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GOVERNOR

STATE OF LOUISIANA  
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

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SHERRI H. LEBAS, P.E.  
SECRETARY

MEMORANDUM

TO: ALL CONSULTANTS  
ALL BRIDGE DESIGNERS

FROM: HOSSEIN GHARA, P.E.   
BRIDGE DESIGN ADMINISTRATOR

SUBJECT: BRIDGE DESIGN TECHNICAL MEMORANDUM NO. 36 (BDTM.36)  
STRUCTURE NUMBER REQUEST

DATE: AUGUST 24, 2012

Effective immediately, the attached "New / Replacement Structure Number Request Form" shall be completed and submitted to the Bridge Inspection Engineer in the LA DOTD Bridge Maintenance Section for all applicable structures at or prior to 60% Final Plans. The form shall be completed in accordance with the attached instructions.

After processing the form, the LA DOTD Bridge Maintenance Section will provide the requestor with the Bridge Recall Number. This number shall be provided by the design engineer in both the rating report and the rating table in the plans. Note that for new construction, the Bridge Structure Number need not be provided in the rating report or in the plans.

This technical memorandum will be posted on the Bridge Design Website: [http://wwwsp.dotd.la.gov/Inside\\_LaDOTD/Divisions/Engineering/Bridge\\_Design/Pages/Technical-Memoranda.aspx](http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/Bridge_Design/Pages/Technical-Memoranda.aspx)

Please contact Ms. Zhengzheng "Jenny" Fu (225-379-1321, [zhengzheng.fu@la.gov](mailto:zhengzheng.fu@la.gov)) if you have questions or comments.

HG/zzf/pv

Cc: Richard Savoie (Chief Engineer)  
Janice Williams (Chief, Project Development Division)  
David Miller (Bridge Maintenance Administrator)  
Art Aguirre (FHWA)

# New \ Replacement Structure Number Request Form

Rev. 2/1/2011

State of Louisiana - Department of Transportation and Development

Req'd By: \_\_\_\_\_

Date: \_\_\_\_\_

Existing Structure Number					
On-System					
Dist	Par	Control Sect	Logmile	ID	
Off-System					
P/U	Par	Latitude (DDMM.M)	Longitude (DDMM.M)	ID	

New Structure Number					
On-System					
Dist	Par	Control Sect	Logmile	ID	
Off-System					
P/U	Par	Latitude (DDMM.M)	Longitude (DDMM.M)	ID	

Recall Number					

To be completed by  
Bridge Maintenance

FHWA Structure Number (SI&A Item 8)									
All Systems									
Dist	Par	Place Holders				Recall Number			
		0	0	0	0	0	0		

Latitude						
D	D	M	M	M	M	M

Longitude						
D	D	M	M	M	M	M

Federal Aid Project Number											

Construction Project Number						
without phase indicator						
H	.					

Structure Type					
Code	Name				

Design			
Trk			ADT

Fracture Critical*							
Y/N	P/H	2G	2T	SS	XG	SBC	

Where:

- P/H = Pin & Hanger details exist
- 2G = 2 Girder system exists
- 2T = 2 Truss System exists
- SS = Steel Suspended Span exists
- XG = Steel Cross Girder / Floorbeam System exists
- SBC = Steel Bent / Pier Cap exists

\* Indicate which of these if any exist using a "Y" if it exists and is Fracture Critical, or "N" if it exist but is not Fracture Critical. If the detail does not exist, leave blank.

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## New Structure Number Request – Design

Please use the following instructions to complete the new structure number request form for bridges under design or construction that are not completed to a sufficient point to perform a complete National Bridge Inventory inspection in accordance with FHWA's Structures Inventory and Appraisal Guide

