

Churchill Engineering, Inc.

Structures Inspection Field Report

District 05	B.I.N.
-----------------------	--------

BR. DEPT. NO. P-13-011

ROUTINE INSPECTION

City / Town Plymouth	8.- Structure No. P13011-9KM-MUN-BRI	11-Kilo. POINT	A:OPEN	90- Routine Insp. Date Feb 19, 2010	
07- Facility Carried HWY - Brook Road		Memorial Name/ Local Name	YR Built	YR Rebuilt	
06- Features Intersected		26- Functional Class Urban Local	Dist. Bridge Inspection Engineer		
43- Structure Type Water - Beaver Dam Brook		22-Owner Town	21-Maintainer Town	Team Leader G. Gabrielli, PE	Project Manager R.M.Churchill, PE
107- Deck Type Concrete		Weather Clear	Temp. (AIR) 40 F	Inspection Team Members G. Gabrielli, R. Churchill	

ITEM 58	5	DEF
DECK		
1. Wearing surface	5	M-P
2. Deck Condition	5	M-P
3. Stay in place forms	N	
4. Curbs	N	
5. Median	N	
6. Sidewalks	N	
7. Parapets	N	
8. Railing	N	
9. Anti Missile Fence	N	
10. Drainage System	N	
11. Lighting Standards	N	
12. Utilities	6	S-A
13. Deck Joints	N	
14.		
15.		
16.		
CURB REVEAL	N 0	S 0

ITEM 59	6	DEF
SUPERSTRUCTURE		
1. Stringers	N	
2. Floorbeams	N	
3. Floor System Bracing	N	
4. Girders or Beams	6	M-P
5. Trusses - General	N	
a. Upper Chords	N	
b. Lower Chords	N	
c. Web Members	N	
d. Lateral Bracing	N	
e. Sway Bracings	N	
f. Portals	N	
g. End Posts	N	
6. Pin & Hangers	N	
7. Conn Plt's, Gussets & Angles	N	
8. Cover Plates	N	
9. Bearing Devices	H	
10. Diaphragms/Cross Frames	N	
11. Rivets & Bolts	N	
12. Welds	N	
13. Member Alignment	7	
14. Paint/Coating	N	
15.		
Year Painted		

ITEM 60	4	DEF
SUBSTRUCTURE		
1. Abutments		
Pedestals	N	N
Bridge Seats	N	H
Backwalls	N	H
Breastwalls	N	4
Wingwalls	N	4
Slope Paving/Rip-Rap	N	N
Pointing	N	N
Footings	N	N
Piles	N	N
Scour	N	6
Settlement	N	4
2. Piers or Bents		
Pedestals	N	N
Caps	N	N
Columns	N	N
Stems/Webs/Pierwalls	N	N
Pointing	N	N
Footing	N	N
Piles	N	N
Scour	N	N
Settlement	N	N
3. Pile Bents		
Pile Caps	N	N
Piles	N	N
Diagonal Bracing	N	N
Horizontal Bracing	N	N
Fasteners	N	N

APPROACHES			DEF
a. Appr. pavement condition	4	M-P	
b. Appr. Roadway Settlement	4	M-P	
c. Appr. Sidewalk Settlement			

OVERHEAD SIGNS (Attached to bridge)		(Y/N)	N	DEF
a. Condition of Welds	N			
b. Condition of Bolts	N			
c. Condition of Signs	N			

COLLISION DAMAGE: Please explain
None () Minor () Moderate () Severe ()

LOAD DEFLECTION: Please explain
None () Minor () Moderate () Severe ()

LOAD VIBRATION: Please explain
None () Minor () Moderate () Severe ()

Any Fracture Critical Member? (Y/N) N

Any Cracks: (Y/N)

UNDERMINING (Y/N) If YES please explain N

COLLISION DAMAGE:
None () Minor () Moderate () Severe ()

SCOUR: Please explain
None () Minor () Moderate () Severe ()

CITY/TOWN Plymouth	B.I.N.	BR. DEPT. NO. P-13-011	8.-STRUCTURE NO. P13011-9KM-MUN-BRI	INSPECTION DATE Feb 19, 2010
------------------------------	--------	----------------------------------	---	--

ITEM 61 **6**

CHANNEL & CHANNEL PROTECTION

	Dive	Cur	DEF
Channel Scour	N	6	M-P
2. Embankment Erosion	N	6	M-P
3. Debris	N	6	M-P
4. Vegetation	N	5	M-P
5. Utilities	N	N	
6. Rip-Rap/Slope Protection	N	6	M-P
7. Aggradation	N	6	M-P
8. Fender System	N	N	

STREAM FLOW VELOCITY:
Tidal () High () Moderate (X) Low () None ()

ITEM 61 (Dive Report): **N** ITEM 61 (This Report) **6**

93b-U/W INSP. DATE: _____

ITEM 36 TRAFFIC SAFETY

	36	COND	DEF
A. Bridge Railing	0	4	S-P
B. Transitions	0	N	
C. Approach Guardrail	0	4	S-P
D. Approach Guardrail Ends	0	4	S-P

