Idaho Bridge Inspection Coding Guide

January 2014

IDAHO TRANSPORTATION DEPARTMENT

BRIDGE ASSET MANAGEMENT SECTION

STRUCTURE INVENTORY AND APPRAISAL

CODING GUIDE

January 2014

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INTRODUCTION

This 2014 edition of the **IDAHO BRIDGE INSPECTION CODING GUIDE** incorporates a few changes and corrections from our previous issues of the coding guide.

The Structure Inventory and Appraisal portion of this coding guide is based directly on the Federal Highway Administration's **RECORDING AND CODING GUIDE FOR THE STRUCTURE INVENTORY AND APPRAISAL OF THE NATION'S BRIDGES**, December 1995. The AASHTO **MANUAL FOR BRIDGE EVALUATION (MBE),** Second Edition 2011 with 2013 Interims addresses requirements for record-keeping, inspection material testing, load rating and posting of bridges. The **IDAHO MANUAL FOR BRIDGE EVALUATION (IMBE)** 2014 Edition is written as a supplement to the MBE, and presents practices and procedures that are specific to ITD. The **BRIDGE INSPECTOR'S REFERENCE MANUAL (BIRM),** 2012 Edition discusses inspection procedures and analysis of a structure. Other reporting requirements and qualifications of personnel appear in the National Bridge Inspection Standards (**23 CFR650.3)**. These publications are valuable supplements to this guide and it is highly recommended that inspectors have each of them for reference.

DEFINITION OF TERMS

For clarity, the definitions of a few terms used in the Guide are provided below.

(a) Bridge. The National Bridge Inspection Standards published in the Code of Federal Regulations (23 CFR 650.3) give the following definition:

> A structure, including supports, erected over a depression or an obstruction, such as water, a highway, or a railway, having 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 (6.1 meters) between undercopings of abutments or spring lines of arches, or extreme ends of the openings for multiple boxes; it may include multiple pipes where the clear distance between openings is less than half of the smaller contiguous opening.

(b) Culvert. A structure designed hydraulically to take advantage of submergence to increase hydraulic capacity. Culverts, as distinguished from bridges, are usually covered with embankment and are composed of structural material around the entire perimeter.

(c) Inventory Route. The route for which the applicable inventory data is to be recorded. Generally, inventories are made from West to East and South to North.

(d) National Bridge Inventory (NBI). The aggregation of structure inventory and appraisal data collected to fulfill the requirements of the National Bridge Inspection Standards (NBIS) that each State shall prepare and maintain an inventory of all bridges subject to the NBIS.

(e) National Bridge Inventory (NBI) Record. Data that has been coded according to the Guide for each structure carrying highway traffic or each inventory route that goes under a structure. These data are furnished and stored in a compact alphanumeric format on disks suitable for electronic data processing.

(f) National Bridge Inspection Standards (NBIS). Federal regulations establishing requirements for inspection procedures, frequency of inspections, qualifications of personnel, inspection reports, and preparation and maintenance of a State bridge inventory. The NBIS apply to all structures defined as bridges located on all public roads.

(g) Public Roads. Any road under the jurisdiction of and maintained by a public authority and open to public travel.

(h) Structure Inventory and Appraisal (SI&A) Sheet. The graphic representation of the data recorded and stored for each NBI record in accordance with this Guide.

(i) Strategic Highway Corridor Network (STRAHNET). A system of highways which are strategically important to the defense of the United States. It includes the Interstate Highways and 15633 miles (25,215 kilometers) of other non-interstate highways. The Military Traffic Management Command Report SE 89-4b-27, Strategic Highway Corridor Network, January 1991, contains additional information on STRAHNET.

(j) STRAHNET Connectors are roads that connect military installations and ports of embarkation to the STRAHNET. The connector routes represent about 1886 miles (3042 kilometers) of roads that complement STRAHNET.

(k) Indian Reservation Road (IRR). A public road that is located within or provides access to an Indian reservation as described in Title 23, U.S.C., Section 101. The terminus of a road providing access to an Indian reservation or other Indian land is defined as the point at which the road intersects with a road functionally classified as a collector or higher classification (outside the reservation boundary) in both urban and rural areas. In the case of access from an Interstate highway, the terminus is the first interchange outside the reservation.

(l) Land Management Highway system LMHS. Consists of adjoining state and local public roads that provide major public access to Bureau of Land Management administered public lands, resources, and facilities.

(m) Forest Highway (FH). A road, under the jurisdiction of, and maintained by, a public authority and open to public travel; wholly or partly within, or adjacent to, and serving the National Forest System (NFS) and which is necessary for the protection, administration, and utilization of the NFS and the use and development of its resources. (23 CFR 660).

(n) Forest Service Development Road. A forest road wholly under the jurisdiction of the Forest Service, which may be "open to public travel". Bridges on Forest Service Development Roads, which are "open to public travel", are subject to the NBIS.

(o) Base highway Network. The Base Highway Network includes the through lane (mainline) portions of the NHS, rural/urban principal arterial system and rural minor arterial system. Ramps, frontage roads and other roadway are not included in the Base Network.

(p) Highway Performance Monitoring System. The Highway Performance Monitoring System (HPMS) is a database of universe and sample data that describes the nations public road mileage. The data are annually updated and submitted to FHWA by the State Highway Agencies, Puerto Rico and the District of Columbia. The universe data provides some basic arterial and collector systems allow for assessment of the condition, performance, usage and additional characteristics of the nations major highway systems.

(q) Rounding and Truncating of Numerical Data. All numeral values in this Guide, Except as specifically noted, will follow standard rounding criteria, that is, 5 and above will be rounded up to the next higher unit and 4 and below will be rounded down to the next lower unit. This is applicable to all decimal roundings. **In certain items where rounding may cause a safety hazard for clearance, the numeric measurements will be truncated at the appropriate decimal place.** This means that a fractional portion less than a whole unit will be dropped to the lower whole number, for example 14.57’ would be truncated to 14.5’ when using tenth of a foot accuracy. All decimal points are assumed in the locations as specified in the Guide.

INSTRUCTIONS FOR CODING
BRIDGE INSPECTION REPORTS

Inspection reports generally include the following six items:

A. Elements and Commentary
B. Additional Condition Information
C. Maintenance Recommendations
D. Federal Structure Inventory and Appraisal (SIA) Items
E. Posting Information
F. Photographs

A) The Elements and Commentary should include the following minimum information:

DECK or SLAB ELEMENTS: Type of construction (concrete, timber, etc.), type of wearing surface, defects that document condition rating.

SUPERSTRUCTURE ELEMENTS: Type of member (steel girder, prestressed concrete girder, etc.) number of spans, type of design, defects.

BEARING ELEMENTS: Type of bearings (rigid frame, fixed, pinned, etc.), material of bearing units, condition of units, condition of bearing seats.

SUBSTRUCTURE ELEMENTS: Type of construction, defects, condition of foundation, type of foundation.

EXPANSION JOINT ELEMENTS: Type of joint (compression seal, finger joint, etc.), location, armored or not, defects.

APPROACH SLAB ELEMENTS: Condition of approach slabs, if any, type of pavement, defects.

BRIDGE RAIL ELEMENTS: Type of rail, condition of materials, defects.

DEFECT FLAGS: Smart flags should be used to identify problems with certain elements (i.e. cracks in underside of deck; soffit smart flag).

Identification of any features which should be monitored closely during subsequent inspections (include any specific descriptions, instructions, or concerns). Nomenclature used to describe bridge components should be consistent.

All signs of distress and deterioration should be noted with sufficient accuracy so that future inspections can readily make a comparison of conditions.

Measurements, photographs, sketches, diagrams, test results, or calculations should generally be included on separate sheets.

B) Additional Condition Information should include Fill(if applicable, Roadway Approaches, Wing Walls(if applicable), Curbs, Embankment, Channel Condition, Signing, Roadway Guardrail Information, Utilities, Notes and Work Accomplished.

C) Bridge Inspector maintenance recommendations/work candidates.

D) Federal SI&A items shall be recorded and updated on the bridge inventory sheets in accordance with the coding guidelines provided in this manual.

E) Field Posting Information is required. Code only the actual field posting. Recommended posting is initiated by the **ITD Load Rating Engineer** only. For structures where height or width restrictions are required, the actual field postings shall be documented in the bridge inspection report.

F) State items shall be recorded and updated on the appropriate portions of the bridge inventory sheets in accordance with the coding guidelines provided in this manual.

G) Photographs are required for all bridges inspected. An approach view and a side view photo are required. The approach view will be numbered 1 and the side view will be numbered 2. Photographs of notable defects and all load posting and vertical clearance signs are also required.

H) A fracture critical inspection plan/report will be submitted with every fracture critical bridge. Included in the fracture critical plan shall be the identification, inspection procedure and condition of all fracture critical elements.

I) **The Bridge Asset Management Engineer and the owner of the bridge shall be notified immediately of any 'Critical Findings'. A Critical Finding is any one or more of the following conditions:**

1. **Any bridge which has an Emergency Priority Maintenance Recommendation.**
2. **Items 58, 59 or 60 = 2 or less**
3. **Items 61 or 62 = 3 or less**
4. **Item 41 = 'B' – You will need to inform owner of bridge how to correctly post the bridge. Inform them that they need to contact the ITD Bridge Asset Management office when posting is in place.**

The following information should be documented under the NOTES field in the Additional Condition Information portion of the inspection report:

1. **Contact info of the owner of the bridge(name, title, phone number)**
2. **Date(s) of any conversations with bridge owner**
3. **A brief summary of the Critical Finding**
4. **The date and a brief summary of interim actions that were taken(i.e. bridge closed, restrict lanes, load post of bridge)**

5. **A brief summary of planned repairs or plan to monitor Critical Findings**
   -ask them to notify the ITD Bridge Asset Management office when repair(S) are completed.

For consultant bridge inspectors these findings shall also be documented on the Local Agency Communication Form.

In the event a serious problem which indicates imminent failure of the structure (or major components of the structure) is discovered, the inspector shall immediately begin bridge closure procedures as outlined under Section 322 - Emergency Maintenance of the I.T.D. Maintenance Manual. For local structures, bridge closures shall be coordinated through the local administrative agency.

The I.T.D. Bridge Asset Management Engineer shall be notified immediately of all bridge closures.

FEDERAL CODE DESCRIPTIONS

SUFFICIENCY RATING **5 DIGIT FIELD**

No coding is required for this field. A computer program calculates the sufficiency rating for each structure from the structural conditions and appraisal items coded.

ITEM 1 - STATE CODE **3 DIGIT FIELD**

A numeric identification code unique for each State has been established based on a code scheme presently being used with bridge data reported to the National Resource Analysis Center (NRAC). The first two digits are the Federal Information Processing Standards (FIPS) code for States; and the third digit is the Federal Highway Administration's region code.

The numeric identification assigned to Idaho of 160 has been pre-coded on Idaho Transportation Department's Structure Inventory and Appraisal (SIA&A) database. No coding is required.

Surrounding State Codes:

Code	State
308	Montana
329	Nevada
410	Oregon
498	Utah
530	Washington
568	Wyoming
CAN	Canada

ITEM 2 - DISTRICT **2 DIGIT FIELD**

The highway district in which the bridge is located shall be represented by a two-digit code. Existing district numbers shall be coded as follows:

01	District One
02	District Two
03	District Three
04	District Four
05	District Five
06	District Six

ITEM 3 - COUNTY **3 DIGIT FIELD**

Counties shall be identified using the Federal Information Processing Standards (FIPS) current version of the Geographic Identification Code Scheme (GICS). The codes to be used are:

THREE DIGIT COUNTY CODE SYSTEMS

001	Ada	031	Cassia	061	Lewis
003	Adams	033	Clark	063	Lincoln
005	Bannock	035	Clearwater	065	Madison
007	Bear Lake	037	Custer	067	Minidoka
009	Benewah	039	Elmore	069	Nez Perce
011	Bingham	041	Franklin	071	Oneida
013	Blaine	043	Fremont	073	Owyhee
015	Boise	045	Gem	075	Payette
017	Bonner	047	Gooding	077	Power
019	Bonneville	049	Idaho	079	Shoshone
021	Boundary	051	Jefferson	081	Teton
023	Butte	053	Jerome	083	Twin Falls
025	Camas	055	Kootenai	085	Valley
027	Canyon	057	Latah	087	Washington
029	Caribou	059	Lemhi		

ITEM 4 - PLACE CODE **5 DIGIT FIELD**

Cities, towns, townships, villages, and other census-designated places shall be identified using the Federal Information Processing Standards (FIPS) codes given in the current version of the Census of Population and Housing-Geographic Identification Code Scheme (GICS). If there is no FIPS place code, then code all zeros.

If the structure is not within the boundaries of a listed city or town, code five zeros (00000). Structures located within the boundaries of the listed cities or towns shall be coded with their respective five-digit code as indicated on the following pages:

FIPS PLACE CODES FOR INCORPORATED CITIES OF IDAHO

NAME	FIPS PLACE CODE
Aberdeen	00100
Acequia	00280
Albion	01000
American Falls	01900
Ammon	01990
Arco	03160
Arimo	03340
Ashton	03610
Athol	03700
Atomic City	03970
Bancroft	04420
Basalt	05230
Bellevue	06220
Blackfoot	07840
Bliss	08470
Bloomington	08560
Boise	08700
Bonners Ferry	09370
Bovill	09730
Buhl	10810
Burley	11260
Butte City	11710
Caldwell	12250
Cambridge	12520
Carey	12790
Cascade	13150
Castleford	13240
Challis	13780
Chatcolet	13870
Chubbuck	14680
Clark Fork	14950
Clayton	15490
Clifton	16120
Coeur d'Alene	16750
Cottonwood	18640
Council	18820
Craigmont	19270
Crouch	19720
Culdesac	19900
Dalton Gardens	20350
Dayton	20710
Deary	20890
Declo	20980
Dietrich	21790
Donnelly	22330
Downey	22600
Driggs	22690
Drummond	22780
Dubois	22960
Eagle	23410
East Hope	23680
Eden	24310
Elk River	25120
Emmett	25570
Fairfield	26290
Ferdinand	27460
Fernan Lake	27550
Filer	27730
Firth	27910
Franklin	28810
Fruitland	28990
Garden City	29620
Genesee	30160
Georgetown	30340
Glenns Ferry	31690
Gooding	32140
Grace	32500
Grandview	32770
Grangeville	32950
Greenleaf	33490
Hagerman	34300
Hailey	34390
Hamer	34570
Hansen	34930
Harrison	35200
Hauser	35740

NAME	FIPS PLACE CODE
Hayden	36370
Hayden Lake	36460
Hazelton	36730
Heyburn	37360
Hollister	38080
Homedale	38170
Hope	38440
Horseshoe Bend	38620
Huetter	39070
Idaho City	39610
Idaho Falls	39700
Inkom	40330
Iona	40420
Irwin	40510
Island Park	40600
Jerome	41320
Juliaetta	42130
Kamiah	42400
Kellogg	42580
Kendrick	42760
Ketchum	43030
Kimberly	43570
Kooskia	44110
Kootenai	44200
Kuna	44290
Lapwai	45370
Lava Hot Springs	45820
Leadore	45910
Lewiston	46540
Lewisville	46720
Lost River	47890
McCall	48790
McCammon	48880
Mackay	49240
Malad City	50140
Malta	50230
Marsing	50950
Melba	51850
Menan	52030
Meridian	52120
Middleton	52660
Midvale	52750
Minidoka	53110
Montpelier	53920
Moore	54100
Moscow	54550
Mountain Home	54730
Moyie Springs	55270
Mud Lake	55450
Mullan	55630
Murtaugh	55900
Nampa	56260
Newdale	56800
New Meadows	56890
New Plymouth	56980
Nezperce	57250
Notus	58060
Oakley	58330
Oldtown	58600
Onaway	58870
Orofino	59320
Osburn	59590
Oxford	60040
Paris	60580
Parker	60760
Parma	60940
Paul	61210
Payette	61300
Peck	61840
Pierce	62740
Pinehurst	63100
Placerville	63550
Plummer	63910
Pocatello	64090
Ponderay	64450
Post Falls	64810
Potlatch	64900
Preston	65260
Priest River	65530
Rathdrum	66340
Reubens	67150
Rexburg	67420
Richfield	67600

NAME	FIPS NAME CODE
Rigby	67780
Riggins	67870
Ririe	67960
Roberts	68500
Rockland	69130
Rupert	70660
St. Anthony	71020
St. Charles	71110
St. Maries	71470
Salmon	71650
Sandpoint	72100
Shelley	73450
Shoshone	73900
Smelterville	75070
Soda Springs	75195
Spencer	75970
Spirit Lake	76060
Stanley	76780
Star	76870
State Line	77050
Stites	77500
Sugar City	78040
Sun Valley	78850
Swan Valley	79120
Tensed	80200
Teton	80380
Tetonia	80470
Troy	82360
Twin Falls	82810
Ucon	83350
Victor	84250
Wallace	84790
Wardner	85240
Warm River	85420
Weippe	86050
Weiser	86140
Wendell	86320
Weston	87040
White Bird	87310
Wilder	87670
Winchester	87850
Worley	88480

ITEM 5 - INVENTORY ROUTE **9 DIGIT FIELD**

The complete data for the structure is coded with respect to the route carried by the structure, even if the route is not on a Federal-aid system.

The inventory route is a 9-digit code composed of 5 segments.

Segment	Description	Length
5A	Record Type	1 digit
5B	Route Signing Prefix	1 digit
5C	Designated Level of Service	1 digit
5D	Route Number	5 digits
5E	Directional Suffix	1 digit

Segment 5A - Record Type **1 digit**

There are two types of National Bridge Inventory records: "on" and "under". Code the first digit (leftmost) using one of the following codes:

Code	Description
1	Route carried "on" the structure
2	Single route goes "under" the structure
A through Z	Multiple routes go "under" the structure

A signifies the first of multiple routes under the structure
B signifies the second of multiple routes under the structure
Z signifies the 26th route under the structure

"On" signifies that the inventory route is carried "on" the structure. Each bridge structure carrying highway traffic must have a record identified with a type code of 1. All of the NBI data items must be coded, unless specifically excepted, with respect to the structure and the inventory route "on" it.

"Under" signifies that the inventory route goes "under" the structure. If an inventory route beneath the structure is a Federal-aid highway, is a STRAHNET route or connector or is otherwise important, a record must be coded to identify it. The type coded must be 2 or an alphabetic letter A through Z. STRAHNET routes shall be listed first.

NOTE: In BrM this item will be entered as either Route On Structure, One Route Under Structure or 1st Route Under,2nd Route Under, etc.

It cannot be overemphasized that all route-oriented data must agree with the coding as to whether the inventory route is "on" or "under" the structure.

Tunnels shall be coded only as an "under" record; that is, they shall not be coded as a structure carrying highway traffic.

(continued)

ITEM 5 - INVENTORY ROUTE (cont'd)

Segment 5A - Record Type (cont'd)

There are situations of a route "under" a structure, where the structure does not carry a highway, but may carry a railroad, pedestrian traffic, or even a building. These are coded the same as any other "under" record and no "on" record shall be coded.

Segment 5B - Route Signing Prefix **1 digit**

In the second position, identify the route signing prefix for the inventory route using one of the following codes:

Code	Description
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

When 2 or more routes are concurrent, the highest class of route will be used. The hierarchy is in the order listed above.

Segment 5C - Designated Level of Service **1 digit**

In the third position, identify the designated level of service for the inventory route using one of the following codes:

Code	Description
0	None of the below
1	Mainline
2	Alternate
3	Bypass
4	Spur
6	Business
7	Ramp, Wye, Connector, etc.
8	Service and/or unclassified frontage road

Segment 5D - Route Number **5 digit**

Code the route number of the inventory route in the next 5 positions. This value shall be right justified in the field with leading zeros filled in. (See examples below.)

If concurrent routes are of the same hierarchy level, denoted by the route-signing prefix, the lowest numbered route shall be coded. Code 00000 for bridges on roads without route numbers.

(continued)

ITEM 5 - INVENTORY ROUTE (cont'd)

Segment 5E - Directional Suffix **1 digit**

In the last position, code the directional suffix to the route number of the inventory route when it is part of the route number, using one of the following codes:

Code	Description
0	Not applicable
1	North
2	East
3	South
4	West

In some cases, letters may be used as part of a route number and not to indicate direction. In such cases, the letter should be included in the 5-position route number field.

EXAMPLES:

Route	Code
Interstate 95, on	111000950
Interstate 70S, under	211000703
State Highway 104, Spur, under	234001040
U.S. 30E Bypass, on	123000302
City street, on	150000000
Ramp from I-81, under	217000810
County Highway 173 on	141001730
Interstate 84 under	211000840
Interstate 49B on	1110049B0
State Hwy 120 (STRAHNET Rte) under	A31001200
Alternate State Highway 130 under	B32001300
Tunnel on Interstate 70	211000700
Pedestrian overpass	080000000

ITEM 6 - FEATURES INTERSECTED **24 DIGIT FIELD**

The information to be coded for this item will be the name or names of the features intersected by the structure. When one of the features intersected is another highway, the signed number or name of the highway (e.g., I 80N, US 95, SH 55, Mill Road) should appear first (left-most) in the field. The names of any other features should follow, separated by a semi-colon. Parenthesis shall be used to provide a second identification of the same feature or bridge name (see example 3). Abbreviations may be used where necessary, but an effort should be made to keep them meaningful.

EXAMPLES:

1. I 81; US 51; Mill Road
2. SR 772; Mississippi R
3. SR 42 (Pond Road)

ITEM 7 - FACILITY CARRIED BY STRUCTURE **18 DIGIT FIELD**

The facility being carried by the structure shall be coded. Coding for this item is to be left justified without trailing zeros.

EXAMPLES:

1. County Road 450
2. US 66
3. Main Street
4. C & O Railroad
5. pedestrian bridge

ITEM 8 - BRIDGE KEY (NBI STRUCTURE NUMBER) **15 DIGIT FIELD**

It is required that the official Bridge Key be recorded. It is not necessary to code this number according to an arbitrary national standard. Each agency should code the Bridge Key according to its own internal processing procedures. When recording and coding for this item and following items, any structure or structures with a closed median should be considered as <u>one</u> structure, not <u>two</u>. Closed medians may have either mountable or non-mountable curbs or barriers.

The Bridge Key must be unique for each bridge within the State, and once established should preferably never change for the life of the bridge. If it is essential that Bridge Key (s) must be changed, all 15 digits are to be filled. For any Bridge Key changes, a complete cross reference of corresponding "old" and "new" numbers must be provided to the FHWA Bridge Division. The cross-reference shall include both a computer tape or diskette and a printed listing in the FHWA required format.

The identical Bridge Key must appear on the "on" and all "under" records associated with a particular structure. (Refer to Item 5 - Inventory Route).

ITEM 9 - LOCATION **25 DIGIT FIELD**

This item will be coded providing a brief narrative description of the bridge location. It is required that the location be coded as distance from cities or towns as shown on official state highway department or county maps. Distances shall be to the nearest tenth of a mile in the North, South, East or West direction. Do not use commas in the description.

EXAMPLES: 2.4 S. 27.7 E. Firth
17 W. Boise

ITEM 10 - INVENTORY ROUTE, MINIMUM VERTICAL CLEARANCE **4 DIGIT FIELD**

Code the minimum vertical clearance at the bridge site over the inventory route identified in Item 5, whether the route is "on" the structure or "under" the structure. The minimum vertical clearance for a 10-foot width of the pavement, or traveled part of the roadway, where the clearance is the greatest shall be recorded and coded in feet to the hundredth of a foot. For structures having multiple openings, clearances for each opening shall be recorded, but only the greatest of the minimum clearances for the two or more openings shall be coded regardless of the direction of travel. This would be the practical maximum clearance for a high vehicle. When no restriction exists, code 9999.

ITEM 11 - MILEPOINT **7 DIGIT FIELD**

The Milepost and Coded Segment (MACS) system is used by I.T.D. as a milepoint location reference system. The milepoint will refer to the beginning of the bridge in the direction of increasing mileage. Code a 6-digit number to represent the milepoint to thousandths of a mile. No blank spaces are permitted. The decimal indicating thousandths of a mile should also be coded. If a MACS milepoint has not been assigned or is not appropriate, code all zeros.

EXAMPLES:

Milepost	Coding
1.250	001.250
103.101	103.101
2.000	002.000
Not Assigned	000.000

ITEM 12 - BASE HIGHWAY NETWORK **1 DIGIT FIELD**

This item is to be coded for all records on the inventory. The Base Highway Network includes the through lane (mainline) portions of the NHS, rural/urban principal arterial system and rural minor arterial system. Ramps, frontage roads and other roadways are not included in the Base Network. For the inventory route identified in Item 5 - Inventory Route, indicate whether the inventory route is on the Base Highway Network or not on that network. Use one of the following codes:

Code	Description
0	Inventory Route is not on the Base Network.
1	Inventory Route is on the Base Network.

