans using up to 10 characters, left justified.

CODING:
Accepts all standard keyboard characters.

ITEM: Year Built
FHWA 27

PROCEDURE:
Record the four digit year when the bridge was originally constructed or replaced. For new and replacement bridges, this is the year when the bridge was opened to traffic. If this date can not be determined, record a reasonable approximation. If inputting the data prior to contract letting, record the projected contract completion date.

CODING:
Accepts numeric characters greater than 1799

ITEM: Year of Last Major Rehabilitation
FHWA 106

PROCEDURE:
In WINBOLTS, record the four digit year when the bridge received its most recent major rehabilitation. If using the Inventory forms, enter the last 2 digits of the year of the major rehabilitation. The code of “00” indicates the year 2000. A “Major Rehabilitation” is defined as any of the following Work Types, as described in Record Code 21 - Work History Record.

210 - Deck Rehabilitation
220 - Deck Replacement
230 - Superstructure Replacement
240 - General Rehabilitation
RC01: Identification

Each "Major Rehabilitation" should also be recorded in the Work History file for the bridge. If the bridge has never had a "Major Rehabilitation", record this Item with "NN".

CODING:
The inventory form accepts "NN" and the numbers 00 – 99. WINBOLTS accepts “NNNN” and a 4 digit year.

ITEM: Acquisition Method
NYSDot

PROCEDURE:
Record the method of acquisition for ownership of the bridge.

CODING:
1 - Legislation 3 - Reconstruction * - Unknown
2 - Construction 4 - Official Order

ITEM: Order Number
NYSDot

PROCEDURE:
If the bridge was acquired by Official Order, record this Item with the Official Order Number. Otherwise, leave this Item blank.

CODING:
Accepts numeric characters and blanks.

ITEM: Year Acquired
NYSDot

PROCEDURE:
If the bridge was acquired by Official Order, record the year that the Official Order was issued. Otherwise, leave this Item blank.

CODING:
Accepts numeric characters or blanks.

ITEM: Ramps Attached (Parent Bin/Span)
NYSDot

PROCEDURE:
Record the BIN and Span Number of the Parent Bridge which supports the Ramp Bridge being inventoried. When inventorining a bridge without ramps or a Parent Bridge with Ramps, leave this Item blank.

CODING:
Accepts numeric characters and blanks.
ITEM: Critical Facility
FHWA 6 B

PROCEDURE:
Record whether the bridge is a critical facility as defined by the Defense Bridge and Critical Highway Facility Report. A list of these bridges is currently on file in the Structures Division.

CODING:
* The bridge is considered to be a critical facility.
Blank The bridge is not considered a critical facility.

ITEM: Historical Significance
FHWA 37

PROCEDURE:
The “Historical Significance” data will be obtained from the Environmental Analysis Bureau’s historic data base. This data will be generated internally. It will not have to be manually entered.

CODING:
1- Bridge is on the National Register of Historic Places
2- Bridge is eligible for the National Register of Historic Places
3- Bridge is possibly eligible for the National Register of Historic Places or bridge is on a state or local Historic Register
4- Historic significance is not determinable at this time.
5- Bridge is not eligible for the National Register of Historic Places

ITEM: State Priority Rank
NYSDoT

PROCEDURE:
This item is calculated by BDMS, the entry indicates the specific priority rank in the State. The priority rating is determined using a formula which includes bridge condition rating and AADT.

CODING:
None required
ITEMS INCLUDED IN STRUCTURAL DETAILS (RC02)

General Type of Main Span
General Type of Approach Span
Number of Main Spans
Number of Approach Spans
Number of Ramps
Design Load
Length of Maximum Span
Total Length of Bridge
Roadway Approach Width
Out to Out Width
Out to Out Width Varies
Curb-to-Curb Width
Curb-to-Curb Width Varies
Curb Type (Left & Right)
Sidewalk Width (Left & Right)
Sidewalk Type (Left & Right)
Median Width
Median Type
Abutment Type (Beginning & End)
Abutment Wingwall Type (Beginning & End)
Abutment Footing Type (Beginning & End)
Abutment Pile Type (Beginning & End)
Abutment Height (Beginning & End)
Abutment Skew Angle (Beginning & End)
Abutment Joint Type (Beginning & End)
Abutment Slope Protection (Beginning & End)
Area of Bridge Deck
Radius
Temporary Structure Designation
ITEM: Material (Main Span)
FHWA 43A

PROCEDURE:
Record the type of material which was used to construct the General Type Main Span(s).

Main Span is the span or spans over the major feature crossed. There can be more than one Main Span. For example, a bridge with two equal spans crossing an interstate would have two Main Spans.

CODING:
1 - Concrete
2 - Concrete (Continuous)
3 - Steel
4 - Steel (Continuous)
5 - Prestressed Concrete
6 - Prestressed Concrete (Continuous)
7 - Timber
8 - Masonry
9 - Aluminum, Wrought Iron or Cast Iron
0 - Other
A - Unpainted Steel
B - Unpainted Steel (Continuous)
N - Not Applicable

ITEM: Superstructure Type (Main Span)
FHWA 43B

PROCEDURE:
Record the type of superstructure used to support the Main Span from the following table.

CODING:
01 - Slab

02 - Stringer/Multi-Beam or Girder
Multiple, longitudinal members which directly support the structural deck. Steel members may be either rolled beams or plate girders, depending on span. Prestressed I-girders with separate structural decks shall also coded this way.

03 - Girder and Floorbeam System
The structural deck is supported by floorbeams transverse to the main members, with smaller section stringers spanning between the floorbeams. Usually, there are only two main member sections, but three are sometimes seen on wide bridges. The main girders are almost always riveted or welded plate girders. Floorbeams may be plate girders or rolled sections, while stringers are almost always rolled sections.

04 - Tee Beam
Concrete monolithic deck and beam system formed in the shape of the letter “T”. Tee beams may have the shape of bulb tee, double tee, quad tee and rib tee. This code should only be used for precast sections where the top flanges are directly adjacent to one another. Otherwise, use the 02 code.
ITEM: **Superstructure Type (Main Span)** - continued

05 - Box Beam or Box Girders - Multiple  
Multiple, longitudinal, voided, prestressed concrete longitudinal beams are placed directly adjacent to each other, and are then post-tensioned together with transverse tendons. Distinct joints separating members can be seen from below. A concrete wearing surface is applied. Note that there is no structural deck for this type, even though the wearing course may be designed to act compositely with the beams.

06 - Box Beam or Box Girder - Single or Spread  
Prestressed concrete or steel sections with a trapezoidal or rectangular cross-section. Multiple units (spread boxes) will have a structural deck spanning between them.

07 - Frame  
The horizontal and vertical/inclined units of a frame are a rigidly connected unit, which resists moment and shear. Frames may have either vertical or slanted legs. The top of a frame is parallel to the roadway surface and there will usually be no backfill over the structure. Concrete frames usually have approach fill placed against the vertical components.

08 - Orthotropic  
Steel plate deck stiffened by longitudinal ribs and supported by floorbeams and main beams, generally with asphalt wearing surface.

**Note for codes 09 and 10**  
A truss is a main member consisting of two chords connected by diagonal and/or vertical members. The chords and diagonals are usually designed to withstand axial stresses only. Truss bridges have two main trusses with a stringer-floorbeam system supporting the deck.

09 - Truss, Deck  
The deck is at the same level as the top chord.

10 - Truss, Thru  
The deck level is between the trusses or at the lower chord level.

**Note for codes 11 and 12**  
Concrete, steel or timber structural members supporting a structural deck via spandrel columns or walls (if the deck is above the arches), or through hangars (if the deck is between the arches). Shaped as a parabolic or circular curve. Primary stresses in arches are compression, with relatively low bending stresses.

11 - Arch, Deck  
Deck is above the top of the arch.

12 - Arch, Thru  
Structural deck placed between the arches.

13 - Suspension  
Two cables on either side of the roadway provide the support system for suspension bridges. These cables are draped over towers and anchored into concrete blocks embedded into rock at each end. Suspension bridges are used to span wide openings.

The structural deck and floor system are supported by vertical cables which are fastened to the main cables. The deck is often provided with a stiffening truss to reduce the flexibility of the roadway.
ITEM: Superstructure Type (Main Span) - continued

14 - Stayed Girder
Also known as Cable-Stayed. The superstructure is directly supported by diagonal cables attached to towers at the main piers.

15 - Movable, Lift
One or more spans which are raised vertically while remaining parallel to the waterway to provide for passage of marine traffic beneath the bridge.

16 - Movable, Bascule
Span consists of one or two leaves which are rotated from a horizontal position to a near vertical position providing unlimited vertical clearance to marine traffic. A double-leaf bascule is counted as one span.

17 - Movable, Swing
One or more spans are rotated in a horizontal plane on a pivot pier to permit passage of marine traffic.

18 - Tunnel
An underground passage through natural material (mountain, river, etc.), conveying vehicular traffic.

19 - Culvert
A hydraulic structure passing through a railway or highway embankment to facilitate the flow of storm drainage, or cross over a small stream. Materials used can be steel (usually galvanized and corrugated), aluminum, or reinforced concrete (either cast-in-place or precast). Structure types may be circular or elliptical pipes, arches, or frames. What distinguishes culverts from other structure types are:

- Soil-structure interaction. The primary members are always covered with embankment material, which has a major influence on structural performance (critical in the case of metal culverts). Live loads will have a lower effect on culverts than other types.
- There will usually be highway guide rail on the structure rather than bridge rail.
- The structure will be partially submerged during peak flows, which also has the effect of constricting flow, making blockage with debris more likely.

21 - Segmental Box Girder
Transverse, Precast or Cast-in-Place concrete segments which are often the full width of the bridge and are connected longitudinally by post tensioning.

22 - Channel Beam
Channel beams are generally precast concrete sections 4’ to 6’ wide and consist of a thin slab cast monolithically with two legs about three to four feet apart. Adjacent beams are bolted together and can be differentiated from Tee beams by the seam running between sections.

00 - Other

ITEM: Material (Approach Span)
FHWA 44

PROCEDURE:
Record the type of material used to construct the Approach Span(s). An Approach Span is considered to be any span which is not the same type as a Main Span.
RC02: Structural Details

CODING:
Use same codes listed for “Material (Main Span)” to record this Item. If there are no Approach Spans, record this Item with “N”.

ITEM: Superstructure Type (Approach Span)
FHWA 44

PROCEDURE:
Record the type of superstructure used to support the Approach Spans.

CODING:
Use same codes listed for “Superstructure Type (Main Spans)” to record this Item. If there is more than one type of approach span use the following code:

20 – No type is dominant

If there are no Approach Spans, record this Item with “NN”.

ITEM: Number of Main Spans
FHWA 45

PROCEDURE:
Record the number of main spans on the bridge. Main spans are described in the Material (Main Span) Item.

When inventorying ramp bridges, record the number of spans in the ramp.

CODING:
Numeric 000-999.

ITEM: Number of Approach Spans
FHWA 46

PROCEDURE:
Record the number of Approach Spans on the bridge. Approach Spans are described in the Material (Approach Span) Item.

When inventorying ramp bridges, record this Item with “000”. If there are no Approach Spans, record this item with “000”.

CODING:
Numeric 000 - 999
ITEM: **Number of Ramp Bridges**

**PROCEDURE:**
Record the number of Ramp Bridges connected to the main bridge being inventoried. If there are none, code this Item with 0.

**CODING:**
Numeric 00 - 99

ITEM: **Design Load**

**PROCEDURE:**
Record the design load for which the bridge was originally designed or the design load for which it has been redesigned.

This information can be obtained from the Record Plans. Use one of the codes listed below.

**CODING:**
Record one of the following listed codes.
- 10 - H 15
- 20 - H 15
- 30 - HS 15
- 40 - H 20
- 50 - HS 20 or MS18
- 60 - HS 20 + Mod (2-24,000# Axles @ 4’ Ctrs., when they govern)
- 61 - Thruway (HS20-44 at 30 Ft. Centers)
- 70 - Less than 60 lb./sq.ft. (Pedestrian Loading)
- 71 - 60 Thru 70 lb./sq.ft. (Pedestrian Loading)
- 72 - 71 Thru 80 lb./sq.ft. (Pedestrian Loading)
- 73 - 81 Thru 90 lb./sq.ft. (Pedestrian Loading)
- 74 - 91 Thru 100 lb./sq. ft. (Pedestrian / Platform Loading)
- 75 - Over 100 lb./sq ft. (Pedestrian / Platform Loading)
- 80 - Less than E50 (RR)
- 81 - E50 (RR)
- 82 - E60 (RR)
- 83 - E72 (RR)
- 84 - E80 (RR)
- 85 - Greater than E80 (RR)
- 90 - HS 25 or MS23
- 91 - HL93
- 00 - Other NN- Unknown

ITEM: **Length of Longest Span**

Do not code this item. Its value will be extracted from the span information in Record Code 15.
ITEM: Total Length of the Bridge  
FHWA 49

PROCEDURE:  
Record the total length of the bridge along the centerline of the Feature Carried, to the nearest 100mm or to the nearest foot. This length is normally measured between the Bridge Begins and Bridge Ends Stations. These Stations indicate the points where the bridge deck ends and the approach slab or pavement begins.

If the structure is a culvert, record the maximum horizontal distance between the inside faces of the exterior walls, parallel to the centerline of the roadway.

If the structure is a tunnel, record the length of the roadway (portal-portal) that it conveys.

When the abutments are not parallel, or when they are curved, measure the length along both curb lines or both faces of railing. Record the bridge length as the average of one of these sets of measurements.

CODING:  
Metric: 1 - 9999.9  
US Customary: 1 - 99999

ITEM: Approach Roadway Width  
FHWA 32

PROCEDURE:  
Record the usable width of the Approach Roadway to the nearest 100mm or one foot. If the Approach Roadway Width is not the same at both ends of the bridge, record the smaller width. Include the shoulders in this measurement if they meet the following criteria:

- They are designed, constructed, and maintained flush with the adjacent lane.
- They are adequate for weather and traffic conditions, consistent with the facility carried.

The shoulders shall not be included in this measurement if they do not meet the above criteria. Raised medians should not be included in the Approach Roadway Width. For structures with raised medians, record the sum of the usable widths of the Approach Roadways.

If the bridge does not carry a highway, record this Item with "000".

CODING:  
Metric - 0 - 99.9  
US Customary - 0 - 999

ITEM: Out-to-Out Width  
FHWA 52

PROCEDURE:  
Record the Out-to-Out Width of the bridge, to the nearest 30mm or tenth of a foot. Out-to-Out Width is measured at the same point as Curb-to-Curb Width; the measurement should be exclusive of flared areas for ramps. If the superstructure is a deck girder, deck truss, or deck arch, the Out-to-Out Width should be
measured between the fascias. If it is a thru girder, thru truss, or a thru arch, the Out-to-Out Width should be the lateral clearance between superstructure members.

For culverts, the Out-to-Out Width is coded 0 if there are no headwalls and if the filled section over the culvert maintains the roadway cross-section. For concrete box culvert where the traffic is carried directly by the top slab, record the actual out-to-out width.

For tunnels, record the maximum opening width.

**CODING:**
- Metric - 0 – 304.5
- US Customary - 0 - 999.9

**ITEM: Out-to-Out Width Varies**
**FHWA 35**

**PROCEDURE:**
Record whether the Out-to-Out Width of the bridge varies by at least 600mm or two feet.

**CODING:**
- 0 - Out-to-Out Width does not vary.
- 1 - Out-to-Out Width varies by 600mm (2 feet) or more.

**ITEM: Curb-to-Curb Width**
**FHWA 51**

**PROCEDURE:**
Record the minimum distance between the curbs or the bridge railings (if there are no curbs), to the nearest 30mm or tenth of a foot. For bridges with closed medians, record the sum of the minimum distances for all roadways carried by the bridge.

If there are no curbs or bridge railing, such as with pipe culverts or box culverts under fill, record this Item with "0". Do not include the flared areas for ramps in the Curb-to-Curb Width.

**CODING:**
- Metric - 0 - 304.5
- US Customary - 0 - 999.9

**ITEM: Curb-to-Curb Width Varies**
**FHWA 35**

**PROCEDURE:**
Record whether the Curb-to-Curb Width varies by more than 300mm or one foot. Use the codes listed below.

**CODING:**
- 0 - Not applicable (no curb)
RC02: Structural Details

1 - Curb-to-Curb Width does not vary by more than 300mm or one foot.
2 - Curb-to-Curb Width varies by more than 300mm or one foot.

ITEM: Curb Type (Left and Right)
NYSDoT

PROCEDURE:
Record the type of curb on the bridge.
While looking in the “Direction of Orientation”, record the left curb first and then the right curb.

Jersey Barriers or Safety Shapes are not considered to be curbs. They should be recorded as “1 - No Curb.”

CODING:
1 - No Curb
2 - Concrete
3 – Granite
4 - Stone
5 - Steel Plate
6 - Molded - Asphalt
7 - Timber
0 - Other

ITEM: Sidewalk Width (Left and Right)
FHWA 50

PROCEDURE:
Record the minimum width of the sidewalk, carried by the bridge, which is usable for pedestrian traffic, to the nearest 300mm or tenth of a foot. Sidewalk Width is measured between any two of the following elements:
– Face of Railing
– Edge of Curb
– Inside face of the truss member of the inside edge of the flange plate for a thru girder
The minimum width of a sidewalk is 300mm or one foot. Safety walks are assumed to be sidewalks for this purpose. Record the Left Sidewalk Width in the first field, followed by the Right Sidewalk Width in the remaining field.

“Left” and “Right” are determined while facing in the Direction of Orientation.

CODING:
Metric - 0 - 9.9
US Customary - 0 - 99.9
ITEM: Sidewalk Type (Left and Right)

PROCEDURE:
Record the type of material used to construct the Left and Right Sidewalks on the bridge. Left and right are determined by looking in the Direction of Orientation.

If the Sidewalk Width is less than 1.0 foot, then code this Item "1 - No Sidewalk."

CODING:
1 - No Sidewalk
2 - Concrete
3 - Steel Plate
4 - Steel Grating
5 - Asphalt Concrete
6 - Wood
0 - Other

ITEM: Median Width

PROCEDURE:
Record the median width to the nearest 30mm or tenth of a foot. If it varies, record the average width. The width of flush medians (See the Medium Type item) shall also be recorded. For pipe culverts or box culverts which are continuous under a divided highway, record the mall width between directions of travel as the Median Width.

If there is no median, record the Median Width as "0."

CODING:
Metric - 0.0 - 9.9
US Customary - 0.0 - 99.9

ITEM: Median Type

PROCEDURE:
Record the Type of Median on the bridge using one of the following codes. Safety shapes should be coded with "8 - Barrier".

CODING:
1 - Open
2 - Closed
3 - Other
4 - Raised
5 - Curbed
6 - Striped
7 - Flush
8 - Barrier
9 - Post
0 - None
ITEM: Abutment Type (Begin and End)

PROCEDURE:
Record the type of abutment used at each end of the structure.

Record the Beginning Abutment Type first and then Ending Abutment Type as defined by the Direction of Orientation. Note: Bridge Ramps do not have Beginning Abutments as they attach directly to the main bridge. Codes 5 (Jointless) and 8 (Abutmentless) are no longer used.

CODING:

1 - None
2 – Stub
3 – Integral
4 – Cantilever
6 - Gravity
7 – Counterfort
9 – Stub Abutment on Mechanically Stabilized Earth Retaining Wall
A - Masonry

1 - None

2 – Stub

A Stub Abutment has a backwall with a maximum height of approx. 3m (10’). The superstructure members are supported on individual pedestals.

3 – Integral

An Integral Abutment is composed of a concrete cap beam which is supported by a single row of steel bearing piles or Cast in Place concrete piles.
4 – Cantilever

A Cantilever Abutment is used when the height of the backwall required exceeds the limits of a Stub Abutment. The superstructure is supported on a continuous bridge seat.

6 - Gravity

A Gravity Abutment derives its ability to resist applied loads primarily from its size and weight.

7 – Counterfort

Counterfort Abutments have bracket-like elements which project from the fill side of the backwalls. They provide additional resistance against overturning. The backwall is designed as a horizontal beam between Counterforts.
9 – Stub Abutment on Mechanically Stabilized Earth Retaining Wall

Mechanically Stabilized Earth Retaining Walls are sometimes used instead of conventional embankments to support a stub abutment and the approach roadways.

A - Masonry
This includes all abutments constructed of plain concrete, Stonework or Brickwork. This does not include aesthetic treatments of these materials on reinforced concrete abutments.

**ITEM: Abutment Wingwall Type (Begin and End)**

**NYSDoT**

**PROCEDURE:**
Record the type of Wingwall used for each Abutment.

**CODING:**
1 - None
2 - “U” Type
3 - “Splayed”
4 - One Wall “U” Type, the other wall connected to the adjacent abutment
5 - One Wall “U” type, the other wall “Splayed”
6 - Cribbing
7 - One wall “Splayed”, the other wall connected to the adjacent abutment.
8 - Reinforced Earth
0 - Other

**ITEM: Abutment Footing Type (Begin and End)**

**NYSDoT**

**PROCEDURE:**
Record the type of Footing used for each Abutment. If there is no abutment, leave this item blank.
**RC02: Structural Details**

**CODING:**
1 - None, Doweled to Rock
2 - Individual, Spread-on-Rock
3 - Continuous, Spread-on-Rock
4 - Individual, Spread-on-Earth Fill
5 - Continuous, Spread-on-Earth Fill
6 - Individual, Spread-on-Earth Cut
7 - Continuous, Spread-on-Earth Cut
8 - Individual Pile
9 - Continuous Pile
0 - Other
* - Unknown
Blank - No Footing

**ITEM: Abutment Pile Type (Begin and End)**

**NYSDoT**

**PROCEDURE:**
Record the pile Type for each Abutment. If there is no Abutment, leave this Item blank.

**CODING:**
1 - No Piles
2 - Steel, "H" or "I" Section
3 - Steel Pipe
4 - Concrete, Cast-in-Place
5 - Concrete, Cast-in-Place, Tapered
6 - Concrete, Precast
7 - Concrete, Prestressed, Precast
8 - Timber
0 - Other
* - Unknown

**ITEM: Abutment Height (Begin and End)**

**NYSDoT**

**PROCEDURE:**
Record the height of each Abutment. The height of an abutment is the distance from the bottom of the footing to the top of the backwall. The Record Plans are usually required to determine this distance. If there is no Abutment, leave this Item blank. Abutment heights greater than 9.9 meters will need to be input in US Customary units.

**CODING:**
Metric - 0.0 - 9.9
US Customary - 0.0 – 99
Blank

**ITEM: Abutment Skew Angle (Begin and End)**

**FHWA 34**

**PROCEDURE:**
Record the skew angle at each Abutment to the nearest degree. The Skew Angle is defined as the angle
between a line perpendicular to the centerline of the Feature Carried and a line parallel to the centerline of bearings at the Abutment. If there is no Abutment, leave this Item blank.

**CODING:**
Numeric 0-89 or blank

**ITEM: Abutment Joint Type (Begin and End)**

**NYSDoT**

**PROCEDURE:**
Record the type of joint at each Abutment. If there is no Abutment, leave this Item blank.

<table>
<thead>
<tr>
<th>CODING EXPANSION</th>
<th>CODING FIXED</th>
<th>ABUTMENT JOINT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>01</td>
<td>None</td>
</tr>
<tr>
<td>02</td>
<td>NA</td>
<td>Finger</td>
</tr>
<tr>
<td>03</td>
<td>NA</td>
<td>Sliding Plate</td>
</tr>
<tr>
<td>04</td>
<td>22</td>
<td>Filled, Elastic Material</td>
</tr>
<tr>
<td>05</td>
<td>NA</td>
<td>Open with Trough</td>
</tr>
<tr>
<td>06</td>
<td>23</td>
<td>Open</td>
</tr>
<tr>
<td>07</td>
<td>27</td>
<td>Elastomeric (Transflex, Wabo-Flex)</td>
</tr>
<tr>
<td>08</td>
<td>24</td>
<td>Sealed-Embedded Membrane (RR)</td>
</tr>
<tr>
<td>09</td>
<td>25</td>
<td>Other</td>
</tr>
<tr>
<td>10</td>
<td>26</td>
<td>Unknown</td>
</tr>
<tr>
<td>11</td>
<td>28</td>
<td>Armored Elastomeric</td>
</tr>
<tr>
<td>12</td>
<td>29</td>
<td>Armored Compression Seal</td>
</tr>
<tr>
<td>13</td>
<td>30</td>
<td>Compression Seal</td>
</tr>
<tr>
<td>14</td>
<td>NA</td>
<td>Modular</td>
</tr>
<tr>
<td>15</td>
<td>31</td>
<td>Strip Seal with Integral Armoring Angle</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
<td>Strip Seal - Extrusion Anchored to Deck, No Elastomeric Concrete</td>
</tr>
<tr>
<td>17</td>
<td>33</td>
<td>Strip Seal - Extrusion Embedded in Elastomeric Concrete</td>
</tr>
<tr>
<td>18</td>
<td>34</td>
<td>Strip Seal - Type Unknown</td>
</tr>
<tr>
<td>NA</td>
<td>21</td>
<td>Sawed and Filled</td>
</tr>
<tr>
<td>35</td>
<td>35</td>
<td>None - Jointless Detail Used</td>
</tr>
</tbody>
</table>
ITEM: **Abutment Slope Protection (Begin and End)**

**PROCEDURE:**
Record the type of slope protection used at each abutment. If there is no abutment, leave this Item blank.

**CODING:**
- 1 - None Used - Rip-Rap
- 3 - Concrete Block Paving
- 4 - Timber
- 5 - Cribbing, Steel
- 6 - Cribbing, Concrete
- 7 - Stone Bank Protection
- 8 - Sod
- 9 - Dry Stone Paving
- 0 - Other
- Blank - No Abutment

ITEM: **Area of Bridge Deck**

**PROCEDURE:**
The area of a Bridge Deck is determined by multiplying its total length by its Out-to-Out Width. This information is usually available on the Contract Plans. For Tunnels, the number to be recorded is the product of the length of the Tunnel and its Out-to-Out Width. If there is no Bridge Deck, record the plan view area of the structure. Record the area in square meters or square feet.

This item shall be coded 0 for culverts where the recorded out-to-out dimension is 0.

**CODING:**
- Metric - 0 - 99999.9
- US Customary - 0 - 999999.9

ITEM: **Radius**

**PROCEDURE:**
Record the horizontal radius of the bridge to the nearest 300mm or 1 foot. The radius shall be measured from the center of curvature to the centerline of the bridge. If the curve is a spiral, record the minimum radius. Use 0 for straight bridges.

**CODING:**
- Metric - 0 - 999.9, US Customary - 0 - 9999.9
ITEM: **Temporary Bridge Designation**  
FHWA 103

**PROCEDURE:**  
Record whether temporary measures have been taken to keep this bridge open to traffic. Temporary measures may be required to keep a bridge open to traffic while it is being reconstructed on new or existing alignment, or while it is being rehabilitated. Temporary measures may also be required if the bridge is to be used as a detour. Some examples of temporary measures are:

- Adding temporary supports  
- Strengthening various members  
- Performing temporary repairs  
- Reducing the speed and volume of bridge traffic

If this item is coded “T”, all data recorded shall be for the structure without temporary measures except for the following Items:

- Rec. Code 06, Posted Load  
- Rec. Code 12, Maximum Vertical Clearance  
- Rec. Code 12, Total Horizontal Clearance  
- Rec. Code 12, Minimum Vertical Clearance  
- Rec. Code 13, Maximum Vertical Clearance  
- Rec. Code 13, Minimum Horizontal Clearance (Left/Right)

**CODING:**  
T - Temporary structures or conditions exist  
Blank - No temporary structures or conditions exist
ITEMS INCLUDED IN SAFETY & UTILITY (RC 03)

Type of Guide Rail
Guide Rail Transition
Guide Rail Terminus
Curb Transition
Appraisal of Approach Roadway Alignment
Type of Median Barrier
Type of Railing (Left & Right-Bridge)
Gore Area
Type of Attenuator
Utilities
Light Standards On
Light Fixtures On/Under
ITEM: Type of Guide Rail
FHWA 36C Translated

PROCEDURE:
Record the least desirable Type of Approach Guide Rail immediately adjacent to each end of the bridge. It may be physically attached to the bridge and will generally terminate within 300m of the bridge. If the bridge carries two-way traffic, evaluate the guide rail at each corner of the bridge. For example, if one of the corners has no guide rail, record this Item with “NN - No Approach Guide Rail.”

If the bridge carries one-way traffic, record only the guide rail type at the end where traffic is coming onto the bridge. If vertical posts are used on the approaches with no horizontal rails or cable connecting them, record this Item with “NN - No Approach Guide Rail”, since this does not constitute a guide rail system. If a guide rail system has been damaged or destroyed, it still should be recorded, based on the type of system that was originally in place.

