



Howard Gap: Resilience After Landslides

Resilience Grant Application

NCDOT Funding Priority # 6

**Fiscal Years 2024 through 2026 Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation Competitive Grant Program
Resilience Grant Application Template**

This is the Resilience Grant Application Template for the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Competitive Grant Program Fiscal Years 2024 through 2026 Notice of Funding Opportunity (NOFO).

Submission of this Application Template is required as part of a complete application package. The Application Template, in conjunction with the allowable attachments and standard forms, should provide all information necessary for U.S. Department of Transportation (DOT), the Federal Highway Administration (FHWA) to determine if the project satisfies the eligibility requirements described in NOFO Section B and to evaluate the criteria specified in NOFO Section F. DOT will consider applications submitted without the completed template as incomplete and will not review the submission. DOT encourages applicants to review the NOFO in its entirety to verify their project is eligible and ensure all required information is provided with their application.

Summary

Project Title	<i>Howard Gap: Resilience after Landslides</i>
Lead Applicant Name	<i>North Carolina Department of Transportation</i>
Lead Applicant Type	Select from the below statutory eligible applicants: ☒ A State or political subdivision of a State. ☐ A metropolitan planning organization. ☐ A unit of local government. ☐ A special purpose district or public authority with a transportation function, including a port authority. ☐ A federally recognized Indian Tribe (as defined in Section 207(m)(1)). ☐ A Federal land management agency that applies jointly with a State or group of States. ☐ A multi-State or multijurisdictional group of entities described above.
Type of Grant(s)	☒ Resilience Improvement ☐ Community Resilience and Evacuation Route ☐ At-Risk Coastal Infrastructure
Eligible Activities <i>Only fill out the set of check boxes that corresponds to the type(s) of Resilience Grant that you are applying for.</i>	Resilience Improvement Grants (23 United States Code (U.S.C.) § 176(d)(4)(A)(ii)): <i>Identify the eligible construction activities to improve the resilience of surface transportation infrastructure that the proposal addresses (check all that apply):</i> ☒ Resurfacing, restoring, rehabilitating, replacing, improving, or realigning a facility eligible for assistance under this program (see eligible facilities in the row below). ☐ Incorporating natural infrastructure.

- ☒ Upgrading existing surface transportation facilities to meet/exceed FHWA design standards.
- ☐ Installing flood mitigation measures.
- ☐ Strengthening rainwater removal systems.
- ☒ Upgrading or installing structural stormwater controls.
- ☒ Constructing a resilience project that addresses vulnerabilities described in the Resilience Improvement Plan (RIP) in your jurisdiction.
- ☐ Relocating roadways in a base floodplain.
- ☒ Stabilizing slide areas or slopes.
- ☒ Installing riprap.
- ☐ Lengthening or raising bridges.
- ☒ Increasing size or number of drainage structures.
- ☐ Installing seismic retrofits on bridges.
- ☐ Adding scour protection on bridges.
- ☐ Adding scour, stream stability, coastal, and other hydraulic countermeasures, including spur dikes.
- ☐ Implementing vegetation management in the right-of-way.
- ☐ Installing any other protective features, including natural infrastructure.

Community Resilience and Evacuation Route Grants (23 U.S.C. § 176(d)(4)(B)(ii)): *Identify the eligible activities to strengthen and protect evacuation routes that the proposal addresses (check all that apply):*

- ☐ Constructing a Resilience Improvement project under 23 U.S.C. § 176(d)(4)(A)(ii) that will improve an evacuation route.
- ☐ Restoring or replacing an evacuation route to ensure it can provide safe passage and/or making improvements to reduce the risk of damage to evacuation routes (e.g., steps to protect routes from mud, rock, or other debris slides).
- ☐ Expanding capacity of evacuation routes. This includes installation of communications and intelligent transportation systems, counterflow measures, and shoulders. *(Note: if yes, explain how existing evacuation routes are not sufficient to adequately facilitate evacuations)*
- ☐ Constructing new or redundant evacuation routes. *(Note: if yes, explain how existing evacuation routes are not sufficient to adequately facilitate evacuations)*
- ☐ Acquiring evacuation route or traffic incident management equipment/signage

	☐ Constructing a project that will ensure access or service to critical destinations ¹ At-Risk Coastal Infrastructure Grant (23 U.S.C. § 176(d)(4)(C)(iii)): <i>Does the application include one of the following eligible activities? (check if yes):</i> ☐ Strengthening, stabilizing, hardening, elevating, relocating, or otherwise enhancing the resilience of highway and non-rail infrastructure that are subject to, or face increased long-term future risks of, a weather event, a natural disaster, or changing conditions. Infrastructure includes: bridges, roads, pedestrian walkways, bicycle lanes, and associated infrastructure, such as culverts and tide gates to protect highways.
Long-Term Infrastructure Cost Reduction <i>Applicable for At-Risk Coast Infrastructure Grant applications only.</i>	For At-Risk Coastal Infrastructure Grant applications only <i>(check if yes):</i> ☐ The proposal will reduce long-term infrastructure costs by avoiding larger future maintenance or rebuilding costs. Documentation:
Project Area	Howard Gap Road (SR 1122), North Carolina, Polk County Lat/Long: (35.24654, -82.26303)
Amount of Funding Requested Under this NOFO	\$13,485,000
Cost Share Requested²	87%/13%
Total Project Cost	\$16,500,000
Which type(s) of natural hazards does the project address?	Landslides
Which transportation modes are addressed by the project?	Automobile
Project Description: <i>Summarize project work to be completed under the project and succinctly describe how the PROTECT Competitive Grant Program funds would be used to complete the project. You may use this section to include the project's history and describe any previously incurred costs. Limit summary to 250 words.</i>	
The purpose of this project is to re-establish connectivity for the Rixhaven community and surrounding area by repairing and stabilizing Howard Gap Road (SR 1122) to mitigate the occurrence of future landslides along Howard Gap Road (SR 1122) and Interstate 26. Howard Gap Road (SR 1122) has been closed since a storm event in 2019, and the community has been forced to utilize a 16-mile detour that adds an additional 30 minutes to their commute	

¹ "Critical destinations" could include hospitals and other medical or emergency service facilities, major employers, critical manufacturing centers, ports and intermodal facilities, utilities, and Federal facilities. See 23 U.S.C. § 176(d)(4)(B)(ii).