ITEM 13 - LRS INVENTORY ROUTE, SUBROUTE NUMBER **12 DIGIT FIELD**

If Item 12 - Base Highway Network has been coded 1, the information to be recorded for this item is inventory route for the States linear referencing system (LRS). If Item 12 has been coded 0, this entire item should be left blank. This item is a 12-digit code composed of 2 segments.

Segment	Description	Length
13A	LRS Inventory Route	10 digits
13B	Sub-route Number	2 digits

The LRS inventory route and sub-route numbers to be reported in this item must correspond to the LRS inventory route and sub-route numbers reported by the State for the HPMS. The LRS inventory route number is coded in the ten positions of segment 13A. The sub-route number, if it exists, is coded in the two positions of segment 13B.

The LRS inventory route number can be alphanumeric, but must not contain blanks. The LRS inventory route number is not necessarily the same as that posted along the roadway, but is a number used to uniquely identify a route within at least a county and perhaps throughout the State.

The sub-route number is a number that uniquely identifies portions of an inventory route section where duplicate mile points occur. These sub-route numbers, if they exist, are identified in the State's HPMS_LRS records.

ITEM 14 - Item Not Used

ITEM 15 - Item Not Used

ITEM 16 - LATITUDE **6 DIGIT FIELD**

Code the latitude of each bridge in degrees, minutes, and seconds to the nearest full second. The point of the coordinate will be the beginning of the bridge in the direction of inventory. A Global Positioning System (GPS) should be used for accuracy.

EXAMPLE: GPS 45^0 27′ 18.29″ Code 452718
or 45^0 27′ 18″

ITEM 17 - LONGITUDE **7 DIGIT FIELD**

Code the longitude of each bridge in degrees, minutes, and seconds to the nearest full second. The point of the coordinate will be the beginning of the bridge in the direction of inventory. A Global Positioning System (GPS) should be used for accuracy

EXAMPLE: GPS 115^0 05′ 50.44″ Code 1150551
or 115^0 05′ 51″

ITEM 18 - Item Not Used

ITEM 19 - BYPASS OR DETOUR LENGTH **3 DIGIT FIELD**

If a ground level bypass for the route given in Item 5 is available at the structure site, code the detour length as 00. Otherwise, indicate the actual length (to the nearest mile) of a feasible detour using the nearest comparable route.

If the bridge is one of twin bridges and is not at an interchange, code 01 where the other twin bridge can be used as a temporary bypass with a reasonable amount of crossover grading. In other cases, indicate (to the nearest mile) the actual detour length. The detour length should represent the total additional travel for a vehicle that would result from closing of the bridge. The factor to consider when determining if a bypass is available at the site is the potential for moving vehicles, including military vehicles, around the structure.

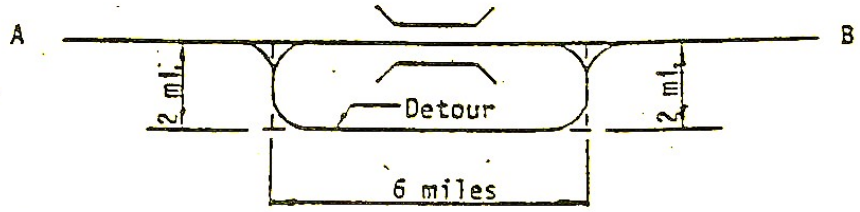
(continued)

ITEM 19 - BYPASS OR DETOUR LENGTH (cont'd) **3 DIGIT FIELD**

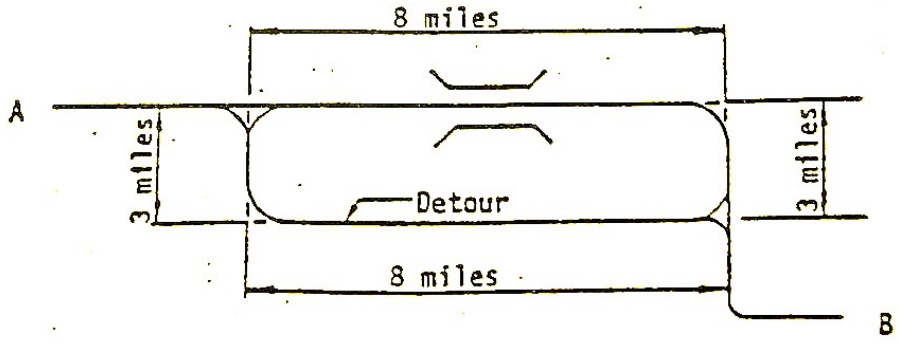
This is particularly true when the structure is in an interchange. For instance, a bypass likely would be available in the case of diamond interchanges, interchanges where there are service roads available, or other interchanges where the positioning and layout of the ramps is such that they could be used without difficulty to get around the structure. Code 99 for 99 miles or more.

EXAMPLES:

	Code
Diamond interchange, structure bypassable	00
Cloverleaf, not bypassable; 8 mile detour	08
Structure over river, 131 mile detour	99
Structure over highway, no interchange, bypassable at ground level	00
Structure over waterway with companion twin bridge	01
Structure on dead end road	99



Bypass, Detour Length A - B = 4 miles



Bypass, Detour Length A - B = 0 miles

ITEM 20 - TOLL **1 DIGIT FIELD**

The toll status of the structure is indicated by this item. For all Idaho bridges this item is coded a 3.

ITEM 21 - MAINTENANCE RESPONSIBILITY **2 DIGIT FIELD**

The codes below shall be used to represent the type of agency that has primary responsibility for maintaining the structure. If more than one agency has equal maintenance responsibility, code one agency in the hierarchy of State, Federal, County, City, Railroad and other private. The actual name of the agency responsible for the maintenance of the structure can be found by interpreting the codes in Item 4 and the Administrative Jurisdiction.

Code	Description
01	State Highway Agency
02	County Highway Agency
03	Town or Township Highway Agency
04	City or Municipal Highway Agency
11	State Park, Forest, or Reservation Agency
12	Local Park, Forest, or Reservation Agency
21	Other State Agencies
25	Other Local Agencies
26	Private (other than railroad)
27	Railroad
31	State Toll Authority
32	Local Toll Authority
60	Other Federal Agencies (not listed below)
61	Indian Tribal Government
62	Bureau of Indian Affairs
63	Bureau of Fish and Wildlife
64	U.S. Forest Service
66	National Park Service
68	Bureau of Land Management
69	Bureau of Reclamation
70	Corp of Engineers / Civilian
71	Corp of Engineers / Military
72	Air Force
73	Navy/Marines
74	Army
75	NASA
76	Metropolitan Washington Airport Services
80	Unknown

ITEM 22 - OWNER **2 DIGIT FIELD**

The codes used in Item 21 - Maintenance Responsibility shall be used to represent the type of agency that is the primary owner of the structure. If more than one agency has equal ownership, code one agency in the hierarchy of State, Federal, county, city, railroad, and other private. The actual name of the owner of the bridge shall be recorded on the inspection form under Item 216 using the appropriate numeric code.

ITEM 23 – Item Not Used

ITEM 24 – Item Not Used

ITEM 25 – Item Not Used

ITEM 26 - FUNCTIONAL CLASSIFICATION **2 DIGIT FIELD**

For the inventory route, code the functional classification using one of the following codes:

RURAL

Code	Description
01	Principal Arterial -Interstate
02	Principal Arterial - Other
06	Minor Arterial
07	Major Collector
08	Minor Collector
09	Local

URBAN (5000 +)

Code	Description
11	Principal Arterial -Interstate
12	Principal Arterial - Other Freeways or Expressways
14	Other Principal Arterial
16	Minor Arterial
17	Collector
19	Local

The codes must be compatible with the codes for Item 104 - Highway System of the inventory route. The bridge location and not the character of the roadway shall determine the urban or rural designation. The bridge shall be coded rural if not inside a designated urban area.

ITEM 27 - YEAR BUILT **4 DIGIT FIELD**

Record the year of construction for the structure. Code all four digits of the year in which construction was completed. If the year built is unknown, provide a best estimate based on contract documents, bridge owner information, construction type, materials, etc. **This item must be provided by the inspector when inventorying a bridge.** For bridges that have been rehabilitated or reconstructed, see Item 106.

ITEM 28 - LANES ON AND UNDER STRUCTURE **4 DIGIT FIELD**

Record and code the number of lanes being carried by the structure and being crossed over by the structure as a 4-digit number composed of 2 segments. The number of lanes should be right justified in each segment with leading zero(s) coded as required.

Segment	Description	Length
28A	Lanes on the structure	2 digits
28B	Lanes under the structure	2 digits

Include all lanes carrying highway traffic (i.e., cars, trucks, buses) which are striped or otherwise operated as full width traffic lane for the entire length of the structure or under the structure. This shall include any full width merge lanes and ramp lanes, and shall be independent of direction of traffic flow (i.e. a one-lane bridge carrying two-directional traffic is still considered to carry only one lane on the structure). It should be noted here that for the purpose of evaluating the Deck Geometry - Item 68, any "1-lane" bridge, not coded as a ramp (Item 5C = 7), which has a bridge roadway width, curb to curb - Item 51 coded 16 feet or greater shall be evaluated as 2 lanes.

When the inventory route is "on" the bridge, (the first digit of Item 5 – Inventory Route is coded 1), the sum of the lanes on all inventoried routes under the bridge shall be coded for segment 28B. When the inventory route is "under" the bridge (the first digit of Item 5 - Inventory Route is coded 2 or A through Z), only the number of lanes being identified by that "under" record shall be coded in Item 28B.

When the inventory route is "under" the structure, the obstruction over the inventory route may be other than a highway bridge (railroad, pedestrian, pipeline, etc). Code 00 in segment 28A for the cases where there are no roadway lanes on the obstructing structure.

Double deck bridges may be coded as one structure or two as noted in the examples below. Either method is acceptable; however, all related data must be compatible with the method selected. See examples.

EXAMPLES:	Code 28A	Code 28B
1 lane on, 0 lanes under	01	00
3 lanes on, 1 lane under	03	01
8 lanes on 2-way road, 12 lanes under	08	12**
5 lanes on double deck each direction, 2 lanes under	10	02***
5 lanes on double deck each direction, 2 lanes under	05	02****
Railroad and pedestrian with 4 lanes under	00	04

(continued)

ITEM 28 - LANES ON AND UNDER STRUCTURE (cont'd) **4 DIGIT FIELD**

** This example has 3 inventory routes below the bridge of 6, 4, and 2 lanes of 2-way traffic respectively. When coding an "under" record for each of these inventory routes, the first digit of Item 5 - Inventory Route is coded A, B, and C, and Item 28 is coded 06, 04, and 02 respectively for the 3 required records.

*** Acceptable if coded as 1 bridge. However, other data such as ADT, curb-to-curb width, etc., must be for both decks.

**** Acceptable if coded as 2 separate bridges. However, other data such as ADT, curb-to-curb width, etc., must be for a single deck.

ITEM 29 - AVERAGE DAILY TRAFFIC **6 DIGIT FIELD**

The ADT coded should be the most recent ADT counts available. Included in this item are the trucks referred to in Item 109 - Average Daily Truck Traffic. If the bridge is closed, code the actual ADT from before the closure occurred.

The ADT shown must be compatible with the other items coded for the bridges; i.e., twin bridges with an open median, if items 28 - Lanes On and Under the Structure and 51 - Bridge Roadway Width, Curb to Curb are coded for one bridge, then the ADT must be for one bridge and not the total for the route.

ITEM 30 - YEAR OF AVERAGE DAILY TRAFFIC **4 DIGIT FIELD**

Code the year for which the ADT in Item 29 represents. Code all four digits of the year represented.

ITEM 31 - DESIGN LOAD **1 DIGIT FIELD**

Use the codes below to indicate the live load for which the structure was designed. This information typically will be found on the design plans.

Design Load	Code
H10	1
H15	2
HS15	3
H20	4
HS20	5
HS20+Mod	6
Pedestrian	7
Railroad	8
HS25	9
HL93	A
Unknown	0
>HL 93	B
Other	C

(continued)

ITEM 31 – DESIGN LOAD (cont'd)

If the design load is not available use the following table:

Year Built*	Highway System	Probable Design	Code
Prior to 1944	State & Local	H15	2
1944 thru 1983	State & Local	HS20	5
1984 thru 1999	State	HS25	9
1984 thru 2006	Local	HS20	5
2000 to present	State	HL93	A
2007 to present	Local	HL93	A

*If year built is unknown see guidance for Item 27.

ITEM 32 - APPROACH ROADWAY WIDTH (XXX.X FEET) 4 DIGIT FIELD

Code to the nearest tenth of a foot a 4-digit number that represents the normal width of usable roadway approaching the structure. Usable roadway width will include the width of traffic lanes and the width of shoulders where shoulders are defined as follows:

Shoulders must be constructed and normally maintained flush with the adjacent traffic lane, and must be structurally adequate for all weather and traffic conditions consistent with the facility carried.

Unstabilized grass or dirt, with no base course, flush with and beside the traffic lane is not to be considered a shoulder for this item.

For structure with medians of any type and double-decked structures, this item should be coded as the sum of the usable roadway widths for the approach roadways; i.e., all median widths that do not qualify as shoulders should not be included in this dimension. When there is a variation between the approaches at either end of the structure, record and code the most restrictive of the approach conditions. Coded roadway width shall not be less than 8 feet.

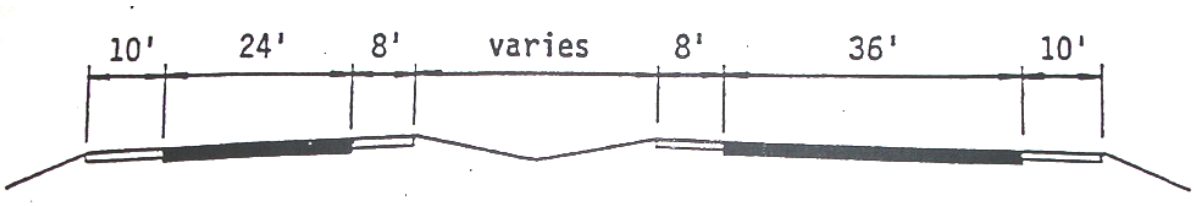
EXAMPLES:

Left Shoulder	Left Roadway	Median Shoulders	Right Roadway	Right Shoulder	Code
4.0	-	-	16	6.0	026.0
6.0	-	-	36	12.0	054.0
12.0	48	30	48	12.0	150.0
10.0	24	16	36	10.0	096.0

The last example above represents the coding method for a structure in which the most restrictive approach has the cross-section shown below:

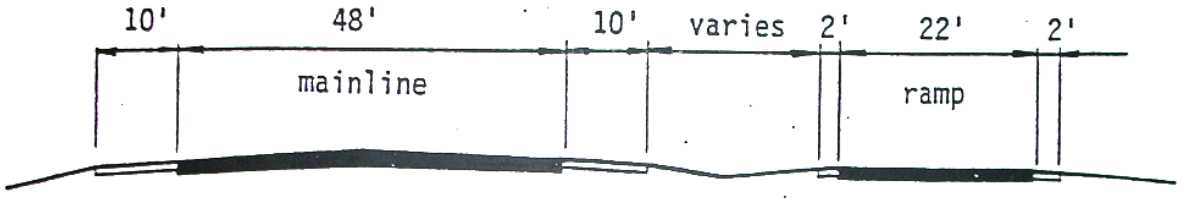
(continued)

ITEM 32 - APPROACH ROADWAY WIDTH (Cont'd) **4 DIGIT FIELD**



Regardless of whether the median is open or closed, the data coded must be compatible with the other related route and bridge data, i.e., if Item 51 - Bridge Roadway Width, Curb-to-Curb is for traffic in one direction only, then Items 28, 29, 32 etc. must be for traffic in one direction only.

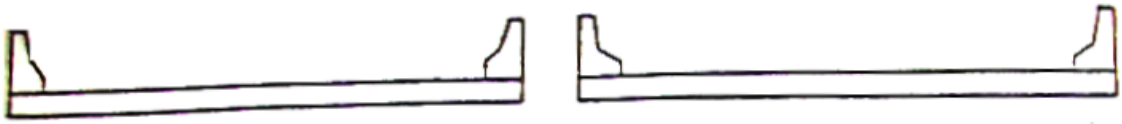
If ramp is adjacent to the through lanes approaching the structure, it shall be included in the approach roadway width. The total approach roadway width for the example below is 94 feet (a code of 094).



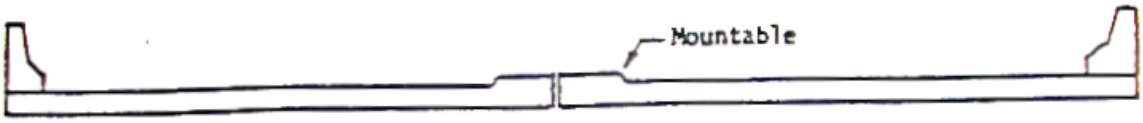
ITEM 33 - BRIDGE MEDIAN **1 DIGIT FIELD**

Indicate with a 1-digit code if the median is non-existent, open or closed. The median is closed when the area between the two roadways at the structure is bridged over and is capable of supporting traffic. All bridges that carry either one-way traffic or two-way traffic separated only by a centerline will be coded 0 for no median.

Code	Description by Route
0	No Median
1	Open Median
2	Closed Median (no barrier)
3	Closed Median (with non-mountable barriers)



Open Median



Closed Median

Closed Median with Non-mountable Barrier

ITEM 34 - SKEW **2 DIGIT FIELD**

The skew angle is the angle between the centerline of a pier and a line normal to the roadway centerline. When plans are not available, the angle is to be field measured if possible. Record the skew angle to the nearest degree. If the skew angle is 0^0 it should be so coded. When the structure is on a curve or if the skew varies for some other reason, the average skew should be recorded, if reasonable. Otherwise, record 99 to indicate a major variation in skews of substructure units

EXAMPLES:

Skew	Code
10^0	10
8^0	8
29^0	29
0^0	0

ITEM 35 - STRUCTURE FLARED **1 DIGIT FIELD**

Code this item to indicate if the structure is flared, i.e., the width of the structure varies. Generally, such variance will result from ramps converging with or diverging from the through lanes on the structure, but there may be other causes. Minor flares at ends of structure should be ignored.

Code	Description
0	No Flare
1	Yes, Flared

ITEM 36 - TRAFFIC SAFETY FEATURES **4 DIGIT FIELD**

Bridge inspection shall include the recording of information on the following traffic safety features so that the evaluation of their adequacy can be made. The data collected shall apply only to the route on the bridge. Collision damage or deterioration of the elements is not considered when coding this item.

Bridge railings should be evaluated using the current AASHTO LRFD Bridge Design Specifications, which calls for railings to meet specific geometric criteria and to resist specified static loads without exceeding the allowable stresses in their elements. A railing system and its connection to the deck shall be approved only after they have been shown through crash testing to be satisfactory for the desired test level. Railings that meet these criteria and loading conditions are considered acceptable. Other railings systems can be considered crashworthy if they can be geometrically and structurally evaluated as equal to a crash-tested system. Acceptable guidelines for bridge railing design and crash testing are found in the NCHRP Report Number 350. Traffic safety features are a 4-digit code composed of 4 segments.

(continued)

ITEM 36 - TRAFFIC SAFETY FEATURES (cont'd)

Segments	Description	Length
36A	Bridge railings	1 digit
36B	Transitions	1 digit
36C	Approach guardrail	1 digit
36D	Approach guardrail ends	1 digit

36A Bridge Railings: Some factors that affect the proper functioning of bridge railing are height, material, strength, and geometric features. Railings must be capable of smoothly redirecting an impacting vehicle. Bridge railings should be evaluated using the AASHTO LRFD Bridge Design Specifications as a guide for establishing a currently acceptable standard.

36B Transitions: The transition from approach rail to bridge railing requires that the approach rail be firmly attached to the bridge railing. It also requires that the approach railing be gradually stiffened as it comes closer to the bridge railing. The ends of curbs and safety walks need to be gradually tapered out or shielded.

36C Approach Rail: The structural adequacy and compatibility of approach guardrail with transition designs should be determined. Rarely does the need for a barrier stop at the end of a bridge. Thus, an approach guardrail with adequate length and structural qualities to shield motorists from the hazards at the bridge site needs to be installed. In addition to being capable of safely redirecting an impacting vehicle, the approach rail must also facilitate a transition to the bridge railing that will not cause snagging or pocketing of an impacting vehicle. Acceptable guardrail design suggestions are contained in the Idaho Transportation Department Standard Drawings or the AASHTO Roadside Design Guide.

36D Approach Rail Ends: As with guardrail ends in general, the ends of approach rails to bridges should be flared, buried, made breakaway, or shielded. Design treatment of guardrail ends is given in the AASHTO Guide for Selecting, Locating, and Designing Traffic Barriers.

(continued)

ITEM 36 - TRAFFIC SAFETY FEATURES (cont'd)

The data collected shall apply only to the route on the bridge. Collision damage or deterioration of the elements is not considered when coding this item. Traffic safety features are a 4-digit code composed of 4 segments. The reporting of these features shall be as follows:

Code	Description
0	Inspected feature does not meet currently acceptable standards or a safety feature is required and none is provided.*
1	Inspected feature meets currently acceptable standards.*
N	Not applicable or a safety feature is not required.*

* For structures on the NHS, National standards are set by regulation. For those not on the NHS, it shall be the responsibility of the Idaho Transportation Department to set the standards. The Type 12 Terminal may be installed as an approach or end terminal on roadways with a maximum posted speed of 45 mph or less. See ITD Standard Drawing Number G-1-N.

ITEM 37 - HISTORICAL SIGNIFICANCE **1 DIGIT FIELD**

The historical significance of a bridge involves a variety of characteristics: the bridge may be a particularly unique example of the history of engineering; the crossing might be significant itself; the bridge might be associated with a historical property or area; or historical significance could be derived from the fact the bridge was associated with significant events or circumstances. Use one of the following codes:

Code	Description
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 (Requires further investigation before determination can be made) or bridge is on a State or local historic register.
4	Historical significance is not determinable at this time.
5	Bridge is not eligible for the National Register of Historic Places.

ITEM 38 - NAVIGATION CONTROL **1 DIGIT FIELD**

Indicate for this item whether or not navigation control (a bridge permit) is required. The U.S. Coast Guard or the U.S. Army Corps of Engineers makes the determination of whether or not a watercourse is navigable, whichever is applicable. Code one of the following:

Code	Description
N	Not applicable, no waterway
0	No navigation control on waterway (bridge permit not required)
1	Navigation control on waterway (bridge permit required)

The following Idaho waters are considered navigable by the U.S. Coast Guard.

1. Lake Coeur d'Alene, and Lake Chatcolet and Hidden Lake at the South end of Lake Coeur d'Alene.
2. Pend Oreille Lake.
3. Priest Lake.
4. Snake River to Guffey Dam near Murphy and Melba, Idaho.
5. The Kootenai River within Idaho and Montana.
6. St. Joe River from Lake Coeur d'Alene to the highway bridge.
7. Spokane River.
8. Clearwater River from mouth to backwater of the Dworshak Dam.
9. Pend Oreille River.
10. Clark Fork River to the Northern Pacific Railroad bridge about 4 miles above the mouth.(Starting at Lake Pend Oreille)
11. Sand Creek from the backwaters of Lake Pend Oreille to mile 2.0.
12. Priest River.
13. Moyie River from Canadian border to Kootenai River.
14. Salmon River from mouth of Snake River to Salmon, Idaho.

All bridges over waters within the above limits shall be coded with numeric 1. All other bridges over waterways will be coded as "0".

ITEM 39 - NAVIGATIONAL VERTICAL CLEARANCE (XXX.X FEET) **4 DIGIT FIELD**

If Item 38 - Navigation Control has been coded 1, record to the nearest tenth of a foot (rounding down) the clearance imposed at the site as measured above a datum that is specified on a navigation permit issued by a control agency. This measurement will show the clearance that is allowable for navigational purposes. In the case of a swing or bascule bridge, the vertical clearance shall be measured with the bridge in the closed position (i.e., open to vehicular traffic). The vertical clearance of a vertical lift bridge shall be measured with the bridge in the raised or open position If Item 38-Navigation Control has been coded 0 or N, code 0 to indicate not applicable.

