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# **Funding Opportunities for Nature-Based Solutions**

**Janan Reilly**  
**Community Infrastructure Resilience Branch**  
**Hazard Mitigation Assistance, FEMA**



**FEMA**

# FEMA and Nature Based-Solutions (NBS)

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- NBS can support natural hazard risk mitigation
- NBS can provide economic, environmental, and social resilience benefits



## Examples:

- Restoration of grasslands, rivers, floodplains, wetlands, dunes, reefs
- Living shorelines
- Soil stabilization
- Bioretention systems



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# Nature Based Solutions

*Build resilience at different scales and in different locations*

## Neighborhood/Site



## Watershed/Landscape



## Coastal Areas



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# FEMA's Hazard Mitigation Programs

## Public Assistance (406) Mitigation

- Post-Disaster
- Public Assistance
- Damaged Facility
- Damage-related



## Hazard Mitigation Grant (404) Program

- Post-Disaster
- Disaster Dependent
- Impacted State
- Multi-hazard



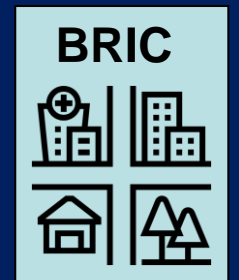
## Flood Mitigation Assistance

- Annual
- Hazard Mitigation Assistance