² See NOFO Section C.2 for Cost Sharing or Matching information.

time. This presents increased risk of conflicts, especially in emergency situations, as this detour drastically impacts first responder response times and the ability to access medical care in a timely fashion. Additionally, with US 176 closed to commercial trucks in this area due to Hurricane Helene, this restoration project becomes even more important.

PROTECT funding will be used to reconstruct and improve a 0.5-mile section of the roadway between Indian Mountain Road (SR 1188) and Page Farm Road in Polk County, with two 10-foot lanes with 2-foot paved shoulders on the mountain side. The roadway will include 2-foot, 6-inch curb and gutter that will connect to an improved 6-foot concrete ditch being incorporated for hydraulic and erosion control purposes. This ditch will contain surface water runoff during extreme weather events and move it away from Howard Gap Road (SR 1122) and reduce related damages. A guardrail will be implemented along the impacted area along with a retaining wall.

Attachments: Please list any attachments to this form, including letters of support. This includes any applicable State Department of Transportation (State DOT) support letters as described in Section B.4 of the NOFO.

Attachment A – Vicinity Map
Attachment B – Environmental Constraints Map
Attachment C – Detour Map
Attachment D – Project Cost Estimate
Attachment E – Project Schedule
Attachment F – Engineering Plans
Attachment G – Project Site Photos
Attachment H – Letter of Commitment
Attachment I – Letters of Support
Attachment J – NCDOT Resiliency Improvement Plan
Attachment K – Location File

I. Project Information

Expand the response blocks as necessary but limit the Project Information section of the application to three total pages in length.

1	Project Title	Howard Gap: Resilience after Landslides
2	Project State	North Carolina
3	Project Location	The location of the failure begins approximately 0.6 miles east of the Indian Mountain Road (SR 1188) intersection on Howard Gap Road (SR 1122), Polk County, NC. Lat/Long: (35.24654, -82.26303)
4	Which Census tract(s) does the project encompass?	Census Tract 9202.01
5	Is the project fully located in a Rural area?³	☒ Yes ☐ No

³ For purpose of this notice, the PROTECT Competitive Grant Program defines a rural area as any area outside of an Urbanized Area with a population over 200,000. (23 U.S.C. § 176(d)(5)(H)(ii)). Applicants can use the FHWA

6	Is the project located in a base floodplain?	☐ Yes ☒ No
7	Other Parties	North Carolina Department of Transportation is the lead applicant and sole entity involved in the delivery of this project.
8	Eligible Facility Type	Select from list below (check all that apply): ☒ Highway project eligible for assistance under Title 23; ☐ Public transportation facility or service eligible for assistance under chapter 53 of Title 49; ☐ Facility or service for intercity rail passenger transportation (as defined in Section 24102 of Title 49); or ☐ Port facility, including a facility that: a. Connects a port to other modes of transportation; b. Improves the efficiency of evacuations and disaster relief; or c. Aids transportation. (23 U.S.C. § 176(d)(5)C).
9	Project Background	On May 18, 2018, this portion of the Blue Ridge Escarpment received up to 8 inches of rain in 3 hours. The stormwater management system was overwhelmed during this storm, causing flooding on the interstate, excessive erosion, and debris flows and debris slides. North Carolina experienced the wettest year on record in 2018, leading to increased levels of groundwater flow, and multiple heavy-rain events contributing water to the slopes. During the May 2018 event, the ditches on Howard Gap Road (SR 1122) were eroded up to six (6) feet deep and several slides were initiated. This event likely triggered the activation/reactivation of sliding on Howard Gap Road (SR 1122). In 2018, the fill portion of the road began to slide, and it was rebuilt. In late December 2018/early January 2019, the road began to slide again, which led to NCDOT closing the road.
10	Is the proposed project prioritized on a RIP developed in accordance with 23 U.S.C. § 176(e)?	☒ Yes ☐ No <i>NCDOT 2025 Resiliency Improvement Plan, Object ID 5072 – See Attachment J.</i>
11	Has a RIP been incorporated into an applicable State DOT or MPO long range transportation plan?	☐ Yes ☒ No

HEPGIS maps of MPO and 2020 Census Urban Areas to find this information: <https://hepgis-usdot.hub.arcgis.com/apps/72bcd861285c423c9d4aec6b8e48a496/explore>.

II. Budget and Funding

1	PROTECT Competitive Grant Program Request Amount	\$13,485,000 <i>(Note: The Federal share for Resilience Grants should not exceed 80 percent of the total cost of the project. The non-Federal share requirement may be reduced with an applicable RIP (see Section C for cost sharing or matching information). The Federal share for federally recognized Indian Tribes and projects carried out in Territories for all grant categories is 100 percent.)</i>
2	Other Federal Funding	Estimated total of other Federal funding, excluding PROTECT Competitive Grant Program requested funding, in year-of-expenditure dollars: \$0 Other Federal programs and estimated amounts: <i>(add lines as needed)</i> Program: _____ Amount: _____
3	Non-Federal funding	Source: General Maintenance Reserve (GMR) Amount: \$1,000,000 Source: High-Impact Low Costs Amount: \$1,015,000
4	Future Eligible Project Cost	\$15,500,000
5	Previously incurred project costs (if applicable)	Amount: \$1,000,000
6	Total Project Cost	\$16,500,000.00

7	Grant Funds, Sources and Uses of Project Funds (Detailed Budget)	NCDOT is requesting \$13,485,000 (87 percent of the future eligible project cost) in PROTECT Resilience Improvement Grant federal funds to provide improved roadway and drainage infrastructure for residents in Polk County, protect local residents, reduce reliance on detours, and reduce infrastructure susceptibility to future landslides. The estimated future eligible cost for this project is \$15,500,000. Non-federal funding sources aiding implementation of this project, and allocated as the local match, include GMR funding (\$1,000,000) and High-Impact Low Costs (\$1,015,000). Repeat or modify as needed. Activity: Design/NEPA Cost: \$1,000,000 Activity: Utility Cost: \$250,000 Activity: Right-of-way Acquisition Cost: \$200,000 Activity: Construction Cost: \$9,640,750 Activity: Roadway Contingency (40% Roadway Costs) Cost: \$1,188,000 Activity: Walls & Wet Utilities Contingency (20% Wall & Utility Costs) Cost: \$1,221,250 Activity: Geotechnical Recommendations Contingency Cost: \$2,000,000 Total Cost: \$15,500,000 ☒ A detailed budget is attached separately. The file is named: Attachment D – Project Cost Estimate
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8	Does the project involve the construction of new capacity?	☐ Yes <i>If yes, specify in the budget the amount of grant funding that will fund the construction of new capacity (may not exceed 40 percent).</i> ☒ No
9	Does the project involve development phase activities, including planning, feasibility analysis, revenue forecasting, environmental review, preliminary engineering and design work, and other preconstruction activities described under 23 U.S.C. § 176(d)(5)(F)(i)?	☒ Yes <i>\$1,000,000 for Preliminary Engineering</i> ☐ No
10	Has the applicant submitted previous applications for Federal funding for this project?	☐ Yes ☒ No

III. Merit Criteria

In the space below, describe how the project will meet the merit criteria and the associated objectives as found in Section F of the FYs 2024 through 2026 PROTECT Competitive Grant Program NOFO. Where appropriate, reference attachments or other sections of the application. Expand the response blocks as needed but limit the length of the merit criteria section of the application to eight total pages in length.

