



American Water Works Association
Pacific Northwest Section

May 2, 2024

Engineering Justice in Design: Water Equity Approaches in Practice

Walt Walker, PE, ENV SP
Vice President, Equity Practice Leader

TYLin | Greeley and Hansen
Water Solutions



My Journey

- 18+ years in the water/environment sector
- Lived in environmental justice communities
- Member of AWWA, Engineers Without Borders-USA, US Water Alliance, Water Environmental Federation, NACWA Environmental Justice Committee
- Co-founder and former member of a social justice design cooperative (JustDesign)
- Started and appointed to lead TYLin Equity Practice
- Co-founder and Chair of the NY Water Environment Association's (NYWEA) Diversity, Equity, & Inclusion Committee
- Avid explorer of cities



Definitions + Introduction to terms

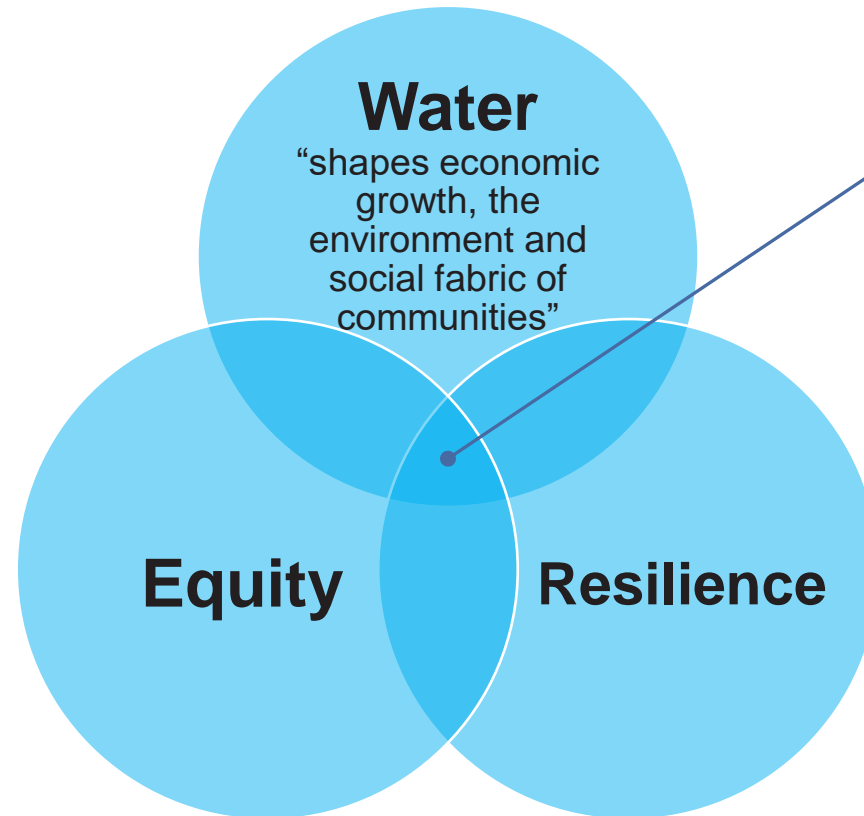
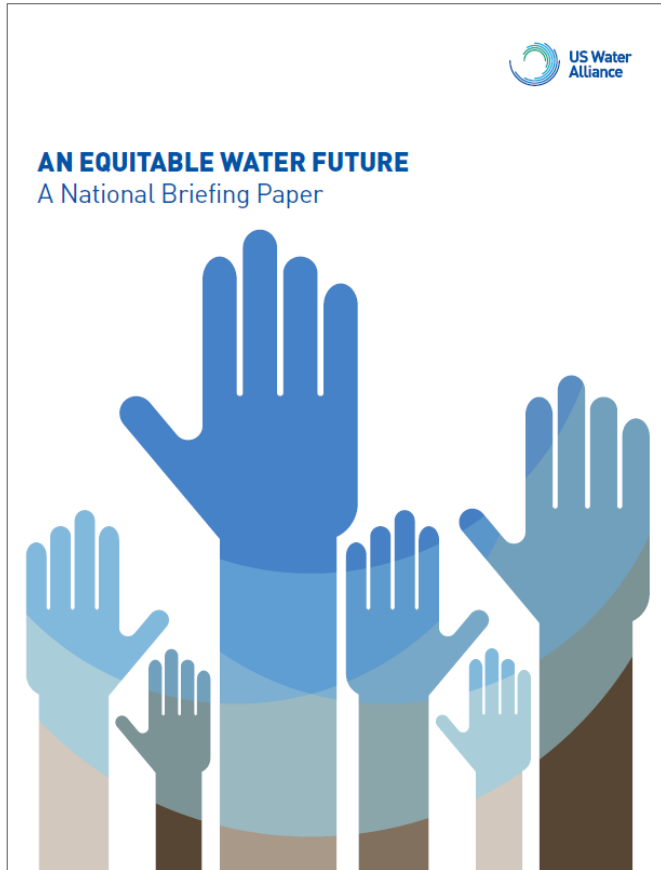
Defining Terminology

Community can be:

- Frontline communities
- Community residents
- Community-based organizations
- Local non-profits and advocacy groups
- Community organizing and environmental justice groups
- Local businesses
- City agencies as stakeholders
- Vulnerable populations