CODING:

01 - Bridge does not carry highway traffic.
02 - Box Beam, Weak Steel Post (W3x5.7 section or equivalent).
03 - Safety Shape (Jersey or GM Shape).
04 - Three Beam, Weak Post (Three beam is a corrugated shape similar to a W-Section, except that it has 3 corrugations and it is approximately 500mm wide).
05 - Three Beam, Strong Post.
06 - W-Section, Weak Steel Post (Post equal to a W3x5.7 section or equivalent).
07 - W-Section, Strong Steel Post (Post larger than a W3x5.7 section)
08 - W-Section, with Concrete Posts.
09 - W-Section, with Wood Posts.
10 - Cable with Weak Steel Post (W3x5.7 section or equivalent).
11 - Cable with Strong Steel Post.
12 - Cable with Concrete Posts.
13 - Cable with Wood Posts.
14 - Steel Pipe.
15 - Concrete Wall with Vertical Face, 27" and higher.
16 - Masonry Wall, 700mm and higher.
17 - Masonry Wall, lower than 700mm.
18 - Concrete Wall with Vertical Face, lower than 700mm.
19 - W-Section, Blocked-out, Strong Steel Post (Post W6x8.5 or W6x9).
97 - Other (railing meets current NYSDOT, NCHRP, or applicable Federal standards).
98 - Other (does not meet current standards).
00 - No Approach Guide Rail

ITEM: Guide Rail Transition
FHWA 36B Translated

PROCEDURE:
Record the Type of Guide Rail Transition used to connect the approach guide rail to the bridge railing. For bridges carrying two-way traffic, evaluate each corner of the bridge and record the least desirable
transition. For bridges carrying one-way traffic, record the least desirable Transition, considering only the end where traffic is coming onto the bridge. Unacceptable Transitions have one or more of the following details:

1. Bridge railing not continuous with the guide rail.
2. An unprotected pylon between the end of the bridge and the guide rail.
3. Cable guide rail. There is no acceptable cable transition.
4. Unstiffened W-Section (no backup channel) connected to, or carried continuously across, the face of the bridge railing.

CODING:

01 - Single box beam guide rail connected to the bridge railing. No pylon is present.
03 - Single box beam guide rail connected to a concrete parapet. There is no pylon.
05 - W-Section guide rail connected to, or carried continuously across, the bridge railing. It is stiffened longitudinally with a channel in the area of the transition. There is no pylon.
06 - W-Section guide rail connected to, or carried continuously across, the bridge railing. It is stiffened longitudinally with a channel in the area of the transition with a weak post spacing. There is no pylon.
07 - Guide Rail (box beam, W-Section not stiffened with a channel, channel wide flange) carried continuously across the bridge. There is no pylon.
09 - Guide Rail is connected to the bridge railing posts. It is not carried continuously across the bridge. There is no pylon.
11 - Pylon is present between the end of the bridge railing and the guide rail. The guide rail has been extended and runs continuously in front of the pylon and bridge railing.
12 - Continuous, Vertical - Faced Concrete Parapet (with Railing Code 16) is present along the entire length of the bridge. The transition guide rail (upper tube or lower and upper tube) has been extended so that it runs continuously between end transitions and is bolted to the front vertical face of the parapet. The one or two continuous tubes serve as rub rails.
13 - Pylon is present between the end of the bridge railing and guide rail. Either the guide rail or the bridge railing is discontinuous at the pylon.
14 - There is no continuity between the guide rail and bridge railing. There is no pylon.
15 - Double box beam guide rail connected to a concrete barrier and properly stiffened.
16 - Thrie beam bridge railing to W-Section. Strong posts (with block-outs) between the bridge rail and the end of transition section.
17 - Four-rail steel bridge railing to box beam guide rail.
18 - Two-rail steel bridge railing to box beam guide rail.
19 - Box beam bridge railing to box beam guide rail on trussed structures.
20 - Two-rail steel bridge railing to W-Section guide rail.
21 - Four-rail steel bridge railing to W-Section guide rail.
22 - W-Section bridge railing upgrade to W-Section guide rail with block-outs and a continuous channel stiffener.
23 - Concrete vertical - faced parapet to box beam guide rail.
24 - Blocked-out box beam upgrade on steel bridge rail to box beam guide rail.
97 - Other type guide rail transition (meets current NYSDOT, NCHRP, or applicable Federal standards).
98 - Other (does not meet current standards).
NN - Bridge does not carry highway traffic.
00 - No bridge approach guide rail.
ITEM: **Guide Rail Terminus**
FHWA 36D Translated

**PROCEDURE:**
Record the least desirable type of approach Guide Rail Terminus. (The terminus is the section of guide rail immediately adjacent to the ends of the bridge). For two-way bridges, the approach termini at all four corners of the bridge must be evaluated. For one-way bridges, only the end where traffic is coming onto the bridge is to be evaluated.

**CODING:**
01 - Approach guide rail is made continuous with the guide rail along the highway.
02 - The highway guide rail is merged with the approach guide rail by “ducking” it under the approach guide rail.
03 - Approach guide rail is transitioned horizontally and sloped to the ground as shown in Standard Sheet 606-3R4.
04 - Approach guide rail has a sloped end, but is not transitioned horizontally.
05 - Approach guide rail is horizontally transitioned and terminates at a vertical post (does not slope to the ground).
06 - Approach guide rail is not horizontally transitioned and terminates at a vertical post (does not slope to the ground).
97 - Other (meets current NYSDOT, NCHRP, or applicable Federal standards.).
98 - Other (Does not meet current standards).
NN - Bridge does not carry highway traffic.
00 - No approach guide rail.

ITEM: **Curb Transition**
NYSDoT

**PROCEDURE:**
Record the least desirable type of Curb Transition on the bridge. For two-way bridges, all four corners must be evaluated to determine the least desirable Curb Transition. For one-way bridges, only the end where traffic is coming onto the bridge is to be evaluated to determine the least desirable Transition. If curbs are carried on the approaches, they should be carried across the bridge. The distance from the curb to the edge of the travel lane, including auxiliary lanes, should be the same on the approaches as it is on the bridge. This is the best practice when approach curbs are involved. An undesirable condition will exist if the difference in curb-to-curb width is not properly transitioned between the approaches and the bridge. A proper Curb Transition is any horizontal slope equal to or less than 1 transverse to 8 longitudinal.

**CODING:**
01 - The curb is transitioned under the approach guide rail in an acceptable manner and the distance from the face of the bridge rail to the face of the curb is less than or equal to 300mm.
02 - The curb height is 80mm or less (in the transition area) and is transitioned under the approach guide rail in an acceptable manner.
03 - The curb height is greater than 80mm, but its face is more than 300mm from the face of the rail or guide rail. The curb is transitioned under the guide rail in a proper manner.
04 - Curb and/or sidewalk are sloped into the ground.
05 - Curb is carried on the approaches and continued across the bridge. The distance between the edge
RC03: Safety & Utility

of the travel lane and the curb is the same on both sides of the bridge and the approaches.

06 - Curb is carried on the approaches and continued across the bridge. The curb-to-curb distance on the approaches is different than it is on the bridge, but the transition, as described in the procedure, is properly made.

07 - Curb is carried on the approaches and continued across the bridge. The curb-to-curb distance on the approaches is different than it is on the bridge and the transition, as described in the procedure, is improperly made.

08 - Curb is carried on the approaches, but the bridge has no curb.

09 - Curb and/or sidewalk end in a vertical face (perpendicular to traffic) without a proper transition.
   Distance from face of rail to face of curb is equal to, or less than 300mm.

10 - Curb and/or sidewalk end in a vertical face (perpendicular to traffic) without a proper transition.
   Distance from face of rail to face of curb is greater than 300mm.

97 - Other (meets current NYSDOT, NCHRP, or applicable Federal standards.).

98 - Other (Does not meet current standards).

NN - Bridge does not carry highway traffic.

00 - No curb on the bridge OR the approaches.

ITEM: Appraisal of Approach Roadway Alignment
FHWA 72

PROCEDURE:
Record the adequacy of the Approach Roadway Alignment. This rating provides an indication of the affect that the horizontal and vertical alignment of the approach highway is having on vehicle operating speed. Speed reductions which are caused by structure width, rather than alignment, shall not be included.

CODING:
Enter a rating from 1 to 9 using the following values as a guide:

8 - No reduction of vehicle operating speed required.
6 - Minor reduction of vehicle operating speed required.
3 - Substantial reduction of vehicle operating speed required.
N - Bridge does not carry a highway.

ITEM: Type of Median Barrier
NYSDOT

PROCEDURE:
Record the type of median barrier used on the bridge.

CODING:
01 - No barrier.
02 - Steel, design conforms to current AASHTO specifications.
03 - Steel, design does not conform to current AASHTO Specifications.
04 - Aluminum, design conforms to current AASHTO specifications.
05 - Aluminum, design does not conform to current AASHTO specifications.
06 - Cable
07 - Concrete
ITEM: Type of Railing (Left and Right)
FHWA 36A Translated

PROCEDURE:
Record the type of railing used on each side of the bridge.

This Item has two fields. These are Type of Railing Left and Type of Railing Right to record the predominant type of railing on each side of the bridge. The left and right sides are determined by looking in the Direction of Orientation, as described previously. If the type of railing cannot be found among the railing types shown, use one of the types indicated by Codes "02"-"05", "07"-"12", "17", or "00".

Two types of railing are sometimes required on the same side of a bridge. An example would be when a railing is required for both pedestrians and vehicular traffic. When this situation occurs, the railing type recorded should always be for the railing which restricts vehicular traffic.

Culverts which have the approach guide rail carried across the structure continuously should be coded 06; the railing type was already described in the "Type of guide rail" item. Continuity clips and continuous cable backup of bridge rails are to be ignored when determining the railing type.

CODING:
An asterisk following a Code indicates that the type of railing meets current NYSDOT, NCHRP, or applicable Federal standards.

01 - No railing.
02* - Generic steel in compliance with current standards but not describable under specific items.
03 - Generic steel, design does not conform to current standards.
04* - Aluminum (As of 2006, there are no aluminum systems that meet standards, but this code has been retained in the event that an acceptable system is introduced at a future date).
05 - Aluminum, not conforming to current standards. Includes former items 30, 31, 32, and 33.
06 - Highway guide rail continued over the structure. Includes former items 06, 13, 14, 17, 18 and 19.
07 - Concrete including, but not limited to, parapets less than 700mm high without bridge rail, parapets less than 700mm high with an attached discontinuous railing, or with any aluminum railing system includes former item 34.
08 - Chain link fence
09 - Steel balustrade
10* - Concrete balustrade, including Texas Aesthetic Barrier
11 - Pipe
12* - Timber.
15* - Concrete barrier – safety or Jersey type. Do not code single-slope barrier under this item.
16* - Vertical faced concrete parapets 700mm and higher without bridge rail
17 - Timber, not conforming to current standards.
20 - Four-Rail Steel, discontinuous rails.
21 - Three-Rail Steel, discontinuous rails.
22 - Steel with cast poles and discontinuous rails. Includes former items 23, 24, 26, and 27.
25 - Two-Rail "picket fence" railing with vertical pipes at 6" centers between the rails and the discontinuous rails.
29 - Four-Rail Steel with open web posts and continuous Box Section rails. Top rail is not strong enough to withstand vehicular impacts.
35* - Four-Rail Steel with open web posts and continuous box section rails.
36* - Two-Rail Steel with open web posts and continuous box Section rails. Includes former Items 28 and 36.
37* - One-Rail Steel with open web posts and continuous rail tube on concrete parapet.
38* - Two-Rail Steel with open web posts and continuous box Section rails for curbless bridges.
39* - Two-Rail Steel with wide-flange section posts.
40* - Three-Rail Steel with wide-flange section posts.
41* - Four-Rail Steel with wide-flange section posts.
42* - Five-Rail Steel for bicycles with wide-flange section posts.
43* - Thrie Beam Rail for low-volume (non-NHS) bridges.
44* - Double Box Beam Rail for low-volume (non-NHS) bridges.
45 - Obsolete railing upgraded by attaching a continuous box section to the face of railing. Includes former items 45 through 52.
53 - Obsolete continuous Box Section mounted on the stiffeners of a thru girder. Includes former items 53, 54, and 55.
56 - Obsolete continuous Box Section attached directly to the main members of a truss. Includes former items 56 and 57.
58 - Obsolete railing upgraded with a continuous W-Section attached to the face of the railing. Includes former items 58 through 67.
68* - Obsolete railing upgraded by attaching a continuous W-Section and a continuous channel, with a block-out, to the face of the railing. Includes former items 68 through 72.
73* - Obsolete railing upgraded by attaching a continuous Thrie Beam Section to the face of the railing. Includes former items 73 through 79.
80* - Continuous Thrie Beam Section mounted on steel posts which are attached to the top flange of a thru girder.
81* - Continuous Thrie Beam Section mounted on steel posts which are attached to the sidewalk. This is used in conjunction with a thru girder superstructure.
82* - Four-Rail (Code "20") railing, upgraded by attaching a continuous Box Section to the face of the railing with a block-out. Includes former items 82 through 88.
89* - Continuous Box Section mounted on A steel post with a block-out.
90* - Continuous Box Section mounted on The stiffeners of a thru girder.
91* - Continuous Box Section mounted on steel posts which are attached to the top flange of a thru girder.
92* - Double Continuous Box Sections mounted on steel posts WHICH ARE mounted on the traffic side of the main members of a truss.
93* - Double Continuous Box Sections attached with block-outs to the main members of a truss.
95* - Concrete Barrier – single slope section.
96* - Concrete Barrier – F shaped.
97* - Continuous steel bicycle railing on type 15 concrete barrier.
00 - Other
ITEM: Gore Area

PROCEDURE:
Record whether Gore Areas are present on the bridge and whether they are the type that require impact attenuators. The Gore Area is to be recorded with the main bridge inventory, not with the ramp inventory.

CODING:
1 - No Gore Areas are present on bridge.
2 - Gore Area/Areas that do not normally require the protection of an impact attenuator (most “ON” ramps).
3 - Gore Area/Areas that are present that require the protection of an impact attenuator (most “OFF” ramps).
4 - Gore Areas are present and some of them require the protection of an impact attenuator.

ITEM: Type of Attenuator

PROCEDURE:
Record the type of Impact Attenuators on the bridge.

CODING:
1 - No Impact Attenuators on the bridge.
2 - Connected steel drums (empty).
3 - Configuration of water-filled bags.
4 - Connected plastic barrels filled to various levels with sand.
0 - Others

ITEM: Utilities

PROCEDURE:
Record up to eight Utilities that are carried by the bridge. If there are no Utilities carried by the bridge, enter 01 - None, left justified with the rest of the field left blank. If Utilities are supported by the bridge, list each of them without a space or comma, entering 01 - None for the last entry; e.g., “020901. When removing or adding a new Utility, all Utilities must be re-entered.

CODING:

<table>
<thead>
<tr>
<th>Visible Utilities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>01 - None</td>
<td>09  - Steam Line</td>
</tr>
<tr>
<td>02 - Gas Line</td>
<td>10  - Cable TV</td>
</tr>
<tr>
<td>03 - Water Line</td>
<td>11  - Sewer</td>
</tr>
<tr>
<td>04 - Electric</td>
<td>12  - Chemical Line</td>
</tr>
<tr>
<td>05 - Telephone</td>
<td>13  - Fuel Line</td>
</tr>
<tr>
<td>06 - Fire Alarm</td>
<td>14  - Unknown Duct</td>
</tr>
<tr>
<td>07 - Police Call</td>
<td>15  - Fiber Optic Cable</td>
</tr>
<tr>
<td>08 - Navigation</td>
<td>00  - Other</td>
</tr>
</tbody>
</table>

ITEM: Light Standards On
NYSDoT

PROCEDURE:
Record the type of Light Standard used on the bridge.

CODING:
1 - None
2 - Steel, Painted
3 - Steel, Stainless
4 - Steel, Galvanized
5 - Aluminum
6 - Concrete
7 - Wood
8 - Rail Lighting
0 - Other

ITEM: Light Fixtures (On/Under)
NYSDoT

PROCEDURE:
Record the type of Light Fixture on the bridge and the type of lighting under the bridge.

CODING:
1 - None
2 - Fluorescent
3 - Mercury Vapor
4 - Incandescent
5 - Sodium Vapor
0 - Other
RC04: Inspection Responsibility

ITEMS INCLUDED IN INSPECTION RESPONSIBILITY (RC04)

Inspection Responsibility (Primary)
Inspection Responsibility - Primary - Spans
Inspection Responsibility (Secondary)
Inspection Responsibility - Secondary - Spans
**RC04: Inspection Responsibility**

**Item: Inspection Responsibility - Primary**

**NYSDoT**

**PROCEDURE:**
Record the Agency responsible for the inspection of all or most of the bridge.

NYSDoT is authorized to and does inspect bridges owned by Towns, Counties, Cities and Villages, however, the responsibility for these bridges belongs to and should be recorded as being the Town, City, County or Village.

If an agency hires a consultant to do an inspection, the agency should be recorded here and not the consultant.

**CODING:**
Enter the code for the agency responsible for Inspecting the majority of the bridge from the following table.

<table>
<thead>
<tr>
<th>Code</th>
<th>Agency</th>
<th>Code</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>NYSDoT</td>
<td>23</td>
<td>Nassau County Bridge Authority</td>
</tr>
<tr>
<td>2I</td>
<td>Niagara Falls Bridge Commission</td>
<td>24</td>
<td>Peace Bridge Authority (a/k/a Buffalo &amp; Fort Erie Public Bridge Authority)</td>
</tr>
<tr>
<td>2J</td>
<td>Niagara Frontier State Park Commission</td>
<td>30</td>
<td>County</td>
</tr>
<tr>
<td>2K</td>
<td>NYS Bridge Authority</td>
<td>40</td>
<td>Town</td>
</tr>
<tr>
<td>2L</td>
<td>NYS Thruway Authority</td>
<td>41</td>
<td>Village</td>
</tr>
<tr>
<td>2M</td>
<td>Ogdensburg Bridge &amp; Port Authority</td>
<td>42</td>
<td>City</td>
</tr>
<tr>
<td>2P</td>
<td>NYS Power Authority</td>
<td>43</td>
<td>NYC Dept of Water Supply, Gas, and Electric</td>
</tr>
<tr>
<td>2Q</td>
<td>Seaway International Bridge Authority</td>
<td>50</td>
<td>Federal</td>
</tr>
<tr>
<td>2S</td>
<td>Thousand Island Bridge Authority</td>
<td>60</td>
<td>Railroad</td>
</tr>
<tr>
<td>2U</td>
<td>MTA Bridge and Tunnels a/k/a (TBTA)</td>
<td>61</td>
<td>Long Island Railroad</td>
</tr>
<tr>
<td>2W</td>
<td>Port Authority of NY &amp; NJ</td>
<td>62</td>
<td>Retired (previously Conrail - converted to 60)</td>
</tr>
<tr>
<td>20</td>
<td>State - Other</td>
<td>70</td>
<td>Private - Industrial</td>
</tr>
<tr>
<td>21</td>
<td>Authority or Commission - Other</td>
<td>71</td>
<td>Private - Utility</td>
</tr>
</tbody>
</table>

**Note:**
Code 61 - Long Island Railroad is identified as a separate agency of the MTA.

Code 62 - Retired (previously Conrail - converted to 60)

One Agency - Listed in first sub-field
ITEM: Inspection Responsibility - Secondary
NYSDoT

PROCEDURE:
Record the Agency that is required to inspect those portions of the bridge for which the Primary Agency is not responsible.

CODING:
Record this Item with one of the codes listed for the “Inspection Responsibility - Primary” Item.

If only one Agency is responsible for inspecting the bridge, record this Item with “99 - Only One Agency Responsible.”

Use the above listed table for the applicable codes for this field.
## ITEMS INCLUDED IN BRIDGE INSPECTION (RC05)

- Inspection Date
- General Recommendation
- Flags
- Scour Critical Code
- BA Joint Rating
- EA Joint Rating
- BA Bearing Rating
- EA Bearing Rating
- BA Seats/Pedestals Rating
- EA Seats/Pedestals Rating
- BA Backwall Rating
- EA Backwall Rating
- BA Stem Rating
- EA Stem Rating
- BA Erosion Rating
- EA Erosion Rating
- BA Footing Rating
- EA Footing Rating
- BA Piles Rating
- EA Piles Rating
- BA Recommendation
- EA Recommendation
- BWW Wall Rating
- EWW Wall Rating
- BWW Footing Rating
- EWW Footing Rating
- BWW Erosion Rating
- EWW Erosion Rating
- BWW Piles Rating
- EWW Piles Rating
- Stream Alignment Rating
- Channel Erosion Rating
- Waterway Opening Rating
- Bank Protection Rating
- Appr Drainage Rating
- Appr Embankment Rating
- Appr Settlement Rating
- Appr Erosion Rating
- Appr Pavement Rating
- Appr Guiderail Rating
- Agency
- Inspection Type
- Condition Rating
- Sufficiency Rating Prefix
- Sufficiency Rating
The Bridge Data Management System (BDMS) stores inventory information regarding the various bridge components. It also stores information regarding the condition of those components. The current NYS Bridge Inspection Manual describes how each component is to be rated. The rated items are presented solely for the purpose of identifying what inspection data is stored in BDMS and what values may be recorded.

**Bridge Inspection Ratings**

**NYSDoT**

**PROCEDURE:**
Most of the items in this table record the inspection ratings assigned to individual bridge elements by the inspector. Ratings are recorded for the following bridge elements:

<table>
<thead>
<tr>
<th>General Recommendations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BA Joint</td>
<td>BWW Wall Rating</td>
</tr>
<tr>
<td>EA Joint Rating</td>
<td>EWW Wall Rating</td>
</tr>
<tr>
<td>BA Bearing Rating</td>
<td>BWW Footing Rating</td>
</tr>
<tr>
<td>EA Bearing Rating</td>
<td>EWW Footing Rating</td>
</tr>
<tr>
<td>BA Seats/Pedestals Rating</td>
<td>BWW Erosion Rating</td>
</tr>
<tr>
<td>EA Seats/Pedestals Rating</td>
<td>EWW Erosion Rating</td>
</tr>
<tr>
<td>BA Backwall Rating</td>
<td>BWW Piles Rating</td>
</tr>
<tr>
<td>EA Backwall Rating</td>
<td>EWW Piles Rating</td>
</tr>
<tr>
<td>BA Stem Rating</td>
<td>Stream Alignment Rating</td>
</tr>
<tr>
<td>EA Stem Rating</td>
<td>Channel Erosion Rating</td>
</tr>
<tr>
<td>BA Erosion Rating</td>
<td>Waterway Opening Rating</td>
</tr>
<tr>
<td>EA Erosion Rating</td>
<td>Bank Protection Rating</td>
</tr>
<tr>
<td>BA Footing Rating</td>
<td>Appr Drainage Rating</td>
</tr>
<tr>
<td>EA Footing Rating</td>
<td>Appr Embankment Rating</td>
</tr>
<tr>
<td>BA Piles Rating</td>
<td>Appr Settlement Rating</td>
</tr>
<tr>
<td>EA Piles Rating</td>
<td>Appr Erosion Rating</td>
</tr>
<tr>
<td>BA Recommendation</td>
<td>Appr Pavement Rating</td>
</tr>
<tr>
<td>EA Recommendation</td>
<td>Appr Guiderail Rating</td>
</tr>
</tbody>
</table>

**CODING:**
Each bridge component is given a numeric rating using the following codes:

1 - Totally deteriorated, or in failed condition.
2 - Used to shade between ratings of 1 and 3.
3 - Serious deterioration, or not functioning as originally designed.
4 - Used to shade between ratings of 3 and 5.
5 - Minor deterioration, but functioning as originally designed.
6 - Used to shade between ratings of 5 and 7.
7 - New condition. No deterioration.
8 - Not applicable.
9 - Condition and/or existence unknown.
**RC05: Bridge Inspection**

**Inspection Date**

**PROCEDURE:**
Record the Month, Day and Year of the most recent inspection. Record the month and day using two digits with "zero fill" as required. Record the last two digits of the year.

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

**Flags**

**PROCEDURE:**
This field provides a three digit code. The first digit indicates if a Red Flag was identified anywhere on the bridge during the inspection. A "0" indicates No flag identified and a "1" indicates a Flag was identified. The second digit similarly indicates if a Yellow Flag was identified and the third digit indicates if a Safety Flag was identified.

**CODING:**
000 - No Flags identified
100 - Only Red Flag identified
010 - Only Yellow Flag identified
001 - Only Safety Flag identified
111 - One of each Flag identified
All other combinations respectively.

**Agency**

**PROCEDURE:**
Record the code for the Agency performing the inspection.

**CODING:**
10 - State employees
13 - Consultant
21 - Authority

**Inspection Type**

**PROCEDURE:**
Record the code for Type of Inspection performed.

**CODING:**
1 - Biennial
2 - Interim
3 - Not used
4 - None (under construction)
5 - Special or Other
ITEM: Condition Rating

**PROCEDURE:**

Condition Rating is a value which NYSDoT calculates to represent an overall assessment of the condition of a bridge. It is a numerical value from 1.000 (poor) - 7.000 (excellent.)

The computation uses 13 bridge elements considered most important for an overall condition appraisal. Each element is weighted in proportion to its relative importance. The condition of each element is multiplied by the assigned weight for that element, with the result divided by the sum of the weighted values, resulting in the Condition Rating for the bridge.

The 13 bridge elements and their respective weights, are as follows:

<table>
<thead>
<tr>
<th>Element</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Members</td>
<td>10</td>
</tr>
<tr>
<td>Abutments (Stem/Breastwall)</td>
<td>8</td>
</tr>
<tr>
<td>Piers</td>
<td>8</td>
</tr>
<tr>
<td>Structural Deck</td>
<td>8</td>
</tr>
<tr>
<td>Bridge Seats</td>
<td>6</td>
</tr>
<tr>
<td>Bearings</td>
<td>6</td>
</tr>
<tr>
<td>Wingwalls</td>
<td>5</td>
</tr>
<tr>
<td>Backwalls</td>
<td>5</td>
</tr>
<tr>
<td>Secondary Members</td>
<td>5</td>
</tr>
<tr>
<td>Joints</td>
<td>4</td>
</tr>
<tr>
<td>Wearing Surface</td>
<td>4</td>
</tr>
<tr>
<td>Sidewalks</td>
<td>2</td>
</tr>
<tr>
<td>Curbs</td>
<td>1</td>
</tr>
</tbody>
</table>

When a bridge has several elements of one kind, such as multiple piers, the lowest rating of all elements is used. Details of the relationship of condition values to the various elements used in the Structural Condition Formula may be found in the Department's Bridge Inspection Manual.

Condition Rating is computed to three decimal places using the ratings of the thirteen elements with whole number values assigned. The three decimal point accuracy is significant only for the purpose of "breaking ties" when listing bridges by rank order of Condition Rating.

**CODING:**

Accepts numeric values 0.000 - 7.000

---

ITEM: Sufficiency Rating

**PROCEDURE:**

FHWA uses a Sufficiency Rating to provide an overall assessment of a bridge’s condition. A number is assigned from 0.0 (poor) to 100.0 (excellent) to represent both structural and functional adequacies. A fairly complex formula is used and is described in FHWA's **Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation’s Bridges, December 1995.**

**CODING:**

A numeric value from 0.0 to 100.0
ITEM: Sufficiency Rating Prefix
NYSDoT

PROCEDURE:
This Item indicates an asterisk (*) if the Sufficiency Rating (the next item described) was calculated even though some essential data was missing or coded incorrectly. The BDMS system will substitute a value for the unusable data (which will not lower the rating) and calculate the sufficiency rating. The asterisk is dropped when the unusable data is corrected.

It is normal that all culverts with Bridge Roadway Width, Curb-to-Curb coded '0000' will have an asterisk prefixed sufficiency.

CODING:
• Essential data was missing, but Sufficiency Rating calculated anyway

Blank - All essential data available for calculating Sufficiency Rating
RC06: Postings

ITEMS INCLUDED IN POSTINGS (RC06)

Recording Date
Posted Vertical Clearance (On)
Posted Vertical Clearance (Under)
Posted Load
Date Posted
RC06: Postings

**Item: Recording Date**

**PROCEDURE:** Record the Month, Day and Year that the posted load data is recorded on this transaction. If this transaction is being used solely for recording posted clearance data this item is not necessary. The month and day should be zero filled when inputting this item. The year input is the last two digits of the current year.

**CODING:** Accepts all numeric characters or all blanks.

**ITEM: Posted Vertical Clearance (On)**

**NYSDoT**

**PROCEDURE:**
Record the Vertical Clearance which is posted on the bridge in feet and inches, zero filled; e.g., “13/01.” If the bridge is not posted for Vertical Clearance, or does not carry a highway, record “0/0.” If the bridge was posted for Vertical Clearance and the restriction has been intentionally removed, record “0/0.”

**CODING:**
Accepts 0/0 - 99/99

**ITEM: Posted Vertical Clearance (Under)**

**NYSDoT**

**PROCEDURE:**
Record the Vertical Clearance posted for the roadway passing under the bridge in feet and inches, zero filled; e.g., “12/06.” If the under roadway is not posted for Vertical Clearance, leave this Item blank. If the under roadway was posted for Vertical Clearance and the restriction has been intentionally removed, record as “0/0.”

If there is no under roadway, record as “0/0.”

**CODING:**
Accepts 0/0 - 99/99

**ITEM: Posted Load**

**FHWA 41**

**PROCEDURE:**
Record the Load for which the bridge is Posted, or record that the bridge is Closed or Restricted to its primary use. If the bridge is not Posted for Load or a Load Restriction, or does not carry highway traffic, leave this Item blank.

**CODING:**
Blank - the bridge is not posted or does not carry highway traffic.
RC06: Postings

The load the bridge is posted for in Tons.
“88” - Bridge is restricted from vehicles with “R” permits.
“90” - Bridge is posted for number of vehicles on bridge, load capacity reduction (non-tonnage “R”).
“95” - The bridge is open for unrestricted traffic, but would be posted for load except for temporary shoring, etc.
“97” - The bridge is an open temporary structure in place to carry legal loads while original structure is closed and awaiting replacement or rehabilitation.
“98” - Bridge Closed for Construction. Traffic being accommodated on site by: parallel bridge, temporary bridge, etc.
“99” - Bridge Closed to primary usage or closed to its primary usage, but still open for secondary usage.

ITEM: DATE POSTED
NYSDoT

PROCEDURE:
Record the month and year when the Posted Load was last changed. If the bridge is not Posted for Load, or does not carry highway traffic, leave this Item blank.

