

Low Impact Bridge Replacement Programs – Local Resource

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Bridge Numbers in Georgia

- ~ 14,900 bridge structures
- ~ 7,900 structures locally owned
- ~ 1,400 locally owned posted





GDOT's Low Impact Bridge Replacement Programs

- Mechanism to replace POSTED, DEFICIENT, LOCALLY OWNED-bridges on low volume roadways using a streamlined approach.



APPROXIMATE VEHICLE WEIGHTS



AVERAGE STANDARD CAR - 1.5 TONS

AVERAGE STANDARD TRUCK - 3 TONS



AVERAGE AMBULANCE - 5 TONS

AVERAGE DELIVERY TRUCK - 6 TONS



AVERAGE LOADED SCHOOL BUS - 17 TONS

AVERAGE LOADED CHARTER BUS - 20 TONS



**AVERAGE FIRE TRUCK
19 TONS - 30 TONS**

AVERAGE LOADED GARBAGE TRUCK - 25 TONS



AVERAGE LOADED PLOW TRUCK - 28 TONS

AVERAGE LOADED CEMENT TRUCK - 33 TONS



AVERAGE LOADED DUMP TRUCK - 36 TONS

AVERAGE LOADED TRACTOR TRAILER - 40 TONS



GDOT's Low Impact Bridge Programs

Low Impact Bridge Program (LIBP) and State Funded Local Bridge Program (SFLB)

- LIBP – 100% Federally Funded
- SFLB – 100% State Funded

Follow the same streamlined process



LIBP – First Local Bridge Replacement Program at GDOT

- Organized in 2014 with FHWA to help local governments replace locally-owned posted/deficient bridges
- First bridges were required to have no environmental concerns (no effect)
- FY16 - Received permission from FHWA to allow *Informal* Section 7 Environmental Coordination
- FY18 - Received permission from FHWA to allow purchase of easements for construction and roadway safety elements



LIBP Basics – Simple & Minimal

- 100% federally funded program – no local contribution
- Locally owned, **posted** bridges (weight restricted), **closed** or those with **Helper Bents**.
- ROW – If insufficient, purchased as **easements only**
- Off-site Detour with concurrence
- Average Preliminary Engineering Time = 2 years (Conventional Project up to 5 years)
- Average Bridge Closure time for Construction = 7 months



State Funded Local Bridge Basics

- 100% STATE Funded program – initiated in May 2018 – No local contribution
- **Locally** owned, **Posted** bridges (weight restricted), **Closed** or those with **Helper Bents**
- ROW may be PRESCRIPTIVE* and require property purchase
 - *ROW allowing for maintenance work
 - Purchased ROW includes a Quitclaim Deed
- Off-site Detour with concurrence
- Reduced Environmental Oversight
- Average Preliminary Engineering Time = 2 years (Conventional Project up to 5 years)
- Average Closure time for Construction = 7 months

**Mimics the LIBP – but
has more flexibility**



How are Low Impact Candidates found?

- Follow district rotation
- Give opportunity to 159 counties
- Consider requests
- Conduct queries



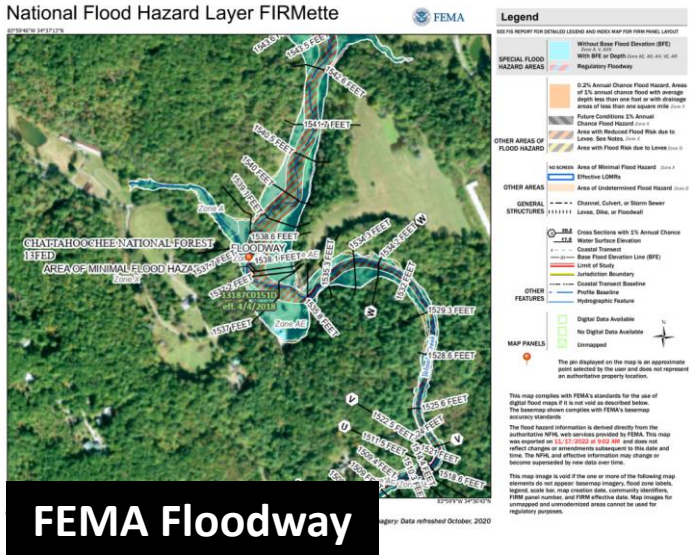
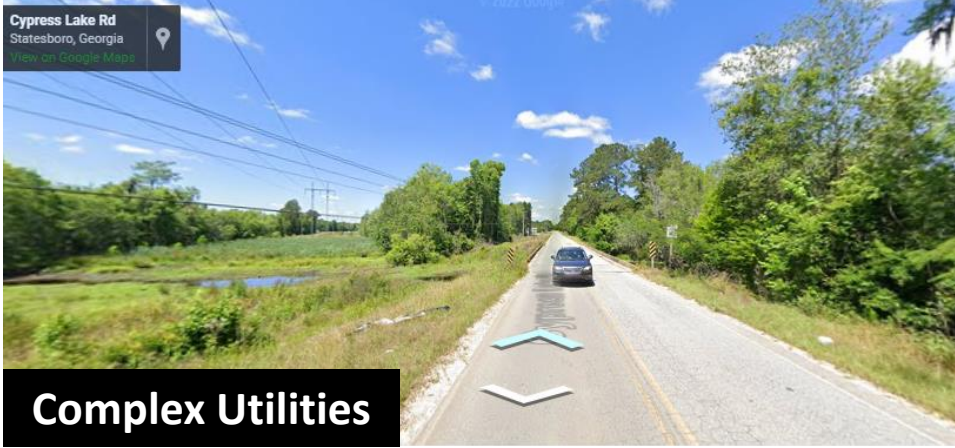
Low Impact Guidelines



