

CFAC Policy Subcommittee

March 9, 2012

- I. Welcome and Introductions
- II. CFAC Policy Subcommittee Updates and Announcement Items
- III. Lick Run Watershed Planning Principles – Chris Manning
- IV. Special guest - Jon Grosshans from USEPA Region 5,
Sustainable Communities
- V. Lower Mill Creek Watershed Action Plan – Jen Eismeier
- VI. Wrap Up - Meeting Adjourned (3 PM)

CFAC Policy Subcommittee Updates and Announcement Items

1. Draft USEPA Integrated Watershed Policy Framework

2. Policy Gap Analysis: **Major Findings**

Policy Gap →	Corrective Action →	Status
Lack of design specifications	Stormwater Design Manual	Collaborative process initiated and underway
NPDES Compliance	City Ordinance Revisions	Approved on March 28, 2012 at Livable Communities Council Meeting
Water quality volume reduction requirement	City Ordinance Revisions & SMU Rules and Regulations	Approved on March 28, 2012 at Livable Communities Council Meeting
Parking Code does not consider impervious cover reduction as goal	Land Development Code	<ul style="list-style-type: none"> • LDC underway, • Lick Run as Guide for LDC and form based codes efforts

LICK RUN WATERSHED MASTER PLAN

Urban Design



Landscape Architecture &
Environmental Planning



Chris Manning

Lick Run Watershed

Multidisciplinary Design Team

Planning



Civil Engineering



Foundations for Complementary Efforts

March 9, 2012

Architectural Design



Historical &
Cultural Resources



Watershed-Based Planning Approach

COMMUNITY
OPEN HOUSE

January 2011



COMMUNITY
DESIGN WORKSHOP #1
AWARENESS

August 2011
Visual Preference Survey



COMMUNITY
DESIGN WORKSHOP #2
EXPLORATION

October 2011
**Strengths & Weaknesses
of Alternatives & Concepts**



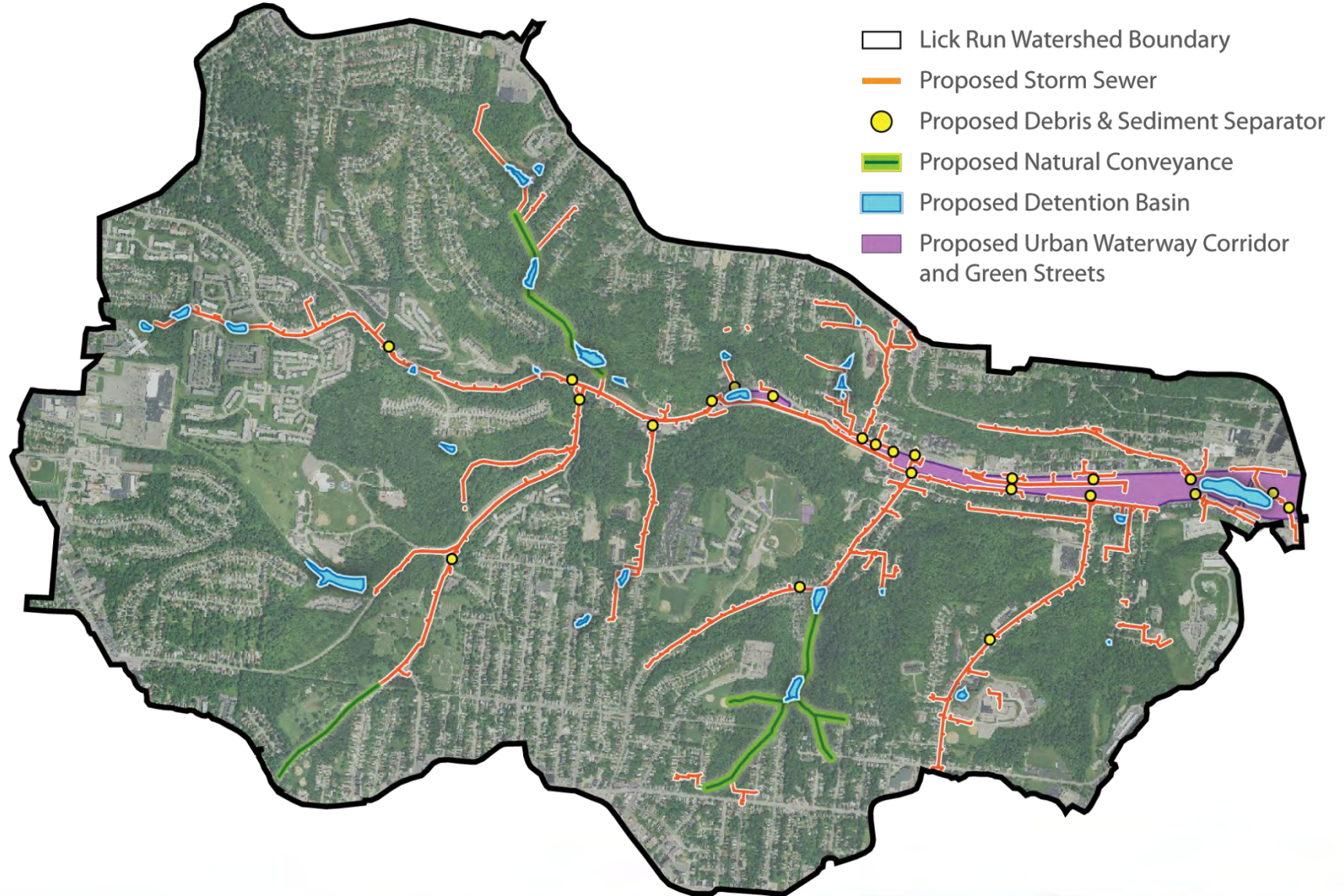
COMMUNITY
DESIGN WORKSHOP #3
VISION

February 2012
**Identify Gaps &
Refinements**

FINAL LICK RUN
MASTER PLAN

March 2012
**Lick Run
Alternative Project**

Alternative Solutions: Lick Run Alternative Project



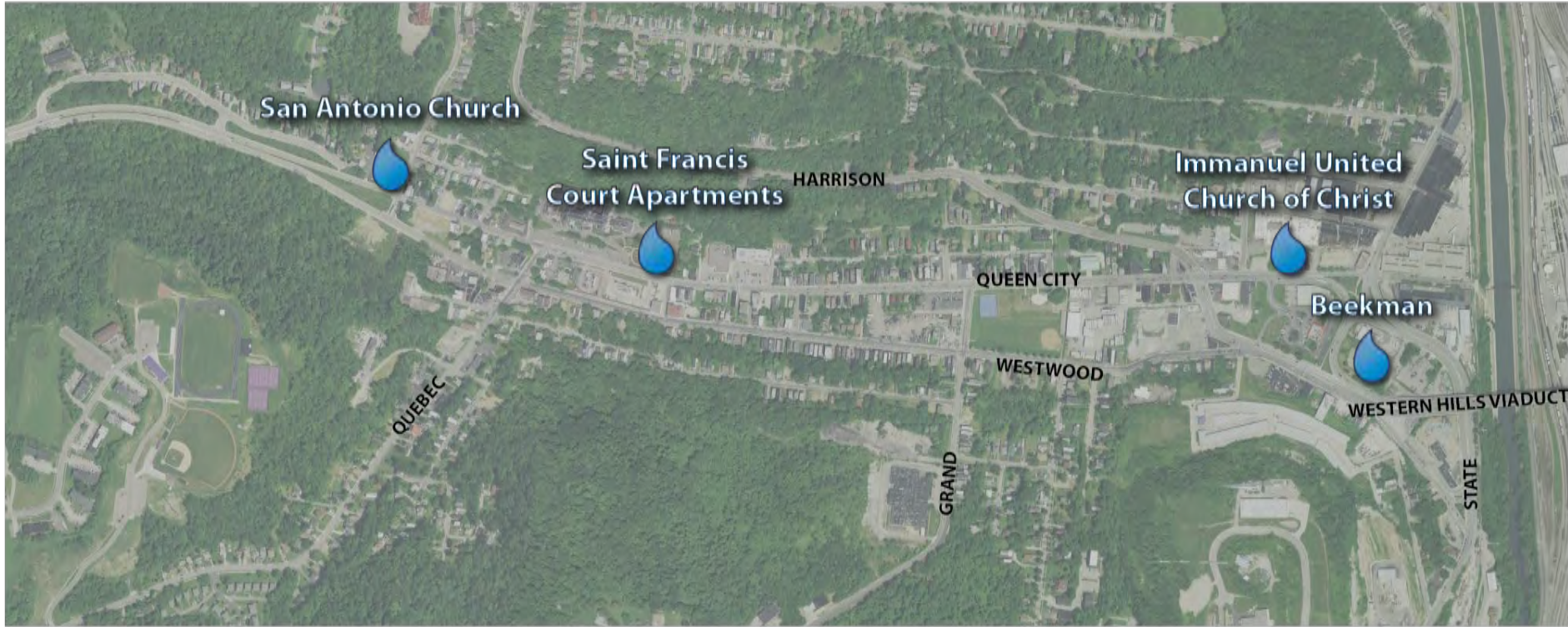
South Fairmount: Existing Conditions



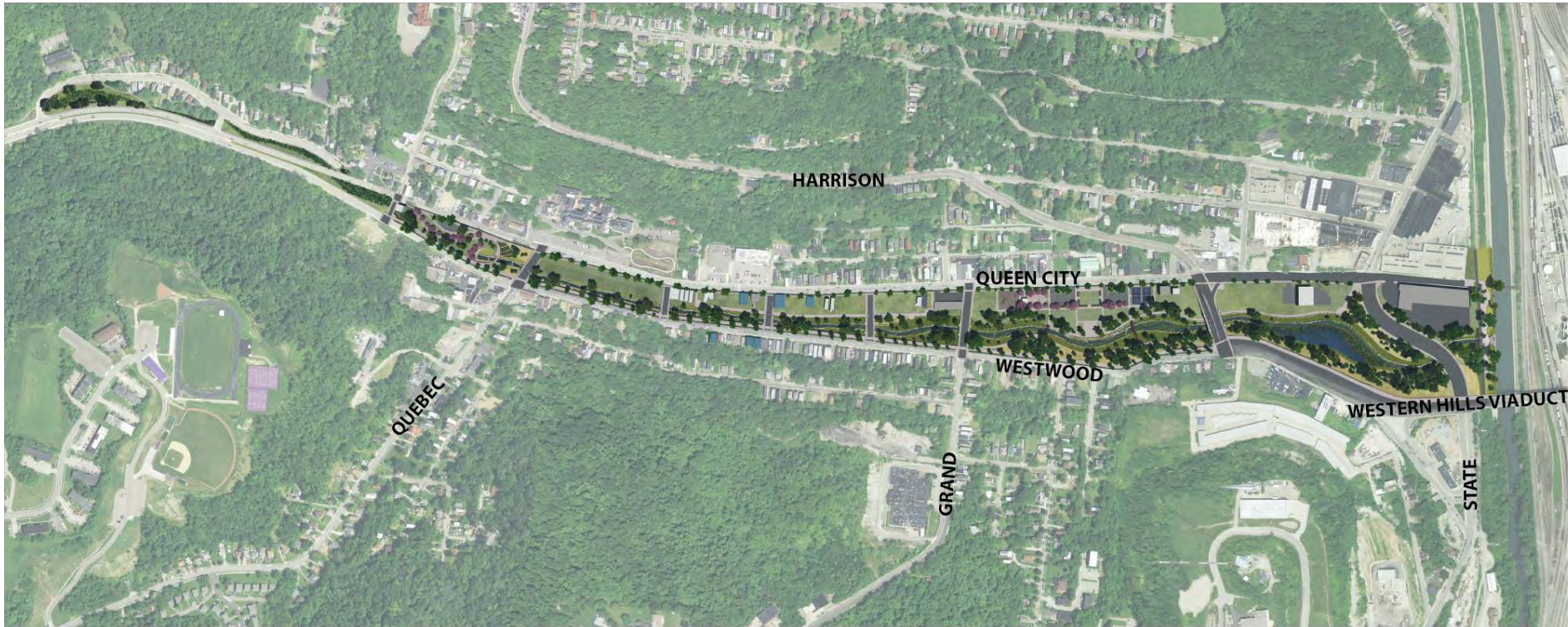
Community-Identified Cultural & Historical Resources