WEIGHT POSTING *Not Applicable*

	H	3	3S2	Single
Actual Posting	3	5	8	N
Recommended Posting	N	N	N	N

Waived Date: 00/00/00 EJDMT Date: 00/00/00

Signs In Place (Y=Yes, N=No, NR=Not Required)
Legibility/Visibility

At bridge		Other Advance	
E	W	E	W
Y	Y	Y	Y
Y	Y	Y	Y

CLEARANCE POSTING

Not Applicable

N		S		meter
ft	in	ft	in	

Actual Field Measurement
Posted Clearance

Signs In Place (Y=Yes, N=No, NR=Not Required)
Legibility/Visibility

At bridge		Advance	
N	S	N	S

ACCESSIBILITY (Y/N/P)

	Needed	Used
Lift Bucket	N	N
Ladder	N	N
Boat	N	N
Waders	Y	Y
Inspector 50	N	N
Rigging	N	N
Staging	N	N
Traffic Control	N	N
RR Flagger	N	N
Police	N	N
Other:		

TOTAL HOURS **6**

PLANS (Y/N): **N**

(V.C.R.) (Y/N): _____

TAPE#: _____

List of field tests performed:

RATING

Rating Report (Y/N) **N**

Date: _____

Inspection data at time of existing rating
I 58: I 59: - I 60: -

(To be filled out by DBIE)

Request for Rating or Rerating (Y/N): _____

If YES please give priority:
HIGH () MEDIUM () LOW ()

REASON: _____

CONDITION RATING GUIDE (For Items 58, 59, 60 and 61)

CODE	CONDITION	DEFECTS
N	NOT APPLICABLE	
G 9	EXCELLENT	Excellent condition.
G 8	VERY GOOD	No problem noted.
G 7	GOOD	Some minor problems.
F 6	SATISFACTORY	Structural elements show some minor deterioration.
F 5	FAIR	All primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
P 4	POOR	Advance section loss, deterioration, spalling or scour.
P 3	SERIOUS	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.
C 2	CRITICAL	Advance 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.
C 1	"IMMINENT" FAILURE	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 it back in light service.
0	FAILED	Out of service - beyond corrective action.

DEFICIENCY REPORTING GUIDE

DEFICIENCY: A defect in a structure that requires corrective action.

CATEGORIES OF DEFICIENCIES:

M= Minor Deficiency- Deficiencies which are minor in nature, generally do not impact the structural integrity of the bridge and could easily be repaired. Examples include but are not limited to: Spalled concrete, Minor pot holes, Minor corrosion of steel, Minor scouring, Clogged drainage, etc.

S= Severe/Major Deficiency- Deficiencies which are more extensive in nature and need more planning and effort to repair. Examples include but are not limited to: Moderate to major deterioration in concrete, Exposed and corroded rebars, Considerable settlement, Considerable scouring or undermining, Moderate to extensive corrosion to structural steel with measurable loss of section, etc.

C-S= Critical Structural Deficiency - A deficiency in a structural element of a bridge that poses an extreme unsafe condition due to the failure or imminent failure of the element which will affect the structural integrity of the bridge.

C-H= Critical Hazard Deficiency - A deficiency in a component or element of a bridge that poses an extreme hazard or unsafe condition to the public, but does not impair the structural integrity of the bridge. Examples include but are not limited to: Loose concrete hanging down over traffic or pedestrians, A hole in a sidewalk that may cause injuries to pedestrians, Missing section of bridge railing, etc.

URGENCY OF REPAIR:

I = Immediate- [Inspector(s) immediately contact District Bridge Inspection Engineer (DBIE) to report the Deficiency and to receive further instruction from him/her].

A = ASAP- [Action/Repair should be initiated by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) upon receipt of the Inspection Report].

P = Prioritize- [Shall be prioritized by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

State Information

BDEPT#= P13011 Agency Br.No. (112) NBIS Bridge Length N
Town= Plymouth L.O. (104) Highway System N
B.I.N= 9KM AASHTO= 028.0 (26) Functional Class - Urban Local 19
 FHWA Select List= N (100) Defense Highway 1
 Identification (101) Parallel Structure ?
 (8) Structure Number P130119KMMUNBRI (102) Direction of Traffic - ?
 (5) Inventory Route 151000000 (103) Temporary Structure N
 (2) State Highway Department District 05 (105) Federal Lands Highways 0
 (3) County Code 023 (4) Place code 54310 (110) Designated National Network N
 (6) Features Intersected **WATER BEAVER DAM BROOK**
 (7) Facility Carried **HWY BROOK RD**
 (9) Location (20) Toll -
 (11) Kilometerpoint 0000.000 (21) Maintain - Town Agency 03
 (12) Base Highway Network N (22) Owner - Town Agency 03
 (13) LRS Inventory Route & Subroute 000000000000 (37) Historical Significance undetermined