CODING:
Accepts all MM/YY dates and blanks.
ITEMS INCLUDED IN LOAD RATING (RC07)

<table>
<thead>
<tr>
<th>BIN</th>
<th>Region</th>
<th>County</th>
<th>Level 1 Rating Method</th>
<th>Level 1 Rating Source</th>
<th>Level 1 Rating Date</th>
<th>Level 1 H Inventory Rating - Tons</th>
<th>Level 1 H Operating Rating - Tons</th>
<th>Level 1 HS Inventory Rating - Tons</th>
<th>Level 1 HS Operating Rating - Tons</th>
<th>Level 1 M Inventory Rating - MTons</th>
<th>Level 1 M Operating Rating - MTons</th>
<th>Level 1 MS Inventory Rating - MTons</th>
<th>Level 1 MS Operating Rating - MTons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
The Bridge Data Management System (BDMS) Record Code 07 is entitled “Load Rating”. It currently records: Load Rating Methods, Sources, Dates, H and HS Inventory and Operating Ratings, and M & MS Inventory and Operating Ratings. Processing of this data will be done by the Structures Division Load Rating Unit through coordination with the Regional Offices. All data will be processed using a graphical user interface.

**ITEM: Level 1 Rating Method**  
FHWA 63 & 65

**PROCEDURE:**  
Record the method used for calculating the Level 1 H/M and HS/MS Inventory and Operating Ratings. Level 1 Ratings are PE Certified.

**CODING:**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Load Factor (LFD)</td>
</tr>
<tr>
<td>2</td>
<td>Allowable Stress (ASD)</td>
</tr>
<tr>
<td>3</td>
<td>Load &amp; Resistance Factor (LRFR)</td>
</tr>
<tr>
<td>4</td>
<td>Other</td>
</tr>
<tr>
<td>5</td>
<td>Not Used</td>
</tr>
</tbody>
</table>

**ITEM: Level 1 Rating Source**  
FHWA 63 & 65

**PROCEDURE:**  
Record the Level 1 Rating Source of the Level 1 H/M and HS/MS Inventory and Operating Ratings.

**CODING:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manual</td>
</tr>
<tr>
<td>V</td>
<td>P.E. Certified Virtis</td>
</tr>
<tr>
<td>T</td>
<td>Load Testing</td>
</tr>
</tbody>
</table>

**ITEM: Level 1 Rating Date**  
NYSDoT

**PROCEDURE:**  
Record the date the Level 1 calculations of the H/M and HS/MS Inventory and Operating Ratings were completed on. (Note: This is not the date they are being entered into the Inventory System.)

**CODING:**

MM/DD/YYYY

**ITEM: Level 1 H Inventory Rating - Tons**  
NYSDoT

**PROCEDURE:**  
Record the Level 1 analysis results for the H Inventory Rating Load in US tons.
ITEM: Level 1 H Operating Rating - Tons
NYSDoT

PROCEDURE:
Record the Level 1 analysis results for the H Operating Rating Load in US tons.

CODING:
000.0 - 999.9
Blank - no rating

ITEM: Level 1 HS Inventory Rating - Tons
NYSDoT

PROCEDURE:
Record the Level 1 analysis results for the HS Inventory Rating Load in US tons.

CODING:
000.0 - 999.9
Blank - no rating

ITEM: Level 1 HS Operating Rating - Tons
NYSDoT

PROCEDURE:
Record the Level 1 analysis results for the HS Operating Rating Load in US tons.

CODING:
000.0 - 999.9
Blank - no rating

ITEM: Level 1 M Inventory Rating - MTons
NYSDoT

PROCEDURE:
Record the Level 1 analysis results for the M Inventory Rating Load in Metric tons.

CODING:
000.0 - 999.9
Blank - no rating

ITEM: Level 1 M Operating Rating - MTons
NYSDoT
RC07: Load Rating

PROCEDURE:
Record the Level 1 analysis results for the M Operating Rating Load in Metric tons.

CODING:
000.0 - 999.9
Blank - no rating

ITEM: Level 1 MS Inventory Rating - MTons
FHWA 66

PROCEDURE:
Record the Level 1 analysis results for the MS Inventory Rating Load in Metric tons.

CODING:
000.0 - 999.9
Blank - no rating

ITEM: Level 1 MS Operating Rating - MTons
FHWA 64

PROCEDURE:
Record the Level 1 analysis results for the MS Operating Rating Load in Metric tons.

CODING:
000.0 - 999.9
Blank - no rating

ITEM: Level 2 Rating Method
FHWA 63 & 65

PROCEDURE:
Record the method used for calculating the Level 2 H/M and HS/MS Inventory and Operating Ratings. Level 2 Ratings are NOT PE Certified.

CODING:
Rating Method
1 Load Factor (LFD)
2 Allowable Stress (ASD)
3 Load & Resistance Factor (LRFR)
4 Other
5 Not Used

ITEM: Level 2 Rating Source
NYSDoT

PROCEDURE:
Record the Level 2 Rating Source of the Level 2 H/M and HS/MS Inventory and Operating Ratings.
RC07: Load Rating

CODING:
B - BLRS
V - Virtis

ITEM: **Level 2 Rating Date**

NYSDOT

PROCEDURE:
Record the date the Level 2 calculations of the H/M and HS/MS Inventory and Operating Ratings were entered into the Inventory System.

CODING:
MM/DD/YYYY

ITEM: **Level 2 H Inventory Rating - Tons**

NYSDOT

PROCEDURE:
Record the Level 2 analysis results for the H Inventory Rating Load in US tons.

CODING:
000.0 - 999.9
** Not ratable
Blank - no rating

ITEM: **Level 2 H Operating Rating - Tons**

NYSDOT

PROCEDURE:
Record the Level 2 analysis results for the H Operating Rating Load in US tons.

CODING:
000.0 - 999.9
** Not ratable
Blank - no rating

ITEM: **Level 2 HS Inventory Rating - Tons**

NYSDOT

PROCEDURE:
Record the Level 2 analysis results for the HS Inventory Rating Load in US tons.

CODING:
000.0 - 999.9
** Not ratable
Blank - no rating
ITEM: **Level 2 HS Operating Rating - Tons**
NYSDoT

PROCEDURE:
Record the Level 2 analysis results for the HS Operating Rating Load in US tons.

CODING:
000.0 - 999.9
** Not ratable
Blank - no rating

ITEM: **Level 2 M Inventory Rating - MTons**
NYSDoT

PROCEDURE:
Record the Level 2 analysis results for the M Inventory Rating Load in Metric tons.

CODING:
000.0 - 999.9
** Not ratable
Blank - no rating

ITEM: **Level 2 M Operating Rating - MTons**
NYSDoT

PROCEDURE:
Record the Level 2 analysis results for the M Operating Rating Load in Metric tons.

CODING:
000.0 - 999.9
** Not ratable
Blank - no rating

ITEM: **Level 2 MS Inventory Rating - MTons**
FHWA 66

PROCEDURE:
Record the Level 2 analysis results for the MS Inventory Rating Load in Metric tons.

CODING:
000.0 - 999.9
** Not ratable
Blank - no rating

ITEM: **Level 2 MS Operating Rating - MTons**
FHWA 64
RC07: Load Rating

PROCEDURE:
Record the Level 2 analysis results for the MS Operating Rating Load in Metric tons.

CODING:
000.0 - 999.9
** Not ratable
Blank - no rating
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
RC09: Federal Ratings

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).
RC09: Federal Ratings

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
FHWA 62

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
RC09: Federal Ratings

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:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Not applicable</td>
</tr>
<tr>
<td>9</td>
<td>Superior to present desirable criteria</td>
</tr>
<tr>
<td>8</td>
<td>Equal to present desirable criteria</td>
</tr>
<tr>
<td>7</td>
<td>Better than present minimum criteria</td>
</tr>
<tr>
<td>6</td>
<td>Equal to present minimum criteria</td>
</tr>
<tr>
<td>5</td>
<td>Somewhat better than minimum adequacy to tolerate being left in place as is</td>
</tr>
<tr>
<td>4</td>
<td>Meets minimum tolerable limits to be left in place as is</td>
</tr>
<tr>
<td>3</td>
<td>Basically intolerable requiring high priority of corrective action</td>
</tr>
<tr>
<td>2</td>
<td>Basically intolerable requiring high priority of replacement</td>
</tr>
<tr>
<td>1</td>
<td>This value of rating code not used</td>
</tr>
<tr>
<td>0</td>
<td>Bridge closed</td>
</tr>
</tbody>
</table>
ITEMS INCLUDED IN FEATURE CARRIED (RC12)

Feature Number
Over-Under-On Code
Feature Code
Description Type
Description or Route Number and Reference Marker
Secondary Description
Future Average Daily Traffic
Year of Future Average Daily Traffic
Milepoint
Overlap Routes
Maximum Vertical Clearance
State Highway Number
Type of Highway
Route Description
Federal-Aid System
Functional Classification
Toll
Total Number of Lanes / Tracks on the Bridge
Lanes / Tracks Vary
Minimum Lane Width
Number of Lanes (Left & Right)
AADT
Year of AADT
Average Daily Truck Traffic
Total Horizontal Clearance
Minimum Vertical Clearance
Bypass Detour Length
STRAHNET Designation
Designated National Network (for Trucks)
National Highway System
RC12: Feature Carried

ITEM: Feature Number

**NYSDoT**

**PROCEDURE:**
At this time, the only possible feature number is 1, since multiple features carried cannot be coded into BDMS.

**CODING:**
1 - Primary Feature carried by the bridge.

ITEM: Over-Under-On Code

**NYSDoT**

**PROCEDURE:**
Record Code 12 identifies the Feature carried by the bridge. Therefore, the value of “1” is recorded.

**CODING:**
1 - Feature carried on the bridge

ITEM: Feature Code

**NYSDoT**

**PROCEDURE:**
Record the code that best describes the Feature carried. This code should be consistent with the “Description or Route Number” Item.

If the bridge is closed to all use or to its primary use, but is not abandoned, record this Item with “60” or “61” and record the “Posted Load” Item of Record Code 06 with “99”.

**CODING:**
09 - State Highway
10 - Expressway
11 - Interstate
12 - Parkway
13 - Authority
14 - County Road
15 - Town Road
16 - City Street
17 - Village Street
18 - Indian Reservation Road
19 - Military Reservation Road
20 - Access Road or Ramp
21 - Institution Road
22 - Park Road
23 - Board of Water Supply Road
24 - Private Road
50 - Railroad
60 - Feature closed to all use
61 - Closed to prime use (open for other service)
80 - Conveyer
90 - Pedestrian
99 - Other and Miscellaneous
RC12: Feature Carried

ITEM: Description Type

PROCEDURE:
If the Feature is an Interstate, US Route or State Touring Route, leave this Item blank. A route number and a reference marker will be supplied in the following fields via a link with the Highway Database (HDMS) when that data becomes available. If this Feature is not an Interstate, US Route or State Touring Route, record a “D” in this field and provide a description in the next Item, “Description or Route Number and Reference Marker.”

CODING:
D - Feature is not an Interstate, US Route or State Touring Route
Blank - Feature is an Interstate, US Route or State Touring Route

ITEM: Description or Route Number and Reference Marker

PROCEDURE:
If the Feature is an Interstate, US Route or State Touring Route, leave this Item blank. The data will be supplied by the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. A partial list of State Touring Route numbers for Parkways, and roads commonly known by name is shown in Appendix G. This is provided as a reference for identifying touring route names when viewing data.

If the Feature is an Interstate, US Route or State Touring Route and also has a street or road name, record its street or road name in the “Secondary Description” Item. If the Feature carried is not an Interstate, US Route or State Touring Route record its most commonly used description of the Feature, using up to 17 characters, left justified. Record the “Description Type” Item with the letter “D”.

If the Feature is a local road, use the following standard abbreviations:

<table>
<thead>
<tr>
<th>Type</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Road</td>
<td>CR</td>
</tr>
<tr>
<td>County Route</td>
<td>CR</td>
</tr>
<tr>
<td>Town Highway</td>
<td>TH</td>
</tr>
<tr>
<td>Road</td>
<td>RD</td>
</tr>
<tr>
<td>Street</td>
<td>ST</td>
</tr>
<tr>
<td>Avenue</td>
<td>AVE</td>
</tr>
<tr>
<td>Boulevard</td>
<td>BLVD</td>
</tr>
<tr>
<td>Drive</td>
<td>DR</td>
</tr>
<tr>
<td>Parkway</td>
<td>PKWY</td>
</tr>
<tr>
<td>Expressway</td>
<td>EXPWY</td>
</tr>
<tr>
<td>Service Road</td>
<td>SRD</td>
</tr>
<tr>
<td>Railroad</td>
<td>Enter the name of the railroad followed by “RR”; e.g., CSX RR</td>
</tr>
</tbody>
</table>

If the Feature carried is a “highway ramp”, record its description here. Record the Description as “RAMP” plus the Route Number or brief description of the Route from which traffic is coming and to which it is going. For example, “RAMP 90I EB to Main ST.” If the Feature carried is a Service Road, enter “SRD” plus the name of the main road; e.g., SRD, LIE. If the Feature is a non-highway, the following naming conventions should be used:
RC12: Feature Carried

Water Main  Enter “WTR MAIN” plus diameter of main and the name of the Utility Company, if known; e.g., “WTR MAIN 36” Latham Water District
Power Line  Enter “PWR LINE”, plus voltage if known, and the name of the Utility Company, if known; e.g., “PWR LINE 990V” NYSE&G
Pedestrian Path  Enter “PED PATH” plus any name associated with the path, if known; e.g., “PED PATH” AP Trail. Use this term instead of similar terms like “Foot Bridge,” etc.
Aqueduct  Enter “AQUEDUCT” and name of Utility company, if known.
Bike Path  Enter “BIKE PATH” and name, if known.
Conveyor  Enter “CONVEYOR” and name of owner, if known.
Pipeline  Enter “PIPELINE”, it’s diameter, and owner, if known.
Horse Path  Enter “HORSE PATH” plus name, if known.

CODING:
Accepts alpha-numeric characters.

ITEM: Secondary Description
NYSDoT

PROCEDURE:
If the bridge carries a Route that also has a common name, record the common name in parentheses: e.g., (Northern State Parkway). Do not repeat the route number entered in the “Description or Route Number and Reference Marker.” If the “Description or Route Number and Reference Marker” fully describes the Feature, this Item should be left blank. If the instructions above do not apply, and the bridge is known by a particular name, record this Item with that name.

CODING:
Any alphanumeric combination.

ITEM: Future AADT
FHWA 114

PROCEDURE:
If the Feature is a highway, this Item will be recorded with data obtained from the Highway Database (HDMS) or with data calculated by BDMS.

CODING:
No coding required.

ITEM: Year of Future AADT
NYSDoT

PROCEDURE:
If the Feature is a highway, this Item will be recorded based on information from the Highway Database (HDMS) or BDMS.

CODING:
No coding required.
ITEM: **Milepoint**  
FHWA 11

PROCEDURE:  
The Milepoint, at the beginning of the bridge, will be obtained from the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. The beginning of the bridge will be determined using the “Direction of Orientation Method.” In general, Milepoints will be supplied for Interstates, US Routes and State Touring Routes only. If the Feature is not a highway or does not use a milepoint system, this field will be blank.

If the feature is a railroad, the railroad milepoint may be entered

CODING (OPTIONAL):  
Numeric.

ITEM: **Overlap Routes**  
NYSDoT

PROCEDURE:  
When two or more Routes are carried by the bridge, the Route Number of the highest priority Route is shown in the “Description or Route Number and Reference Marker” Item. The other Route Number(s) or higher route number will be recorded in this Item. The data will be obtained from the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually.

If there are no overlaps, this Item will be blank.

CODING (OPTIONAL):  
Alphanumeric.

ITEM: **Maximum Vertical Clearance**  
FHWA 10

PROCEDURE:  
If the Feature Carried is a highway, record the maximum height of a 3 meter or 10 foot wide vehicle that can safely cross this bridge, using this Feature, in either direction, including the shoulders. This clearance is recorded to the nearest 25mm or 1 inch. The vertical clearance is measured between the bottom of the lowest permanent overhead obstruction and the point bridge deck directly below it.

Occasionally, a component with no structural purpose is provided to limit the height of the vehicles using the bridge. “Headache Bars” are an example of this. The restricted vertical clearance provided by these components should not be considered when recording this Item. If the Maximum Vertical Clearance is greater than 5.48m (18ft.), the clearance can be approximated to the nearest 0.1m or 4 inches.

If the clearance is unlimited, record this Item with 99.99 for Metric or 99 99 US Customary.

If the Feature Carried is not a highway, record this Item with “0”. 
RC12: Feature Carried

CODING:
0 - 99.99 Metric
00 00 – 99 99 US Customary

ITEM: State Highway Number
NYSDoT

PROCEDURE:
If the Feature is a State Highway, the official State Highway Number will be supplied via a link with the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually.

If the Feature Carried is not a State Highway or not a highway at all, this Item will be blank.

CODING (optional):
Alpha-numeric.

ITEM: Type of Highway
FHWA 5 B

PROCEDURE:
If the Feature Carried is an Interstate, US Route or State Touring Route, the type of highway will be obtained from the Highway Database (HDMS), when that data becomes available. Until that time, the data will need to be entered manually.

If the Feature Carried is not an Interstate, US Route or State Touring Route, record this Item using the code shown below which best describes the highway. High speed facilities or parkways without a Signed Route Number in a city are to be recorded as “5 - City Streets.” Other parkways without a Signed Route Number, and town and village roads are to be recorded as “8 - Other.” The coding of this Item will relate directly to the Route Number of the Feature Carried by the bridge, when applicable.

If the Feature Carried is not a highway, record this Item with an "8 - Other."

CODING:
1 – Interstate
2 - U.S. Numbered
3 - State
4 - County
5 - City Street
6 - Federal Lands
7 - State Lands
8 - Other

ITEM: Route Description
FHWA 5 C

PROCEDURE:
If the Feature Carried is a highway, record the code below which best describes this feature.

If the Feature Carried is not a highway, record this Item with "0".
RC12: Feature Carried

CODING:
1 - Mainline
2 - Alternate
3 - Bypass
4 - Spur
5 - Not Used
6 - Business
7 - Ramp or Wyre
8 - Service or Unclassified
0 - No Description Applies

ITEM: Federal Aid System
NYSDoT

PROCEDURE:
This Item is no longer used. No coding is permitted.

The Federal Aid System can be defined by the National Highway System and the functional classification of the roadway.

ITEM: Functional Classification
FHWA 26

PROCEDURE:
If the Feature Carried is not an Interstate, US Route or State Touring Route, use this Item to record its functional classification. If the Feature Carried is an Interstate, US Route or State Touring Route, this information will be provided by the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. The Functional Classification is tracked by the Data Services Bureau. It can generally be found in the Project Design Approval document.

CODING:
01 - Rural - Principal Arterial - Interstate
02 - Rural - Principal Arterial - Other
06 - Rural - Minor Arterial
07 - Rural - Major Collector
08 - Rural - Minor Collector
09 - Rural - Local (Including Unclassified)
11 - Urban - Principal Arterial - Interstate
12 - Urban - Principal Arterial - Other Freeways or Expressway
14 - Urban - Other Principal Arterial
16 - Urban - Minor Arterial
17 - Urban - Collector
19 - Urban - Local
00 - None - Not a Highway

ITEM: Toll
FHWA 20

PROCEDURE:
Record the code shown below which best describes the Feature Carried, with respect to Tolls. Interstate Toll and Toll Bridge Segments Under Secretarial Agreement (Title 23 - United State Code - Highways Section 129, as amended by 1991 ISTEA and prior legislation) means that an agreement has been entered into between NYSDoT and FHWA wherein the State agrees to apply tolls to bridge or highway maintenance, etc. This agreement allows for federal aid to be applied to these facilities.
RC12: Feature Carried

CODING:
1 - Toll Bridge ------------------------- Tolls are paid specifically to use the bridge.
2 - Toll Road ------------------------- Tolls paid are for use of both the highway and the bridge.
3 - Free Road or Non-Highway ---- As listed
4 - Interstate Toll Segment ------ Roadway is part of an Interstate Toll Segment as per Under-Secretarial Agreement
5 - Toll Bridge Is a Segment ------ A separate agreement exists for the bridge in addition to the Under-Secretarial Agreement.

ITEM: Total Number of Lanes / Tracks
FHWA 28A

PROCEDURE:
Record the total number of full width traffic lanes (or railroad tracks) carried by the Feature. Full width traffic lanes are defined as those carrying through traffic and any ramps or merge lanes that are continuous for the entire length of the bridge. Parking lanes are not to be considered. If the Feature is not a highway or a railroad, record this item with "00". If the Feature serves both highway and railroad traffic, record the number of highway lanes only.

CODING:
Accepts numeric characters: 00 - 99

ITEM: Lanes / Tracks Vary
NYSDoT

PROCEDURE:
Record whether or not the total number of through traffic lanes (or railroad tracks), varies on the Feature Carried.

CODING:
1 - No Highway or Railroad on the Feature Carried
2 - Number of lanes or tracks do not vary
3 - Number of lanes or tracks does vary

ITEM: Minimum Lane Width
NYSDoT

PROCEDURE:
Record the width of the narrowest through traffic lane on the Feature Carried to the nearest 30mm or 1/10th of a foot. Do not include the width of any shoulders carried by the bridge. Acceleration, deceleration, or other auxiliary lanes should not be included when determining the minimum lane width. If the Feature Carried is not a highway, code this item with "0."

CODING:
Accepts numeric characters: 00.0 - 99.9
**ITEM: Number of Lanes (Left and Right)**

**PROCEDURE:**
Record the total number of through lanes, in each direction of travel, for the Feature Carried. Record the number of left lanes in the field provided and record the number of right lanes in the field provided. (The entries should be right justified on the input forms.) Left and right are determined by looking in the direction of orientation. If the Feature Carried serves one-way traffic only, record zeros in the first field for left lanes and record the total number of lanes in the next field for right lanes. If the Feature carries alternating one-way traffic, record this Item with "0/1" for left lanes and a "0/0" for right lanes. If the Feature is not a highway, record this Item with "00" for both fields.

**CODING:**
00 to 99 for each field

**ITEM: AADT**

**PROCEDURE:**
If the Feature Carried is not an Interstate, US Route or State Touring Route, record the current Average Annual Daily Traffic, right justified. If the Feature Carried is an Interstate, US Route or State Touring Route this data will be supplied by the Highway Database (HDMS) when that data becomes available. Until that time, the data will be entered manually, or via annual upload to BDMS.

This information can be obtained from the current "Traffic Volume Report" published by the Data Services Bureau. It is also included in the Contract Plans. When an actual count is not available, an estimate is required. For bridges in parallel configuration and for those that carry one-way traffic only, the AADT should only reflect one direction of travel. For closed bridges, the last AADT entry should be retained. If the Feature is not a highway, record this Item with "0."

**CODING:**
Accepts numeric characters 0 - 999999

**Item: Year of AADT**

**PROCEDURE:**
If the Feature Carried is an Interstate, US Route or State Touring Route, this data will be supplied by the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. If the Feature Carried is not an Interstate, US Route or State Touring Route, records the last two digits of the year when the count was taken. If the AADT is estimated, record this Item with "EE." If the Feature is not a highway, record this Item with "NN."

**CODING:**
Inventory forms accept the numbers 00 - 99, "EE" and "NN." Winbolts accepts the 4 digit year, "EEEE" and "NNNN"
ITEM: **Average Daily Truck Traffic**  
FHWA 109

**PROCEDURE:**  
If the Feature Carried is not an Interstate, US Route or State Touring Route, record the Average Daily Truck Traffic as a percentage of the AADT. Do not include vans, pick-up trucks, and other light delivery trucks in this percentage. If the Feature Carried is an Interstate, US Route or State Touring Route this data will be obtained from the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. If this information is not available, record this Item with an estimate of truck traffic. If the "AADT" on the Feature Carried is less than 100, record this Item with "0."

**CODING:**  
Accepts numeric characters: 00 - 99

ITEM: **Total Horizontal Clearance**  
FHWA 47

**PROCEDURE:**  
If the Feature Carried is a highway, record the Total Horizontal Clearance available to traffic to the nearest 30mm or tenth of a foot. Measure the clearance between the bridge components which provide the least restrictive horizontal clearance. These include curbs, non-mountable medians, railings and any other items which restrict horizontal clearance. Do not consider flush or mountable curbs as restrictive features. If the clearance is greater than 30m or 99 feet, record this Item with 99.9. If the Feature Carried is not a highway, record this Item with "0."

**CODING:**  
Accepts the numbers 0 - 99.9

ITEM: **Minimum Vertical Clearance**  
FHWA 54

**PROCEDURE:**  
If the Feature Carried is a highway, record the Minimum Vertical Clearance Available, to the nearest 25mm or 1 inch (rounded down), between the lowest permanent, overhead obstruction and a point on the pavement which is directly below it (Not including shoulders). If recording in US customary units, enter two separate integers to denote feet and inches. For metric, record in decimal meters.

If the Feature Carried is a railroad, record the Minimum Vertical Clearance between the lowest overhead obstruction and the top of rail directly below it. If the Minimum Vertical Clearance is greater than 7m or 23 feet, it should be recorded to the nearest 300mm or to the nearest 1 foot, rounded down. If the clearance is greater than 30m or 100 feet, but is not unlimited, record this Item as 30.00 (metric) or 99 12 (US Customary). If the clearance is unlimited, record this Item as 99.99 (metric) or 99 99 (US Customary). If the feature is neither a highway nor a railroad, record this item as "00."

**CODING:**  
Accepts the numbers 00.00 - 99.99 - Metric and 0 0 – 99 99 - US Customary.
RC12: Feature Carried

ITEM: Bypass Detour Length
FHWA 19

PROCEDURE:
If the Feature Carried is a highway, record the total additional travel distance, to the nearest 1.6km or 1 mile, over a comparable route, if the bridge were closed. If a ground level bypass is available at the bridge, record this Item with "00." Some examples of this are:
- Diamond Interchanges
- Interchanges where service roads are available
- Interchanges where the positioning and layout of the ramps is such that they could be used to get around the closed bridge without difficulty
If the Feature Carried is a dead-end highway, record this Item with “99.” If the Feature Carried is not a highway, leave this item blank.

CODING:
Accepts: Blanks and numeric characters 00 -99.

ITEM: STRAHNET Designation
FHWA 100
This Item was previously called the “Defense Highway Designation.”

PROCEDURE:
The STRAHNET (Strategic Highway Network) System is tracked by the Highway Data Services Bureau. If the Feature Carried is an Interstate, US Route or State Touring Route, this data will be obtained from the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. For all other Features, record this Item with the code listed below, which best describes them.

CODING:
N - The Feature is not a highway.
0 - The Feature is not a STRAHNET route.
1 - The Feature is on an Interstate STRAHNET route.
2 - The Feature is on a Non-Interstate STRAHNET route.
3 - The Feature is on a STRAHNET Connector route.

ITEM: Designated National Network (for Trucks)
FHWA 110

PROCEDURE:
The "National Network for Trucks" is tracked by the Highway Data Services Bureau. This network includes most of the Interstate System and those portions of the Federal-Aid Primary System identified in the Code of Federal Regulations (23 CFR 658). If the Feature Carried is an Interstate, US Route or State Touring Route, this data will be supplied by the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. For all other Features, record this Item with the code, listed below, which best describes the Feature being inventoried.
RC12: Feature Carried

CODING:
   N - The Feature is not a highway.
   0 - The Feature is not part of the "National Network for Trucks"
   1 - The Feature is part of the" National Network For Trucks"

ITEM: National Highway System
FHWA 104

PROCEDURE:
The "National Highway System" includes the Interstate Highway System as well as other highways which are important to the nation’s economy, defense, and mobility. Guidelines for the development of the NHS were specified in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

This code will always be obtained from the Highway Database (HDMS).

CODING:
   N - Feature intersected is not a highway
   0 - Feature Carried is not on the NHS.
   1 - Feature Carried is on the NHS.
RC13: Feature Intersected

ITEMS INCLUDED IN FEATURE INTERSECTED (RC13)

Feature Number (of Intersected Feature)
Over-Under-On Code
Feature Code
Description Type
Description or Route Number and Reference Marker
Milepoint
Future Average Daily Traffic
Year of Future Average Daily Traffic
State Highway Number
Type of Highway
Route Description
Federal Aid System
Functional Classification
Toll
Number of Lanes/ Tracks
Maximum Vertical Clearance
Minimum Vertical Clearance Provided for Navigation (Movable Bridges Only)
Protection of Substructures from Navigation
AADT
Year of AADT
Total Horizontal Clearance
Minimum Horizontal Clearance (Left)
Minimum Horizontal Clearance (Right)
Minimum Vertical Clearance
Navigation Control
Maximum Vertical Clearance to Navigation
Minimum Horizontal Clearance Available to Navigation
Stream Bed Material
Bank Protection
Velocity of Current
Factors Affecting Stream Flow (F.A.S.F.)
Bypass Detour Length
STRAHNET Designation
Designated National Network (for Trucks)
RC13: Feature Intersected

ITEM: Feature Number (of Intersected Feature)

PROCEDURE:
Record the number of the Feature Intersected by the bridge. A bridge may intersect (pass over or under) more than one Feature. Each intersected Feature is identified by the number 2 or greater. (Feature 1 is always the Feature Carried by the bridge.) Refer to RC12 for more information on Feature Number.

Every bridge must have at least one Feature Intersected. A maximum of 8 can be coded. For divided highways, only one Feature Intersected code is to be used per given route number.

ITEM: Over-Under-On Code

PROCEDURE:
Record the appropriate code to indicate whether the Feature Intersected passes over or under the bridge.

CODING:
2 - Feature passes under the bridge
3 - Feature passes over the bridge.

ITEM: Feature Code

PROCEDURE:
Record the code shown below that best describes the Feature Intersected. This code should be consistent with the “Description or Route Number” Item in this Record Code.