- Competitive
- Flood-related



## Building Resilient Infrastructure and Communities (BRIC)

- Annual
- Hazard Mitigation Assistance
- Competitive
- Multi-hazard

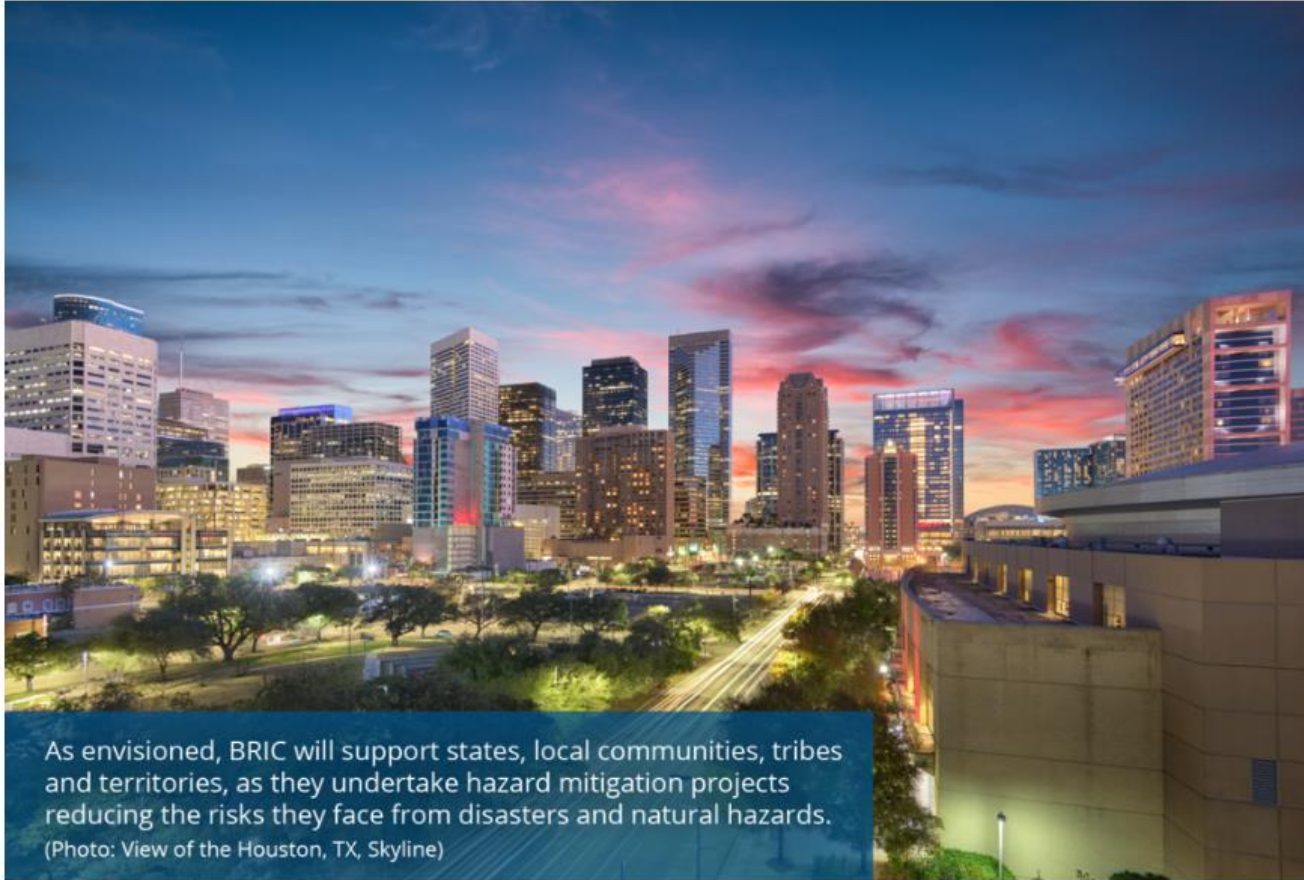


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# Building Resilient Infrastructure and Communities (BRIC) Program

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- The opening of the very first BRIC grant application period is September 30, 2020
- Additional engagements will take place in October 2020
- All BRIC tools and resources can be found online at [www.fema.gov/bric](http://www.fema.gov/bric)



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# BRIC Hazard Mitigation Action Portfolio



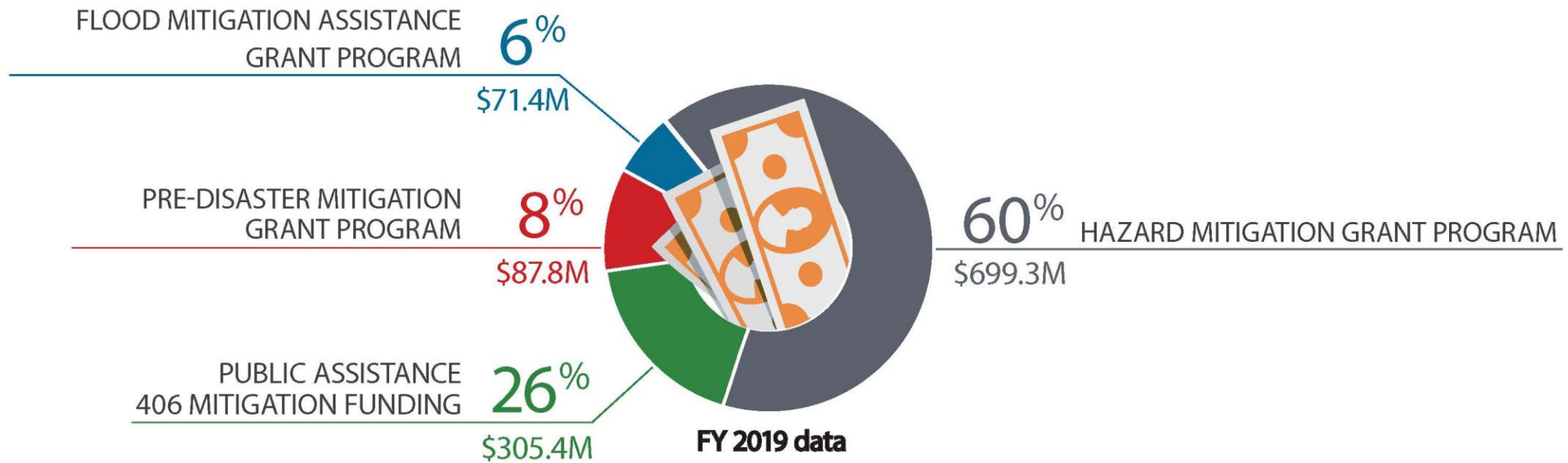
[https://www.fema.gov/sites/default/files/2020-08/fema\\_mitigation-action-portfolio-support-document\\_08-01-2020\\_0.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_mitigation-action-portfolio-support-document_08-01-2020_0.pdf)

- This portfolio showcases mitigation projects to provide practitioners with examples of activities that integrate the Mitigation Investment Strategy's goals and reflect the guiding principles of the Disaster Recovery Reform Act of 2018 (DRRA).



