

Louisiana State University

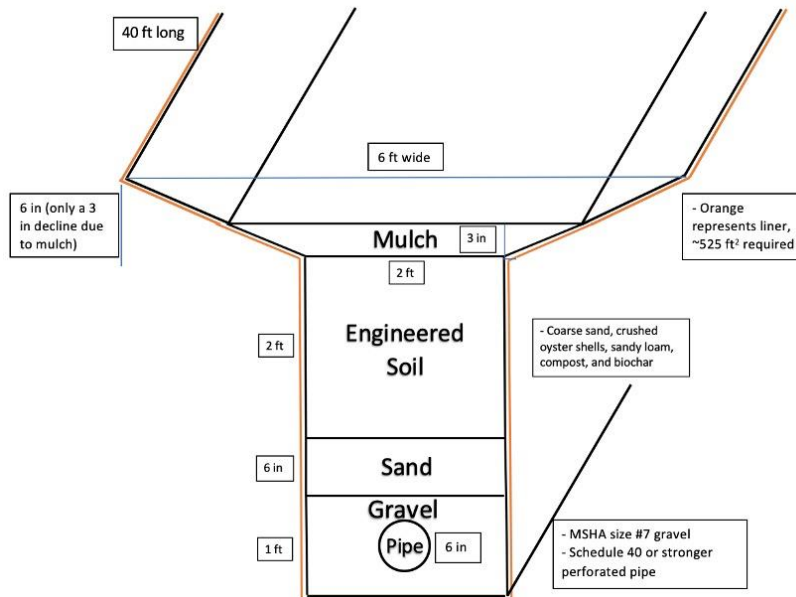
Task 6: Open Task

February 2021

1. Title: New Orleans Blight Remediation and Stormwater Management through Community-Led Low Impact Development.
2. One of the most pressing problems New Orleans faces is that many areas of the city are below sea level, some as much as 7 feet. Because of this, all runoff is directed to a drainage system to be pumped from the city to an adjacent estuary. Urban pollution contained in this runoff can result in contaminated water entering the estuary it is being pumped to, which can adversely impact the native wildlife that live within the estuarian ecosystem. Treatment of this stormwater at the source using various types of green infrastructure can address these contamination issues while also storing water to flatten the hydrograph and assist in urban floodwater reduction and/or prevention. Since Hurricane Katrina devastatingly hit the city in 2005, the number of blighted properties has increased. These existing blights are candidate locations for a large installation of green infrastructure. Our team will be providing specific design guidance and training for a community-led installation of a pilot bioswale on Arts Street in the lower 7th Ward of New Orleans.

3. Construction of a Bioswale

a. Tentative dimensions:



- b. Excavate existing soil and replace with high flow media and vegetation for pollutant removal.
- c. Helps aid in mitigating runoff to existing pumping system + provides heavy metals and nutrient removal.
- d. Pollutant reduction/prevention is essential in order to preserve the health of the estuarian ecosystem.

4. Tests

- a. Heavy metal removal by ICP analysis.
- b. Nutrient removal by wet chemistry analysis of ammonium, nitrate and phosphate analysis.

5. Bench scale test

- a. 24 hours for complete column saturation.
- b. Retention time in model bench-scale system will vary depending on storm frequency but can be adjusted to meet contest requirements.

6. Sample testing

- a. Time is TBD based on how quickly our lab will be able to return results.
- b. Approximation for ICP analysis of metals and nutrients is 12-15 hours.