- Record both the name of person requesting the new structure number and the date of the request.
- Record the existing structure number only when the project is a replacement project for the existing bridge.
- Record the proper (DOTD) Structure Number of the new bridge by properly identifying its location on the state maintained highway system or location in the parish (for off-system), replacing the next to last digit of the Structure Number with an "R" for Replacement structure, or "N" for New structure (such as when a 4 lane widening project is adding a new bridge next to an existing bridge). The last digit shall be the Bridge ID and should be coded to the proper Bridge ID code for the final (post construction) site conditions as defined by the LA DOTD Recording & Coding Guide 2011 (excerpt attached).
- The Recall Number and FHWA Structure Number will be assigned and completed by the Bridge Maintenance Section.
- Record the Latitude and Longitude (in Degrees, Minutes, and 1000ths of minutes) as taken from the beginning of the bridge in the direction of control.
- Record the Federal Aid Project Number if the job is Federally Funded.
- Record the State Project Number (H.?????) without the phase indicator.
- Record the Structure Type Code and Name as defined in LA DOTD Recording & Coding Guide 2011 (excerpt attached).
- Record the Design Truck (e.g. "20" = HS-20, "93" = HL-93, etc.) as provided in the LA DOTD Recording & Coding Guide 2011.
- Record the Design ADT in Thousands (e.g. ADT = 50,000 – Code "050").
- Record any Fracture Critical Detail(s) that exist in the structure design indicating whether their existence makes the bridge fracture critical or not.
- Record any special comments or concerns with proper completion of the form as needed in the Comments section.

## Appendix – excerpts from 2011 R&C guide

**Structure Number (I-8)** – {14 num char} – A structure will have only one (1) number regardless of the number of routes or lanes crossing on, over, or under this structure. The number will always be determined from the trunk line or predominant route carried on the structure. The only exception is a structure built as part of the interstate system to carry a local road over the interstate; this will be given an On-System structure number as defined below.

### On-System Structures

Code a 14 character number that comprised of five parts, defining the location of the structure. Characters 1&2 shall be the District code in which the structure is located; 3&4 shall be the Parish code; 5 – 9 shall be the Control-Section determined to be used; 10 – 13 shall be the log mile to the beginning of the bridge from the beginning of the Control-Section, and character 14 shall be the Bridge ID.

### Off-System Structures

Code a 14 character number that is comprised of five parts, defining the location of the structure. The first character shall be “P” for all structures except those within an urban or urbanized designated area; for structures in an urban area or urbanized area code “U”. Characters 2&3 shall be the Parish code in which the structure is located; 4 - 8 shall be the latitude (in degrees, minutes, and tenths of minutes); 9 - 13 shall be the longitude (in degrees, minutes, and tenths of minutes); and character 14 shall be the Bridge ID.

Urban areas are designated as areas having a population between 5,000 and 50,000. Urbanized areas are designated as areas having a population greater than 50,000. A map showing the extents of each Urban or Urbanized area can be found on the LADOTD Intranet page at <http://www.dotd.louisiana.gov/doclist.asp?ID=17>.

The designation of “P” or “U” shall be established at the time of initial inventory, and shall not change as long as the structure exists. This is considered proper, in so much as the structure number, according to FHWA, should “uniquely” identify a bridge. The designation should be re-evaluated when inventorying a replacement structure.

### District Codes

Use one of the following codes as appropriate.

02	Bridge City
03	Lafayette
04	Bossier City
05	Monroe
07	Lake Charles
08	Alexandria
58	Chase
61	Baton Rouge
62	Hammond

## Parish Codes

Use one of the following codes as appropriate.

01	Acadia	33	Madison
02	Allen	34	Morehouse
03	Ascension	35	Natchitoches
04	Assumption	36	Orleans
05	Avoyelles	37	Ouachita
06	Beauregard	38	Plaquemines
07	Bienville	39	Pointe Coupee
08	Bossier	40	Rapides
09	Caddo	41	Red River
10	Calcasieu	42	Richland
11	Caldwell	43	Sabine
12	Cameron	44	St. Bernard
13	Catahoula	45	St. Charles
14	Claiborne	46	St. Helena
15	Concordia	47	St. James
16	De Soto	48	St. John the Baptist
17	East Baton Rouge	49	St. Landry
18	East Carroll	50	St. Martin
19	East Feliciana	51	St. Mary
20	Evangeline	52	St. Tammany
21	Franklin	53	Tangipahoa
22	Grant	54	Tensas
23	Iberia	55	Terrebonne
24	Iberville	56	Union
25	Jackson	57	Vermillion
26	Jefferson	58	Vernon
27	Jefferson Davis	59	Washington
28	Lafayette	60	Webster
29	Lafourche	61	West Baton Rouge
30	La Salle	62	West Carroll
31	Lincoln	63	West Feliciana
32	Livingston	64	Winn

## Bridge ID

Record the digit which appropriately describes the roadway type and location in the direction of control.