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In FY 2019 more than **\$1.2B** in **Hazard Mitigation Assistance** grants and **Public Assistance 406 Mitigation** funds were delivered to states, tribes, and territories, resulting in mitigation actions that will reduce risk.



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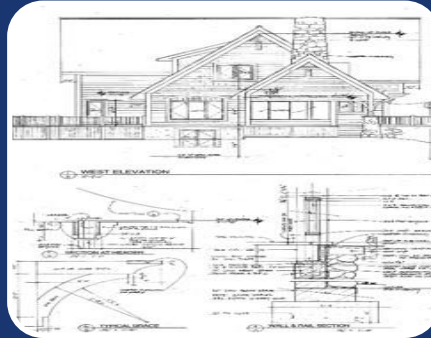


# Key FEMA Program Requirements



## Hazard Mitigation Assistance Guidance

Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program  
May 27, 2005



Eligible

Technically Feasible

Cost Effective

Compliant with Laws and Regulations



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# BCA and Environmental Benefits

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- **Environmental benefits capture the benefits resulting from an improved or restored natural environment, sometimes referred to as ecosystem services**

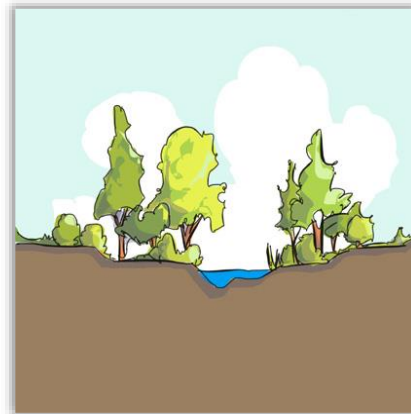
<b>Land Use Type</b>	<b>Value (Per Acre Per Year)</b>
<b>Green Open Space</b>	<b>\$8,308</b>
<b>Riparian Wetlands</b>	<b>\$39,545</b>
<b>Forest</b>	<b>\$554</b>
<b>Marine &amp; Estuary</b>	<b>\$1,799</b>



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# BCA and Environmental Benefits

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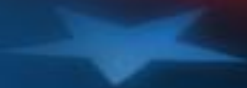
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# **FEMA-Funded Nature-Based Solution Examples**



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# Pre-Disaster Mitigation (PDM) Example

With support from

Hazard Mitigation Assistance,

**31,000** RESIDENTS  
in Puerto Rico's Salinas Municipality  
will have access to  
**high-quality freshwater**

through an Aquifer Storage & Recovery (ASR) project.



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# Hazard Mitigation Grant Program (HMGP) Example

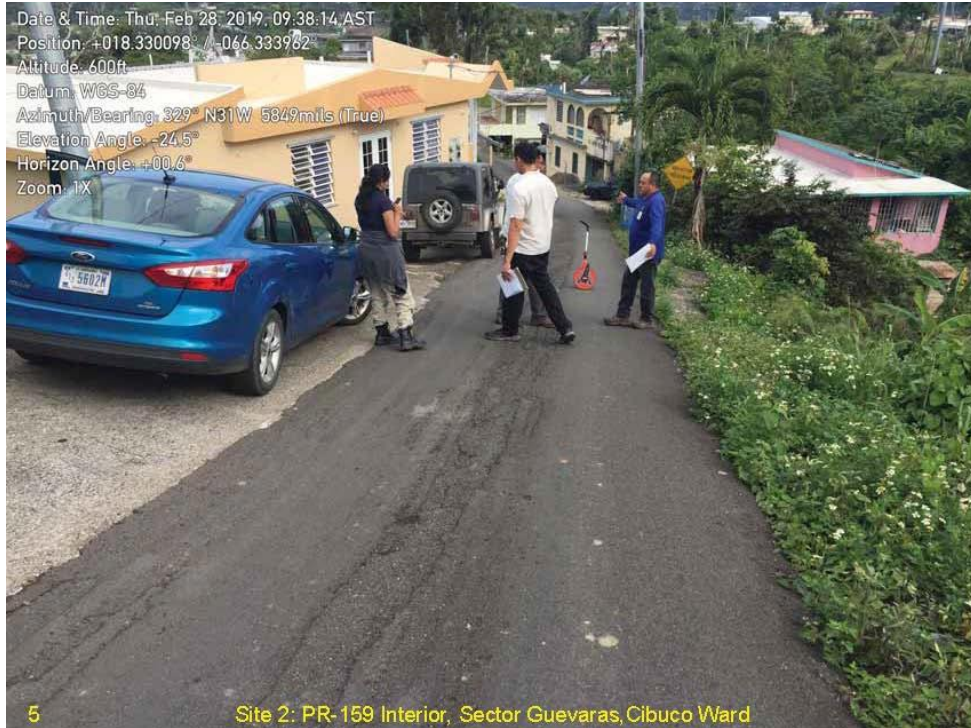
- Localized flood risk reduction in Chauvin, LA
- Acquisition of private homes created natural green space and removed properties at risk
- Cypress plantings for rainwater storage to reduce flooding



