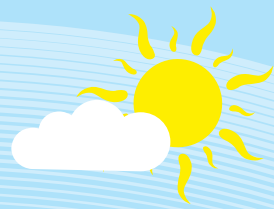




Environmental Stewardship and Community Service Leadership: *Essential Best Practices for the Clean Water Utility of the Future*

Andrew Kricun, P.E., BCEE
Executive Director/Chief Engineer
Camden County Municipal Utilities Authority

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The greater good of the world
is largely due to the
unhistoric acts of the faithful
men and women who may
rest in unvisited tombs.”

~ George Eliot



Camden County Municipal Utilities Authority, Camden, NJ

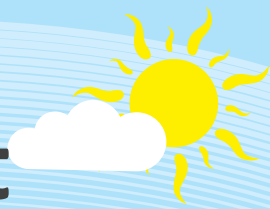


Services 500,000 customers in
Southern NJ

- Design Flow: 80 MGD
- Average Flow: 58 MGD
- Secondary, pure oxygen activated sludge treatment
- Discharges to Delaware River



The Clean Water Utility of the Past



- Permit compliance is the ceiling of aspirations
- Minimal interaction with Community and Regulatory Agencies



The Clean Water Utility of the Future



- Permit compliance is the floor
- The Utility of the Future is a proactive environmental and community service partner
 - ✓ Effluent optimization
 - ✓ Water reuse
 - ✓ Cost efficiency
 - ✓ Asset management
 - ✓ Reducing carbon footprint/Green energy
 - ✓ Green Infrastructure
 - ✓ Community service
 - ✓ Organizational culture/workforce development



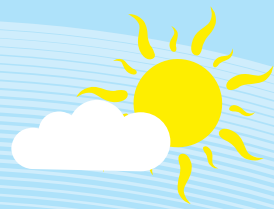
Four Levels/Stages of Utility Investment in Their Communities



- Indifference
- Do No Harm
- Be a Good Neighbor
- Be a Proactive Advocate and Anchor Institution that is Invested in the Quality of Life of our Community



Do No Harm → Odor Prevention



- Closed odorous sludge composting facilities
- Odor inventory by independent consultant
- Installed new odor control systems at plant headworks
- Imposed zero tolerance policy with respect to odors from carelessness (doors left open; odor systems left off, etc)
- Increased supervision, especially on weekends
- Numerous outreach attempts to neighboring community to improve relationship



Becoming a Good Neighbor- Environmental Justice Initiatives



- Reduced rates for Camden City residents
- Elimination of truck traffic
- Creation of a waterfront park and fishing pier
- Creation of a Community tree nursery

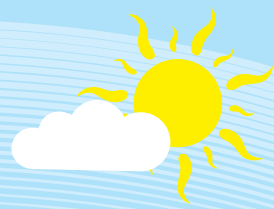


Waterfront South Rain Gardens

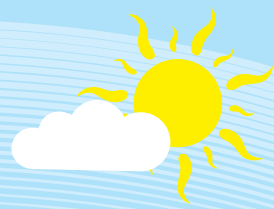
Green Infrastructure on Brownfield Sites- *Before & After*



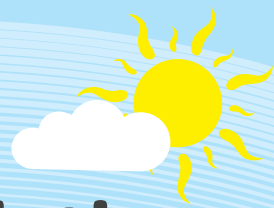
Phoenix Park Project- *Before*



Phoenix Park Project- *After*



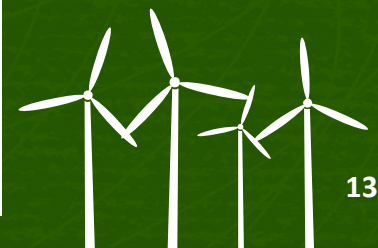
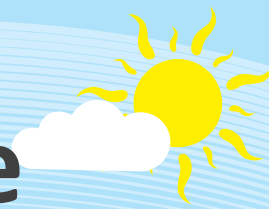
Environmental & Community Service Leadership- Camden Collaborative Initiative



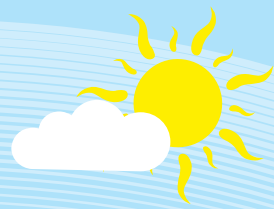
- Collaboration among USEPA, NJDEP, CCMUA, Camden City and 35 other environmental and community service agencies, to address environmental issues
- Six working groups formed:
 - Flooding
 - Contaminated Sites
 - Recycling
 - Environmental Justice
 - Environmental Education
- Power Corps & Green Ambassadors – *Green jobs initiatives*