- Locally Owned
- Deficient: Posted (weight restricted), Closed or with Helper Bents
- Off-site Detour Concurrence
- Desktop and Field Scoping meetings
- ROW or Construction Easements
- **Cannot :**
 - Cross RR-xings
 - Have FEMA Regulatory Floodway
 - Be historic (NRHP)
 - Have complex utility issues – transmission line, natural gas, water
 - Have complex environmental issues – Formal Section 7
 - Have ADTs (traffic counts) >3000 and >100 trucks per day
 - Have major road geometry concerns



Low Impact Disqualifiers



Am I a Low Impact Candidate?

Bridge Design Considerations

Minimizing design, cost, and time

Use of Prefab Beams, Standard Drawings & Designs

- Length – less than 250 feet
- Height – less than 15 feet (influenced by geography)
- Skew
- Superelevation
- Substructure/site specific foundation concerns, such as spread footings

Design Issues

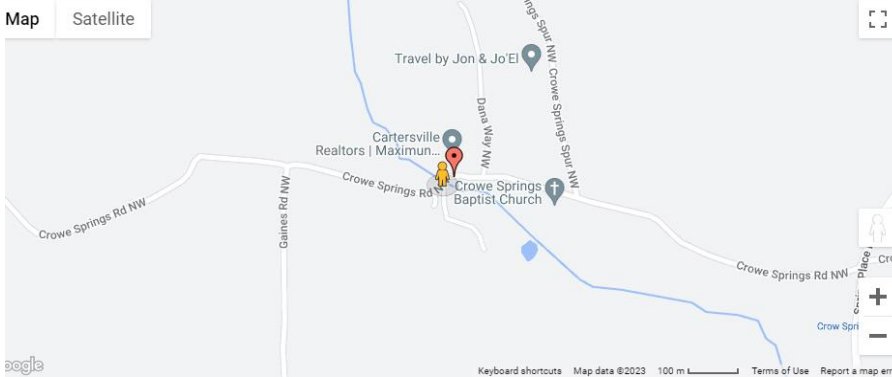


Am I a Low Impact Candidate?

Roadway Design Considerations

- No constructability issues
 - Road orientation
 - Intersections
 - Driveways
 - Vertical/horizontal curve
 - Slopes

Constructability Issues



Am I a Low Impact Candidate?

Consider Off-Site Detour Route

- Reasonable length (<15 miles) and not one-way
- Cannot cross GA state line
- Concurrence with BOC, BOE, and EMA of route and maintenance – **Only Local Requirement**
- County coordination encouraged for emergency services

Georgia Department of Transportation
 Bridge Replacement Project
 Detour Impact Form
 XXX-XXXX-0, NAME County

Using the attached detour map, please respond to the questions below. Please provide as much information as you feel is necessary. Please respond to all questions – use “N/A” or “Not-known” if no relevant information to question is available. If you need additional information or mapping for this project, please contact us using the information provided in the cover letter.

1. Please quantify the number of impacts anticipated by the off-site detour shown on the attached map.

Daily Number of vehicles _____	Daily Number of Trucks _____
Number of Residences _____	Number of Businesses _____
Detour Length _____	
2. Please rate the impact on service if the bridge were closed for up to a year? (Please note that any concerns identified here must be explained in #3 below, in order for the Project Designers to address the concerns)

No Concerns
 Moderate Concerns
 Major Concerns
3. *If concerns were identified on #2, please specify what they are below, be as specific as possible (Conditions of detour route, location of students, new development expected, weight restrictions, etc.). In order for the project to continue in the Preliminary Engineering phase, any concerns regarding impact on service, must be addressed by project staff. For example, if the box for “Major Concerns” is checked, a response of N/A would not be valid.*

4. Are there any future time periods or events that you know of where bridge closure would be of particular concern? Please note the event and any details you are familiar with.

