

Using Green Infrastructure to Create Amenities in Ultra-Urban Areas: Challenges and Upkeep



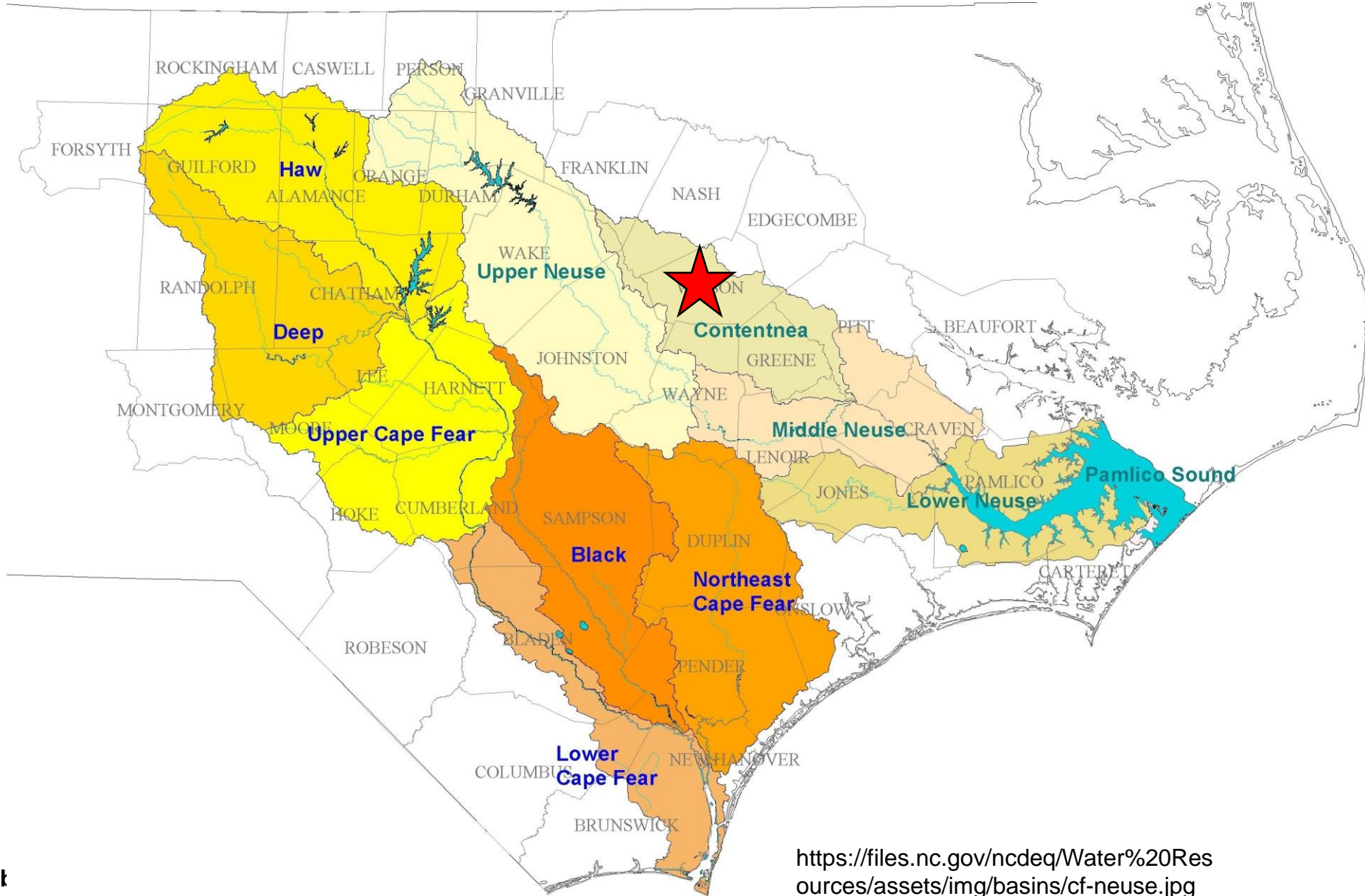
Outline

- Context
- Construction
- Verification
- Maintenance
- Monitoring
- Human Factors
- Costs vs Benefits



