REQUEST FOR BOARD ACTION

HENDERSON COUNTY
BOARD OF COMMISSIONERS

MEETING DATE: September 5, 2017

SUBJECT: Conditional Letter of Map Revision (CLOMR) Request by NCDOT

PRESENTER: Natalie Berry, Project Engineer/Floodplain Administrator

ATTACHMENTS: Yes
1. NCDOT
2. Sample Letter
3. Alternates Considered
4. Impact table
5. Maps of affected property

SUMMARY OF REQUEST:

On August 17, 2017 Mark Shown with the Hydraulics Unit of NCDOT in Raleigh contacted the Henderson County Floodplain Administrator in regards to replacing an existing bridge at the intersection of Hooper Lane and Mills River in the Town of Mills River due to deficencies. The subject bridge is located at the border of Town of Mills River and Henderson County jurisdiction, and in the Federal Emergency Management Agency (FEMA) designated special flood hazard area (SFHA).

This project proposes to replace the existing bridge with one that is larger in size and will increase the flood water elevation by 0.2 feet on properties located in Henderson County. For affected parcels of land, see attached map. One of the affected parcels is located outside of the special flood hazard area prior to replacement and would be included after replacement.

NCDOT has four (4) alternatives to the current design that would not affect the adjacent property owners, which are included as part of this item.

Before NCDOT can proceed with construction, a community official must sign an acknowledgement form either in agreement or disagreement with the project. In addition, the community must send notification letters to those affected properties making them aware of the potential increase. The acknowledgement form and a sample letter are included in this packet for information.

BOARD ACTION REQUESTED:

The Board is requested to review and discuss NCDOT's proposal, and direct staff accordingly.

Suggested Motion(s):

No motion suggested.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

June 28, 2017

Ms. Natalie Berry, PE
Project Engineer
Henderson County
100 N. King Street
Hendersonville, NC 28792

SUBJECT: Request for Conditional Letter of Map Revision on Mills River, Henderson County, SR 1353 Hooper Lane

Ms. Berry:

We are enclosing the CLOMR submittal package for the subject project for your review.

The proposed roadway project involves the replacement of Bridge 147 on SR 1353 (Hooper Lane). The new roadway is designed as a two-lane with shoulder section facility. The project will encroach on the Mills River, which is included in a FEMA Flood Hazard Zone detailed study. This study has a regulatory floodway established.

If you as a representative of the community are in agreement with the proposal to allow development of the highway project, please sign Part D of the MT-2 Form 1 (Page 2 of 3), attached to this cover letter and return to me at the address shown on the next page. (Alternatively, a scanned copy can be emailed to Marc Shown (mshown@ncdot.gov) if desired).

A complete copy of the package has already been sent to Stephen Garrett at N.C. Floodplain Mapping Program (FMP) for their technical review. If there are any questions about this review please contact Steve at (919) 825-2316.

FEMA and the N.C. Floodplain Mapping Program require that all affected property owners be notified of the CLOMR in writing. The property owner notification list and the floodway change notification letters are in the attached CLOMR package. Please pay special attention to the list of affected property owners to ensure that they are correctly identified.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
HYDRAULICS UNIT
1590 MAIL SERVICE CENTER
RALEIGH, NC 27699-1590

Telephone: (919) 707-6700
Fax: (919) 250-4108
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1020 BIRCH RIDGE DRIVE
RALEIGH, NC 27610

When we notify you that NC Floodplain Mapping has completed their technical review, please print the letters on your letter head and send them to the affected property owners. In addition, please send me a copy of each of these letters to the address below:

North Carolina Department of Transportation
Hydraulics Unit
Attn: Marc Shown, PE
1590 Mail Service Center
Raleigh, NC 27699-1590

I will then forward them on to FMP for their use.

If you have any questions or need further assistance, please contact Marc Shown, PE at (919) 707-6751.

Sincerely,

Marc Shown, P.E.
NCDOT Hydraulics Engineer

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY

OVERVIEW & CONCURRENCE FORM

O.M.B No. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20958-3005, Paperwork Reduction Project (1660-0016). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

PRIVACY ACT STATEMENT

AUTHORITY: The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

PRINCIPAL PURPOSE(S): This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

ROUTINE USE(S): The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

☒ CLOMR: A letter from DHS-FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).