EXAMPLES:

Actual Vertical Clearance	Code
150.52 feet	150.5
20.38 feet	20.3

ITEM 40 - NAVIGATION HORIZONTAL CLEARANCE (XXXX.X FEET) **5 DIGIT FIELD**

If Item 38 - Navigational Control has been coded 1, record for this item the minimum horizontal clearance in feet. Truncated to the nearest foot. This measurement should be that shown on the navigation permit and may be less than the structure allows. If a navigation permit is required but not available, use the minimum horizontal clearance between fenders, if any, or the clear distance between piers or bents. Code 0 if Item 38 - Navigation Control is coded 0 or N.

EXAMPLES:

Horizontal Clearance	Code
53.68 feet	53.6
95.02 feet	95.0
202.25 feet	202.2

ITEM 41 - STRUCTURE STATUS **1 DIGIT FIELD**

This item provides information about the actual operational status of a structure. The field review could show that a structure is posted but with Item 70 - Bridge Posting indicating that posting is not required. This is possible and acceptable coding since Item 70 is based on the operating stress level and the governing agency posting procedures may specify posting at some stress level less than the operating rating. One of the following codes shall be used:

Code	Description
A	Open, no restriction
B	Open, posting recommended but not legally implemented (all signs not in place).
D	Open, would be posted or closed except for temporary shoring, etc. to allow for unrestricted traffic.
E	Open, temporary structure in place to carry legal loads while original structure is closed and awaiting replacement or rehabilitation.
G	New structures not yet open to traffic.
K	Bridge closed to all traffic.
P	Posted for load (may include other restrictions).
R	Posted for other load capacity restriction (speed, number of vehicles on bridge, etc.).

ITEM 42 - TYPE SERVICE **2 DIGIT FIELD**

This item is intended to show the type of service on the bridge and the type of service under the bridge. The service types for this item will be indicated by a two-digit code composed of 2 segments.

Segment	Description	Length
42A	Type of service on bridge	1 digit
42B	Type of service under bridge	1 digit

The first digit indicates the type of service "on" the bridge and shall be coded using one of the following codes:

Code	Description
1	Highway
2	Railroad
3	Pedestrian - bicycle
4	Highway-Railroad
5	Highway-Pedestrian
6	Overpass structure at an interchange or second level of a multilevel interchange
7	Third level (Interchange)
8	Fourth Level (Interchange)
9	Building or Plaza
0	Other

The second digit indicates the type of service "under" the bridge and shall be coded using one of the following codes:

Code	Description
1	Highway, with or without pedestrian
2	Railroad
3	Pedestrian - bicycle
4	Highway-Railroad
5	Waterway
6	Highway-Waterway
7	Railroad-Waterway
8	Highway-Waterway-Railroad
9	Relief for waterway
0	Other

ITEM 43 - STRUCTURE TYPE, MAIN **3 DIGIT FIELD**

Record the description on the inspection form and indicate the type of structure for the main span(s) with a 3-digit code composed of 2 segments.

Segment	Description	Length
43A	Kind of material and/or design	1 digit
43B	Type of design and/or construction	2 digits

The first digit indicates the kind of material and/or design and shall be coded using one of the following codes:

Code	Description
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

* Post-tensioned concrete should be coded as prestressed concrete.

The second and third digits indicate the predominant type of design and/or type of construction and shall be coded using one of the following codes:

Code	Description
01	Slab
02	Stringer/Multi-beam or Girder
03	Girder and Floorbeam System
04	Tee beam
05	Box Beam or Girders - Multiple
06	Box Beam or Girders - Single or Spread
07	Frame
08	Orthotropic
09	Truss - Deck
10	Truss - Thru
11	Arch - Deck
12	Arch - Thru
13	Suspension
14	Stayed Girder
15	Movable - Lift
16	Movable - Bascule
17	Movable - Swing
18	Tunnel
19	Culvert
20 *	Mixed Types
21	Segmental Box Girder
22	Channel Beam
00	Other

* Applicable only to approach spans - Item 44

(continued)

ITEM 43 - STRUCTURE TYPE, MAIN (cont'd)

EXAMPLES: Type	Code43A	Code43B
Timber Through Truss	7	10
Masonry Culvert	8	19
Steel Suspension	3	13
Continuous Concrete Multiple Box Girders	2	05
Simple Span Concrete Slab	1	01
Tunnel in Rock	0	18

NOTES:

Arches, frames, and suspension bridges are coded for material only, they are never coded as “continuous”.

Unidentified metal bridges (iron or steel) constructed prior to 1905 are coded as iron.

02 includes multi girder systems.

03 applies to two-girder systems.

05 applies to adjacent boxes.

10 includes pony trusses.

ITEM 44 - STRUCTURE TYPE, APPROACH SPANS **3 DIGIT FIELD**

Indicate with a three-digit code composed of 2 segments, the type of structure for the approach spans to a major bridge or for the approach spans where the structural material is different. The codes are the same as for Item 43 preceding. Leave blank if this item is not applicable. If the kind of material is varied, code the most predominant in segment 44A. Use code 20 for segment 44B when no one type of design and/or construction is predominate in the approach units. Identical codes for Items 43 and 44 are not permitted.

Segment	Description	Length
44A	Kind of material and/or design	1 digit
44B	Type of design and/or construction	2 digits

ITEM 45 - NUMBER OF SPANS IN MAIN UNIT **3 DIGIT FIELD**

Record the number of spans in the main or major unit. This item will include all spans of most bridges, the major unit only of a sizable structure, or a unit of material or design different from that of the approach spans.

ITEM 46 - NUMBER OF APPROACH SPANS **4 DIGIT FIELD**

Record the number of spans in the approach spans to the major bridge, or the number of spans of material different from that of the major bridge.

ITEM 47 - INVENTORY ROUTE, TOTAL HORIZONTAL CLEARANCE (XX.X FT) **3 DIGIT FIELD**

The total horizontal clearance for the route identified in Item 5 should be measured normal to roadway centerline. The clearance should be the available distance measured between the most restrictive features--curbs, rails, walls, or other structural features limiting the roadway (surface and shoulders). The measurement should be a three-digit number truncated to the nearest tenth of a foot with an assumed decimal point. The decimal has been pre-coded into the computer program. When the restriction is 100 feet or greater, code 99.9. This distance can be equal to, but shall not be greater than the dimension shown in Item 51.

The purpose of this item is to give the largest available clearance for the movement of wide loads. This clearance has been identified in three ways; code the most applicable.

A. Roadway surface and shoulders.

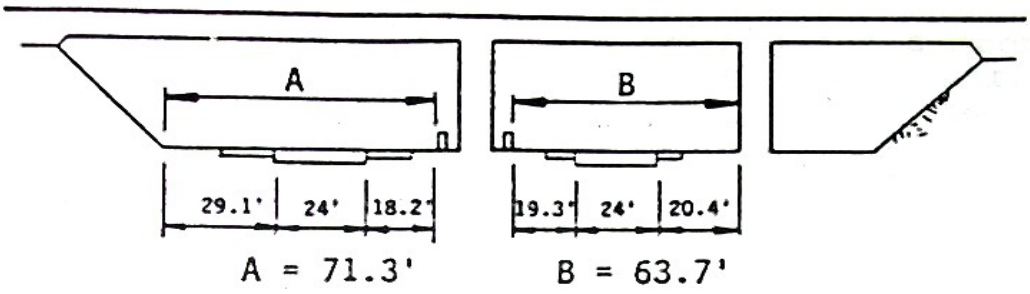
B. Distance from face of pier (or rail around pier) to face of rail or toe of slope.

C. Include flush or mountable medians (Item 33 - Bridge Median coded 2) but not raised medians (Item 33 coded 3). For a raised or non-mountable median record the greater of the restricted widths in either direction, not both directions.

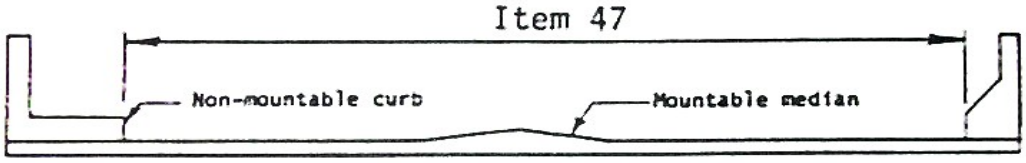
Examples: Continued on the next page.

(continued)

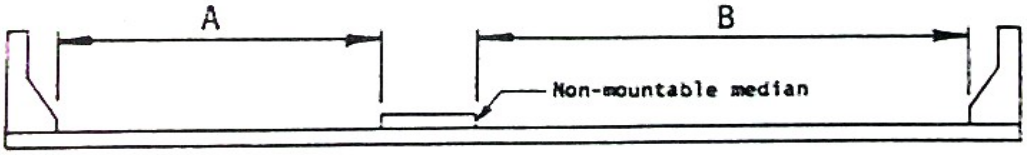
ITEM 47 - INVENTORY ROUTE, TOTAL HORIZONTAL CLEARANCE (XX.X FT)(cont'd)



Clearance A > B Item 47 = A



No Median or Flush or Mountable Median



Raised Median or Non-mountable Median
B > A Item 47 = B

ITEM 48 – LENGTH OF MAXIMUM SPAN (XXXX.X ft) 5 DIGIT FIELD

The length of the maximum span shall be recorded. The measurement should be as specified in Section 3.2.2 of the AASHTO Bridge Maintenance Manual. The manual allows measurements to be made at two different points to the tenth of a foot. For this item, record and code a five-digit number to represent the measurement to the nearest tenth of a foot between center to center of bearings, or clear span of the walls of stiff leg culverts. The sum of all spans cannot be greater than the structure length coded in Item 49.

EXAMPLES:	Measured	Code
	50.49 feet	50.5
	1,050.53 feet	1050.5
	45.71 feet	45.7

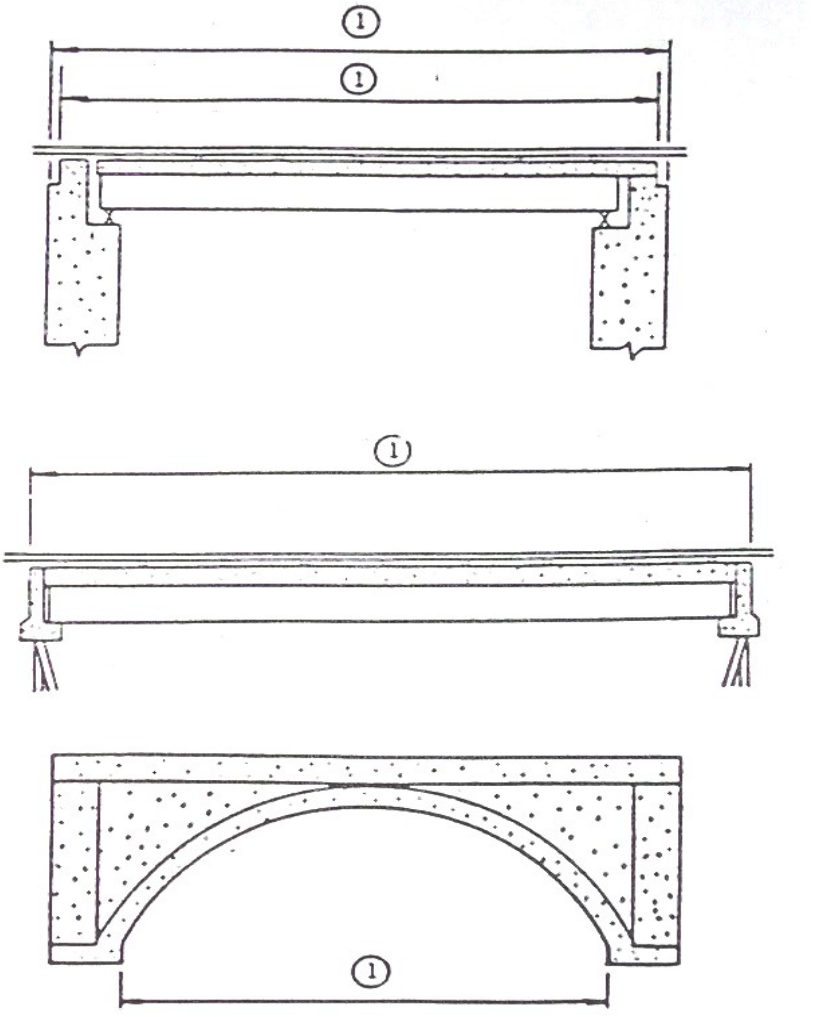
ITEM 49 – STRUCTURE LENGTH (XXXXXX ft) **6 DIGIT FIELD**

Record and code a 6-digit number to represent the length measured along centerline of the structure to the nearest foot. The length should be measured back to back of back-walls of abutments as specified in Section 3.2.2 of the AASHTO Bridge Maintenance Manual.

Culvert length should be measured along the centerline of roadway regardless of their depth below grade. Measurement should be made between inside faces of exterior walls.

EXAMPLES:

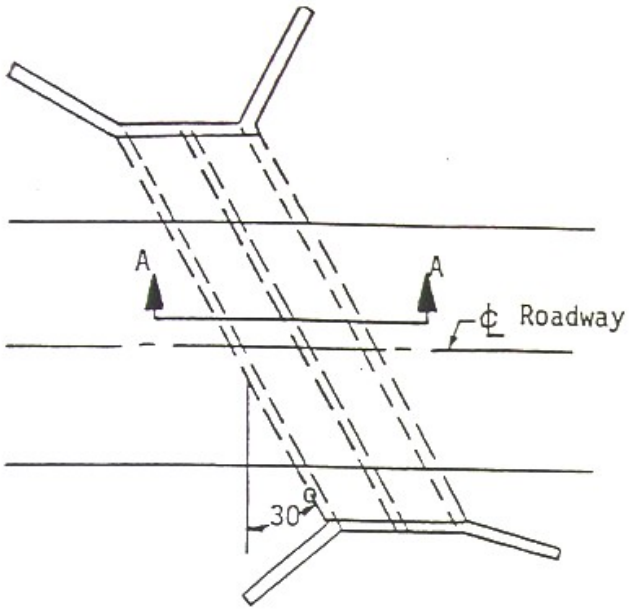
Measured	Code
5,421.3 feet	5421
333.5 feet	334
101,235.7 feet	101236

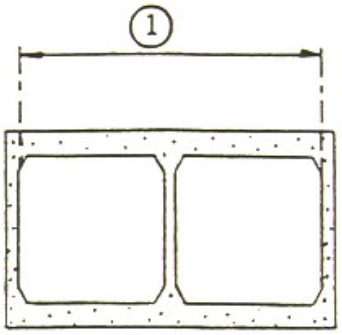


(1) Item 49 - Structure Length

(continued)

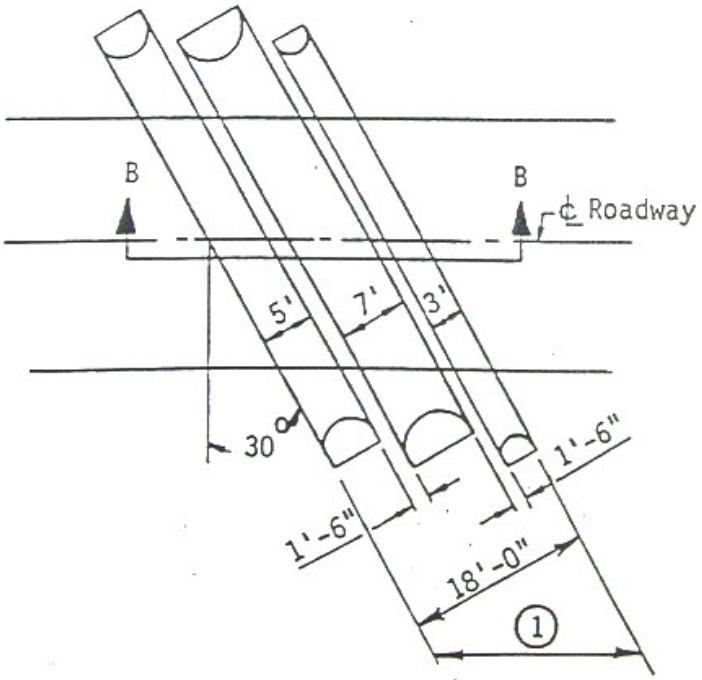
ITEM 49 – STRUCTURE LENGTH (cont'd)

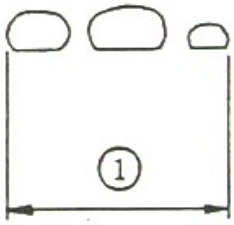




SECTION A-A

(1) Item 49 - Structure Length





SECTION B-B

(1) Item 49 - Structure Length = $\frac{18'}{\cos 30°}$ = 20.78'

Code 000021

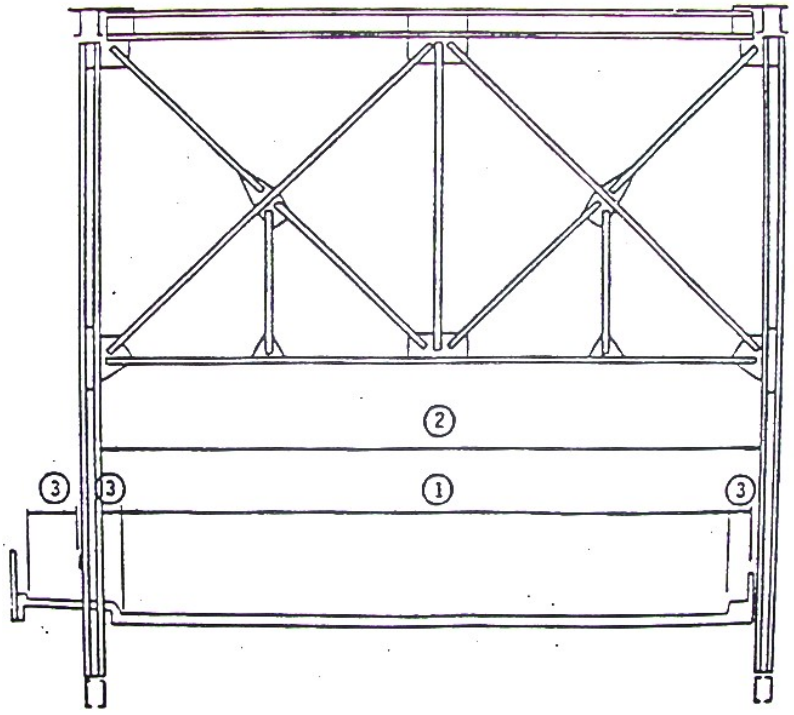
ITEM 50 - CURB OR SIDEWALK WIDTHS **6 DIGIT FIELD**
(XX.X ft, XX.X ft)

Code the widths of the left and right curbs or sidewalks to the nearest tenth of a foot "Left" and "Right" should be determined on the basis of direction of inventory mileposts. Decimal points need to be coded.

Segment	Description	Length
50A	Left curb or sidewalk width	3 digits
50B	Right curb or sidewalk width	3 digits

EXAMPLES:

Left Side	Right Side	Code Item 50 Left	Code Item 50 Right
None	8.3′	0	8.3
10.0′	4.1′	10.0	4.1
8.3′	None	8.3	0
12.1′	11.5′	12.1	11.5
None	None	0	0

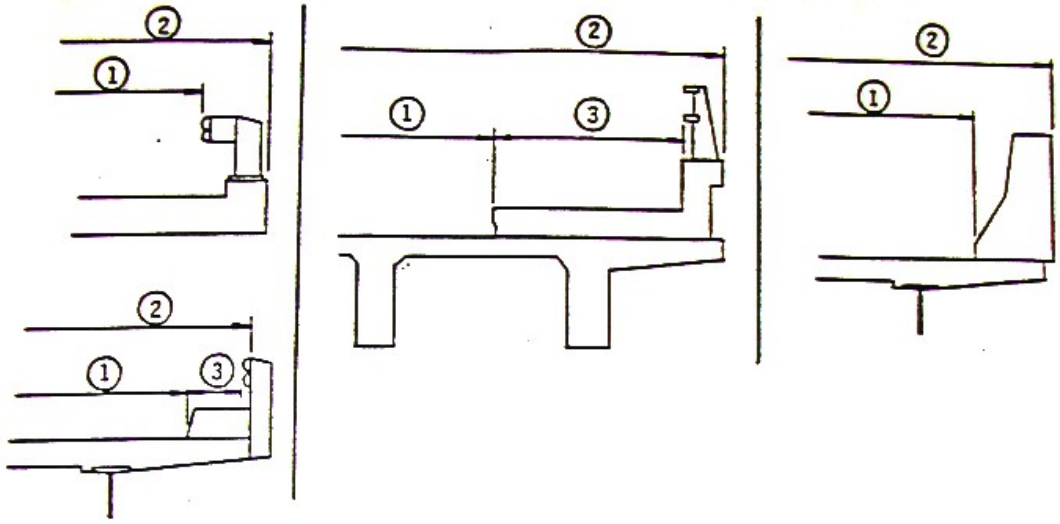


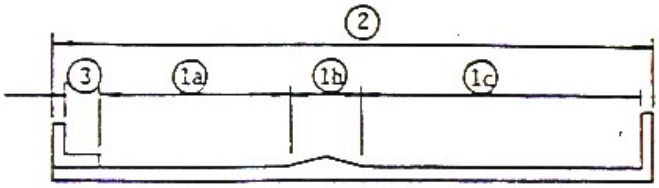
① Item 51 – Bridge Roadway Width, Curb-to-Curb
② Item 52 – Deck Width, Out-to-Out
③ Item 50 – Curb or Sidewalk Width

(continued)

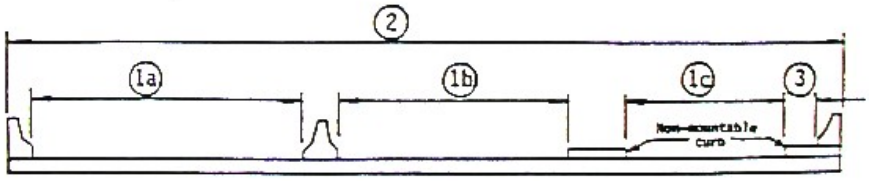
ITEM 50 - CURB OR SIDEWALK WIDTHS (cont'd)

EXAMPLES:

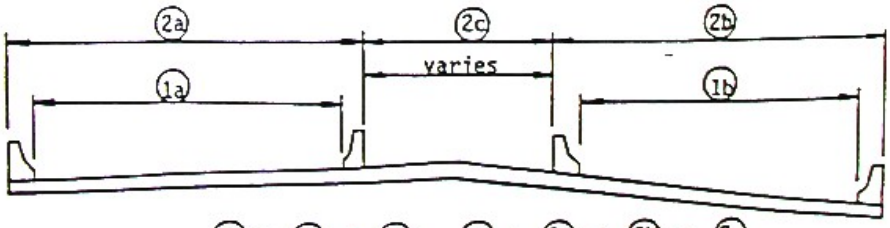




① = ①a + ①b + ①c



① = ①a + ①b + ①c



① = ①a + ①b ② = ②a + ②b + ②c

① Item 51 - Bridge Roadway Width, Curb-to-Curb
② Item 52 - Deck Width, Out-to-Out
③ Item 50 - Curb or Sidewalk Width

ITEM 51 - BRIDGE ROADWAY WIDTH, CURB TO CURB (XXX.X ft) **4 DIGIT FIELD**

The information to be recorded is the most restrictive minimum distance between curbs or rails on the structure roadway. For structures with closed medians and usually for double decked structures, coded data will be the sum of the most restrictive minimum distance for all roadways carried by the structure *. The data recorded for this item must be compatible with other related route and bridge data (i.e., Items 28, 29, 32 etc.). The measurement should be exclusive of flared areas for ramps. A 4-digit number should be used to represent the distance to the nearest tenth of a foot (with an added decimal point). See examples under Item 50.

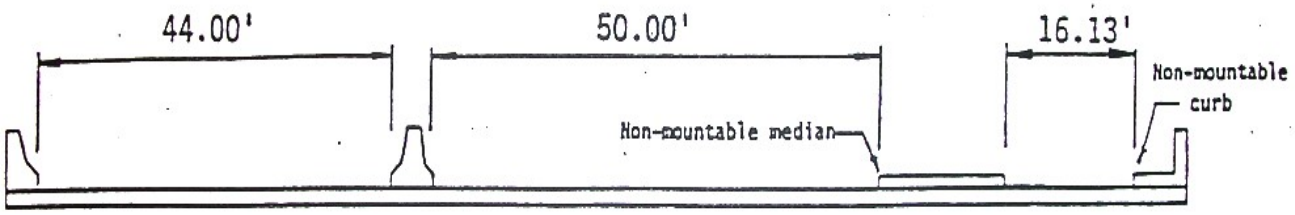
Where traffic runs directly on the top slab (or wearing surface) of a culvert type structure, e.g. an R/C box without fill, code the actual roadway width (curb-to-curb or rail-to-rail). This will also apply where the fill is minimal and headwalls or parapets affect the flow of traffic.