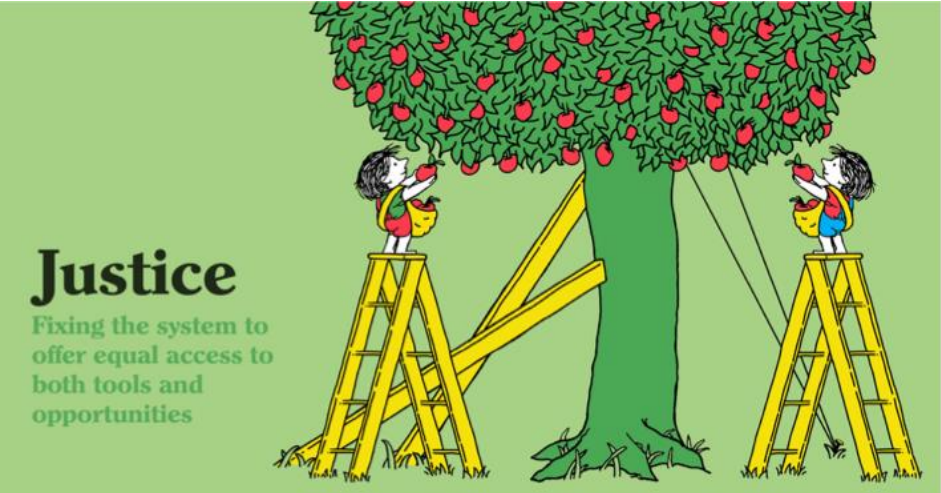
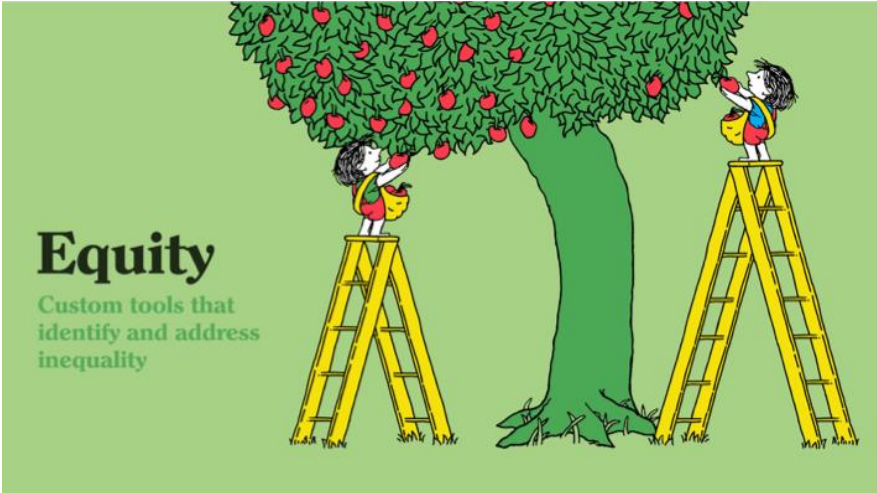
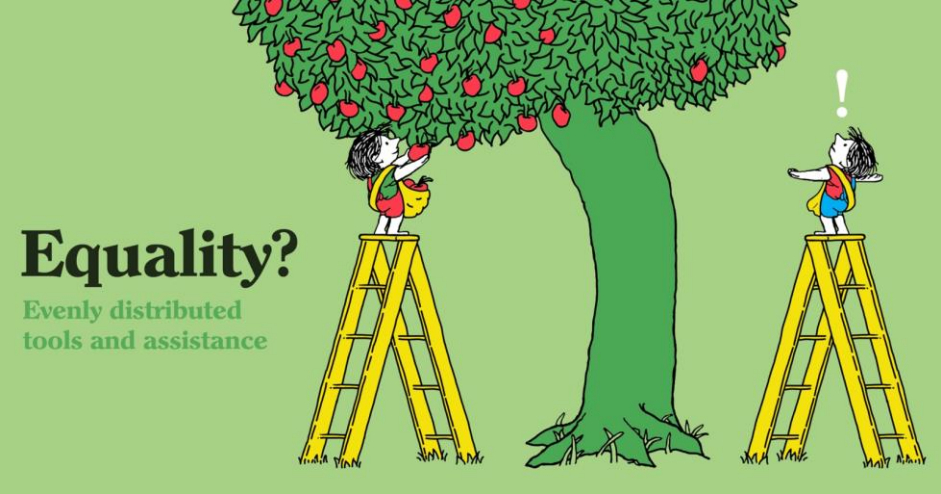
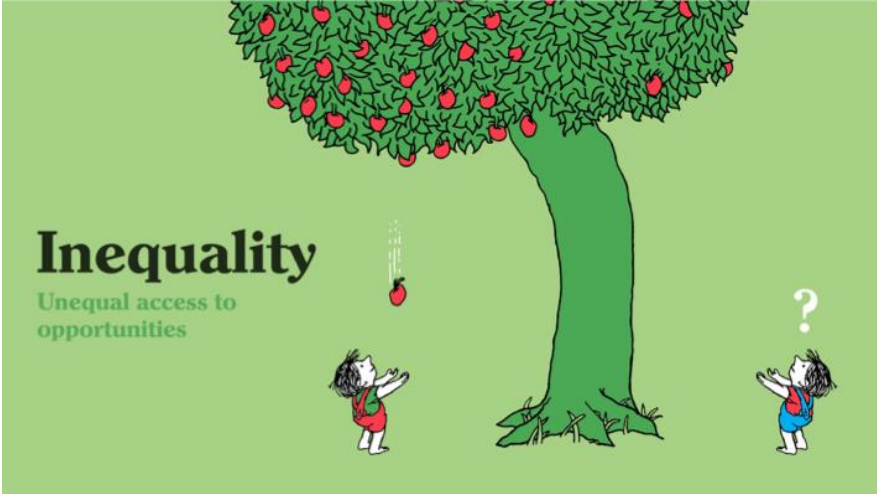
Framing the Discussion



Water Equity is at the intersection and occurs when all communities:

- Have **access** to safe, clean, affordable drinking water and wastewater services
- Are **resilient** in the face of a changing climate – floods, drought, and other risks
- **Share** in the economic, social and environmental benefits of water systems and infrastructure
- Have a **role in decision-making** related to water management in our communities

Equity and Justice



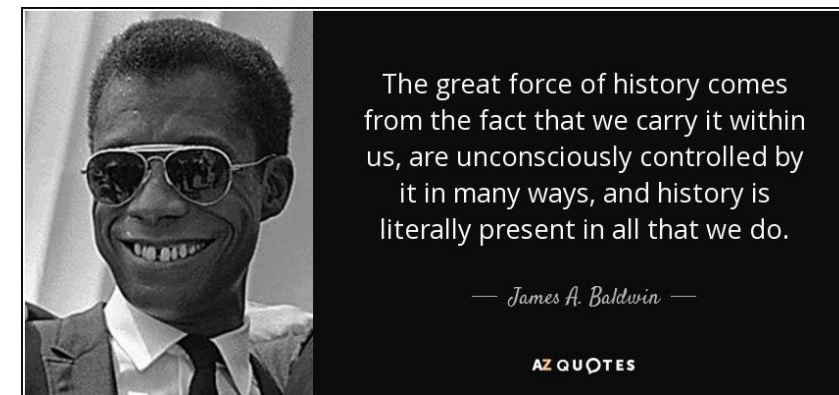
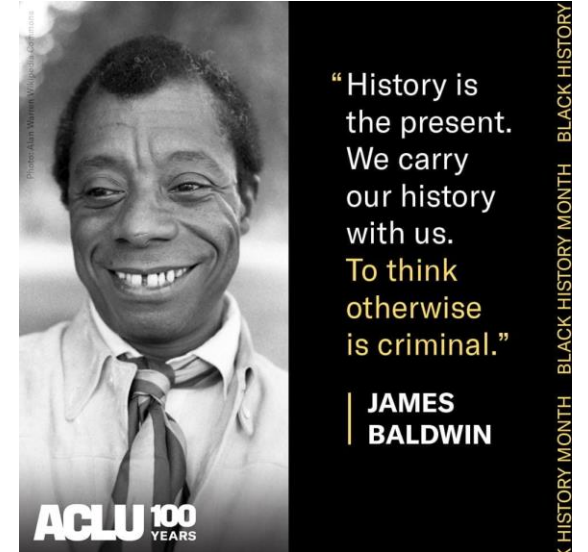
Environmental Justice