- 1 Single Main Roadway or Right Main Roadway
- 2 Left Main Roadway
- 3 Right Frontage Road
- 4 Left Frontage Road
- 5 On-Ramp to Right Roadway
- 6 On-Ramp to Left Roadway
- 7 Off-Ramp from Right Roadway
- 8 Off-Ramp from Left Roadway
- 9 Emergency Cross-Over

Note: Some State Parks have been assigned a Control Section number that begins with "800-XX". In these cases structures shall be placed into the On-System inventory, but the owner and maintenance responsibility will be assigned to the State Park service. Also, there is no route direction for these control sections and many may have multiple roads that all fall under the same control section number, your best judgment is to be used to assign the Logmile for these structures. In general the distance from the main entrance should be used. The name of the park road should also be captured in the Crossing Description or Location fields.

**Structure Type Code (I-43) –{3 num char}** – 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.

<u>Segment</u>	<u>Description</u>	<u>Length</u>
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:

<u>Code</u>	<u>Description</u>
1	Concrete
2	Concrete continuous
3	Steel
4	Steel continuous
5	Prestressed concrete *
6	Prestressed concrete continuous *
7	Wood or 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:

<u>Code</u>	<u>Description</u>
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 (except frame culverts)
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 (includes frame culverts)
20 *	Mixed types
21	Segmental Box Girder
22	Channel Beam
00	Other

\* Applicable only to approach spans - Item 44

<u>EXAMPLES:</u>	<u>Code</u>
Wood or Timber Through Truss	710
Masonry Culvert	819
Steel Suspension	313
Continuous Concrete Multiple Box Girders	205
Simple Span Concrete Slab	101
Tunnel in Rock	018

**Structure Type Name** – {6 alpha char} – Code a six alpha character designation for the structure type represented by the predominant or main span description. Use the structure description table provided in Appendix A. A revised copy will be forwarded to each District when changes have been made or upon request to the Headquarters Bridge Maintenance Section. \*Note: it is important to note that the structure type name and the structure type code are not unique to each other. Unlike the old structure type codes, each structure type name may have a variety of possible structure type codes, and it is also possible to use the same structure type code for multiple structure type names.

## Structure Type

Code	Name	Description
<u>Timber Spans</u>		
702	TTTRES	Treated Timber Trestles
702	TTTCOF	Treated Timber Trestle (w/ Concrete Deck)
702	UTTRES	Untreated Timber Trestles
702	TTMUDS	Treated Timber Mud Sill
702	UTMUDS	Untreated Timber Mud Sill
701	TTTLAM	Treated Timber Trestle (Glued / Laminated Deck)
<u>Steel I-Beam Spans</u>		
302	CIBTTF	Timber Trestle w/ I-Beam Stringers (w/ Timber Deck)
302	CIBTCF	Timber Trestle w/ I-Beam Stringers (w/ Concrete Deck)
302	CIBTTM	Timber Trestle w/ I-Beam Stringers (Removable Span)
302	IBMWEL	Welded I-Beam (w/ Steel Bents and Floor)
<u>Concrete Spans</u>		
104	CODEKG	Concrete Deck Girder
201	CCOVSL	Concrete Voids Slab - Continuous
101	COSLAB	Concrete Slab
101	COVSLB	Concrete Voids Slab
302	CONIBM	Concrete Deck & Bents w/ Steel I-Beam (Rolled)
302	CORIBM	Concrete Deck & Bents w/ Steel I-Beam w/ Removable Span
111	CONRCH	Concrete Arch
502	COPSGR	Concrete Prestressed Girders (AASHTO Type)
502	COBTGR	Concrete Prestressed Bulb Tee Girders (BT Type)
602	CPGCCD	Concrete Prestressed Girders w/ Continuity Diaphragms & Continuous Cast-in-Place Deck
602	CBTGCD	Concrete Prestressed Bulb Tee Girders w/ Continuous Cast-in-Place Deck
602	CPQCCD	Concrete Prestressed Quad-beam girder w/ Continuous Cast-in-Place Deck
505	CPSQBG	Concrete Prestressed Quad-beam Girder
101	COPCSS	Concrete Precast Slab Units
201	CNTSLB	Concrete Flat Slab - Continuous
522	COPSCH	Concrete Prestressed Channel Units (Welded)
122	CORECH	Concrete Precast Reinforced Channel Units (Bolted)
122	COPVCD	Concrete Precast Voids Units w/ Cast-in-Place Concrete Deck
302	COMWEL	Concrete Deck w/ Composite Welded I-Beams
402	CNTWEL	Concrete Deck w/ Composite Welded I-Beams - Continuous
105	COBXGR	Concrete Box Girder
106	SCOBXG	Concrete Box Girder (Single or Spread)