Where the roadway is on fill carried across a structure (culverts only) and the headwalls or parapets do not affect the flow of traffic, code 0000. This is considered proper since a filled section simply maintains the roadway cross-section.

* Raised or non-mountable medians, open medians, and barrier widths are to be excluded from the summation along with barrier protected bicycle and equestrian lanes.

EXAMPLE:	Bridge Roadway Width	Code
	36.0’ wide	36.0
	66.37’ wide	66.4
	110.13’ wide	110.1

The last example above would be the coded value for the deck section shown below.



ITEM 52 - DECK WIDTH, OUT TO OUT (XXX.X ft) **4 DIGIT FIELD**

Record and code a 4-digit number to show the out-to-out width of the deck to the nearest tenth of a foot (with an added decimal point) measured normal to roadway centerline. If the structure is a through structure, the number to be coded will represent the lateral clearance between superstructure members. The measurement should be exclusive of flared areas for ramps. See examples under Item 50.

Where traffic runs directly on the top slab (or wearing surface) of the culvert (e.g., and R/C box without fill) code the actual width (out-to-out). This will also apply where the fill is minimal and the culvert headwalls affect the flow of traffic. However, for side-hill viaduct structures code the actual out-to-out structure width.

Where the roadway is on a fill carried across a pipe or box culvert and the culvert headwalls or guard rails do not affect the flow of traffic, code 0000. This is considered proper inasmuch as a filled section over a culvert simply maintains the roadway cross-section.

ITEM 53 - MINIMUM VERTICAL CLEARANCE OVER BRIDGE ROADWAY (XX.XX ft) **4 DIGIT FIELD**

The information to be recorded for this item is the actual minimum vertical clearance over the bridge roadway, including shoulders, to any superstructure restriction, rounded down to the nearest inch. When no superstructure restriction exists above the bridge roadway, the clearance is therefore unlimited and should be coded 99.99. When a restriction is 100 feet or greater, code 99.99. A four-digit number should be coded to represent feet and hundredths of feet.

EXAMPLES:	Min. Vertical Clearance	Code
	16' – 1 1/2"	16.08
	75' - 11"	75.92
	115' - 6"	99.99
	Unlimited	99.99

ITEM 54 - MINIMUM VERTICAL UNDERCLEARANCE (X Code, XX.XX ft) **5 DIGIT FIELD**

Using a 1-digit code and a 4-digit number, record and code the minimum vertical clearance from the roadway or railroad track beneath the structure to the underside of the superstructure. (When both a railroad and highway are under the structure, code the most critical dimension.)

Segment	Description	Length
54A	Reference feature	1 digit
54B	Minimum Vertical Underclearance	4 digits

(continued)

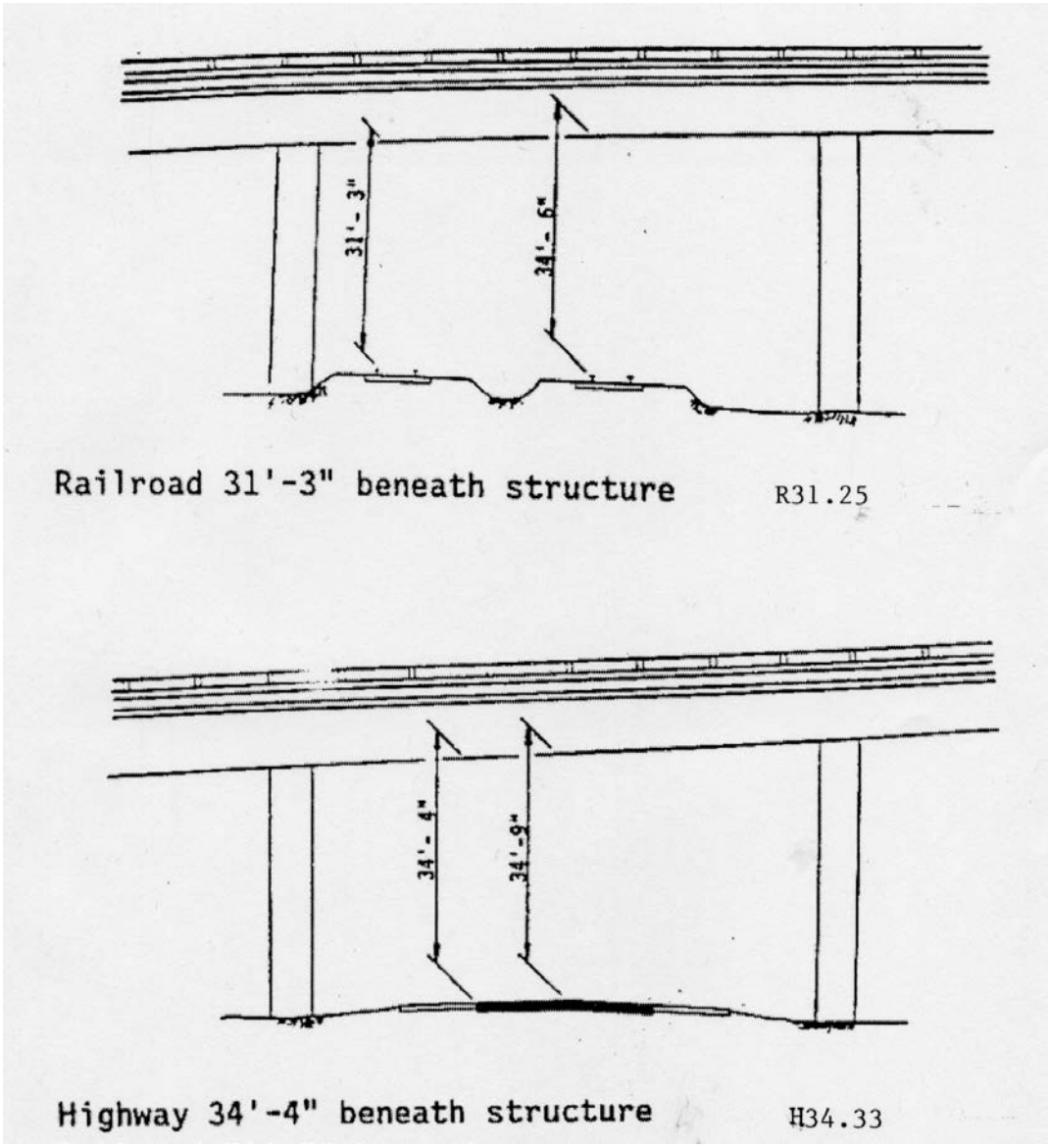
ITEM 54 - MINIMUM VERTICAL UNDERCLEARANCE (cont'd)

In the first position, code the reference feature from which the clearance measurement is taken using one of the codes below.

Code	Description
H	Highway beneath structure
R	Railroad beneath structure
N	Feature not highway or railroad

In the next 4 positions, code a 4-digit number to represent the minimum vertical clearance from that feature to the structure. If the feature is not a highway or railroad, code the minimum vertical clearance 0000.

EXAMPLES:	Code
River beneath structure	N0000



ITEM 55 - MINIMUM LATERAL UNDERCLEARANCE ON RIGHT (X Code, XX.X ft) **4 DIGIT FIELD**

Using a 1-digit code and a 3-digit number, record and code the minimum lateral underclearance on the right to the nearest tenth of a foot (with an added decimal point). When both a railroad and highway are under the structure, code the most critical dimension.

Segment	Description	Length
55A	Reference feature	1 digit
55B	Minimum Lateral Underclearance	3 digits

In the first position, code the reference feature from which the clearance measurement is taken using one of the codes below.

Code	Description
H	Highway beneath structure
R	Railroad beneath structure
N	Feature not a highway or railroad

In the next 3 positions, code a 3-digit number to represent the minimum lateral underclearance on the right. The lateral clearance should be measured from the right edge of the roadway, excluding shoulders, (or from a point centered between rails of the right-hand track in the case of a railroad) to the nearest, substructure unit, rigid barrier, or toe of a slope steeper than 3 to 1. The clearance measurements to be recorded will be the minimum after measuring the clearance in both directions of travel. In the case of a dual highway this would mean the outside clearances of both roadways should be measured and the smaller distance recorded and coded.

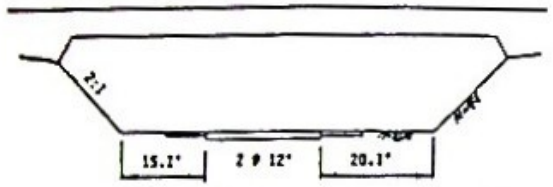
If two related features are below the bridge, measure both and record the lesser of the two. An explanation should be written as to what was recorded. If the feature beneath the structure is not a railroad or highway, code N and 000 to indicate not applicable.

The presence of ramps is not considered in this item; therefore, the minimum lateral clearance on the right should be measured from the right edge of the through roadway.

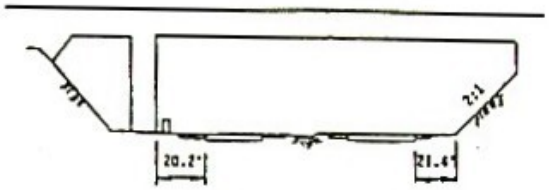
EXAMPLES:	Code 55A	Code55B
Railroad 20.4’ centerline to pier	R	20.4
Highway 20.2’ edge of travel way to pier	H	20.2
Creek beneath structure	N	000

(continued)

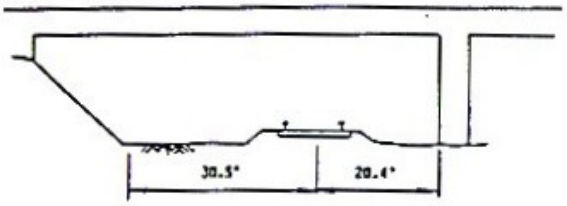
ITEM 55 - MINIMUM LATERAL UNDERCLEARANCE ON RIGHT (cont'd)



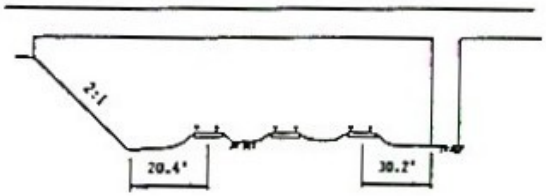
-- Lt. 15.1'Rt. for 2-way Traffic
15.1'Lt. 20.1'Rt. for 1-way Traffic



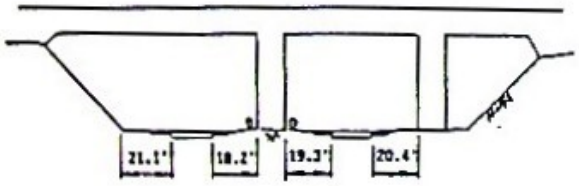
OPEN Lt. 20.2'Rt.



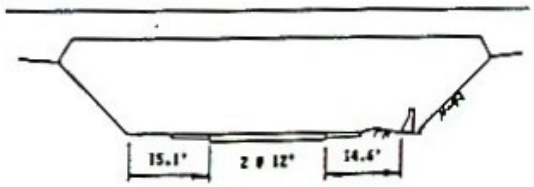
-- Lt. 20.4'Rt.



-- Lt. 20.4'Rt.



18.2'Lt. 20.4'Rt.



-- Lt. 14.6'Rt. for 2-way Traffic
15.1'Lt. 14.6'Rt. for 1-way Traffic

ITEM 56 - MINIMUM LATERAL UNDERCLEARANCE ON LEFT (XX.X ft) **3 DIGIT FIELD**
(for divided highways, 1 way streets & ramps; not applicable to railroads)

The minimum clearance on the left (median side) of the roadway beneath the structure regardless of the direction of travel is to be recorded. As was explained in Item 55, the clearance on the left in both directions of travel should be measured and the smaller distance recorded. The clearance is to be measured from left edge of roadway (excluding shoulders) to the nearest substructure unit, rigid barrier, or toe of slope steeper than 3 to 1.

In the case of a dual highway where there is no obstruction in the median area, a notation of "open" should be recorded and 99.9 should be coded. A 3-digit code to represent the distance to the nearest tenth of a foot should be used. Code 0 to indicate not applicable.

ITEM 57 – NOT USED

CONDITION RATINGS

Items 58 through 62 indicate the condition ratings.

In order to promote uniformity between bridge inspectors, these guidelines will be used to rate and code Items 58, 59, 60, 61 and 62. The descriptive codes below are general. More specific guidelines are provided for each condition item to be rated.

These ratings will be based on the existing in-place condition of the bridge as compared to its as-built condition. Evaluation is for the materials related, physical condition of the deck, superstructure, and substructure components of a bridge. The condition evaluations of channels, channel protection and culverts are also included. Condition codes are properly used when they provide an over all characterization of the general condition of the entire component being rated. Conversely, they are improperly used if they attempt to describe localized or nominally occurring instances of deterioration or disrepair. Correct assignment of a condition code must, therefore, consider both the severity of the deterioration or disrepair and the extent to which it is widespread throughout the component being rated.

The load carrying capacity will not be used in evaluating condition items. The fact that a bridge was designed for less than current legal loads and may be posted shall have no influence upon condition ratings.

The determination of which code applies to each of the items will be based on evaluation of all relevant factors and information. It is not necessary that all listed conditions under a numerical rating be observed in order for that code to be used. It is recognized that there are unique situations where judgment will be required.

Portions of bridges that are being supported or strengthened by temporary members will be rated based on their actual condition; that is, the temporary members are not considered in the rating of the item. (See Item 103 - Temporary Structure Designation for the definition of a temporary bridge).

Completed bridges not yet opened to traffic, if rated, shall be coded as new bridges open to traffic.

(continued)

CONDITION RATINGS (cont'd)

The following general condition ratings shall be used as a guide in evaluating Item 58, 59, 60, and 62:

Code	Description
N	NOT APPLICABLE
9	EXCELLENT CONDITION
8	VERY GOOD CONDITION - no problems noted.
7	GOOD CONDITION - Minor problems.
6	SATISFACTORY CONDITION - structural elements show 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 back in light service.
0	FAILED CONDITION - out of service - beyond corrective action.

ITEM 58 - DECK **1 DIGIT FIELD**

This item describes the overall condition rating of the deck. Rate and code the condition of the deck in accordance with the above general condition ratings along with the guides provided under this item. Code N for all culverts.

Concrete decks should be inspected for cracking, scaling, spalling, leaching, chloride contamination, pot-holing, delamination, and full or partial depth failures. Steel grid decks should be inspected for broken welds, broken grids, section loss, and growth of filled grids from corrosion. Timber decks should be inspected for splitting, crushing, fastener failure, and deterioration from rot.

When determining the code for Item 58, the condition of the deck on the worst span of the bridge shall be indicated. The condition of the wearing surface/protective system, joints, expansion devices, curbs sidewalks, parapets, fascias, bridge rail, and scuppers shall not be considered in the overall deck evaluation. However their condition should be noted in the commentary portion of the inspection form.

The following descriptive codes should be used as a guide in evaluating the deck condition for specific deck types.

CONCRETE BRIDGE DECKS

Code	Description
N	Use for all culverts.
9	New structure, two years or less in age, with no noticeable deficiencies.
8	Structure older than two years of age with no noticeable deficiencies.
7	Minor transverse or random cracks with light scaling (less than 1/4" depth with exposed aggregate). No spalling but has visible tire wear in the wheel lines. Electrical potential less than 0.20 or chloride content less than 1.0 pounds per cubic yard.
6	Sealable deck cracks. Medium scaling (1/4" to 1/2" in depth), 2% or less of the deck spalled. Minor deterioration of deck edges or around scuppers. Minor leaching and/or staining present. Electrical potential between 0.21 and 0.25 or chloride content between 1.1 and 1.5 pounds per cubic yard.

(continued)

ITEM 58 - DECK (cont'd)

Code	Description
5	Excessive cracking (excessive being at 5-foot intervals or less over the entire deck). 2% to 5% of the deck spalled. Heavy scaling (1/2" to 1" in depth). Heavy deterioration of deck edges or around scuppers. Considerable leaching and/or staining through deck. Partial but no full depth failures. Electrical potential between 0.26 and 0.30 or chloride content between 1.6 and 2.0 pounds per cubic yard.
4	5% to 50% of the deck spalled. Heavy leaching throughout the deck. Full depth failures are imminent. Electrical potential over 0.30 or chloride content over 2.0 pounds per cubic yard.
3	Greater than 50% of deck spalled. Small full depth failures. This rating will apply if severe or critical signs of structural distress are visible.
2	Full depth failures in deck. Closure of the bridge may be necessary.
1	Bridge closed. Corrective action may put bridge back into light service.
0	Bridge closed. Replacement necessary.

TIMBER BRIDGE DECKS

- - - - - - - - - - - - -

Code	Description
N	Use for all culverts
9	New structure, two years or less in age with no noticeable deficiencies.
8	Structure older than two years of age with no noticeable deficiencies. Tightly secured to floor system.
7	Minor cracking or splitting. No loose planks or laminations.
6	Planking or laminated decking has light rot or crushing. A few loose planks. Planks or laminated decking in need of replacement.
5	A number of planks or laminated decking cracked, split, rotted, or crushed and in need of replacement. Many loose planks or laminations.
4	Numerous planks or laminated decking rotted, split, cracked, or crushed. Majority of planks or laminations are loose.
3	Majority of planking or laminated deck is rotted, crushed and/or split. The entire deck needs replaced.

(continued)

ITEM 58 - DECK (cont'd)

Code	Description
2	Extreme deterioration with partial deck failure. Closure of bridge may be necessary.
1	Bridge closed. Corrective action may put bridge back into light service.
0	Bridge closed. Replacement necessary.

STEEL BRIDGE DECKS

- - - - - - - - - - - - -

Code	Description
N	Use for all culverts.
9	New structure, two years or less in age with no noticeable deficiencies.
8	Structure older than two years of age with no noticeable deficiencies. Tightly secured to floor system with no rust or cracking.
7	Loose at a few connections with minor rusting.
6	Considerable rusting. A few cracked welds and/or broken grids.
5	Heavy rusting with indications of initial section loss. A few cracked welds and/or broken grids.
4	Heavy rusting with areas of moderate section loss. Numerous cracked welds and/or broken grids.
3	Heavy rusting resulting in considerable section loss with a few small holes through the deck.
2	Numerous small holes through the deck. Extreme section loss. Closure of the bridge may be necessary.
1	Bridge closed. Corrective action may put bridge back into light service.
0	Bridge closed. Replacement necessary.

ITEM 59 - SUPERSTRUCTURE **1 DIGIT FIELD**

This item describes the physical condition of all structural members. Rate and code the condition in accordance with the previously described general condition ratings along with the guide provided under this item. Code N for all culverts.

The structural members should be inspected for signs of distress which may include cracking, deterioration, section loss, and malfunction or misalignment of bearings. Descriptions of superstructure member conditions shall be provided in the commentary portion of the inspection report.

The inspector should determine if the bridge is fracture critical or has fracture critical components. Fracture critical components should receive careful attention because failure could lead to collapse of a span or the entire bridge. In-depth inspections should be scheduled when signs of distress are noted and in some cases partial disassembly may be required to ascertain the condition.

CONCRETE SUPERSTRUCTURES

Code	Description
N	Use for all culverts.
9	New structure, two years or less in age with no noticeable deficiencies.
8	Structure older than two years of age with no noticeable deficiencies. No visible cracking.
7	Minimal hairline cracks with no disintegration of concrete. No staining present.
6	Minor hairline to 1/16" cracks with no disintegration of concrete. Minor staining around the cracks. No spalling.
5	Moderate 1/16" to 1/8" cracks in concrete. Surface spalling up to 1/8". Heavy staining present.
4	Larger than 1/8" cracks in concrete. Spalling is beginning to expose reinforcing steel.

(continued)

ITEM 59 - SUPERSTRUCTURE (cont'd)

3 Serious disintegration of concrete. Many open cracks may be present. Reinforcing steel is exposed and rusting.

2 Concrete disintegrated on critical members. Reinforcing steel severely corroded. Bridge closure may be necessary.

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

0 Bridge closed. Replacement necessary.

STEEL SUPERSTRUCTURES

Code	Description
N	Use for all culverts.
9	New structure, two years or less in age with no noticeable deficiencies.
8	Structure older than two years of age with no noticeable deficiencies. No visible rust.
7	Minor surface rust. No cracks or section loss.
6	Heavy surface rust. Hinges may be showing signs of corrosion problems. Random loose or missing bolts and/or rivets.
5	Initial section loss in critical stress areas. Fatigue or out-of-plane-bending cracks may be present in non-critical areas. Minor misalignment of members. Hinges may be showing significant corrosion problems.
4	Significant section loss in critical stress areas. Minor fatigue or out-of-plane-bending cracks may be present in major structural elements.
3	Serious section loss or major cracks in critical stress areas. Numerous lose or missing bolts and/or rivets. Excessive misalignment of members. Hinges may be frozen from corrosion.
2	Severe section loss in many areas with holes rusted through major structural members. Critical cracks in major structural elements. Bridge closure may be necessary.
1	Bridge closed. Corrective action may put bridge back into light service.
0	Bridge closed. Replacement necessary.

TIMBER SUPERSTRUCTURES

Code	Description
N	Use for all culverts.
9	New structure, two years or less in age with no noticeable deficiencies.
8	Structure older than two years of age with no noticeable deficiencies.
7	Minor cracking or splitting of beams and/or stringers at insignificant locations.
6	Minor decay, cracking, splitting, or crushing of beams and/or stringers.
5	Moderate decay, cracking, splitting, or crushing of beams and/or stringers.
4	Substantial decay, cracking, splitting, or crushing of beams and/or stringers.
3	Extensive decay, cracking, splitting, or crushing of beams and/or stringers.
2	Imminent failure of beams and/or stringers. Serious cracking, crushing, splitting or decay of beams or stringers may have caused settlement of deck. Bridge closure may be necessary.
1	Bridge closed. Corrective action may put bridge back into light service.
0	Bridge closed. Replacement necessary.

ITEM 60 - SUBSTRUCTURE **1 DIGIT FIELD**

This item describes the physical condition of piers, abutments, piles, fenders, footings, and other substructure components. All substructure elements should be inspected for visible signs of distress including evidence of cracking, section loss, settlement, misalignment, scour, collision damage, and corrosion.

The rating factor given to Item 60 should be consistent with the one given to Item 113 whenever a rating factor of 2 or below is determined for Item 113 – Scour Critical Bridges.

The substructure condition rating shall be made independent of the deck and superstructure. When determining the condition rating for the substructure, the condition of the worst substructure unit shall be indicated in Item 60. Code N for all culverts.

(continued)

Item 60 – SUBSTRUCTURE (cont'd)

Integral-abutment wingwalls to the first construction or expansion joint shall be included in the evaluation. For non-integral superstructure and substructure units, the substructure shall be considered as the portion below the bearings. For structures where the superstructure and substructure are integral, the substructure shall be considered as the portion below the superstructure.

Comprehensive rehabilitation of the substructure units will normally restore the substructure condition to a least a rating of 7.

Rate and code the substructure condition in accordance with the previously described general condition rating along with the following additional descriptive codes (which shall be used as guide in evaluating the substructure condition).

Code	Description
N	Use for all culverts.
9	New structure, two years or less in age with no noticeable deficiencies.
8	Structure older than two years with no noticeable deficiencies. Insignificant scrape marks caused by drift of collision.
7	Minor shrinkage cracks, H/L to 1/32" light scaling, or insignificant spalling which does not expose reinforcing steel. Insignificant damage caused by drift or collision. No misalignment. No corrective action required.
6	Deterioration or initial disintegration, minor to moderate cracking (1/32" to 1/16") with leaching, or spalls on concrete or masonry unit with no effect on bearing area. Rusting of steel without section loss. Insignificant decay, cracking, splitting, or crushing of timber. Local scouring has occurred near substructure footing without misalignment.
5	Moderate deterioration, spalling, cracking (1/16" +), and/or leaching on concrete or masonry units with little or no loss of bearing area. Initial loss of steel section. Significant decay, cracking, splitting, or crushing of timber. A few timber members may need replacement. Moderate exposure of pile as a result of erosion, reducing the penetration and affecting the unit stability. May require additional cross-bracing. Scour is becoming more prominent with a possibility of exposing top of footing, but no misalignment of settlement noted.
4	Many concrete or masonry units show substantial loss with exposed reinforcing steel. Measurable section loss in steel members. A substantial number of timber piles require replacement (up to 25% of piles need replaced in any one bent or abutment). Extensive exposure of pile as a result of erosion, reducing the penetration and affecting the stability of the unit. Minor scouring or undermining of footing evident. Additional cross-bracing or back-filling is required.

