



WATER-RELATED INFRASTRUCTURE FUNDING NEEDS FOR INDIANA


For Interim Legislative Study Committee on
Environmental Affairs
10.28.2015



Indiana Water, Wastewater & Storm water Need

- Drinking Water: \$6.64 B
- Combined Sewer Overflows: \$3.64 B
- Wastewater Conveyance/Treatment: \$3.62 B
- Septic Needs:\$1.04 B
- Storm water:\$786 M
- Total Need: \$15.72 B

(Costs are shown in 2014 dollars and represent a twenty year period from 2015 – 2034 upcoming: Water & Wastewater Financial Needs Interim Report, Indiana Public Policy Institute: Indianapolis.)



Indiana Dam Rehabilitation Need

- Dams: \$180 M Rehabilitation Costs
- \$10.8 M Annual O&M
- 1,088 registered dams
- 57% considered conditionally poor or worse

- Not considering downstream loss associated with failure.



Indiana Levees

- 270 miles of federally regulated levees
- 1,530 miles of locally owned levees
- \$1.8 B to repair and rehabilitate
- ~\$1 M rehabilitation cost/ levee mile

- Not considering flood loss associated with failure.

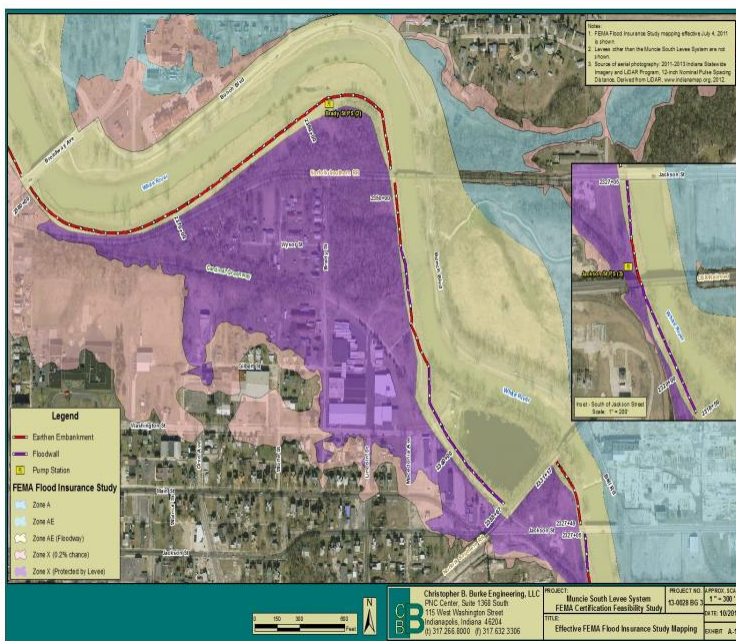


One City: Muncie

Water Infrastructure Funding Challenges

- Combined Sewer Overflow Long Term Control Plan Implementation (next 15 years) = **\$160 M**
- Downtown & Neighborhood Flood Control Projects (next 5 years) = **\$15 M**
- New Drinking Water Treatment Plant (Under Construction) = **\$14 M**
- Regulatory Driven Plant Upgrades at Sewage Treatment Plant (next 15 years) = **\$10 M**
- Re-Certify and Upgrade Existing Levee System along the White River (next 5 years) = **TBD**