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# Public Assistance Mitigation Example



**Puerto Rico Road Damages from Hurricane Maria**



**Vetiver Grass plantings for soil stabilization and erosion control**



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# Potential Opportunities for Nature-Based Solutions

- **Under HMA Grants**

- BRIC
- FMA
- HMGP

- **Under PA Mitigation**

- 15% Rule
- 100% Rule and Appendix J
- Benefit Cost Analysis

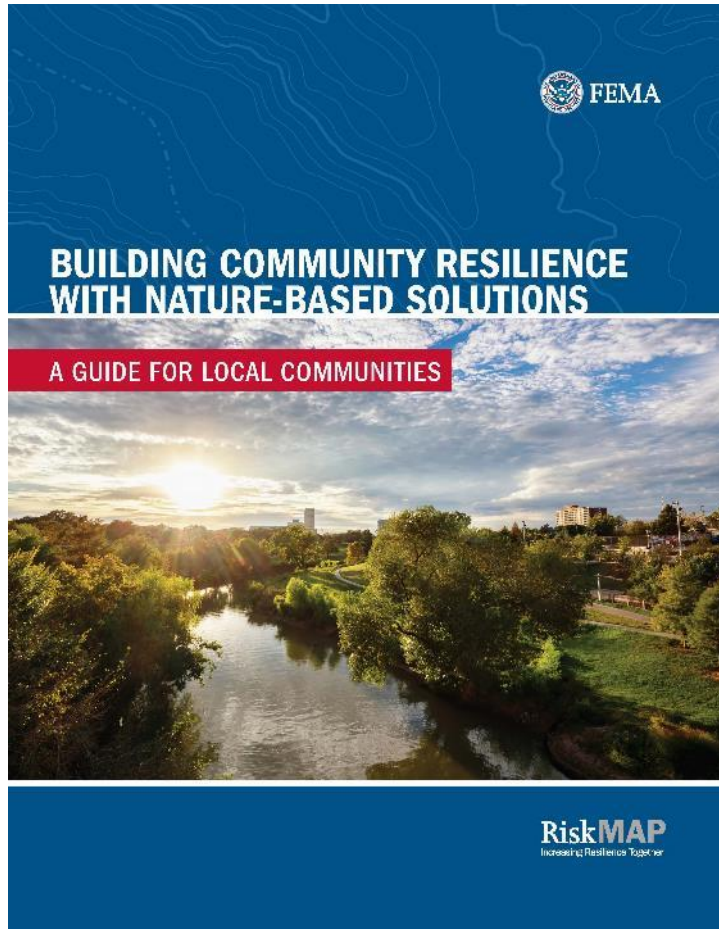
- **Under PA Eligibility**

- Natural infrastructure as 'eligible facility' like engineered beaches



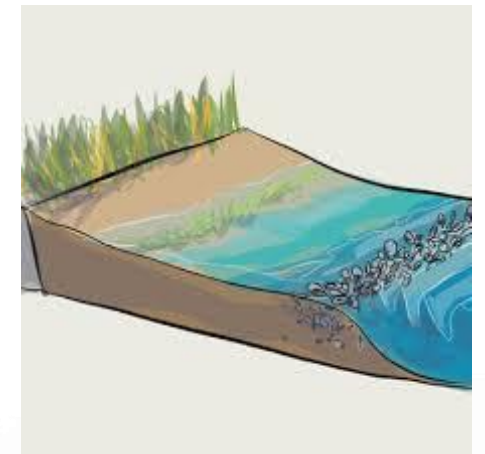
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# FEMA Nature-Based Solutions Guide