Context

Project Setting



<https://stormwater.l>

<https://files.nc.gov/ncdeq/Water%20Resources/assets/img/basins/cf-neuse.jpg>

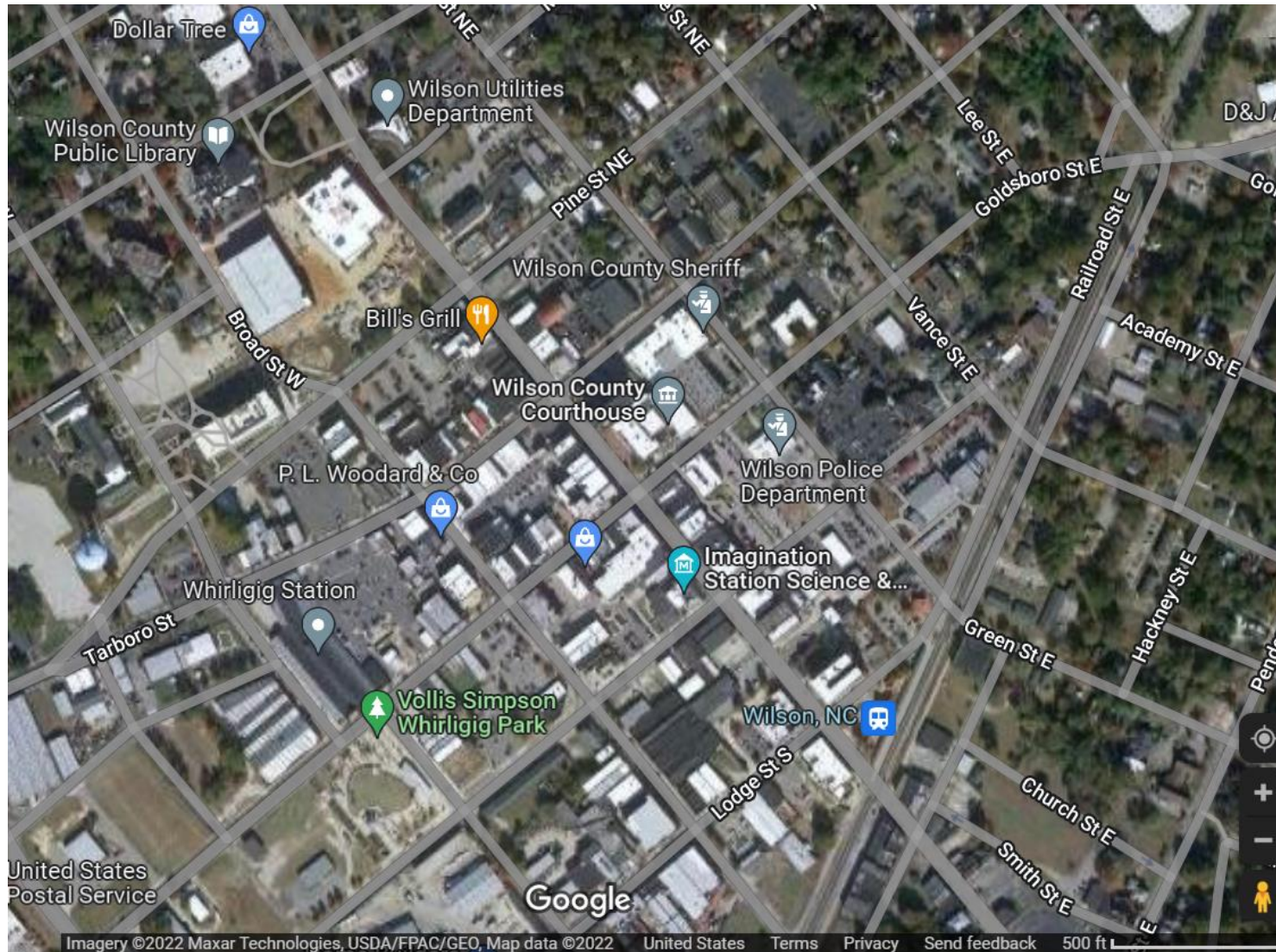
Hydrologic Goals



<https://stormwater.bae.ncsu.edu/>

<https://blogs.nicholas.duke.edu/interns-hipblogs/files/2016/07/BugsInDishL.jpg>

Project Setting



Project Setting



Social/Aesthetic Goals



Social/Aesthetic Goals



Green Alley # 1

Barnes Green Alley



Project Setting



Project Setting



Construction



Construction



Construction



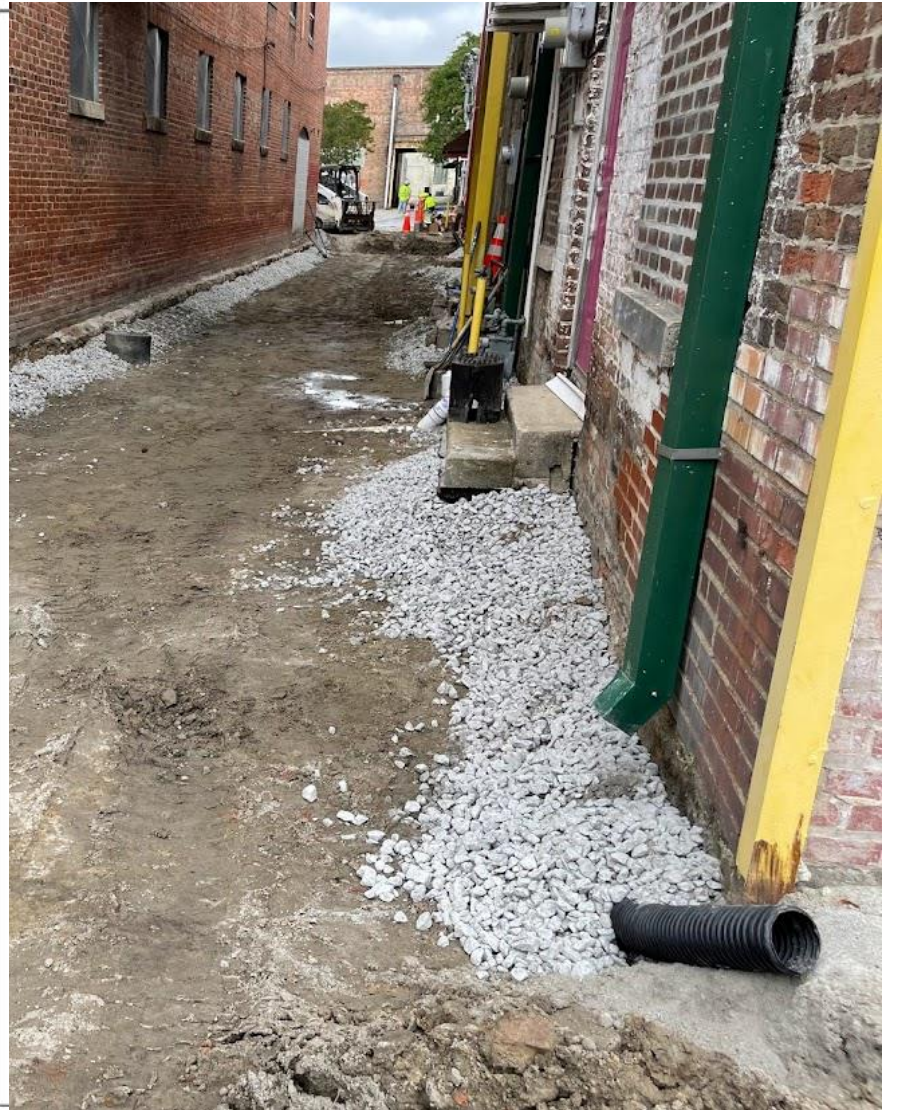
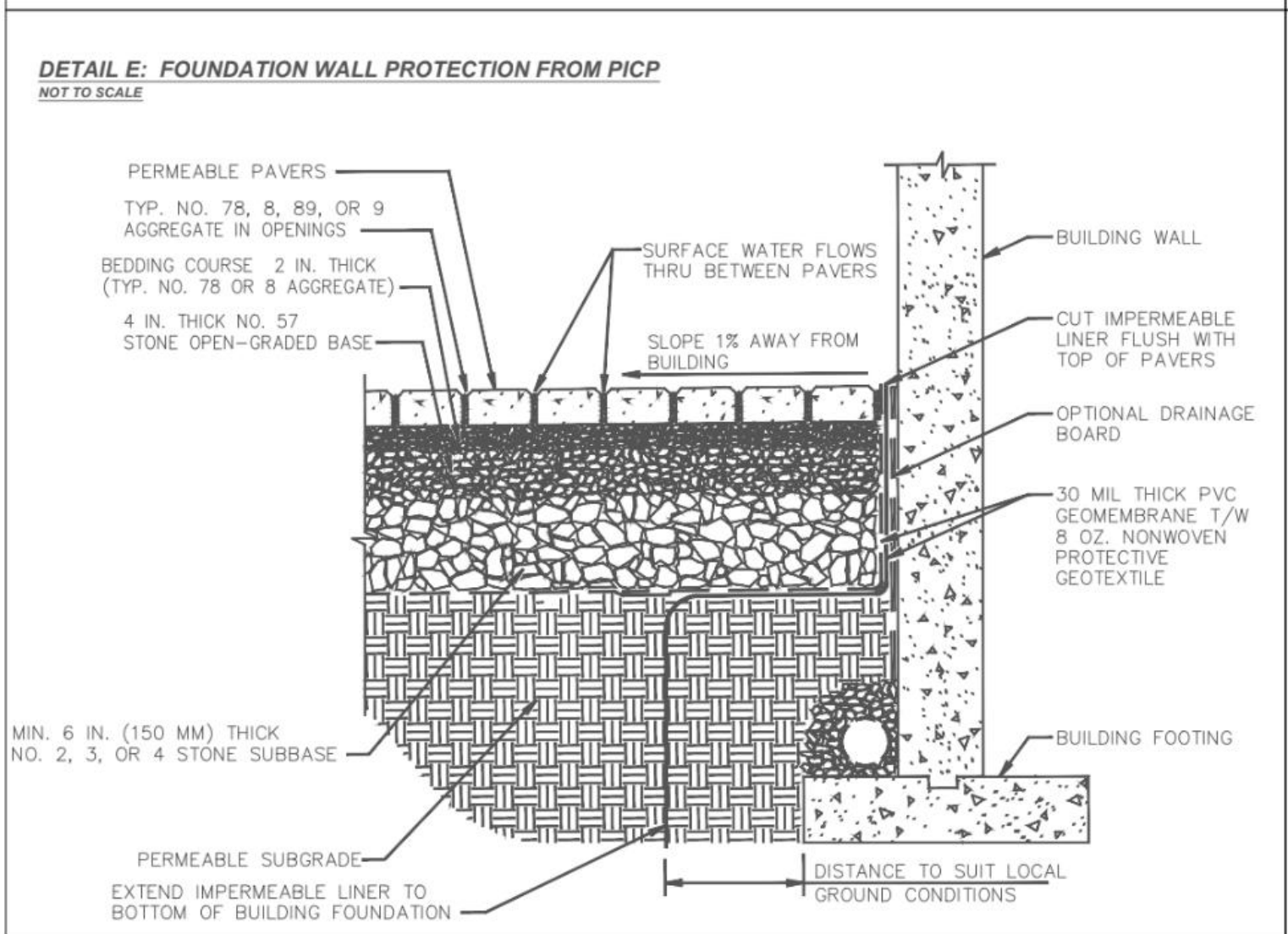
Construction