☐ LOMR: A letter from DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Example: 480301 480287	City of Katy Harris County	TX TX	48473C 48201C	0005D 0220G	02/08/83 09/28/90
370125	Henderson County	NC	370096	9641J	10/02/08
370025	Mills River, Town of	NC	370096	9641J	10/02/08

2. a. Flooding Source: Mills River

   b. Types of Flooding: ☒ Riverine ☐ Coastal ☐ Shallow Flooding (e.g., Zones AO and AH)
   ☐ Alluvial fan ☐ Lakes ☐ Other (Attach Description)

3. Project Name/Identifier: SF-440147

4. FEMA zone designations affected: AE (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

   a. The basis for this revision request is (check all that apply)

   ☐ Physical Change ☒ Improved Methodology/Data ☐ Regulatory Floodway Revision ☐ Base Map Changes
   ☐ Coastal Analysis ☒ Hydraulic Analysis ☐ Hydrologic Analysis ☐ Corrections
   ☐ Weir-Dam Changes ☐ Levee Certification ☐ Alluvial Fan Analysis ☐ Natural Changes
   ☐ New Topographic Data ☐ Other (Attach Description)

   Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following structures (check all that apply)

Structures: ☐ Channelization ☐ Levee/Floodwall ☒ Bridge/Culvert

☐ Dam ☐ Fill ☐ Other (Attach Description)

6. ☒ Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? ☒ Yes Fee amount: $6,750

☐ No, Attach Explanation

Please see the DHS-FEMA Web site at http://www.fema.gov/plan/prevent/fhm/frm_fees.shtm **for Fee Amounts and Exemptions.**

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Marc Shown, PE	Company: NCDOT Hydraulics Unit	
Mailing Address: 1590 Mail Service Center Raleigh, NC 27699-1590	Daytime Telephone No.: (919) 707-6751	Fax No.:
	E-Mail Address: mshown@ncdot.gov	
Signature of Requester (required):	Date:	

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirements for when fill is placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Natalie J. Berry PE, Project Engineer	Community Name: Henderson County	
Mailing Address: 100 North King Street Hendersonville, NC 28792	Daytime Telephone No.: 828-694-6251	Fax No.: 828-697-4533
	E-Mail Address: nberry@hendersoncountync.org	
Community Official's Signature (required):	Date:	

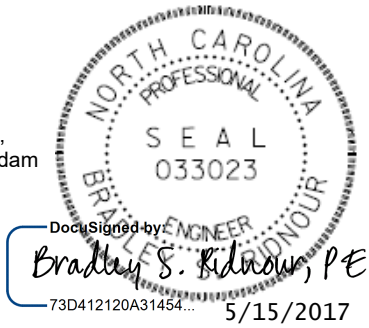
CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Bradley S. Ridnour	License No.: 033023	Expiration Date: 12/31/2017	
Company Name: Vaughn & Melton Consulting Engineers	Telephone No.: 606-364-6729	Fax No.: n/a	
Signature: DocuSigned by: Bradley S. Ridnour, PE 73D412120A31454...	Date: 5/15/2017	E-Mail Address: bsridnour@vaughnmelton.com	

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)	Required if …
☒ Riverine Hydrology and Hydraulics Form (Form 2)	New or revised discharges or water-surface elevations
☒ Riverine Structures Form (Form 3)	Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam
☐ Coastal Analysis Form (Form 4)	New or revised coastal elevations
☐ Coastal Structures Form (Form 5)	Addition/revision of coastal structure
☐ Alluvial Fan Flooding Form (Form 6)	Flood control measures on alluvial fans



DocuSigned by:
Bradley S. Ridnour, PE
73D412120A31454...
5/15/2017

{Date}

Mills River Partners
4112 Haywood Road
Mills River, NC 28759

Re: Notification of increases in 1% (100-year) annual chance water-surface elevations and/or future flood hazard revisions

The Flood Insurance Rate Map (FIRM) for a community depicts the Special Flood Hazard Area (SFHA), the area which has been determined to be subject to a 1% (100-year) or greater chance of flooding in any given year. The floodway is the portion of the floodplain that includes the channel of a river or other watercourse and the adjacent land area that must be reserved in order to discharge the 1% annual chance (base) flood without cumulatively increasing the water-surface elevation by more than a designated height. The FIRM is used to determine flood insurance rates and to help the community with floodplain management.