Camden Collaborative Initiative



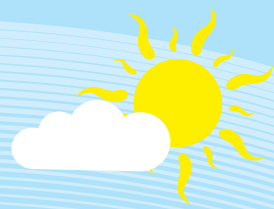
Camden SMART



City of Camden
Camden County Municipal Utilities Authority
Cooper's Ferry Development Association
New Jersey Department of Environmental Protection
Rutgers Cooperative Extension
NJ Tree Foundation



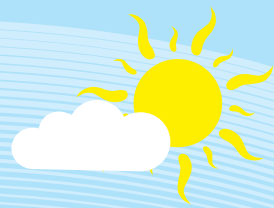
Stakeholders



- Rutgers Camden/Walter Rand Institute
- Cramer Hill Community Development Corporation
- Heart of Camden
- Center for Environmental Transformation
- South Jersey Land and Water Trust
- Camden County Soil Conservation District
- Rutgers Cooperative Extension of Camden County
- Camden County 4-H
- Delaware Riverkeeper Network
- Respond, Inc.
- Save Our Waterfront
- Gloucester City Tree Committee & Beautification Association
- NJDEP
- Concerned Citizens of North Camden
- NJ Conservation Foundation
- Camden DCCB
- Camden Community Development Association
- Greater Camden Partnership
- Cooper Lanning Civic Association
- Morgan Village
- Camden City Garden Club
- Holy Name School
- Camden Churches Organized for People
- Concerned Citizens of Whitman Park
- The Nature Conservancy



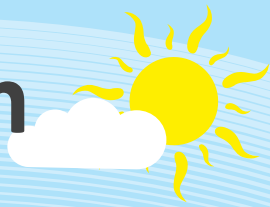
Green Infrastructure & Flooding Control



- A completely voluntary collaborative among NJDEP, NJ Tree Foundation, Rutgers, CCMUA, Camden City and Cooper's Ferry Partnership to reduce flooding citywide
- 50 rain gardens, stream daylighting, depaving projects and 1000 trees planted
- Combined sewers replaced and rehabilitated
- Assistance with operations and maintenance oversight (Peer to Peer Collaboration)



Riverfront Access through Creation of New Parks



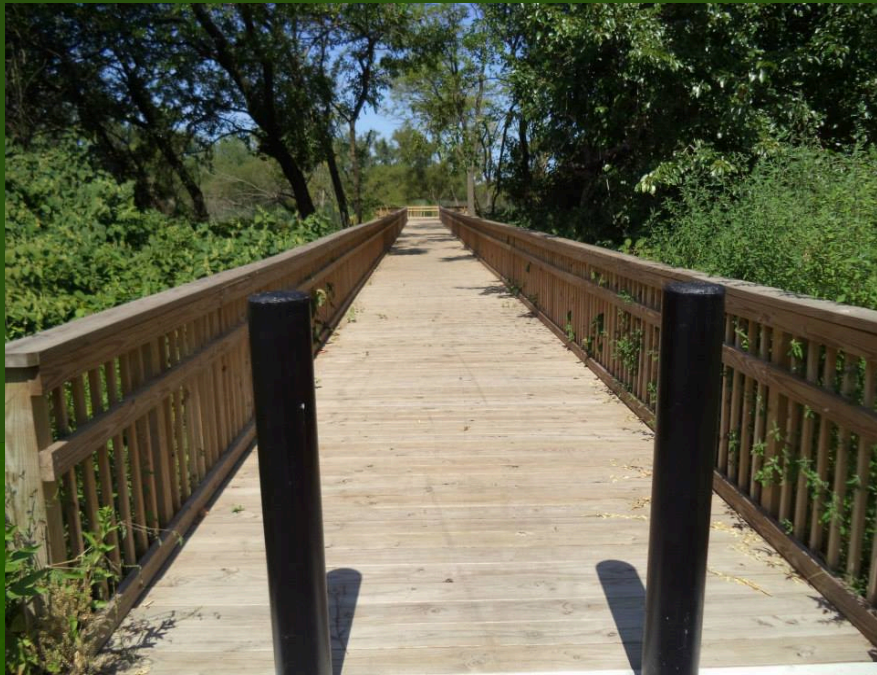
- Michael Doyle Riverfront Park (fishing pier)
- Phoenix Park (10 acre riverfront park created from an abandoned factory)
- Gateway Park (40 acre riverfront park)
- Cramer hill Nature Preserve (30 acre riverfront park)



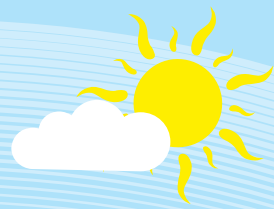
Baldwin's Run Stream Daylighting Project- *Before*