Construction



Construction



Project Setting



Project Setting



Project Setting



Project Setting



Construction



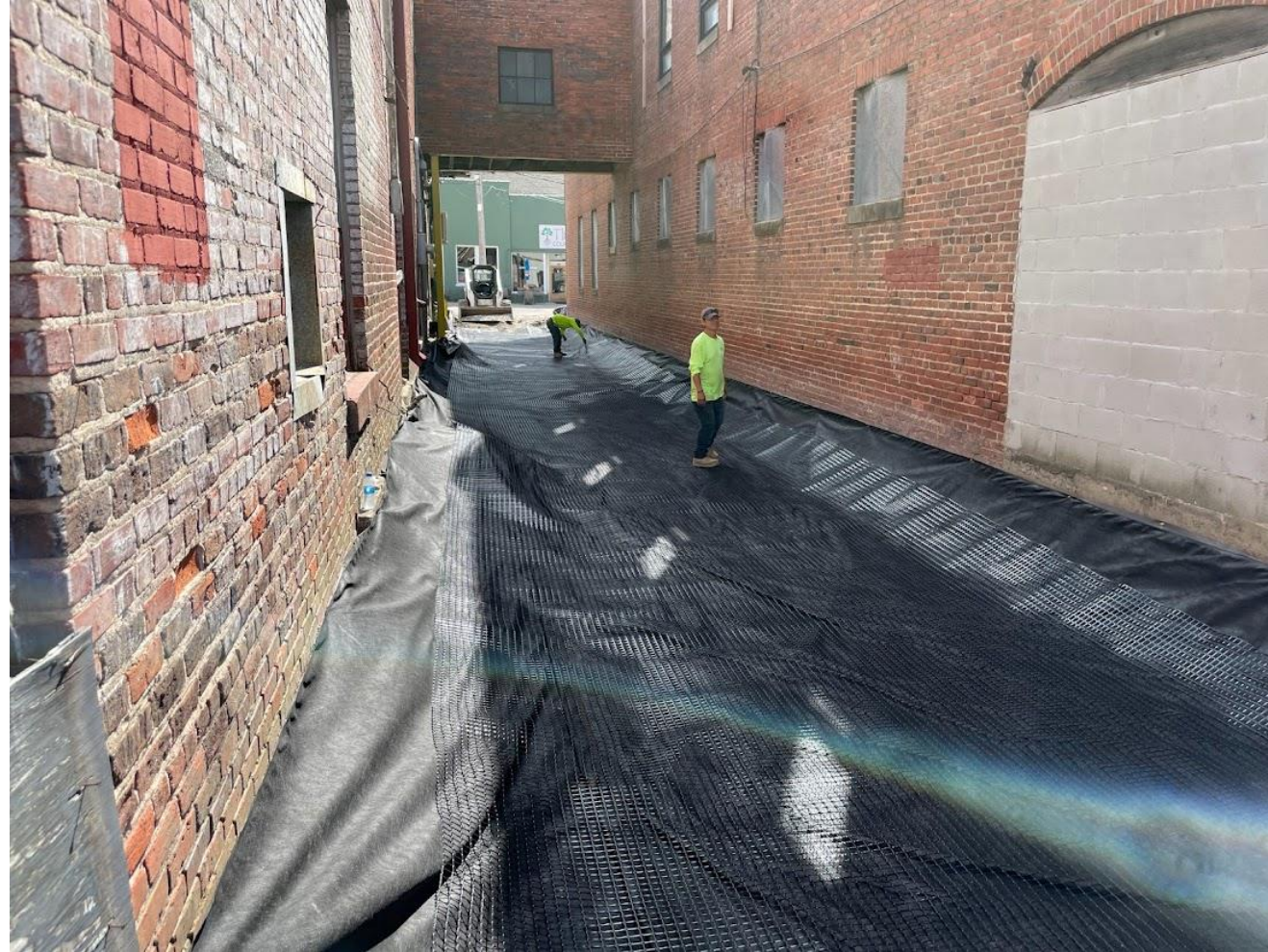
Construction



Construction



Construction



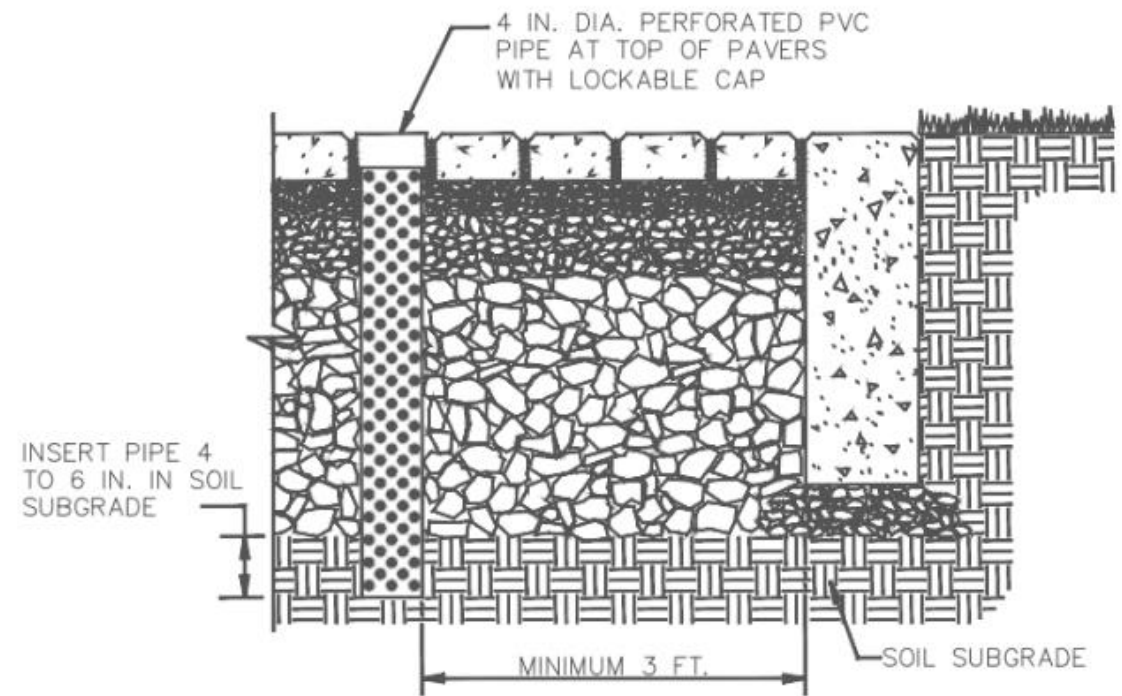
Construction



Construction



DETAIL F: OBSERVATION WELL IN PICP
NOT TO SCALE



Construction



Construction

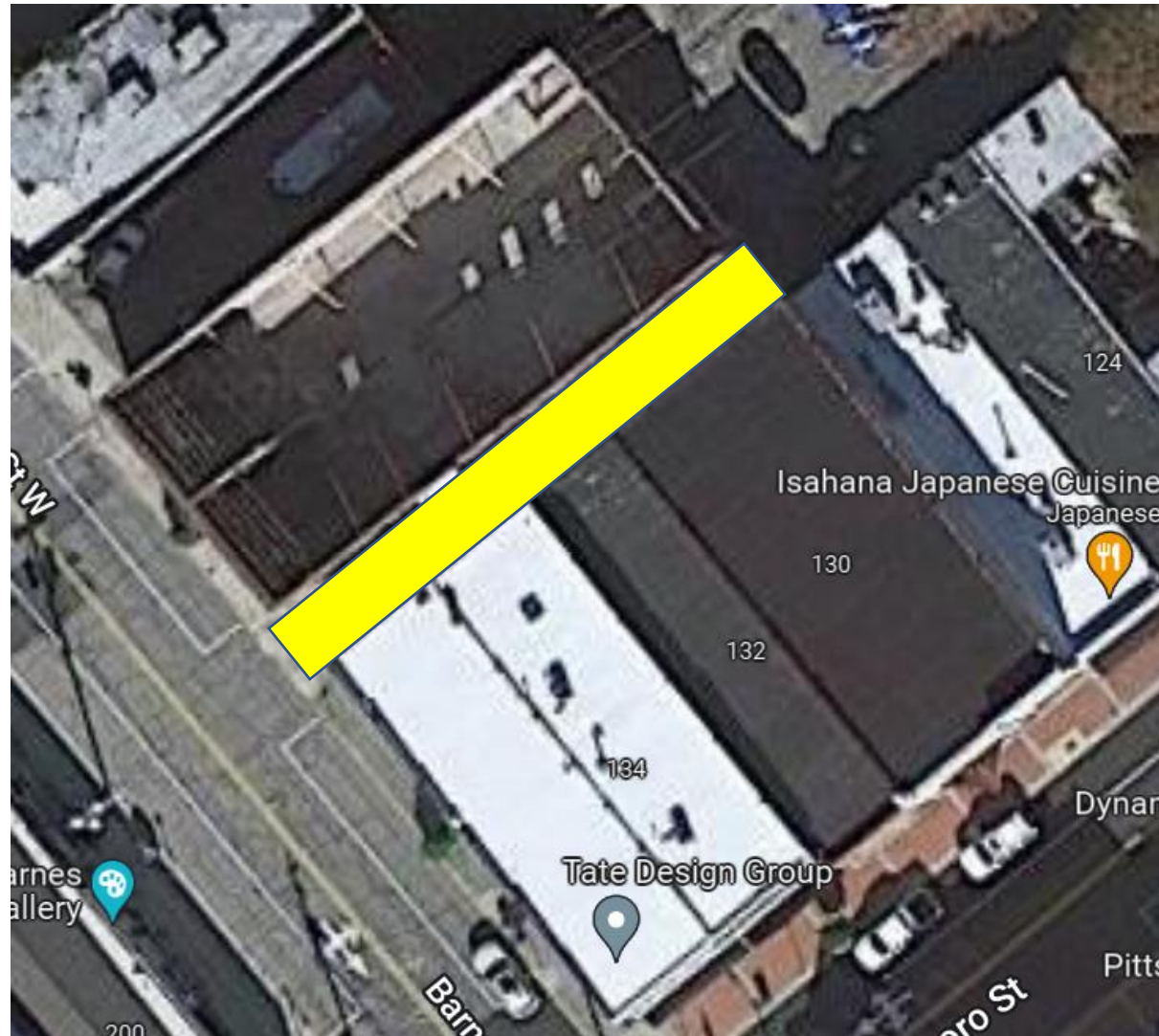


Completed



Verification

Loading



**1:1 Maximum
Impervious Loading?**

Loading



Simple Infiltration Test



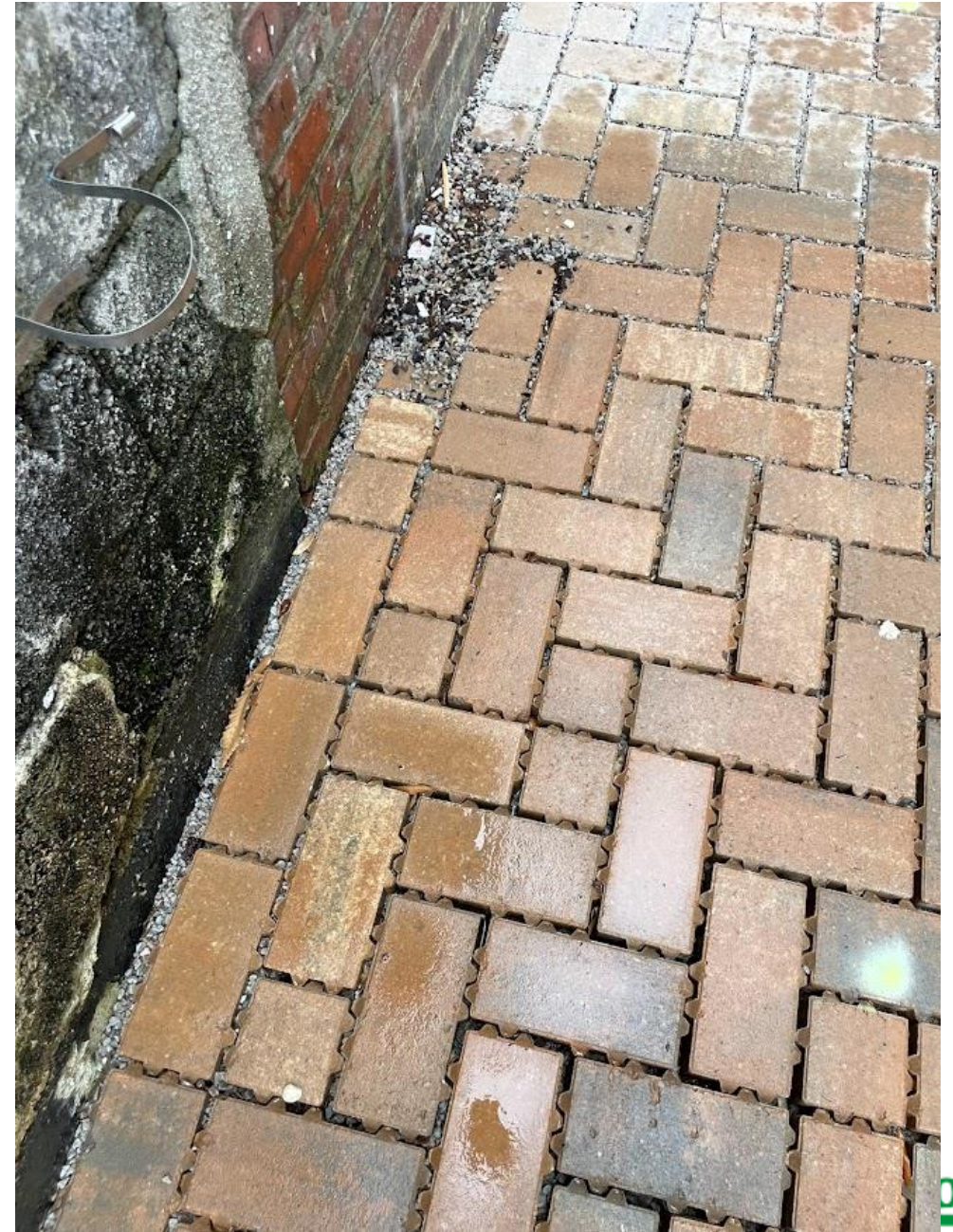
2-ft X 2-ft square
5 gallon bucket
Drain in 75 seconds