Criterion #1: Vulnerability and Risk
<u>Vulnerability to Current and Future Weather Events and Natural Hazards</u> Howard Gap Road (SR 1122) has a documented history of repeated slope failure associated with intense rainfall, concentrated surface and groundwater flow, drainage deficiencies, and unstable terrain along the Blue Ridge Escarpment. The proposed project will address these vulnerabilities by reconstructing, stabilizing, and enhancing the resilience of the damaged portion of Howard Gap Road (SR 1122) in Polk County, North Carolina. The project is located approximately 0.6 miles east of the Indian Mountain Road (SR 1188) intersection, and current plans encompass approximately 0.5 mile of roadway. The project is currently in preliminary engineering. Slope instability in this area has been documented for decades. In the late 1960s, construction of Interstate 26 along the Saluda Grade, a steep section of the Blue Ridge escarpment near the North Carolina-South Carolina state line, triggered cut-related slides that led to additional geotechnical investigations and modifications to the interstate alignment and slopes. Later investigations continued to identify the importance of controlling groundwater and maintaining drainage systems to support slope stability. More recent failures demonstrate the continued vulnerability of Howard Gap Road (SR 1122). On May 18, 2018, the project area received up to eight inches of rain in approximately three

hours. Stormwater infrastructure was overwhelmed, resulting in flooding, erosion, debris flows, and slope movement. Ditches along Howard Gap Road (SR 1122) eroded as much as six feet deep, and several slides were initiated. The roadway was repaired and reopened in November 2018.

Slope movement resumed following additional rainfall in late 2018 and early 2019. A December 2018 debris slide covered approximately 10.7 acres and nearly impacted a residence downslope. In January 2019, a recurring slope and roadway failure required NCDOT to close Howard Gap Road (SR 1122) again. The road remains closed to this day.

NCDOT has continued to address drainage problems in the area. In October 2021, NCDOT let a \$16.5 million project to address surface and underground drainage issues on Interstate 26 and Howard Gap Road (SR 1122). The proposed PROTECT project builds on those improvements by stabilizing the failed portion of Howard Gap Road (SR 1122), reconstructing the roadway, and improving drainage through the project area.

When Hurricane Helene struck North Carolina in September 2024, it further demonstrated the vulnerability of transportation infrastructure in the Saluda area. Helene caused significant damage to nearby US176 between Saluda and Tryon. The highway remains closed, and in August 2026 a \$32 million contract was awarded to reconstruct 16 damaged sites along approximately 1.1 miles of US 176. Reconstruction is expected to continue through late 2029, with Interstate 26 serving as the detour during the closure.

The loss of US 176 further reduces transportation redundancy in the Saluda area and increases reliance on Interstate 26 for regional and local travel. Restoring Howard Gap Road would not only eliminate the approximately 16-mile detour required for affected trips, but would also restore critical network redundancy, improve routing options for emergency responders and utility operators, and reduce dependence on a single corridor during incidents, severe weather events, maintenance activities, or future disruptions.

Exposure, Sensitivity, and Adaptive Capacity

Exposure

Howard Gap Road (ID # 5072) scores a 2 out of 3 on the Geotech Exposure Index in the NCDOT Resiliency Improvement Program (RIP). The Howard Gap Road (SR 1122) project area remains exposed to heavy precipitation, surface runoff, groundwater, erosion, and associated slope movement. These conditions have resulted in repeated roadway damage and closure, including the 2018 and 2019 failures. The history of slope instability along the Saluda Grade, together with location in an area susceptible to heavy rainfall during hurricane season demonstrates the continuing exposure of transportation facilities in this area to rainfall-related erosion and slope hazards.

Sensitivity

Howard Gap Road (ID # 5072) scores a 3 out of 3 on the Sensitivity Index for bridges, culverts, and roads in the RIP. The project area contains roadway embankment soils, colluvial soils, residual soils, weathered rock, and bedrock. The 2019 geologic evaluation identified an

active landslide area approximately 260 feet south of Interstate 26 and documented the role of concentrated surface water and groundwater in repeated failures.

The potential impacts of continued slope movement extend to adjacent infrastructure. Interstate 26 is immediately upslope of the project area, while Duke Energy transmission infrastructure, emergency water lines, and communications infrastructure are also located in or near the affected area. The closure of Howard Gap Road (SR 1122) has reduced maintenance access to some of these critical utilities. Residences are also located downslope of the landslide area.

Adaptive Capacity

Howard Gap Road (ID # 5072) scores a 2 out of 3 on the Criticality Index for bridges, culverts, and roads. Transportation redundancy in the area is currently limited. Howard Gap Road (SR 1122) remains closed, and the US 176 between Saluda and Tyron remains closed following Hurricane Helene. Interstate 26 is currently serving as the detour for the US 176 and is expected to continue serving this function while reconstruction is completed through late 2029. Restoring Howard Gap Road (SR 1122) will return an existing local roadway connection to service and provide additional redundancy within the transportation network.

Level of Risk

Past events demonstrate both the likelihood and consequences of additional slope movement. Howard Gap Road (SR 1122) was damaged in May 2018 by Tropical Storm Alberto, repaired and reopened, and subsequently failed again following continued rainfall in early 2019. The area has also experienced other tropical storm events, including Tropical Storm Cindy in 2005. This history of exposure to severe storms, combined with prior rainfall-related slope failures, demonstrates an ongoing risk of future slope movement and roadway damage. The resulting closure from major rainfall events in 2019 has now continued for more than seven years.