- Environmental Justice represents a commitment to ensure that a person's quality of life should not depend on who they are, where they live or their income.
- This **requires an intentionality to unwind previous environmental injustices** that have resulted in disproportionate burdens on disadvantaged communities.

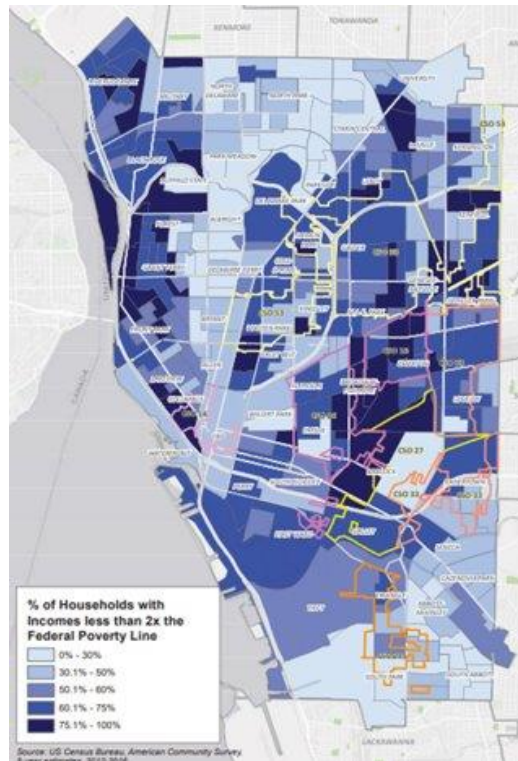


Our Sector's Role in Equity and Justice

- Understand the historical legacy of decisions, policies, infrastructure investments / underinvestment
- Many of society's issues are intersectional, because our work, our decisions, and our fates are interconnected
- We cannot solve problems in isolation. Must take an **intersectional, multi-disciplinary approach**
- We all can be designers of justice



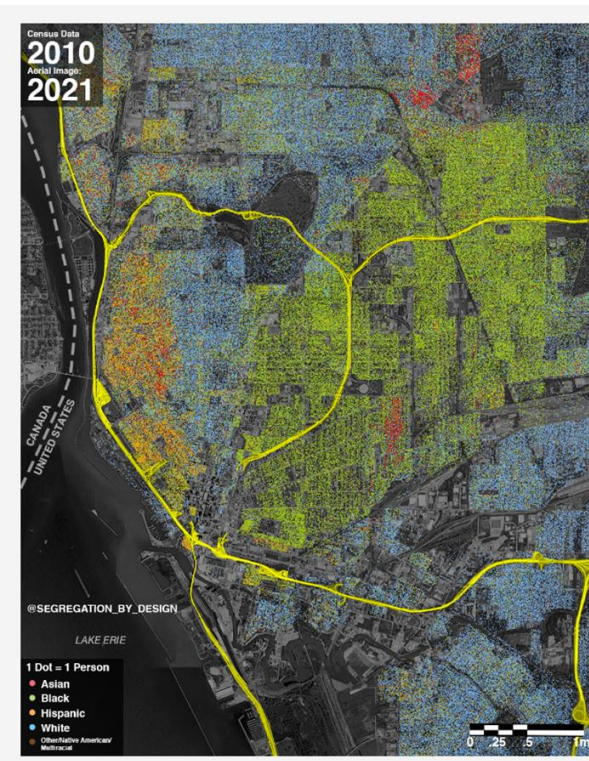
How We Got Here: Equity & Justice - Understanding What's at Stake



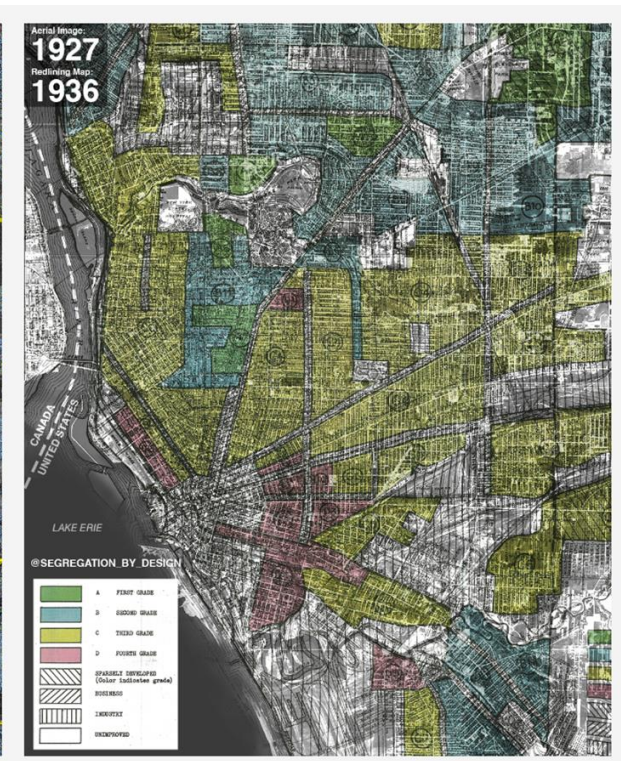
► Buffalo Equity Index Map



► Freeways and Urban Renewal



► Redlining and Demographics



Source: <https://www.segregationbydesign.com/>

Commitment to Water Equity Practices and Environmental Justice



WHERE ARE WE NOW?

The Current Landscape of Equity & Justice in the Water Sector

Why Equity Indicators?



Measure progress and success through implementation and beyond



Establish baselines



Ensure transparency in the progress of achieving the goals set out in the plan.