Verification



> 50 in/hr

Splashpads



Maintenance

Maintenance



Picture courtesy of Fred Adams

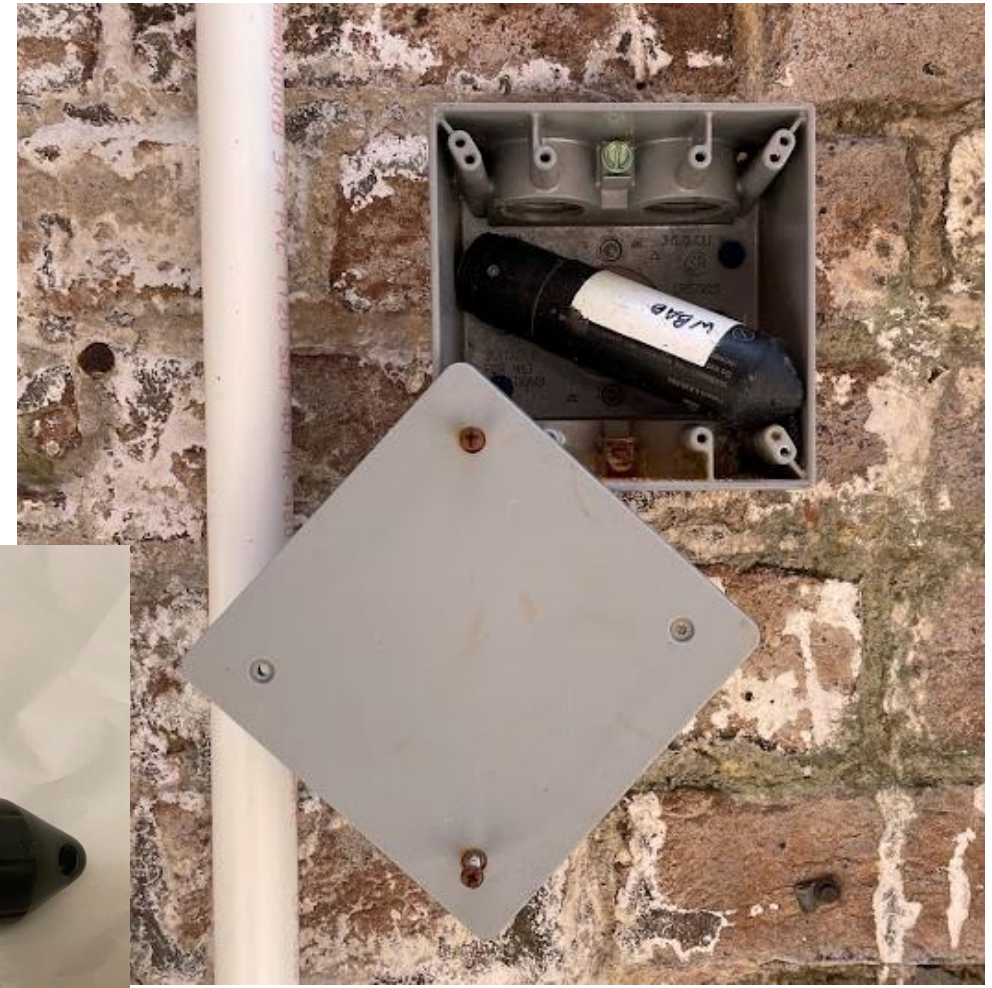
Maintenance



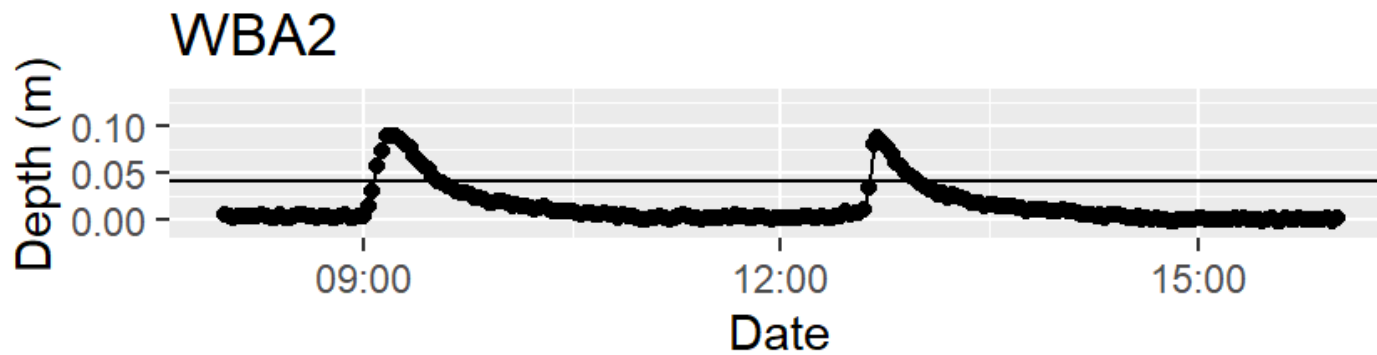
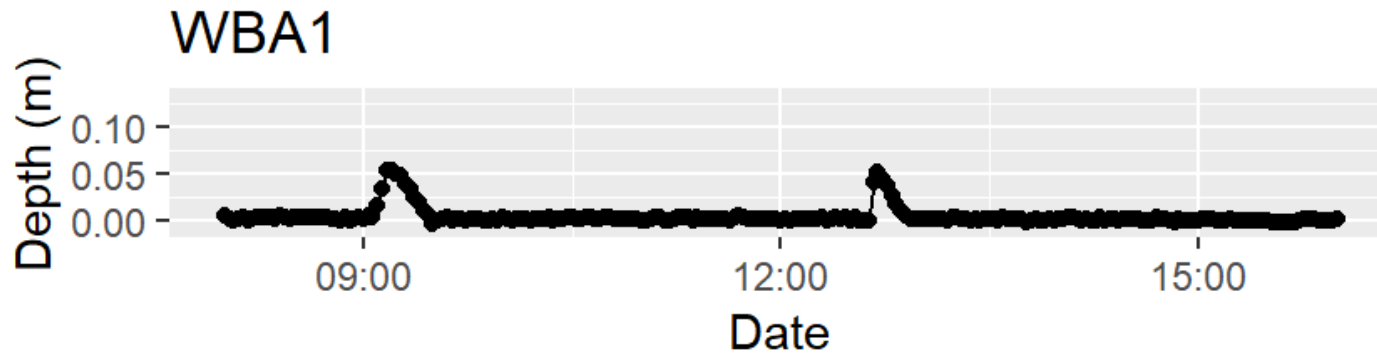
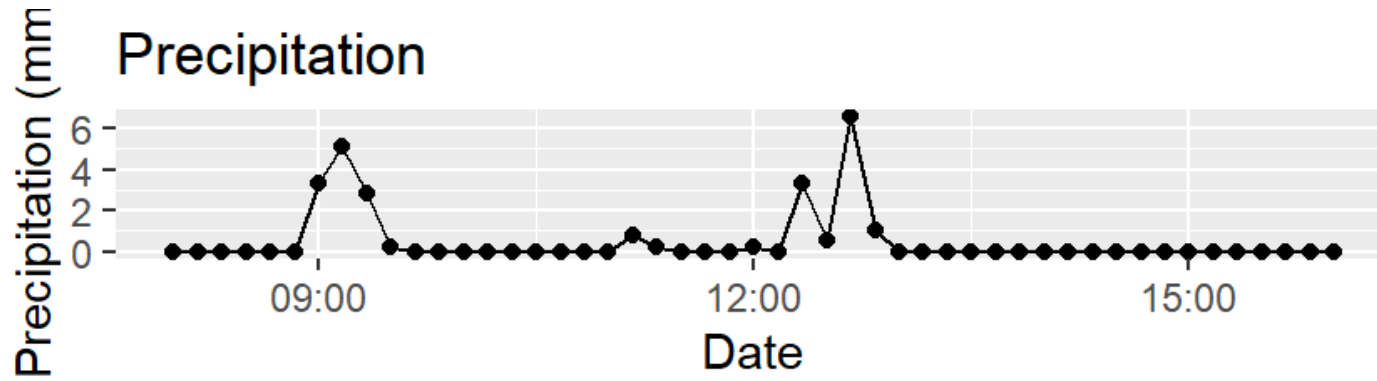
Video courtesy of Fred Adams