121	COBSEG	Concrete Box Girder - Segmental
502	PCPSSP	Concrete Prestressed Girders w/ Precast Monolithic Deck
204	CNTCDG	Concrete Deck Girder - Continuous

#### Fixed Truss Spans

310	STHITR	Steel High Truss (Simple Through Truss)
310	STLOTR	Steel Low Truss (Pony Truss)
309	STDKTR	Steel Deck Truss
710	WOODTR	Wood Truss (All Types)
310	STCANT	Steel High Truss (Cantilevered Through Truss)

#### Fixed Girder Spans

303	STPLGR	Steel Plate Girder
403	STCPLG	Steel Plate Girder - Continuous
302	STCUGR	Steel Curved Plate Girder
305	STBXGR	Steel Box Girder
306	SSTBXG	Steel Box Girder (Single or Spread)
305	STCUBX	Steel Curved Box Girder
402	CNTIBM	Steel I-Beam (Rolled) - Continuous
402	SUSIBM	Steel I-Beam (Rolled) - Suspended
403	SUSPLG	Steel Plate Girder - Suspended
414	STCAGR	Steel Box Girder - Cable Stayed

#### Movable Spans

317	HISWNG	Steel High Truss Swing Span
317	LOSWNG	Steel Low Truss Swing Span
317	PGSWNG	Steel Plate Girder Swing Span
717	WDSWNG	Wood Truss Swing Span
315	STVERT	Steel Vertical Lift Span
316	TRBASC	Steel Truss Bascule Span
316	PGBASC	Steel Plate Girder Bascule Span
317	IBSWNG	Steel I-Beam Swing Span
317	PONTON	Pontoon Bridge

#### Miscellaneous Structures

319	RRBXCR	Railroad Box Car
302	RRFLCR	Railroad Flat Car
319	RRTKCR	Railroad Tank Car
***	BAILEY	Bailey, ACRO, or other "Portable Army Type" Bridging
***	PEDXNG	Pedestrian Walkway
119	CONBOX	Concrete Box Culvert(s) (over 20ft total opening)
119	COPBOX	Precast Concrete Box Culvert(s) (over 20ft total opening)
319	METRCH	Metal Arch or Pipe Culvert(s) (over 20ft total opening)

19	PLARCH	Plastic Pipe Culvert(s) (over 20ft total opening)
***	FERRYF	Ferry - Free
***	FERYT	Ferry - Toll
118	TUNNEL	Tunnel or Subway
119	CONPIP	Concrete Pipe Culvert(s) (over 20ft total opening)
***	OTHERS	* Combination of Type of Construction and/or Material IN SAME SPAN, such as a CODEKG "widened" using Timber Pile and Precast Span Units.

\* This code will only be used in special situations, and only as directed by the Structures & Facilities Maintenance Engineer.

\*\*\* Select appropriate code based on actual construction and the 2007 Coding Guide, or as directed by the Structures & Facilities Maintenance Engineer.