**Table 1: Defining the Project and Outlining the Scope of Work**

| *Item* | *Text* |
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| **Goal Implementation Team (GIT)** | STAR: Climate Resiliency Work Group (CRWG) |
| **Project Priority #** | #1 for CRWG |
| **Preparer Name(s)** (name(s) and email(s)) | Jennifer Dopkowski<br>NOAA<br>Jennifer.Dopkowski@noaa.gov<br><br>Jeremy Hanson<br>Virginia Tech \| Chesapeake Bay Program<br>jchanson@vt.edu |
| **Proposed Project Title** (10 words or less) | Scorecard to Track Climate Resilient Actions |
| **Project Type** | • Support for science needed to develop metrics<br>• Metric/index development<br>• Performance measure development |
| **Proposed Outcomes** | Report of recommended scorecard and the associated methodology to track relevant indexes of improved climate resilience resulting from implementation of management actions for state, local, academic and community partners |
| **CBPO Creative Team Component(s)** (Yes or No) | Yes, as participants of steering committee and the workshop for this proposed phase |
| **Justification** (500 words or less) | The Chesapeake Bay Program's Climate Resiliency Work Group initiated a FY2016 GIT-funding project to develop a suite of indicators to track and analyze trends and impacts of climate change on the Bay. That effort identified a range of potential indicators that included physical climate trends, ecological and societal impacts, and physical measures of progress toward resilience. The logical framework described in the final report for this previous project[1] can help guide discussions at the workshop and among the steering committee for this new effort. As of yet, there are no Bay-wide indices that measure the state or level of climate resilient adaptation at local or regional scales. Scorecards at the local or regional scale provide a more personal representation of climate resilient adaptions occurring within that area which helps leaders and citizens understand how their local actions combat a more complex global issue. In return, this will make them aware of management actions that increase climate resiliency and encourage them to promote the design and siting of more climate resilient actions.<br><br>This project and other concurrent efforts by the partnership to understand relevant co-benefits of BMP implementation and the potential effects of a changing climate on BMPs can mutually benefit one another. For example, this proposed work can address needs identified in the STAC workshop report "Monitoring and Assessing Impacts of |

[1] ERG, Inc. 2018. Climate Change Indicators for the Chesapeake Bay Program: An Implementation Strategy. 169 pp. https://www.chesapeakebay.net/channel_files/31218/indicator_implementation_plan_-_revised_-_07-13-18.pdf

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| | Changes in Weather Patterns and Extreme Events on BMP Siting and Design,"[2] and potentially utilize outcomes from FY2018 projects titled "Quantification of the Value of Green Infrastructure Hazard Mitigation Related to Inland and Coastal Flooding," and "Social Marketing to Improve Shoreline Property Management Outcomes." The indexes chosen for the recommended scorecard will also be selected through outreach to, and consultation with, diverse local and regional stakeholders in accordance with the 2014 Bay Agreement and the recently-adopted programmatic climate policy for Phase III WIPs which includes criteria to capitalize on co-benefits. |
| **Proposed Project Steps and Timeline** | The proposed project will be implemented over the course of three general phases for a combined request of $75,000. The general potential breakdown of the expenses by phase is included here, but only as an approximate suggestion.<br><br>**First phase:**<br>The project contractor will:<br>• convene a project steering committee;<br>• lead the committee in defining principles of climate resilient adaptation for the purpose of the project based upon available literature and existing partnership documents when possible;<br>• develop and implement a work plan to identify potential and viable metrics for climate resilient adaptation, building from the framework recommended by ERG, Inc. (2018).<br>The steering committee will be formed with Jurisdictional and Bay Program representation, scientists and engineers, managers, and other active stakeholders. The Steering Committee will:<br>• work along with the contractor to define a target audience whose perceptions and insight could significantly impact the adoption of the scorecard. Audiences to be considered include state and local officials, community leaders, academic partners, concerned citizens, and other stakeholders.<br>• direct the contractor to conduct audience research to understand the demographic and geographic characteristics, perceptions, and priorities for measuring resilience and identify existing resources to support development of potential set of indexes.<br><br>This information will be used as background for a workshop with the ultimate project goal of designing an attainable scorecard and methodology (about $40k)<br><br>**Second phase:**<br>In consultation with the Steering Committee, the project contractor will:<br>• plan for and coordinate a two-day workshop focused on creating several viable compound scorecard options and associated component metrics.<br>• create the workshop agenda and materials based on the audience research to develop potential indexes related to jurisdictional actions (policies, standards, practices) that could increase the climate resiliency and that are feasible to measure.<br>• conduct targeted stakeholder engagement to recruit workshop participants who will collaborate to develop the scorecard. |