Monitoring

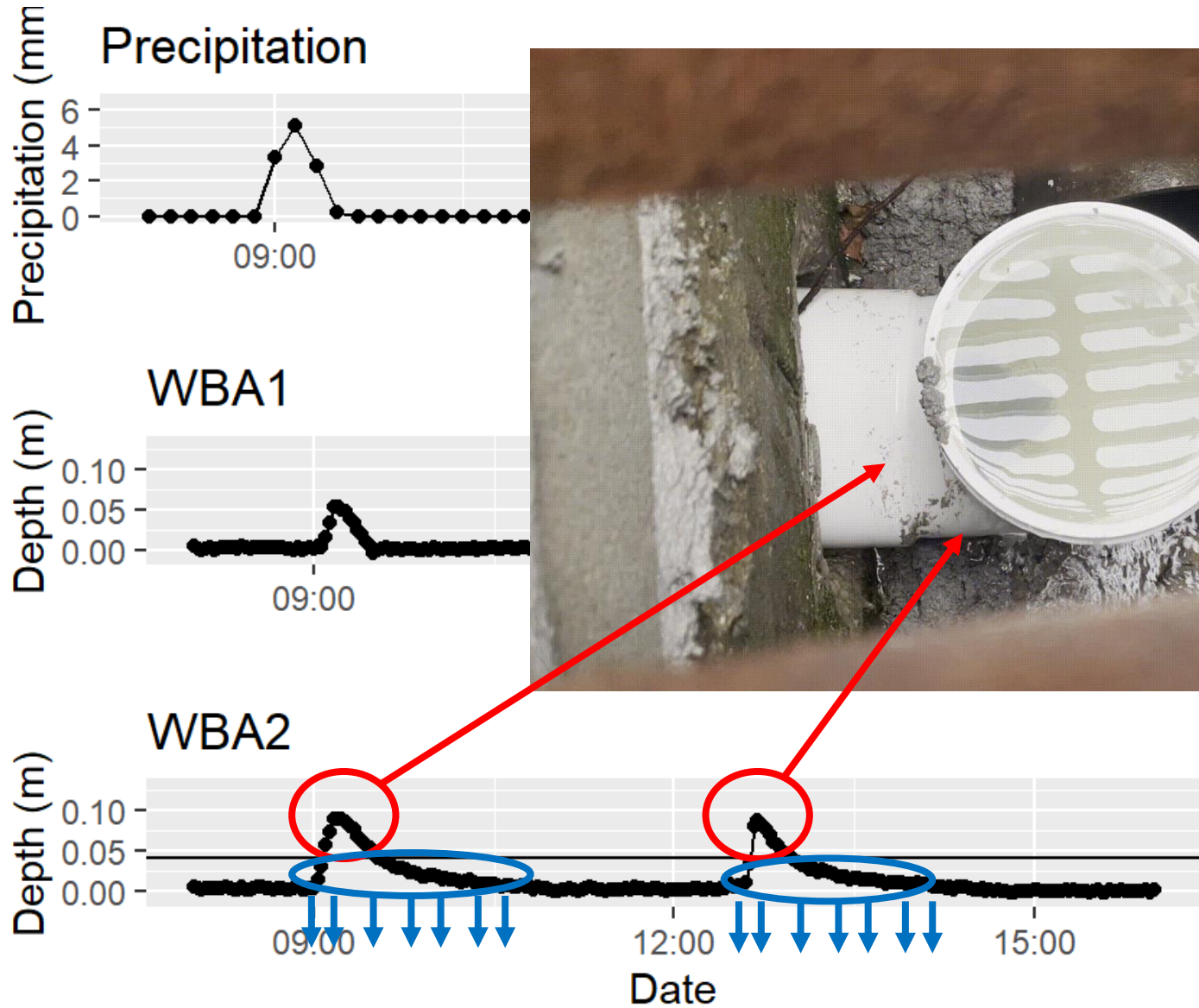
Monitoring



Monitoring

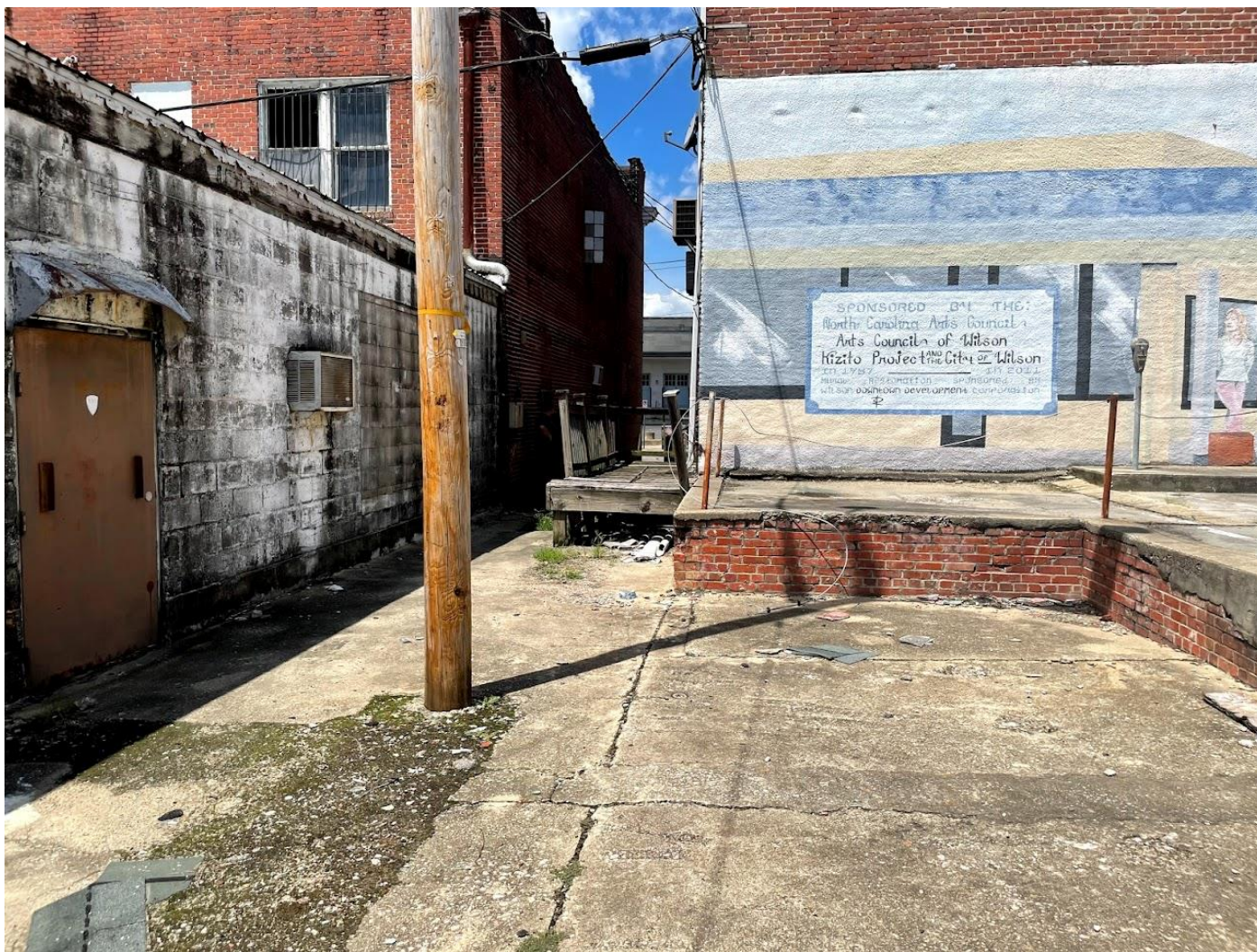


Monitoring



Green Alley # 2

Douglas-Nash Green Alley

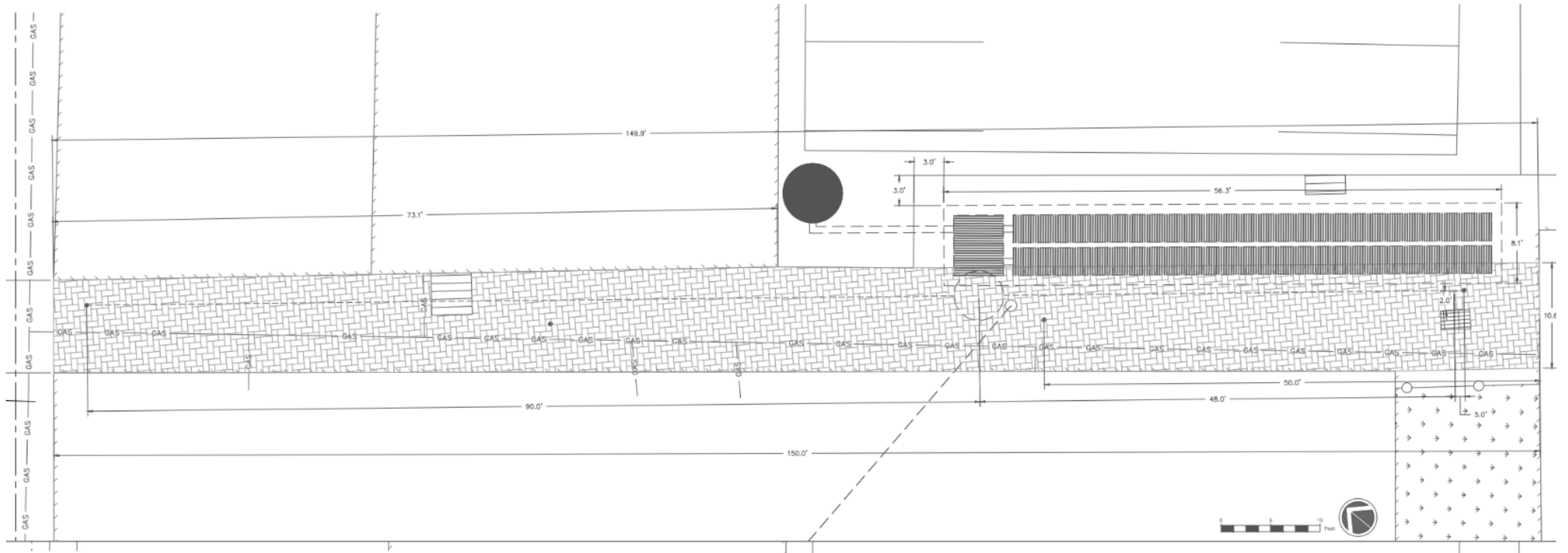


Douglas/Nash Green Alley

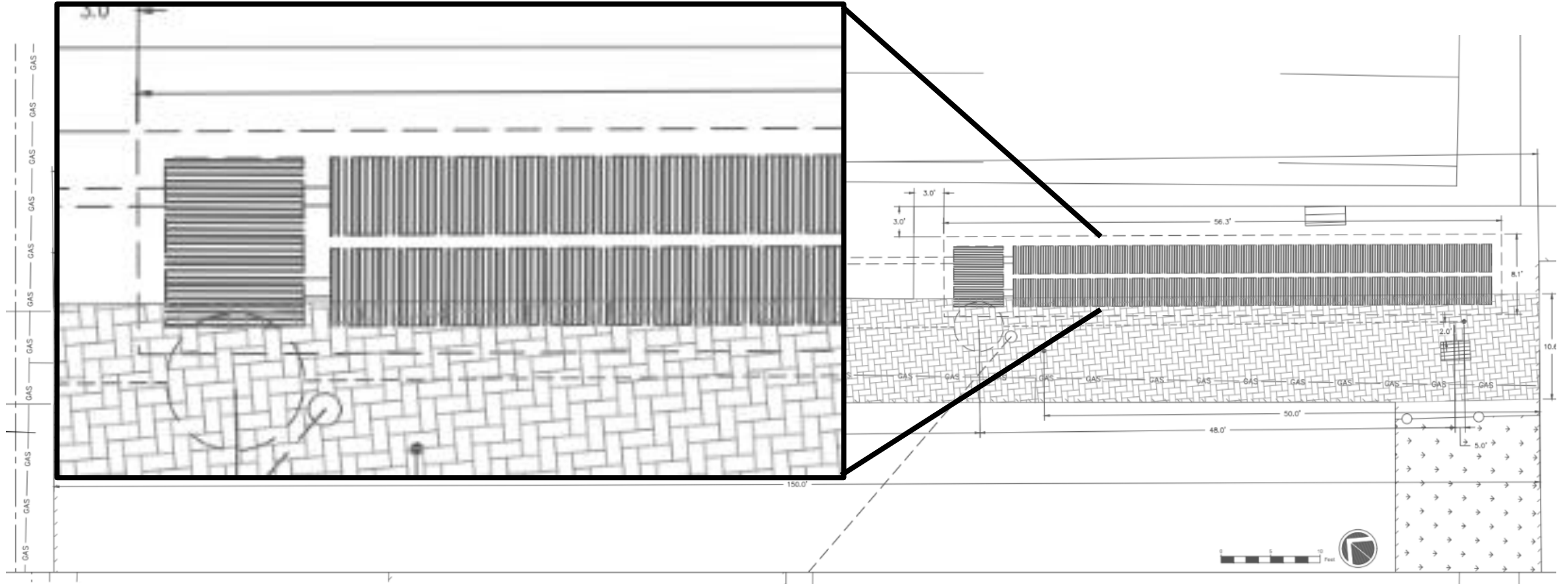


Image courtesy of Sheida Moin

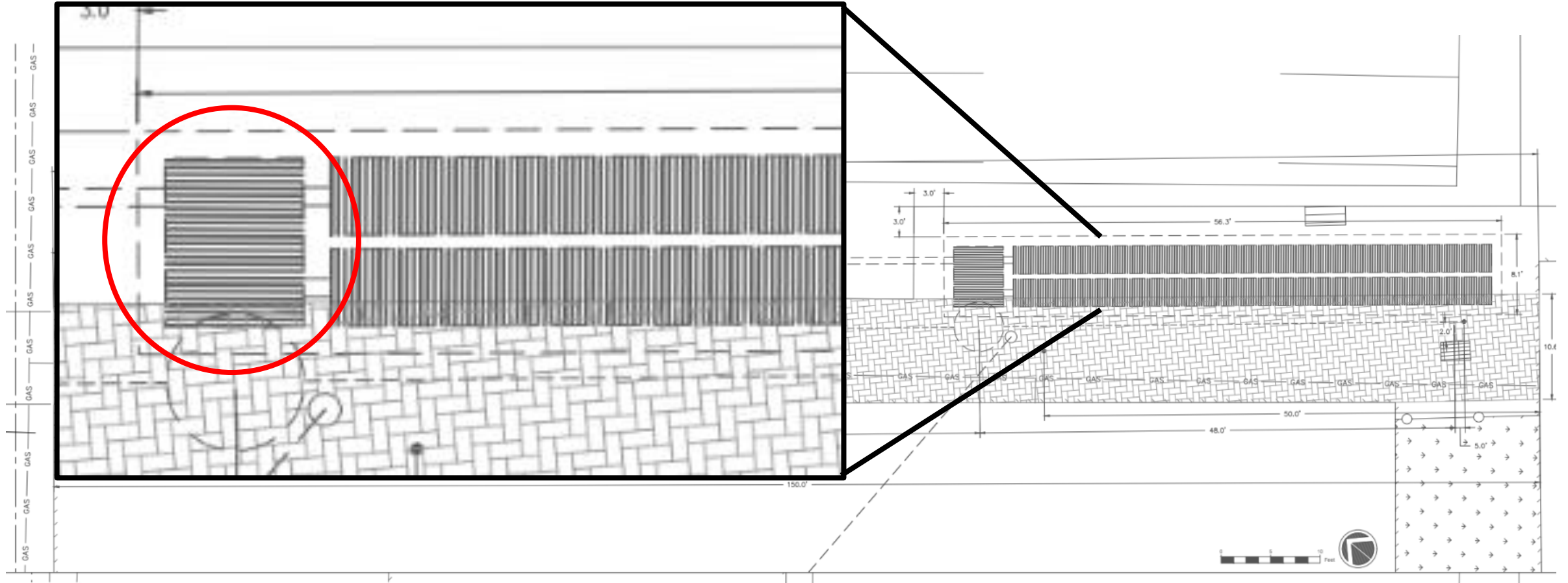
Design



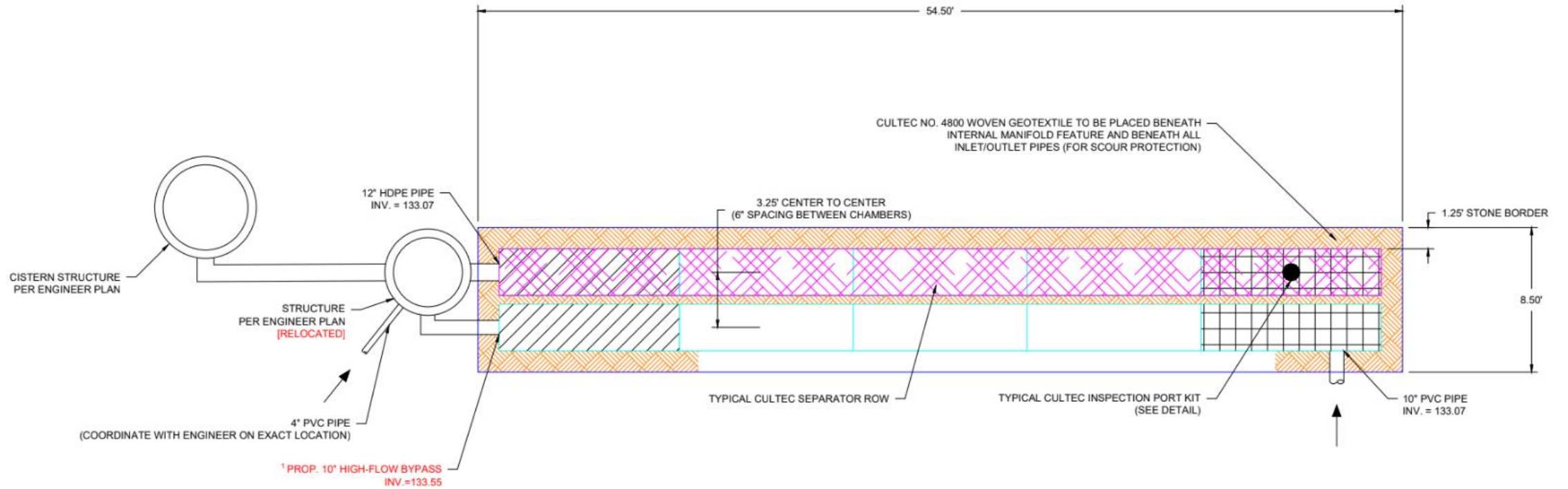
Design