5. Is there anyone you feel we should contact specifically regarding this project? Please note their name, phone number, and reason we should contact them? (Separate letters and detour forms have been sent to the County EMA Director and the Superintendent of Schools.)

6. Are there any additional comments you have regarding the project? Are the road names referenced the names the locals would use?

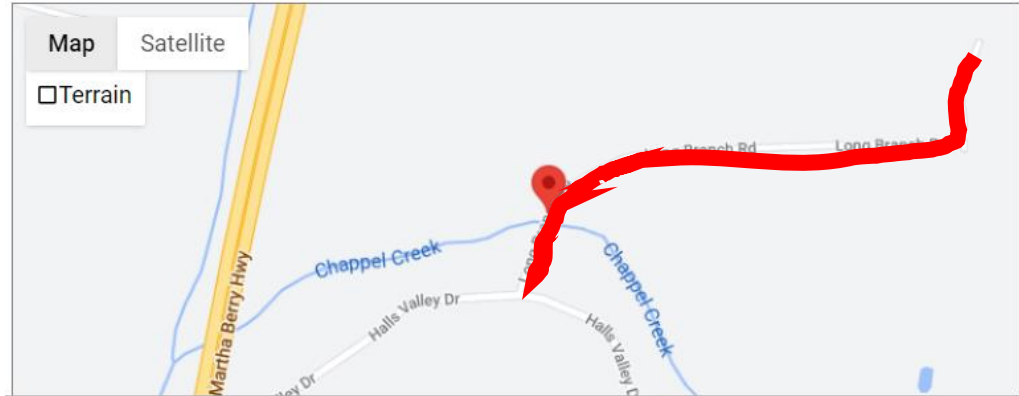
7. Estimated width of existing right-of-way at bridge _____ ft

Form Completed by (Name): _____
 (Title): _____
 Date: _____



By checking this box, we support the bridge replacement utilizing an offsite detour.

No Detour Route



Other Considerations

Community Impacts

- Emergency response
- Schools
- Recreation



Kahoot!

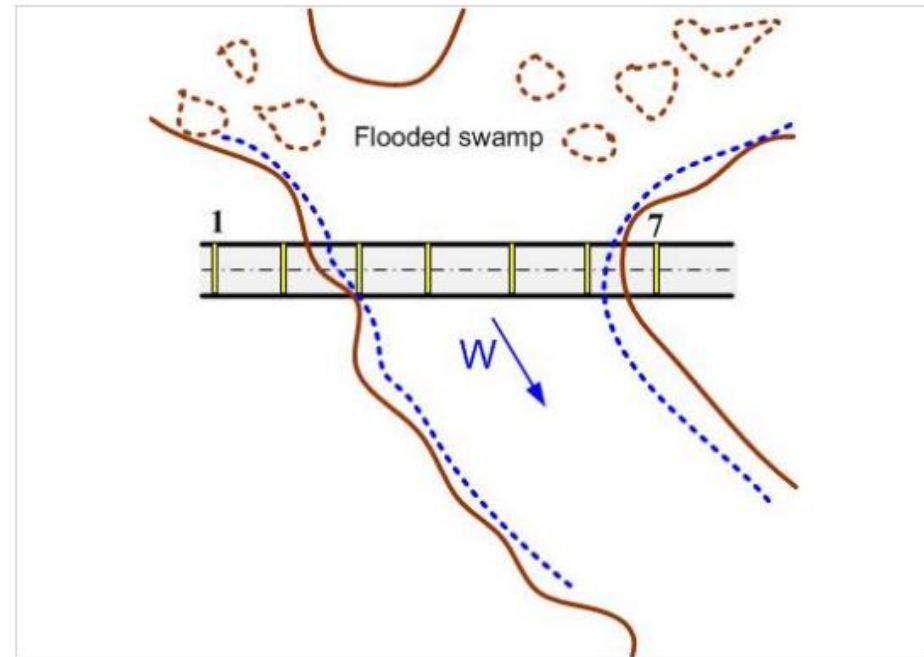
Next Steps?

- Bridge Office Review – hydraulics & design comments
- Desktop Screening – archaeology, ecology, history, ROW, utilities, and District design team conduct database reviews
- Detour drafted with concurrence from BOC, BOE, & EMA
- Field Scoping Meeting – resources present field inspection results
- Process documentation = Project Concept Report

Funding and Future Programming

LIBP or State Funded Local Bridge?