## Building Community Resilience with Nature-Based Solutions: A Guide for Local Communities

<https://www.fema.gov/media-library/assets/documents/188958>



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# Unique Funding Opportunities Beyond FEMA

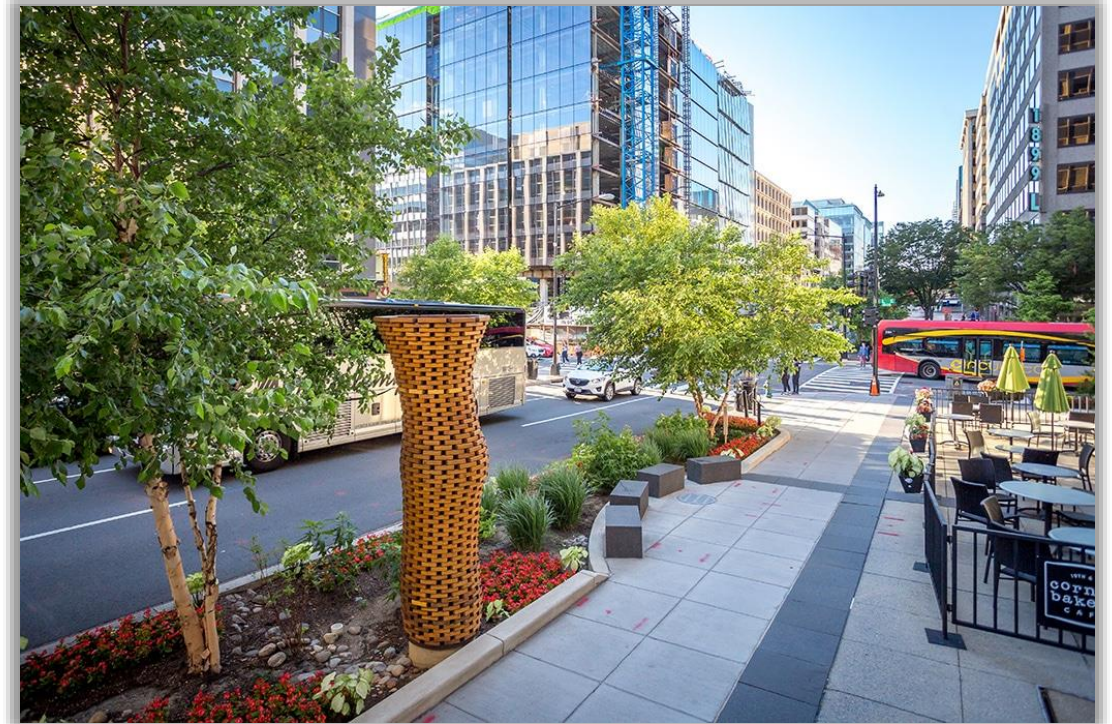


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# Innovative Funding Opportunities: Business Improvement Districts



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# Innovative Funding: Voter-Approved Flood Bonds

- After Hurricane Harvey, Harris County, Texas passed a \$2.5 billion flood mitigation bond initiative, managed by the county flood control district.