The landslide area is approximately 260 feet south of Interstate 26. Continued slope movement could affect Howard Gap Road (SR 1122), nearby utilities and properties, and infrastructure closer to Interstate 26. These risks are more consequential while nearby US 176 remains closed and Interstate 26 serves as its detour.

The proposed improvements will address the existing failure and reduce the potential for future damage through slope stabilization, retaining structures, reconstructed drainage facilities, roadway reconstruction, and associated improvements.

Criterion #2: Criticality to American Families and Communities

Transportation Connectivity

Howard Gap Road (SR 1122) provides local connectivity through the Saluda Grade area of Polk County. The road has been closed through the project area since 2019. The current closure results in an approximately 16-mile detour and approximately 30 minutes of additional travel time for affected trips.

The importance of restoring this connection has increased following Hurricane Helene in 2024. US 176, another route connecting the Saluda and Tryon areas, sustained extensive damage during the storm and remains closed. NCDOT awarded a \$32 million construction contract in August 2026 to repair 16 damaged locations along approximately 1.1 miles of US 176. The roadway is expected to remain closed through late 2029, and Interstate 26 is serving as the detour.

Howard Gap Road (SR 1122) provides an important connection for American families in the area, as well as emergency responders, and utility access. Approximately 8,976 households are in Polk County where Howard Gap Road (SR 1122) is located, with 3,195 children enrolled in school who reside in the county, according to the 2024 American Community Survey. The existing closure requires families and school transportation traveling through the corridor to use the established detour, which adds approximately 16 miles and 30 minutes to affected trips. This increased travel time impacts American families by increasing their mileages, fuel expenses, and inhibits access to schools, churches, jobs, hospitals, and other essential destinations in the area. Restoring Howard Gap Road (SR 1122) would reduce the transportation burden on families, emergency responders, and other travelers alike.

Timeliness and Consequences of Continued Closure

Howard Gap Road (SR 1122) has remained closed for more than seven years. Without this project, the road will remain closed and the underlying slope instability will remain a concern. NCDOT project estimate identifies \$10.9 million in right-of-way, utility, and construction costs to complete the project. The project is currently undergoing preliminary engineering.

The long-term closure of US 176 further increases the need to restore connectivity. In addition to removing another route from service, US 176's closure directs traffic to Interstate 26. Reconstruction of US 176 is not expected to be complete until late 2029.

Constructing the Howard Gap Road (SR 1122) project will address an existing transportation failure before additional deterioration of the site increases the scope or cost of repairs. The project will also restore an existing route while the surrounding transportation network continues to recover from Hurricane Helene. Restoring this connection will reduce travel times by approximately 30 minutes for some trips, lowering fuel costs to American families, and will improve access to homes, jobs, services, and other destinations.

Community and Emergency Functions

Howard Gap Road (SR 1122) supports access for residents, emergency services, and utility maintenance in rural Polk County. NCDOT has coordinated with Polk County Commissioners, Polk County Emergency Management, the Mountain Transportation Management Center, and leadership in the towns of Saluda, Columbus, and Tryon on the project.

The project area also contains or provides access to Duke Energy transmission infrastructure, emergency water lines, and communications infrastructure. The existing road closure has limited reliable maintenance access to these facilities. Reopening Howard Gap Road (SR 1122) will improve access for maintenance and emergency response while restoring additional connection for residents.

The need for transportation redundancy in this region is evident under current conditions. With both Howard Gap Road (SR 1122) and U.S. 176 closed, Interstate 26 carries traffic that otherwise could use these local and regional connections. Restoring Howard Gap Road (SR 1122) will provide an additional option for local travel and emergency access and improve the ability of the transportation system to function during roadway incidents or emergencies.

Criterion #3: Design Elements, including Addressing Core Infrastructure

Design Elements and Service Life

The proposed project will reconstruct an approximately 0.5-mile section of Howard Gap Road (SR 1122) and address the drainage and slope-stability conditions associated with previous failures. The proposed improvements include roadway reconstruction, paved shoulders, drainage improvements, slope-stability measures, guardrail, and retaining-wall construction.

The proposed roadway will generally include two 10-foot lanes, shoulders, guardrail, and curb and gutter in applicable locations. The design also includes drainage improvements, paving, grading, and a retaining wall through a portion of the affected area.

Retaining Wall #1 is shown from approximately Station 24+02.74 to Station 30+04.71, a length of approximately 602 feet along the roadway alignment. The wall will provide structural support within the portion of Howard Gap Road (SR 1122) affected by slope instability. The anticipated service life of the reconstructed roadway combined with resilience improvements is 75 years.

Evidence-Backed Design

The project design is based on historic and current investigations of slope and drainage at Howard Gap Road (SR 1122). These include investigations associated with Interstate 26 and the Saluda Grade, the 2019 *Report for Geologic Evaluation for Slope Stability: I-26 and Howard Gap Road Rehab*, completed by Appalachian Landslide Consultants.

Previous geotechnical work identified poorly compacted roadway embankment soils, colluvial soils, residual soils, weathered rock, and bedrock within the project area. Soil borings and seismic refraction have been identified as methods for defining subsurface conditions and supporting the geotechnical design.

Current drainage plans evaluate runoff throughout the project area and establish proposed drainage improvements based on site-specific drainage areas, terrain, grades, and calculated flows. Preliminary calculations use a rainfall intensity of 6.07 inches per hour at the analyzed locations.

Most recent plans identify new and modified drainage facilities including concrete ditches, catch basins, open-throat catch basins, pipe systems, special pipe connections, riprap, and stabilized outlets. The plans also identify existing drainage components to be removed, replaced, retained, or modified. See Attachment F for engineering plans that show the roadway and drainage plans, proposed cross section, and retaining wall.

Reducing Current and Future Vulnerabilities

As mentioned earlier, Howard Gap Road (ID # 5072) scores a 2 out of 3 on the Geotech Exposure Index and a 3 out of 3 on the Sensitivity Index for bridges, culverts, and roads in the RIP. The proposed design addresses drainage and slope instability together. Drainage improvements will collect and convey surface runoff through designed facilities and reduce uncontrolled flow and erosion within the roadway and slope. Proposed improvements include concrete ditches, catch basins, new pipe systems, stabilized outlets, and other drainage structures.

Roadway reconstruction will restore the transportation facility following stabilization of the failed area. The preliminary pavement design includes asphalt base and surface courses, and the roadway plans provide shoulders, guardrail, drainage features, grading, and tie-ins to the existing roadway. These improvements directly address the conditions associated with previous failures, including poor drainage, erosion, unstable roadway embankment, and slope movement.