Early Success Projects / Enabled Impact Projects



Preliminary Urban Waterway Concept



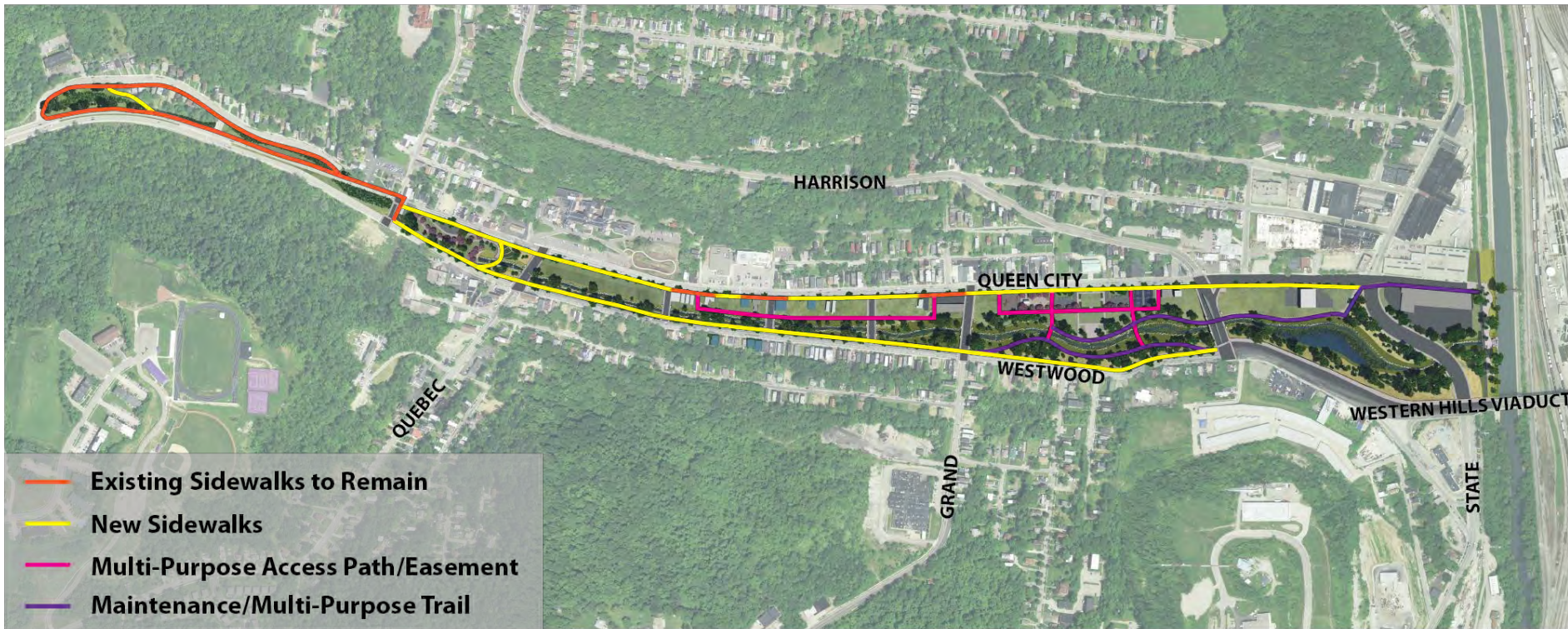
The Base Project

Urban Waterway Alignment & Water Quality Features



The Base Project

Maintenance Access, Sidewalks & Trails



The Base Project



Content in the Master Plan Submittal



Foundations for Planning Efforts

Coordinate policies and leverage investment.

Promote an integrated network of green infrastructure.

Revitalize the economy through creation of jobs and growth opportunities for local businesses.

Support existing communities.

Benefit the watershed communities through environmentally, socially, and economically sustainable solutions.

Provide more transportation choices.

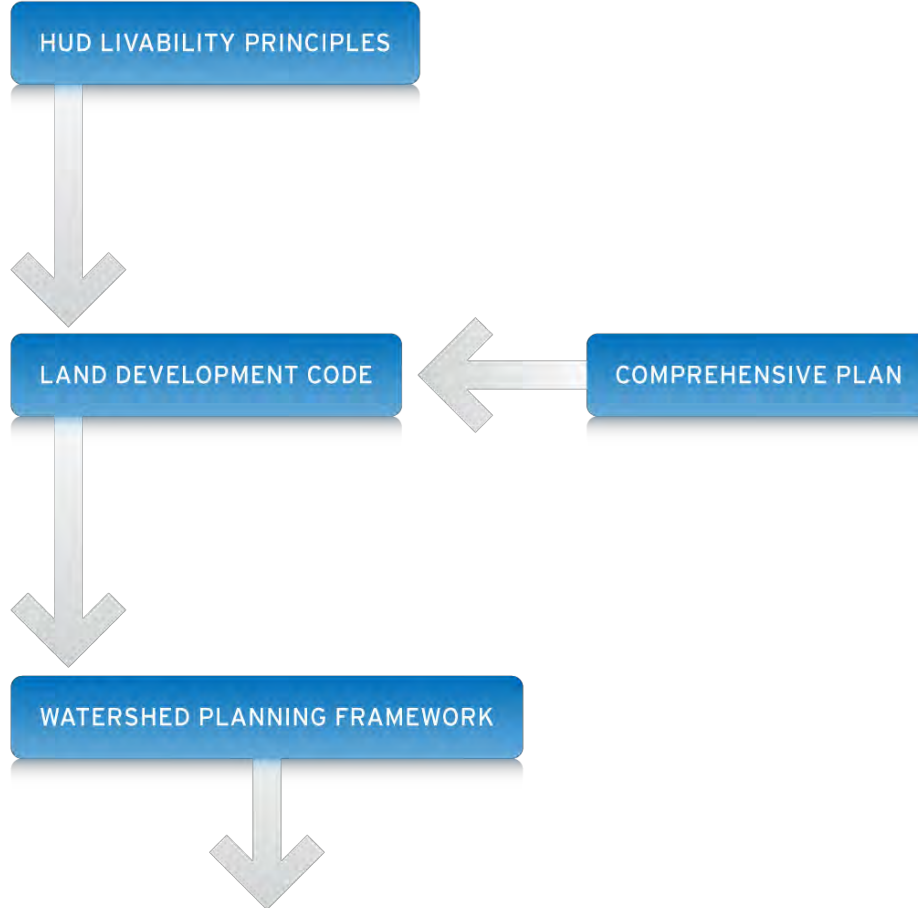
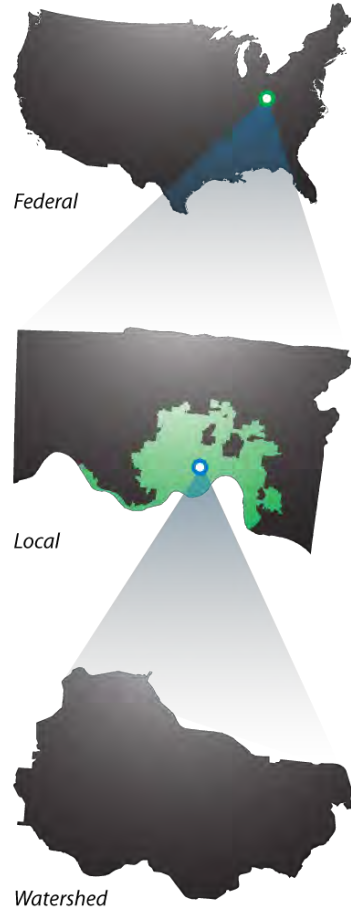
Promote a balanced mixed-use neighborhood.

Use quality design to create an attractive public/private realm.

Guiding principles based on :

- Feedback from Community Design Workshops
- CFAC Input
- Project Groundwork community benefits
- HUD Livability Principles