(16) Latitude 00 DEG 00 MIN 00.00 SEC
 (17) Longitude 00 DEG 00 MIN 00.00 SEC
 (98) Border Bridge State Code Share %
 (99) Border Bridge Structure No. #

Structure Type and Material

(43) Structure Type Main: Steel Code 302
 Stringer/Girder Jointless bridge type:
 (44) Structure Type Appr: Code ???
 (45) Number of spans in main unit 000
 (46) Number of approach spans 0000
 (107) Deck Structure Type - Code ?
 (108) Wearing Surface / Protective System:
 A) Type of wearing surface - Code ?
 B) Type of membrane - Code ?
 C) Type of deck protection - Code ?

Age and Service

(27) Year Built 1850
 (106) Year Reconstructed 1900
 (42) Type of Service: On -
 Under - Code
 (28) Lanes: On Structure 00 Under structure 00
 (29) Average Daily Traffic 000000
 (30) Year of ADT 2000 (109) Truck ADT 00 %
 (19) Bypass, detour length 000 KM

Geometric Data

(48) Length of maximum span 0003.7 M
 (49) Structure Length 00003.7 M
 (50) Curb or sidewalk: Left 00.0 M Right 00.0 M
 (51) Bridge Roadway Width Curb to Curb 000.0 M
 (52) Deck Width Out to Out 000.0 M
 (32) Approach Roadway Width (w/shoulders) 000.0 M
 (33) Bridge Median - Code ?
 (34) Skew 00 DEG (35) Structure Flared N
 (10) Inventory Route MIN Vert Clear 00.00 M
 (47) Inventory Route Total Horiz Clear 00.0 M
 (53) Min Vert Clear Over Bridge Rdwy 00.00 M
 (54) Min Vert Underclear ref N 00.00 M
 (55) Min Lat Underclear RT ref N 00.0 M
 (56) Min Lat Underclear LT 00.0 M

Navigation Data

(38) Navigation Control - Code ?
 (111) Pier Protection Code ?
 (39) Navigation Vertical Clearance 000.0 M
 (116) Vert-lift Bridge Nav Min Vert Clear M
 (40) Navigation Horizontal Clearance 0000.0 M

Classification

(112) NBIS Bridge Length N
 (104) Highway System N
 (26) Functional Class - Urban Local 19
 (100) Defense Highway 1
 (101) Parallel Structure ?
 (102) Direction of Traffic - ?
 (103) Temporary Structure N
 (105) Federal Lands Highways 0
 (110) Designated National Network N
 (20) Toll -
 (21) Maintain - Town Agency 03
 (22) Owner - Town Agency 03
 (37) Historical Significance undetermined

Condition

(58) Deck ?
 (59) Superstructure ?
 (60) Substructure ?
 (61) Channel & Channel Protection ?
 (62) Culverts ?

Load Rating and Posting

(31) Design Load - ?
 (63) Operating Rating Method - Allowable Stress (AS) 2
 (64) Operating Rating 00.0
 (65) Inventory Rating Method - Allowable Stress (AS) 2
 (66) Inventory Rating 00.0
 (70) Bridge Posting 0
 (41) Structure - Open A

Appraisal

(67) Structural Evaluation 2
 (68) Deck Geometry N
 (69) Underclearances, vert. and horiz. N
 (71) Waterway adequacy
 (72) Approach Roadway Alignment
 (36) Traffic Safety Features
 (113) Scour Critical Bridges 6

Inspections

(90) Inspection Date 00/00/00 (91) Frequency 24 MO
 (92) Critical Feature Inspection: (93) CFI DATE
 (A) Fracture Critical Detail N 00 MO A) 00/00/00
 (B) Underwater Inspection N 00 MO B) 00/00/00
 (C) Other Special Inspection N 00 MO C) 00/00/00
 (*) Other Inspection () N 00 MO *) 00/00/00
 (*) Closed Bridge N 00 MO *) 00/00/00
 (*) UW Special Inspection N 00 MO *) 00/00/00
 (*) Damage Inspection MO *) 00/00/00

Rating Loads

Report Date 00/00/00 H20 Type 3 Type 3S2 Type HS
 Operating 0.0 0.0 0.0 0.0
 Inventory 0.0 0.0 0.0 0.0

Field Posting

Status Posting Date 00/00/00
 2 Axle 3 Axle 5 Axle
 Actual
 Recommended
 Missing Signs N

Misc.

Bridge Name
 N Anti-missile fence N Acrow Panel N Jointless Bridge
 Freeze/Thaw N : Not Applicable
 Accessibility (Needed/Used)
 N / N Liftbucket N / N Rigging Inspection
 N / N Ladder N / N Staging Hours: 006
 N / N Boat N / N Traffic Control
 N / N Wader N / N RR Flagperson
 N / N Inspector 50 N / N Police