Condition and Safety

The failed section of Howard Gap Road (SR 1122) is currently closed to traffic. Because the roadway has been closed since 2019, recent crash data are not available to evaluate safety conditions under normal roadway conditions. Construction of the proposed improvements will restore the roadway and improve its condition through slope stabilization, retaining infrastructure, pavement reconstruction, guardrail, shoulders, and associated roadside improvements.

Restoring Howard Gap Road (SR 1122) will also reduce roadway exposure associated with the existing detour. Affected trips currently require an approximately 16-mile detour, resulting in additional vehicle miles traveled on the surrounding roadway network. Reopening Howard Gap Road (SR 1122) will restore a more direct connection and reduce the distance traveled for these trips by up to approximately 16 miles.

The proposed drainage improvements will replace or modify deteriorated and inadequate drainage facilities and provide defined pathways for runoff through the project area. The retaining-wall and stabilization improvements will support the roadway through the area affected by slope movement. Together, these improvements will reduce the conditions that contributed to previous roadway damage and closure.

Operations and Maintenance

NCDOT will be responsible for Howard Gap Road (SR 1122) and the associated improvements following construction. Long-term maintenance will include the roadway,

drainage facilities, retaining infrastructure, guardrail, and other project elements, and will also be managed by NCDOT.

Maintenance of the drainage system will be particularly important to the long-term performance of the project. Historical investigations of the Saluda Grade identified drainage and groundwater management as important to maintaining slope stability, and the proposed project includes multiple facilities designed to collect and convey runoff through the project area.

NCDOT will maintain the project through the General Maintenance Reserve including annual routine maintenance and emergency repairs, with full pavement resurfacing every 20 years, and replacement of drainage structures every 40 years.

Wayfinding and Accessibility

The project will restore predictable operation of an existing public roadway that is currently closed through the project area. The reconstructed facility will provide two defined travel lanes, shoulders, roadside safety improvements, driveway connections, and appropriate traffic-control and warning features consistent with applicable NCDOT requirements.

Restoring Howard Gap Road (SR 1122) will benefit families, older residents, people with disabilities who rely on motor vehicle transportation, caregivers, and emergency responders by restoring a direct roadway connections and reducing reliance on longer alternate routes.

Criterion #4: Innovation

NCDOT has used Howard Gap Road (SR 1122) as a research site to evaluate emerging technologies for monitoring landslide movement and changing slope conditions. The research has included drone-based LiDAR and satellite imagery to evaluate changes across the landslide area over time. Baseline LiDAR data developed through this research will be used to inform the Howard Gap Road (SR 1122) project and provide a baseline for evaluating slope conditions during and following construction. Subsequent observations can be compared with baseline conditions to identify changes in the slope and support long-term monitoring of the reconstructed roadway and stabilization improvements.

NCDOT expanded this work through the use of freely available satellite imagery to increase the spatial extent of monitoring from point sampling to broader area characterization. The research also evaluated machine-learning methods to hindcast previous conditions and forecast the occurrence and extent of debris flows and slope failures.

This monitoring approach will complement the project's structural and drainage improvements, including retaining infrastructure, slope-stability measures, reconstructed drainage systems, grading, and pavement reconstruction. Integrating the research findings into project delivery will apply an emerging monitoring technique directly to the transportation asset for which the research was developed, while providing NCDOT with information that can support inspection and management of slope conditions following construction.

IV. Project Readiness

In the space below, describe how the project will meet the readiness considerations and the associated elements as found in Section F of the FYs 2024 through 2026 PROTECT Competitive Grant Program NOFO. Where appropriate, reference attachments or other sections of the application. Expand the response blocks as needed but limit the length of the project readiness section of the application to six total pages in length.

Readiness: Technical Assessment

NCDOT has the technical, administrative, and financial capacity to deliver the Howard Gap Road (SR 1122): Resilience after Landslides project. The project has advanced through preliminary engineering, with 25 percent plans completed in July 2026 and approved in August 2026. Updated draft drainage plans were prepared in September 2026 and submitted for review. Geotechnical exploration has been completed, and the supporting geotechnical reports are being finalized. NCDOT anticipates advancing the project to approximately 75 percent design upon grant award.

NCDOT has already committed \$1 million in State funds to preliminary engineering for Howard Gap Road (SR 1122). This investment has supported project design, geotechnical exploration, drainage design, and refinement of the project scope and cost estimate. NCDOT Division 14 will lead project delivery with support from NCDOT's applicable roadway design, geotechnical, hydraulics, environmental, right-of-way, utility, construction, grants, and

financial management resources. NCDOT has successfully delivered many USDOT grant projects, including the 2022 I-85 FUTURES MPDG-INFRA grant, 2022 STERLING MPDG-MEGA grant, 2018 GREATER-NC BUILD grant, and several others.

The project has advanced beyond conceptual planning. Current plans reconstruct approximately 0.5 mile of Howard Gap Road (SR 1122) and include two 10-foot travel lanes with 2-foot paved shoulders. On the fill/mountain side, a 2-foot, 6-inch curb and gutter will connect to a 6-foot concrete ditch to provide hydraulic conveyance and erosion control. Other improvements include upgraded drainage ditches, guardrail in impacted areas, slope-stability improvements, a retaining wall, and restoration of the 6-foot concrete ditch. The project will reconstruct the existing roadway and will not add roadway capacity.

The project design has been refined to reduce cost and construction impacts while maintaining the improvements necessary for long-term roadway stability and drainage. Earlier repair estimates were approximately \$20 million to \$22 million. Through preliminary engineering and refinement of the roadway cross-section, NCDOT has reduced the current project estimate to approximately \$11 million. The current design uses traditional transportation and geotechnical treatments, and NCDOT anticipates delivering the project through a conventional design-bid-build process.

NCDOT will deliver the project in compliance with applicable Federal requirements. The project will be administered in accordance with Title 23 and applicable Federal-aid requirements, including environmental review, right-of-way procedures, competitive procurement, domestic preference requirements, Federal financial assistance requirements, and other requirements applicable to the PROTECT award. NCDOT will seek to comply with FHWA's domestic preference requirements for all construction materials.

The current scope is based on documented field conditions and preliminary engineering rather than a conceptual cost or scope. Remaining project development activities include completion of geotechnical design/final retaining-wall design, final roadway and drainage design, right-of-way acquisition, utility coordination/relocation, and completion of required environmental review and permitting. These activities will be advanced according to the project schedule provided in Attachment E: Project Schedule.