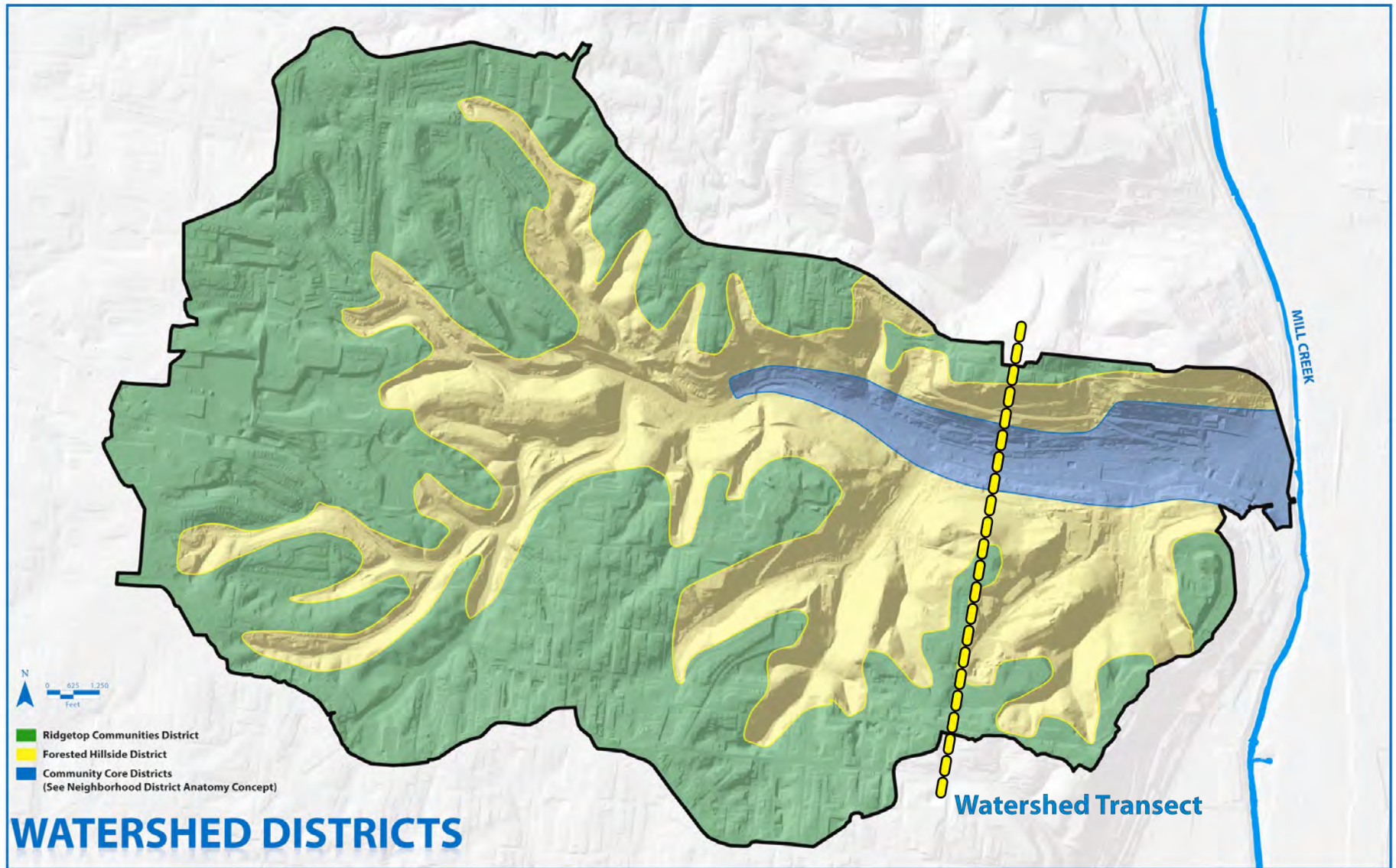
Foundations for Planning Efforts



FUTURE PLANNING EFFORTS

- FORM-BASED CODES
- WATERSHED ZONING
- DESIGN GUIDELINES
- STORMWATER POLICY
- MARKET ANALYSIS

Foundations for Planning Efforts

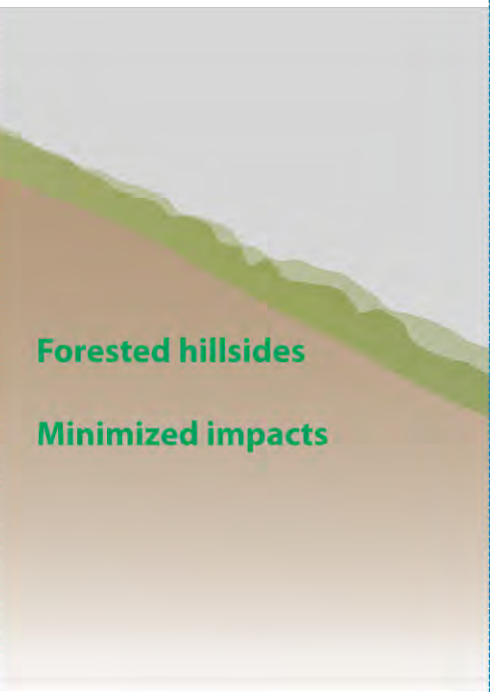


Foundations for Planning Efforts

RIDGETOP COMMUNITIES



FORESTED HILLSIDES



COMMUNITY CORE



OPEN SPACE CORRIDOR



Foundations for Planning Efforts

RIDGETOP COMMUNITIES

Environmentally-sensitive development will be used in future projects.

Bike and walking paths will be encouraged for new development and areas undergoing redevelopment.

Places will be connected to improve the function of the street network and create opportunities for **alternative transportation** (e.g., walking, biking, and accessing public transit).

Future revitalization efforts will build upon the **existing neighborhood fabric**.

FORESTED HILLSIDES

The watershed's **forested hillsides** will be preserved and responsibly managed.

New construction will **minimize impacts** on the natural environment.

COMMUNITY CORE

Future revitalization efforts will build upon the **existing neighborhood fabric**.

Parking in the business district will be provided by a balanced mix of on-street and surface lots integrated between buildings.

Future development will incorporate **traditional and modern architectural forms**.

The business district should represent a **vibrant live/work zone**, including basic services and reusing existing buildings where possible.

Places will be connected to improve the function of the street network and create opportunities for **alternative transportation**.

Environmentally-sensitive development will be used in future projects.

OPEN SPACE CORRIDOR

The proposed urban waterway will retain **natural qualities** while complementing the surrounding urban context.

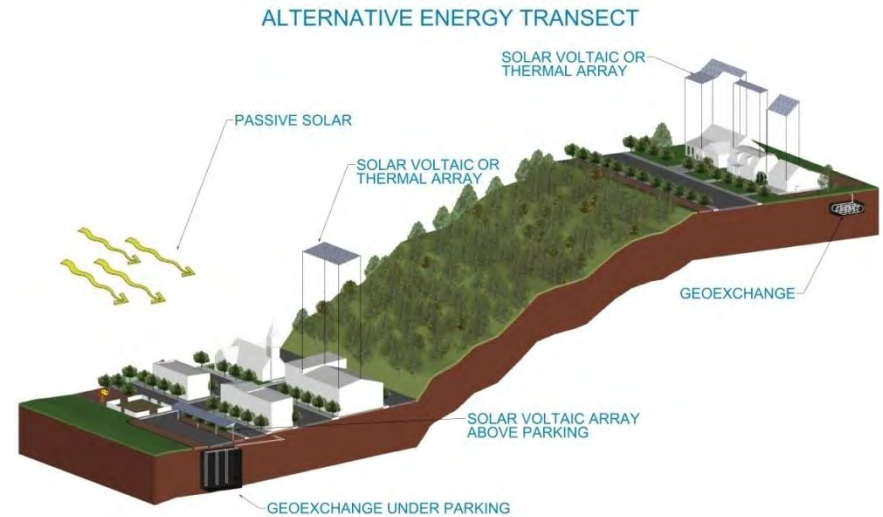
Green infrastructure features (e.g., rain garden, bioswale, trees) will be integrated throughout the proposed urban waterway corridor to improve **water quality**.

Open gathering spaces will allow for passive recreation and for community events.

Active recreation facilities will emphasize bike and pedestrian trails.

Civic spaces will focus on small, green areas for personal interaction, but also include common areas for community events.