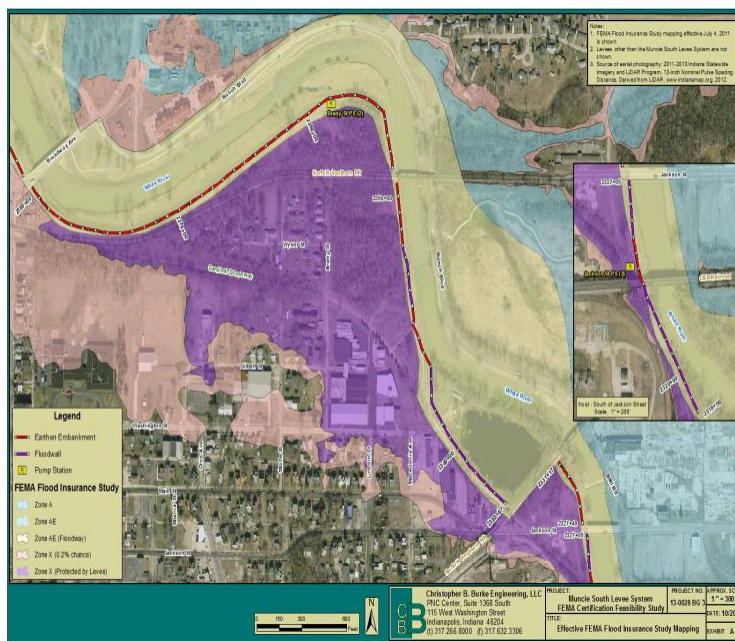
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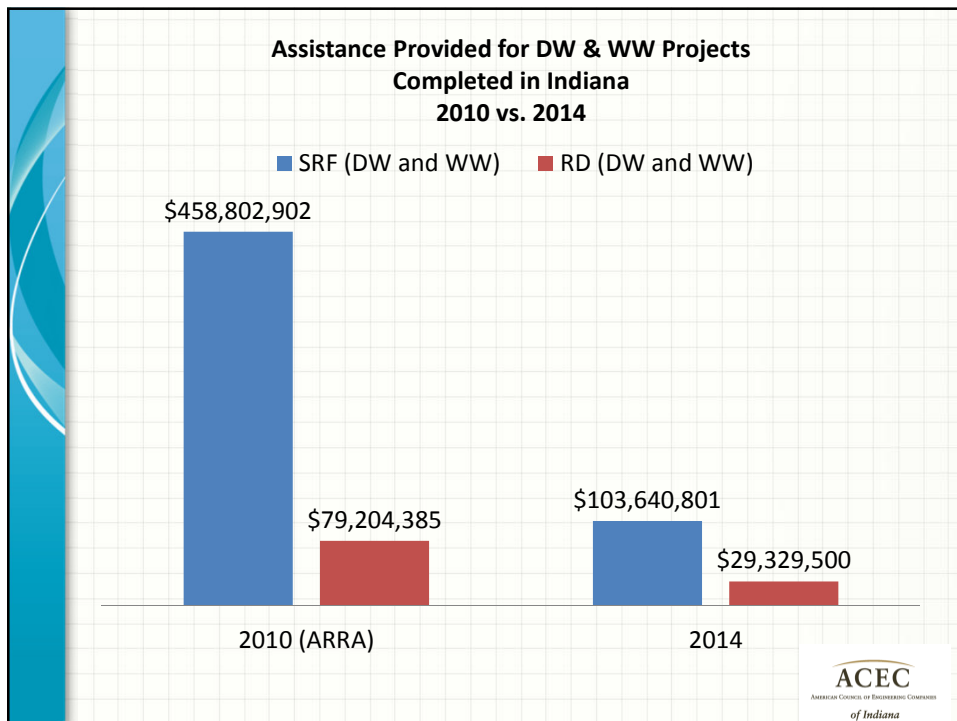
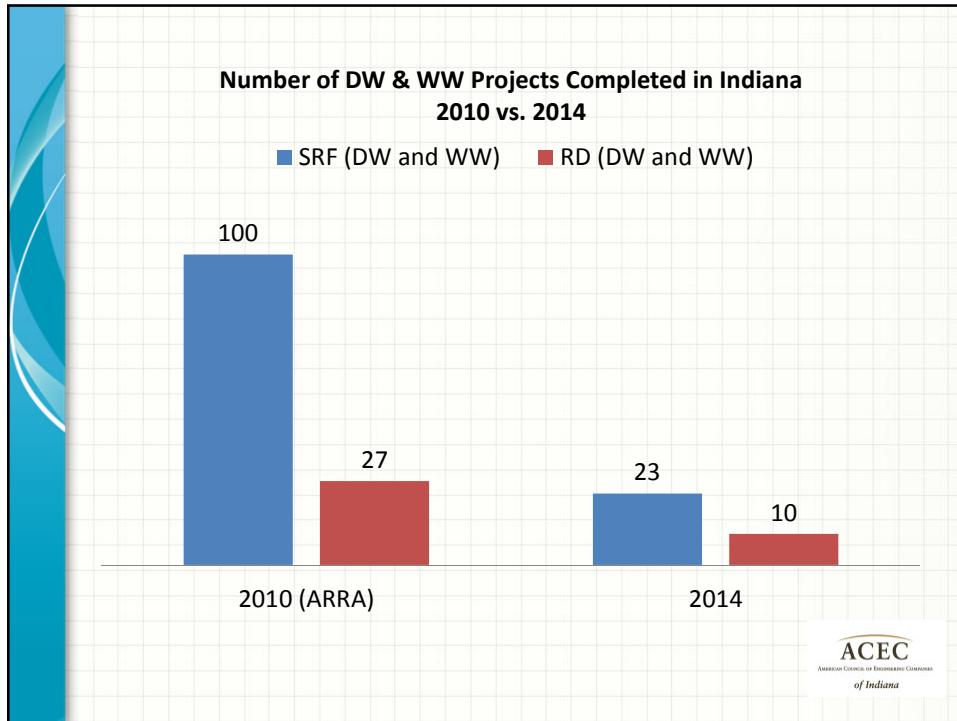