The current NCDOT project evaluation identifies right-of-way, utilities, and construction as remaining project costs and estimates these phases at approximately \$10.9 million as of July 22, 2026. The more advanced preliminary engineering completed in 2026 has allowed NCDOT to better define the extent of the roadway, retaining, and drainage improvements necessary to construct the project.

Following a PROTECT award, NCDOT will complete the remaining project-development activities and advance the project to construction in accordance with applicable Federal and State requirements. Final design is anticipated to be completed in November 2028, with letting completed February 2029, and construction is anticipated to be completed in February 2031.

Readiness: Financial Completeness Assessment

NCDOT's current project cost is based on preliminary engineering and continued refinement of the improvements needed to restore Howard Gap Road (SR 1122). Initial estimates prepared earlier in project development placed the repair at approximately \$20 million to \$22 million. Recognizing the need to better define the project before pursuing construction funding, NCDOT committed \$1 million in State funding to preliminary engineering. That work has advanced the design to 25 percent, completed geotechnical exploration, refined the drainage and stabilization approach, and identified opportunities to reduce the project footprint and construction cost. The resulting current estimate is approximately \$15.5 million.

The reduction in estimated cost reflects design development rather than a reduction in the project's resilience objectives. The current design retains the features necessary to address the conditions at the site, including slope stabilization, retaining infrastructure, improved drainage, erosion control, and full reconstruction of the failed roadway. The roadway cross-section has been tightened to reduce impacts and unnecessary construction while providing two 10-foot lanes, 2-foot paved shoulders, guardrail in impacted areas, and the drainage facilities necessary to manage runoff through the project area

Current project estimate totals \$14,300,000 in year-of-expenditure dollars and includes \$200,000 for right-of-way, \$250,000 for utilities, \$2,451,000 for construction engineering and inspection, and \$4,408,848 in contingency.

NCDOT is requesting \$13,485,000 in PROTECT funding and will provide \$2,015,000, or 13 percent, as the non-Federal share. NCDOT has identified General Maintenance Reserve and High-Impact/Low-Cost State funds for the match, with \$ 1,000,000 from General Maintenance Reserve and \$1,015,000 from High-Impact/Low-Cost funds. These funds will provide the full non-Federal share necessary to complete the project without reliance on another discretionary grant award. A financial commitment letter documenting availability of the State match is included with the application.

NCDOT has already incurred \$1,000,000 in State funding for preliminary engineering and other project-development costs to advance design. Previously incurred costs are identified separately from the future costs included in the PROTECT funding package and are not being used to satisfy the non-Federal match. The PROTECT-funded portion of remaining development-phase activities is \$1,000,000, representing 7 percent of the requested grant.

The project budget also accounts for the risk of cost changes as final design and geotechnical work are completed. The current estimate includes a 40% contingency (\$1,188,000) on roadway items and a 20% contingency (\$1,220,848) on walls and wet utilities. Because the project cost will be heavily influenced by geotechnical recommendations, which are still in progress, a \$2 million contingency has been added as a line item. NCDOT will update the estimate at established design milestones using current quantities and unit prices and will manage the project within the available grant and State funding. Should final costs exceed the current estimate and available contingency, NCDOT will use the General Maintenance Reserve to address the additional cost and maintain the project schedule. This approach

provides a defined source for potential overruns without reducing the resilience features that are central to the project.

NCDOT will continue to own and maintain Howard Gap Road (SR 1122) following construction. Because the project reconstructs an existing State-maintained roadway, its pavement, retaining structures, drainage facilities, shoulders, guardrail, and other improvements will be incorporated into NCDOT's existing asset maintenance program. During the final five operating years before closure, NCDOT has spent approximately \$21,494.60 annually on routine maintenance of Howard Gap Road (SR 1122), or a cumulative \$107,473.00. Following severe storms from the federally declared Tropical Storm Alberto in May 2018, NCDOT executed a substantial emergency restoration contract totaling \$1,522,030.00 to perform immediate pavement, grading, drainage, and erosion control repairs along the corridor. However, an undeclared storm event in January 2019 destroyed much of these repairs, forcing the closure of the route that same month. The corridor remains closed today.

In addition to annual routine maintenance and emergency repairs, the corridor requires long-term lifecycle pavement and drainage restorations. Full pavement resurfacing is required every 20 years at a baseline cost of \$830,000.00. The drainage structures require replacement on a 40-year lifecycle. The existing inventory consists of approximately 900 linear feet (LF) of corrugated metal pipe; at a current market rate of \$150.00/LF, full drainage network replacement represents a baseline capital requirement of \$135,000.00.

Following construction, annual maintenance is estimated to be reduced due to reduction in recurring maintenance fees due to new infrastructure compared to maintenance experienced prior to the corridor washing out. These will be funded using the General Maintenance Reserve, which has dollars allocated annually. The project is not anticipated to require a new or separate revenue source for long-term operations or maintenance.

The financial plan builds on NCDOT's existing investment to complete a project whose scope and cost have become substantially better defined through preliminary engineering. With the non-Federal share identified, the cost estimate refined through 25 percent design, contingency incorporated into the budget, and long-term maintenance provided through NCDOT's existing maintenance program, the project has a defined funding pathway from the current stage of design through construction and long-term operation.

Readiness: Permitting Risk Assessment

Howard Gap Road (SR 1122) will be reconstructed generally within the existing transportation corridor, limiting the environmental, right-of-way, and utility impacts associated with project delivery. The project does not establish a new roadway alignment or add travel lanes. Instead, the improvements have been developed around the existing roadway footprint and the specific areas requiring slope stabilization, drainage improvements, and retaining infrastructure.

Environmental documentation is anticipated to be complete by 2027, and right-of-way certification is anticipated to be complete with final plans submitted by late 2028, consistent with the project's first quarter 2029 construction start. The anticipated NEPA class of action is Categorical Exclusion (CE). Current project development has not identified live streams within the project area. The preliminary design has also established the limits and general configuration of the proposed roadway, retaining wall, and drainage improvements, allowing environmental review to proceed from a defined project footprint as design advances.

Drainage and erosion control have been considered carefully during preliminary design because of previous roadway failures. The current design includes improved drainage ditches, curb and gutter, restoration of a 6-foot concrete ditch, and other drainage features needed to convey runoff through the project area. The project is not anticipated to require any environmental permits unless Polk County decides to reattach their water line, in which case a water line permit will be required from the North Carolina Department of Environmental Quality (NCDEQ) and approvals will be obtained by August 2027, prior to construction authorization. NCDOT is also confirming whether a permit or other action will be necessary for an abandoned water line within the project area.