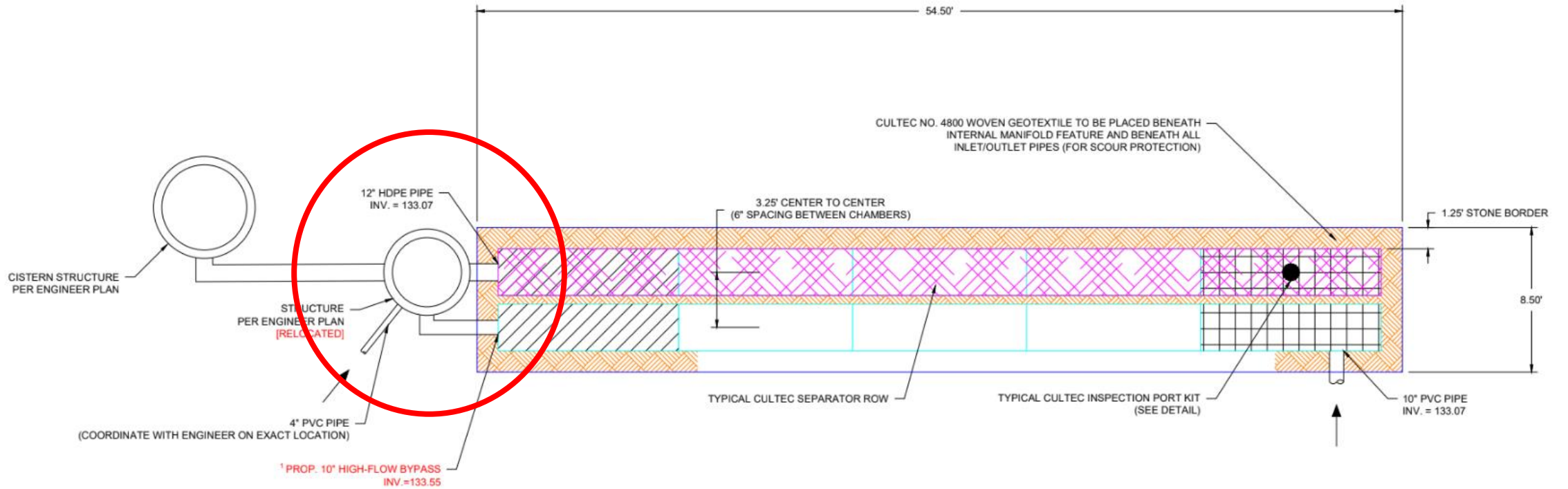
Design



Design



Design



Construction



Construction



Construction



Construction



Construction



Construction



Construction



Construction



Construction



Construction



Construction



Construction



Completed



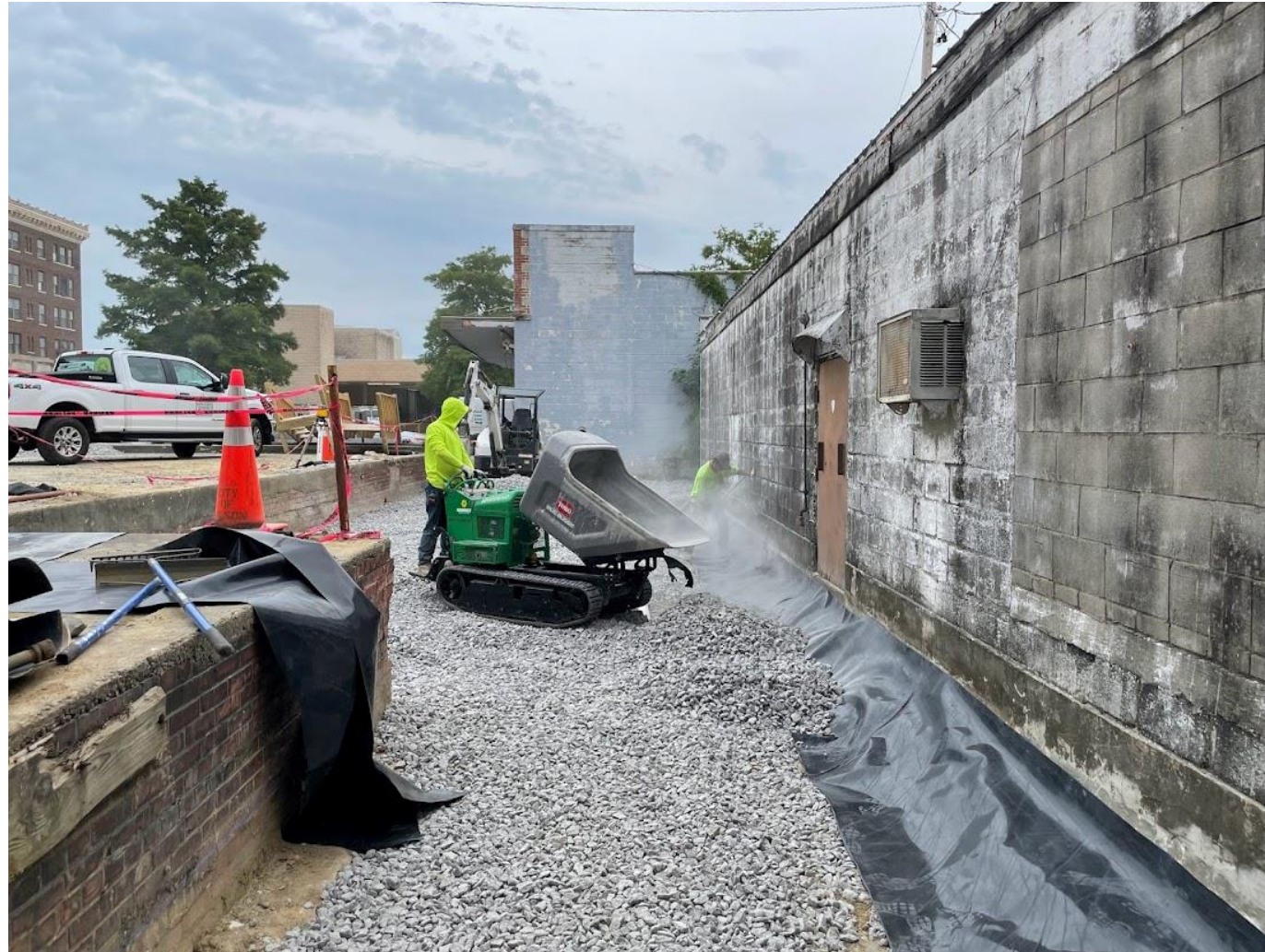
Completed



Construction



Construction



Construction



Construction



Completed



Completed?







