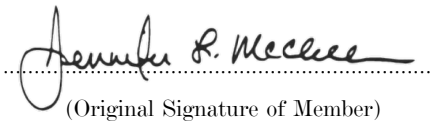

(Original Signature of Member)

118TH CONGRESS
2D SESSION

H. R. _____

To amend the Research and Development, Competition, and Innovation Act to support research into the effects of extreme weather on the subsurface natural and built environment, to support engineering standards and building codes for resilient designs against multihazards, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

Ms. MCCLELLAN introduced the following bill; which was referred to the Committee on _____

A BILL

To amend the Research and Development, Competition, and Innovation Act to support research into the effects of extreme weather on the subsurface natural and built environment, to support engineering standards and building codes for resilient designs against multihazards, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Building and Upgrading Infrastructure for the Long Term Act'' or the ''BUILT Act''.

SEC. 2. SUBSURFACE ENVIRONMENT RESEARCH AND DEVELOPMENT.

(a) IN GENERAL.—Subtitle B of title II of division B of the Research and Development, Competition, and Innovation Act (enacted as part of division B of Public Law 117–167; 42 U.S.C. 18931 et seq.) is amended by adding at the end the following new sections:

''SEC. 10236. SUBSURFACE ENVIRONMENT RESEARCH AND DEVELOPMENT.

''(a) IN GENERAL.—Subject to the availability of appropriations, the Director shall support measurement research and testing to inform the development of engineering standards, practices, and building codes on the subsurface environment as such relate to the built environment.

''(b) RESEARCH AREAS.—Research and testing under subsection (a) may include the following:

''(1) Measuring, modeling, and predicting the properties of subsurface materials of soil, rock, and groundwater elevations, taking into consideration changing climate conditions.

''(2) Sensing technology for monitoring subsurface infrastructure and phenomena, such as land subsidence, that may affect subsurface infrastructure.

''(3) Risks to subsurface infrastructure integrity, including subsurface infrastructure capacity, resulting from changes in subsurface material properties associated with climate conditions and other environmental variables.

''(4) Enhancing building design standards and best practices related to the following:

''(A) Evaluation of subsurface material properties and potential geological hazards that affect below-ground infrastructure.

''(B) Design and retrofit of below-ground infrastructure.

''(5) Other research areas determined appropriate by the Director.

''(c) CONSULTATION.—The Director shall carry out this section in consultation with academia, the private sector, nonprofit organizations, professional associations, and other appropriate Federal, State, Tribal, territorial, and local entities.

"SEC. 10237. CLIMATE RESILIENCE RESEARCH AND DEVELOPMENT.

"(a) IN GENERAL.—Subject to the availability of appropriations, the Director shall support measurement research and testing to inform the development of engineering standards, practices, and building codes for resilience of the built environment, which may include measurement research and development for the following:

"(1) Future climate conditions, loads, and effects on infrastructure.

"(2) Multihazard and cascading hazard risk and resilience modeling and prediction.

"(3) Design standards and best practices for climate-resilient infrastructure, including lifeline infrastructure.

"(4) Sensing technology for monitoring infrastructure integrity.

"(5) Future climate effects on infrastructure capacity over its life cycle.

"(b) WORKSHOP ON MULTIHAZARD RESILIENT DESIGN FRAMEWORK.—Not later than two years after the date of the enactment of this section, the Director shall convene, or enter into a cooperative agreement with an appropriate nongovernmental organization to convene, a workshop composed of subject matter experts, stakeholders, and partners from Federal, State, Tribal, terri-

torial, and local entities, nongovernmental organizations, private sector entities, disaster management professional associations, engineering professional associations, professional construction and homebuilding industry associations, and building code setting organizations to discuss a framework for designing multihazard resilient buildings and infrastructure, including identifying research and measurement needs for the following:

''(1) Risk and resilience assessments and modeling, including cascading hazards and interactions between multiple hazards.

''(2) Functional recovery design.

''(3) Climate resilient design.

''(4) Analysis and retrofit of existing building and infrastructure stock.

''(5) Financial tools for decision-support.

''(6) Other areas determined appropriate by the Director.

''(c) REPORT.—Not later than one year after the date on which the workshop described in subsection (b) is completed, the Director shall submit to Congress and make available to the public a report on the findings of the workshop, including any recommendations for legislative action that could strengthen the multihazard resilience of the United States.

''(d) CONSULTATION.—The Director shall carry out this section in consultation with academia, the private sector, nonprofit organizations, professional associations, and other appropriate Federal agencies.

''(e) DEFINITIONS.—In this section:

''(1) CLIMATE RESILIENCE.—The term 'climate resilience' has the meaning given the term in section 101(a) of title 10, United States Code.

''(2) LIFELINE INFRASTRUCTURE.—The term 'lifeline infrastructure' has the meaning given the term in section 4 of the Earthquake Hazards Reduction Act of 1977 (42 U.S.C. 7703).''.

(b) RISK AND RESILIENCE RESEARCH.—Section 10351 of the Research and Development, Competition, and Innovation Act (42 U.S.C. 19060) is amended—

(1) in paragraph (4), by striking ''and'' after the semicolon;

(2) in paragraph (5), by striking the period and inserting ''; and''; and

(3) by adding at the end the following new paragraph:

''(6) multidisciplinary research to understand, model, and predict subsurface geological phenomena related to climate variations and the impact of such on infrastructure design and operations, to manage

risk and improve resiliency of the built environment.''.

(c) CLERICAL AMENDMENT.—The table of contents in section 1 of Public Law 117–167 is amended by inserting after the item relating to section 10235 the following new items:

''Sec. 10236. Subsurface environment research and development.
''Sec. 10237. Climate resilience research and development.''.