CODING:
01 - Description
09 - State Highway
10 - Expressway
11 - Interstate
12 - Parkway
13 - Authority
14 - County Road
15 - Town Road
16 - City Street
17 - Village Street
18 - Indian Reservation Road
19 - Military Reservation Road
20 - Access Road or Ramp
21 - Institution Road
22 - Park Road
23 - Board of Water Supply Road
24 - Private Road
30 - Navigable Waterway (Non-Canal)
31 - Non-Navigable Waterway
40 - NYS Barge Canal
50 - Railroad
60 - Feature Closed to All Use
61 - Feature Closed to Prime Use
(Open for Other Service)
80 - Conveyer
90 - Pedestrian Facility-Bikeway
99 - Other and Miscellaneous
RC13: Feature Intersected

ITEM: Description Type
NYSDOT

PROCEDURE:
If the Feature is an Interstate, US Route or State Touring Route leave this Item blank. A route number and a reference marker will be supplied in the system fields via a link with the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. If this Feature is not an Interstate, US Route or State Touring Route or is a private road or ramp, record a “D” in this field and provide a description in the next Item, “Description or Route Number and Reference Marker.”

CODING:
D - Feature is not an Interstate, US Route or State Touring Route
Blank - Feature is an Interstate, US Route or State Touring Route

ITEM: Description or Route Number and Reference Marker
NYSDOT

PROCEDURE:
If the Feature is an Interstate, US Route or State Touring Route, leave this Item blank. The data will be supplied by the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. A partial list of State Touring Route numbers and their common names is shown in Appendix G. This is provided as a reference for identifying touring route names when viewing data. If the Feature carried is not an Interstate, U.S.Route or State Touring Route, record its most commonly used description, using up to 17 characters, left justified. Record the “Description Type” Item with the letter “D”.

If the Feature is a local road, use the following standard abbreviations:

- County Road CR
- County Route CR
- Town Highway TH
- Road RD
- Street ST
- Avenue AVE
- Boulevard BLVD
- Drive DR
- Parkway PKWY
- Expressway EXPWY
- Service Road SRD
- North N
- South S
- East E
- West W
- Northbound NB
- Southbound SB
- Eastbound EB
- Westbound WB

If the Feature Carried is a "highway ramp" which provides access from one roadway to another, record its description here. Record the Description as “RAMP” plus the Route Number or brief description of the Route from which traffic is coming and to which it is going. For example, “RAMP 90I EB to Main ST.”

If the Feature Carried is a Service Road, enter “SRD” plus the name of the main road; eg, SRD, LIE.
If the Feature is a non-highway, the following naming conventions should be used:

- Railroad Enter the name of the railroad followed by “RR”; eg, CSX RR
- Water Main Enter “WTR MAIN” plus diameter of main and the name of the Utility Company, if...
RC13: Feature Intersected

Power Line: Enter “PWR LINE”, plus voltage if known, and the name of the Utility Company, if known; eg, “PWR LINE 990V” NYSE&G
Pedestrian Path: Enter “PED PATH” plus any name associated with the path, if known; eg, “PED PATH AP Trail”. Use this term instead of similar terms like “Foot Bridge,” etc.
Aqueduct: Enter “AQUEDUCT” and name of Utility company, if known.
Bike Path: Enter “BIKE PATH” and name, if known.
Conveyor: Enter “CONVEYOR” and name of owner, if known.
Pipeline: Enter “PIPELINE”, its diameter, and owner, if known.
Horse Path: Enter “HORSE PATH” plus name, if known.

CODING:
Accepts alpha-numeric characters.

ITEM: Milepoint
FHWA 11

PROCEDURE AND CODING:
See the RC12 chapter.

ITEM: Future AADT
FHWA 114

PROCEDURE AND CODING:
See the RC12 chapter.

ITEM: Year of Future AADT
NYSDoT

PROCEDURE AND CODING:
See the RC12 chapter.

ITEM: State Highway Number
NYSDoT

PROCEDURE AND CODING:
See the RC12 chapter.
ITEM: **Type of Highway**  
FHWA 5 B

**PROCEDURE:**
If the Feature Intersected is an Interstate, US Route or State Touring Route the Highway type will be obtained from the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually.

If the Feature Intersected is not an Interstate, US Route or State Touring Route, record this Item using the code shown below which best describes the highway. High speed facilities or parkways without a Signed Route Number in a city are to be recorded as “5 - City Streets.” Other parkways without a Signed Route Number, and town and village roads are to be recorded as “8 - Other.” The coding of this Item will relate directly to the Route Number of the Feature Intersected by the bridge, when applicable.

If the Feature Intersected is not a highway, record this Item with an "8 - Other."

**CODING:**
1 - Interstate Highway  
2 - U.S. Numbered Highway  
3 - State Highway  
4 - County Highway  
5 - City Street  
6 - Federal Lands Road  
7 - State Lands Road  
8 - Other

ITEM: **Route Description**  
FHWA 5 C

**PROCEDURE:**
If the Feature Intersected is a highway, record the code below which best describes this feature. If the Feature Intersected is not a highway, record this Item with "0".

**CODING:**
1 – Mainline  
2 - Alternate  
3 - Bypass  
4 - Spur  
5 - Not Used  
6 - Business Access  
7 - Ramp or Wye  
8 - Service or Unclassified  
0 - No Description Applies

ITEM: **Federal Aid System**  
NYSDoT

**PROCEDURE:**
This Item is no longer used. The Federal Aid System can be defined by the National Highway System and the functional classification of the roadway.
RC13: Feature Intersected

ITEM: **Functional Classification**
FHWA 26

**PROCEDURE:**
If the Feature Intersected is not an Interstate, US Route or State Touring Route use this Item to record its functional classification. If the Feature Intersected is an Interstate, US Route or State Touring Route this information will be provided by the Highway Database (HDMS) when that data becomes available. Until that time, the data will need to be entered manually. The Functional Classification is tracked by the Highway Data Services Bureau. It can generally be found in the Project Design Approval document.

**CODING:**
- 01 - Rural - Principal Arterial - Interstate
- 02 - Rural - Principal Arterial - Other
- 06 - Rural - Minor Arterial
- 07 - Rural - Major Collector
- 09 - Rural - Local (Including Unclassified)
- 11 - Urban - Principal Arterial - Interstate
- 12 - Urban - Principal Arterial - Other Freeways/Expressways
- 14 - Urban - Other Principal Arterial
- 16 - Urban - Minor Arterial
- 17 - Urban - Collector
- 19 - Urban - Local
- 00 - None - Not a Highway

ITEM: **Toll**
FHWA 20

**PROCEDURE:**
Record the code shown below which best describes the Feature Crossed, with respect to Tolls. Interstate Toll and Toll Bridge Segments Under Secretarial Agreement (Title 23 - United State Code - Highways Section 129, as amended by 1991 ISTEA and prior legislation) means that an agreement has been entered into between NYSDoT and FHWA wherein the State agrees to apply tolls to bridge or highway maintenance, etc. This agreement allows for federal aid to be applied to these facilities.

**CODING:**
- 2 - Toll Road
- 3 - Free Road or Non-Highway
- 4 - Interstate Toll Segment
- 5 - Toll Bridge Is a Segment

ITEM: **Total Number of Lanes / Tracks**
FHWA 28 B

**PROCEDURE:**
If the Feature Intersected is a highway or a railroad, record the total number of full width lanes or railroad tracks which are intersected. This includes full width parking lanes or other pavement which is at least 3.7m or 12 feet wide.

If multiple features are intersected, record the number of lanes, or tracks, associated with each. For example, if a highway and a railroad are intersected, record the number of lanes with the Highway Feature and the Number of Tracks with the Railroad Feature.
RC13: Feature Intersected

CODING:
Accepts the numbers 0 – 99

ITEM: Maximum Vertical Underclearance
FHWA 10

PROCEDURE:
If the Feature Intersected is a highway, record the maximum height, to the nearest 300mm or one foot, of a 3m or ten feet wide vehicle that can safely pass under the bridge using the Feature Intersected, including its shoulders.

The maximum height of vehicle (3m or 10 feet wide) which can safely pass under the bridge is measured between the bottom of the lowest, permanent overhead obstruction to the point directly below it on the Feature Intersected.

Occasionally, a component with no structural purpose is provided to limit the height of vehicles using the bridge. The restricted vertical clearance provided by these components should not be considered when recording this Item. If the Maximum Vertical Under Clearance is greater than 5.5m or 18 feet, the clearance can be approximated to the nearest 300mm. If the Feature Intersected is not a highway, code this item N.

CODING:
Accepts the numbers 0-99 and “N”.

ITEM: Minimum Vertical Clearance Provided for Navigation
(Movable Bridges Only)
FHWA 116

PROCEDURE:
If the bridge is a movable bridge, record the Minimum Vertical Clearance provided to navigation by the bridge while in the closed or dropped position, rounded down to the nearest 300mm or one foot. The Minimum Vertical Clearance is measured between the lowest point on the bridge which is above the channel and the datum elevation specified on a navigation permit issued by a Control Agency.

If the bridge is not a movable bridge, leave this item blank.

CODING:
Accepts the numbers 0 - 99.9 and blank.

ITEM: Protection of Substructures from Navigation
PROCEDURE:
If the Feature Intersected is a navigable waterway controlled by an Agency, record whether the pier or abutment protection is adequate.

CODING:
N - Feature being inventoried is not a navigable waterway
1 - Navigation protection is not required
2 - Navigation protection is in place and it is functioning
RC13: Feature Intersected

3 - Navigation protection is in place, but it is in a deteriorated condition
4 - Navigation protection is in place, but it should be reevaluated
5 - Navigation protection is not in place and this situation should be reevaluated

ITEM: AADT
FHWA 29

PROCEDURE AND CODING:
See the RC12 chapter.

Item: Year of AADT
FHWA 30

PROCEDURE AND CODING:
See the RC12 chapter.

ITEM: Total Horizontal Clearance
FHWA 47

PROCEDURE:
If the Feature Carried is a highway, record the Total Horizontal Clearance available to traffic to the nearest 30mm or tenth of a foot. Measure the clearance between the bridge components which provide the least restrictive horizontal clearance. These include curbs, non-mountable medians, railings and any other items which restrict horizontal clearance. Do not consider flush or mountable curbs as restrictive features. If the clearance is greater than 30m or 99 feet, record this Item with 99.9. If the Feature Carried is not a highway, record this Item with "0."

CODING:
Accepts the numbers 0 - 99.9

ITEM: Minimum Horizontal Clearance (Left)
FHWA 56

PROCEDURE:
If the Feature Intersected is a one-way highway, ramp, or divided highway, record the Minimum Horizontal Clearance, on the left side of the alignment, to the nearest 30mm or tenth of a foot.

This item is measured from the left edge of the left travel lane (not including the shoulder) to the nearest obstruction which is at least 300mm higher than the ground adjacent to it, or to the nearest toe of slope steeper than one on three. If the Feature Intersected is a divided highway, record the smaller Minimum Horizontal Clearance in either direction of travel. If there is no obstruction in the median area, record this Item with “99.9”. If the clearance is greater than 30 meters or 100 feet, record this Item with "99.9". If the Feature Intersected is not a divided highway, a ramp or other one-way highway, record this Item with "0".

CODING:
Accepts the numbers 0 - 99.9
RC13: Feature Intersected

ITEM: Minimum Horizontal Clearance (Right)
FHWA 55

PROCEDURE:
If the Feature Intersected is a highway or a railroad, record the Minimum Horizontal Clearance provided to the feature intersected to the nearest 30mm or tenth of a foot.

For highways, this item is measured from the right edge of the right travel lane (not the edge of the shoulder) to the nearest obstruction which is at least 300mm or one foot higher than the ground adjacent to it, or to the toe of any slope which is steeper than one on three. Measure this distance in both directions of travel and record the smaller of the two. For railroads, the Minimum Horizontal Clearance is measured from the centerline of the tracks which are closest to the bridge. If the clearance is greater than 30 meters or 99 feet, record this Item with "99.9". If the Feature Intersected is not a highway or a railroad, record this Item with "99.9".

CODING:
Accepts the numbers 0 - 99.9

ITEM: Minimum Vertical Clearance
FHWA 54

PROCEDURE:
If the Feature Intersected is a highway, record the Minimum Vertical Clearance Available, to the nearest 25mm or 1 inch (rounded down), between the lowest permanent, overhead obstruction and a point on the pavement which is directly below it (Not including shoulders). If recording in US customary units, enter two separate integers to denote feet and inches. For metric, record in decimal meters.

If the Feature Intersected is a railroad, record the Minimum Vertical Clearance available to the nearest 25mm or 1 inch (rounded down) between the lowest, permanent overhead obstruction and the top of the rail. If the Minimum Vertical Clearance is greater than 7 meters or 23 feet, record this Item to the nearest 300mm or 1 foot (rounded down). If the Minimum Vertical Clearance is greater than 30 meters or 100 feet, but it is not unlimited, record this Item as "99 12" for US customary, 30.0 metric. If the clearance is unlimited, record this Item as "99 99" for US customary, 99.9 metric. If the Feature is neither a highway or a railroad, record this Item as "0 0".

CODING:
Accepts the numbers 0 0 – 99 99 (US) or 0 – 99.9 (metric)

ITEM: Navigation Control
FHWA 38

PROCEDURE:
Record whether navigation at the bridge is controlled by an agency. (A bridge permit is required for Construction.)

CODING:
1 - Navigation is controlled by an Agency
RC13: Feature Intersected

0 - Navigation is not controlled by an Agency
N - Bridge is not over water

ITEM: Maximum Vertical Clearance to Navigation
FHWA 39

PROCEDURE:
If the Feature Intersected is a navigable waterway, record the Maximum Vertical Clearance that the bridge provides for navigation, rounded down to the nearest 300mm or one foot. Record the actual clearance obtained by direct measurement, from the Contract Plans, or from Navigation Permits.

Vertical Clearance is measured between the surface elevation of the “Maximum Navigable Pool” and the lowest point on that portion of the superstructure which is above the channel. Navigation lights, which can be temporarily removed, shall be ignored when determining Vertical Clearance. Maximum Vertical Clearance provided by movable bridges should be determined when the bridge is in the open position. If the clearance is unlimited (bascula or swing types), record 99.9m or 999 feet.

If the Feature Intersected is not a navigable waterway, or if the bridge is not over water, record this Item with "0".

CODING:
Accepts the numbers 0 - 99.9 - Metric
0 - 999 - US Customary

ITEM: Minimum Horizontal Clearance Available to Navigation
FHWA 40

PROCEDURE:
Record the Minimum Horizontal Clearance that the bridge provides to navigation, rounded down to he nearest 300mm or one foot. This Minimum Horizontal Clearance should be the same as the clearance shown on a Navigation Permit. It may be less than the structure actually allows. If the Feature is not a navigable waterway or if the bridge is not over water, record this Item with "0".

CODING:
Accepts the numbers 0 - 999.9 - Metric
0 - 9999 - US Customary

ITEM: Stream Bed Material
NYSDoT

PROCEDURE:
If the Feature Intersected is a waterway, record the type of stream bed material in the area of the bridge. If the Feature Intersected is not a waterway, record this Item as “1 - No Waterway.”

CODING:
1 - No Waterway  5 - Sand  * - Unknown
2 - Bed Rock  6 - Silt
RC13: Feature Intersected

3 - Large Stone  7 - Clay
4 - Gravel     0 - Other

ITEM: Bank Protection
NYSDoT

PROCEDURE:
If the Feature is a waterway, record the type of bank protection used in the vicinity of the bridge.
If the Feature is not a waterway, code as "01 - No Bank Protection."

CODING:
01 - No Bank Protection
02 - Rip-Rap, Dry
03 - Rip-Rap, Grouted
04 - Block
05 - Timber
06 - Granular Fill
07 - Cribbing, Concrete
08 - Cribbing, Steel
09 - Steel Sheeteting
10 - Sod
11 - Gabions
12 - Stone Filling
13 - Concrete
00 - Other
** - Unknown

ITEM: Velocity of Current
NYSDoT

PROCEDURE:
If the Feature is a waterway, record the velocity of the stream current in feet or meters per second, based on the data shown on the Contract Plans or from the available Hydraulics Analysis.
If the Feature is not a waterway, enter "0."

CODING:
1 to 99 - Velocity of the current in feet or meters per second
0 - No velocity - still water or no waterway at the bridge site
** - Unknown

ITEM: Factors Affecting Stream Flow (F.A.S.F.)
NYSDoT

PROCEDURE:
If the Feature is a waterway, record any of the features below which affect the stream flow.
If there are no features affecting the flow, or if the Feature is not a waterway, code "1 - Not applicable."

CODING:
1 - Not Applicable
2 - Dam Upstream
3 - Spur Dyke
4 - Energy Dissipater
5 - Dam Upstream and Spur Dyke
RC13: Feature Intersected

6 - Dam Upstream and Energy Dissipater
7 - Dam Upstream, Spur Dike, and Energy Dissipater
8 - Other
* - Unknown

ITEM: Bypass Detour Length
FHWA 19

PROCEDURE:
This item is no longer used.

CODING:
No coding required.

ITEM: STRAHNET Designation
FHWA 100

PROCEDURE AND CODING:
See the RC12 chapter.

ITEM: Designated National Network (for Trucks)
FHWA 110

PROCEDURE AND CODING:
See the RC12 chapter.

ITEM: National Highway System (This Item is for Future Use)
FHWA 104

PROCEDURE:
The “National Highway System” includes the Interstate Highway System as well as other highways which are important to the nation’s economy, defense, and mobility. Guidelines for the development of the NHS were specified in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

This code will always be obtained from the Highway Database (HDMS).

CODING:
N - Feature intersected is not a highway
0 - Feature Carried is not on the NHS.
1 - Feature Carried is on the NHS.
ITEMS INCLUDED IN SPAN (RC15)

Span Number
Intersecting Features by Span
Material Type
Protective Coating Type
Composite Action
Simple, Continuous, Suspended, Curved
Superstructure Type (Span Design Type)
Fracture Critical
Fatigue Resistant
Out-of-Plane Bending
Load Path Redundancy
Internal Redundancy
Structural Redundancy
Span Length
Pier Type
Pier Height
Pier Footing
Pier Piles
Pier Skew Angle
Pier Joint Type
Deck Drainage
Type of Railing (Left & Right)
Bearing Fixed/Expansion (Beginning & End)
Bearing Type (Beginning & End)
Structural Deck Type
Stay-In-Place Forms
Original Wearing Surface
Original Wearing Surface Still In-Place
Present Wearing Surface
Surface Sealant
Ballast
Median Width
RECORD CODE 15: **SPAN**

Data is recorded for each Span of the Bridge. A Span is defined as that portion of a bridge which is included between adjacent supports. Spans are numbered sequentially from the Beginning Abutment.

The first span is always supported by the Beginning Abutment at one end and by a pier, another span or by the Ending Abutment at the other end.

For a span supported by a Cantilever span the second support is the adjacent span or a substructure element.

Suspended spans are always supported by adjacent spans.

**ITEM: Span Number**

**NYSDoT**

**PROCEDURE:**
Record the span number of the span being inventoried. The span number should be right justified.

**CODING:**
Accepts numeric characters: 1 – 999

**ITEM: Features Intersecting Spans**

**NYSDoT**

**PROCEDURE:**
Record the feature or features that cross under the bridge span being inventoried. A maximum of 4 intersecting features can be entered for each span of the bridge being inventoried.
For example, a bridge has 3 features passing underneath it. The first feature is a highway, the second a stream and the third is a railroad. The bridge is a 5 span bridge and the second listed feature (stream) passes under span 1, the entry on the form should indicate that feature 3 is the intersecting feature for span 1. (Enter code 003 in the first “intersecting span feature” on the form). If more than one feature intersects a single span then they should be listed in order on the Inventory Form Record RC15.

**CODING:**

000 – 100

**ITEM: Material Type**

**PROCEDURE:**

Record the type of material used to fabricate the primary members of the span being inventoried.

**CODING:**

1 - Steel - Bridge was built with mild structural steel that was commonly used at the time of construction. Commonly used grades have been A7, A373, A36, A440, A441, A572, A709.

2 - Weathering Steel - Bridge was built with ASTM A242, A588 or A709 "W" grade steel. This code is also used for painted weathering steel bridges.

3 - Special Steel - Bridge was built using steel with a special chemical composition and/or special heat treatment (quenched and tempered plate). Usually A514 or A517 grade.

4 - Hybrid Steel Section - This is used to describe a section which is composed of more than one type of steel (e.g., the web is composed of one type of steel and the flanges are composed of another type).

5 - Corrugated Steel as used for culverts.

6 - Wrought Iron or Cast Iron - Normally seen only on bridges built before 1900.

7 - Aluminum

8 - Timber

9 - Masonry

A - Concrete, Unreinforced

B - Concrete, Reinforced

C - Concrete, Unknown - Use this to indicate if the presence of reinforcement cannot be determined.

D - Prestressed Concrete, Post-Tensioned

E - Prestressed Concrete, Pre-tensioned

F - Prestressed Concrete, Unknown - Use this to record that the structure is known to be prestressed, but the method of prestressing (pre-tensioning or post-tensioning) is unknown.

X – Other
ITEM: **Protective Coating Type**  
NYSDoT

PROCEDURE:  
Record the type of Protective Coating which has been applied to the span being inventoried.

CODING:

1 - Painted, Lead-Based - The superstructure has a lead-based topcoat or non lead-based topcoat applied over existing lead-based paint.

2 - Painted, Not Lead-Based - The superstructure is completely painted with non-lead based paint.

3 - Painted, Unknown - The superstructure is painted, but it is not known if lead is present in the paint.

4 - Unpainted (No Coating) - The superstructure is not painted and has no other coating (e.g., weathering steel).

5 - Galvanized or Metalized - The primary members are hot-dip or mechanically galvanized. Also use this item for any flame sprayed coating system or aluminized surface.

6 - Bituminous Based Coating

7 - Concrete Coated - A concrete coating has been sprayed on the primary members, or the primary members have been encased in concrete.

8 - Coating Containing Asbestos - Use this item if the coating contains asbestos, even if it also fits another description.

9 - Other Coating – For any coating that does not fall in any of the above categories.

A - Localized Painting, Lead-Based - Use this to record that the superstructure has been painted, in specific areas only (e.g., under joints, in splash zones, etc.).

B - Localized Painting, Not Lead-Based - Use this to record that the superstructure has been painted in specific areas only (e.g., under joints, in splash zones, etc.)

**Note:** A prohibition against lead-based paint went into effect on January 12, 1989. State contracts which were let prior to that date may or may not contain lead-based paint. Therefore, each bridge that was let prior to this date should be investigated individually. Non-state contracts are not bound by state specifications. Therefore, non-state bridges should be investigated individually for lead-based paint, regardless of the original contract letting date.

ITEM: **Composite Action**  
NYSDoT

PROCEDURE:  
Record whether or not the span being inventoried was designed for Composite Action.

CODING:

1 - Non-composite - No primary member composite action. A jack arch is considered to be non-composite unless shear connectors are present. Prestressed bridges with concrete surfaces epoxied in place are considered to be non-composite if there are no stirrups extending into the deck.
2 - Composite

U – Unknown - Use this to record that the existence of Composite Action cannot be determined.

N - Not Applicable – Applies when there is no separate structural deck, such as a slab bridge or culvert.

**ITEM: Simple, Continuous, Suspended, Curved**

**NYSDoT**

**PROCEDURE:**
Record whether the span being inventoried is simply supported, one of a series of continuous spans, part of a suspended span configuration or is curved in the horizontal plane. If none of the following apply, such as for culverts, code this item N.

**CODING:**

1 - Simple Span
2 - Simple Span- Curved Stringer
3 - Simple Span- Cont. for Live Load
4 - Simple Span- Retrofitted for Live Load Continuity
5 - Continuous Span
6 - Continuous Span - Curved Stringer
7 - Cantilever Span - for seated Span
8 - Anchor Span - for Cantilever Span
9 - Cantilever Span - for Fixed, Pinned or Hinged Span
A - Suspended Span - Fixed Hanger
B - Suspended Span - Expansion Hanger
E - Suspended Span - Other Than Hangers or Seated
F - Suspended Span – Seated
G - Suspended Span
H - Suspended Span
I - Suspended Span
J - Suspended Span
K - Hinged Span

Use code only if the structure was originally designed for this condition. This category would include prestressed bridges that have been designed as simple span for dead load and continuous for live load.

The structure was originally designed with simple spans, but has since been retrofitted for live load continuity.

The cantilever span is supporting an adjacent span seated on bearings.

The span adjacent to a cantilever span.

The cantilever span is supporting a suspended span by a fixed hanger, a pin and hanger, a pin or a hinge.

At least one end of the suspended span is supported by a fixed hanger.

One end of a suspended span is supported by an expansion pin and hanger and the other end is supported by anything but a fixed hanger.

The span does not fit into any of the other suspended span categories.

Both ends of a suspended span are supported bearing devices not mentioned above.

Use one of the following appropriate "suspended span (retrofitted)" codes to record that the original suspension system on a suspended span has been retrofitted (e.g., thrust blocks, slings, etc.)

G - Suspended Span
H - Suspended Span
I - Suspended Span
J - Suspended Span
K - Hinged Span

Fixed Hanger (Retrofitted)
Expansion Hanger (Retrofitted)
Other than Hangers or Seated (Retrofitted)
Seated (Retrofitted)
The span is hinged, by a pin, at either end.
ITEM: **Superstructure Span Design Type**

NYSDoT

**PROCEDURE:**
Record the Superstructure Type (Span Design Type) for the span being inventoried. The following is a list of various Superstructure Types. See the sketches for clarification.

01 - Slab
02 - Slab, Voided
03 - Box, Adjacent
04 - Box, Spread
05 - Tee Beam
06 - I-Beam (P/S)
07 - Box, Channel (P/S)
08 - Segmental Box
09 - Rolled Beam, Multi-Girder
10 - Rolled Beam - Deck with Floorbeam System
11 - Rolled Beam - Thru with Floorbeam System
12 - Rolled Beam - Jack Arch
13 - Plate Girder - Multi-Girder
14 - Plate Girder - Deck with Floorbeam System
15 - Plate Girder - Thru with Floorbeam System
16 - Plate Girder - Jack Arch
17 - Truss, Deck
18 - Truss, Thru - (Overhead Bracing)
19 - Truss, Thru - (No Overhead Bracing)
20 - Truss, Combination - (Thru and Deck)
21 - Truss, "Kit Bridge"
22 - Thru Arch
23 - Thru Arch - Tied
24 - Deck Arch - Open Spandrel
25 - Deck Arch - Closed Spandrel
26 - Metal Pipe Arch - (Pipe)
27 - Frame
28 - Frame with Floorbeam System
29 - Movable, Bascule
30 - Movable, Lift
31 - Movable, Swing
32 - Orthotropic
35 - Inverset - Plate Girder
36 - Inverset - Rolled Beam
37 - Suspension
38 - Single Box
39 - Tunnel
40 - Single Box Culvert
41 - Multiple Pipe Culvert (FHWA)
42 - Single/Multiple Pipe Culvert (FHWA/NYS)
43 - Multiple Box Culvert
44 - Timber Beam
XX - Other
UU - Unknown
Design Type Illustrations

**Type 01 - Slab, Solid**
Solid reinforced concrete structural slab, rarely greater than 18" (450 mm) deep, usually with the slab functioning as the structural deck/wearing surface. Requires Plans to differentiate from 02 Slab, Voided.

**Type 02 - Slab, Voided (P/S)**
Description: Adjacent, prestressed, reinforced concrete structural slab, with 2 or 3 circular voids, rarely greater than 18" (450 mm) deep, usually with a cast-in-place structural deck/wearing surface. Requires Plans to differentiate from 01 Slab Solid.

**Type 03 - Box, Adjacent (P/S)**
Description: Adjacent, precast concrete or steel, box shaped, voided, sections, usually with a cast-in-place structural deck. Up to 4' (1.2m) deep.

**Type 04 - Box, Spread (P/S)**
Description: Spaced, precast concrete or steel, box shaped voided, sections with a cast-in-place structural deck.

**Type 05 - Tee Beam**
Description: Adjacent or spaced, cast-in-place or precast concrete Tee shaped units with a cast-in-place structural deck. Some designs use multiple Tee shapes precast in one unit, such as the Quad Tee.
Top; Quad Tee, Bottom; C.I.P. Tee

**Type 06 - I-Beam (P/S)**
Description: Spaced, prestressed concrete beams cast in the shape of an "I" with a cast-in-place structural deck/wearing surface. Also includes NEBT sections.

**Type 07 - Box, Channel (P/S)**
Description: Adjacent, prestressed concrete beams cast in the shape of an inverted "U" with a cast-in-place structural deck/wearing surface.

**Type 08 - Segmental Box**
Description: Precast sections encompassing the entire cross-section of the bridge, which are then post tensioned together. A cast-in-place wearing surface may be included.
Type 09 - Rolled Beam, Multi-Girder
Description: Rolled steel "I" beams with a cast-in-place structural deck/wearing surface.

Type 10 - Rolled Beam - Floorbeam System, Deck
Description: Rare. Rolled steel "I" beams supported by a floor beam system and a cast-in-place structural deck/wearing surface poured on top of the floorbeam system.

Type 11 - Rolled Beam - Floorbeam System, Thru
Description: Very Rare. Rolled steel, "I" beams placed on either side of the roadway with a floor beam system above the bottom flange and a cast-in-place structural deck/wearing surface on top of the floorbeam system.

Type 12 - Rolled Beam - Jack Arch
Description: Rolled steel "I" beams with arched stay-in-place forms, supporting a cast-in-place concrete deck. There may be a separate wearing surface. The cross section is identical to Type 16 - Plate Girder - Jack Arch with rolled beams instead of plate girders.

Type 13 - Plate Girder - Multi-Girder
Description: The structural deck is supported by multiple, spaced, plate girders.