Promote **diversity, equity, inclusion and justice** in the planning, design, implementation

Equity Indicators + Desired Outcomes

1

Community Ownership

2

Capacity Building

3

Healthy Communities

4

Heritage Preservation

5

Sustainable Wealth Creation

6

New and Reformed Policy for Sustainable Development

7

Growth Management and Neighborhood Development



Observation



Discovery

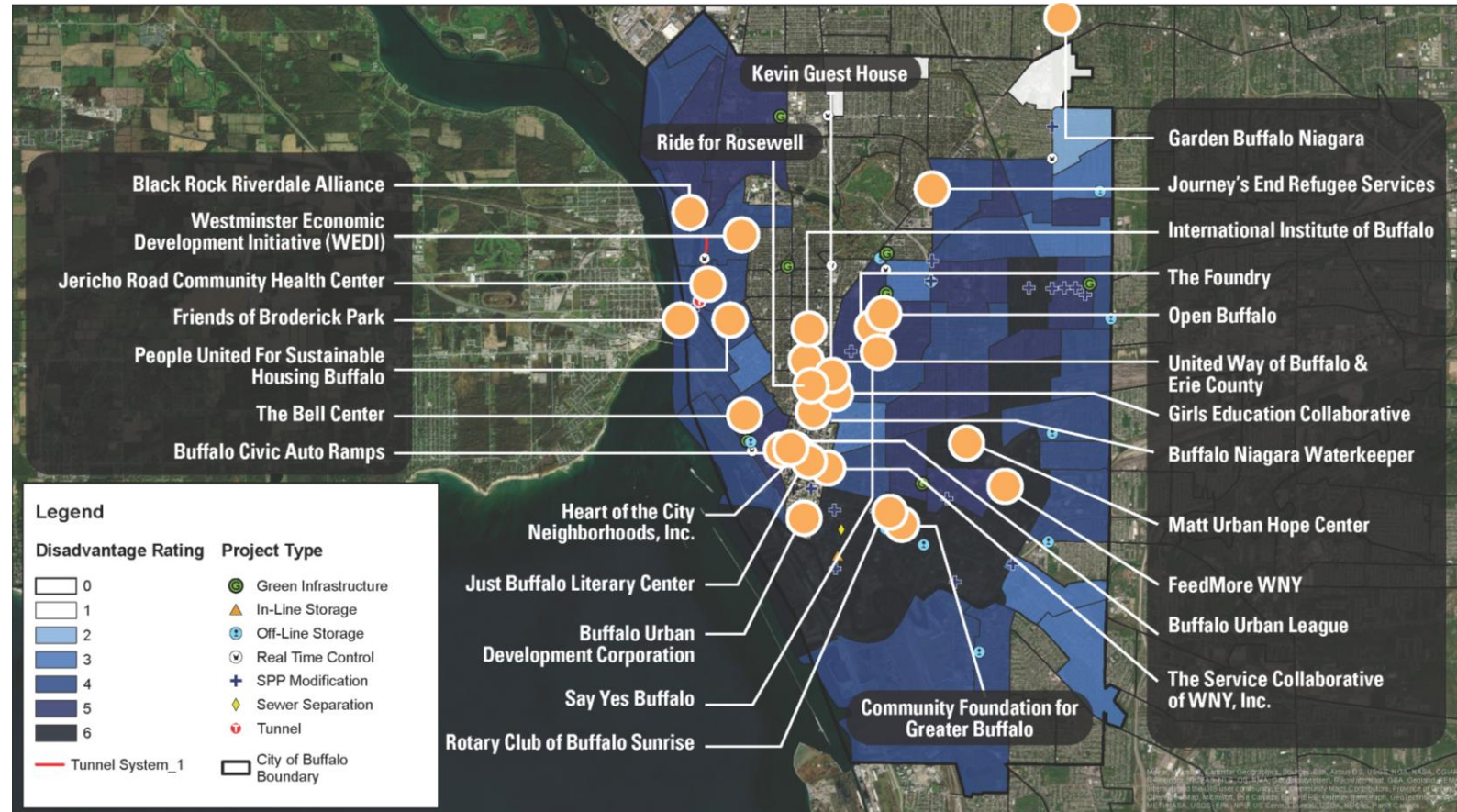


Planning and Application

Partner with Anchor Institutions to Reach the Community

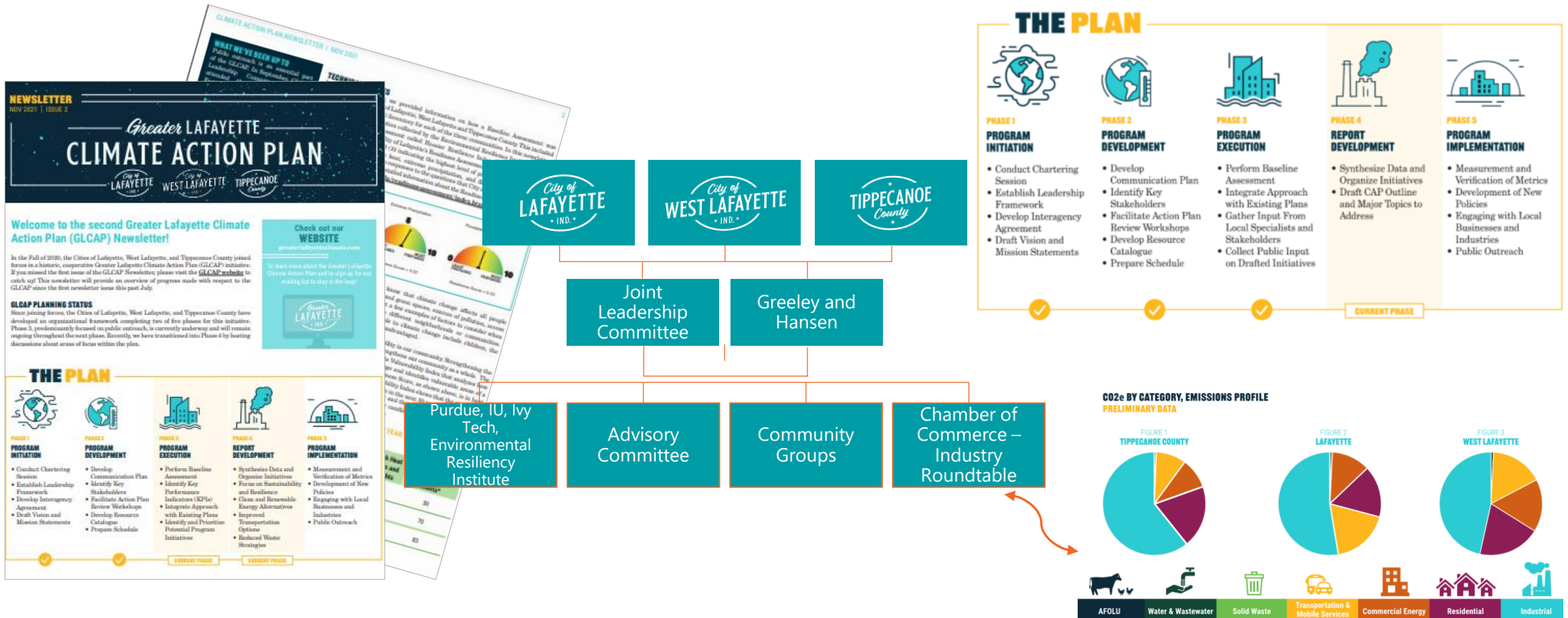
Build a strong **Community Benefits Stakeholder Review Committee** – comprised of community leaders and residents