(continued)

ITEM 60 - SUBSTRUCTURE (cont'd)

Code	Description
3	Structural cracks in concrete and masonry units. Extensive section loss in steel members. Piling and caps in a substantial number of timber bents require replacement due to decay, cracking, splitting, or crushing. Between 26% and 50% of the piles need replaced in any one bent or abutment. Severe scouring or undermining of footings affecting the stability of the units, requiring corrective action. Minor settlement of the substructure may have occurred.
2	Bearing areas seriously deteriorated with considerable loss of bearing area. More than 50% of piles need replaced in any one bent or abutment. Blocking and shoring considered necessary to maintain the safety and alignment of the structure. Substructure is near state of collapse due to scour. Unless closely monitored it may be necessary to close the bridge until corrective action is taken. **If Scour Item 113 = 2, substructure cannot be coded higher than a 2.**
1	Bridge closed. Corrective action may put bridge back into light service.
0	Bridge closed. Replacement necessary.

ITEM 61 - CHANNEL AND CHANNEL PROTECTION 1 DIGIT FIELD

This item deals with the physical conditions associated with the flow of water through the bridge. Stream stability, condition of the channel, rip-rap, slope protection and stream control devices (such as spur dikes) are included in the evaluation. The inspector should be particularly concerned with visible signs of excessive water velocity, which may affect undermining of slope protection or footings, erosion of banks, and realignment of the stream which may result in immediate or potential problems. Accumulation of drift and debris on the superstructure and substructure should be noted.

Rate and code the condition of the channel in accordance with the previously described general condition ratings and the following descriptive codes:

Code	Description
N	Not applicable. Use when bridge is not over a waterway.
9	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 stable condition.
7	Bank protection is in need of minor repairs. River control devices and embankment protection have minor damage. Banks and/or channel have minor amounts of drift. Minor local scour developing near substructure. **(continued)**

ITEM 61 - CHANNEL AND CHANNEL PROTECTION (cont'd)

Code	Description
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. Scour holes deepening.
5	Bank protection is being eroded. River control devices and/or embankment have major damage. Trees and brush restrict the channel. Scour holes are becoming more prominent, affecting the stability of the substructure.
4	Bank and embankment protection undermined with corrective action required. River control devices have severe damage. Large deposits of debris in the waterway.
3	Bank protection has failed completely. River control devices have been destroyed. Stream bed aggradation, degradation or lateral movement has changed the waterway to now threaten the bridge and/or approach roadway.
2	The waterway has changed and now threatens the bridge and/or embankment. Scour is of sufficient depth beneath footing that substructure is near state of collapse. Settlement of abutment is occurring. Closure of bridge may be necessary because of channel failure.
1	Bridge closed because of channel failure. Corrective action may put bridge back into light service.
0	Bridge closed because of channel failure. Total replacement necessary.

ITEM 62 - CULVERTS **1 DIGIT FIELD**

This item evaluates the alignment, settlement, joints, structural condition, scour, and other items associated with culverts. The rating code is intended to be an overall condition evaluation of the culvert. Integral wingwalls will be included to the first construction or expansion joint.

Comprehensive rehabilitation of culverts will normally restore the unit to minimum rating of 7. For a detailed discussion regarding the inspection and rating of culverts, consult Report No. FHWA-IP-86--2, Culvert Inspection Manual, July 1986.

Item 58 - Deck, Item 59 - Superstructure, and Item 60 - Substructure shall be coded N for all culverts. Rate and code the condition in accordance with the previously described general condition ratings and the following descriptive codes:

(continued)

ITEM 62 - CULVERTS (cont'd)

Code	Description
N	Not applicable. Use when structure is not a culvert.
9	New condition.
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. 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 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, heavy 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 and deep pitting.
3	Any condition described in Code 4 but which is excessive in scope. Severe movement or differential settlement of the segments, or loss of fill. Holes may exist in walls or slabs. Integral wingwalls nearly severed from culvert. Severe scour or erosion at curtain walls, wingwalls and 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 back in light service.
0	Bridge closed. Total replacement necessary.

ITEM 63 - METHOD USED TO DETERMINE OPERATING RATING 1 DIGIT FIELD

Use one of the codes below to indicate which load rating method was used to determine the operating rating coded in Item 64 for this structure. For inventory/initial inspections, where the operating rating is assigned by the inspector, a code of 5 will be assigned. **This item should only be changed by the ITD Load Rating Engineer.**

Code	Description
0	Field Evaluation and Documented Engineering Judgment
1	Load Factor (LFR)
2	Allowable Stress (ASR)
3	Load and Resistance Factor (LRFR)
4	Load Testing
5	No rating analysis or evaluation performed
6	LFR reported by RF method using HS20 Load
7	ASR reported by RF method using HS20 Load
8	LRFR reported by RF method using HL93
A	Assigned rating based on Load Factor Design(LFD)reported in tons
B	Assigned ratings based on Allowable Stress Design(ASD) reported in tons
C	Assigned ratings based on Load and Resistance Factor Design(LRRD) reported in tons
D	Assigned rating based on LFD reported by RF using HS20 loading
E	Assigned rating based on ASD reported by RF using HS20 loadings
F	Assigned rating based on LRFD reported by RF using HS20 loadings

ITEM 64 - OPERATING RATING (TONS) 2 DIGIT FIELD

This capacity rating, referred to as the operating rating, will result in the absolute maximum permissible load level to which the structure may be subjected for the vehicle type used in the rating. At this time only the HS loading will be used to determine the operating rating. The initial operating rating will likely be assigned by the inspector and all subsequent operating ratings will be determined by the ITD Load Rating Engineer.

For initial operating ratings, use the following table:

Design Load	Operating Rating
H10	22*
H15	32*
HS15	43
H20	45
HS20	60
HS25	75
HL93	46
Railroad	00
Pedestrian	00
Temporary bridge	00

(**continued)**

Shored-up bridge	03**
Structure under sufficient fill that live load is negligible	99***

* Equivalent HS tonnage
** Load capacity without shoring
*** For single spans, the effect of live load may be neglected when the depth of fill is more than 8 feet and exceeds the span length; for multiple spans it may be neglected when the depth of fill exceeds the distance between faces of end supports or abutments. *AASHTO Standard Specifications for Highway Bridges*, 17th Edition, Section 6.4.2

When inspectors code the initial inventory and operating ratings, a "(B)Initial Analysis Required" will be coded for Load Rating Status.

ITEM 64 – OPERATING RATING (TONS) (cont'd)

If inventory and operating ratings need to be recalculated, under the Agency tab, check "Needs Re-Analysis". The bridge should be considered for reanalysis if any of the following conditions are present:

- The condition code of the deck (Item 58), superstructure (Item 59) or substructure (Item 60) is 4 or less.
- The condition code of the culvert (Item 62) is 5 or less.
- An **additional** wearing surface of 1 inch or more had been added to the deck.
- The bridge cannot carry a minimum of 3.0 tons of live load.
- A temporary bridge is present.
- The bridge is shored up.

If the inspector questions that the inventory and operating ratings adequately reflect the current status of the bridge for reasons other than itemized above, make note of it in the "BIE" section of the Notes tab. An example of this situation would be the deck has a long-existing five inch overlay for which the bridge may have not been designed. In these cases do not check "Needs Re-Analysis".

ITEM 65 - METHOD USED TO DETERMINE INVENTORY RATING 1 DIGIT FIELD

Use one of the codes below to indicate which load rating method was used to determine the inventory rating coded in Item 66 for this structure. For inventory/initial inspections, where the inventory rating is assigned by the inspector, a code of 5 will be assigned. **This item should only be changed by the ITD Load Rating Engineer.**

Code	Description
0	Field Evaluation and Documented Engineering Judgment
1	Load Factor (LFR)
2	Allowable Stress (ASR)
3	Load and Resistance Factor (LRFR)

(**continued)**

4 Load Testing
5 No rating analysis or evaluation performed
6 LFR reported by RF method using HS20 Load
7 ASR reported by RF method using HS20 Load
8 LRFR reported by RF method using HL93
A Assigned rating based on Load Factor Design(LFD)reported in tons
B Assigned ratings based on Allowable Stress Design(ASD) reported in tons
C Assigned ratings based on Load and Resistance Factor Design(LRRD) reported in tons
D Assigned rating based on LFD reported by RF using HS20 loading
E Assigned rating based on ASD reported by RF using HS20 loadings
F Assigned rating based on LRFD reported by RF using HS20 loadings

ITEM 66 - INVENTORY RATING (TONS) 2 DIGIT FIELD

This capacity rating, referred to as the inventory rating, is the safe load level to which the structure can be subjected for an indefinite period of time. At this time only the HS loading will be used to determine the inventory rating. The initial inventory rating will likely be assigned by the inspector and all subsequent inventory ratings will be determined by the ITD Load Rating Engineer.

For initial inventory ratings, use the following table:

Design Load	Inventory Rating
H10	13*
H15	19*
HS15	27
H20	26
HS20	36
HS25	45
HL93	36
Railroad	00
Pedestrian	00
Temporary bridge	00
Shored-up bridge	03**
Structure under sufficient fill that live load may be neglected	99***

* Equivalent HS tonnage
** Load capacity without shoring
*** For single spans, the effect of live load may be neglected when the depth of fill is more than 8 feet and exceeds the span length; for multiple spans it may be neglected when the depth of fill exceeds the distance between faces of end supports or abutments. *AASHTO Standard Specifications for Highway Bridges*, 17th Edition, Section 6.4.2

When inspectors code the initial inventory and operating ratings, a "(B)Initial Analysis Required" will be coded for Load Rating Status.

If inventory and operating ratings need to be recalculated, under the Agency tab, check “Needs Re-Analysis”. The bridge should be considered for reanalysis if any of the following conditions are present:

- The condition code of the deck (Item 58), superstructure (Item 59) or substructure (Item 60) is 4 or less.
- The condition code of the culvert (Item 62) is 5 or less.
- An **additional** wearing surface of 1 inch or more had been added to the deck.
- The bridge cannot carry a minimum of 3.0 tons of live load.
- A temporary bridge is present.
- The bridge is shored up.

If the inspector questions the inventory and operating ratings adequately reflect the current status of the bridge for reasons other than itemized above, make note of it in the “BIE” section of the Notes tab. An example of this situation would be the deck has a long-existing five inch overlay for which the bridge may have not been designed. In these cases do not check “Needs Re-Analysis”.

APPRAISAL

The items in the Appraisal section are used to evaluate a bridge in relation to the level of service that it provides on the highway system of which it is a part. The structure will be compared to a new one (built to current standards for that particular type of road) as further defined below. Special criteria for rating Item 72 - Approach Roadway Alignment is given under that item description.

Item 67, 68, 69, 71 and 72 will be coded with one-digit code that indicates the appraisal rating for the item. The ratings and codes are as follows:

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

Tables are provided to evaluate items 67, 68, 69, and 71, and shall be used to determine the appropriate code for 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 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.

Level of service goals is a concept that several States have introduced into their bridge management to determine the need for bridge improvements.

Level of service goals are target values for selected bridge characteristics that are used to assess bridge adequacy. The goals may vary depending on the highway functional classification, traffic volume, and other factors. The goals are set with the recognition that widely varying traffic needs exist throughout highway systems and that many bridges on local roads can adequately serve traffic needs with lower load and capacity geometric standards than would be necessary for bridges on heavily traveled main highways.

The degree to which a bridge is deficient can be measured by comparing bridge characteristics with level of service goals. Shortfalls from the goals determine the type and extent of improvement needs. The shortfalls are useful for comparing bridge needs and setting improvement priorities. Needs determined by level of service goals which are graduated to traffic levels and the characteristics of vehicles served can differ greatly from those determined by a single standard that applies to all bridges, for example the AASHTO A Policy on Geometric Design of Highway and Streets 1984.

However, the application of particular level of service concepts as developed by individual States do not result in the desired consistency when evaluating structures on a national basis.

If uniformity and consistency are to be achieved, similar structures, roadway and vehicle characteristics must be evaluated using identical standards. Therefore, tables and charts have been developed which shall be used to evaluate and code appraisal items for all bridges submitted to the National Bridge Inventory regardless of individual State criteria used to evaluate bridges.

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 evaluation. The data provided will included a code of G for Item 41 - Structure Open, Posted, or Closed to Traffic.

ITEM 67 - STRUCTURAL EVALUATION **1 DIGIT FIELD**

Please note that BrM will automatically calculate this Item.
The definition and coding below is just for your information.

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 lines listed in the table.

2. Inventory Ratings are shown in tons with decimal point.

3. To use Table 1, the Inventory Rating must be the coded HS rating or its equivalent. If the comparable HS equivalent is not calculated for the controlling rating, using a factor to determine the HS equivalent is acceptable even though converting other rating loads to an HS 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.

(continued)

ITEM 67 STRUCTURAL EVALUATION (cont'd)

STRUCTURAL EVALUATION RATING - Item 67
by comparison of ADT - Item 29
and Inventory Rating - Item 66

TABLE 1

Structural evaluation rating code	INVENTORY RATING AVERAGE DAILY TRAFFIC (ADT) 0-500	501-5000	>5000
9	>236* (HS20)**	>236 (HS20)	>236 (HS20)
8	236 (HS20)	236 (HS20)	236 (HS20)
7	231 (HS17)	231 (HS17)	231 (HS17)
6	223 (HS13)	225 (HS14)	227 (HS15)
5	218 (HS10)	220 (HS11)	222 (HS12)
4	212 (HS7)	214 (HS8)	218 (HS10)
3	Inventory rating less than value in rating code of 4 and requiring corrective action.		
2	Inventory rating less than value in rating code of 4 requiring replacement.		
0	Bridge closed.		

* Coded HS rating load (typical)
** HS designation (typical)

ITEM 68 - DECK GEOMETRY **1 DIGIT FIELD**

Please note that BrM will automatically calculate this Item. The definition and coding below is just for your information.

The following specifications are used by the Edit/Update Program:

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 44 foot 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.

(continued)

ITEM 68 - DECK GEOMETRY (cont'd)

DECK GEOMETRY RATING - Item 68
by comparison of ADT - Item 29
and bridge roadway width,
Curb-to-curb - Item 51

TABLE 2A							TABLE 2B	
Deck Geometry Rating Code	Bridge Roadway Width 2 lanes; 2 way traffic						Bridge Roadway Width 1 lane; 2 way traffic	
	ADT (both directions)						ADT (both directions)	
	0-100	101-400	401-1000	1001-2000	2001-5000	>5000	0-100	>100
9	>32	>36	>40	>44	>44	>44	-	-
8	32	36	40	44	44	44	15’-11"	-
7	28	32	36	40	44	44	15	-
6	24	28	30	34	40	44	14	-
5	20	24	26	28	34	38	13	-
4	18	20	22	24	28	32 (28*)	12	-
3	16	18	20	22	26	30 (26*)	11	15’-11"
2	Any width less than required for a rating code of 3 and structure is open.							
0	Bridge closed.							

*Use value in parenthesis for bridges longer than 200’.

NOTES:
1. Use the lower rating code for values between those listed in the table.
2. Dimensions are in feet.
3. For 3 or more undivided lanes of 2-way traffic, use Table 2C. Other Multi-lane Divided Facilities.
4. Do not use Table 2B for code 9. Also do not us Table 2B for codes 8 through 4 inclusive when the ADT >100. Single lane bridges less than 16 feet wide carrying 2-way traffic are always appraised at 3 or below if they carry more than and ADT of 100.
5. One lane bridges 16’ or greater in roadway widths, which are not ramps, are, evaluated as 2-lane bridge using table 2A.

(continued)

ITEM 68 - DECK GEOMETRY (cont'd)

DECK GEOMETRY RATING - ITEM 68
by comparison of number of lanes - Item 28
and bridge roadway width, curb to curb - Item 51

TABLE 2C					TABLE 2D	
Deck Geometry Rating Code	Bridge Roadway Width 2 or more lanes				Bridge Roadway Width One way Traffic	
	Interstate		Other Multi-lane Divided Facilities		Ramps Only	
	2 lanes	3 or more lanes	2 lanes	3 or more lanes	1 lane	2 or more lanes
9	>42	>12N+24	>42	>12N+18	>26	>12N+12
8	42	12N+24	42	12N+18	26	12N+12
7	40	12N+20	38	12N+15	24	12N+10
6	38	12N+16	36	12N+12	22	12N+8
5	36	12N+14	33	11N+10	20	12N+6
4	34 (29)*	11N+12 (11N+7)*	30	11N+6	18	12N+4
3	33 (28)*	11N+11 (11N+6)	27	11N+5	16	12N+2
2	Any width less than required for a rating code of 3 and the structure is open.					
1	Bridge closed.					

*Use value in parentheses for bridges longer than 200’.
N = number of lanes of traffic
Notes:
1. Use the lower rating code for values between those listed in the tables.
2. Dimensions are in feet.
3. Use Table 2C, Other Multilane Divided facilities, for 3 or more undivided lanes of 2 way traffic.

(continued)

ITEM 68 - DECK GEOMETRY (cont'd)

DECK GEOMETRY - ITEM 68
by comparison of Minimum Vertical Clearance
over Bridge Roadway - Item 53 and Functional
Classification - Item 26

TABLE 2E				
Deck Geometry Rating Code	Minimum Vertical Clearance			
	Functional Class			
	Interstate		Other Principal and Minor Arterials	Major and Minor Collectors and Locals
	All routes (Except as noted for urban areas)	Business Routes, Urban Areas*		
9	>17′ - 0"	>16′ - 6"	>16′ - 6"	>16′ - 6"
8	17′ - 0"	16′ - 6"	16′ - 6"	16′ - 6"
7	16′ - 9"	15′ - 6"	15′ - 6"	15′ - 6"
6	16′ - 6"	14′ - 6"	14′ - 6"	14′ - 6"
5	15′ - 9"	14′ - 3"	14′ - 3"	14′ - 3"
4	15′ - 0"	14′ - 0"	14′ - 0"	14′ - 0"
3	Vertical clearance less than value in rating code 4 and requiring corrective action.			
2	Vertical clearance less than value in rating code 4 and requiring replacement.			
0	Bridge closed.			

***** Use for routes in highly developed urban areas only when there is an alternative Interstate, freeway or expressway facility with a minimum of 16′ - 0" clearance.

NOTES:
1. Use the lower rating code for values between those listed in the table.

2. Dimensions are in feet.

ITEM 69 - UNDERCLEARANCES, VERTICAL AND HORIZONTAL **1 DIGIT FIELD**

Please note that BrM will automatically calculate this Item. The definition and coding below is just for your information.

This refers to vertical and horizontal underclearances 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 shall be evaluated using Table 3A. The horizontal underclearance shall be evaluated using Table 3B. The lower of the codes obtained from Table 3A and Table 3B shall be used.

Bridges seldom are closed due to deficient underclearance. However, they 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 shall be used to evaluate this item.

The functional classification to be used in the table is for the underpassing route. Therefore, the functional classification must be 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, use the Major and Minor Collector and Locals column in Tables 3A and 3B.

Tables 3A and 3B are on the following pages.

(continued)

ITEM 69 - UNDERCLEARANCES, VERTICAL AND HORIZONTAL (cont'd)

UNDERCLEARANCE, VERTICAL - ITEM 69
by Comparison of Minimum Vertical
Underclearance - Item 54 and
Functional Classification - Item 26

TABLE 3A

Under Clearance Rating Code	Minimum Vertical Underclearance				
	Functional Class				
	Interstate and other Freeway		Other Principal and Minor Arterials	Major and Minor Collectors and Locals	Railroad
	All Routes (except as noted for urban area)	Undesignated Routes, Urban Areas*			
9	>17′ - 0"	>16′ - 6"	>16′ - 6"	>16′ - 6"	>23′ - 0"
8	17′ - 0"	16′ - 6"	16′ - 6"	16′ - 6"	23′ - 0"
7	16′ - 9"	15′ - 6"	15′ - 6"	15′ - 6"	22′ - 6"
6	16′ - 6"	14′ - 6"	14′ - 6"	14′ - 6"	22′ - 0"
5	15′ - 9"	14′ - 3"	14′ - 3"	14′ - 3"	21′ - 0"
4	15′ - 0"	14′ - 0"	14′ - 0"	14′ - 0"	20′ - 0"
3	Underclearance less than value in rating code of 4 and requiring corrective action.				
2	Underclearance less than value in rating code of 4 and requiring replacement.				
0	Bridge closed.				

*****Use for routes in highly developed urban areas only when there is and alternative Interstate, freeway or expressway facility with a minimum of 16′ - 0 clearance.

NOTES:
1. Use the lower rating code for values between those listed in the table.
2. Dimensions are in feet.
3. The functional classification of the under-passing route shall be used in the evaluation. If an "under" record is not coded, the under-passing route shall be considered a major or minor collector or a local road.

(continued)

ITEM 69 - UNDERCLEARANCES, VERTICAL AND HORIZONTAL (cont'd)

UNDERCLEARANCE, HORIZONTAL - ITEM 69
by Comparison of Minimum Lateral
Underclearances Right & Left - Items 55 & 56
and Functional Classification - Item 26

TABLE 3B

Under-clearance Rating Code	Minimum Lateral Underclearance						
	Functional Class						
	One-way Traffic				Two-way Traffic		Railroad
	Principal Arterials Interstate, Freeways or Expressways				Other Principal and Minor Arterials	Major & Minor Collectors and Locals	
	Main Line		Ramp				
	left	right	left	right			
9	>30	>30	>4	>10	>30	>12	>20
8	30	30	4	10	30	12	20
7	18	21	3	9	21	11	17
6	6	12	2	8	12	10	14
5	5	11	2	6	10	8	11
4	4	10	2	4	8	6	8
3	Underclearance less than value in rating code of 4 and requiring corrective action.						
2	Underclearance less than value in rating code of 4 and requiring replacement.						
0	Bridge closed.						

NOTES:
1. Use the lower rating code for values between those listed in the tables.
2. Dimensions are in feet.
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 under-passing route shall be used in the evaluation. If an "under" record is not coded, the under-passing route shall be considered a major or minor collector.

ITEM 70 - BRIDGE POSTING **1 DIGIT FIELD**

The National Bridge Inspection Standards require the posting of load limits only if the maximum legal load in the State produces stresses in excess of the operating stress level. If the load capacity at the operating level is such that posting is required, this item shall be coded 0 through 4. If no posting is required at the operating level, this item shall be coded 5.

This item evaluates the load capacity of a bridge in comparison to the State legal load. It differs from Item 67 - Structural Evaluation in that Item 67 uses the inventory rating while the bridge posting requirement is based on the operating rating.

Although posting a bridge for load-carrying capacity is required only when the maximum legal load exceeds the operating rating capacity, highway agencies may choose to post at lower rating capacities. This posting practice may appear to produce conflicting coding when Item 41 - Structure Open, Posted or Closed to Traffic is coded to show the bridge as actually posted at the site and Item 70 - Bridge Posting is coded as bridge posting is not required. Since different criteria are used for coding these 2 items, this coding is acceptable and correct when the highway agency elects to post at less than the operating rating stress level. Item 70 shall be coded 0 through 4 only if the legal load of the State exceeds that permitted under the operating rating.

The use or presence of a temporary bridge affects the coding. The load capacity shall reflect the actual capacity of the temporary bridge at the operating rating. This also applies to bridges shored up or repaired on a temporary basis.

Code	Description
0, 1, 2, 3 or 4	Posting required
5	No posting required

The degree that the operating rating stress level is under the maximum legal load stress level may be used to differentiate between codes. As a guide and for coding purposes only, the following values may be used to code this item or use the table in Appendix H.

Code	Relationship of Operating Rating Stress to Legal Load Stress	Description
5	Equal to or above legal loads	No posting required
4	0.1 - 9.9% below	Posting required
3	10.0 - 19.9% below	Posting required
2	20.0 - 29.9% below	Posting required.
1	30.0 - 39.9% below	Posting required.
0	> 39.9% below	Posting required.

ITEM 71 - WATERWAY ADEQUACY **1 DIGIT FIELD**

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. 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			DESCRIPTION
Principal Arterials - Interstate Freeways or Expressway	Principal and Minor Arterials and Major Collectors	Minor Collectors Locals	
N	N	N	Bridge not over waterway.
9	9	9	Bridge deck and roadway approached above floodwater elevations (high water). Chance of over-topping is remote.
8	8	8	Bridge deck above roadway approaches. Slight chance of overtopping roadway approaches.
6	6	7	Slight chance of over-topping bridge deck and roadway approaches.