Type 14 - Plate Girder - Deck with Floorbeam System
Description: The structural deck of a Plate Girder - Floorbeam System is supported near the girder's top flange by floorbeams which span between the girders. The Cross Section is similar to Type 10 - Rolled Beam - Floorbeam System using Plate Girders instead of Rolled Beams.

Type 15 - Plate Girder - Thru with Floorbeam System
Description: Two fabricated girders placed along the sides of the highway with a floor beam system placed above the bottom flange and a cast-in-place structural deck/wearing surface on top of the floorbeam system.
Type 16 - Plate Girder - Jack Arch
Description: The superstructure of a Plate Girder - Jack Arch consists of Plate Girder stringers with arched Stay-in-Place forms supporting a cast-in-place concrete deck. There may be a separate wearing surface. The type 12 configuration is far more common for jack arch decks.

Type 17 - Deck Truss
Description: Trusses support a floorbeam system placed at the top chord with a structural deck supported by the floorbeam system.
Top: Cross Section, Truss deck
Bottom: Elev. View, Deck Truss

Type 18 - Thru Truss - (Overhead Bracing)
Description: Trusses support a floorbeam system at the bottom chords and a structural deck is supported by the floorbeam system. Overhead bracing provided lateral support.
Top: Cross Section, Thru Truss (Overhead Bracing)
Bottom: Elev. View, Thru Truss

Type 19 - Pony Truss - (No Overhead Bracing)
Description: Trusses support a floorbeam system at the bottom chord and a structural deck is supported by the floorbeam system. No overhead bracing is used.
Type 20 - Truss, Combination - (Thru and Deck)
Description: This type is composed of continuous trusses. The approach roadways are supported by deck trusses which transition to a thru truss which supports the Main Span.

Type 21 - Truss, "Kit Bridge"
Description: Prefabricated bridges which are assembled at the site. Various types are available. Usually used for shorter spans by local Bridge Agencies or as temporary bridges.

Type 22 - Thru Arch
Description: A Thru Arch has an elliptical shape. The structural deck is supported by hangers which transfer loads from the deck to the arch.

Type 23 - Thru Arch - Tied
Description: A Tied Arch is similar to a Thru Arch except that the horizontal forces are resisted by a tensile member which ties the ends of the arch together.

Type 24 - Deck Arch - Open Spandrel
Description: A Deck Arch has an elliptical shaped superstructure. Its structural deck is supported by spandrel columns which transfer load from deck to arch.

Type 25 - Deck Arch - Closed Spandrel
Description: A Closed Spandrel Arch is a Deck Arch. Its roadway is supported by fill which is retained between the deck and the arch by the spandrel walls.
**Type 26 - Metal Plate Arch (Pipe)**
Description: This is a structure composed of curved steel plates supported on concrete substructures. The surface can be smooth but is usually corrugated. The plates are joined by riveting, bolting or welding. The roadway is supported by earth fill which is placed between the arch and the roadway. The fill is contained by full height sidewalls or it is placed on a stable slope.

**Type 27 - Frame**
Description: This is a steel or concrete rigid frame whose "legs" act as piers to provide intermediate support. The entire frame, including its "legs" is considered to be the superstructure. The "legs" are supported by bearings which are placed on concrete footings.

**Type 28 - Frame with Floorbeam System**
Description: This type is generally the same as Superstructure Type 27, except that the structural deck is carried by floorbeams which are supported by the rigid frame.

**Type 29 - Movable, Bascule**
Description: This is a span which can be raised at one end to provide a temporary increase in vertical clearance for navigation.

**Type 30 - Movable, Lift**
Description: A span which can be mechanically raised while maintaining its horizontal orientation. Normally used to provide temporary increased vertical clearance for navigation.

**Type 31 - Movable, Swing**
Description: A span which can be mechanically rotated 90° to provide unlimited temporary vertical clearance for navigation.

**Type 32 - Orthotropic**
Description: A span with a structural steel plate deck. The deck is connected to the stringers. This connection enables the deck and the stringers to act as a unit to resist applied loads.

**Type 35 - Inverset - Plate Girder**
Description: This is a plate girder with a concrete deck poured integrally with the top flange while the beam is being held in a cambered position by gravity. Shop drawings or contract plans will usually be required to determine that fabrication is by conventional, prefex or inverset methods, since this cannot normally be determined in from visual inspection.
Type 36 - Inverset - Rolled Beam
Description: This is a rolled beam with a concrete deck poured integrally with the top flange while the beam is being held in a cambered position by gravity. Shop drawings or contract plans will usually be required to determine that fabrication is by conventional, preflex or inverset methods, since this cannot normally be determined in from visual inspection.

Type 37 - Suspension
Description: A Suspension Bridge has a deck and a stiffening truss suspended from two main cables. These main cables are draped over intermediate towers and anchored at each end of the bridge. Suspender ropes transfer the loads from the deck and the stiffening truss to the main cables.

Type 38 - Single Box
Description: This is a steel or concrete, trapezoidal or rectangular voided shape. A single unit may support the entire roadway section.

# 1 Cross Section, Single Box
# 2 Elevation View, Single Box

Type 39 - Tunnel
Description: A Tunnel is an underground passage constructed through a natural obstruction (mountain, river, etc.), which carries railroad or vehicular traffic.

Type 40 - Single Box Culvert
Description: A structure with a rectangular cross-section which carries a highway or a railroad over a stream or drainage facility. There is usually an embankment between the culvert and the roadway. It may be cast-in-place or be composed of adjacent precast units (as illustrated).

Type 41 - Multiple Pipe Culvert (FHWA)
Description: The superstructure is composed of multiple circular or elliptical pipes. The pipes may be steel or concrete. The maximum opening of any single pipe is below 20’. However, the “A” dimension must exceed 20’, and “B” must be less than “C”, for the structure to be considered a bridge.
Type 42 - Single/Multiple Pipe Culvert  
(FHWA/NYS)  
Description: Same as type 41 (see previous description), except that at least one of the pipes has a maximum opening which exceeds 20 feet.

Type 43 - Multiple Box Culvert  
Description: Same as type 40 (see previous description), except that this type has multiple spans acting continuously.

Type 44 - Timber Beam  
Description: This type is composed of solid or laminated timber beams. The deck planks are often transverse to the beams, but can also be parallel. In the latter case, the deck planks are post-tensioned together with steel rods.

Type 00 - Other  
Description: Use this to indicate that the type does not match any of the given choices.

Type XX - Unknown  
Description: This code should only be used if the primary members cannot be seen and plans are unavailable.

ITEM: Fracture Critical  
NYSDoT  

PROCEDURE:  
Record whether the span being inventoried is fracture critical or has fracture critical components as defined by the current edition of the New York State DOT Bridge Manual. Two and three girder systems are to be considered fracture critical, with the following exceptions:

- The structure designed with heavy bracing to provide an alternate load path. In other words, if a girder fractures, the bracing is substantial enough to enable the other girder(s) to withstand the applied load.
- A three girder system which supports only one traffic lane.

Multi-member spans which frame into a fracture critical component, such as the steel cap beam of a pier, are considered to be fracture critical.

CODING:  
1 - Yes Indicates that the span contains tension or flexural members with tension components where failure will cause the collapse of the structure.

2 - No Indicates that the span does not contain fracture critical members.

U - Unknown Fracture critical status has not been determined.
ITEM: **Fatigue Resistant**

**NYSDoT**

**PROCEDURE:**
Record the most critical fatigue category present in the primary members of the span being inventoried, as defined by AASHTO. The descriptions and illustrations of these details and their assignment to the respective categories is found in the New York State Standard Specifications for Highway Bridges. On most structures, several different categories will appear. If this is the case, record the worst category.

The upgrade codes should be used only when the governing detail was upgraded by an approved repair procedure. When using any of the three upgrade codes, record the category that applied for the detail before the upgrade. For example, if an AASHTO category D detail was upgraded to an AASHTO category C detail, it should be recorded as: D, E, and E' details - upgraded.

Not applicable may only be used for structures built of materials where fatigue does not apply. These would include concrete, masonry and wood.

**CODING:**

1 - A & B Details
2 - C Details
3 - D, E and E' Details
4 - A and B Details - Upgraded
5 - C Details - Upgraded
6 - D, E and E' Details - Upgraded
N - Not Applicable
U - Unknown

ITEM: **Out-of-Plane Bending**

**NYSDoT**

**PROCEDURE:**
Record whether details are present which can cause steel primary members to be susceptible to damage from out-of-plane bending.

Report FHWA-PA-89-022 entitled “Manual for Inspecting Bridges for Fatigue Damage Conditions” provides excellent guidance for identifying conditions where out-of-plane bending may be an issue. Generally, out-of-plane bending occurs when differential deflections between adjacent members cause stress concentrations due to weak axis (out-of-plane) bending which can lead to cracking. Narrow web gaps at connection plates and stiffeners used as connection plates are details which are especially susceptible to this phenomenon.

The magnitude of this out-of-plane movement depends on:
- the spacing and relative stiffness of the members
- the bridge skew
- the type of framing details

The right combination of these factors, in conjunction with a finite number of fatigue load cycles, will initiate a phenomenon called distortion - induced cracking. If allowed to propagate, this cracking can result in a brittle fracture.

Out-of-plane bending occurs most commonly in girder webs. Therefore, either the web must be flexible enough to allow the induced deflection to be accommodated, or the web must be stiff enough to work as a unit with the flanges, to resist the out-of-plane force.

If floor beams or diaphragms are connected to a girder using back-to-back, full-height connection plates or stiffeners, the induced force will be resisted by the entire unit, not just the web, so out-of-plane
distortion is not an issue. If the gap between the stiffener and the tension flange is greater than 4 to 6 times the web thickness, the web is considered to be flexible enough to withstand the distortion without cracking.

The option, “yes - retrofitted”, should be used whenever the susceptibility of a member to out-of-plane bending is an original condition whose severity has been reduced by a retrofit procedure.

CODING:
1 - Yes
2 - Yes - Retrofitted
3 – No
U - Unknown

ITEM: Load Path Redundancy
NYSDoT

PROCEDURE:
Record whether the span being inventoried is considered load path redundant.

Use the following codes to record the number of main structural members and whether or not multiple load paths exist, either by original design or by retrofit. Use the retrofit codes only for structures which have a permanent, designed retrofit. They should not be used to indicate a “temporary fix.”

CODING:
1 - Single Member
2 - Two Member
3 - Two Member with Multiple Load Paths. May only be used in cases where this multiple load path condition has been confirmed through engineering design.
4 - Two Member - Retrofit with Additional Member(s)
5 - Two Member - Retrofit with Multiple Load Paths
6 - Three Member
7 - Three Member with Multiple Load Paths. May only be used in cases where this multiple load path condition has been confirmed through engineering design.
8 - Three Member - Retrofit with Additional Member(s)
9 - Three Member - Retrofit with Multiple Load Paths
A - Multi-Member
B - Multi-Member - Retrofitted
N - Not Applicable - should be used where the load path redundancy is not a structural factor; e.g., tunnel, culvert, etc.
U - Unknown

ITEM: Internal Redundancy
NYSDoT

PROCEDURE:
The method used to assemble the main structural members as it relates to Internal Redundancy, which enables a main member to redistribute applied loads through multiple internal elements. In other words, a member that is internally redundant will not fail if one of its individual components fails.

A built-up riveted girder has high internal redundancy because a crack cannot propagate from one of its internal elements to another. Conversely, a welded plate girder has a no internal redundancy because a crack can easily propagate from one element to another.
The codes, Internally Redundant, Not Specified Above and Internally Non-Redundant, Not Specified Above, apply mainly to concrete structures. If a concrete structure is unreinforced or reinforced with minimal steel only, it should be recorded as: Internally Non-Redundant, Not Specified Above. If a concrete structure contains designed reinforcement, it should be recorded as: Internally Redundant, Not Specified Above.

Timber and other less common materials should be recorded as Not Applicable.

In some instances, the internal redundancy of a member is compromised by welding. One example of this is a riveted, built-up plate girder where flange plates were tack welded together to aid in fabrication. Another example is a riveted, built-up plate girder with an attachment which is welded to more than one plate. In these cases, use Riveted - Internal Redundancy Compromised by Welding.

**CODING:**
1 - Welded
2 - Rolled
3 - Riveted
4 - Eyebars - one or two per member
5 - Eyebars - three or more per member
6 - Internally Redundant - Not Specified Above
7 - Internally Non-Redundant - Not Specified Above
8 - Riveted - Internal Redundancy Compromised by Welding
N - Not Applicable
U - Unknown

**ITEM: Structural Redundancy**
NYSDoT

**PROCEDURE:**
Record whether the span being inventoried is structurally redundant, which refers to the ability of a structure to redistribute its loads, within a primary member, due to the continuity of that member.

The end spans of a continuous beam are structurally non-redundant. The interior spans are structurally redundant. Use “S” to record either a simple span, a cantilever span or a suspended span. “N” should be used to record tunnels, culverts, rigid frames, etc., where structural redundancy is not a factor. “U” should be used only if primary members are not accessible for inspection and plans are not available.

When updating any one of the six subfields, the other subfields must also be re-entered. No column should be left blank.

**CODING:**
C - An interior span of a continuous structure which has at least three spans
S - A simply supported span or the end span of a continuous structure
N - Not Applicable
U - Unknown

**ITEM: Span Length**
NYSDoT

**PROCEDURE:**
Record the length of the span being inventoried to the nearest 300mm or one foot.

The span length is defined as the distance between adjacent points of support for a superstructure member. For culvert type structures, record the clear opening from face of wall to face of wall parallel with the centerline of roadway.
If the span has non-parallel substructures or a curved superstructure, the span length may vary transversely from fascia to fascia. In this case, measure the length between adjacent points of support, on both sides of the bridge. These lengths should be measured along the face of the curbs or the inside face of the railings. The length to be recorded is the average of these two measurements.

**CODING:**
- 0.0 - 999.9 - Metric Units
- 0 - 9999 – U.S. Customary Units

**ITEM: Pier Type**

**NYSDot**

**PROCEDURE:**
Record the type of pier which supports the span being inventoried. Starting from the beginning abutment, the first pier encountered is Pier "1" and it is recorded with Span "1." The second pier encountered is Pier "2" and it is recorded with Span "2." All remaining piers are consecutively numbered in this manner.

A concrete rigid frame is defined as a multiple column pier which is designed to act as a frame. Frame action occurs only when the vertical column reinforcement is extended into the cap beam or lapped with the cap beam reinforcement to develop the capacity for moment resistance at the beam/column interface.

The concrete column with concrete cap beam configuration is similar in appearance to the concrete rigid frame, except that there is no continuity between the reinforcement in the columns and the reinforcement in the cap beam. Therefore, there is no designed moment resistance at the beam/column interface.

**CODING:**

See Coding Chart on following page:
Pier Type Descriptions

01 - No Pier
Solid concrete shaft supports superstructure.

02 - Solid, Concrete
Similar to Solid, Concrete above, but constructed of un-reinforced stonework or brickwork. This does not include aesthetic treatments on reinforced concrete.

03 - Solid, Masonry
Superstructure members supported by individual columns.

04 - Individual Columns
Concrete pier with a solid shaft and cap beam. The cap beam cantilevers out beyond either side of the shaft.

05 - Hammerhead
Column reinforcement extends into cap beam and is lapped with cap beam reinforcement to resist the applied moments at the beam/column interface.

06 - Rigid Frame, Concrete
Steel cap beam is welded or bolted to steel columns to resist the applied moments at the beam/column interface.

07 - Rigid Frame, Steel
Concrete cap beam is supported by columns, but no designed moment resistance is provided at the beam/column interface.

08 - Concrete Columns with Concrete Cap Beam
Steel cap beam is supported by concrete columns, but no designed moment resistance is provided at the beam/column interface.

09 - Concrete Columns with Steel Cap Beam
Concrete pier with a “V” shaped shaft. The shaft may be solid or consist of members inclined to form a “V” shape.

10 - “V” Bent, Concrete
Steel pier composed of columns inclined to form a “V” shape.

11 - “V” Bent, Steel
Pile bent is composed of a number of steel piles driven to resistance and extended above the ground or water surface. The piles support a cap beam.

12 - Pile Bent, Steel
Same as above, except that the bent is composed of Cast-in-Place concrete piles.

13 - Pile Bent, Concrete
Same as above, except that the bent is composed of pre-cast concrete piles.

14 - Pile Bent, Timber
Same as above, except that the bent is composed of timber piles.

15 - Trestle Bent, Steel
A trestle bent is composed of a steel cap beam supported by three dimensional steel trusses which act as columns.

16 - Trestle Bent, Timber
Same as above, except that the bent is composed of timber piles.

00 - Other

Pier Type: Sketches

The following sketches illustrate the various Pier Types.

Elev View ; #3 Solid Masonary

Elev View ; #3 Solid Masonary
ITEM: Pier Height
NYSDoT

PROCEDURE:
Record the height of the pier supporting the span being inventoried to the nearest tenth of a meter or to the nearest foot. The height is defined as the distance between the bottom of the footing and the top of the cap beam. If there is no cap beam, (individual columns, solid pier, etc., ) measure to the top of the surface on which the bearings rest. The height should be input and right justified. If there is no pier, leave the Item blank.

CODING:
Accepts numeric characters greater than 00 and blanks.

ITEM: Pier Footing
NYSDoT

PROCEDURE:
Record the type of pier footing for the span being inventoried, using the record plans as a reference. If codes 1-7 are used, then the "Pier Piles" Item should be coded “1.” If there is no pier, leave this Item blank.

CODING:
1 - None - Stem Doweled to Rock
2 - Individual Spread - on Rock
3 - Continuous Spread - on Rock
4 - Individual Spread - on Earth Fill
5 - Continuous Spread - on Earth Fill
6 - Individual Spread - on Earth Cut
7 - Continuous Spread - on Earth Cut
8 - Individual Pile
9 - Continuous Pile
0 - Other

ITEM: Pier Piles
NYSDoT

PROCEDURE:
Record the type of piles supporting the pier for the span being inventoried, using the record plans as a reference. If there is no pier, leave this Item blank.

CODING:
1 - No Piles
2 - Steel, "H"or "I" Section
3 - Steel Pipe
4 - Concrete, Cast-in-Place
5 - Concrete, Cast-In-Place, Tapered
6 - Concrete, Precast
7 - Concrete, Prestressed, Precast
8 - Timber
0 - Other
* - Unknown
ITEM: Pier Skew Angle
NYSDoT

PROCEDURE:
Record the skew angle, to the nearest degree, at the pier for the far end of the span being inventoried. The skew angle is defined as the angle between the centerline of bearings and a line which is either radial or perpendicular to the centerline of the feature carried. If there is no pier, leave this Item blank.

CODING:
Accepts numeric characters 00 - 89, and blanks.

ITEM: Pier Joint Type
NYSDoT

PROCEDURE:
Record the type of joint at the pier at the far end of the span being inventoried. If there is no pier, leave the Item blank.

CODING:
See chart below:

<table>
<thead>
<tr>
<th>PIER JOINT TYPE</th>
<th>EXPANSION</th>
<th>CODING</th>
<th>FIXED</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>01</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Finger</td>
<td>02</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Sliding Plate</td>
<td>03</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Filled, Elastic Material</td>
<td>04</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Open with Trough</td>
<td>05</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Open</td>
<td>06</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Elastomeric (Transflex, Wabo-Flex) (See BD 75-60 A, G)</td>
<td>07</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Sealed - Embedded Membrane (RR)</td>
<td>08</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>09</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>10</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Armored Elastomeric (See BD 80-64 A, B, C)</td>
<td>11</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Armored Compression Seal (See BD 80-61, BD 80-63)</td>
<td>12</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Compression Seal</td>
<td>13</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Modular</td>
<td>14</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Strip Seal with Integral Armoring Angle</td>
<td>15</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Strip Seal - Extrusion Anchored to Deck, No Elastomeric Concrete</td>
<td>16</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Strip Seal - Extrusion Embedded in Elastomeric Concrete</td>
<td>17</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Strip Seal - Type Unknown</td>
<td>18</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Sawed and Filled</td>
<td>NA</td>
<td>21</td>
<td></td>
</tr>
</tbody>
</table>
ITEM: Deck Drainage
NYSDoT

PROCEDURE:
Record the type of deck drainage used on the span being inventoried.

CODING:
1 - None
2 - Scuppers, with downspout to ground or sewer
3 - Scuppers, no downspout to ground or sewer
4 - Intermittent Grating
5 - Continuous Grating
6 - Pipe
0 - Other

ITEM: Type of Railing (Left/Right)
NYSDoT

PROCEDURE:
Enter the appropriate code that corresponds to the type of railing being inventoried. If the code is not listed then use the "Other" code.

CODING:
Active Railing Codes in BDMS database for RC15 Span Rails.
00 = Other
01 = None (no railing)
02 = Steel (Conforms to AASHTO Standards)
03 = Steel (Does not conform with AASHTO Standards)
04 = Aluminum (Conforms to AASHTO Standards)
05 = Aluminum (Does not conform with AASHTO Standards)
06 = Cable
07 = Concrete , including, but not limited to; Parapets less than 70mm high without bridge rail, Parapets less than 70mm high with an attached discontinuous railing, or with any Aluminum Railing System.
08 = Link Fence
09 = Steel Baustrade
10 = Concrete Baustrade
11 = Pipe
12 = Timber (Conforming to AASHTO Standards)

ITEM: Bearing Fixed/Expansion (Beginning/End)
NYSDoT

PROCEDURE:
Record whether the bearing at the beginning and the end of the span being inventoried is fixed or expansion.

Input the beginning bearing fixity in Column 45 and the end bearing fixity in Column 48.

CODING:
1 - No Bearing
2 - Fixed
3 - Expansion
* - Unknown
**ITEM: Bearing Type (Beginning/End)**

**NYSDoT**

**PROCEDURE:**
Record the type of bearing at the beginning and the end of the span being inventoried.

Input the Beginning Bearing type in Columns 46 - 47 and the End Bearing type in Columns 49 - 50.

<table>
<thead>
<tr>
<th>BEARING TYPE (BEGINNING/END)</th>
<th>CODING</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>EXPANSION</td>
</tr>
<tr>
<td>Steel Roller</td>
<td>2</td>
</tr>
<tr>
<td>Steel Rocker</td>
<td>3</td>
</tr>
<tr>
<td>Steel Sliding on Phosphor Bronze</td>
<td>4</td>
</tr>
<tr>
<td>Steel Sliding on Steel</td>
<td>5</td>
</tr>
<tr>
<td>Steel Sliding on Lubrite</td>
<td>6</td>
</tr>
<tr>
<td>Steel Sliding, Surface Unknown</td>
<td>7</td>
</tr>
<tr>
<td>Pot Bearing with P.T.F.E. (Ex. Teflon)</td>
<td>8</td>
</tr>
<tr>
<td>Multi-Rotational (Pot Bearing) Guided</td>
<td>9</td>
</tr>
<tr>
<td>Multi-Rotational (Pot Bearing) Unguided</td>
<td>10</td>
</tr>
<tr>
<td>Multi-Rotational (Disc Bearing) Guided</td>
<td>11</td>
</tr>
<tr>
<td>Multi-Rotational (Disc Bearing) Unguided</td>
<td>12</td>
</tr>
<tr>
<td>Elastomeric with P.T.F.E. (Ex. Teflon)</td>
<td>14</td>
</tr>
<tr>
<td>Elastomeric, Fabric Type with P.T.F.E. (Ex. Teflon)</td>
<td>15</td>
</tr>
<tr>
<td>Elastomeric Laminated</td>
<td>16</td>
</tr>
<tr>
<td>Elastomeric, Steel Laminated</td>
<td>17</td>
</tr>
<tr>
<td>Elastomeric, Fabric Laminated</td>
<td>18</td>
</tr>
<tr>
<td>Elastom, Steel Laminated w/Ext. Load Plate</td>
<td>19</td>
</tr>
<tr>
<td>Elastomeric, Steel Laminated w/Lead Core</td>
<td>20</td>
</tr>
<tr>
<td>Elastom, Laminated with P.T.F.E. (Ex. Teflon)</td>
<td>21</td>
</tr>
<tr>
<td>Steel, Type Unknown</td>
<td>22</td>
</tr>
<tr>
<td>Elastomeric, Type Unknown</td>
<td>23</td>
</tr>
<tr>
<td>Other</td>
<td>00</td>
</tr>
<tr>
<td>Steel, Rotates on Rocker</td>
<td>-</td>
</tr>
<tr>
<td>Steel, Rotates on Pin</td>
<td>-</td>
</tr>
<tr>
<td>Plain Rubber Pad</td>
<td>-</td>
</tr>
</tbody>
</table>

**ITEM: Structural Deck Type**

**FHWA 107**

**PROCEDURE:**
Record the type of structural deck used on the span being inventoried. A structural deck is a structural component which is designed to span between stringers, girders, or floorbeams, and to carry its own weight and any applied dead loads or live loads.

**CODING:**
01 - None
02 - C-I-P Portland Cement Concrete - Uncoated Rebars
03 - Timber
04 - Steel Grating, open
05 - Steel Grating, filled
06 - Steel Plate
07 - Orthotropic Steel Plate
08 - Longitudinally Stiffened Steel Plate
ITEM: Stay-in-Place Forms
NYSDoT

PROCEDURE:
Record whether or not Stay-In-Place Forms are used on the span being inventoried.

CODING:
1 - Stay-In-Place Forms Not Used
2 - Stay-In-Place Forms Used

ITEM: Original Wearing Surface
FHWA 108

PROCEDURE:
Record the type of Original Wearing Surface placed on the deck of the span being inventoried when the bridge was originally constructed or when the deck was replaced or rehabilitated by a major rehabilitation project. This entry will not change until the deck (or bridge) is replaced.

CODING:
01 - None (Including bridges which do not carry highways)
02 - Portland Cement Concrete Overlay (Including prestressed adjacent slabs with "monolithic concrete" overlays)
03 - Precast Portland Cement Concrete Plank
04 - Asphalt Concrete
05 - Asphalt Concrete Block
06 - Integral or Monolithic Portland Cement Concrete
07 - Wood or Wood Block
08 - Stone, Block or Brick
09 - Steel Grate, open
10 - Steel Grate, concrete filled
11 - Epoxy or similar material (including Polymer)
12 - Bonded Concrete
14 - Asphalt Concrete without Membrane
22 - Concrete with Membrane
24 - Asphalt Concrete with Membrane
32 - High Density Concrete
34 - Asphalt Concrete with Preformed Sheet Membrane
42 - Latex Modified Concrete
44 - Asphalt Concrete with Coal Tar Epoxy Membrane
45 - Micro-Silica Overlay
52 - Class "HP" Concrete
54 - Asphalt Concrete with Membrane other than Coal Tar
64 - Asphalt Concrete with Mastic Membrane
NN - Other
ITEM: Original Wearing Surface Still In-Place
NYSDoT

PROCEDURE:
Record whether the Original Wearing Surface is still In-Place.

CODING:
1 - Original wearing surface is still in use
2 - Original wearing surface is still in-place (overlaid)
3 - Original wearing surface has been removed
* - Unknown

ITEM: Present Wearing Surface
NYSDoT

PROCEDURE:
Record the type of Wearing Surface currently in place. When updating this Item, review the previous Item, Original Wearing Surface Still In-Place, and update if necessary.

CODING:
Use the codes listed for the “Original Wearing Surface” Item.

ITEM: Surface Sealant
NYSDoT

PROCEDURE:
Record the type of sealant used on the wearing surface of the span being inventoried.

CODING:
1 - None
2 - Linseed Oil
3 - Silane
* - Other

ITEM: Ballast
NYSDoT

PROCEDURE:
Record whether the bridge deck is ballasted on the span being inventoried.

If the bridge does not carry railroad traffic, code this Item with “1.”

CODING:
1 - Bridge does not carry railroad traffic
2 - Deck does not have Ballast
3 - Deck has Ballast
ITEM: Median Width
NYSDoT

PROCEDURE:
Record the width of the median on the span being inventoried to the nearest 30mm or tenth of a foot.
If this width varies, record the average width.
If there is no median, record this Item with "00.0".

CODING:
Accepts numeric characters 00.0 – 99.9
ITEMS INCLUDED IN SPAN INSPECTION (RC16)

<table>
<thead>
<tr>
<th>Inspection Date</th>
<th>Span Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wearing Surface Rating</td>
<td></td>
</tr>
<tr>
<td>Monolithic Surface Rating</td>
<td></td>
</tr>
<tr>
<td>Curbs Rating</td>
<td></td>
</tr>
<tr>
<td>Sidewalk/Fascia Rating</td>
<td></td>
</tr>
<tr>
<td>Rail/Parapets Rating</td>
<td></td>
</tr>
<tr>
<td>Scupper Rating</td>
<td></td>
</tr>
<tr>
<td>Grate Rating</td>
<td></td>
</tr>
<tr>
<td>Median Rating</td>
<td></td>
</tr>
<tr>
<td>Structural Deck Rating</td>
<td></td>
</tr>
<tr>
<td>Primary Member Rating</td>
<td></td>
</tr>
<tr>
<td>Secondary Member Rating</td>
<td></td>
</tr>
<tr>
<td>Superstr Paint Rating</td>
<td></td>
</tr>
<tr>
<td>Superstr Joint Rating</td>
<td></td>
</tr>
<tr>
<td>Superstr Recommendation</td>
<td></td>
</tr>
<tr>
<td>Pier Bearing Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Pedestal Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Top of Cap Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Stem Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Cap Beam Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Column Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Footing Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Erosion Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Pile Rating</td>
<td></td>
</tr>
<tr>
<td>Pier Recommendation</td>
<td></td>
</tr>
<tr>
<td>Lighting Rating</td>
<td></td>
</tr>
<tr>
<td>Sign Rating</td>
<td></td>
</tr>
<tr>
<td>Utility Rating</td>
<td></td>
</tr>
<tr>
<td>Download Year</td>
<td></td>
</tr>
</tbody>
</table>
The Bridge Data Management System (BDMS) identifies inventory and inspection information about various elements of a bridge. How Bridge Inspection elements are rated is described fully in the NYS Bridge Inspection Manual. They are presented here solely for the purpose of identifying what inspection data is stored in BDMS and what values may be recorded.