Accountability + Transparency: Indicators, representation, how are resources distributed and made available



Water Equity Approaches and Principles in Practice

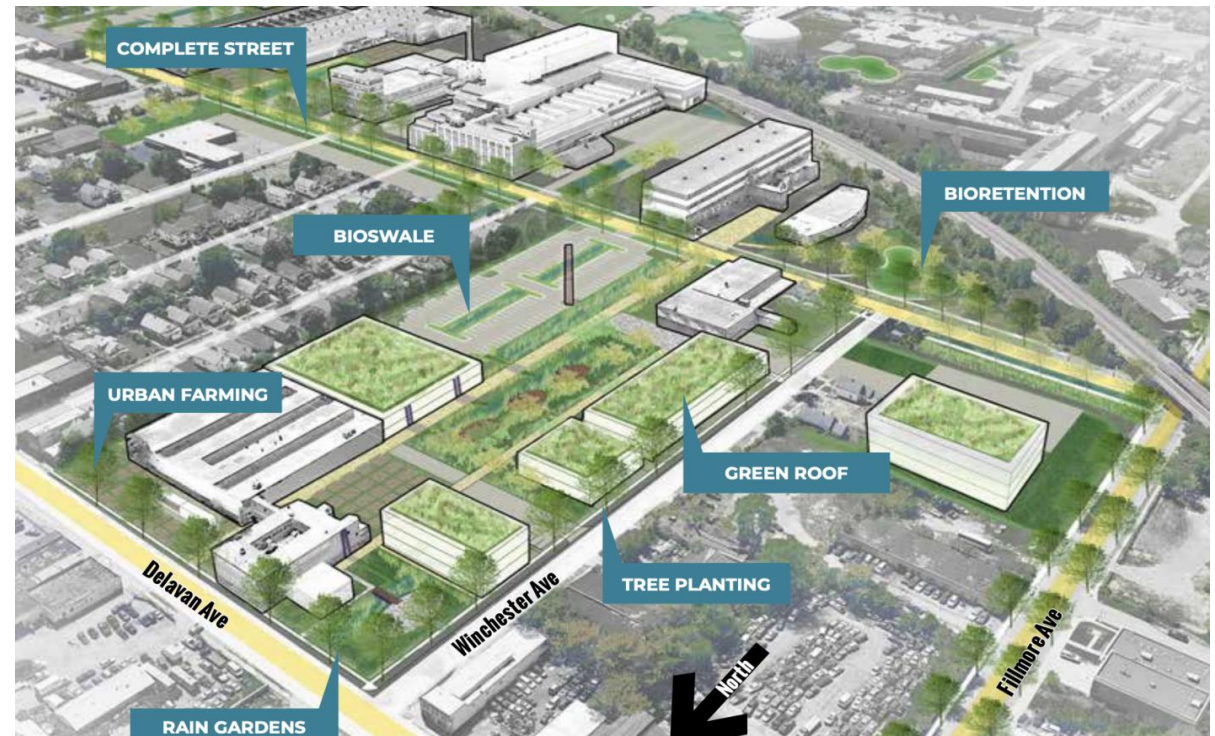
COMMUNITY ENGAGEMENT AND PARTNERSHIPS



Water Equity Approaches and Principles in Practice

AFFORDABILITY AND INNOVATIVE FUNDING FOR EJ

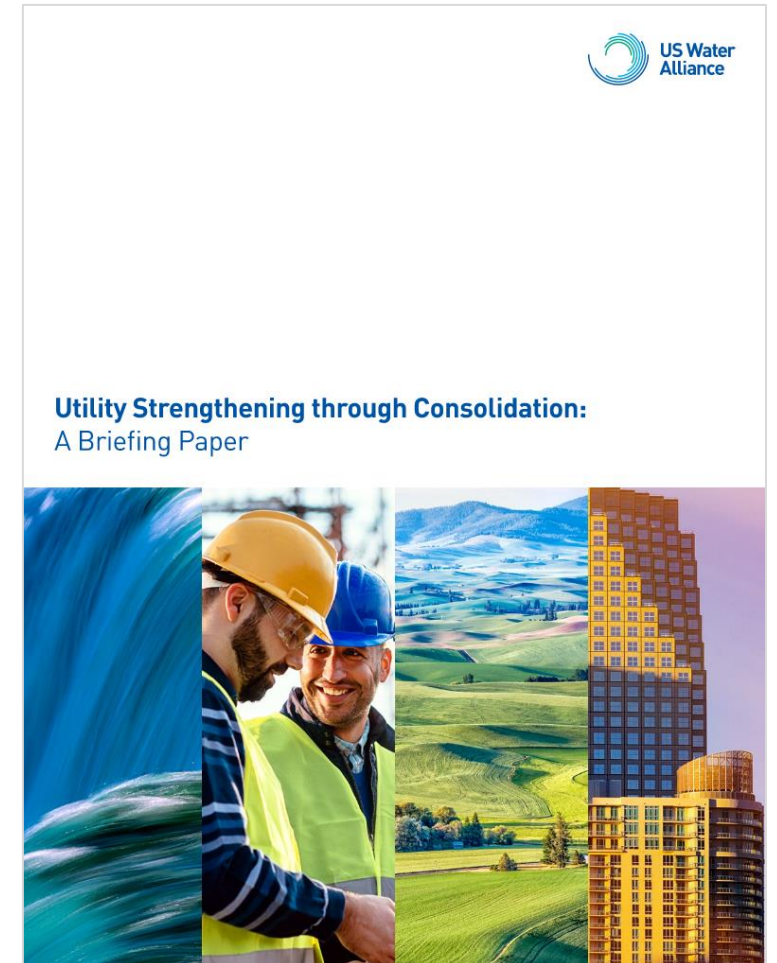
- Buffalo Sewer Authority \$54 million **Environmental Impact Bond (EIB) issuance in June 2021, the country's largest to date, to finance green infrastructure and stormwater mitigation projects** as part of its *Rain Check 2.0* initiative.
 - **mitigates heat stress, enhance community benefits and partnerships, creation of green jobs.**
 - RainCheck 2.0 features an **Equity Index**
- Financial Capability Assessment (FCA) – ratepayer **affordability**
- Securing **funding** for additional LTCP infrastructure investments through SRF, BIL, WQIP