(Table continued on next page)

ITEM 71 - WATERWAY ADEQUACY (cont'd)

FUNCTIONAL CLASSIFICATION			DESCRIPTION
Principal Arterials - Interstate Freeways or Expressway	Principal and Minor Arterials and Major Collectors	Minor Collectors Locals	
4	5	6	Bridge deck above roadway approaches. Occasional overtopping of roadway approaches with insignificant traffic delays.
3	4	5	Bridge deck above road approaches. Occasional overtopping of roadway approaches with significant traffic delays.
2	3	4	Occasional overtopping of bridge deck & roadway approaches w/significant traffic delays.
2	2	3	Frequent overtopping of bridge deck & roadway approaches w/significant traffic delays.
2	2	2	Occasional or frequent overtopping of bridge deck & roadway approaches with severe traffic delays.
0	0	0	Bridge closed.

ITEM 72 - APPROACH ROADWAY ALIGNMENT 1 DIGIT FIELD

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 are how the alignment of the roadway approaches to the bridge relates 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 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.

ITEM 73 - Item Not Used

ITEM 74 - Item Not Used

ITEM 75 - TYPE OF WORK **3 DIGIT FIELD**

This item must be coded for structures eligible for the Highway Bridge Replacement and Rehabilitation Program. To be eligible a bridge must carry traffic, be deficient(structurally deficient or functionally obsolete) and have a sufficiency rating of 80.0 or less.

The information shall be recorded as a 3-digit number composed of two segments.

Segment	Description	Length
75A	Type of Work Proposed	2 digits
75B	Work done by	1 digit

The first two digits (75A) should be coded to represent the proposed work type (to improve the bridge to the point that it will provide the type of service needed). Use one of the following codes to represent the proposed work type.

Code	Description
31	Replacement of bridge or other structure because of substandard load carrying capacity or substandard bridge roadway geometry.
32	Replacement of bridge or other structure because of relocation of road.
33	Widening of existing bridge or other major structure without deck rehabilitation or replacement; includes culvert lengthening.
34	Widening of existing bridge with deck rehabilitation or replacement.
35	Bridge rehabilitation because of general structure deterioration or inadequate strength.
36	Bridge deck rehabilitation with only incidental widening.
37	Bridge deck replacement with only incidental widening.
38	Other structural work.

The third digit (75B) shall be coded using one of the following codes to indicate whether the proposed work is to be done by contract or by force account.

Code	Description
1	Work to be done by contract
2	Work to be done by owner's forces

(continued)

ITEM 75 - TYPE OF WORK (cont'd)

EXAMPLES:

Code

311 A bridge is to be replaced by contract because it has deteriorated to the point that it can no longer carry legal loads. The same code should be used if the bridge is replaced because it is now too narrow or the original design was too light to accommodate today's legal loads.

321 A bridge is to be replaced because the roadway must be straightened to eliminate a dangerous curve. The work will be done by contract.

331 This includes widening of a bridge to increase shoulder width or the number of traffic lanes. The existing deck is in good condition and will be incorporated as is into the new structure. The work is to be done by contract. This also includes extending a culvert.

341 A deck is to be rehabilitated and the bridge widened to provide a full 12-foot shoulder. The existing shoulder is only 4 feet wide and an extra line of girders with appropriate substructure widening must be added. The work will be done by contract

352 A bridge superstructure and substructure is to be rehabilitated by State forces to increase its load capacity.

361 A bridge deck is to be rehabilitated by contract and a safety curb to be removed which results in incidental widening of 2 feet.

371 A bridge deck is to be replaced by contract and the deck cantilever overhang extended 2 feet, which is the maximum that can be done without adding another line of stringers or girders to the superstructure.

382 A bridge which is no longer needed is to be demolished and an "at grade" crossing built by State forces. This code could also be used to designate incidental safety work on a bridge such as bridge rail upgrading or replacement.

ITEM 76 - LENGTH OF IMPROVEMENT (XXXXXX ft) **6 DIGIT FIELD**

This item must be coded for structures eligible for the Highway Bridge Rehabilitation and Replacement Program (sufficiency rating less than 080.0).

Code a 6-digit number that represents the length of the proposed bridge improvement to the nearest foot. For replacement or rehabilitation of the entire bridge, the length should be back to back of backwalls of abutments or from pavement notch to pavement notch. For replacement or rehabilitation of only part of the structure, use the length of the portion to be improved.

(continued)

ITEM 76 - LENGTH OF STRUCTURE IMPROVEMENT (cont'd)

For culvert improvements use the proposed length measured along the centerline of the barrel regardless of the depth below grade. The measurement should be made between the inside faces of the top parapet or edge stiffening beam of the top slab.

EXAMPLES:

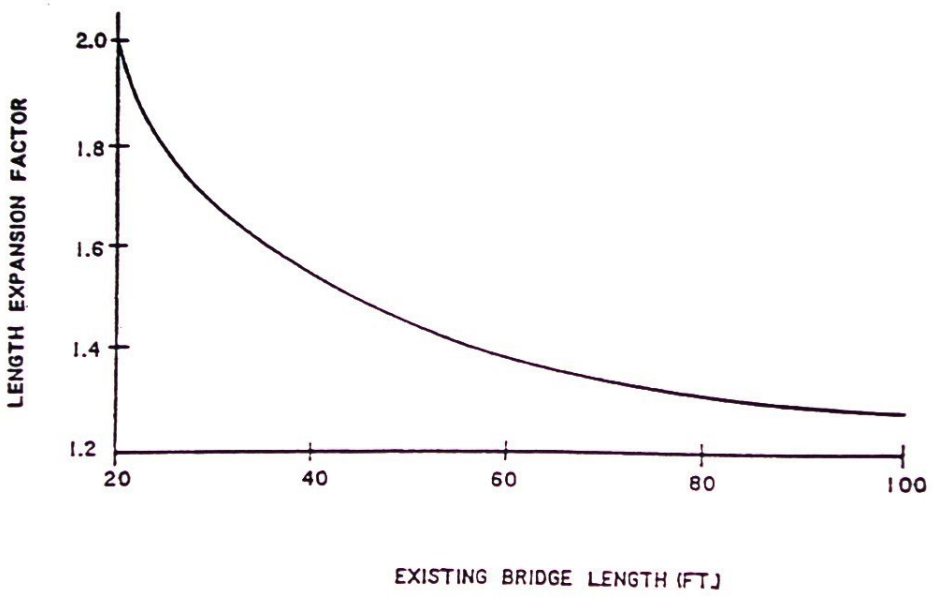
Length of Structure Improvement	Code
250 feet	250
1,200 feet	1200
12,345 feet	12345

For substructure work only, code the length of superstructure supported by the substructure. For channel work only, code the length of superstructure over the channel.

Typically, a replacement bridge will be longer than the existing bridge. Nationwide averages for the increase in bridge length with replacement as a function of the existing length are given in the graphs on the following page. Where site specific data is lacking, these factors are suggested for estimating the length of replacement bridges. For exceedingly long bridges (i.e., 1000 feet or more) the length-expansion factor (LF) approaches 1.0.

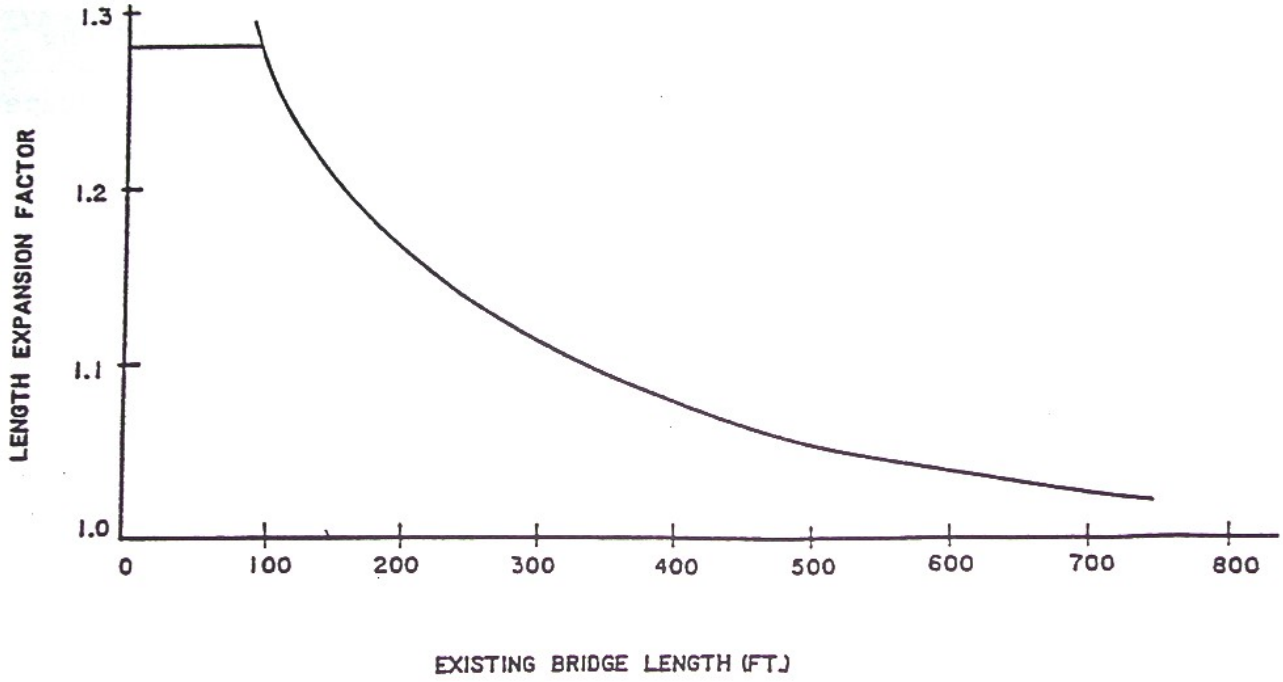
Increased Length of Replaced Bridges

Replaced Bridge Length = Existing Bridge Length x Length-Expansion Factor



(continued)

ITEM 76 - LENGTH OF STRUCTURE IMPROVEMENT (cont'd)



ITEM 77 - Item Not Used

ITEM 78 - Item Not Used

ITEM 79 - Item Not Used

ITEM 80 - Item Not Used

ITEM 81 - Item Not Used

ITEM 82 - Item Not Used

ITEM 83 - Item Not Used

ITEM 84 - Item Not Used

ITEM 85 - Item Not Used

ITEM 86 - Item Not Used

ITEM 87 - Item Not Used

ITEM 88 - Item Not Used

ITEM 89 – Item Not Used

ITEM 90 - INSPECTION DATE **DATE FIELD**

Record the month and year that the last routine inspection of the structure was performed.

ITEM 91 - DESIGNATED INSPECTION FREQUENCY **2 DIGIT FIELD**

Code number of the months between designated inspections of the structure. The individual in charge of the inspection program usually determines this interval. For posted, under-strength bridges, this interval should be substantially less than the 24-month standard. The designated inspection interval could vary from inspection to inspection depending on the condition of the bridge at the time of inspection.

NOTE: ITD's policy is that any bridge with the Operating Rating(Item 64B) of less than 28 tons or a Deck Rating(Item 58)of <=4 or a Structural Evaluation Rating(Item 67) of <=4 or the Structure Status(Item 41) is coded a P, B or R will be inspected every 12 months or less, depending on the condition of the structure.

EXAMPLES:	Code
Posted bridge with heavy truck traffic and questionable structural details which is designated to be inspected each month.	1
Bridge is scheduled to be inspected every 24 months	24

It should be noted that bridges will also require special non-scheduled inspections after unusual physical traumas such as floods, earthquakes, fires or collisions. These special inspections may range from a very brief visual examination to detailed in-depth evaluation depending upon the nature of the trauma. For example, when an errant vehicle strikes a substructure pier or abutment, in most cases only a visual examination of the bridge is necessary. After major collisions or earthquakes, in-depth inspections may be warranted as directed by the engineer in overall charge of the program. After and during severe floods, the stability of the substructure of bridges may have to be determined by probing, underwater sensors or other appropriate measures. Underwater inspection by divers may be required for scour critical bridges immediately after floods. (See Item 113 for designation of scour critical bridges.)

ITEM 92 - CRITICAL FEATURE INSPECTIONS

Denotes whether a Fracture Critical, Underwater or Other Special inspection is required.

Note: In Idaho the Other Special inspection has been designated as a fatigue crack inspection.

Segment	Description
92A	Fracture Critical
92B	Underwater Inspection
92C	Other Special Inspection (fatigue crack inspection)

The designated inspection interval could vary from inspection to inspection depending on the condition of the bridge at the time of the inspection. Current guidelines for maximum allowable interval between inspections are as follows:

Fracture Critical Details	24 months*
Underwater Inspection	60 months*
Other Special Inspections	72 months*

*See Idaho Manual for Bridge Evaluation (IMBE) for description and criteria on inspection frequencies.

In BrM a check box appears for each Item 92A, 92B & 92C; a check indicates the inspection is required and frequency determined should be entered. Leave frequency blank if inspection is not required.

ITEM 93 - CRITICAL FEATURE INSPECTION DATE DATE FIELD

Enter date of actual critical feature inspection. Leave blank if inspection has not been done.

SPECIAL INSPECTIONS – UBIT(Under Bridge Inspection Truck) AND CONFINED SPACE INSPECTIONS

Some bridges require a UBIT Inspection or a Confined Space Inspection depending on the type of bridge, condition of bridge or accessibility to the bridge. These inspections should be determined by the inspector.

The designated inspection interval could vary depending on the condition of the bridge or accessibility to members of the bridge.
Current guidelines for maximum allowable interval between inspections are as follows:

Reachall Inspection	48 months*
Confined Space Inspection	72 months*

*See Idaho Manual for Bridge Evaluation (IMBE) for description and criteria on inspection frequencies.

ITEM 94 - BRIDGE IMPROVEMENT COST **9 DIGIT FIELD**

Code a dollar amount to represent the cost of the proposed bridge or major structure improvements in thousands of dollars. This cost shall include only bridge construction costs, excluding roadway, right of way, detour, demolition, preliminary engineering, etc. Do not use this item for estimating maintenance costs.

As of January 2010, the average costs for bridge replacement, widening of a culvert or rigid frame and the cost of a deck overlay or rehab are as follows. A new prestressed concrete structure is averaging approximately **$165.00** per square foot. A new overlay or a deck rehab is averaging approximately **$25.00** per square foot. The widened addition of a culvert or rigid frame structure is averaging approximately **$150.00** per square foot. **$165.00** per square foot may also be used for estimating bridge widening projects.

The following procedure may be used as a guide in preparing bridge improvement cost estimates.

Apply an appropriate construction unit cost to the proposed bridge area (as determined by current State deck geometry design standards and the proposed bridge length from Item 76 Length of Structure Improvement). Deck width may be determined from the table below.

Est. == Deck Width x Length of Structure Improvement x Unit Cost

STANDARD ROADWAY WIDTHS (FT) (including paved shoulders) Code 3 *****

Average Daily Traffic Code 2	Functional Classification Code 1			
	01,11	02,06,12,14 ,16	07,08, 17	09,19
0 - 249	38	32	26	24
250 - 399	38	32	26	26
400 - 999	38	36	30	30
1000 - 1999	38	36	38	34
2000 - 4000	38	40	40	40
over 4000	38	44	40	40

1 from Item 26 - Functional Classification of Inventory Road
2 from Item 29 - Average Daily Traffic
3 use only if Item 32 - Approach Roadway Width is narrower than the value given in the chart.

***NOTE: Add 2 feet for each bridge rail and 7 feet for each anticipated sidewalk.**

ITEM 95 - ROADWAY IMPROVEMENT COST **9 DIGIT FIELD**

Code a dollar amount to represent the cost of the proposed roadway improvement in thousands of dollars. This shall include only roadway construction costs, excluding bridge, right of way, detour, extensive roadway realignment costs, preliminary engineering, etc. Do not use this item for estimating maintenance costs.

In absence of a procedure for estimating roadway improvement costs, a guide of 10 percent of the bridge costs should be used.

ITEM 96 - TOTAL PROJECT COST **9 DIGIT FIELD**

Code a dollar amount to represent the total project cost in thousands of dollars, including incidental costs not included in Items 94 and 95. This item should include all costs normally associated with the proposed bridge improvement project. The Total Project Cost will therefore usually be greater than the sum of Items 94 and 95. Do not use this item for coding maintenance costs.

In the absence of a procedure for estimating the total project cost, a guide of 150 percent of the bridge cost should be used.

ITEM 97 - YEAR OF IMPROVEMENT COST ESTIMATE **4 DIGIT FIELD**

Record the year that the costs of work estimated in Items 94 through 96 were based upon. This date and the data provided for Items 94 through 96 must be current; that is, Item 97 shall be no more than 8 years old.

ITEM 98 - BORDER BRIDGE **5 DIGIT FIELD**

Use this item to indicate structures crossing borders of states. Code a 5-digit number (composed of 2 segments) for this item specifying the responsibility for improvements to the existing structure when it is shared with a neighboring state. Code the first 3 digits with the neighboring state code (using state codes listed in Item 1 - State Code). Code the fourth and fifth digits with percentage of the bridge that the neighboring state is responsible for funding.

Segment	Description	Length
98A	Neighboring State Code	3 digits
98B	Percent Responsibility	2 digits

If a neighboring state codes the structure and accepts 100% of the responsibility, but your State still codes a record for the structure, then Item 98B in your States record should be coded 99 to represent that your State has no responsibility for the structure.

ITEM 98 – BORDER BRIDGE (cont'd)

For the special case of a structure on the border with Canada, code the Neighboring State Code value = CAN. If structure is not on a border, leave blank.

EXAMPLES:	Code98A	Code98B
A structure connects Idaho with Oregon and Oregon is responsible for funding 45 percent of future improvement costs.	410	45
A structure connects Idaho with Canada, and Canada is not responsible for any funding of future improvement costs.	CAN	00

ITEM 99 - BORDER BRIDGE STRUCTURE NUMBER **15 DIGIT FIELD**

Code the neighboring state's 15 digit National Bridge Inventory structure number for any structure noted in Item 98 - Border Bridge. This number must match exactly the neighboring state's submitted NBI structure number. The entire 15-digit field must be accounted for including zeros and blank spaces whether they are leading, trailing, or embedded in the 15 digit field. If Item 98 is blank, this item is blank.

ITEM 100 - STRAHNET HIGHWAY DESIGNATION **1 DIGIT FIELD**

This item shall be coded for all records in the inventory. For the inventory route identified in Item 5, indicate STRAHNET highway conditions using one of the following codes:

Code	Description
0	Inventory route is not a STRAHNET route.
1	The inventory route is on an interstate STRAHNET highway.
2	The inventory route is on a non-interstate STRAHNET route.
3	The inventory route is on a STRAHNET connector route.

ITEM 101 - PARALLEL STRUCTURE DESIGNATION 1 DIGIT FIELD

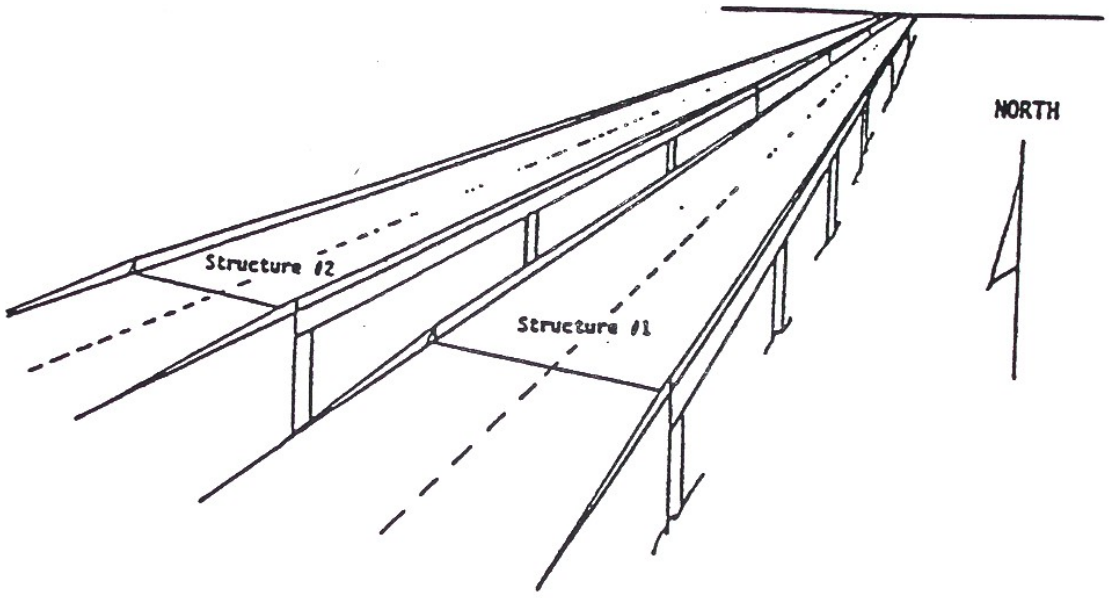
Code this item to indicate situations where separate structures carry the inventory route in opposite directions of travel over the same feature.

One of the following codes shall be used.

Code	Description
R	The right structure of parallel bridges carrying the roadway in the direction of the inventory. (For a STRAHNET highway, this is west to east and south to north)
L	The left structure of parallel bridges. This structure carries traffic in the opposite direction.
N	No parallel structure exists.

EXAMPLES:

	Code
Structure # 1	R
Structure # 2	L



ITEM 102 - DIRECTION OF TRAFFIC **1 DIGIT FIELD**

Code the direction of traffic as a 1-digit number. This item must be compatible with other traffic related items such as Item 29 - Average Daily Traffic and Item 51 - Bridge Roadway Width, curb-to-curb.

Code	Description
0	Highway traffic not carried
1	1-way traffic
2	2-way traffic
3	One lane bridge, for 2-way traffic

ITEM 103 - TEMPORARY STRUCTURE DESIGNATION **1 DIGIT FIELD**

Code this item to indicate situations where temporary structures or conditions exist. This item should be blank if not applicable.

Code	Description
T	Temporary structure(s) or conditions exist. (blank) No temporary structure

Temporary structure(s) or conditions are those that are required to facilitate traffic flows. This may occur either before or during the modification or replacement of a structure found to be deficient. Such conditions include:

1. Bridges shored up, including additional temporary supports.

2. Temporary repairs made to keep a bridge open.

3. Temporary structure, temporary run-around or bypass.

4. Other temporary measures, such as barricaded traffic lanes to keep the bridge open.

Any repaired structure or replacement structure, which is expected to remain in place without further project activity, other than maintenance, for a significant period of time, shall not be considered temporary. Under such condition, that structure, regardless of its type, shall be considered the minimum adequate to remain in place and evaluated accordingly.

If this item is coded T, then all data recorded for the structure shall be for the condition of the structure without temporary measures, except for the following items which shall be for the temporary structure.

(continued)

ITEM 103 – TEMPORARY STRUCTURE DESIGNATION (cont'd)

Item

10 - Inventory Route, Minimum Vertical Clearance
41 - Structure Open, Posted, or Closed to Traffic
47 - Inventory Route, Total Horizontal Clearance
53 - Minimum Vertical Clearance Over Bridge Roadway
54 - Minimum Vertical Underclearance
55 - Minimum Lateral Underclearance on Right
56 - Minimum Lateral Underclearance on Left
70 - Bridge Posting

ITEM 104 - HIGHWAY SYSTEM OF THE INVENTORY ROUTE 1 DIGIT FIELD

This item is to be coded for all records in the inventory. For the inventory route identified in Item 5, indicate whether the inventory route is on the National Highway System (NHS) or not on that system. Initially, this code shall reflect an inventory route on the NHS "Interim System" description in Section 1006(a) of the 1991 ISTEA. Upon approval of the NHS by Congress, the coding is to reflect the approved NHS. Use one of the following codes:

Code	Description
0	Inventory Route is not on the NHS
1	Inventory Route is on the NHS

Code this Item (1) if Item 26 is coded 1, 2, 11, 12 or 14.

ITEM 105 - FEDERAL LANDS HIGHWAYS 1 DIGIT FIELD

Structures owned by state and local jurisdictions on roads which lead to and traverse through federal lands sometimes require special coded unique identification because they are eligible to receive funding from the Federal Lands Highway Program. One of the following codes shall be used:

Code	Description
0	Not applicable
1	Indian reservation Road (IRR)
2	Forest Highway (FH)
3	Land Management Highway System (LMHS)
4	Both IRR and FH
5	Both IRR and LMHS
6	Both FH and LMHS
9	Combined IRR, FH and LMHS

ITEM 106 - YEAR RECONSTRUCTED **4 DIGIT FIELD**

Record and code the year of reconstruction of the structure. Code all four digits of the latest year in which reconstruction of the structure was completed.