Property acquisition is expected to be limited. Howard Gap Road (SR 1122) is located within the Interstate 26 right-of-way, and the only additional property need currently anticipated is a temporary easement to provide equipment access for construction of the retaining wall. The project is expected to require 2 temporary easements totaling approximately 0.9 acres and 0 permanent acquisitions. Right-of-way activities are scheduled to begin in October 2027 and conclude by October 2028.

Utility risk is also expected to be limited. No utility relocations are currently anticipated. NCDOT is confirming the status of the abandoned water line and will resolve any necessary coordination as design advances. Confirmation of utility impacts/clearance is anticipated by October 2028. Addressing these issues during final design will allow right-of-way, utility coordination, environmental documentation, and design to advance concurrently without delaying the planned construction start.

The project also has substantial community awareness following more than seven years of closure. Residents have consistently raised concerns regarding the additional mileage, travel time, and reduced reliability caused by the closure, particularly for access to medical care and emergency services. Affected trips currently face an approximately 16-mile detour that adds approximately 30 minutes of travel time. The Rixhaven community has been especially impacted, with residents forced to use the 30-minute detour to access most daily necessities. NCDOT has also coordinated with Polk County and the communities of Saluda, Tryon, and

Columbus concerning the project and will continue stakeholder coordination as design and construction progress.

The extensive period of public interest has helped NCDOT understand the principal concerns associated with Howard Gap Road (SR 1122), particularly reliable local access, emergency response, and the length and duration of the existing detour. There is no known unresolved public controversy regarding the proposed project, no known litigation concerning the project, and no known agency opposition on environmental grounds. NCDOT is not aware of any other unmitigated issues that would present a high risk to project delivery.

The remaining approval process is incorporated into the project schedule rather than deferred until final design. Environmental and survey activities are anticipated to wrap up August 2027, with right-of-way activities finalized October 2028, and with construction beginning March 2029. By the time grant funding is anticipated to become available, NCDOT expects design to have advanced from the currently approved 25 percent plans to approximately 75 percent.

This sequencing allows environmental documentation, final design, the limited temporary easement, and remaining utility coordination to advance in parallel where appropriate. With the project confined generally to an existing roadway corridor, no major utility relocation anticipated, limited additional property needs, a defined drainage and stabilization design, and substantial engineering already completed, no permitting or approval issue identified to date is expected to prevent NCDOT from maintaining the proposed project schedule.

V. Statutory and DOT Selection Priorities

In the space below, describe how the project will meet the selection priorities in Section F of the FYs 2024 through 2026 PROTECT Competitive Grant Program NOFO. Where appropriate, reference attachments or other sections of the application. Expand the response blocks as needed but limit the length of the statutory and DOT selection priorities section of the application to three total pages in length.

Statutory Selection Priorities

Check all that apply to the project:

For Resilience Improvement Grants:

- ☐ The benefits of the eligible activity proposed to be carried out by the eligible entity exceed the costs of the activity (as demonstrated by the economic analysis); and
- ☐ There is a need to address the vulnerabilities of surface transportation assets of the eligible entity with a high risk of, and impacts associated with, failure due to the impacts of weather events, natural disasters, or changing conditions, such as sea level rise, wildfires, and increased flood risk;
- or
- ☒ The eligible activity is included in a RIP as described by 23 U.S.C. 176(e)(2).
- ☐ None of the above apply to the project.

For Community Resilience and Evacuation Route Grants:

- ☐ The activities are cost-effective (as demonstrated by the results of the economic analysis), taking into account: (1) current and future vulnerabilities to an evacuation route due to future occurrence or recurrence of emergency events that are likely to occur in the geographic area in which the evacuation route is located; and (2) projected changes in development patterns, demographics, and extreme weather events based on the best available evidence and analysis.
- ☐ None of the above apply to the project.

Statutory Selection Priorities: *Briefly describe below how the project meets the checked statutory priorities.*

The Howard Gap Road (SR 1122) project meets the statutory priorities for a Resilience Improvement Grant by addressing a transportation asset that faces repeated severe weather-related failures, and by implementing an improvement identified in the North Carolina Climate Risk Assessment and Resilience Plan. The project will restore an existing road that has remained closed since 2019 while addressing the drainage, erosion, and slope-stability conditions associated with previous failures.

NCDOT has continued to investigate and address the underlying landslide vulnerability. The project area is within the Interstate 26 right-of-way in an area with documented geotechnical challenges. NCDOT previously completed drainage improvements near Interstate 26, including new piping down the slope and within the interstate median, and has since invested \$1 million in State funds to advance preliminary engineering for Howard Gap Road (SR 1122). Geotechnical exploration for the proposed project is complete, and approved 25 percent plans include slope-stability improvements, retaining infrastructure, improved drainage and erosion control, and reconstruction of the existing roadway.

The need to restore transportation redundancy has increased following Hurricane Helene. Nearby US 176 between Saluda and Tryon remains closed following extensive storm damage, with Interstate 26 serving as the detour during reconstruction. Restoring Howard Gap Road (SR 1122) will return an additional existing connection to the local transportation network and improve reliable access for residents and emergency services while addressing the conditions associated with previous roadway failures.

The project addresses concerns outlined in North Carolina's Climate Risk Assessment and Resilience Plan, such as planning for increased risk from severe weather and building resilient infrastructure to sustain extreme weather events. The proposed project directly advances that priority through reconstruction and stabilization of an existing transportation asset with a demonstrated history of recurring failure.

The repeated failure of Howard Gap Road (SR 1122), the prolonged impacts of the existing closure, documented geotechnical conditions, and reduced redundancy within the surrounding transportation network demonstrate the need to address this vulnerability in the near term. The project will replace repeated response to roadway failure with a defined resilience improvement designed to reduce the likelihood and consequences of future damage.