Water Equity Approaches and Principles in Practice

WATER QUALITY AND WATERSHED MANAGEMENT

- Utility Strengthening Through Consolidation
- City of Joliet
 - Cost service
 - Water equity as a driver of consolidating and centralizing water utility infrastructure
 - Sustainable solutions to water infrastructure challenges



Water Equity Approaches and Principles in Practice

WORKFORCE, CONTRACTING, AND SUPPLIER DIVERSITY

Supplier Diversity Program

MSD's Supplier Diversity Program has worked since 1985 to increase participation of qualified minority and woman-owned businesses in contracts to perform work in our core business areas:

- Construction and construction-related services
- Engineering and other professional services
- Materials, commodities and services procurements

We have programs aimed separately at boosting certified Minority and Women Business Enterprises (MBE/WBE) in becoming prime contractors or subcontractors.

Prime Contractor Bid Discounts:

During bid evaluations on projects estimated between \$30,000 and \$500,000, the total dollar amount of each MBE/WBE prime contractor bid is reduced by 10 percent to arrive at a net evaluation price. The contract is awarded at 100 percent of the pre-reduced bid amount. Table 1 details groups eligible for bid discounts.

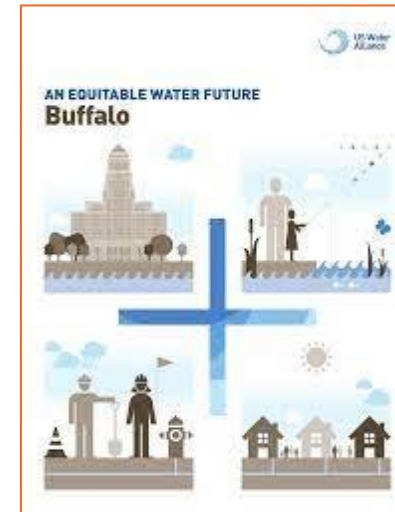
African Americans	Hispanic Americans	Asian Pacific Americans	Asian Indian Americans	Caucasian Females
• Construction Services	• Construction Services	• Construction Services	• Construction Services	• Construction Services
• Construction-related Services	• Construction-related Services			• Construction-related Services
• Materials, Commodities and Services				• Materials, Commodities and Services

Construction Subcontracting Goals – MBE and WBE Participation:

- On contracts valued by MSD at \$150,000 or more,
- At least 35% should be subcontracted to eligible MBE and WBE firms
- Eligible MBE and WBE ethnic and gender groups are outlined below in Table 2

African Americans	Asian Indian Americans	Caucasian Females
18.0%	2.0%	15.0%

Engineering and Other Professional Services Contracts



Water Equity Approaches and Principles in Practice

CIVIC ACTION, SOCIAL IMPACT, AND COMMUNITY BENEFITS

The screenshot shows the San Francisco Water Power Sewer website. The main header features the agency logo and navigation links: My Account, Report A Problem, Careers, Contact Us, Translate, Alerts. Below the header is a large photograph of a diverse group of young professionals. The page title is "Social Impact Partnership Program". A sidebar on the left lists various services and programs. The main content area describes the program's goal to use resources for meaningful impacts in communities.

Social Impact Partnership Program

The SFPUC invites firms through the contracting process to use their resources to make meaningful, positive impacts in the communities we serve.

Under the **Social Impact Partnership (SIP) program**, firms voluntarily make commitments that they deliver over a term of life of their contract via financial contributions and/or volunteer hours to non-profit organizations and/or public education providers. SIP commitments have the potential to transform communities and individuals through meaningful programs services that create a positive social impact.

The SIP program intersects a firm's social responsibility values with the SFPUC Commission's three guiding policies (Environmental Justice, Community Benefits, and Racial Justice). SIP commitments support local communities in addressing inequities, building community trust, improving quality of life, and creating meaningful impact. As the SFPUC builds critical infrastructure for our city and the other counties where we have projects, the agency also aims to support building more and equitable communities.

For more information about SIP including an interactive dashboard, please visit the **SIP Resources page**. If you are a firm would like more information, please email inquiries to SIP@sfpuc.org.

The screenshot shows the Corporate Coalition website. The main header includes the logo and navigation links: About Us, Our Approach, Our Initiatives, Membership, News + Events, Get Involved. The page features a large blue background with a white arrow pointing upwards. The title is "5/25 Move to Action". The text describes a commitment to racial equity in Chicago following the murder of George Floyd.

5/25 Move to Action

In June 2021, one year after George Floyd's murder, 25 companies made public commitments to take measurable action to advance racial equity in Chicago. Their common goal was to help create and motivate visible, sustained change by publicly committing to future actions.

By making commitments as a group, participants are working to create a new culture of doing business in Chicago, one where companies understand that reducing inequities is essential to their business success and a thriving regional economy.

[Read More](#) [Contact Us](#)

The screenshot shows the MSD website. The main header includes the logo and navigation links: Careers, About Us, Customer Relations, What We Do, Infrastructure Plans, Education, Programs, Search. The page features three photographs showing community activities: planting trees, a group of people in hard hats, and a community meeting. The title is "Community Benefits Program". A sidebar on the right lists services like "Report a Problem", "Contact Us", and "Pay My Bill".

Community Benefits Program

Strategic Partnerships for Positive Social Impacts

MSD strives to be a good neighbor and we invite our partners to use their resources to provide a positive impact to the communities we serve.

Our Community Benefits Program leverages economic, environmental and social impacts through our large-scale construction, construction-related, professional services, and engineering projects by ensuring ratepayers benefit from MSD's capital investment. The program encourages firms to invest in the community through a variety of ways, including workforce development, education and economic development. These programs support job and contracting opportunities for local residents, as well as our firms; expand pre-apprentice and apprenticeship programs; support eco-literacy programs for youth; provide small business development growth, and so much more.