Foundations for Planning Efforts



Application of the watershed transect to sustainable systems

- Alternative energy
- Stormwater management features
- Land use
- Building codes

Foundations for Planning Efforts



Stormwater Management



Potable Water Management



Black Water Management



Energy Production



Energy Use



CO2 Reduction



Fauna



Flora



Human

Foundations for Planning Efforts



Transportation



Alternative Transportation



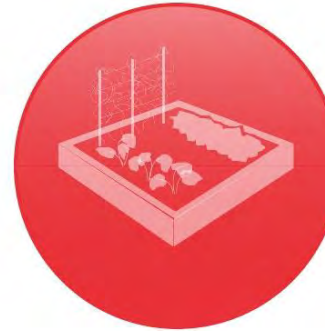
Metrics



Guidelines



Social



Food



Materials

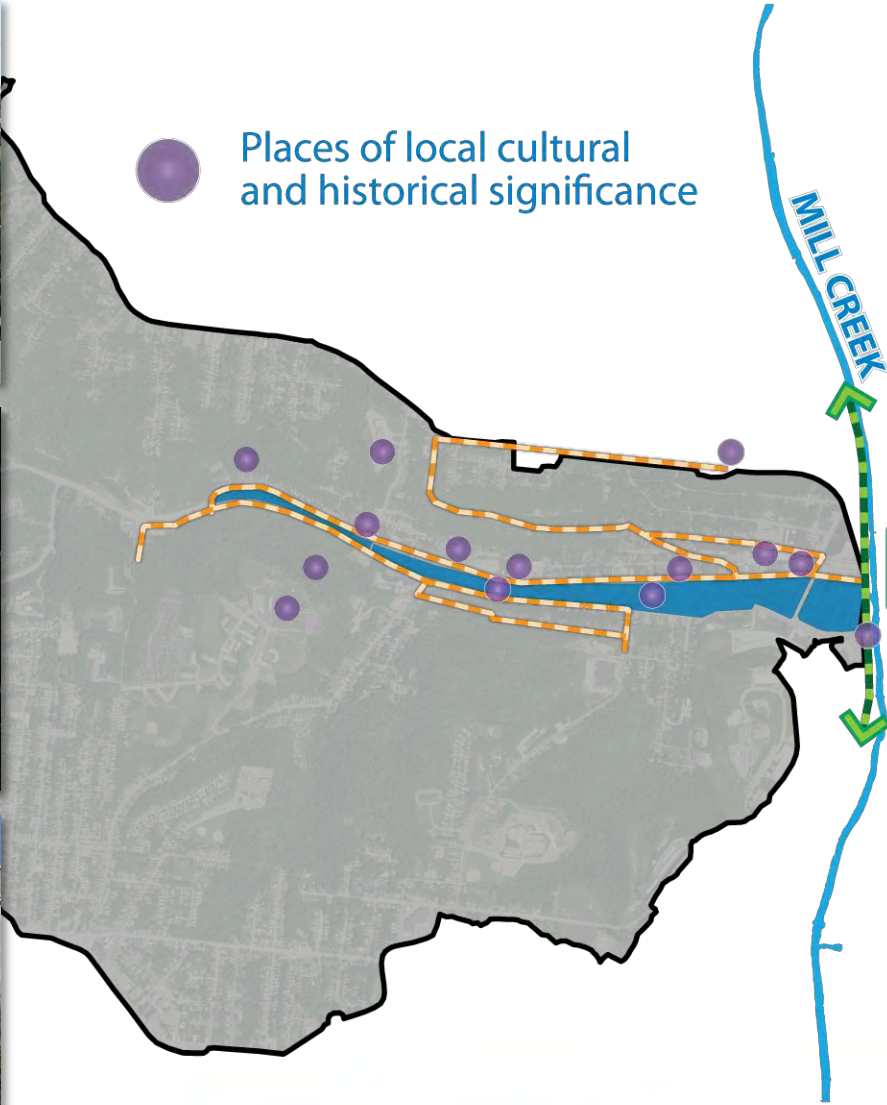


Waste

Trail Network: Community Core



Places of local cultural and historical significance



Proposed Mill Creek Greenway Trail



Trail Network: Watershed Connectivity



Watershed Connectivity – connecting areas within the watershed



Foundations for Planning Efforts

NETWORK OF CSO REDUCTION SOLUTIONS

1 Rainfall = Stormwater Runoff



On an **undeveloped landscape**, stormwater runoff:

- Slows and filters through vegetation & soil
- Infiltrates into the ground

On a **developed landscape**, stormwater runoff:

- Increases in volume, velocity, pollution, and temperature
- Minimally infiltrates into the ground
- Can negatively impact natural waterways

2 Runoff Diversion



A network of community solutions more effectively manages stormwater runoff by:

- Reducing inputs to the combined sewer system
- Reducing pollutants
- Regenerating groundwater
- Improving natural systems

Stormwater management strategies can be applied at home, in neighborhoods, and throughout the Lick Run Watershed.

3 Household Strategies



Stormwater best management practices (BMP) that residents can incorporate at home include:

- Downspout disconnection (where permitted)
- Rain gardens & bioswales
- Rain barrels & cisterns
- Green roofs
- Trees and other plantings
- Porous pavements

4 Neighborhood Strategies



Stormwater BMPs that can be implemented in neighborhoods include:

- Reduced pavement width (where possible)
- Porous pavements
- Street trees and stormwater planters
- Collecting and treating stormwater in parks and open spaces

5 Source Control Strategies



Proposed source control strategies include:

- New storm sewers to capture stormwater runoff and reduce the volume of stormwater entering combined sewers
- Natural conveyance strategies to capture, infiltrate, and treat stormwater

6 Structural Stormwater BMPs



Structural stormwater BMPs trap heavy sediment like sand, and they collect floatable trash and debris. These structures are designed to be easily accessed and maintained.

7 Proposed Urban Waterway



The proposed urban waterway:

- Conveys captured stormwater runoff to Mill Creek
- Improves water quality
- Provides wildlife habitat
- Includes an open space network
- Provides opportunities for environmental education

8 Healthier Mill Creek



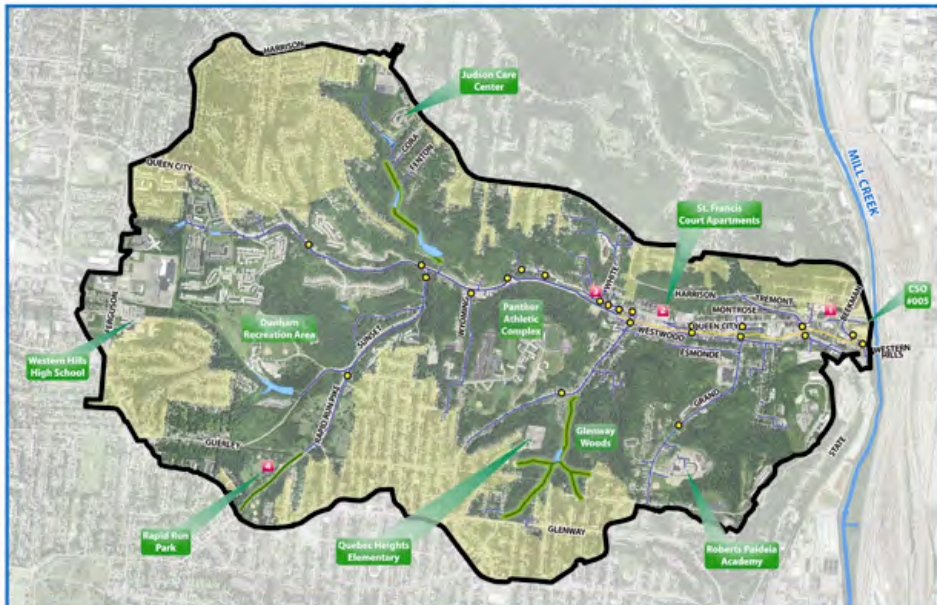
The proposed urban waterway will help reduce combined sewer overflows (CSOs) and improve water quality in Mill Creek.