The North Carolina Department of Transportation (NCDOT) is applying for a Conditional Letter of Map Revision (CLOMR) from the Federal Emergency Management Agency (DHS-FEMA) to revise FIRM 3700964100J for the Town of Mills River, NC and Unincorporated Henderson County, NC along Mills River. The NCDOT is proposing to replace the existing crossing over Mills River at SR 1353 (Hooper Lane) due to the structural deficiency rating of the existing bridge.

The proposed project will result in increases in the 1% annual chance (base) water-surface elevations for a portion of Mills River.

Once the project has been completed, a Letter of Map Revision (LOMR) request should be submitted that will, in part, revise the following flood hazards along Mills River.

1. The floodway will be revised from river station 3638, approximately 1,108 feet downstream of the crossing over Mills River at SR 1353 (Hooper Lane), to river station 6123, approximately 1,377 feet upstream of the crossing over Mills River at SR 1353 (Hooper Lane), which is a total distance of approximately 2,485 feet, along Mills River.

2. Base Flood Elevations (BFEs) will increase along Mills River.

This letter is to inform you of the proposed project that may affect flood elevations on your property at 4055 Haywood Road. This letter is also to inform you of the potential changes to the effective flood hazard information that would result after the project is completed and a LOMR request is submitted to FEMA.

Maps and a detailed analysis of the proposed flood hazard revisions can be reviewed at the Town Center at 124 Town Center Drive, Mills River NC. If you have any questions or concerns about the proposed project or its effect on your property, you may contact Jeff Wells of Town of Mills River at (828) 890-2901 from Mon to Fri 9:00 AM to 2:00 PM.

Sincerely,

Natalie J. Berry, PE, Project Engineer

Henderson County
100 North King Street
Henderson, NC 2879

Alternates Considered

The following methods to mitigate the increase in the base flood elevations (BFEs) and eliminate the requirement for the CLOMR were considered as alternates for this project:

1. Do not replace the bridge due to impacts associated with the floodplain.

2. Replace the bridge at – or as close to – its original location as possible, using a detour or staged construction to manage traffic. Replacing the bridge at its original location would eliminate the increases to the flood caused by relocating the bridge downstream, eliminating the need for a CLOMR.

3. Modify the bridge geometry. Changes in bridge geometry can change the amount of overtopping and overbank flow, which can result in in lower BFEs eliminating the need for a CLOMR.

4. Modify the bridge deck elevations. As with bridge geometry, changes in bridge deck elevations can change the amount of overtopping flow, which can result in in lower BFEs, eliminating the need for a CLOMR.

If the bridge is not replaced, it could be a potential danger to vehicles, farming equipment, and pedestrians that use the bridge since it has been deemed structurally insufficient.