Our firms may accomplish this goal by providing a Community Benefits Commitment of a financial contribution, volunteer hours, or in-kind services to local non-profits and schools in Jefferson County.

We Can Help

- [Report a Problem](#)
- [Contact Us](#)
- [Pay My Bill](#)

Call us 24/7 (602) 540-6000



Water Equity Approaches and Principles in Practice

WORKFORCE, CONTRACTING, AND SUPPLIER DIVERSITY

Supplier Diversity Program

MSD's Supplier Diversity Program has worked since 1985 to increase participation of qualified minority and woman-owned businesses in contracts to perform work in our core business areas:

- Construction and construction-related services
- Engineering and other professional services
- Materials, commodities and services procurements

We have programs aimed separately at boosting certified Minority and Women Business Enterprises (MBE/WBE) in becoming prime contractors or subcontractors.

Prime Contractor Bid Discounts:

During bid evaluations on projects estimated between \$30,000 and \$500,000, the total dollar amount of each MBE/WBE prime contractor bid is reduced by 10 percent to arrive at a net evaluation price. The contract is awarded at 100 percent of the pre-reduced bid amount. Table 1 details groups eligible for bid discounts.

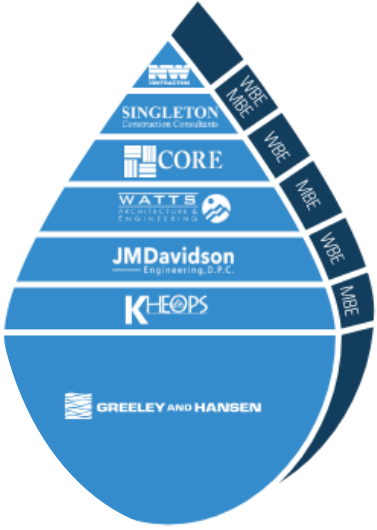
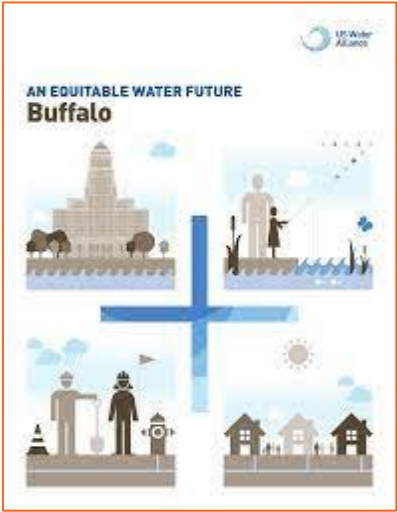
African Americans	Hispanic Americans	Asian Pacific Americans	Asian Indian Americans	Caucasian Females
<ul style="list-style-type: none"> Construction Services Construction-related Services Materials, Commodities and Services 	<ul style="list-style-type: none"> Construction Services Construction-related Services 	<ul style="list-style-type: none"> Construction Services 	<ul style="list-style-type: none"> Construction Services 	<ul style="list-style-type: none"> Construction Services Construction-related Services Materials, Commodities and Services

Construction Subcontracting Goals – MBE and WBE Participation:

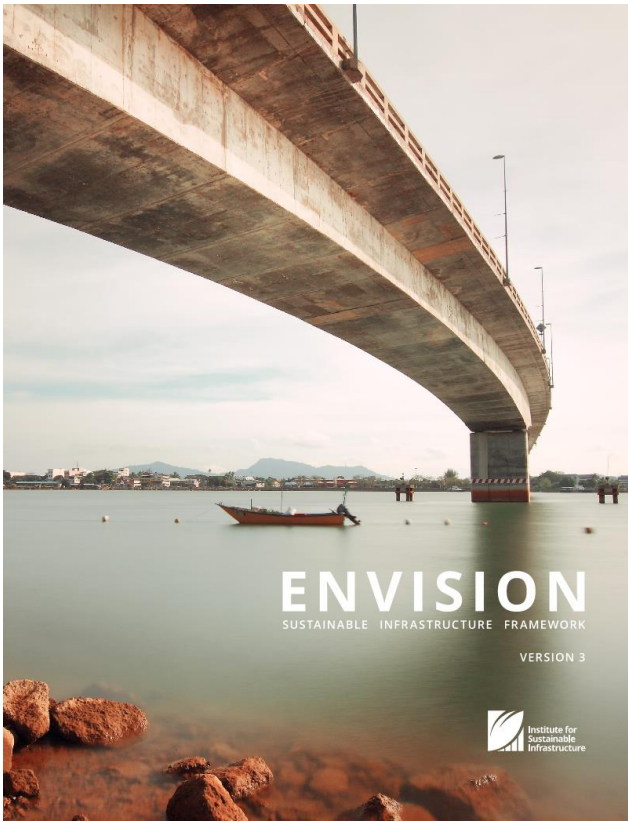
- On contracts valued by MSD at \$150,000 or more,
- At least 35% should be subcontracted to eligible MBE and WBE firms
- Eligible MBE and WBE ethnic and gender groups are outlined below in Table 2

African Americans	Asian Indian Americans	Caucasian Females
18.0%	2.0%	15.0%

Engineering and Other Professional Services Contracts



Water Equity in Practice: Design Framework



LEADERSHIP: COLLABORATION

LD1.3 Provide for Stakeholder Involvement

18

POINTS

INTENT

Early and sustained stakeholder engagement and involvement in project decision making.

METRIC

Establishment of sound and meaningful programs for stakeholder identification, early and sustained engagement, and involvement in project decision making.

LEVELS OF ACHIEVEMENT

IMPROVED
A + B
(3) Active Engagement



LEADERSHIP: ECONOMY

LD3.1 Stimulate Economic Prosperity and Development

20

POINTS

INTENT

Support economic prosperity and sustainable development, including job growth and business development.

METRIC

The extent of job creation, increased operating capacity, access, quality, and/

LEVELS OF ACHIEVEMENT

IMPROVED	ENHANCED
A + B	A
(3) New Capacity	(6) Improved



LEADERSHIP: ECONOMY

LD3.3 Conduct a Life-Cycle Economic Evaluation

14

POINTS

INTENT

Utilize economic analyses to identify the full economic implications and the broader social and environmental benefits of the project.

METRIC

The comprehensiveness of the economic analyses used to determine the net impacts of the project, and their use in assessing

LEVELS OF ACHIEVEMENT

IMPROVED
A
(5) Life-Cycle Cost Analysis



QUALITY OF LIFE: COMMUNITY

QL3.1 Advance Equity and Social Justice

18

POINTS

INTENT

Ensure that equity and social justice are fundamental considerations within project processes and decision making.