The integrated source control strategies in the Lick Run Watershed, combined with other sustainable infrastructure projects in the Lower Mill Creek watersheds, will gradually heal this endangered regional resource.

MSD's Proposed Solutions in the Lick Run Watershed



Lick Run Watershed: Stormwater Flow Diagram



■ Watershed Boundary / — Proposed Storm Sewer / — Proposed Urban Waterway / — Proposed Detention Feature / ■ St. Francis Enabled Impact Project
■ Ridgtop Neighborhoods / — Proposed Natural Conveyance / ● Proposed Structural BMP / ■ Immanuel United Church Enabled Impact Project / ■ San Antonio Church Enabled Impact Project / ■ Rapid Run Park Enabled Impact Project

Transportation Planning

1



Existing Eastbound Travel Lanes
Existing ROW 58' (varies)

2



3 Wider Eastbound Travel Lanes
Existing ROW 58' (varies)

3



Additional Right-of-Way
Existing ROW 58' (varies)

NEAR-TERM COMPONENTS

COMMUNITY PREFERENCE

- One-way Traffic
- 3 Wider Lanes
- Pedestrian Safety Improvements
- Integrated Stormwater Planters

LONG-TERM OPPORTUNITIES

- Further Technical Refinement
- Agency Coordination
- Community Engagement

1



Existing Westbound Travel Lanes
Existing ROW 60' (varies)

2



3 Wider Westbound Travel Lanes
Existing ROW 60' (varies)

3



Two-Way Travel Lanes
Existing ROW 60' (varies)

Foundations for Form-Based Codes



Preliminary Long-Term Vision Plan

Foundations for Form-Based Codes



Proposed urban design guidelines are based on:

- Physical characteristics (e.g., sewer infrastructure, setbacks, roadways)
- Community preferences for scale, styles and land uses
- Integrated network of stormwater BMPs
- Enhanced internal and external connectivity

Foundations for Form-Based Codes



LICK RUN WATERSHED URBAN DESIGN PRINCIPLES

General:

Pedestrian Shed - 1300' radius (comfortable 5 minute walk)
Ultimately, Queen City conversion back to two-way street
Cross streets / block lengths preferred to be 300'; maximum 400' - except at Recreation District

Queen City Business District - Urban Center Zone

- Pedestrian-oriented, mixed use character
- Cross streets at 300' preferred, 400' maximum (measured along ROW line)
- 2:1 street corridor proportion (street corridor width to building height)
- Minimum 2 story buildings
- 10' lane width; 20 mph maximum speed
- Bicycle "Sharrows" at right travel lanes
- Metered, on-street, parallel parking; 8' width - no rush hour removal
- 5' collector strip of colored or textured paving with regularly spaced trees in wells with grates
- 7' "Bump-outs" at cross streets; 10' wide "Zebra-striped" cross walks at all intersections
- 6' to 10' sidewalks
- Commercial (retail, entertainment & professional service) uses on first story with no-step primary entries
- Commercial, office, educational, institutional and residential uses allowed on upper stories
- Front Setback: 0' for 80% of frontage; 10' maximum for 20% frontage
- Required storefront glass of 70% along Queen City Avenue and 50% for first 30' of cross streets
- Primary front entries along Queen City required except at designated cross streets
- Shared parking allowed; no surface parking lots permitted

Confluence Business District - Drivable Zone (except at Queen City NBD)

- Commercial / vehicular-dominant character
- No cross street / block length maximum
- 11' lane width preferred; 35 mph maximum speed
- Bicycle "Sharrows" at right travel lanes

architecture
urban design

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Cincinnati OH
45202-2245

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f 513 665 9857
immediately

If enclosures are not as noted, please verify gasworks



- Metered, on-street, parallel parking; 8' width
- New, squared and signalized intersection at Harrison & Western Hills Viaduct
- 8' "Bump-outs" and 10' wide "Zebra-striped" cross walk at signaled intersection
- 8' collector strip with regularly spaced trees in wells with grates or grass
- 5' minimum sidewalk width
- Commercial (retail, entertainment & professional service), office, educational, institutional and limited manufacturing uses
- Front Setback: 0' allowed, 12' maximum; no surface parking allowed in front of buildings

Recreation District - General Urban Zone

- Pedestrian-oriented, mixed use character along Queen City Avenue
- Commercial / vehicular-dominant character along Westwood Avenue
- All buildings to have primary facades facing recreation block
- All four corner intersections, and Grand & Westwood intersection, signalized

Queen City, Grand and Harrison Avenues:

- "Fabric" building retention preferred
- Minimum 2 story buildings
- 10' lane width; 25 mph maximum speed
- Bicycle "Sharrows" at right travel lanes
- Metered, on-street, parallel parking; 8' width - no rush hour removal
- 5' grass strip with regularly spaced trees or, paved strip with trees in wells with grates
- 7' "Bump-outs" at intersections; 10' wide "Zebra-striped"
- 6' to 10' sidewalks
- Commercial (retail, entertainment & professional service) uses on first story at corner buildings at both main intersections; required storefront glass of 70%
- Commercial, office, educational, institutional and residential uses allowed all other areas
- Front Setback: 0' for 80% of frontage; 10' maximum for 20% frontage
- Primary front entries to street required
- Shared parking allowed

Westwood Avenue:

- "Fabric" building retention preferred
- 11' lane width preferred; 35 mph maximum speed
- Bicycle "Sharrows" at right travel lanes
- Un-metered, on-street, parallel parking; 8' width

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Foundations for Form-Based Codes



- New, squared and signalized intersection at Harrison Ave. & Westwood Ave.
- 8' "Bump-outs" and 10' wide "Zebra-striped" cross walk at all three signalized intersections
- 8' grass strip with regularly spaced street trees
- 5' minimum sidewalk width
- Commercial (retail, entertainment & professional service), office, educational, institutional and residential uses allowed
- Front Setback: 0' allowed, 12' maximum; no surface parking allowed in front of buildings

Ravine Activity Sub-District - Urban Center Zone

- Pedestrian-oriented, mixed use character
- "Fabric" building retention preferred along north side of Queen City Avenue
- Cross streets at 300' preferred, 400' maximum (measured along ROW line)
- 2:1 street corridor proportion (street corridor width to building height)
- Minimum 2 story buildings
- 10' lane width; 25 mph maximum speed
- Bicycle "Sharrows" at right travel lanes
- Metered, on-street, parallel parking; 8' width - no rush hour removal
- 5' collector strip of colored or textured paving with regularly spaced trees in wells with grates or grass
- 7' "Bump-outs" at cross streets; 10' wide "Zebra-striped" cross walks at all intersections
- 6' to 10' sidewalks
- Commercial (retail, entertainment & professional service) office, educational, institutional and residential uses allowed throughout
- Front Setback: 0' minimum; 12' maximum
- Primary front entries along Queen City required
- Shared parking allowed; no surface parking lots permitted fronting streets

Ravine District - General Urban Zone (except at Ravine Activity Sub-District)

- Pedestrian-oriented, mixed use character along Queen City Avenue
- Commercial / vehicular-dominant character along Westwood Avenue
- Signalized intersections at Quebec and 2 intermediate cross streets along Queen City
- Signalized intersections at Quebec and 1 intermediate cross streets along Westwood Avenue