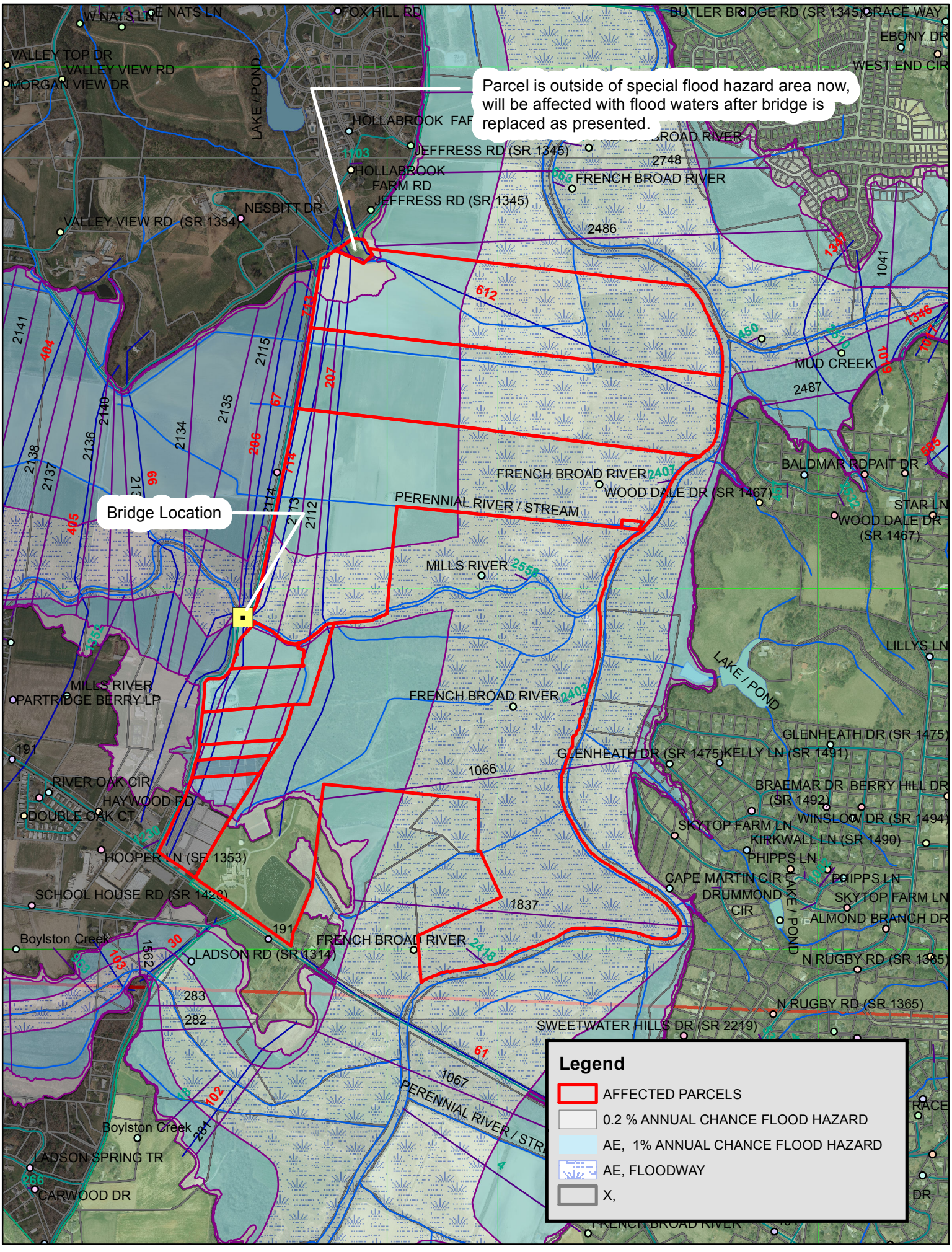
There is high daily usage of local farming equipment accessing crops adjacent to both ends of the bridge. This eliminates the possibility of staged construction and makes the use of detour routes unfavorable. In addition, there is a major underground waterline that serves the city of Asheville, NC which crosses Mills River immediately downstream of the existing bridge. It is critical that this waterline not be disturbed during construction. This makes replacing the bridge at the original location in any fashion undesirable due to concerns about the increased bridge width impacting this water line.

Both the existing and proposed bridge are perched bridges. In all models (effective, corrected, and revised) the low chord of the structure is above the 100-year floodplain. In addition, the floodplain and floodway are extremely wide relative to the bridge structure, with a large percentage of the 100-year flow bypassing the bridge in the overbank regions. Given the hydraulics of perched bridges, combined with the width of the floodplain, changes in the bridge deck geometry and elevations would have little impact on the BFE.