Baldwin's Run Stream Daylighting Project- *After*



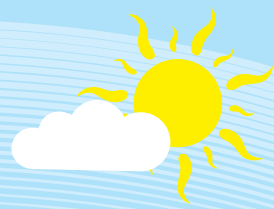
Green Job Opportunities



- Power Corps- *partnership with AmeriCorps to provide green infrastructure maintenance jobs and life skills training to 180 at-risk young men & women over 3 years*
- Green Ambassadors- *partnership with EPA, NPS and others to provide green jobs over the summer for Camden high school students with an interest in environmental science*



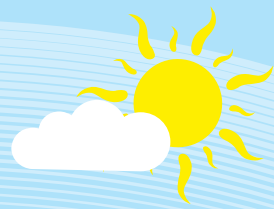
Contaminated Sites



- Identification of best opportunities for redevelopment
- Identification of best opportunities for green space preservation
- Waterfront South Rain Gardens
- Phoenix Park
- Cramer Hill Nature Preserve
- Gateway Park



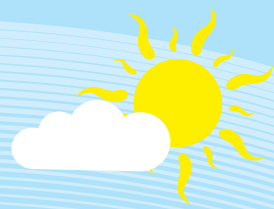
Air Emissions



- Identification of most significant discharges
- Development of BMP's for each industry to cost efficiency minimize impacts from emissions
- Green ports initiative with USEPA
- Development of mobile sources strategy



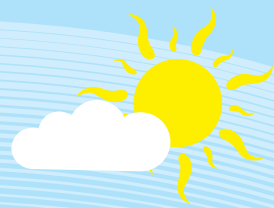
Recycling & Illegal Dumping



- Revised Camden City recycling specification
- Developing Camden City school recycling challenge
- Mobile app to assist with illegal dumping



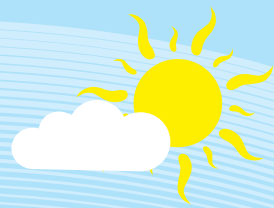
Environmental Justice



- Developed sustainability/environmental justice ordinance
- Creating four riverfront parks to provide riverfront access to residents
- Sustainable Jersey Silver Certification
- Camden City Host Community Benefit
- National Environmental Justice Initiative



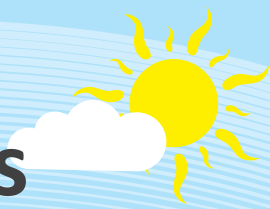
Environmental Education



- Developed environmental education resource guide for Camden Schools
- Established Camden Green Ambassadors Internship Program
- Local Awareness Program



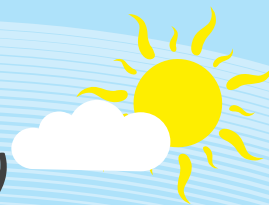
CCMUA Climate Change Vulnerabilities



- Loss of Power
- Rise in Delaware River elevation
 - wastewater treatment plant more prone to flooding and corresponding equipment damage
 - combined sewer system will see higher tides and corresponding increase of flooding of homes, streets & parks



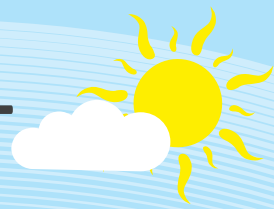
CCMUA Climate Change Vulnerabilities *(con't)*



- Increased rainfall volumes
 - increased pressure on finite capacity of wastewater treatment plant and combined sewer system
 - increased probability of combined sewage flooding and overflows

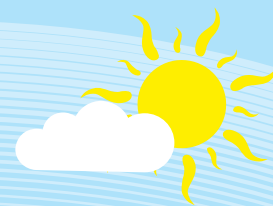


Resiliency Measures Already Implemented- Energy Conservation & Green Energy

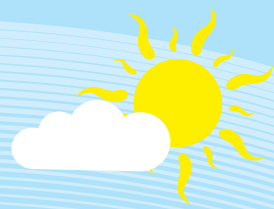


- Energy Audit
- Energy conservation measures
- Solar panels
- Digestion/Combined heat and power
- Sewage heat recovery





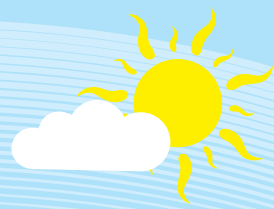
Conclusion



The Clean Water Utilities of the Future have the opportunity, and the obligation, to “become the change we seek” and do our part to help save the planet and improve the quality of life for our neighbors by providing environmental and community service leadership.



Thanks for Listening!



If you would like more information, please contact:

Andrew Kricun, P.E., BCEE
Executive Director/Chief Engineer
Camden County Municipal Utilities Authority
Camden, NJ 08104
(856)583-1223
andy@ccmua.org