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Queen City Avenue and cross streets:

- "Fabric" building retention preferred along north side of Queen City and across from Orion Academy
- Pedestrian-oriented, primarily residential character
- Cross streets at 300' preferred, 400' maximum (measured along ROW line) except narrow, rowhouse block east of Quebec
- 2:1 street corridor proportion (street corridor width to building height)
- Minimum 2 story buildings
- 10' lane width; 25 mph maximum speed
- Bicycle "Sharrows" at right travel lanes
- Metered, on-street, parallel parking; 8' width - no rush hour removal
- 6' grass strip with regularly spaced trees
- 7' "Bump-outs" at cross streets; 10' wide "Zebra-striped" cross walks at all intersections
- 6' to 10' sidewalks
- Commercial (retail, entertainment & professional service) uses allowed on first story at corner buildings
- Commercial, office, educational, institutional and residential uses allowed throughout
- Front Setback: 0' to 12' maximum except where impractical due to existing underground utilities
- Primary front entries along Queen City Avenue required
- Shared parking allowed; no surface parking lots permitted fronting Queen City Avenue

Westwood Avenue:

- "Fabric" building retention preferred along south side of Westwood Avenue
- 11' lane width preferred; 35 mph maximum speed
- Bicycle "Sharrows" at right travel lanes
- Un-metered on-street, parallel parking; 8' width
- New, squared and signalized intersection at Harrison Ave. & Westwood Ave.
- 8' "Bump-outs" and 10' wide "Zebra-striped" cross walk at all three signalized intersections
- 8' grass strip with regularly spaced street trees
- 5' minimum sidewalk width
- Commercial (retail, entertainment & professional service), office, educational, institutional and residential uses allowed

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Discussion



USEPA Sustainable Communities, Region 5

JON GROSSHANS, USEPA



Lick Run Watershed Partnerships

- HUD-DOT-EPA Partnership
 - EPA sponsored “Road map” for partner efforts
 - Encourages foundation involvement
- Lick Run Watershed
 - Water quality improvements mandated
 - South Fairmount community – Reinvestment
- Foundation Involvement
 - Knowledge sharing
 - Capacity building
 - Planning and Community Development



Foundation Involvement - Examples

- Toledo, OH - JEEP site redevelopment
 - Toledo Community Foundation
- Flint, MI - Auto sector site redevelopment
 - Redevelopment planning for ten sites
- Detroit, MI - Auto sector site redevelopment
- Philadelphia, PA – Green infrastructure financing
 - NRDC Report
- Chicago, IL – Regional planning implementation
 - Foundations as project partners
 - Continually challenging each other to step up
 - Planning and staff support



Beyond Water Quality

What's the Community Value?

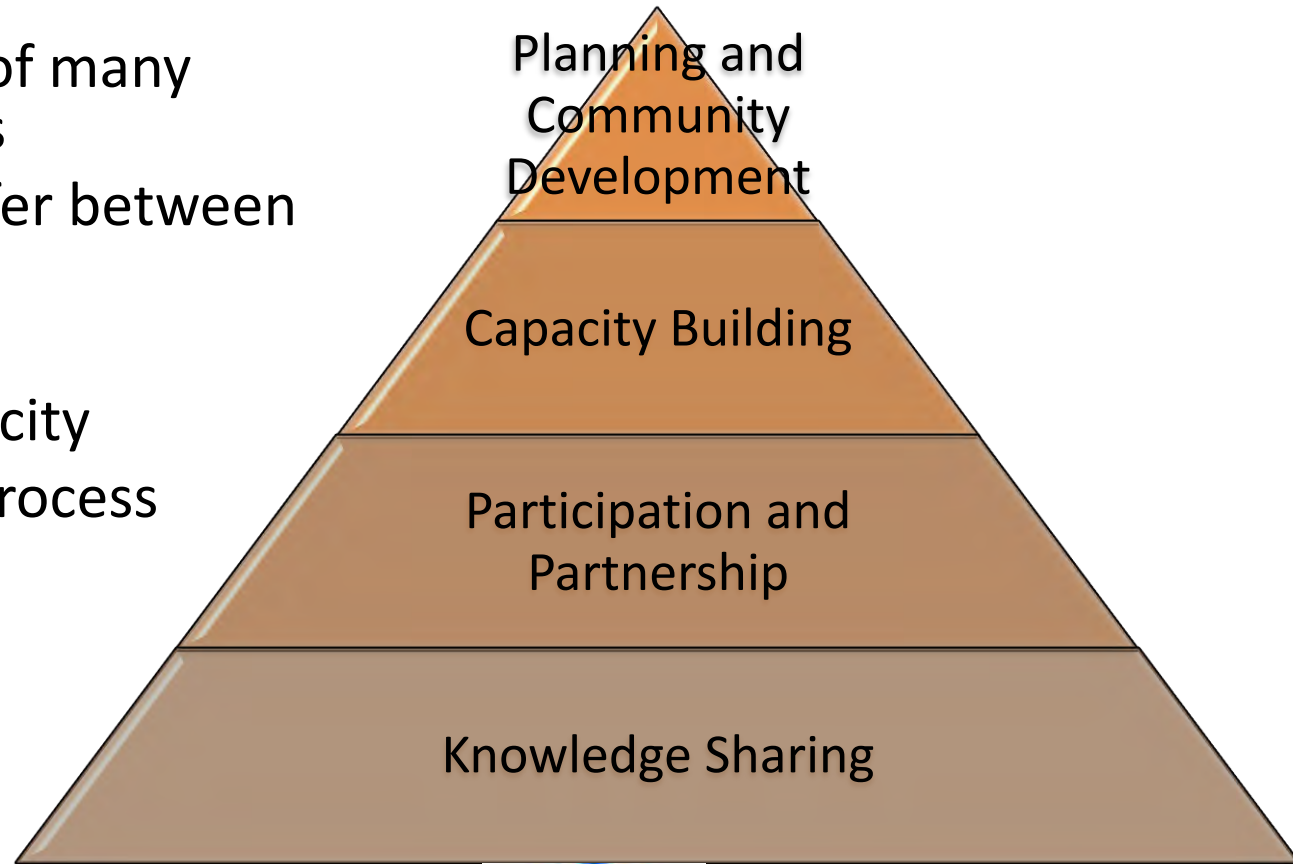
Economic, Societal, Environmental

- Provide open recreational space
- Revive investments in declining housing stock
- Create more walkable and bikeable neighborhood
- Reduces supply of vacant land
- Bolster image of city, improving urban aesthetics
- Create value for adjacent property, increase property taxes
- Reduce the urban heat island effect
- Facilitate job creation
- Facilitate regionalism and smart growth
- Cleanup, control, or contain legacy contamination
- Address EJ concerns



Foundation Involvement

- Cincinnati – one of many CSO communities
- Knowledge transfer between cities and regions
 - Replicable
 - Building Capacity
 - Community Process
 - Co-benefits



Window of Opportunity

- Cincinnatiati foundations part of working group
- Partners in state and federal grant applications
- Local capacity building needed
 - Community Council
 - No CDC coverage
 - Local business communication
 - Lacks institutions