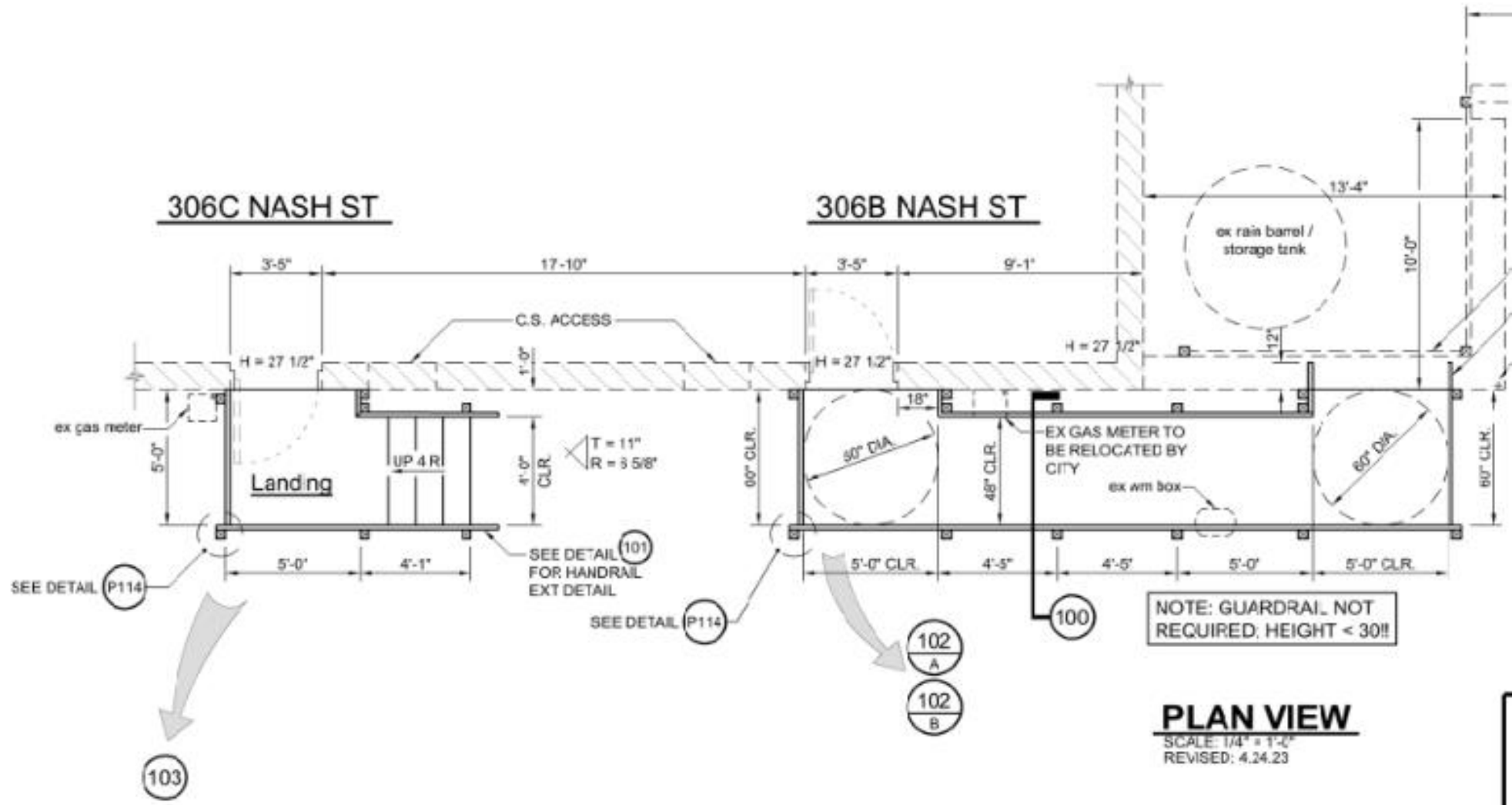
<https://stormwater.bae.ncsu.edu/>

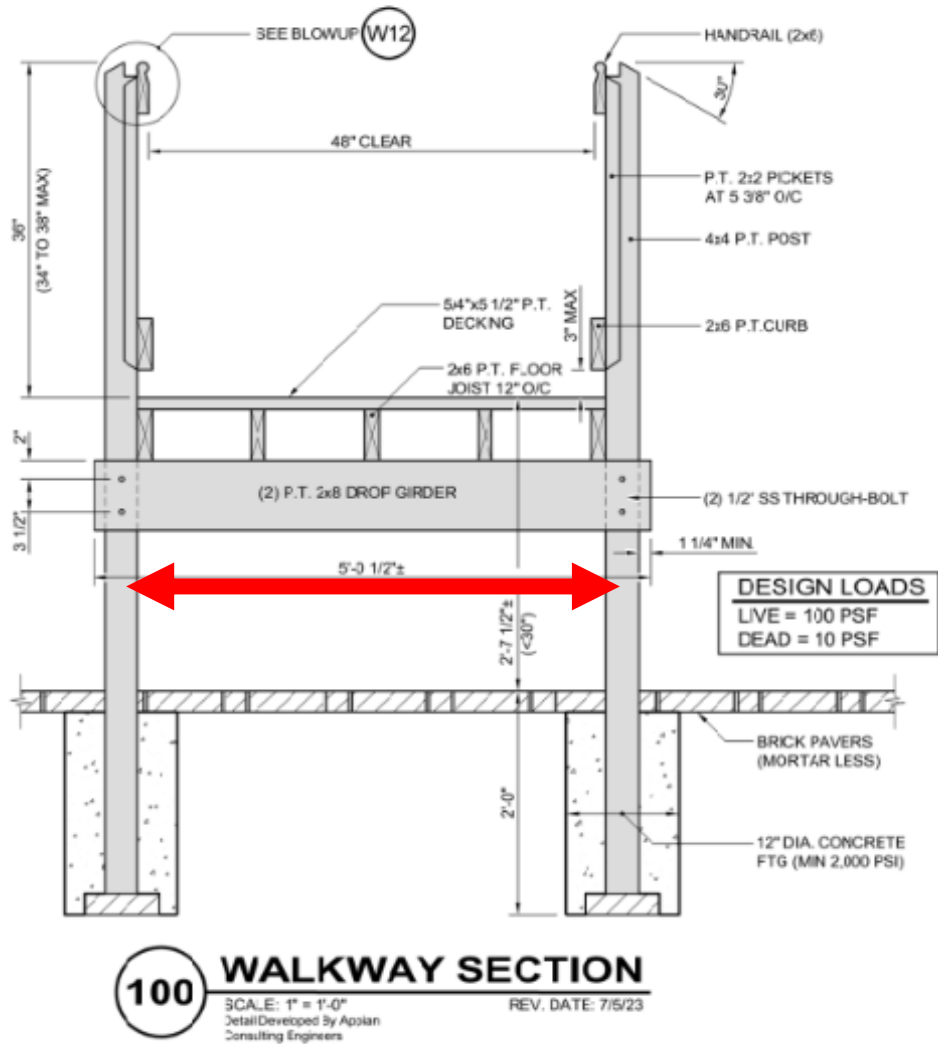
Human Factors

Human Experience



<https://stormwater.bae.ncsu.edu/>



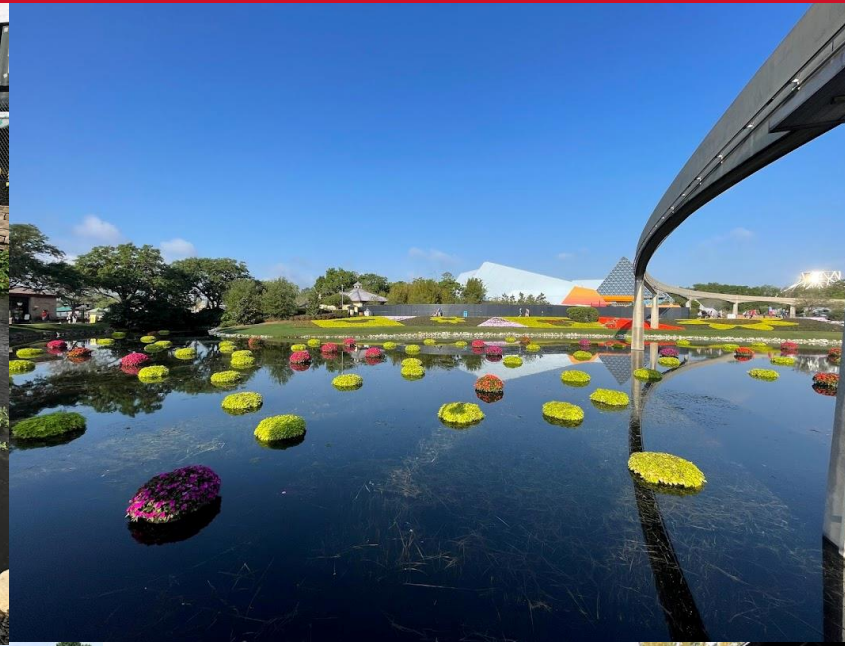


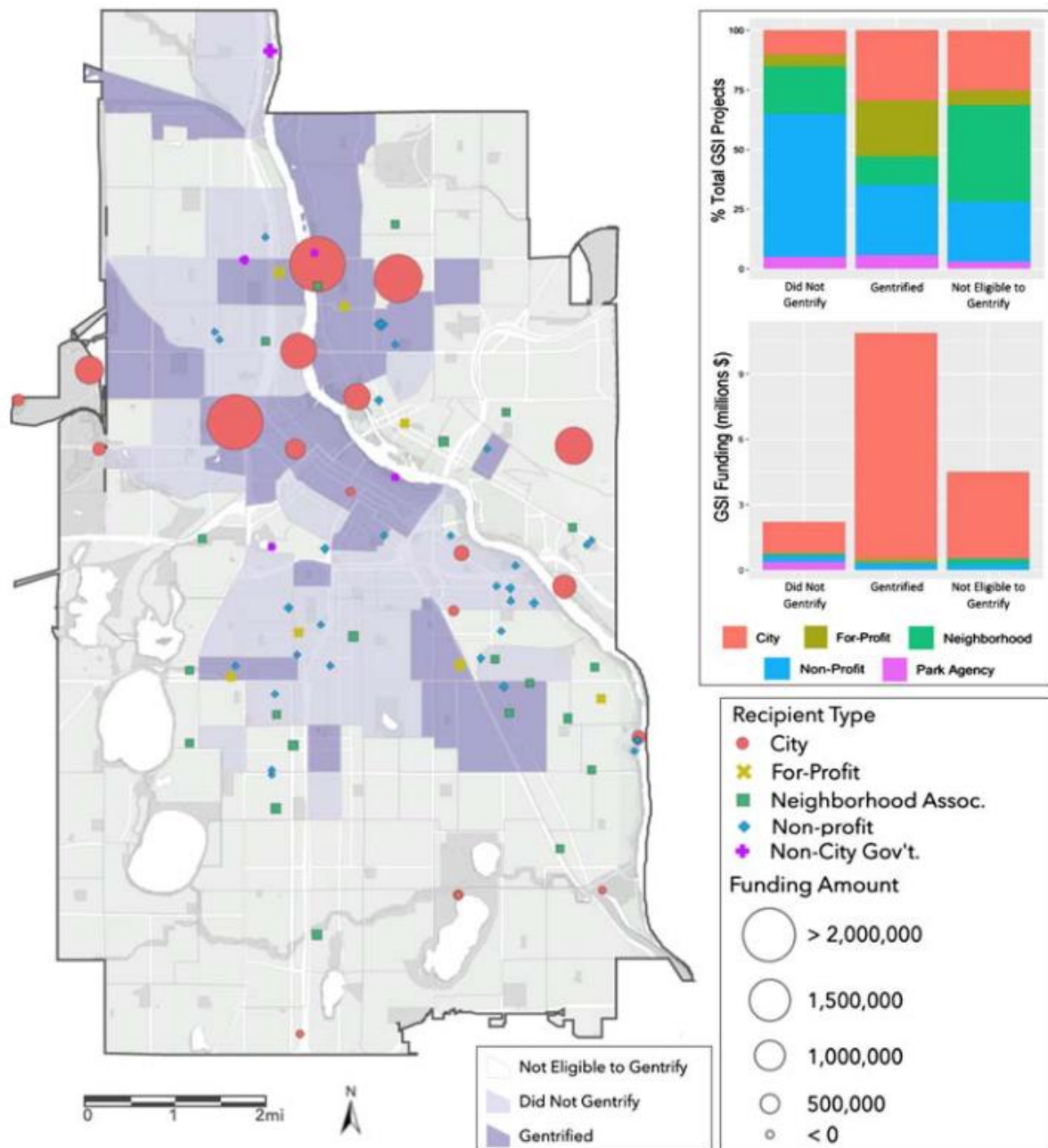
Monitoring



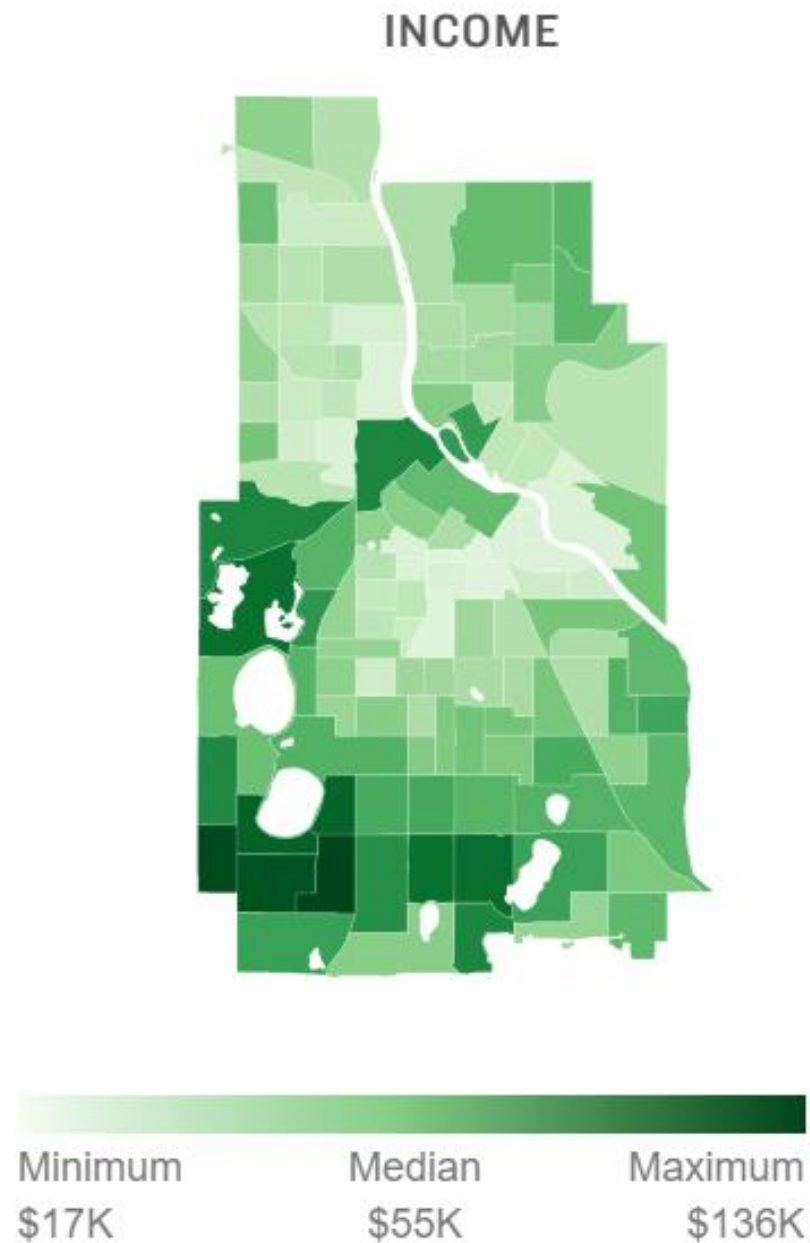
Monitoring







Rebecca H. Walker . 2021. *Engineering gentrification: urban redevelopment, sustainability policy, and green stormwater infrastructure in Minneapolis*. Journal of Environmental Policy & Planning.



SHARING IN THE BENEFITS OF A GREENING CITY



**A POLICY TOOLKIT
IN PURSUIT
OF ECONOMIC,
ENVIRONMENTAL,
AND RACIAL JUSTICE**



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Kaleigh Swift, *Program Coordinator, University of Minnesota*
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Rebecca Walker, *PhD Student, University of Minnesota*

create.umn.edu/toolkit

“It’s not easy
being green.”
—Kermit the Frog



<https://greenily.co/wp-content/uploads/2016/10/kermitthefrog2.jpg>

Acknowledgements



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Fred Adams Paving, LLC



cleanwater
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Thank you!



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