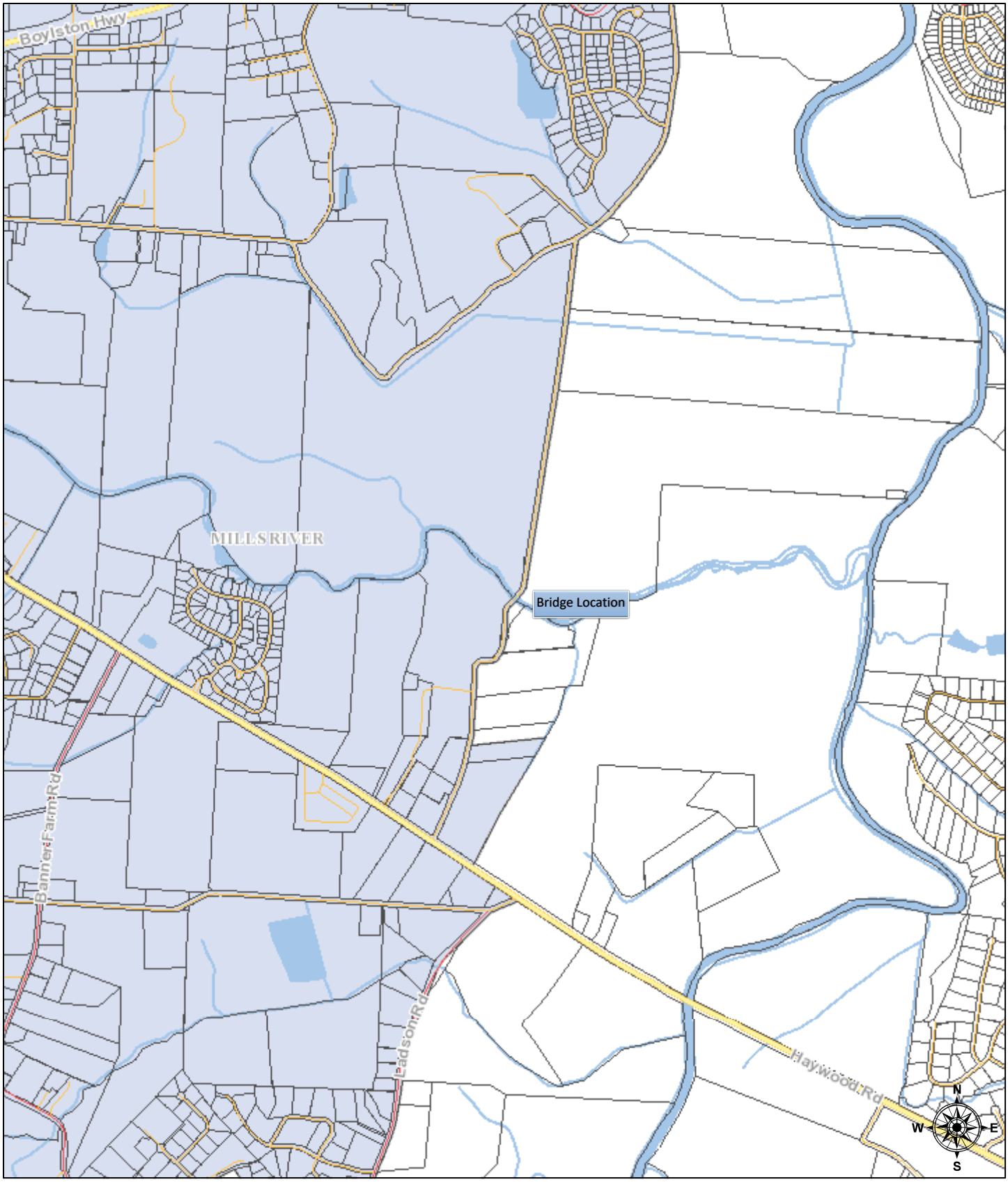
Preliminary hydraulic modeling of the proposed bridge found that impacts would be very minimal and would not impact any structures.

Given the structural insufficiency of the existing bridge, the high costs and difficulties associated with maintaining the original bridge location, the hydraulics of the site, and minimal hydraulic impacts, it was decided that obtaining a CLOMR was the most cost effective option.