DOT Selection Priorities

Check all that apply to the project (DOT will utilize information in other portions of the application to determine responsiveness to the other Selection Priorities listed in the NOFO):

- ☐ The project supports critical infrastructure for industries of national interest.
- ☐ The project would contribute to promoting economic prosperity in communities, including rural areas and Tribal communities.
- ☒ The project prioritizes improvement of the condition and safety of existing transportation infrastructure, particularly infrastructure with high cost of failure, such as bridges with lengthy detours, impacts to critical corridors, or failures that will cause economic disruption.
- ☒ The project demonstrates an ability to meet PROTECT Competitive Grant Program obligation deadlines.
- ☐ The project improves access to national security and defense facilities or facilitate movement of military cargo or personnel.
- ☐ The project will reduce roadway traffic congestion.
- ☐ The project repurposes existing specialized travel lanes for bicycles, buses, or pedestrians for general purpose use by all motor vehicles, including single-occupant motor vehicles, and the applicant demonstrates the repurposing will meet the PROTECT program purpose, will reduce congestion on the facility, will utilize 40 percent or less of requested PROTECT funds for adding capacity consistent with 23 U.S.C. 176(d)(5)(G)(i)(I), will address safety consistent with the merit criteria described in Section F of the NOFO, and will comply with applicable federal requirements, including the Clean Air Act and criteria under 23 U.S.C. 217(e).
- ☐ None of the above apply to the project.

DOT Selection Priorities: *Briefly describe below how the project meets the checked DOT priorities.*

The Howard Gap Road (SR 1122) project directly advances DOT's priority to improve the condition and safety of existing transportation infrastructure where failure results in lengthy detours, impacts critical corridors, and causes economic disruption. Howard Gap Road (SR 1122) has remained closed since the 2019 slope failure, resulting in an approximately 16-mile detour and 30 minutes of additional travel time for affected trips. The closure has persisted for more than seven years, increasing travel distance and reducing reliability for residents who depend on the surrounding road network to reach employment, businesses, medical care, and emergency services. Residents of the Rixhaven community have been particularly vocal about the additional mileage and travel time caused by the closure.

The consequences of the closure extend beyond Howard Gap Road (SR 1122) itself. Howard Gap Road (SR 1122) is located within the Interstate 26 right-of-way in an area with documented geotechnical challenges, and Interstate 26 provides one of the detour routes around the existing closure. The surrounding network has become more constrained following Hurricane Helene, which caused extensive damage to nearby U.S. 176 between Saluda and Tryon. U.S. 176 remains closed during reconstruction, further concentrating travel on the limited routes that remain available. Restoring Howard Gap Road (SR 1122) will return an existing connection to service, reduce the current 16-mile detour for affected trips, and provide additional network redundancy when incidents, severe weather, construction, or other disruptions affect surrounding corridors.

The prolonged closure also imposes economic costs on families and communities. Each affected trip requires additional mileage and travel time, increasing household transportation costs and time spent traveling while reducing the reliability of access to jobs, businesses, services, and medical care. These impacts accumulate as the closure continues. Restoring Howard Gap Road (SR 1122) will remove an existing transportation barrier rather than add new capacity, providing a more direct and reliable connection for residents and improving access to the surrounding communities and regional transportation network. **Reconstructing Howard Gap Road (SR 1122) will restore access to approximately 500 vehicles per day or 182,625 annual vehicles, that previously traveled along the roadway until the closure in 2019. Reconstruction will also reduce the dependency on Interstate 26 for local traffic, thereby improving flow of freight traffic and movement of goods along the Interstate.**

NCDOT's proposed improvements address the cause and consequences of this existing infrastructure failure rather than providing another short-term repair. The project will reconstruct approximately 0.4 mile of Howard Gap Road (SR 1122) and provide improved drainage and erosion control, slope-stability features, retaining infrastructure, paved shoulders, and guardrail in impacted areas. The project builds on previous NCDOT drainage work near Interstate 26 and \$1 million in State funding already committed to advance preliminary engineering. The resulting project will restore the roadway while reducing its vulnerability to the drainage, erosion, and slope conditions associated with previous failures.

The project is also positioned to advance promptly following award. NCDOT completed 25 percent plans in July 2026, approved those plans in August 2026, submitted updated drainage plans for review in September 2026, and has completed geotechnical exploration. NCDOT anticipates advancing design to approximately 75 percent by February 2028, beginning construction in the first quarter of 2029, and completing construction by 2031. Right-of-way needs are expected to be limited to 2 temporary easements for construction access, and no utility relocations are anticipated. NCDOT anticipates obligating PROTECT funds by October 2028 providing a defined pathway from the current design stage to construction within the applicable PROTECT obligation deadline.

VI. Benefit-Cost Analysis

The purpose of the Benefit-Cost Analysis (BCA) is to enable FHWA to assess the project's cost effectiveness by comparing its expected benefits to its expected costs, relative to a no-build scenario for the purpose of project prioritization.

Resilience Improvement Grant 23 U.S.C. § 176(d)(5)(E)(ii)(I)	BCA is required for the project to be prioritized, unless the project is prioritized in a RIP. (see <i>Completing a BCA</i> below) Please check the appropriate box: ☐ The applicant is not requesting Resilience Improvement Grant funds. ☐ The applicant requests Resilience Improvement Grant Funding, and the project <u>is not</u> prioritized in a RIP. A BCA is attached. ☒ The applicant requests Resilience Improvement Grant funding, and the project <u>is</u> prioritized in a RIP. ☐ The application is from a federally recognized Indian Tribe that is requesting Resilience Improvement Grant funds but is opting to provide raw data with its application to support the need for a project, without additional BCA*. The raw data is attached.
Community Resilience and Evacuation Route Grant 23 U.S.C. § 176(d)(5)(E)(ii)(II)	BCA is required for the project to be prioritized. (see <i>Completing a BCA</i> below) Please check the appropriate box: ☒ The applicant is not requesting Community Resilience and Evacuation Route Grant funds. ☐ The applicant requests Community Resilience and Evacuation Route Grant funding, and a BCA is attached. ☐ The application is from a federally recognized Indian Tribe that is requesting Community Resilience and Evacuation Route Grant funds but is opting to provide raw data with its application to support the need for a project, without additional BCA.* The raw data is attached.
At-Risk Coastal Infrastructure Grant 23 U.S.C. § 120(g)	BCA is not required, but applications must demonstrate that the project will reduce long-term infrastructure costs by avoiding larger future maintenance or rebuilding costs. Please check the appropriate box: ☒ The applicant is not requesting At-Risk Coastal Infrastructure Grant funds. ☐ The applicant requests At-Risk Coastal Infrastructure Grant funding and provides a demonstration of such long-term infrastructure cost reductions in the project application Summary section.

* Federally recognized Indian Tribe applicants for all PROTECT Resilience Grants may opt to provide raw data with their application to support the need for a project, without additional BCA (see *Alternatives to a BCA* below).