BRIDGE INSPECTION RATINGS
NYSDoT

PROCEDURE:
Most of the items in this table record the inspection ratings assigned to individual span elements by the inspector. Ratings are recorded for the following span elements:

<table>
<thead>
<tr>
<th>Wearing Surface Rating</th>
<th>Pier Bearing Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monolithic Surface Rating</td>
<td>Pier Pedestal Rating</td>
</tr>
<tr>
<td>Curbs Rating</td>
<td>Pier Top of Cap Rating</td>
</tr>
<tr>
<td>Sidewalk/Fascia Rating</td>
<td>Pier Stem Rating</td>
</tr>
<tr>
<td>Rail/Parapets Rating</td>
<td>Pier Cap Beam Rating</td>
</tr>
<tr>
<td>Scupper Rating</td>
<td>Pier Column Rating</td>
</tr>
<tr>
<td>Grate Rating</td>
<td>Pier Footing Rating</td>
</tr>
<tr>
<td>Median Rating</td>
<td>Pier Erosion Rating</td>
</tr>
<tr>
<td>Structural Deck Rating</td>
<td>Pier Pile Rating</td>
</tr>
<tr>
<td>Primary Member Rating</td>
<td>Pier Recommendation</td>
</tr>
<tr>
<td>Secondary Member Rating</td>
<td>Lighting Rating</td>
</tr>
<tr>
<td>Superstructure Paint Rating</td>
<td>Sign Rating</td>
</tr>
<tr>
<td>Superstructure Joint Rating</td>
<td>Utility Rating</td>
</tr>
<tr>
<td>Superstructure Recommendation</td>
<td></td>
</tr>
</tbody>
</table>

CODING:
Each span element is given a single digit, numeric rating using the following rating scale:

1 - Totally deteriorated, or in failed condition.
2 - Used to shade between ratings of 1 and 3.
3 - Serious deterioration, or not functioning as originally designed.
4 - Used to shade between ratings of 3 and 5.
5 - Minor deterioration, but functioning as originally designed.
6 - Used to shade between ratings of 5 and 7.
7 - New condition. No deterioration.
8 - Not applicable.
9 - Condition and/or existence unknown.

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.
SPAN NUMBER
NYSDoT

PROCEDURE:
Identifies the span for which the data is provided.

CODING:
Accepts any numeric characters: 0 - 999.

DOWNLOAD YEAR
NYSDoT

PROCEDURE:
This value is assigned by BDMS when the data is extracted to the Microsoft Access database. It is used for archiving each years data.

CODING:
Any four digit year.
RC17: Access

ITEMS INCLUDED IN ACCESS (RC17)

<table>
<thead>
<tr>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span Number</td>
</tr>
<tr>
<td>Walking</td>
</tr>
<tr>
<td>Step Ladder</td>
</tr>
<tr>
<td>Extension Ladder</td>
</tr>
<tr>
<td>40 Ft UBIU (12 m)</td>
</tr>
<tr>
<td>60 Ft UBIU (18 m)</td>
</tr>
<tr>
<td>Lightweight UBIU</td>
</tr>
<tr>
<td>Small Lift</td>
</tr>
<tr>
<td>Medium Lift</td>
</tr>
<tr>
<td>Large Lift</td>
</tr>
<tr>
<td>Rowboat</td>
</tr>
<tr>
<td>Barge</td>
</tr>
<tr>
<td>Diving</td>
</tr>
<tr>
<td>Railroad Flagman</td>
</tr>
<tr>
<td>Railroad Electrical</td>
</tr>
<tr>
<td>Scaffolding</td>
</tr>
<tr>
<td>Lane Closure</td>
</tr>
<tr>
<td>Shadow Vehicle</td>
</tr>
<tr>
<td>Other Access Needs</td>
</tr>
</tbody>
</table>
RC17: Access

The Bridge Data management System (Bdms) identifies all the equipment needed to conduct the bridge inspection. This data is recorded to assist with estimating the bridge inspection effort and to assist the inspector to prepare for the inspection.

ITEM: ACCESS EQUIPMENT
NYSDoT

PROCEDURE:
Access equipment required to inspect the bridge and each span of the bridge are identified. The access needs for each span are recorded with the span number. A summary of access needs for the bridge is recorded with a span number.

A separate field is used to identify the need for each of the following special pieces of equipment.

Walking
Step Ladder
Extension Ladder
40 foot Under Bridge Inspection Unit (UBIU)
60 foot Under Bridge Inspection Unit (UBIU)
Light Weight Under Bridge Inspection Unit (UBIU)
<= 30 foot Lift
30' - 90' Lift
> 90' Lift
Row Boat
Barge
Diving
RR Flagging
Electric Railroad
Scaffolding
Lane Closure Without Shadow Vehicle
Lane Closure With Shadow Vehicle
Other

CODING:
For each span and then for the bridge summary, each piece of equipment is coded as follows:

X - Designated equipment is needed for inspection
0 - Designated equipment is not needed for inspection
ITEMS INCLUDED IN DELETE OR MOVE BIN DATA (RC18)

Description of required 120 character text file

RC18: Delete or Move BIN Data  This Record Code describes the method of deleting active BIN data or copying active BIN data to Project Data within BDMS. To delete or copy BIN data, a 120 character text file is required for processing into BDMS. This text file should contain the information as outlined in the General Coding Instructions of this manual.
RC19: Further Investigation

ITEMS INCLUDED IN FURTHER INVESTIGATION (RC19)

Further Investigation

The Bridge Data Management System (BDMS) records when a bridge inspector determines that further investigation is required to determine the condition of the structure. (See the current NYS Bridge Inspection manual for the definition and criteria for this Item)

ITEM: FURTHER INVESTIGATION:
NYSDoT

PROCEDURE: As part of the Inspection, the inspector determines if further investigation is required for the bridge. Further investigation would include: engineering analysis for Load Posting or removal of concrete casing to reveal the condition of steel members, etc.

CODING: 1 - No 2 - Yes
ITEMS INCLUDED IN WORK HISTORY (RC21)

Type of Work
Month
Year
Contract Number
Type of Contract
Money Value
Comments
Designer Name
Designer Organization
PIN
The Work History Record is used to record work performed on a bridge during its service life. The Work History begins with original construction and includes any contract maintenance or capital projects.

**ITEM: Type of Work**

**NYSDoT**

**PROCEDURE:**
Record the Work Type from the list below. The listed codes are compatible with BDMS. The old codes are to be used as the definitive codes for describing the type of work performed.

**CODING: Capital Project Work Codes**

110. **New Bridge:** Construct a new bridge where none currently exists.

121. **Bridge Replacement: Structural:** Remove an existing bridge because of its deteriorating condition and replace it with a new bridge which provides the same features, carried and crossed on approximately the same alignment.

122. **Bridge Replacement: Functional:** Remove an existing bridge because of substandard capacity or roadway geometry and replace it with a new bridge which provides the same features, carried and crossed on approximately the same alignment. Note, if a bridge is being replaced for both substandard condition and substandard geometry, use code 121, Bridge Replacement: Structural.

220 **Deck Replacement:** Replace the entire deck. Some additional improvements to the superstructure and substructure may be included. However, the entire superstructure or substructure is not being replaced.

230 **Superstructure Replacement:** Replace the entire superstructure. Some additional improvement to the substructure may be included. However, the entire substructure is not being replaced.

*240 **General Rehabilitation:** General improvements are made to various portions of a bridge. However, the deck, superstructure and substructure are not replaced.

410 **Bridge Removal:** Remove a bridge without replacement.

420 **Partial Bridge Removal:** Remove part of a bridge to prevent use.
RC21 Work History

RC21: Work History

Contract Maintenance Work Codes:

Cyclical Maintenance Work Activities

311 Bridge Cleaning: Clean deck, superstructure and substructure to remove salt, dirt and grit.

312 Bridge Painting: Prepare and paint existing steel.

Corrective Maintenance Work Activities

*323 Bridge Repairs on Demand: Work performed in response to flagged condition reports or emergency situations.

*324 Bridge Repairs (5 to 7 year cycle): Work done on structures with a condition rating better than 4.75 aimed at preventing the structure from becoming deficient for 5 years.

*000 Other: Any other bridge maintenance not identified in other applicable code entries. (Comment Field entry required see note 1-2)

Note 1-1:
Codes listed that are followed by an Asterisk (*) are general codes that cover wide areas of work types that can be performed. If you choose to utilize one of these codes as a “work type code” on the Work History Transaction form (RC-21) enter the corresponding codes for the specific type of work performed in the “comments” field.

Note 1-2:
The “000 - Other” code and the “H35 -Repair Other Members” code when utilized needs to be followed by a written description of the work type performed in the comments field of the Work History Transaction Record (RC-21) a maximum of 46 characters can be placed in the comments field.

General Work Codes

110 - New Bridge
121 - Bridge Replacement (Structural)
122 - Bridge Replacement (Functional)
220 - Bridge Deck Replacement (Deck Only)
230 - Superstructure Replacement
240 - General Rehabilitation* (Comment Field entry required. -see note 1-1)
410 - Bridge Removal (No Replacement)
420 - Partial Bridge Removal (to prevent use of the bridge)
311 - Bridge Cleaning
312 - Bridge Painting (Existing Steel)
323 - Bridge Repairs on Demand (repairs due to flagging or emergencies)* (see note 1-1)
324 - Bridge Repairs (5 to 7 year cycle)* (Comment Field entry required. -see note 1-1)
RC21 Work History

**Applicable Codes**

059 - Replace Wearing Surface (Other than 364 or 365)
071 - Bridge Improvements* (Comment Field entry required. -see note 1-1)
073 - Safety Improvements* (Comment Field entry required. -see note 1-1)
075 - Raise Bridge to Increase Clearance
076 - Repair and /or Replace Wingwalls
077 - Repair and /or Replace Backwalls
078 - Replace Joint System
079 - Maintain and Repair Compression Joints
080 - Maintain and Repair Wearing Surface
081 - Replace Curbs
082 - Replace Sidewalk and Fascia
083 - Replace Railing
084 - Repair Light Standards and Fixtures
085 - Repair or Replace Scuppers and Drains
F61 - Install and/or Repair Guide Rail and Median Barrier
F81 - Install and/or Repair Impact Attenuators
G61 - Maintain Stream Channels and Culverts
G81 - Maintain Bank Protection and Walls (Scour)
H11 - Clean Pier Caps and Abutments
H13 - Waterproof Bridge Seats and Pier Caps
H15 - Repair, Replace, or Add to Concrete Substructures
H16 - Repair Substructures with Shotcrete
H18 - Non-concrete Repairs to Substructures
H19 - Repair and /or Replace Slope Block Paving
H21 - Replace and/or Repair Wingwalls
H29 - Clean and Lubricate Bearings
H31 - Repair Bearings (non-working bearings)
H33 - Straighten, Repair, and/or Replace Structural Members
H34 - Repair Concrete Members
H35 - Repair Other Members* (Comment Field entry required. -see note 1-2)
H38 - Clean Superstructure
H41 - Repair Seats and Pedestals
H42 - Repair Columns and Cap Beams
H43 - Repair Abutments and Wingwalls
H44 - Repair Steel Substructure
H45 - Maintain Erosion and Scour Protection
H47 - Repair Foundations
H51 - Maintain and Repair Structural Bridge Deck
H53 - Clean, Free, and Repair Joint Mechanism
H55 - Maintain and Repair Compression Joints
H57 - Maintain and Repair Wearing Surface
H58 - Remove Wearing Surface
H59 - Replace Wearing Surface (Asphalt Concrete)
H60 - Place Waterproof Membrane
H61 - Maintain and Repair Curbs
H62 - Repair Bridge Fascia
H63 - Repair Sidewalk and Fascia
H64 - Repair Parapets
H65 - Maintain and Repair Damaged Railing
H67 - Replace Light Standards and Fixtures
H69 - Waterproof Bridge Deck
H72 - Waterproof Curb, Sidewalk, and Fascia
H73 - Clean and Seal Deck Joints and Cracks
H75 - Maintain Scuppers and Drains
RC21 Work History

H76 - Repair Drainage Systems
H81 - Clean and Paint Metal Surfaces
H82 - Sandblast Structural Steel
H83 - Clean and Paint Bridge Railing
H85 - Paint Concrete
H87 - Paint Bridge Curb
H88 - Install Pressure Relief Joints - Structure
H97 - Maintain and Repair Electrical and Mechanical Equipment
000 - Other* (see note 1-2)

**ITEM: Month**

NYSDoT

**PROCEDURE:**
Record the 2 digit number of the month in which the work was completed. If you are recording data for a project that will be completed in the future, use the Contract Completion Date.

**CODING:**
Accepts the numeric characters 01 - 12.

**ITEM: Year**

NYSDot

**PROCEDURE:**
Record the 2 digit year in which the work was completed. If you are recording data for a project that will be completed in the future, use the Contract Completion Date.

**CODING:**
Accepts numeric characters 00 - 99.

**ITEM: Contract Number**

NYSDoT

**PROCEDURE:**
Record the contract number for the project as recorded on the record plans, left justified. If there is no contract number, leave this Item blank.

**CODING:**
Accepts all standard keyboard characters and blanks.
ITEM: Type of Contract
NYSDoT
PROCEDURE:
Record the type of contract under which the work was completed.

CODING:
1 - Bid Contract No longer used.
2 - Force Account Work performed by in-house forces other than Owner; e.g., railroad.
3 - In-house Maintenance Work performed by Owner’s In-house maintenance forces.
4 - Maintenance Project Work performed by contractor using Maintenance funds.
5 - Capital Project Work performed by contractor using Capital Funds.
0 - Other
* - Unknown

ITEM: Money Value
NYSDoT
PROCEDURE:
Record the value of the project in dollars. If you are recording data for a project that will be let in the future, use the associated money value from the engineer’s estimate. If money values are entered for Non-Capital project work, the type of work performed and the cost of this work, must be recorded in the “Comments” Item.

CODING:
Accepts numeric values from 0 to 9999999999 and blanks.

ITEM: Comments
NYSDoT
PROCEDURE:
Record any additional comments up to 46 characters needed to clarify the description of the work or costs.
If this is a Bridge Replacement project which required the BIN to be changed, include the statement: “Bridge Replaced - was BIN xxxxxxx.”
CODING:
Accepts all standard keyboard characters.

ITEM: Designer Name
This code is for future use.

ITEM: Designer Organization
This code is for future use.

ITEM: PIN
This code is for future use.
RC68: Activate BIN Data

ITEMS INCLUDED IN ACTIVATE BIN DATA (RC68)

Description of required 120 character text file

RC68: Activate BIN Data  This Record Code describes the method of changing project BIN data to active (current) BIN data within BDMS. To change project BIN data to active data within BDMS a 120 character text file is required for processing. This text file should contain the information as outlined in the General Coding Instructions of this manual.

(Region, County, BIN, Record Code and Transaction Code). Region, County and BIN should be the first nine characters. Record Code and Transaction Code should be in columns 118, 119 and 120. The Record Code number should be 68 and the Transaction Code (TX Code) should be 5.
APP. A: BRIDGE ABANDONMENT/DELETION PROCEDURE

Purpose:
All bridges which carry a public highway or which carry moving loads over a public highway or waterway are included in the bridge inventory. These bridges remain in the bridge inventory until they are either:
1. abandoned,
2. demolished, or
3. replaced by structures which do not meet the definition of a bridge.

1. Abandoned bridges are barricaded to all traffic with permanent obstacles. The ramifications of abandoning a bridge are:
   * Abandoned bridges will no longer be inspected.
   * Abandoned bridges will remain in the inactive bridge file until they are demolished or replaced by a structure which does not meet the definition of a bridge.
   * Abandoned bridges are not reported to FHWA.
   * If at a later time an abandoned bridge is repaired or replaced, it can be reactivated in the database.

2. Demolished or 3. Replaced with a structure which does not meet the definition of a bridge, the ramifications are:
   * Bridge data is deleted from the bridge inventory.

If a bridge has been closed for 5 or more years, NYSDoT can administratively declare the bridge to be abandoned. However, the Owner should be contacted in writing to determine their intentions with regard to its disposition. Attached is a sample letter to the bridge owner.

Procedure:
1. Decision to Abandon or Delete a Bridge
The Regional Bridge Inventory and Inspection Coordinator (RBIIC) is responsible for identifying bridges for abandonment and deletion.

For State Owned Bridges:
   Abandoning a bridge requires authorization by the Regional Director or designee.

   Deleting a bridge can be initiated upon completion of a capital project which demolishes the bridge or replaces it with a structure which does not meet the definition of a bridge.

For Non-State Owned Bridges:
   Abandoning a bridge requires that the bridge owner be notified in writing of the intent to abandon the bridge, the ramifications and asked for their intention on what to do with the bridge. Attached is a sample letter to the bridge owner. The bridge owner should be allowed sufficient time to respond. If the bridge owner responds that they do not plan on doing anything with the bridge or if the bridge owner does not respond then the bridge can be administratively abandoned.

   Deleting a bridge can be initiated upon completion of a capital project to demolish the bridge or to replace it with a structure which does not meet the definition of a bridge.
2. Submission
Complete the Bridge Abandonment/Deletion Report as presented in this document and submit it by either email as an attachment or FAX it to:

<table>
<thead>
<tr>
<th>For all bridges:</th>
<th>Email</th>
<th>FAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norbert Luft</td>
<td><a href="mailto:nluft@dot.state.ny.us">nluft@dot.state.ny.us</a></td>
<td>(518) 457-6945</td>
</tr>
<tr>
<td>Steve Doppel</td>
<td><a href="mailto:sdoppel@dot.state.ny.us">sdoppel@dot.state.ny.us</a></td>
<td>(518) 402-0612</td>
</tr>
</tbody>
</table>

Regional Personnel as you deem appropriate:

________________________________________

________________________________________

________________________________________

Bridge Owner if not NYSDoT:

________________________________________

The subject of the Email/FAX should be: “BRIDGE ABANDONMENT/DELETION REPORT: BIN xxxxxxx”.

The Bridge Data Systems Unit will notify the RBIIC within 24 hours by email or FAX that the report has been received. The RBIIC will also be notified when the data has been loaded into BIIS. If you do not receive such a response or if you have questions implementing this procedure, please contact Norbert Luft at (518) 457-2417 or Steve Doppel at (518) 402-0612.
NYSDoT
BRIDGE ABANDONMENT/DELETION REPORT

A. GENERAL INFORMATION

BIN: ___________ Region: ____ County: _______________________________
Feature Carried: ___________________________________________________
Feature Intersected: _______________________________________________
Bridge Owner: _______________

B. BRIDGE ABANDONMENT

For State Owned Bridges

Date RD Endorsed Abandonment: __________

For Non-State Owned Bridges

Date Written Notice Sent to Bridge Owner: __________

Bridge Owner Response:

☐ Owner agreed to Abandonment
☐ Owner did not respond to notification

C. BRIDGE DELETION

Reason for Deletion

☐ Bridge Demolished
☐ Bridge Replaced with one which does not meet the definition of a bridge

REMARKS:

Report Prepared By: ___________________________ Date Report Submitted: ________________
This appendix describes how a New BIN is assigned to a bridge. The following form can be emailed or snail mailed to the BDSU.

**BIN REQUEST:** ____________________  Date Assigned: ________

**TO:** Bridge Data Service Unit, 7-216

**FROM:**

**SUBJECT:** REQUEST FOR BIN (Bridge Identification Number)

**SKETCH ATTACHED:** NO ___ YES: ___

**DATE:**

**CC:**

This form is used for assigning BINs. This form can be e-mailed to ekearnan@dot.state.ny.us with a cc: to nluft@dot.state.ny.us if a sketch is not required; eg, all answers to question 9 are “NO.” If a sketch is required; either FAX to (518) 457-6945 or send by courier to the above address. A BIN will be assigned and the requestor will be notified in the same fashion the request was made. Use the NYS Bridge Inventory Manual for explanations and definitions of terms.

1. **Reason for requesting an BIN:** ___________________________________________________________

2. **Region:** ___  County Name: _________________________  Political Unit: _______________________

3. **Name of Highway or Feature Carried:** _______________________________________________________

4. **Name of Highway or Feature Crossed:** _______________________________________________________

5. **Does the bridge cross the NYS CANAL SYSTEM?** NO ___ YES ___ (If YES go to 9)

6. **Is the bridge on an INDIAN RESERVATION?** NO ___ YES ___ (If YES go to 9)

7. **Is the bridge owner a RAILROAD?** NO ___ YES ___ (If YES go to 9)

8. **Is the bridge owner:**
   - STATE? NO ___ YES ___ or
   - LOCAL, CITY, VILLAGE, TOWN or PRIVATE? NO ___ YES ___ or
   - COUNTY? NO ___ YES ___ or
   - PARKWAY, AUTHORITY or COMMISSION? NO ___ YES ___

9. **Is this bridge in a:**
   - PARALLEL CONFIGURATION? NO ___ YES ___ or
   - BI-LEVEL STRUCTURE? NO ___ YES ___ or
   - RAMP? NO ___ YES ___

   If YES was picked for any part of question 9, then attach a 200 scale plan drawing with north arrow showing the bridge circled and any other bridges labeled by BIN or as proposed. All requests for the other BIN’s in parallel, ramp, or bi-level configurations must be attached as part of this request, since they must be processed as a unit. For a bi-level structure attach a 200 scale elevation drawing. The drawings must be cut to 8 ½” by 11”.

10. **Is this bridge a REPLACEMENT STRUCTURE?** NO ___ YES ___ or

    **Does this structure already have a BIN?** NO ___ YES ___

    **If so enter BIN(s):** ____________________________

Requestor: _______________________  __________________________ _______________

(name)         (signature)             (date)
BRIDGE IDENTIFICATION NUMBER ASSIGNMENT PROCEDURE
The BIN is assigned using the following process.

Overview

<table>
<thead>
<tr>
<th>DIGIT 1</th>
<th>DIGITS 2 - 6</th>
<th>DIGIT 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 State</td>
<td></td>
<td>0 2 way</td>
</tr>
<tr>
<td>2 Local</td>
<td></td>
<td>1 - 2 1 way Parallel configuration</td>
</tr>
<tr>
<td>3 County</td>
<td></td>
<td>3 - 6 Stacked</td>
</tr>
<tr>
<td>4 Canal</td>
<td></td>
<td>7 Bi-level, lower level</td>
</tr>
<tr>
<td>5 Authority/Commission</td>
<td></td>
<td>8 Bi-level, upper level</td>
</tr>
<tr>
<td>6 Indian Reservation</td>
<td></td>
<td>9 Reserved, no longer used</td>
</tr>
<tr>
<td>7 Railroad</td>
<td></td>
<td>A - Z Ramps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEQUENTIAL NUMBERS USING FIRST DIGIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 2 way</td>
</tr>
<tr>
<td>1 - 2 1 way Parallel configuration</td>
</tr>
<tr>
<td>3 - 6 Stacked</td>
</tr>
<tr>
<td>7 Bi-level, lower level</td>
</tr>
<tr>
<td>8 Bi-level, upper level</td>
</tr>
<tr>
<td>9 Reserved, no longer used</td>
</tr>
<tr>
<td>A - Z Ramps</td>
</tr>
</tbody>
</table>

1. Description of BIN
The Bridge Identification Number (BIN) is a unique seven character identifier with the first six characters being numeric and the seventh character being either numeric or alpha. BINs are initially assigned based on the logic presented in this section. Over time the conditions used to assign a BIN may change, but the original BIN is retained, therefore, one can not assume that the meaning of a BIN is retained.

BINs are assigned by the Bridge Data Systems Unit of the Structures Division.

2. When a new BIN is assigned vs an existing BIN retained:
A new 7 character BIN is assigned for:
- a. A new bridge on new alignment WHICH DOES NOT replace an existing bridge (except as noted in d.)
- b. A new bridge on close alignment to an existing bridge which is remaining in place.
- c. Construction or reconstruction of a multiple pipe culvert that originally did not qualify as a bridge, but now does.
- d. A new bridge which is in the same location as one which was removed and deleted from the Bridge Inventory some years before. For example, if a bridge was on the Bridge Inventory at one time and then the bridge was removed and deleted from the inventory and then a new bridge was built some years later, the new bridge would be assigned a new BIN.

The first 6 characters of a BIN are retained, but new last character assigned:
- a. A bridge that replaces two bridges in a PARALLEL configuration with a single bridge will be assigned a new BIN using the same first 6 digits. In this situation, record the change of the last digit of the BIN from a 1 or 2 to a 0 in the Work History comment field of the old BINs.
- b. A second bridge built next to an existing bridge in a PARALLEL configuration. Both bridges will share the first 6 digits of the existing BIN and the last digit of each BIN will change to reflect the parallel configuration. Record the change of the last digit of the BIN from 0 to 1 or 2 in the Work History comment field of the existing BIN.

The existing BIN will be retained for:
- a. A new bridge on existing or close alignment with an existing bridge which is replacing the existing bridge.
- b. An existing bridge which is being improved.

3. BIN Assignment

Digit 1 - Owner
1. State: any bridge owned/constructed by a NYS agency including NYSDoT, Parks and Recreation, DEC, etc.
2. Local: any bridge owned/constructed by a Town, City or Village
3. County: any bridge owned/constructed by a County
4. Canal: Any bridge which crosses the NYS Barge Canal.
5. **Authority/Commission**: any bridge owned/constructed by an authority or commission

6. **Indian Reservation**: any bridge constructed within the jurisdiction of an Indian Reservation. Here the RC01 Municipality Code must be coded as one of the Indian Reservations.

7. **Railroad**: any bridge which is owned/constructed by one of the 45 railroads operating in the state

The priority for assigning the first digit is prioritized as follows:

- Canal
- Indian Reservation
- Railroad
- State
- Local
- County

**Digits 2 - 6**

Sequentially assigned based on Digit 1

**Digit 7**

- **0**: a single bridge serving two way traffic

1-6 **Parallel bridges** are bridges which generally carry the same type of service passing over a common type of service and have a positive opening between the superstructures. A designed joint, whether open or filled does not constitute parallel structures. Divided highways which have discontinuous culverts in line carrying the same flow of water, are considered to be in parallel configuration and are to be inventoried accordingly.

The first six characters of the BIN for parallel bridges are the same 6 numbers. The last character of the BIN is coded “1” to “6” with Bridge number 1 being the bridge farthest to the left when looking in the direction of orientation. The Direction of Orientation is described under RC01 Direction of Orientation.

3 - 6 **Stacked bridges** carry different service and share portions of substructure. For example, a highway crosses over a RR which crosses over a ravine and the highway bridge and the RR bridge share at least one pier.

Stacked, multi-level bridges crossing at the same location which share the same first 6 digits, but are assigned a different last digit. The structure lowest in elevation is assigned a 3, the next lowest structure assigned a 4, etc.

7 **Bi-level, lower level**

Bi-Level bridges carry two levels of traffic one on top of the other; eg, “double decked.” Bi-level bridges share substructures and at least portions of the superstructure. For example, the upper and lower levels of the George Washington bridge.

If the bridge has a bi-level configuration, each level is considered to be a separate bridge. The components of each bridge which solely serve one level are associated with that level. Components which serve both levels are split between the two levels. Portions serving solely the upper level are associated with the upper level. Portions which serve both levels are associated with the lower level; e.g., the portion of a pier supporting solely the upper level extends downward to the point where that same pier picks up the load for the lower level. At this point the rest of the pier is associated with the lower level.

The first six characters of the BIN for each level will be the same. The last character of the BIN will be coded “7” for the lower level structure and “8” for the upper level structure.

8 **Bi-level, upper level**

9 **No longer used**
A - Z  **Ramps connected to a parent structure**

Ramp structures are defined as bridge spans connected to a parent bridge. Each ramp structure has the same first six characters of the BIN as the parent bridge to which it is connected. The last character of the BIN is assigned letters “A” - “Z” for each of the ramp structures. Looking in “Direction of Orientation” from the beginning of the parent structure, letter each ramp structure beginning with letter “A” and continue in a clockwise direction around the parent structure.

For parallel bridges with ramps, looking in the Direction of Orientation from the parent parallel bridge with the last digit being “1,” ramps connecting either parallel bridge will be designated beginning with the letter “A” and continuing thru the alphabet in a clockwise direction.

If the bridge is not in a parallel configuration, or not a bi-level structure, or is not a ramp structure, then the last character of the BIN is assigned a “0”.

The priority for assigning the seventh digit is prioritized as follows:
- Ramps to parent bridges
- Stacked, multi-level bridges
- Bi-level bridges
- Parallel configuration bridges
- Single bridges serving Two way traffic
C. CLOSED BRIDGE/REOPENED BRIDGE PROCEDURE

Purpose:
The closing of a bridge for more than a couple of days is important to Executive Management, as well as, to those responsible for routing oversize/overweight vehicles and issuing permits. It is equally important to report the reopening of bridges that have been closed. This procedure identifies who should be notified, what information is needed and how to submit the information.

The Closing of a bridge for any length of time raises question with the importance of the bridge and its priority for Federal and State funding. Therefore, the intent of the Owner on what will be done with the bridge; eg, repair, replace or remove, is important to identify at the time of closing or shortly thereafter.

A closed bridge will continue to be inspected until it is Abandoned or Deleted from the Bridge Inventory.