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# Innovative Funding Opportunities: Departments of Transportation



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# Innovative Funding: Public – Private Partnerships

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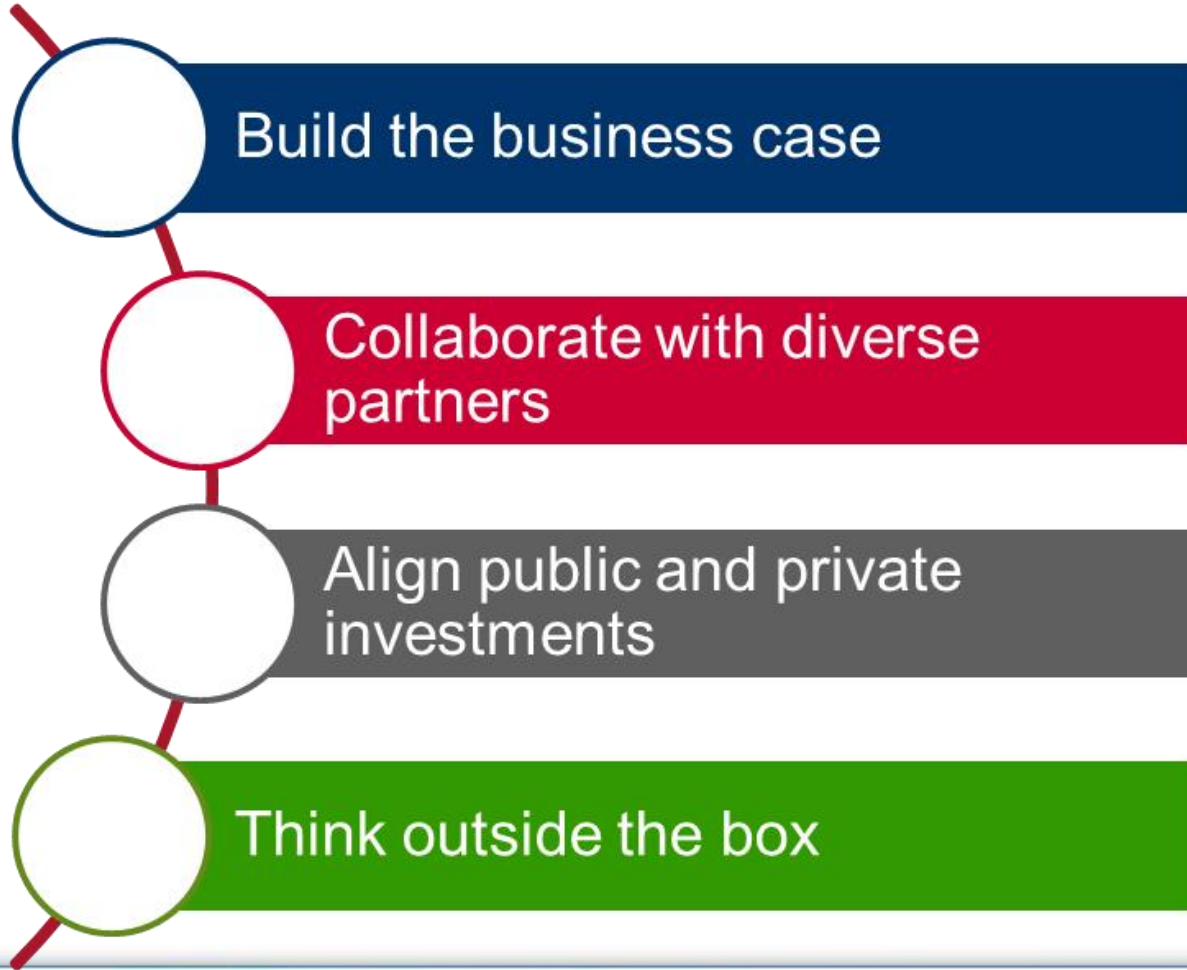
The Milwaukee Greenseams Program is a partnership of the Milwaukee Metropolitan Sewerage District **and** The Conservation Fund.

- 119 properties permanently protected
- \$12.5+ million leveraged funds
- Over 113,500 trees planted
- 797 acres restored
- 4,082 acres of land preserved



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# Key Messages



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# Questions?

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**Janan Reilly – FEMA Hazard Mitigation Assistance**

- E-Mail: [janan.reilly@fema.dhs.gov](mailto:janan.reilly@fema.dhs.gov)

## Resources:

- **BRIC:** <https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities>
- **BCA:** <https://www.fema.gov/grants/guidance-tools/benefit-cost-analysis>
- **NBS Guide:** <https://www.fema.gov/media-library/assets/documents/188958>



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