[2] Johnson, Z., S. Julius, J. Fischbach, M. Bennett, B. Benham, D. Sample, and K. Stephenson. 2018. Monitoring and Assessing Impacts of Changes in Weather Patterns and Extreme Events on BMP Siting and Design. STAC Publication Number 18-004, Edgewater, MD. 48 pp.

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| | The workshop will take place in the second half of 2020 and will be led by a qualified facilitator.<br>• It will consider and recommend appropriate geographic scale(s) for scoring the implementation of practices that improve climate resiliency at a community, watershed or jurisdictional scale.<br>• Workshop participants will identify and discuss potential climate resilient restoration index options and associated weight of each index.<br>• At a minimum, participants will consider how to approach the scoring for CBP-approved BMPs for water quality, but the project and workshop should also consider the feasibility of incorporating other management actions, programmatic elements or policies that could be factored into the scoring methodology (e.g., design storm standards; consideration of future climate conditions in local decision-making; land protection or preservation).<br>• The desired recommendations will include specific priorities and methods that can be readily acted upon by the CBPO or its partners following completion of this project. Over the longer term, the metric data and scorecard could be analyzed by interested partners to understand the effectiveness of their efforts to promote climate resilience over time. (about $10k)<br><br>**Third phase:**<br>The project contractor will:<br>• continue engagement with workshop participants and the steering committee to address outstanding questions and concerns through follow-up discussion and partnership feedback.<br>• Based on the workshop results, subsequent research on needs identified at the workshop, and results of follow-up discussions with stakeholders, the contractor will produce a final project report that (1) recommends a scorecard with its component metrics, and (2) lays out a roadmap for implementation of the proposed scorecard and methodology (3) includes summary of efforts from the project steering committee and survey, workshop summary and additional materials as supplemental information.<br>• Provide contact information for participating regions interested in implementing the use of the scorecard at a later date, outside this project.<br>• The report and subsequent revisions will be produced in partnership with steering committee members, workshop participants, and other key stakeholders. (about $25K) |
| **Estimated Costs** | $75,000 |
| **Cross-Goal Benefits** | • Improved understanding of climate resilience priorities and contribution/improvements from management actions, possibly including broader set of actions beyond BMPs for nutrients and sediment.<br>• First step to comparability of climate resilient efforts across the watershed and the ability to measure resilience over time, in a way that can serve local communities.<br>• Identification and enhanced utilization of existing data gained through recommended synthesis or analysis.<br>• Identification of current goal efforts already incorporating climate resiliency<br>• Increasing the knowledge of state, local and academic partners and community leaders and citizens of management actions that promote climate resiliency<br>• 1.1 pursue priority recommendations from STAC workshop on BMP siting and design (2017) |

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| | • 3.1 – Promote the availability and accessibility of climate and other related science data and information<br>• 3.2 – Targeted engagement with business leaders, state, municipalities, and local managers to enable incorporation of climate information/impacts into their decision-making. |
| **Proposed GIT Technical Project Lead** (name and email) | Jennifer Dopkowski (jennifer.dopkowski@noaa.gov) |
| **FOR REVIEW** | |
| **OVERALL COMMENTS:** | |
| **ADDITIONAL RESOURCES/STUDIES/PROJECTS TO CONSIDER:** | |