Procedure:
The Regional Bridge Inventory and Inspection Coordinator (RBIIC) will: 1. complete the Closed Bridge (or Reopened Bridge) Report as presented in this WordPerfect document and 2. submit it by email as an attachment or FAX it to the following people:

For **all bridges**: Email: nluft@dot.state.ny.us  FAX: (518) 457-6945
Steve Doppel: Email: sdoppel@dot.state.ny.us  FAX: (518) 402-0612
Regional Personnel as you deem appropriate:

For **State Bridges only**, please **also send** the report to:
Scott Lagace: Email: slagace@dot.state.ny.us  FAX: (518) 485-7826
Kent Destefanis: Email: kdestefanis@dot.state.ny.us  FAX: (518) 485-7826
Permitting Group: Email: spechaul@dot.state.ny.us  FAX: (518) 457-0367

The subject of the Email/FAX should be: “CLOSED (or REOPENED) BRIDGE REPORT: BIN xxxxxxx”.

The Bridge Data Systems Unit will notify the RBIIC within 24 hours by email or FAX that the report has been received. The RBIIC will also be notified when the data has been loaded into BIIS. If you do not receive such a response or if you have questions implementing this procedure, please contact Ed Kearnan at the above addresses or call him at (518) 457-1403.
Instructions:

The following information should be reported as contained in WinBolts:

<table>
<thead>
<tr>
<th>Region</th>
<th>Feature Carried</th>
<th>Feature Intersected</th>
</tr>
</thead>
</table>

The following terms are defined in the Bridge Inventory Manual:

<table>
<thead>
<tr>
<th>Posting Date</th>
<th>Feature Code</th>
<th>Type of Service On</th>
<th>Feature Description</th>
<th>Type of Service Under</th>
</tr>
</thead>
</table>

The following terms are defined as follows:

State Bridges: Are bridges which the Region reports as State bridges for capital program planning and reporting; i.e., any bridge for which NYSDOT has Ownership or Maintenance Responsibility.

Detour Route: Provide a clear and concise description of any established detour route over which our Permits folks should direct full size vehicles. A map should be attached for difficult to describe routes. If a detour route has not yet been established, submit the report without this information to ensure timely reporting.

BINs on Detour Route: Any BINs located on the established Detour Route.

Detour Route Limitations: Describe any restrictions along the established Detour route which would affect routing oversize vehicles; such as load, height or width restrictions.

Date Closed: The Date the bridge was closed to traffic

Date RBIIC Notified: The Date that RBIIC was notified that the bridge was closed to traffic.

NYSDOT Notified By: The name of the person and the agency who notified NYSDOT of the Bridge Closing.

Anticipated Reopening Date: Best guess at when bridge might be reopened to traffic.

Date Report Submitted: The Date the Report was submitted to the Bridge Data Systems Unit.

Report Prepared By: Name of person preparing this report.

Date Reopened: The Date the bridge was reopened to traffic.

Remarks: Use this area for supplemental information.

Any questions on how to complete this report should be directed to Norbert Luft at (518) 457-2417.
A. GENERAL INFORMATION

BIN: __________ Region: __________ County: ___________________________

Feature Carried: _________________________________________________________

Feature Intersected: ______________________________________________________

Detour Route: ___________________________________________________________

BINs on Detour Route: 1. ____________ 2. _____________ 3. ____________ 4. ____________

Detour Route Limitations: _________________________________________________

Date Closed:____________ Date RBIIC Notified:___________ NYSDoT Notified By:___________

B. TYPE CLOSURE (Reference: Bridge Inventory Manual)

( ) 1. Closed to all use during construction with traffic accommodated on site; eg, temporary bridge, use of parallel bridge, etc.
   Feature Code: "60",Posted Load: "98", Posting Date: Mo. _______ Yr. _______

( ) 2. Closed to all use resulting from structural deficiencies.
   Feature Code: "60", Posted Load: "99", Posting Date: Mo. _______ Yr. _______

( ) 3. Closed to its primary use, but is still open for another service.
   Feature Code: "61", Posted Load: "99", Posting Date: Mo. _______ Yr. _______

( ) 4. Closed to its primary use for other than structural deficiencies.
   Type Service On: _______, Feature Code: _______, Description: _____________________
   Posted Load: "00", Posting Date: Mo. _______ Yr. _______

( ) 5. Abandoned - Feature Code: "60", Posted Load: "99", Posting Date: Mo. _______ Yr. ______
   Type Service On: "0", Type Service Under: __________________________

C. STATUS OF CLOSURE

( ) 1. Temporary, awaiting repairs or rehabilitation Anticipated Reopening Date: _______

( ) 2. Temporary, awaiting replacement Anticipated Reopening Date: _______

( ) 3. Permanent, awaiting bridge removal

( ) 4. Owner contacted but, disposition unknown or undecided

( ) 5. Other (Specify) ____________________________

REMARKS:

Date Report Submitted: ________________ Report Prepared By:______________________
A. GENERAL INFORMATION

BIN: ___________ Region: _____ County: _________________________________

Feature Carried: _______________________________________________________

Feature Intersected: _____________________________________________________

Date Reopened: _______ Date RBIIC Notified: _______ NYSDoT Notified By: ____________

B. NEW CLASSIFICATION - (Reference: Bridge Inventory Manual)

Feature Code: ___________

Posted Load: _______________

Posting Date: Mo. _______ Yr. _______

Type Service On: _______________________

C. STATUS OF OPENING

( ) 1. Temporary, repairs made

( ) 2. Permanent repairs made (Inventory Update required)

( ) 3. Permanent, rehabilitation (Inventory Update required)

( ) 4. Permanent, replacement (Inventory Update required)

( ) 5. Other: ___________________________________________________________________

REMARKS:

Date Report Submitted: ______________ Report Prepared By: ___________________
D. LOAD POSTING CHANGE PROCEDURE

Purpose:
A change in the Posted Load on a bridge is important to those responsible for routing oversize/overweight vehicles, as well as, issuing Permits. It is equally important to report the removal of Load Postings. If a bridge posting is changed due to the reopening of a previously closed bridge, then use the Reopened Bridge Report instead of this report. This procedure identifies who should be notified, what information is needed and how to submit the information.

Procedure:
Whomever identifies a change in Load Postings should immediately notify the Regional Bridge Inventory and Inspection Coordinator (RBIIC). The RBIIC will: 1. complete the Load Posting Report as presented in this WordPerfect document and 2. submit it by email it as an attachment or FAX it to all the following people. NOTE: Due to the speed of electronic submissions, it is no longer necessary to phone in this information.

For all bridges:

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norbert Luft</td>
<td><a href="mailto:nluft@dot.state.ny.us">nluft@dot.state.ny.us</a></td>
<td>(518) 457-6945</td>
</tr>
<tr>
<td>Steve Doppel</td>
<td><a href="mailto:sdoppel@dot.state.ny.us">sdoppel@dot.state.ny.us</a></td>
<td>(518) 402-0612</td>
</tr>
</tbody>
</table>

Regional Personnel as you deem appropriate:


For State Bridges only, please also send the report to:

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott Lagace</td>
<td><a href="mailto:slagace@dot.state.ny.us">slagace@dot.state.ny.us</a></td>
<td>(518) 485-7826</td>
</tr>
<tr>
<td>Kent Destefanis</td>
<td><a href="mailto:kdestefanis@dot.state.ny.us">kdestefanis@dot.state.ny.us</a></td>
<td>(518) 485-7826</td>
</tr>
<tr>
<td>Permitting Group</td>
<td><a href="mailto:spechaul@dot.state.ny.us">spechaul@dot.state.ny.us</a></td>
<td>(518) 457-0367</td>
</tr>
</tbody>
</table>

The subject of the Email/FAX should be: “LOAD POSTING CHANGE: BIN xxxxxxx.”

The Bridge Data Systems Unit (BDSU) will notify the RBIIC within 24 hours by email or FAX that the report has been received. The RBIIC will also be notified when the data has been loaded into BIIS. If you do not receive such a response or if you have questions implementing this procedure, please contact Steve Doppel at (518) 402-0612 or Norbert Luft at (518) 457-2417.

Instructions:
The following information should be reported as contained in WinBolts:

Region  County
Feature Crossed
Date Posted
Posted Load

The following terms are defined in the Bridge Inventory Manual:
Date Posted  Posted Load

The following terms are defined as:
Report Submitted: The Date this Report was prepared and the name of the person preparing the report.
### A. GENERAL INFORMATION (BIIS)

<table>
<thead>
<tr>
<th>BIN:</th>
<th>Region:</th>
<th>County:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Feature Carried: ___________________________________________

Feature Intersected: ________________________________________

Owner: ___________________________________________________

### B. Posting Data

<table>
<thead>
<tr>
<th>Date Posted</th>
<th>Posted Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month</td>
<td>Year</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Old Posting:</th>
<th>New Posting:</th>
<th>Date RBIIC Notified:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

### REMARKS:

Report Submitted Date: ___________      By: __________________________________

Form 04/05
Appendix E - FHWA Coding Guide Excerpts

This Appendix presents excerpts from the FHWA Recording and Coding Guide for the Structure Inventory and Appraisal of the Nations Bridges, December 1995, describing the algorithms for calculating the following items:

1. NBI Structural Evaluation
2. NBI Deck Geometry
3. NBI Underclearances, Vertical and Horizontal
4. NBI Waterway Adequacy
5. NBI Approach Roadway Alignment
6. Sufficiency Rating
7. Structurally Deficient
8. Functionally Obsolete

NBI Items 67, 68, 69, 71, and 72 - Indicate the Appraisal Ratings

The items in the Appraisal Section are used to evaluate a bridge in relation to the level of service which it provides on the highway system of which it is a part. The structure will be compared to a new one which is built to current standards for that particular type of road as further defined in this section except for Item 72 - Approach Roadway Alignment. See Item 72 for special criteria for rating that item.

Items 67, 68, 69, 71, and 72 will be coded with a 1-digit code that indicates the appraisal rating for the item. The ratings and codes are as follows:

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

The FHWA Edit/Update computer program calculates values for Items 67, 68, and 69 according to the tables provided in this manual. These tables and the table for Item 71 shall be used by all evaluators to rate these items. They have been developed to closely match the descriptions for the appraisal evaluation codes of 0 to 9. The tables shall be used in all instances to evaluate the item based on the designated data in the inventory, even if a table value does not appear to match the descriptive codes. For unusual cases where the site data does not exactly agree with the table criteria, use the most appropriate table to evaluate the item. The code of N is not valid for use with Items 67 and 72.

Completed bridges not yet opened to traffic, if rated, shall be appraised as if open to traffic. Design values, for example ADT, shall be used for the evaluation. The data provided will include a code of G for Item 41 - Structure Open, Posted, or Closed to Traffic.
NBI ITEM 67: Structural Evaluation

This item is calculated by the Edit/Update Program based on Table 1, and need not be coded by the bridge inspector. The following specifications are used by the Edit/Update Program:

- For structures other than culverts, the lowest of the codes obtained from Item 59 - Superstructure, Item 60 - Substructure, or Table 1 is used.
- For culverts, the lowest of the codes obtained from Item 62 - Culverts, or Table 1 is used.
- If Item 59, Item 60 or Item 62 is coded 1, then Item 67 is equal to zero (0), regardless of whether the structure is actually closed. However, if the structure is closed, it does not mean that this value is zero (0) unless the overall condition and appraisal ratings indicate that a code of 0 is appropriate.

Table 1 Notes:
1. Use the lower rating code for values between those listed in the table.
2. Inventory Ratings are shown in metric tons with decimal point.
3. To use Table 1, the Inventory Rating must be the coded MS rating or its equivalent. If the comparable MS equivalent is not calculated for the controlling rating, using a factor to determine the MS equivalent is acceptable even though converting other rating loads to an MS equivalent is not a constant.
4. All bridges with Item 26 - Functional Class coded Interstate, Freeway or Expressway shall be evaluated using the ADT column of >5000 regardless of the actual ADT on the bridge.

Table 1. Rating by Comparison of ADT - Item 29 and Inventory Rating - Item 66

<table>
<thead>
<tr>
<th>Structural Evaluation Rating Code</th>
<th>Inventory Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Daily Traffic (ADT)</td>
</tr>
<tr>
<td></td>
<td>0-500</td>
</tr>
<tr>
<td>9</td>
<td>&gt;32.4</td>
</tr>
<tr>
<td></td>
<td>(MS18)*</td>
</tr>
<tr>
<td>8</td>
<td>32.4</td>
</tr>
<tr>
<td></td>
<td>(MS18)</td>
</tr>
<tr>
<td>7</td>
<td>27.9</td>
</tr>
<tr>
<td></td>
<td>(MS15.5)</td>
</tr>
<tr>
<td>6</td>
<td>20.7</td>
</tr>
<tr>
<td></td>
<td>(MS11.5)</td>
</tr>
<tr>
<td>5</td>
<td>16.2</td>
</tr>
<tr>
<td></td>
<td>(MS9)</td>
</tr>
<tr>
<td>4</td>
<td>10.8</td>
</tr>
<tr>
<td></td>
<td>(MS6)</td>
</tr>
<tr>
<td>3</td>
<td>Inventory rating less than value in rating code of 4 and requiring corrective action.</td>
</tr>
<tr>
<td>2</td>
<td>Inventory rating less than value in rating code of 4 and requiring replacement.</td>
</tr>
<tr>
<td>0</td>
<td>Bridge closed due to structural condition.</td>
</tr>
</tbody>
</table>

*MS Designation (typical)
Appendix E - FHWA Coding Guide Excerpts

NBI ITEM 68: Deck Geometry

This item is calculated by the Edit/Update Program and need not be coded by the bridge inspector. The overall rating for deck geometry includes two evaluations: (a) the curb-to-curb or face-to-face of rail bridge width using Table 2A, B, C or D and (b) the minimum vertical clearance over the bridge roadway using Table 2E. The lower of the codes obtained from these tables is used by the Edit/Update Program. When an individual table lists several deck geometry rating codes for the same roadway width under a specific ADT, the lower code is used. (For example, Table 2A lists deck geometry rating codes of 6, 7 and 8 for a 13.4 meter roadway width and an ADT of >5000. Use the code of 6.) For values between those listed in the tables, the lower code is used.

The curb-to-curb or face-to-face of rail dimension shall be taken from Item 51 - Bridge Roadway Width, Curb-to-curb. Item 53 - Minimum Vertical Clearance Over Bridge Roadway is used to evaluate the vertical clearance.

For culverts which have Item 51 - Bridge Roadway Width coded 0000, the Deck Geometry code will be equal to N.

The values provided in the tables are for rating purposes only. Current design standards must be used for structure design or rehabilitation.

### Table 2A & 2B. Rating by Comparison of ADT - Item 29 and Bridge Roadway Width, Curb-to-Curb - Item 51

| Deck Geometry Rating Code | TABLE 2A | | TABLE 2B | | Bridge Roadway Width | | Bridge Roadway Width |
|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                            | 2 Lanes; 2 Way Traffic | 1 Lane; 2-Way Traffic | ADT (Both Directions) | ADT (Both Directions) |
| 9                          | >9.8    | >11.0   | >12.2   | >13.4   | >13.4   | >13.4   | >13.4   | >13.4   | >13.4   |
| 8                          | 9.8     | 11.0    | 12.2    | 13.4    | 13.4    | 13.4    | <4.9    | -       | -       |
| 7                          | 8.5     | 9.8     | 11.0    | 12.2    | 13.4    | 13.4    | 4.6     | -       | -       |
| 6                          | 7.3     | 8.5     | 9.1     | 10.4    | 12.2    | 13.4    | 4.3     | -       | -       |
| 5                          | 6.1     | 7.3     | 7.9     | 8.5     | 10.4    | 11.6    | 4.0     | -       | -       |
| 4                          | 5.5     | 6.1     | 6.7     | 7.3     | 8.5     | 9.8     | 3.7     | -       | -       |
| 3                          | 4.9     | 5.5     | 6.1     | 6.7     | 7.9     | 9.1     | 3.4     | <4.9    | -       |
| 2                          | Any width less than required for a rating code of 3 and structure is open. |
| 0                          | Bridge Closed |

* Use value in parentheses for bridges longer than 60 meters.
Appendix E - FHWA Coding Guide Excerpts

Notes

1. Use the lower rating code for values between those listed in the table.
2. Dimensions are in meters.
3. For 1 lane of one-way traffic Table 2A is used.
4. For 3 or more undivided lanes of 2-way traffic, use Table 2C, Other Multilane Divided Facilities.
5. Do not use Table 2B for code 9 and for codes 8 through 4 inclusive when the ADT >100. Single lane bridges less than 4.9 meters wide carrying 2-way traffic are always appraised at 3 or below if they carry more than an ADT of 100.
6. One-lane bridges 4.90 meters and greater in roadway width, which are not ramps, are evaluated as a 2-lane bridge using Table 2A.

Table 2C & 2D. Rating by Comparison of Number of Lanes - Item 28 and Bridge Roadway Width, Curb-to-Curb - Item 51

<table>
<thead>
<tr>
<th>Deck Geometry Rating Code</th>
<th>TABLE 2C</th>
<th>TABLE 2D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bridge Roadway Width 2 or More Lanes</td>
<td>Bridge Roadway Width 1-Way Traffic</td>
</tr>
<tr>
<td></td>
<td>Interstate and Other Divided Freeways</td>
<td>Other Multilane Divided Facilities</td>
</tr>
<tr>
<td></td>
<td>2 Lanes 1-way</td>
<td>3 or more Lanes</td>
</tr>
<tr>
<td>9</td>
<td>&gt;12.8</td>
<td>&gt;3.7N+7.3</td>
</tr>
<tr>
<td>8</td>
<td>12.8</td>
<td>3.7N+7.3</td>
</tr>
<tr>
<td>7</td>
<td>12.2</td>
<td>3.7N+6.1</td>
</tr>
<tr>
<td>6</td>
<td>11.6</td>
<td>3.7N+4.9</td>
</tr>
<tr>
<td>5</td>
<td>11.0</td>
<td>3.7N+4.3</td>
</tr>
<tr>
<td>4</td>
<td>10.4 (8.8)*</td>
<td>3.4N+3.7</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>*3.4N+2.1</td>
</tr>
<tr>
<td>3</td>
<td>10.1 (8.5)*</td>
<td>3.4N+3.4</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>*3.4N+1.8</td>
</tr>
<tr>
<td>2</td>
<td>Any width less than required for a rating code of 3 and structure is open.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Bridge Closed</td>
<td></td>
</tr>
</tbody>
</table>

* Use value in parentheses for bridges longer than 60 meters.
N = Total number of lanes of traffic on the structure.

Notes

1. Use the lower rating code for values between those listed in the tables.
2. Dimensions are in meters.
3. Use Table 2C, Other Multilane Divided Facilities, for 3 or more undivided lanes of 2-way traffic.
### Table 2E. Rating by Comparison of Minimum Vertical Clearance over Bridge Roadway - Item 53 and Functional Classification - Item 26

<table>
<thead>
<tr>
<th>Deck Geometry Rating Code</th>
<th>Minimum Vertical Clearance</th>
<th>Functional Class</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum Vertical Clearance</td>
<td>Interstate and Other Divided Freeways</td>
</tr>
<tr>
<td>9</td>
<td>&gt;5.18</td>
<td>&gt;5.02</td>
</tr>
<tr>
<td>8</td>
<td>5.18</td>
<td>5.02</td>
</tr>
<tr>
<td>7</td>
<td>5.10</td>
<td>4.72</td>
</tr>
<tr>
<td>6</td>
<td>5.02</td>
<td>4.41</td>
</tr>
<tr>
<td>5</td>
<td>4.80</td>
<td>4.34</td>
</tr>
<tr>
<td>4</td>
<td>4.57</td>
<td>4.26</td>
</tr>
<tr>
<td>3</td>
<td>Vertical clearance less than value in rating code of 4 and requiring corrective action.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Vertical clearance less than value in rating code of 4 and requiring replacement.</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Bridge Closed</td>
<td></td>
</tr>
</tbody>
</table>

* Use value in parentheses for bridges longer than 60 meters.

**Notes**
1. Use the lower rating code for values between those listed in the table.
2. Dimensions are in meters.

**NBI ITEM 69: Underclearances, Vertical and Horizontal**

This item is calculated by the Edit/Update Program and need not be coded by the bridge inspector. Vertical and horizontal underclearances are measured from the through roadway to the superstructure or substructure units, respectively. Code "N" is used unless the bridge is over a highway or railroad. The vertical underclearance is evaluated using Table 3A. The horizontal underclearance is evaluated using Table 3B. The lower of the codes obtained from Table 3A and Table 3B is used by the Edit/Update Program. Bridges seldom are closed due to deficient underclearances, however, these bridges may be good candidates for rehabilitation or replacement. Item 54 - Minimum Vertical Underclearance, Item 55 - Minimum Lateral Underclearance on Right, and Item 56 - Minimum Lateral Underclearance on Left are used to evaluate this item. The functional classification used in the table is for the underpassing route. Therefore, the functional classification is obtained from the record for the route "under" the bridge (see Item 5 - Inventory Route). If the underpassing route is not on a Federal-aid system, is not a defense route, or is not otherwise important, an "under" record may not be available. If no "under" record exits, it is assumed that the route under the bridge is a major or minor collector or a local road for the purpose of using Tables 3A and 3B.
### Table 3A. Rating by Comparison of Minimum Vertical Underclearance - Item 54 and Functional Classification of Underpassing Route - Item 26

<table>
<thead>
<tr>
<th>Under-clearance Rating Code</th>
<th>Minimum Vertical Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Functional Class</td>
</tr>
<tr>
<td></td>
<td>Interstate and Other Freeways</td>
</tr>
<tr>
<td>9</td>
<td>&gt;5.18</td>
</tr>
<tr>
<td>8</td>
<td>5.18</td>
</tr>
<tr>
<td>7</td>
<td>5.10</td>
</tr>
<tr>
<td>6</td>
<td>5.02</td>
</tr>
<tr>
<td>5</td>
<td>4.80</td>
</tr>
<tr>
<td>4</td>
<td>4.57</td>
</tr>
<tr>
<td>3</td>
<td>Underclearance less than value in rating code of 4 and requiring corrective action.</td>
</tr>
<tr>
<td>2</td>
<td>Underclearance less than value in rating code of 4 and requiring replacement.</td>
</tr>
<tr>
<td>0</td>
<td>Bridge Closed</td>
</tr>
</tbody>
</table>

**Notes**
1. Use the lower rating code for values between those listed in the tables.
2. Dimensions are in meters.
3. The functional classification of the underpassing route shall be used in the evaluation. If an "under" record is not coded, the underpassing route shall be considered a major or minor collector or a local road.
### Table 3B. Rating by Comparison of Minimum Lateral Underclearances Right & Left - Items 55 & 56 and Functional Classification of Underpassing Route - Item 26

<table>
<thead>
<tr>
<th>Underclearance Rating Code</th>
<th>Minimum Vertical Clearance</th>
<th>Functional Class</th>
<th>Railroad</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1-Way Traffic</td>
<td>2-Way Traffic</td>
</tr>
<tr>
<td></td>
<td>Principal Arterial-Interstate, Freeways or Expressways</td>
<td>Main Line</td>
<td>Ramp</td>
</tr>
<tr>
<td>9</td>
<td>&gt;9.1</td>
<td>&gt;9.1</td>
<td>&gt;1.2</td>
</tr>
<tr>
<td>8</td>
<td>9.1</td>
<td>9.1</td>
<td>1.2</td>
</tr>
<tr>
<td>7</td>
<td>5.5</td>
<td>6.4</td>
<td>0.9</td>
</tr>
<tr>
<td>6</td>
<td>1.8</td>
<td>3.7</td>
<td>0.6</td>
</tr>
<tr>
<td>5</td>
<td>1.5</td>
<td>3.4</td>
<td>0.6</td>
</tr>
<tr>
<td>4</td>
<td>1.2</td>
<td>3.0</td>
<td>0.6</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Underclearance less than value in rating code of 4 and requiring corrective action.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Underclearance less than value in rating code of 4 and requiring replacement.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Bridge Closed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes
1. Use the lower rating code for values between those listed in the tables.
2. Dimensions are in meters.
3. When acceleration or deceleration lanes or ramps are provided under 2-way traffic, use the value from the right ramp column to determine code.
4. The functional classification of the underpassing route shall be used in the evaluation. If an "under" record is not coded, the underpassing route shall be considered a major or minor collector or a local road.
Appendix E - FHWA Coding Guide Excerpts

NBI Item 71 - Waterway Adequacy

This item appraises the waterway opening with respect to passage of flow through the bridge. The following codes shall be used in evaluating waterway adequacy (interpolate where appropriate). Site conditions may warrant somewhat higher or lower ratings than indicated by the table (e.g., flooding of an urban area due to a restricted bridge opening). Where overtopping frequency information is available, the descriptions given in the table for chance of overtopping mean the following:

Remote  - greater than 100 years
Slight   - 11 to 100 years
Occasional - 3 to 10 years
Frequent - less than 3 years

Adjectives describing traffic delays mean the following:
Insignificant - Minor inconvenience. Highway passable in a matter of hours.
Significant  - Traffic delays of up to several days.
Severe      - Long term delays to traffic with resulting hardship.

### Functional Classification

<table>
<thead>
<tr>
<th>Principal Classification</th>
<th>Other Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterials - Interstates, Freeways, or Expressways</td>
<td>Arterials and Minor Collectors</td>
<td>Collectors Code</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
Appendix E - FHWA Coding Guide Excerpts

Functional Classification

<table>
<thead>
<tr>
<th>Principal Arterials - Interstates, Freeways, or Expressways</th>
<th>Other Arterials and Minor</th>
<th>Major and Minor Collectors</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Bridge deck above roadway approaches. Occasional overtopping of roadway approaches with significant traffic delays.</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Occasional overtopping of bridge deck and roadway approaches with significant traffic delays.</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>3</td>
<td>Frequent overtopping of bridge deck and roadway approaches with significant traffic delays.</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>Occasional or frequent overtopping of bridge deck and roadway approaches with severe traffic delays. Bridge closed.</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Bridge closed.</td>
</tr>
</tbody>
</table>

NBI Item 72 - Approach Roadway Alignment

Code the rating based on the adequacy of the approach roadway alignment. This item identifies those bridges which do not function properly or adequately due to the alignment of the approaches. It is not intended that the approach roadway alignment be compared to current standards but rather to the existing highway alignment. This concept differs from other appraisal evaluations. The establishment of set criteria to be used at all bridge sites is not appropriate for this item. The basic criteria is how the alignment of the roadway approaches to the bridge relate to the general highway alignment for the section of highway the bridge is on. The individual structure shall be rated in accordance with the general appraisal rating guide described on page 453 in lieu of specific design values. The approach roadway alignment will be rated intolerable (a code of 3 or less) only if the horizontal or vertical curvature requires a substantial reduction in the vehicle operating speed from that on the highway section. A very minor speed reduction will be rated a 6, and when a speed reduction is not required, the appraisal code will be an 8.

Additional codes may be selected between these general values.

For example, if the highway section requires a substantial speed reduction due to vertical or horizontal alignment, and the roadway approach to the bridge requires only a very minor additional speed reduction at the bridge, the appropriate code would be a 6. This concept shall be used at each bridge site. Speed reductions necessary because of structure width and not alignment shall not be considered in evaluating this item.
Sufficiency Rating Formula and Example

The sufficiency rating formula described herein is a method of evaluating highway bridge data by calculating four separate factors to obtain a numeric value which is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero percent would represent an entirely insufficient or deficient bridge.

An asterisk prefix is used to identify a sufficiency rating that was calculated even though some essential data was missing or coded incorrectly. The Edit/Update Program will substitute a value for the unusable data (which will not lower the rating) and calculate the sufficiency rating. The asterisk is dropped when the unusable data is corrected. It is normal that all culverts with Bridge Roadway Width, Curb-to-Curb - Item 51 coded ‘0000’ will have an asterisk prefixed sufficiency.

Sufficiency Rating Formula

1. Structural Adequacy and Safety (55% maximum)
   a. Only the lowest rating code of Item 59, 60, or 62 applies.
      If Item 59 (Superstructure Rating) or Item 60 (Substructure Rating) is
      Item 60 (Substructure Rating) is
      ≤ 2 then A = 55%
      = 3 A = 40%
      = 4 A = 25%
      = 5 A = 10%

      If Item 59 and Item 60 = N and Item 62 (Culvert Rating) is
      Item 62 (Culvert Rating) is
      ≤ 2 then A = 55%
      = 3 A = 40%
      = 4 A = 25%
      = 5 A = 10%

   b. Reduction for Load Capacity:
      Calculate using the following formulas where
      IR is the Inventory Rating (MS Loading) in tons
      or use Figure 2:

      \[ B = (32.4 - IR)^{1.5} \times 0.3254 \text{ or} \]

      If \((32.4 - IR) \leq 0\), then \(B = 0\)
      "B" shall not be less than 0% nor greater than 55%.

      \[ S_1 = 55 - (A + B) \]

      \(S_1\) shall not be less than 0% nor greater than 55%.
2. Serviceability and Functional Obsolescence (30% maximum)
a. Rating Reductions (13% maximum)

If #58 (Deck Condition) is

- $\leq 3$ then A = 5%
- $= 4$ A = 3%
- $= 5$ A = 1%

If #67 (Structural Evaluation) is

- $\leq 3$ then B = 4%
- $= 4$ B = 2%
- $= 5$ B = 1%

If #68 (Deck Geometry) is

- $\leq 3$ then C = 4%
- $= 4$ C = 2%
- $= 5$ C = 1%

If #69 (Underclearances) is

- $\leq 3$ then D = 4%
- $= 4$ D = 2%
- $= 5$ D = 1%

If #71 (Waterway Adequacy) is

- $\leq 3$ then E = 4%
- $= 4$ E = 2%
- $= 5$ E = 1%

If #72 (Approach Road Alignment) is

- $< 3$ then F = 4%
- $= 4$ F = 2%
- $= 5$ F = 1%

\[J = (A + B + C + D + E + F)\]

J shall not be less than 0% nor greater than 13%. 