For a bridge to be defined as reconstructed, the type of work performed, whether or not it meets current minimum standards, must have been eligible for funding under any of the Federal-aid funding categories. The eligibility criteria would apply to work performed regardless of whether all state or local funds or Federal-aid funds were used.

Some types of eligible work not to be considered as reconstruction are as follows:

Safety feature replacement or upgrading (for examples, bridge rail, approach rail or impact attenuators).

Painting of structural steel.

Overlay of bridge deck as part of a larger surfacing project (for example, overlay carried across bridge deck for surface uniformity without additional bridge work).

Emergency repair to restore structural integrity to the previous status following an accident.

Retrofitting to correct a deficiency which does not substantially alter physical geometry or increase the load-carrying capacity.

Work performed to keep a bridge operational while plans for complete rehabilitation or replacement are under preparation (for example, adding a substructure element or extra girder).

ITEM 107 - DECK STRUCTURE TYPE **1 DIGIT FIELD**

Indicate the type of deck system on the bridge using one of the following codes. If more than one type of deck system is on the bridge, code the most predominant. Code N for a filled culvert or arch with the approach roadway section carried across the structure.

Code	Description
1	Concrete Cast in Place
2	Concrete Precast Panels
3	Open Grating
4	Closed Grating
5	Steel Plate (includes orthotropic)
6	Corrugated Steel
7	Aluminum
8	Timber
9	Other
N	Not applicable

ITEM 108 - WEARING SURFACE/PROTECTIVE SYSTEM 3 DIGIT FIELD

This item is a 3-digit code composed of 3 segments.

Segment	Description	Length
108A	Type of Wearing Surface	1 digit
108B	Type of Membrane	1 digit
108C	Deck Protection	1 digit

1st Digit - Type of Wearing Surface (Item 108A)

Code	Description
1	Concrete
2	Integral Concrete*
3	Latex Concrete or Silica Fume
4	Low Slump Concrete
5	Epoxy Overlay
6	Bituminous
7	Timber
8	Gravel
9	Other
0	None
N	Not Applicable (applies only to structures with no deck)

* Separate layer of concrete added but not latex modified, low slump, etc.

2nd Digit - Type of Membrane (Item 108B)

Code	Description
1	Built-up
2	Preformed Fabric
3	Epoxy
8	Unknown
9	Other
0	None
N	Not Applicable (applies only to structures with no deck)

3rd Digit - Deck Protection (Item 108C)

Code	Description
1	Epoxy Coated Reinforcing
2	Galvanized Reinforcing
3	Other Coated Reinforcing Bar
4	Cathodic Protection
5	(Not Used)
6	Polymer Impregnated
7	Internally Sealed
8	Unknown
9	Other
0	None
N	Not Applicable (applies to structures with no deck)

ITEM 109 - AVERAGE DAILY TRUCK TRAFFIC **2 DIGIT FIELD**

Code a 2-digit number that shows the percentage of Item 29 - Average Daily Traffic that is truck traffic. Do not include vans, pickup trucks and other light delivery trucks in this percentage.

If this information is not available, an estimate that represents the average percentage (for the category of road carried by the bridge) may be used. May be left blank if Item 29 is not greater than 100.

EXAMPLES:	Code
7% trucks	7
15% trucks	15

ITEM 110 - DESIGNATED NATIONAL NETWORK **1 DIGIT FIELD**

The national network for trucks 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). The national network for trucks is available for use by commercial motor vehicles of the dimensions and configurations described in these regulations. For the inventory route, use one of the following codes:

Code	Description
1	The inventory route is part of the national network for trucks.
0	The inventory route is not part of the national network for trucks.

List of the Idaho National Truck Network on next page

(continued)

FEDERAL HIGHWAY ADMINISTRATION
NATIONAL TRUCK NETWORK (IDAHO)
AS OF 01/11/2000
(see map at end of SI&A items)

INTERSTATE All Interstate Highways

	From	To
US 2	Dover	Sandpoint, Jct, US 95
US 2	Jct, US 95 Bonners Ferry	Montana State Line
I-15B	I-15/US 26 S. of Idaho Falls	US 26 N. IC Idaho Falls
ID 16	Jct, ID 44	Emmett
US 20/26	Oregon Line	Jct. I-84 W Caldwell IC
US 20	Mtn. Home Jct, I-84	Montana Line
US 26	I-84 Bliss	I-15 Blackfoot
ID 28	Jct. ID 33 Mud Lake	Jct. US 93 Salmon
US 30	US 95 Fruitland	ID 72 New Plymouth
US 30	I-15, McCammon	Wyoming Line
ID 33	ID 28 Mud Lake	US 20 Rexburg
ID 44	I-84 Caldwell	ID 55 Eagle
ID 51	Nevada Line	I-84 Mountain Home
ID 53	Washington Line	US-95 Garwood
ID 55	US 95, Marsing	Nampa I-84
ID 55	Jct. US 20/26 S. of Eagle	Eagle ID 44
ID 75	US 93 Shoshone	Ketchum
ID 87	US 20 N. Macks Inn	Montana Line
US 89	Utah Line	US 30 Montpelier
US 91	Utah Line	Jct. I-15 Virginia IC
US 93	Nevada Line	Arco
US 95	Oregon Line S. of Marsing	Oregon Line Weiser (via US 95 spur)
US 95	Grangeville	Moscow
US 95	I-90 Coeur d'Alene, Jct. I-90	Jct. US 2, Bonners Ferry

ITEM 111 - PIER OR ABUTMENT PROTECTION (FOR NAVIGATION) **1 DIGIT FIELD**

If Item 38 - Navigation Control has been coded 1, use the codes below to indicate the presence and adequacy of pier or abutment protection features such as fenders, dolphins, etc. The condition of the protection devices may be a factor in the overall evaluation of Item 60 - Substructure. If Item 38 - Navigation Control has been coded 0 or N, leave blank to indicate not applicable.

Code	Description
1	Navigation protection not required
2	In place and functioning
3	In place but in a deteriorated condition
4	In place but reevaluation of design suggested
5	None present but reevaluation suggested

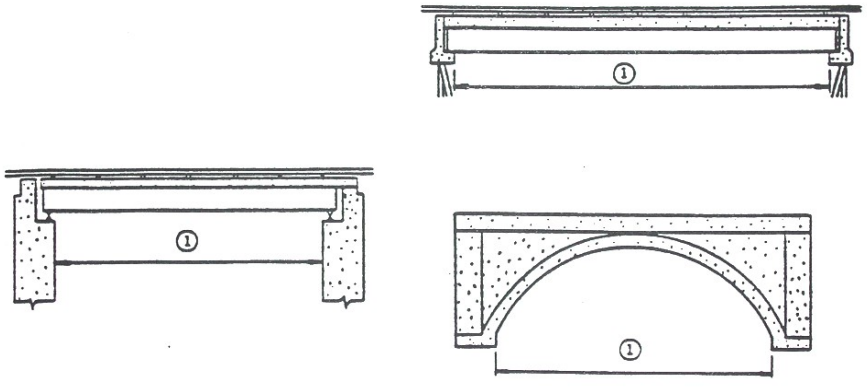
ITEM 112 - NBIS BRIDGE LENGTH **1 DIGIT FIELD**

Does this structure meet or exceed the minimum length specified to be designated as a bridge for National Bridge Inspection Standards purposes?

"...a 'bridge' is defined as a structure including supports erected over a depression or an obstruction, such as water, a highway, or a railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of 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."

Code	Description
Y	Yes
N	No

EXAMPLES:

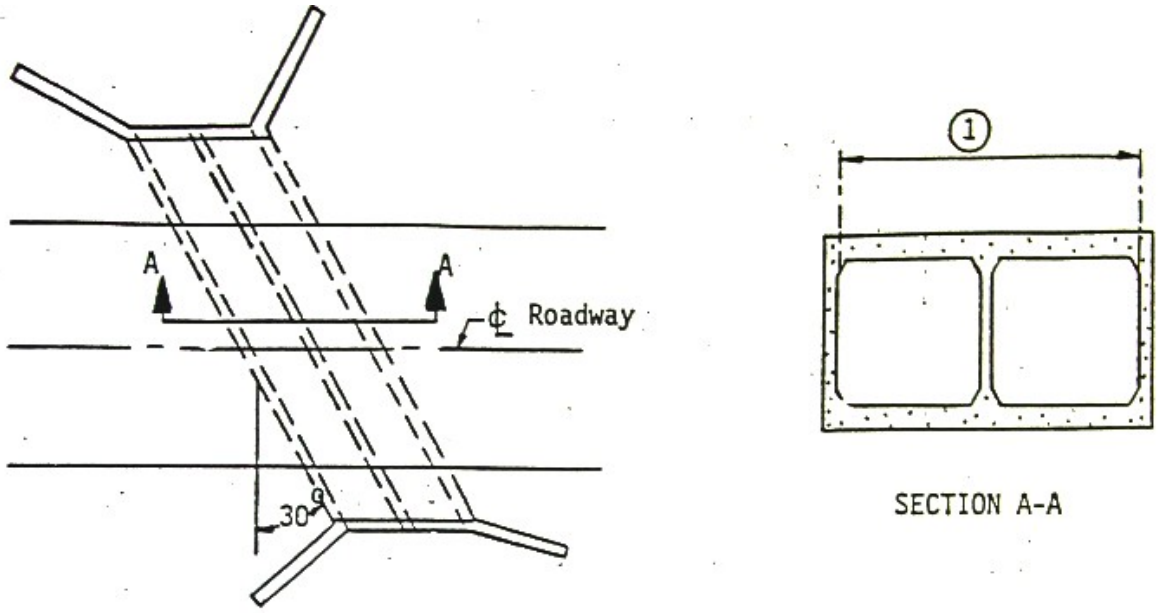


1 Item 112 - NBIS Bridge Length

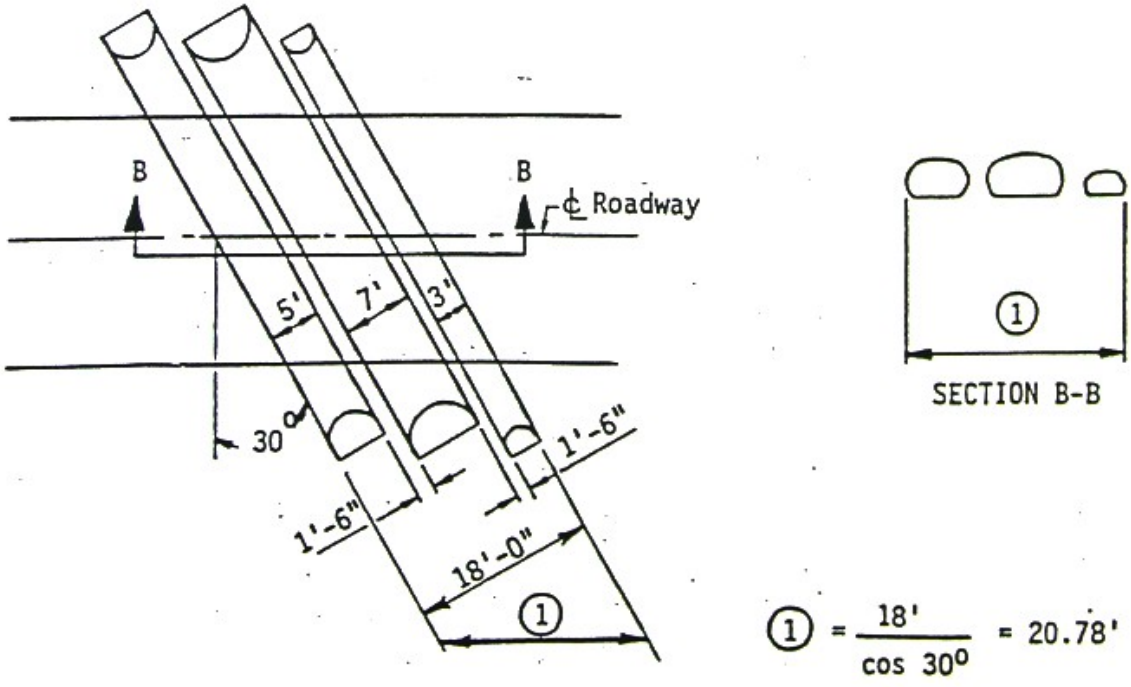
(continued)

ITEM 112 - NBIS BRIDGE LENGTH (cont'd)

EXAMPLES:



(1) Item 112 - NBIS Bridge Length



(1) Item 112 - NBIS Bridge Length

Item 113 - Scour Critical Bridges 1 digit

Use a single-digit code as indicated Use a single-digit code as indicated below to identify the current status of the bridge regarding its vulnerability to scour. Evaluations shall be made by hydraulic/geotechnical/structural engineers. Guidance on conducting a scour evaluation is included in the FHWA Technical Advisory T 5140.23 titled, "Evaluating Scour at Bridges."[1] Detailed engineering guidance is provided in the Hydraulic Engineering Circular 18 titled "Evaluating Scour at Bridges."[2] Whenever a rating factor of 2 or below is determined for this item, the rating factor for Item 60 -- Substructure and other affected items (i.e., load ratings, superstructure rating) should be revised to be consistent with the severity of observed scour and resultant damage to the bridge. A plan of action should be developed for each scour critical bridge (see FHWA Technical Advisory T 5140.23, HEC 18 and HEC 23[3]). A scour critical bridge is one with abutment or pier foundation rated as unstable due to (1) observed scour at the bridge site (rating factor of 2, 1, or 0) or (2) a scour potential as determined from a scour evaluation study (rating factor of 3). It is assumed that the coding of this item has been based on an engineering evaluation, which includes consultation of the NBIS field inspection findings.

Code	Description
N	Bridge not over waterway.
U	Bridge with "unknown" foundation that has not been evaluated for scour. Until risk can be determined, a plan of action should be developed and implemented to reduce the risk to users from a bridge failure during and immediately after a flood event (see HEC 23).
T	Bridge over "tidal" waters that has not been evaluated for scour, but considered low risk. Bridge will be monitored with regular inspection cycle and with appropriate underwater inspections until an evaluation is performed ("Unknown" foundations in "tidal" waters should be coded U.)
9	Bridge foundations (including piles) on dry land well above flood water elevations.
8	Bridge foundations determined to be stable for the assessed or calculated scour condition. Scour is determined to be above top of footing (Example A) by assessment (i.e., bridge foundations are on rock formations that have been determined to resist scour within the service life of the bridge[4]), by calculation or by installation of properly designed countermeasures (see HEC 23).
7	Countermeasures have been installed to mitigate an existing problem with scour and to reduce the risk of bridge failure during a flood event. Instructions contained in a plan of action have been implemented to reduce the risk to users from a bridge failure during or immediately after a flood event.

(continued)

ITEM 113 – SCOUR CRITICAL BRIDGES (cont'd)

6 Scour calculation/evaluation has not been made. (Use only to describe case where bridge has not yet been evaluated for scour potential.)

5 Bridge foundations determined to be stable for assessed or calculated scour condition. Scour is determined to be within the limits of footing or piles (Example B) by assessment (i.e., bridge foundations are on rock formations that have been determined to resist scour within the service life of the bridge), by calculations or by installation of properly designed countermeasures (see HEC 23).

4 Bridge foundations determined to be stable for assessed or calculated scour conditions; field review indicates action is required to protect exposed foundations (see HEC 23).

3 Bridge is scour critical; bridge foundations determined to be unstable for assessed or calculated scour conditions:
- Scour within limits of footing or piles. (Example B)
- Scour below spread-footing base or pile tips. (Example C)

2 Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations, which are determined to be unstable by:
- a comparison of calculated scour and observed scour during the bridge inspection, or
- an engineering evaluation of the observed scour condition reported by the bridge inspector in Item 60.

1 Bridge is scour critical; field review indicates that failure of piers/abutments is imminent. Bridge is closed to traffic. Failure is imminent based on:
- a comparison of calculated and observed scour during the bridge inspection, or
- an engineering evaluation of the observed scour condition reported by the bridge inspector in Item 60.

0 Bridge is scour critical. Bridge has failed and is closed to traffic.

[1] FHWA Technical Advisory T 5140.23, Evaluating Scour at Bridges, dated October 28, 1991.
[2] HEC 18, Evaluating Scour at Bridges, Fourth Edition.
[3] HEC 23, Bridge Scour and Stream Instability Countermeasures, Second Edition.
[4] FHWA Memorandum “Scourability of Rock Formations,” dated July 19, 1991.

(continued)

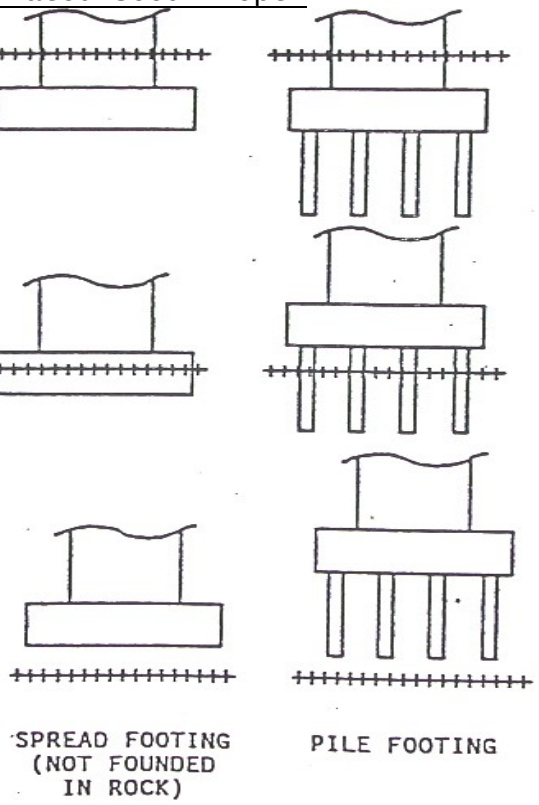
Item 113 - Scour Critical Bridges (cont'd)

EXAMPLES: Calculated Scour Depth Action Needed

A. Above top of footing — None – indicate rating of 8 for this item

B. Within limits of footing or piles — Conduct foundation structural analysis

C. Below pile tips or spread footing base — Provide for monitoring and scour countermeasures as necessary



++++++++++++ = Calculated scour depth

ITEM 114 - FUTURE AVERAGE DAILY TRAFFIC 6 DIGIT FIELD

For all bridges, code the forecasted average daily traffic (ADT) for the inventory route identified in Item 5. This shall be projected at least 17 years but no more than 22 years from the year data is submitted to the NBI. The intent is to provide a basis for a 20-year forecast. This item may be updated anytime, but must be updated when the forecast falls below the 17-year limit. If planning data is not available use the best estimate based on site familiarity.

The future ADT shown must be compatible with the other items coded for the bridge, i.e., twin bridges with an open median, if Items 28 -Lanes On and Under the Structure and 51 - Bridge Roadway Width, Curb-to-Curb are coded for one bridge, then the future ADT must be for one bridge and not the total for the route.

EXAMPLES:	Volume	Code
	540	540
	15,600	15600
	240,000	240000

ITEM 115 - YEAR OF FUTURE AVERAGE DAILY TRAFFIC 4 DIGIT FIELD

Code the year for which the future ADT in Item 114 represents. The projected year of future ADT shall be at least 17 years but no more than 22 years from the year of inspection. Code all four digits of the year represented.

ITEM 116 - NAVIGATION; MINIMUM VERTICAL (XXX.X Feet) 4 DIGIT FIELD CLEARANCE FOR VERTICAL LIFT BRIDGE

Record and code a three-digit number truncated to the nearest tenth of a foot (with an added decimal point), the minimum vertical clearance imposed at the site as measured above a datum that is specified on a navigation permit issued by a control agency. Code this item only for vertical lift bridges in the dropped or closed position, otherwise leave blank.

Examples:	Code
Vertical Clearance 10.75 feet	10.7
23.22 feet	23.2

STATE CODING ITEMS

AGENCY STRUCTURE ID NUMBER **5 DIGIT FIELD**

This number is the NBI structure number without the leading zeros.

STRUCTURE NAME **15 DIGIT FIELD**

The AASHTO Bridge Manual requires that the official structure name be coded. Each state codes the structure number according to its own internal processing procedures. When recording and coding for this item and following items, any structure or structures with a closed median should be considered as one structure, not two.

A unique numbering system was developed to provide a systematic bridge name for each structure on the state highway system, county federal-aid secondary system and local county or city streets. The number consists of a seven-digit route code, two blank spaces and the beginning milepoint. The Idaho Transportation Department Bridge Asset Management section will assign the structure name. Under no circumstances is this structure number to change without prior approval from the Idaho Transportation Department Bridge Asset Management Engineer. File numbers assigned in the past were developed under the following format.

First digit - "X" or "S"

"X" was coded when the bridge carried a local county or city road (non-Federal Aid route) and was beyond the right-of-way limits of the state highway system. If the bridge was within state highway system right-of-way limits, no "X" was coded.

"S" was coded for state highway system bridges with a span 20-feet or less and 10-feet or greater between center to center of bearings or clear span of walls (of stifflegs/frames) measured parallel to roadway centerline.

Second through Seventh Digit - Numerical

The route code from the I.T.D. milepoint Index Manual was entered when the bridges were initially coded into the system. Since that original coding, some route designations have changed causing some structure numbers not to match the current route designations.

(continued)

STRUCTURE NAME (cont'd)

Local bridges on routes which were not included in the I.T.D. milepoint Index Manual were numbered as follows;

2nd & 3rd digits	Code as 99
4th digit	Coded as the I.T.D. District number where structure was located. (However, the District numbers were assigned, so the structure numbers do not necessarily match the current I.T.D. District numbers).
5th & 6th digit	Coded as the original county number indicated under Item 3 reduced to two digits. Note: County numbers were changed under the FHWA 1988 coding guide.
7th digit	Coded as zero "0" for all local bridges.
8th & 9th digits	Left blank in all cases to separate the route and milepost codes.
10th thru 15th digits	The milepost code (measured to the nearest one hundredth of a mile) at the beginning point of the bridge was coded. When a milepost for a local bridge that intersected a state highway route was not available, the milepost of the state highway route was used.

EXAMPLES: ROUTE	CODE
Structure on I 15 at milepost 048.333	01570A 048.33
Structure on FAS 3904 at milepost 003.003	93904A 003.00
Structure on Local County or City street in Elmore county that crosses I 80 at milepost 103.592	993200 103.59
Structure on county road in Elmore county Crossing Race Creek at milepost 010.000	X993200 10.00

SEGMENT CODE FOR THE INVENTORY ROUTE **6 DIGIT FIELD**

This item is to assist in updating Items 29, 30, 80 and 81 by computerized programming from the "MACS" files. ITD randomly assigns the MACS SEGMENT number and it permanently identifies a particular piece of real estate that contains a roadway.

For the route carried, code the MACS SEGMENT number. The information will be obtained from ITD Bridge Asset Management.

A blank field is not permitted. The number is right justified with zero (0) in any unused columns.

EXAMPLES:	Code
Segment No. 001020	001020
Segment No. 001540	001540

In cases where the feature carried by the structure is not a roadway identified with a MACS SEGMENT number, enter the appropriate code from the list below into this field.

Facility Carried	Code
Railroad	550000
Pedestrian overpass	660000
Private overpass	770000
Other Unsegmented Feature	880000

SEGMENT CODE; UNDER **6 DIGIT FIELD**

This item is used to code the MACS SEGMENT number of a roadway passing beneath the structure. Code the six-digit field as shown in the example under Item 201. Leave the field blank if no MACS SEGMENT number has been assigned or if there is no roadway beneath the structure.

When more than one segmented roadway is beneath the structure, this field will be used to code the MACS SEGMENT of the major roadway. Additional roadways will be coded under MACS Segment Other.

Priority of the roadways shall be: 1) Interstate 2) Federal Aid Primary 3) Federal Aid Secondary 4) Local.

LOAD RATING ANALYSIS

This item provides a record of the inventory and operating ratings of the typical trucks. **The ITD Load Rating Engineer determines these ratings.**

RECOMMENDED BRIDGE LOAD POSTING

This item, **coded by the ITD Load Rating Engineer**, is the recommended weight limits for the structure when weight limit signs are required. The field is composed of four segments as described below;

Type 3	_ _ tons
Type 3S2	_ _ tons
Type 3-3	_ _ tons
Max. Single Axle	_ _ . _ tons

ACTUAL BRIDGE LOAD POSTING

Code the values (in tons) of actual field posting for the Type 3, 3S2, and 3-3 trucks. When a maximum axle weight limit is posted, code the value (in tons).