METRIC

Degree to which equity and social justice are included in stakeholder engagement, project team commitments, and decision making.

LEVELS OF ACHIEVEMENT

IMPROVED	ENHANCED	SUPERIOR	CONSERVING	RESTORATIVE
A + B + C	A + B + C + D	A + B + C + D + E	A + B + C + D + E + F	A + B + C + D + E + F + G
(3) Understanding Equity	(6) Mitigation	(10) Empowerment	(14) Equitable Access to Benefits	(18) Equitable Futures



- The Equity in Infrastructure Initiative planning process includes four phases:
1. **Onboarding and Assessment** (March – April 2022)
 2. **Listening, Learning, and Making Meaning** (May – December 2022)
 3. **Crafting the Framework** (January – March 2023)
 4. **Supporting Implementation** (March – May 2023)



EQUITY GUIDE
for Green Stormwater
Infrastructure Practitioners



EJ Clearinghouse

Use the filters provided below to narrow your search to a specific category, or "reset" to view all EJ Clearinghouse information.

- Access Subject Matter Expertise
- Applying for Assistance
- Available Funding
- Develop Organizational Capacity
- Justice40
- Public Participation
- Publications
- Screening and Mapping Tools
- What is EJ

[Reset](#) Search:

Category	Document or Website Title	Description
Access Subject Matter	Urban Waters Learning Network (members)	The Urban Waters Learning Network is a peer-to-peer network of people and organizations that share practical on-the-ground experiences in order to improve urban waterways and revitalize the neighborhoods around them.

SPECTRUM OF COMMUNITY ENGAGEMENT

PUBLIC PARTICIPATION GOAL



INFORM

To provide the public with balanced and objective information to assist them in understanding the problem, alternatives and/or solutions.



CONSULT

To obtain public feedback on analysis, alternatives and/or decision.



INVOLVE

To work directly with the public throughout the process to ensure that public concerns are consistently understood and considered.



COLLABORATE

To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.



EMPOWER

To place that final decision-making in the hands of the public.

PROMISE TO THE PUBLIC

We will keep you informed.

We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.

We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.

We will look to you for advice and innovation in formulating solutions and incorporate your advice & recommendations into the decisions to the maximum extent possible.

We will implement what you decide.

INCREASING IMPACT ON THE DECISION



Actions + Desired Outcomes

Call For Action: Partnership and Innovation are Needed



- Challenge ourselves, be accountable, share our stories, build coalitions
- Internal culture: Employee Impact/Resource Groups, Affinity groups
- Cross-sector, multi-dimensional team of partners and co-designers: engineers, architects, planners, academia, policy experts, finance, public health professionals, and organizers
- Private sector can support the public sector, and water industry in general, to strengthen to diversity, equity, inclusion, and belonging in the water workforce
- Water equity and environmental justice are core values and pillars threaded in all the work we do

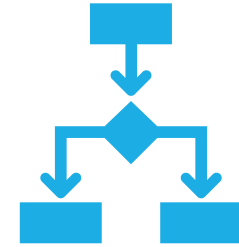
Building A Roadmap



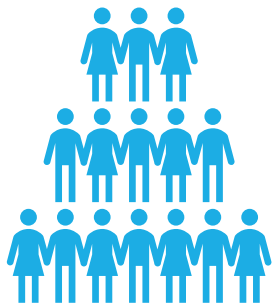
Purpose: Proactively seeking to **eliminate inequities** and **advance equity**



Identifying who **will benefit or be burdened** by a given decision



Appropriately **resource staff** and identify **Equity Practice Champions** for project/initiative/policy implementation



Ensures **community is engaged** in decision-making processes



Is **actionable** and has a **target completion** or reporting date



Examines mechanisms for successful **implementation and evaluation of impact**

What We Can Do Now – Resilient and Equitable Approaches

- Community engagement and collaboration
- Regional collaboration and shared services
- Rate Affordability
- Innovative Funding
- Ensuring Opportunities for Community in our Work
 - Workforce Development
 - Contracting Procurement
 - Community Wealth Building



**Meaningful Inclusion of
Local DBE/MBE/WBE
Teaming Partners**

**Inclusion of City
Residents and
Members of
Historically Excluded
Groups**



**Our
Commitment
to the
Community**

**Community Benefits
Programs and their
Positive Outcomes**

**Advancement of a
Robust Public
Participation Plan**

So...

- What inspires you?
- What is your vision for equitable outcomes?
- Imagine / Reimagine... what can be possible?





**This is Water's
Moment:
Reimagining an
Equitable & Just
Water Future
Together**



Wrap-Up

Reflection Exercise



- What brought you to this session today?
- Water does Environmental Justice and Water Equity mean to you?
- Describe your community/service area. What do you see?
(Think about landscape, built environment, how your city/town is connected)
- What challenges or potential opportunities to maximize community impact have you seen on your projects from an equity/EJ perspective?
- How can organizations serve as Equity and Justice champions?

Additional References & Recommended Reading

- [A Promising Water Pricing Model for Equity and Financial Resilience](#). (US Water Alliance, 2023)
- [Racial Equity ToolKit for Utilities](#) (US Water Alliance, 2022)
- [Water Equity Taskforce: Insights for the Water Sector](#) (US Water Alliance, 2021).
- US Water Alliance, Louisville Water, and Louisville MSD. [Modern, Effective, and Compassionate Billing](#) (US Water Alliance, 2021).
- [An Equitable Water Future: A National Briefing Paper](#) (US Water Alliance, 2017).
- Angotti, Tom. *Transformative Planning*. Black Rose Books, 2020.
- Davis, Veronica O. *Inclusive Transportation: A Manifesto for Repairing Divided Communities*. Island Press, 2023.
- Flowers, Catherine Coleman. *Waste: One Woman's Fight Against America's Dirty Secret*. The New Press, 2020.
- Rothstein, Richard. *The Color of Law: A Forgotten History of How Our Government Segregated America*. Liveright, 2018.
- Stevenson, Bryan. *Just Mercy: A Story of Justice and Redemption*. One World, 2015.
- Thomas, Leah. *The Intersectional Environmentalist*. Voracious, 2022.

Thank you!

GET IN TOUCH

Walt Walker, PE, ENV SP

- Vice President, Equity Practice Leader
- Chair – NYWEA DE&I Committee



walt.walker@tylin.com



212.693.9577



www.linkedin.com/in/waltwalker/