- ROW Purchase Required?
- Environmental Concerns?
- Hold for fund availability?
- LOCBR Candidate?



Waterway drawing.

Low Impact Replacement Programs – Delivery Since 2014

145 Deficient Local Bridges in the Low Impact Program

87 Bridges Replaced and Open to Traffic

58 Currently in Replacement Process



Low Impact Bridge Replacements

Before



After



Low Impact Bridge Replacements

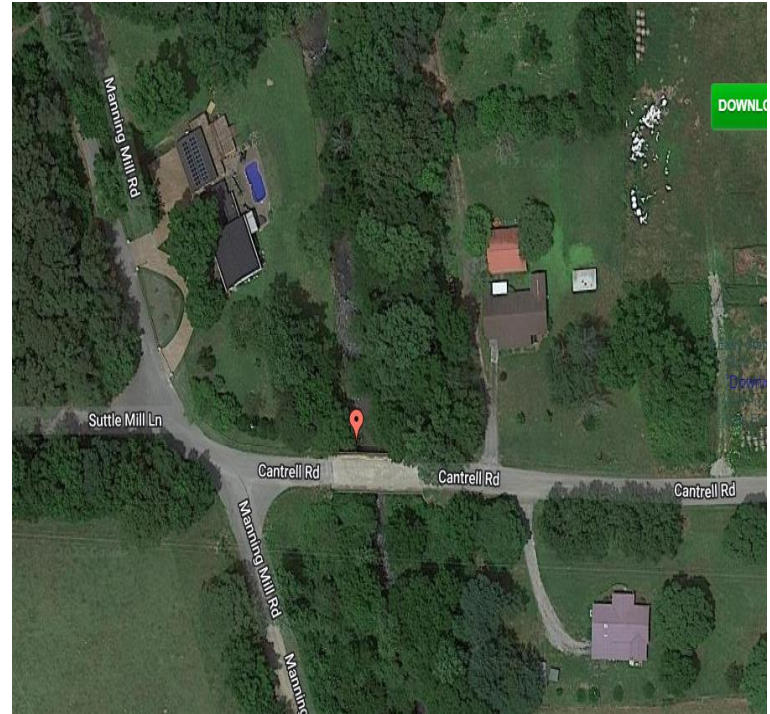
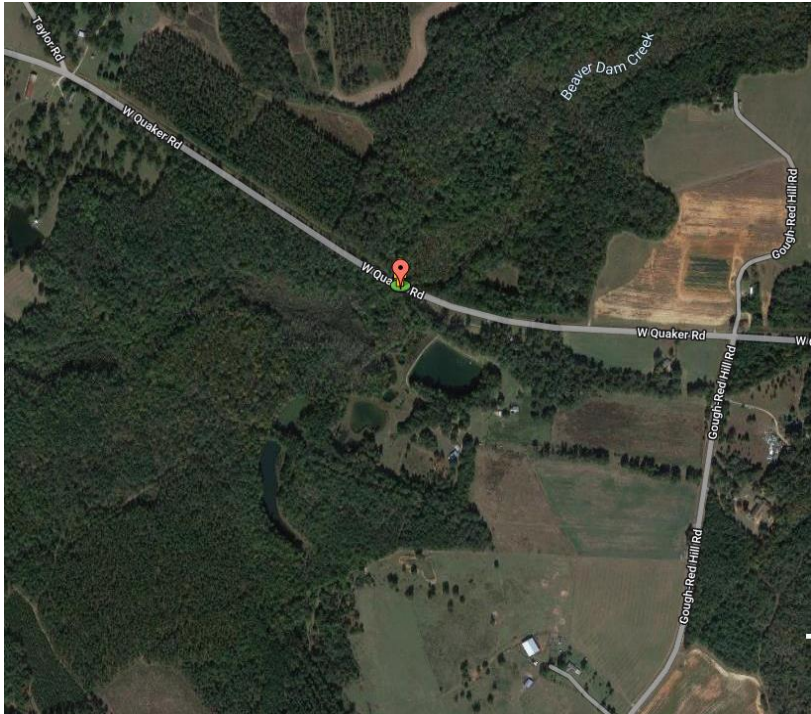
Before



After



Which One is Low Impact?



Is this a Low Impact Candidate?



**No – Spread
Footing
Substructure**

Is this a Low Impact Candidate?



No – Water line on the right side of the bridge and a home located in proximity for construction

Is this a Low Impact Candidate?



**Yes – no
constructability
issues**

Is this a Low Impact Candidate?



No – Roadway design concerns due to the curve leading into the bridge.

Kahoot!

Questions?