---

**Figure 2. Reduction for Load Capacity**

**Formula for B =**

\[(32.4 - IR)^{1.3} \times 0.3254\]

**Page 190**
Appendix E - FHWA Coding Guide Excerpts

b. Width of Roadway Insufficiency (15% maximum)
Use the sections that apply:

(1) applies to all bridges;
(2) applies to 1-lane bridges only;
(3) applies to 2 or more lane bridges;
(4) applies to all except 1-lane bridges.

Also determine X and Y:

\[
X = \frac{\text{Item 29 (ADT)}}{\text{first 2 digits of #28 (Lanes)}}
\]

\[
Y = \frac{\text{Item 51 (Bridge Rdwy. Width)}}{\text{first 2 digits of #28 (Lanes)}}
\]

*A value of 10.9 Meters will be substituted when Item 51 is coded 0000 or not numeric.

(1) Use when the last 2 digits of #43 (Structure Type) are not equal to 19 (Culvert):
If \((\#51 + 0.6 \text{ meters}) < \#32 \text{ (Approach Roadway Width)} \) \( G = 5\% \)

(2) For 1-lane bridges only, use Figure 3 or the following:
If the first 2 digits of #28 (Lanes) are equal to 01 and
\[
Y < 4.3
\]
then
\[
H = 15\% 
\]
\[
Y \geq 4.3 \text{ and } < 5.5
\]
\[
H = 15 \left[ \frac{5.5 - Y}{1.2} \right] \%
\]
\[
Y \geq 5.5
\]
\[
H = 0\%
\]

(3) For 2 or more lane bridges. If these limits apply, do not continue on to (4) as no lane width reductions are allowed.
If the first 2 digits of #28 = 02 and \( Y \geq 4.9 \), then \( H = 0\% \)
If the first 2 digits of #28 = 03 and \( Y \geq 4.6 \), then \( H = 0\% \)
If the first 2 digits of #28 = 04 and \( Y \geq 4.3 \), then \( H = 0\% \)
If the first 2 digits of #28 = 05 and \( Y \geq 3.7 \), then \( H = 0\% \)

(4) For all except 1-lane bridges, use Figure 3 or the following:
If \( Y < 2.7 \) and \( X > 50 \) then \( H = 15\% \)
If \( Y \geq 2.7 \) and \( X \leq 50 \) then \( H = 7.5\% \)
If \( X \geq 2.7 \) and \( X \leq 50 \) then \( H = 0\% \)

If \( X > 50 \) but \( \leq 125 \) and
\[
Y < 3.0
\]
then \( H = 15\% \)
\[
Y \geq 3.0 < 4.0
\]
then \( H = 15 \( 4-Y)\% \)
\[
Y \geq 4.0
\]
then \( H = 0\% \)

If \( X > 125 \) but \( \leq 375 \) and
\[
Y < 3.4
\]
then \( H = 15\% \)
\[
Y \geq 3.4 < 4.3
\]
then \( H = 15 \( 4.3-Y)\% \)
\[
Y \geq 4.3
\]
then \( H = 0\% \)
Appendix E - FHWA Coding Guide Excerpts

\[ f \begin{align*}
X &> 375 \text{ but } \leq 1350 \\
Y &< 3.7
\end{align*} \]

\[ \text{then} \quad H = 15 \left( \frac{4.9 - Y}{1.2} \right) \%
\]

If \( X > 1350 \) and \( Y < 4.6 \)

\[ Y \geq 4.6 < 4.9 \]

\[ \text{then} \quad H = 15 \left( \frac{4.9 - Y}{1.2} \right) \%
\]

\[ Y \geq 4.9 \]

\[ G + H \text{ shall not be less than } 0\% \text{ nor greater than } 15\%
\]

Figure 3. Width of Roadway Insufficiency
Appendix E - FHWA Coding Guide Excerpts

c. Vertical Clearance Insufficiency - (2% maximum)
   If #100 (STRAHNET Highway Designation) > 0 and
   
   #53 (VC over Deck) ≥ 4.87 then \( I = 0\% \)
   #53 < 4.87 \( I = 2\% \)

   If #100 = 0 and
   
   #53 ≥ 4.26 then \( I = 0\% \)
   #53 < 4.26 \( I = 2\% \)

\[ S_2 = 30 - [ J + (G + H) + I ] \]
\( S_2 \) shall not be less than 0% nor greater than 30%.

3. Essentiality for Public Use (15% maximum)
   a. Determine
   
   \[ K = \frac{S_1 + S_2}{85} \]

   b. Calculate:
   
   \[ A = 15 \frac{#29(ADT) \times #19(DetourLength)}{320,000 \times K} \]
   "A" shall not be less than 0% nor greater than 15%.

c. STRAHNET Highway Designation:
   
   If #100 is > 0  then  \( B = 2\% \)
   If #100 = 0  \( B = 0\% \)

\[ S_3 = 15 - (A + B) \]
\( S_3 \) shall not be less than 0% nor greater than 15%.

4. Special Reductions (Use only when \( S_1 + S_2 + S_3 \geq 50 \))
   a. Detour Length Reduction, use Figure 4 or the following:
   
   \( A = (#19)^4 \times (7.9 \times 10^{-3}) \)
   "A" shall not be less than 0% nor greater than 5%.

   b. If the 2nd and 3rd digits of #43 (Structure Type, Main) are equal to 10, 12, 13, 14, 15, 16, or 17;
      then \( B = 5\% \)

   c. If 2 digits of #36 (Traffic Safety Features) = 0 then \( C = 1\% \)
      If 3 digits of #36 = 0 \( C = 2\% \)
      If 4 digits of #36 = 0 \( C = 3\% \)

\[ S_4 = A + B + C \]
\( S_4 \) shall not be less than 0% nor greater than 13%. 
Appendix E - FHWA Coding Guide Excerpts

Sufficiency Rating = \( S_1 + S_2 + S_3 - S_4 \)

The Rating shall not be less than 0% nor greater than 100%.

Example Calculation of Sufficiency Rating

1. Structural Adequacy and Safety
   A = 10%
   \( B = [32.4 - (19.8 \text{ metric tons})]^{1.5} \times 0.3254 = 14.6 \)
   \( S_1 = 55 - (10 + 14.6) = 30.4 \)

2. Serviceability and Functional Obsolescence
   A = 3%, B = 1%, C = 4%, D = NA, E = NA, F = NA
   \( J = (3 + 1 + 4) = 8\% \)
   \( X = \frac{18500}{2} = 9250 \quad Y = \frac{7.9}{2} = 3.95 \)
   (1) If \( 7.9 + 0.6 < 12.2 \) then \( G = 5 \)
   (2) Not Applicable
   (3) Not Applicable
   (4) If \( X = 9250 \) and \( Y = 3.95 \) then \( H = 15 \)
   \( G + H = 5 + 15 = 20 \) (however, maximum allowable = 15)
   \( I = 0 \)
   \( S_2 = 30 - [8 + (15) + 0] = 7.0 \)

3. Essentiality For Public Use
   \( K = \left[ \frac{30.4 + 7.0}{85} \right] = 0.44 \)
   \( A = 15 \left[ \frac{18,500 \times 12.8 \text{Km}}{320,000 \times 0.44} \right] = 25.2 \) (however, maximum allowable = 15)
   \( B = 0 \)
   \( S_3 = 15 - (15 + 0) = 0 \)

4. Special Reductions
   \( S_1 + S_2 + S_3 = (30.4 + 7.0 + 0.0) = 37.4 < 50 \)
   \( S_4 = NA \)

SUFFICIENCY RATING = 30.4 + 7.0 + 0.0 = 37.4
Figure 4. Special Reduction for Detour Length

\[ Y = M X^4 \]

\[ M = 7.9 \times 10^{-9} \]

\[ Y = \text{Reduction} \]

\[ X = \text{Detour Length} \]
### EXAMPLE DATA

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| **TYPE - DECK TRUSS** | 309 |
| **TYPE APPR: MATERIAL - STEEL** | |
| **TYPE - GIRDERS & FLOORBEAM SYSTEM** | 303 |
| **NUMBER OF SPANS IN MAIN UNIT** | 002 |
| **NUMBER OF APPROACH SPANS** | 004 |
| **DECK STRUCTURE TYPE - CONCRETE C-I-P** | CODE 1 |
| **WEARING SURFACE / PROTECTIVE SYSTEM** | |
| A. | TYPE OF WEARING SURFACE - CONCRETE |
| B. | TYPE OF MEMBRANE - NONE |
| C. | TYPE OF DECK PROTECTION - UNKNOWN |
| **AGE AND SERVICE** | 1948 |
| **YEAR BUILT** | 1950 |
| **YEAR RECONSTRUCTED** | 0000 |
| **UNDER - HIGHWAY-WATERWAY** | CODE 56 |
| **LANES: ON STRUCTURE** | 02 |
| **UNDER STRUCTURE** | 02 |
| **AVG DAILY TRAFFIC** | 019500 |
| **YEAR OF ADT** | 1993 |
| **TRUCK ADT** | 05 % |
| **BISS-DETOUR LENGTH** | 013 KM |

| **GEOMETRIC DATA** | |
| **LENGTH OF STRUCTURE** | 0097.5 M |
| **CURB OR SIDEWALK - LEFT** | 00.0 M |
| **RIGHT** | 00.0 M |
| **BRIDGE ROADWAY WIDTH CURB TO CURB** | 007.9 M |
| **DECK WIDTH OUT TO OUT** | 011.8 M |
| **APPROACH ROADWAY WIDTH (W/SHOULDER)** | 12.2 M |
| **BRIDGE MEDIAN - NO MEDIAN** | CODE 0 |
| **SKEW 00 DEG** | CODE 35 |
| **STRUCTURE FLARED** | NO |
| **INVENTORY ROUTE TOTAL HORIZ CLEAR** | 07.9 M |
| **MIN VERT CLEAR OVER BRIDGE ROAD** | 99.99 M |
| **MIN VERT CLEAR REF - HIGHWAY** | 10.46 M |
| **MIN LAT UNDERCLEAR RT REF - HIGHWAY** | 06.2 M |
| **MIN LAT UNDERCLEAR LT** | 00.0 M |

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| **PIER PROTECTION - FUNCTIONING** | CODE 2 |
| **NAVIGATION VERTICAL CLEARANCE** | 18.3 M |
| **VERT-LIFT BRIDGE NAV MIN VERT CLEAR** | |
| **NAVIGATION HORIZONTAL CLEARANCE** | 057.2 M |

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| **APPRAISAL** | |
| **DECK GEOMETRY** | 3 |
| **UNDERCLEARANCES, VERTICAL & HORIZONTAL** | 6 |
| **WATERWAY ADEQUACY** | 3 |
| **APPROACH ROADWAY ALIGNMENT** | 8 |
| **TRAFFIC SAFETY FEATURES** | 1100 |
| **SCOUR CRITICAL BRIDGES** | 8 |

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| **TYPE OF WORK - REPLACE FOR DEFICIENCY** | CODE 311 |
| **LENGTH OF STRUCTURE IMPROVEMENT** | 00317.0 M |
| **BRIDGE IMPROVEMENT COST** | $4,200,000 |
| **ROADWAY IMPROVEMENT COST** | $300,000 |
| **TOTAL PROJECT COST** | $5,000,000 |
| **FUTURE ADT** | 025600 |
| **YEAR OF FUTURE ADT** | 2014 |

| **INSPECTIONS** | |
| **INSPECTION DATE** | 05/04 |
| **(92) CRITICAL FEATURE INSPECTION** | |
| **(93) CF DATE** | |
| **A.** | FRACTURE CRIT DETAIL |
| **B.** | UNDERWATER INSPECTION |
| **C.** | OTHER SPECIAL INSPECTION |

**SUFFICIENCY RATING** | 37.4 |
**STATUS** | STRUCTURALLY DEFICIENT |

| **CLASSIFICATION** | **CODE** |
| **MBRS BRIDGE LENGTH** | YES |
| **HIGHWAY SYSTEM - ROUTE ON NHS** | 1 |
| **FUNCTIONAL CLASS - OTHER PRIM ART URBAN** | 16 |
| **DEFENSE HIGHWAY - NOT DEFENSE** | 0 |
| **PARALLEL STRUCTURE - NONE EXISTS** | N |
| **DIRECTION OF TRAFFIC - 2 WAY** | 2 |
| **TEMPORARY STRUCTURE - NOT TEMPORARY** | |
| **FEDERAL LANDS HIGHWAYS - NOT APPLICABLE** | 0 |
| **DESIGNATED NATIONAL NETWORK - PART OF NET** | 1 |
| **TOLL - ON FREE ROAD** | 3 |
| **MAINTENANCE STATE HIGHWAY AGENCY** | 01 |
| **OWNER - STATE HIGHWAY AGENCY** | 01 |
| **HISTORICAL SIGNIFICANCE - NOT ELIGIBLE** | 5 |
ITEM: Structurally Deficient

Structurally Deficient is an FHWA term used to identify bridges which meet the following criteria:

NBI Item 58 - Deck Rating ≤ 4 or
NBI Item 59 - Superstructure Rating ≤ 4 or
NBI Item 60 - Substructure Rating ≤ 4 or
NBI Item 62 - Culvert and Retaining Wall Rating ≤ 4 or

An appraisal rating of 2 or less for
NBI Item 67 - Structural Condition Rating ≤ 2 or
NBI Item 71 - Waterway Adequacy Rating ≤ 2

ITEM: Functionally Obsolete

Functionally Obsolete is an FHWA term used to identify bridges which meet the following criteria:

NBI Item 68 - Deck Geometry Rating ≤ 3 or
NBI Item 69 - Underclearances Rating ≤ 3 or
NBI Item 72 - Approach Roadway Alignment Rating ≤ 3 or

Any bridge classified as structurally deficient is excluded from the functionally obsolete category.

NBI Item 67 - Structural Condition Rating ≤ 3 or
NBI Item 71 - Waterway Adequacy Rating ≤ 3 or

ITEM: Changes to Manual

Significant Changes to Last Version of Manual
* Bridge Inspection items were not described in the prior version

Possible Future Enhancements:
* Scour Critical field is stored in RC07 can be removed form RC05 when a comprehensive review can be made of all the places the data is being used.
### Record Codes

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NEW YORK STATE DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN AND CONSTRUCTION DIVISION
BRIDGE DATA SYSTEMS
BRIDGE INVENTORY FORM RECORD CODES 01, 02, 03

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2 = Update, 3 = Create

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Page 199
NEW YORK STATE DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN AND CONSTRUCTION DIVISION
BRIDGE DATA SYSTEMS
BRIDGE INVENTORY FORM RECORD CODES 04, 12, 13-F2

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INSPECTION RESPONSIBILITY TRANSACTION

PRIMARY INSPECTION RESPONSIBILITY (P.I.R.)

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</thead>
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SECONDARY INSPECTION RESPONSIBILITY (S.I.R.)

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FEATURE CARRIED TRANSACTION

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FEATURE INTERSECTED TRANSACTION

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<th>FUNC CLS</th>
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Page 201
NEW YORK STATE DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN AND CONSTRUCTION DIVISION
BRIDGE DATA SYSTEMS

BRIDGE INVENTORY FORM RECORD CODES 04, 12, 13-F2

ALWAYS ENTER
TX CODE, COL. 120:
8=Update, 9=Create

INSPECTION RESPONSIBILITY TRANSACTION

PRIMARY INSPECTION RESPONSIBILITY (P.I.R.)

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SECONDARY INSPECTION RESPONSIBILITY (S.I.R.)

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STATE HWY. NO. | TOTAL NO. | LANE NO. | LANE JT. | AADT | YR ADDT | TOTAL HORIZ. CLR. | MIN. VERT. CLEARANCE | BYP DETACH LNT. |
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<th>YR FUT ADT</th>
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<th>LANE NO.</th>
<th>LANE JT.</th>
<th>AADT</th>
<th>YR ADDT</th>
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MAX VERT. CLEARANCE | MIN V.C. | YEAR AADT | HORIZ CLEARANCE | MIN. V.C. | NAVIGATION | BANK PROT | VEL CURR | BYP DETACH LNT. | MAX VERT. CLEARANCE |
<table>
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<td>86</td>
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BD 204M - GREEN

Page 202
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

RC - BIN

TEAM LEADER
Signature

P.E. NUMBER STATE
ASST TEAM LEADER

DATE

RAMP BRIDGE ATTACHED TO SPAN BIN

INSPECTION AGENCY TYPE OF INSPECTION

STATE HWY. NO. MILEPOINT: POLIT. UNIT:

FEATURE(S) CARRIED:

FEATURE(S) CROSSED:

TOTAL SPANS: BRIDGE ORIENTED: YEAR BUILT:

BRIDGE TYPE:

AADT/YR:

VERTICAL CLEARANCE AND LOAD POSTINGS

ON UNDER LOADING

LOADING:

TONS

ABUTMENTS:

Joint with deck
Bearings, anchor bolts, pads
Bridge seat and pedestals
Backwall
Stem (breastwall)
Erosion or scour
Footings
Piles
Recommendation

begin end

WINGWALLS:

begin end

Walls
Footings
Erosion or scour
Piles

approaches:

Drainage
Embankment
Settlement
Erosion

STREAM CHANNEL:

Stream alignment
Erosion and scour
Waterway opening
Bank protection

GENERAL RECOMMEND

ACCESS CATEGORY:

FLAG ISSUED? BRIEF REASON

RED STRUCTURAL

YELLOW STRUCTURAL

SAFETY

Vulnerability Reassessment Review
Recommended?

P.E. NUMBER DATE

REVIEWED BY

Page 203
### POSTING TRANSACTION

<table>
<thead>
<tr>
<th>REGION</th>
<th>COUNTY</th>
<th>BRIDGE IDENTIFICATION NUMBER</th>
<th>RECORDED DATE</th>
<th>POSTED VERTICAL CLEARANCE</th>
<th>ON FEET</th>
<th>ON INCHES</th>
<th>UNDER FEET</th>
<th>UNDER INCHES</th>
<th>POSTED LOAD (TONS)</th>
<th>DATE LOAD POSTED</th>
<th>CONTRACTOR CODE</th>
<th>RECORD CODE</th>
<th>TX CODE</th>
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<td>13 MO 15 DY 17 YR 19 21 23 25 27 29 MO 31 YR 32 116 118 120</td>
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**NEW YORK STATE DEPARTMENT OF TRANSPORTATION**  
**STRUCTURES DESIGN AND CONSTRUCTION DIVISION**  
**BRIDGE DATA SYSTEMS**  
**BRIDGE INVENTORY FORM RECORD CODE 06**  

**ACTION**  
- Preliminary Original  
- Preliminary Copy  
- Final Original  

**Type Inventory**  
- New  
- Replacement  
- Rehabilitation  
- Update  

**Contract No.**  
**Letting Date**  
**Opening Date**  
**Prepared By**  
**Date**  
**Reviewed By**  
**Date**
FEDERAL RATING FORM

NYS DEPT. of TRANSPORTATION

RC-BIN

BRIDGE INSPECTION REPORT

TEAM LEADER

ASST TEAM LEADER

 SHEET __  OF __

DATE

MO \ DAY \ YEAR

12 13 14 15 16 17 18

FEATURE CARRIED:

FEATURE CROSSED:

<table>
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<tr>
<th>Description</th>
<th>Deck</th>
<th>Superstructure</th>
<th>Substructure</th>
<th>Channel</th>
<th>Culvert</th>
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<td>Fed. Item #</td>
<td>58</td>
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Rating

Comments:

_________________________________________________________________

_________________________________________________________________

Notes: 1). See attached explanations for Federal Item Nos. a) 58- Deck, 59- Superstructure, 60- Substructure; b) 61-Channel and Channel Protection; c) 62- Culverts.

2). Item Nos. 58, 59, and 60 shall be coded N for all culverts.

3). A rating or an N must be entered for all Federal Items. Blanks are not acceptable.

Revised 6/99
### Feature Intersected Transaction

<table>
<thead>
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<th>F. No.</th>
<th>FEAT</th>
<th>P. No.</th>
<th>DESCRIPTION OR</th>
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<th>YR FUT ADT</th>
<th>STATE HWY. NO.</th>
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<th>NO LNS</th>
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| MAX VERT CLEARANCE | MIN. V.C. (LIFT) FEAT | AADT | YEAR AADT | HORIZ CLEARANCE | MIN. V.C. | NAVIGATION | BANK PROT | VEL OF CURR | BGP DET | BGP DET LH | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DET | VEL | BGP DE...
# Span Inventory Transaction

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<th>Structural Details</th>
<th>Pier</th>
<th>Railings</th>
<th>Bearings</th>
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<td>Span No.</td>
<td>Material</td>
<td>Coating</td>
<td>Composite</td>
<td>Cont./Curv.</td>
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### SPAN INVENTORY TRANSACTION

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<th>SPAN TYPE</th>
<th>STRUCTURAL DETAILS</th>
<th>PIER</th>
<th>RAILING</th>
<th>BEARINGS</th>
<th>WEARING SURFACE</th>
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<tr>
<td>SPAN LENGTH</td>
<td>TYPE</td>
<td>HEIGHT</td>
<td>FOOT TYPE</td>
<td>FRICTION (DEGREES)</td>
<td>DRAINAGE</td>
<td>LEFT TYPE</td>
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**METRIC**

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**NEW YORK STATE DEPARTMENT OF TRANSPORTATION**

**STRUCTURES DESIGN AND CONSTRUCTION DIVISION**

**BRIDGE DATA SYSTEMS**

**BRIDGE INVENTORY FORM RECORD CODE 15**

ALWAYS ENTER

TX CODE, COL. 120:

8 = Update, 9 = Create

**ACTION**

- Preliminary Original
- Preliminary Copy
- Final Original

**TYPE INVENTORY**

- New
- Replacement
- Rehabilitation
- Update

**Contract No.**

- Letting Date
- Opening Date

**Prepared By**

- Date

**Reviewed By**

- Date

**REQ**

**REQUIRED**

1 | 5

BD 196M - YELLOW
NYS DEPT. OF TRANSPORTATION
BRIDGE INSPECTION REPORT

TEAM LEADER: ____________________________
ASST TEAM LEADER: ______________________

OTHERS: __________________________________

Features carried: ________________________________________________________
Features crossed: _________________________________________________________

<table>
<thead>
<tr>
<th>SPAN NO.</th>
<th>DECK ELEMENTS</th>
<th>SUPERSTRUCTURE</th>
<th>PIER</th>
<th>UTILITIES</th>
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DIVING INSPECTION REQUIRED? [ ] [ ] If yes, indicate year of last diving inspection: ______

SPECIAL EMPHASIS INSPECTION REQUIRED: [ ] [ ] If yes, indicate type below.

NON-REDUNDANT/FRACTURE CRITICAL [ ] [ ]
PIN AND HANGERS [ ] [ ]
FATIGUE-PRONE WELDS (AASHTO D, E OR E') [ ] [ ]
NON-CATEGORIZED FATIGUE-PRONE DETAILS [ ] [ ]
OTHERS (SPECIFY) [ ] [ ]

RECOMMEND FURTHER INVESTIGATION [ ] [ ]
1 = NO [ ] [ ] 2 = YES [ ] [ ]

Field Notes: 19

Date | Time of Arrival | Time of Departure | Temp (°C) | Weather Conditions
--- | --------------- | ----------------- | --------- | ------------------

Remarks: ____________________________________________________

Utilities and utilities supp: ____________________________________

Lighting sids and fixtures: ____________________________________

Erosion or scour: ____________________________________________

Piles: ______________________________________________________

Cap beam: __________________________________________________

Pier columns: ______________________________________________

Footings or pier cap or beam: _________________________________

Brig anchor bolts, pads: _____________________________________

Recommendation: ____________________________________________

37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
### WORK HISTORY TRANSACTION

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#### REQUIRED

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#### COMMENTS

- 60
- 105
- 60
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- 105

### BRIDGE INVENTORY FORM RECORD CODE 21

- Contract No.
- Letting Date
- Opening Date
- Prepared By
- Date
- Reviewed By
- Date
## Appendix G- State Touring Route Numbers for Named Roads

**Purpose:**
This appendix provides a list of State Touring Route numbers for Parkways and other roadways commonly referred to by name.

<table>
<thead>
<tr>
<th>State Touring Route Number</th>
<th>Common Name</th>
<th>Common Abbreviation</th>
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<td>981P</td>
<td>Bear Mountain State Parkway</td>
<td>BMP</td>
</tr>
<tr>
<td>907A</td>
<td>Belt System - Cross Island Parkway</td>
<td>BCIP</td>
</tr>
<tr>
<td>907B</td>
<td>Belt System - Laurelton Parkway</td>
<td>BLP</td>
</tr>
<tr>
<td>907C</td>
<td>Belt System - Shore Parkway</td>
<td>BSHP</td>
</tr>
<tr>
<td>907D</td>
<td>Belt System - Southern Parkway</td>
<td>BSOP</td>
</tr>
<tr>
<td>907E</td>
<td>Bethpage State Parkway</td>
<td>BSP</td>
</tr>
<tr>
<td>907F</td>
<td>Bronx Pelham Parkway</td>
<td>BPP</td>
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<tr>
<td>907G</td>
<td>Bronx River Parkway (Outside NYC)</td>
<td>BRP</td>
</tr>
<tr>
<td>907H</td>
<td>Bronx River Parkway (In NYC)</td>
<td>BRPC</td>
</tr>
<tr>
<td>907J</td>
<td>Cross Bay Parkway</td>
<td>CBP</td>
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<tr>
<td>907K</td>
<td>Cross County Parkway</td>
<td>CCP</td>
</tr>
<tr>
<td>907L</td>
<td>Franklin D. Roosevelt Drive</td>
<td>FDRD</td>
</tr>
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<td>I390</td>
<td>Genesee Expressway</td>
<td>GNE</td>
</tr>
<tr>
<td>907M/278I</td>
<td>Grand Central Parkway</td>
<td>GCP</td>
</tr>
<tr>
<td>907P</td>
<td>Harlem River Drive</td>
<td>HRD</td>
</tr>
<tr>
<td>908M</td>
<td>Heckscher State Parkway/Combined with Southern State Parkway</td>
<td>HSP/907T</td>
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<tr>
<td>907V</td>
<td>Henry Hudson Parkway</td>
<td>HHP</td>
</tr>
<tr>
<td>907W</td>
<td>Hutchinson River Parkway (Outside NYC)</td>
<td>HRP</td>
</tr>
<tr>
<td>908A</td>
<td>Hutchinson River Parkway (In NYC)</td>
<td>HRPC</td>
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<tr>
<td>908B</td>
<td>Interborough Parkway</td>
<td>IP</td>
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<td>947A</td>
<td>Lake Ontario State Parkway</td>
<td>LOSP</td>
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<td>Lake Welch Parkway</td>
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<td>LP</td>
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<td>Marine Parkway</td>
<td>MAP</td>
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<td>Meadowbrook State Parkway</td>
<td>MSP</td>
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<td>Mosholu Parkway</td>
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<td>Ocean Parkway (Kings Co.)</td>
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<td>987C</td>
<td>Palisades Interstate Parkway</td>
<td>PIP</td>
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<tr>
<td>917A</td>
<td>Prospect Mountain State Parkway</td>
<td>PMSP</td>
</tr>
<tr>
<td>908J</td>
<td>Robert Moses Causeway</td>
<td>RMC</td>
</tr>
<tr>
<td>957A</td>
<td>Robert Moses State Parkway</td>
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<tr>
<td>908K</td>
<td>Sagtikos State Parkway</td>
<td>SGSP</td>
</tr>
<tr>
<td>987D</td>
<td>Saw Mill River Parkway</td>
<td>SMRP</td>
</tr>
<tr>
<td>987E</td>
<td>Seven Lakes Parkway</td>
<td>SLP</td>
</tr>
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<td>908L</td>
<td>Shore Front Drive</td>
<td>SFD</td>
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<td>987F</td>
<td>Sprain Brook Parkway</td>
<td>SBSP</td>
</tr>
<tr>
<td>957B</td>
<td>South Parkway</td>
<td>SP</td>
</tr>
<tr>
<td>908M</td>
<td>Southern State Parkway</td>
<td>SSP</td>
</tr>
<tr>
<td>RTE 17</td>
<td>Southern Tier Expressway</td>
<td>STE</td>
</tr>
<tr>
<td>908K</td>
<td>Sunken Meadow Parkway/Combined with Sagtikos State Parkway</td>
<td>SMSP/908P</td>
</tr>
<tr>
<td>987G</td>
<td>Taconic State Parkway</td>
<td>TSP</td>
</tr>
<tr>
<td>908T</td>
<td>Wantagh State Parkway</td>
<td>WSP</td>
</tr>
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## Appendix G - Bridge Standard Abbreviations

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>957C</td>
<td>West River Parkway</td>
<td>WRP</td>
</tr>
<tr>
<td>908V</td>
<td>Woodhaven Boulevard/Not a Pkwy., not NYS jurisdiction</td>
<td>WB</td>
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<tr>
<td>917B</td>
<td>WW Veterans Memorial Highway (Whiteface)</td>
<td>VMH</td>
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<td>440W</td>
<td>West Shore Expressway/New Part of NY 440</td>
<td>WSE-908W</td>
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<tr>
<td>908E</td>
<td>Meadowbrook Causeway/Combined with Meadowbrook Parkway</td>
<td>MC-909A</td>
</tr>
<tr>
<td>908T</td>
<td>Wantagh Causeway/Combined with Wantagh Parkway</td>
<td>WC-909B</td>
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<td>957D</td>
<td>Joseph Davis State Parkway</td>
<td>JDSP</td>
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<td>957E</td>
<td>Lewiston State Parkway</td>
<td>LSP</td>
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<td>909C</td>
<td>Richmond Parkway</td>
<td>RP</td>
</tr>
<tr>
<td>909D</td>
<td>Ocean Parkway (Nassau &amp; Suffolk Counties)</td>
<td>OP</td>
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