If only a maximum gross weight limit is posted, code the value (in tons) in all 3 truck types and leave the maximum axle blank.

See ITD Traffic Manual Section 12-167 and/or Manual of Uniform Traffic Control Devices (MUTCD) for signing standards.

RECOMMENDED BRIDGE HEIGHT POSTING

Use this field to code the recommended minimum clearance posting. Leave the field blank when there are no height restrictions.
The recommendation should be a height of 3 inches less than the actual minimum vertical clearances to allow for bouncing loads and pavement overlays.

ACTUAL BRIDGE HEIGHT POSTINTG

Use this field to code the actual field height posting.

EXAMPLES:

Recommended Posting Height	Code
15’ 0"	15.00

Actual Posted Height	Code
14’ 9"	14.75

See ITD Traffic Manual Section 12-167.3 and/or Manual of Uniform Traffic Control Devices for signing standards.

ACTUAL BRIDGE WIDTH POSTING

Use these items to code whether or not bridge width posting is in place for the structure.

See ITD Traffic Manual Section 12-167.1 for State system bridges and the Manual of Uniform Traffic Control Devices for Local/Off system bridges for signing standards.

The current standards are as follows: On-System bridges with a width of 18’ but less than 22’, post "Single Lane Trucks & Buses", and a width of less than 18’ post "Single Lane All Vehicles". Off-System bridges with a width of 16’ but less than 18’ post "Single Lane Trucks & Buses", and a width of less than 16’ post "Single Lane All Vehicles". If you feel that width posting is required but not in place put something to that affect under the ‘SIGNS’ notes.

In BrM a check mark in the respective box represents that posting is in place, either for All Vehicles or Trucks/Buses.

WEARING SURFACE DEPTH FOR DEAD LOAD

Use this field to code the wearing surface depth that should be used to compute the dead load for Load analysis. Code the depth of material(s) on the structure (in inches to the nearest tenth of an inch) in the appropriate segment(s).

LOAD ANALYSIS STATUS

Code a one-digit field to indicate if the structure needs to be analyzed. Some examples of structures that should be re-analyzed are those with significant addition or reduction of the wearing surface dead load, those which have section loss on load carrying members, or those with reduction in member strength.

A - Reanalysis required (due to change in condition)
B - Analysis Coding required (initial analysis)
N - Analysis Not required (Analysis is completed, no reanalysis required)
U - Analysis Coding cannot be completed for this type of structure(steel culvert, etc.) or ratings have been “Assigned” by the Load Rating Engineer

Buried structures(structure with over 1 ft of fill): Set the Load Analysis Status to A(reanalysis required) if the structure has deterioration that could affect the load rating. Do not set the Load Analysis to A if there is a change in fill height.
Non-buried Structures: Set the Load Analysis Status to A(reanalysis required) if the structure has deterioration that could affect the load rating or if the wearing surface depth has changed 2” or more from the depth used in the current load rating. If the depth of the wearing surface used in the current load rating is not known contact the load rating engineer.
Anytime the Load Analysis Status is set to A the ‘NOTES’ section should reflect the reason.

ADMINISTRATIVE JURISDICTION **4 DIGIT FIELD**

A unique four-digit numeric code has been developed to identify the governmental agency having maintenance responsibility of the bridge being inventoried. Provide a four-digit numeric code (with leading zeros) from the following pages indicating the responsible agency.

Coding for Units of Government in Idaho

Code		Code	
0001	I.T.D. DIST 1	0002	I.T.D. DIST 2
0003	I.T.D. DIST 3	0004	I.T.D. DIST 4
0005	I.T.D. DIST 5	0006	I.T.D. DIST 6
0007	STATE PARKS	0008	OTHER STATE AGENCIES
0010	MUNICIPAL	0015	FT.HALL INDIAN
0016	COEUR D' ALENE INDIAN	0017	W. SHOSHONE INDIAN
0020	U.S. NAT'L FOREST	0021	NATIONAL MONUMENT
0022	NAT'L PARK SERVICE	0026	BUREAU RECLAMATION
0028	U.S. SHEEP EXP. STA.	0030	FED BUREAU LAND MGMT
0032	MILITARY RESERVATION	0034	CORPS OF ENGINEERS
0036	E.R.D.A.	0037	PRIVATELY OWNED
0038	IDAHO POWER COMPANY	0039	UTAH POWER & LIGHT
0040	IDAHO STATE PARKS	0041	ID BUREAU LAND MGMT
0042	IDAHO FISH & GAME	0050	OREGON D.O.T.
0051	WASHINGTON D.O.T.	0099	Unknown

COUNTY		**HIGHWAY DISTRICT**		**INCORPORATED CITY**	
Code		Code		Code	
0100	ADA	0101	ADA COUNTY HD	0120	BOISE
				0121	EAGLE
				0122	GARDEN CITY
				0123	KUNA
				0124	MERIDIAN
0300	ADAMS			0320	COUNCIL
				0321	NEW MEADOWS
0500	BANNOCK	0501	DOWNEY-SWAN LAKE	0520	ARIMO
				0521	CHUBBUCK
				0522	DOWNEY
				0523	INKOM
				0524	LAVA HOT SPRINGS
				0525	MCCAMMON
				0526	POCATELLO
0700	BEAR LAKE			0720	BLOOMINGTON
				0721	GEORGETOWN
				0722	MONTPELIER
				0723	PARIS
				0724	ST. CHARLES

COUNTY		HIGHWAY DISTRICT		INCORPORATED CITY	
Code		Code		Code	
0900	BENEWAH	901	PLUMMER-GATEWAY HD	0920	CHATCOLET
				0921	PLUMMER
				0922	ST. MARIES
				0923	TENSED
1100	BINGHAM			1120	ABERDEEN
				1121	ATOMIC CITY
				1122	BASALT
				1123	BLACKFOOT
				1124	FIRTH
				1125	SHELLEY
1300	BLAINE			1320	BELLEVUE
				1321	HAILEY
				1322	KETCHUM
				1323	SUN VALLEY
				1324	CAREY
1500	BOISE			1520	CROUCH
				1521	HORSESHOE BEND
				1522	IDAHO CITY
				1523	PLACERVILLE
1700	BONNER	1701	SANDPOINT IND. HD	1720	CLARK FORK
				1721	EAST HOPE
				1722	HOPE
				1723	KOOTENAI
				1724	OLDTOWN
				1725	PONDERAY
				1726	PRIEST RIVER
				1727	SANDPOINT
1900	BONNEVILLE			1920	AMMON
				1921	IDAHO FALLS
				1922	IONA
				1923	IRWIN
				1924	SWAN VALLEY
				1925	UCON
2100	BOUNDARY			2120	BONNERS FERRY
				2121	MOYIE SPRINGS
2300	BUTTE			2320	ARCO
				2321	BUTTE CITY
				2322	MOORE
2500	CAMAS			2520	FAIRFIELD

Code	COUNTY	Code	HIGHWAY DISTRICT	Code	INCORPORATED CITY
2700	CANYON	2701	GOLDEN GATE HD	2720	CALDWELL
		2702	NAMPA HD #1	2721	GREENLEAF
		2703	NOTUS-PARMA HD	2722	MELBA
		2704	CANYON HD #4	2723	MIDDLETON
				2724	NAMPA
				2725	NOTUS
				2726	PARMA
				2727	WILDER
2900	CARIBOU			2920	BANCROFT
				2921	GRACE
				2922	SODA SPRINGS
3100	CASSIA	3101	ALBION HD	3120	ALBION
		3102	BURLEY HD	3121	BURLEY
		3103	OAKLEY HD	3122	DECLO
		3104	RAFT RIVER HD	3123	MALTA
		8304	TWIN FALL HD (PART)	3124	OAKLEY
3300	CLARK			3320	DUBOIS
				3321	SPENCER
3500	CLEARWATER	3501	CLEARWATER HD	3520	ELK RIVER
				3521	OROFINO
				3522	PIERCE
				3523	WEIPPE
3700	CUSTER	3701	LOST RIVER HD	3720	CHALLIS
				3721	CLAYTON
				3722	LOST RIVER
				3723	MACKAY
				3724	STANLEY
3900	ELMORE	3901	GLENNS FERRY HD	3920	GLENNS FERRY
		3902	MOUNTAIN HOME HD	3921	MOUNTAIN HOME
		3903	ATLANTA HD		
4100	FRANKLIN	0501	DOWNEY-SWAN LAKE HD (PART 1)	4120	CLIFTON
				4121	DAYTON
				4122	FRANKLIN
				4123	OXFORD
				4124	PRESTON
				4125	WESTON
4300	FREMONT			4320	ASHTON
				4321	DRUMMOND
				4322	ISLAND PARK
				4323	NEWDALE
				4324	PARKER
				4325	ST. ANTHONY
				4326	TETON

COUNTY		HIGHWAY DISTRICT		INCORPORATED CITY	
Code		Code		Code	
				4327	WARM RIVER
4500	GEM			4520	EMMETT
				4521	PEARL
4700	GOODING	4701	BLISS HD #2	4720	BLISS
		4702	GOODING HD #1	4721	GOODING
		4703	HAGERMAN HD	4722	HAGERMAN
		4704	WENDELL HD	4723	WENDELL
		4705	WESTPOINT		
4900	IDAHO	4901	COTTONWOOD HD	4920	COTTONWOOD
		4902	DEER CREEK HD	4921	FERDINAND
		4903	DOUMECQ HD	4922	GRANGEVILLE
		4904	FENN HD	4923	KOOSKIA
		4905	FERDINAND HD	4924	RIGGINS
		4906	GOOD ROADS HD #2	4925	STITES
		4907	GRANGEVILLE HD	4926	WHITE BIRD
		4908	GREEN CREEK HD		
		4909	KEUTERVILLE HD		
		4910	KIDDER-HARRIS HD		
		4911	UNION INDEPENDENT HD		
		4912	WHITE BIRD HD		
		4913	WINONA HD		
5100	JEFFERSON			5120	HAMER
				5121	HEISE
				5122	LEWISVILLE
				5123	MENAN
				5124	MUD LAKE
				5125	RIGBY
				5126	RIRIE
				5127	ROBERTS
5300	JEROME	5301	HILLSDALE HD	5320	EDEN
		5302	JEROME HD	5321	HAZELTON
				5322	JEROME
5500	KOOTENAI	5501	EAST SIDE HD	5520	ATHOL
		5502	LAKES HD	5521	COEUR D'ALENE
		5503	POST FALLS HD	5522	DALTON GARDENS
		5504	WORLEY HD	5523	FERNAN LAKE
				5524	HARRISON
				5525	HAUSER LAKE
				5526	HAYDEN
				5527	HAYDEN LAKE
				5528	HUETTER
				5529	POST FALLS
				5530	RATHDRUM
				5531	SPIRIT LAKE
				5532	STATE LINE
				5533	WORLEY

COUNTY		HIGHWAY DISTRICT		INCORPORATED CITY	
Code		Code		Code	
5700	LATAH	5701	NORTH LATAH HD	5720	BOVILL
		5702	SOUTH LATAH HD	5721	DEARY
				5722	GENESEE
				5723	JULIAETTA
				5724	KENDRICK
				5725	MOSCOW
				5726	ONAWAY
				5727	POTLATCH
				5728	TROY
5900	LEMHI			5920	LEADORE
				5921	PATTERSON
				5922	SALMON
6100	LEWIS	6101	CENTRAL HD	6120	CRAIGMONT
		6102	EVERGREEN	6121	KAMIAH
		6103	KAMIAH HD	6122	NEZ PERCE
		6104	NORTH HD	6123	REUBENS
		6105	PRAIRIE HD	6124	WINCHESTER
		6106	REUBENS HD		
6300	LINCOLN	6301	DIETRICH HD	6320	DIETRICH
		6302	KIMAMA HD	6321	RICHFIELD
		6303	RICHFIELD HD	6322	SHOSHONE
		6304	SHOSHONE HD		
6500	MADISON			6520	REXBURG
				6521	SUGAR CITY
6700	MINIDOKA	6701	MINIDOKA CNTY HD	6720	ACEQUIA
				6721	HEYBURN
				6722	MINIDOKA
				6723	PAUL
				6724	RUPERT
6900	NEZ PERCE	5702	SOUTH LATAH HD(PART)	6920	CULDESAC
				6921	LAPWAI
				6922	LEWISTON
				6923	PECK
7100	ONEIDA			7120	MALAD
7300	OWYHEE	7301	GEM HD	7320	GRAND VIEW
		7302	HOMEDALE HD	7321	HOMEDALE
		7303	THREE CREEK HD	7322	MARSING
7500	PAYETTE	7501	HWY DIST #1	7520	FRUITLAND
				7521	NEW PLYMOUTH
				7522	PAYETTE

COUNTY		HIGHWAY DISTRICT		INCORPORATED CITY	
Code		Code		Code	
7700	POWER	7701	POWER CNTY HD	7720	AMERICAN FALLS
				7721	ROCKLAND
7900	SHOSHONE	7901	CLARKIA BETTER RD HD	7920	KELLOGG
				7921	MULLAN
				7922	OSBURN
				7923	PINEHURST
				7924	SMELTERVILLE
				7925	WALLACE
				7926	WARDNER
8100	TETON			8120	DRIGGS
				8121	TETONIA
				8122	VICTOR
8300	TWIN FALLS	8301	BUHL HD	8320	BUHL
		8302	FILER HD	8321	CASTLEFORD
		8303	MURTAUGH	8322	FILER
		8304	TWIN FALLS HD	8323	HANSEN
				8324	HOLLISTER
				8325	KIMBERLY
				8326	MURTAUGH
				8327	TWIN FALLS
8500	VALLEY			8520	CASCADE
				8521	DONNELLY
				8522	MCCALL
8700	WASHINGTON	8701	WEISER VALLEY HD	8720	CAMBRIDGE
				8721	MIDVALE
				8722	WEISER

RAILROADS

9900	BURLINGTON NORTHERN RAILROAD
9991	CAMAS PRAIRIE RAILNET
9992	UNION PACIFIC RAILROAD
9993	EASTERN IDAHO RAILROAD
9994	IDAHO NORTHERN PACIFIC RAILROAD
9995	PALOUSE RIVER COULEE CITY RAILROAD
9996	ST. MARIES RIVER RAILROAD
9997	PEND OREILLE VALLEY RAILROAD
9998	MONTANA RAILLINK

BRIDGE DRAWING NUMBER **6 DIGIT FIELD**

Code a six-digit field (right justified) using the smallest drawing number. If drawing numbers are not available, leave field blank. **Do not code preceding zeros.**

EXAMPLES:	Code
Drawing No. 14868	14868
Drawing No. 10	10
Drawing No. R 623A	R-623A

PROJECT KEY NUMBER **5 DIGIT FIELD**

Code a five-digit number (right justified) to indicate the project key number. If there are two or more key numbers due to reconstruction by widening, use smallest key number. If key number is not available leave blank.

EQUIPMENT REQUIRED **1 DIGIT FIELD**

Code a one-digit field to indicate equipment required to inspect the bridge

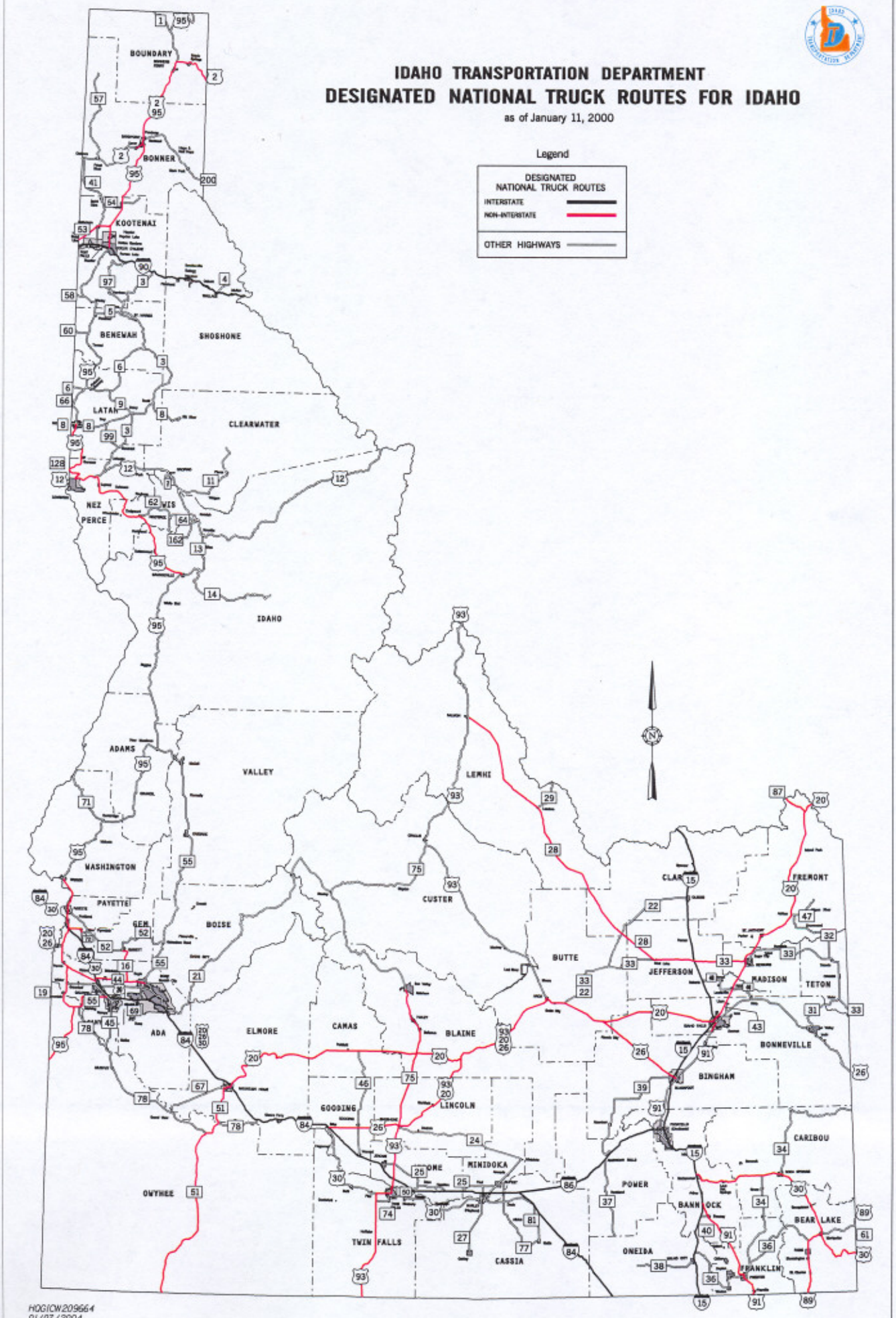
- A - SPECIAL EQUIPMENT (i.e. ladder, canary, dye penetrant, lift truck, crash truck, etc.)
- B - BOAT
- C - A & B
- N - NONE
- X - EXTRA PERSON REQUESTED TO PERFORM INSPECTION

INSPECTION AREA **4 DIGIT FIELD**

Code a four-digit field to indicate the inspection area. State inspectors code District number with 3 preceding zeros. Consultants code area number as assigned on your contract.

IDAHO TRANSPORTATION DEPARTMENT
DESIGNATED NATIONAL TRUCK ROUTES FOR IDAHO

as of January 11, 2000



HQGICW209664
01/07/2004

Designated Routes up to 129,000 Pounds

Idaho State Highway System

June 2013

Legend

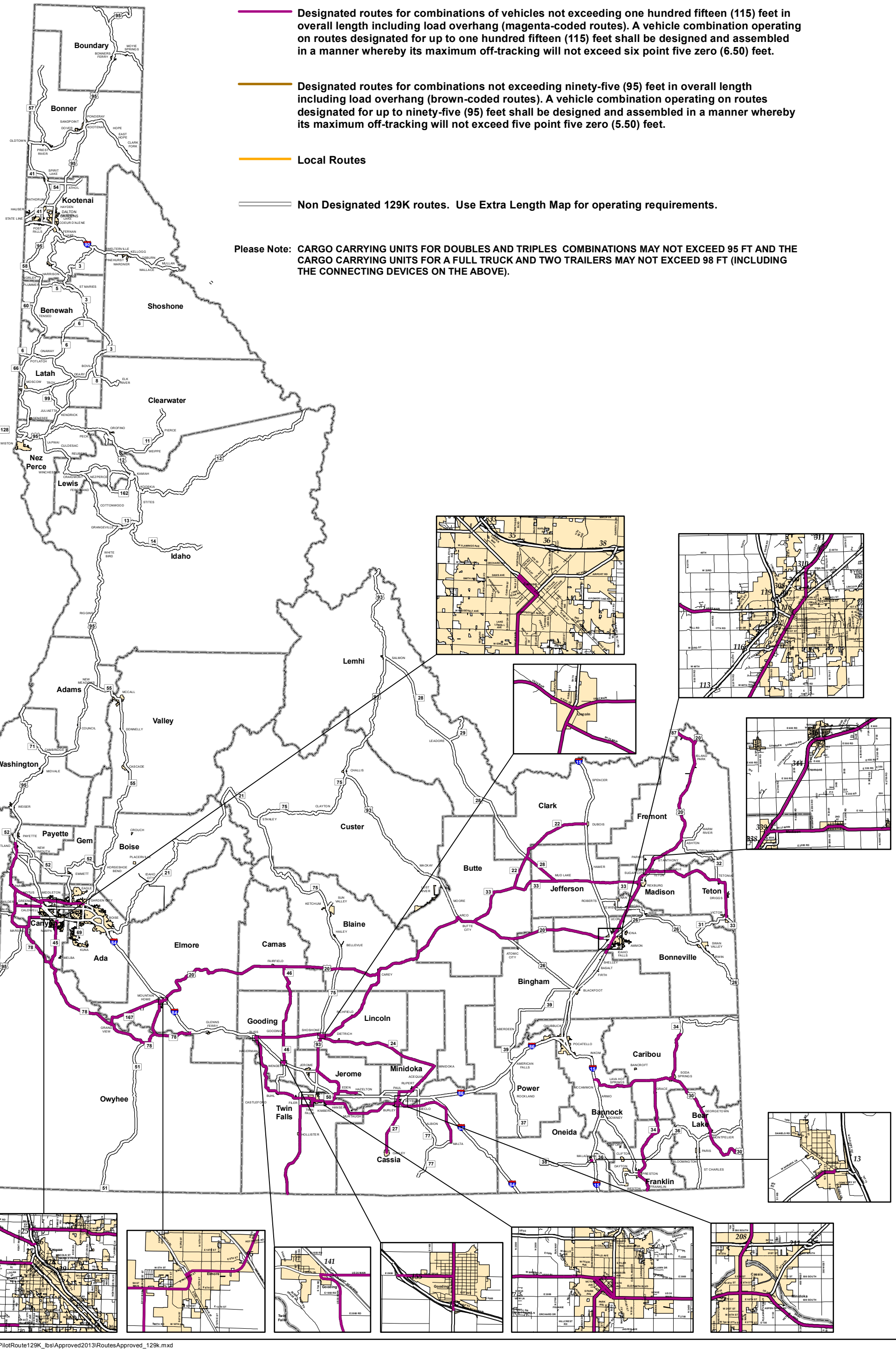
Designated routes for combinations of vehicles not exceeding one hundred fifteen (115) feet in overall length including load overhang (magenta-coded routes). A vehicle combination operating on routes designated for up to one hundred fifteen (115) feet shall be designed and assembled in a manner whereby its maximum off-tracking will not exceed six point five zero (6.50) feet.

Designated routes for combinations not exceeding ninety-five (95) feet in overall length including load overhang (brown-coded routes). A vehicle combination operating on routes designated for up to ninety-five (95) feet shall be designed and assembled in a manner whereby its maximum off-tracking will not exceed five point five zero (5.50) feet.

Local Routes

Non Designated 129K routes. Use Extra Length Map for operating requirements.

Please Note: CARGO CARRYING UNITS FOR DOUBLES AND TRIPLES COMBINATIONS MAY NOT EXCEED 95 FT AND THE CARGO CARRYING UNITS FOR A FULL TRUCK AND TWO TRAILERS MAY NOT EXCEED 98 FT (INCLUDING THE CONNECTING DEVICES ON THE ABOVE).



Path: Z:\Permits\PilotRoute129K_lbs\Approved2013\RoutesApproved_129k.mxd
Date: 6/19/2013