Muncie

44 CFR 65.10 Criteria	Criteria Met?	Deficiencies	Recommended Actions/Improvements
Freeboard 65.10 (b.1)	No	<ul style="list-style-type: none"> Approximately 4,150 feet of freeboard-deficient levee from upstream of Broadway Avenue to upstream terminus for effective FIS profile Approximately 7,600 feet of freeboard-deficient levee from Norfolk Southern RR (3rd crossing) to upstream terminus for revised FIS profile Gap in the line of protection at Norfolk Southern RR 	<ul style="list-style-type: none"> Raise levee crest elevation to a maximum of about 5 feet for effective FIS profile Raise levee crest elevation up to a maximum of about 5.5 feet for the revised FIS profile Construct tie-back levee near Macedonia Avenue (in lieu of constructing levee segment connecting Phillips Lake Floodwall to existing earthen levee downstream of Jackson Street)
Closures 65.10 (b.2)	No	<ul style="list-style-type: none"> Phillips Lake Closure sill is in poor condition and not watertight Aluminum stoplogs are stored offsite 	<ul style="list-style-type: none"> Construct tie-back levee to avoid this area Make provisions for temporary closure to reduce the risk of flooding to SR 32
Embankment Protection 65.10 (b.3)	No	<ul style="list-style-type: none"> Erosion observed in several locations 	<ul style="list-style-type: none"> Install armoring
Embankment and Foundation Stability 65.10 (b.4)	No	<ul style="list-style-type: none"> Inadequate factors of safety at 3 critical cross-sections High exit gradient at Station 2342+76 Strength criteria for flexure not met for East End Bikeway, Phillips Lake, and Pottery Works foodwalls 	<ul style="list-style-type: none"> Construct improvements to increase factors of safety and reduce potential for piping Construct tie-back levee in lieu of repairing/replacing East End Bikeway and Phillips Lake foodwalls Remove Pottery Works foodwall and replace with earthen levee Reevaluate settlement if levee crest is raised
Settlement 65.10 (b.5)	Yes	<ul style="list-style-type: none"> None 	
Interior Drainage 65.10 (b.6)	No	<ul style="list-style-type: none"> Conduit video inspections not performed No sluice gate on 36-inch outfall at Station 2373+00 Inoperable sluice gate on 36-inch outfall at Station 2447+90 Numerous pump station deficiencies 	<ul style="list-style-type: none"> Perform conduit video inspections Install gatewell and sluice gate at Station 2373+00 Replace sluice gate at Station 2447+90 Evaluate need for repairs to pump stations and gates
O&M Criteria 65.10 (c)	No	<ul style="list-style-type: none"> O&M Manual is outdated Ownership of the levee and/or easements have not been verified Inappropriate vegetative growth, encroachments, animal burrows, and other surficial deficiencies 	<ul style="list-style-type: none"> Update/replace O&M Manual Verify that MSD owns or has easements to access, operate, and maintain the entire levee system Repair surficial deficiencies and remove encroachments as warranted

Muncie Decision: \$4 M vs. \$1.5 M?





What next?

- Economic impacts
Stagnation/decline or economic development?
- Public health/environment impacts
At risk or thrive in future?
- Local impacts
SRF/RD/OCRA fully used now
Demand far outpaces Funds
Rate payers have done as much as they can do



Sources

- <http://www.infrastructurereportcard.org/indiana/indiana-overview/>
- <http://www.infrastructurereportcard.org/a/#p/levees/conditions-and-capacity>
- <http://www.inasce.org/images/Report%20Card%20Final.pdf>
- <http://www.usace.army.mil/Missions/CivilWorks/LeveeSafetyProgram/NationalLeveeDatabase.aspx>



Contact Us!

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