

Calumet Soils : Implications for Green Stormwater Infrastructure Solutions

Proposed Scope

Team

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Study purpose and goals

Communities within the Calumet region have developed multiple levels of watershed and green stormwater infrastructure (GSI) planning as a result of recurring urban urban flooding in the region. Organizations such as the Center for Neighborhood Technology developed RainReady plans for six municipalities, including Calumet City, within the corridor.

The general purpose of the University of Illinois Sea Grant study is to enhance GSI planning by studying how regional soils affect the performance of green infrastructure.

Our objectives are:

1. to develop a geological soils database for the Calumet region,
2. to model how green infrastructure performs in various soil environments, using 'real-time' data about local soils, and
3. to advance 'Retrofit' recommendations on where and what types of GSI can take best advantage of these 'natural' conditions.

A critical part of our work is to make this process directly useful for municipalities to advance their GSI goals.

The timeline for community partnership would include:

June, 2018

Initial meeting

Share how this soils study can improve understanding of how various GSI will perform in the municipality. Share the timeline of activities. As a start-up task, discuss soil sampling locations and timeline, and request permission to do the soil survey investigations in late July and August.

Includes: June 28 brief presentation by research team. Discussion/feedback with the City and steering committee. Identification of soil sampling sites. Approval and process to sample soil mid to late summer.

July-Sep 2018

Soil sampling and analysis

During this phase, the team will undertake soil sampling for up to ~12-15 locations (site # to be confirmed by mid-summer). ISGS and NRCS will coordinate with the City on approvals and dates for soil sampling.

Includes: Soil sampling, no meetings necessary. Coordination with public works and other departments.

Oct-Nov 2018

Initial results of soil and hydrologic modeling as design criteria

Share results of soil sampling and preliminary hydrologic modeling, and of how these imply the use of various GSI types.

Includes: Presentation of soil and hydrologic results as a preliminary matrix of design opportunities. Discussion of GSI performance implications. Discussion/feedback with the City and steering committee.

Feb-April 2019

Green stormwater infrastructure concept design plans

Present GSI concept design plans that show where and how GSI is recommended throughout the municipality. Discuss the performance modeling and environmental-economic benefits.

Includes: March-April presentation of green infrastructure design plans and scenarios, and preliminary modeled hydrologic impact analysis.

Summer 2019

Summary of GSI recommendations

Summary recommendations that can be used for funding or pilot programming.

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Questions, please contact:

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