Table 6. Project Impact								SF-440147
HEC-RAS River: Mills River Reach: DTL Profile: 100yr_FW								
River Sta	Plan	W.S. Elev (ft)	W.S. Elev (ft)	Prof Delta (ft)	Top Wdth (ft)	Enc Sta L (ft)	Enc Sta R (ft)	Project Impact (ft)
3638	Duplicate	2054.5	2055.3	0.8	890	4000	4890	0.0
3638	Corrected	2054.5	2055.3	0.8	890	4000	4890	
3638	Revised	2054.5	2055.3	0.8	890	4000	4890	
4583	Corrected	2056.7	2057.7	1.0	1250	4350	5600	0.0
4583	Revised	2056.7	2057.7	1.0	1250	4350	5600	
4657	Corrected	2056.8	2057.8	1.0	1250	4350	5600	0.0
4657	Revised	2056.8	2057.8	1.0	1390	4280	5670	
4679	Duplicate	2056.8	2057.7	0.9	1085	3965	5050	n/a
4683 BR D	Revised	2056.9	2057.6	0.7	1390	4280	5670	n/a
4683 BR U	Revised	2057.4	2057.7	0.4	1390	4280	5670	n/a
4720	Duplicate	2057.2	2058.2	1.0	1159	3861	5020	0.2
4720	Corrected	2057.5	2058.0	0.6	1250	4350	5600	
4720	Revised	2057.7	2058.7	1.0	1390	4280	5670	
4746 BR D	Duplicate	2057.3	2058.3	1.0	1159	3861	5020	n/a
4746 BR D	Corrected	2057.5	2058.0	0.5	1250	4350	5600	
4746 BR U	Duplicate	2057.3	2058.3	1.0	1195	3805	5000	n/a
4746 BR U	Corrected	2057.5	2058.6	1.1	1250	4350	5600	
4770	Duplicate	2057.3	2058.2	1.0	1195	3805	5000	0.1
4770	Corrected	2057.8	2058.7	0.9	1250	4350	5600	
4770	Revised	2057.9	2058.8	0.9	1250	4350	5600	
4839	Duplicate	2057.8	2058.4	0.6	1128	3700	4828	0.0
4839	Corrected	2058.4	2058.9	0.5	1250	4350	5600	
4839	Revised	2058.4	2058.9	0.5	1250	4350	5600	
6123	Duplicate	2060.1	2061.1	1.0	1120	1700	2820	0.0
6123	Corrected	2060.4	2061.4	1.0	1120	1700	2820	
6123	Revised	2060.4	2061.4	1.0	1120	1700	2820	
7444	Duplicate	2062.8	2063.2	0.4	889	1900	2789	0.0
7444	Corrected	2062.8	2063.2	0.4	889	1900	2789	
7444	Revised	2062.8	2063.2	0.4	889	1900	2789	
8606	Duplicate	2065.5	2066.4	0.9	1110	3400	4510	0.0
8606	Corrected	2065.4	2066.4	0.9	1110	3400	4510	
8606	Revised	2065.4	2066.4	0.9	1110	3400	4510	
10300	Duplicate	2068.4	2069.3	0.9	1150	3400	4550	0.0
10300	Corrected	2068.4	2069.3	0.9	1150	3400	4550	
10300	Revised	2068.4	2069.3	0.9	1150	3400	4550	
11358	Duplicate	2070.8	2071.1	0.3	1106	3800	4906	0.0
11358	Corrected	2070.8	2071.1	0.3	1106	3800	4906	
11358	Revised	2070.8	2071.1	0.3	1106	3800	4906	


Parcel is outside of special flood hazard area now, will be affected with flood waters after bridge is replaced as presented.
Bridge Location
Legend
AFFECTED PARCELS
0.2 % ANNUAL CHANCE FLOOD HAZARD
AE, 1% ANNUAL CHANCE FLOOD HAZARD
AE, FLOODWAY
X,
FOX HILL RD
BUTLER BRIDGE RD (SR 1345)
GRACE WAY
EBONY DR
WEST END CIR
VALLEY TOP DR
VALLEY VIEW RD
MORGAN VIEW DR
LAKE / POND
HOLLABROOK FARM RD
JEFFRESS RD (SR 1345)
FRENCH BROAD RIVER
NESBITT DR
VALLEY VIEW RD (SR 1354)
MUD CREEK
BALDMAR RD
PAIT DR
WOOD DALE DR (SR 1467)
STAR LN
PERENNIAL RIVER / STREAM
MILLS RIVER
LILLYS LN
PARTRIDGE BERRY LP
GLENHEATH DR (SR 1475)
KELLY LN (SR 1491)
RIVER OAK CIR
HAYWOOD RD
DOUBLE OAK CT
BRAEMAR DR
BERRY HILL DR
(SR 1492)
WINSLOW DR (SR 1494)
SKYTOP FARM LN
KIRKWALL LN (SR 1490)
HOOPER LN (SR 1353)
PHIPPS LN
CAPE MARTIN CIR
DRUMMOND CIR
ALMOND BRANCH DR
SCHOOL HOUSE RD (SR 1428)
Boylston Creek
LADSON RD (SR 1314)
N RUGBY RD (SR 1365)
SWEETWATER HILLS DR (SR 2219)
LADSON SPRING TR
CARWOOD DR

SR 1353 Hooper Lane



August 28, 2017

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0 0.175 0.35 0.7 mi

0 0.3 0.6 1.2 km

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

SR 1353 Hooper Lane

August 28, 2017

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