Community Development & Planning

- Sewer districts must improve water quality...
- However, the community co-benefits need plans too:
 - Open space and trail opportunities
 - Location, Design, Access, Maintenance
 - Walking and biking improvements
 - Very auto-oriented development patterns
 - Active community engagement
 - Transit access to jobs
- Project can yield new housing investment and economic development, but only if there is advance planning
- Foundations can assist in filling this planning gap

Next Steps

- New partners Opportunities??
 - Foundations
 - Universities
 - Nonprofits
 - Other Private Sources
- National Foundation's Roundtable



Watershed Action Plan

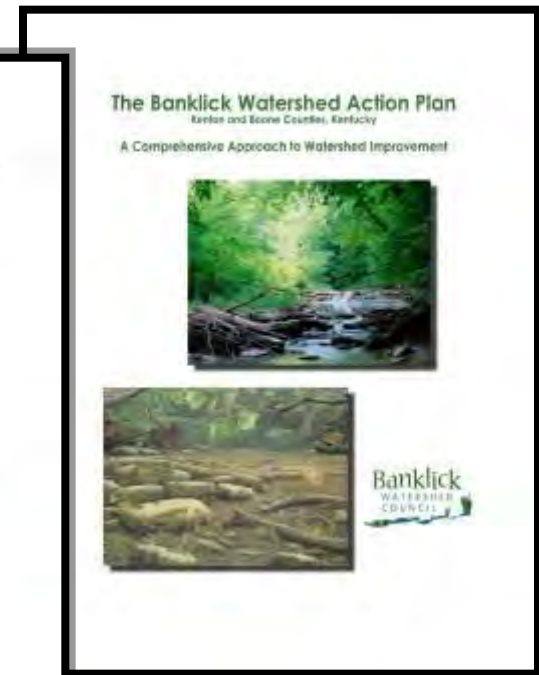
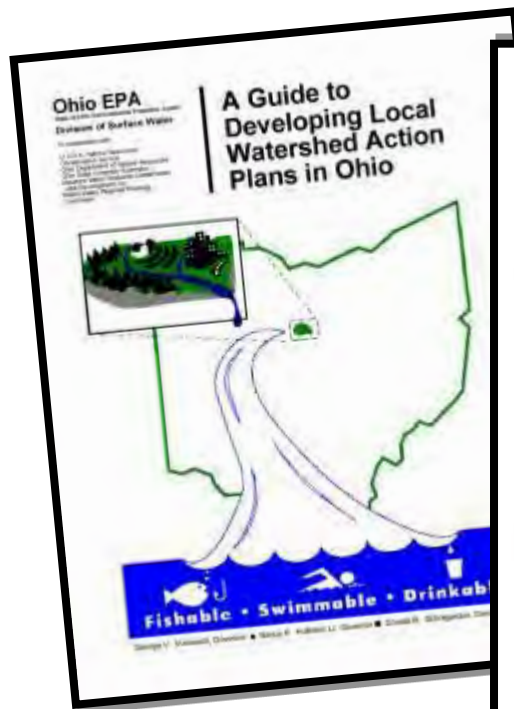
JEN EISMEIER
ROBIN CAROTHERS

Lower Mill Creek Watershed Action Plan

- 15 sub-watersheds
- 15,355 acres
- 19.3 billion gallons of stormwater runoff
- 10 County jurisdictions
- 34 City neighborhoods



LMC-WAP Local Guides and Examples



- Ohio EPA – A Guide to Developing Local Watershed Action Plans in Ohio (1997)
- Upper Mill Creek Watershed Management Plan (2005)
- The Banklick Watershed Action Plan (Kenton and Boone County) (2005)
- And more...

LMC-WAP Process

- WAP Plan Initiation Partners
 - Mill Creek Watershed Council of Communities
 - Mill Creek Restoration Project
 - Cincinnati Parks
 - Cincinnati Dept. of Planning and Buildings
 - OKI Regional Council of Governments
 - Hamilton County Planning and Development
 - Hamilton County Soil and Water Conservation District
 - MSDGC

Why LMC-WAP?

- Complements many existing efforts
- Information needs to be compiled
- MSD has completed considerable data and analysis through watershed-based CSO reduction solutions
- Funding opportunities/doors can be opened by having a completed WAP

MSD Mill Creek Watershed Bioassessment 2011



MILL CREEK WATERSHED WATER QUALITY

In 2011, MSD engaged the Midwest Biodiversity Institute (MBI) to assist with developing a comprehensive plan for monitoring and evaluating water quality and aquatic habitat. The plan includes the Mill Creek, Little Miami River, Muddy Creek, Great Miami River and several other tributaries watersheds of the Ohio River. In 2011, MSD and MBI were efforts in the Mill Creek Watershed.

Watershed Bioassessment

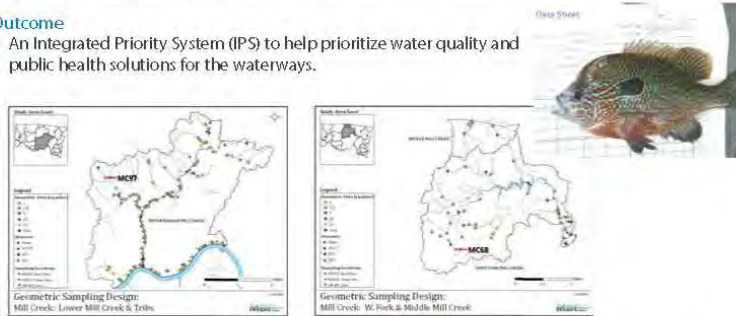
- A phased comprehensive watershed-based monitoring and biological assessment of waterways to help identify and prioritize where MSD and other stakeholders should focus capital improvements based on public health and water quality needs.
- Multi-step process that includes plan design, sampling and analysis, and assessment of the overall health of the aquatic system

Goals

- Establish a baseline for water quality (chemical indicators), aquatic habitat (physical indicators), and biological conditions (e.g., fish and macroinvertebrates)
- Identify stressors to water quality and aquatic habitat
- Identify the overall health of the aquatic system

Outcome

- An Integrated Priority System (IPS) to help prioritize water quality and public health solutions for the waterways.



Approximately 100 sites sampled; sites identified by geometric sampling design



Sampling in the Kings Run Watershed

Site MC97

- Mill Creek tributary in upper part of the Ludlow Run sub-watershed

Class III Primary HeadWater Habitat (PHWH):

- Drainage area of 0.84 square miles
- Intermittent flows, water present during summer
- Conducted a PHWH assessment
- Aquatic life occurs year round

Sampling Results:

- 3 salamander species & aquatic invertebrates
- QHEI score = 61 (Good)
- HHEI score = 71 (Very Good)

Water Quality Summary:

- Total suspended solids, total phosphorous, and conductivity exceeded regional reference thresholds
- Other parameters were within "expected" concentrations
- Typical urban stream results
- Water chemistry data suggests urban runoff impacts
- Threats to primary headwaters usually include culverting, filling, and water quality impacts from runoff and wet weather discharges

Site MC68

- Mill Creek tributary located in lower part of the Ludlow Run sub-watershed

Class I Primary HeadWater Habitat (PHWH):

- Drainage area of 0.20 square miles
- Ephemeral flows, dry during summer
- Aquatic life occurs seasonally & is comprised of temporal taxa – no fish or amphibians.
- These streams still serve an important function in a watershed by filtering and sequestering pollutants and sediment.
- Threats to these primary headwaters usually include culverting and filling.



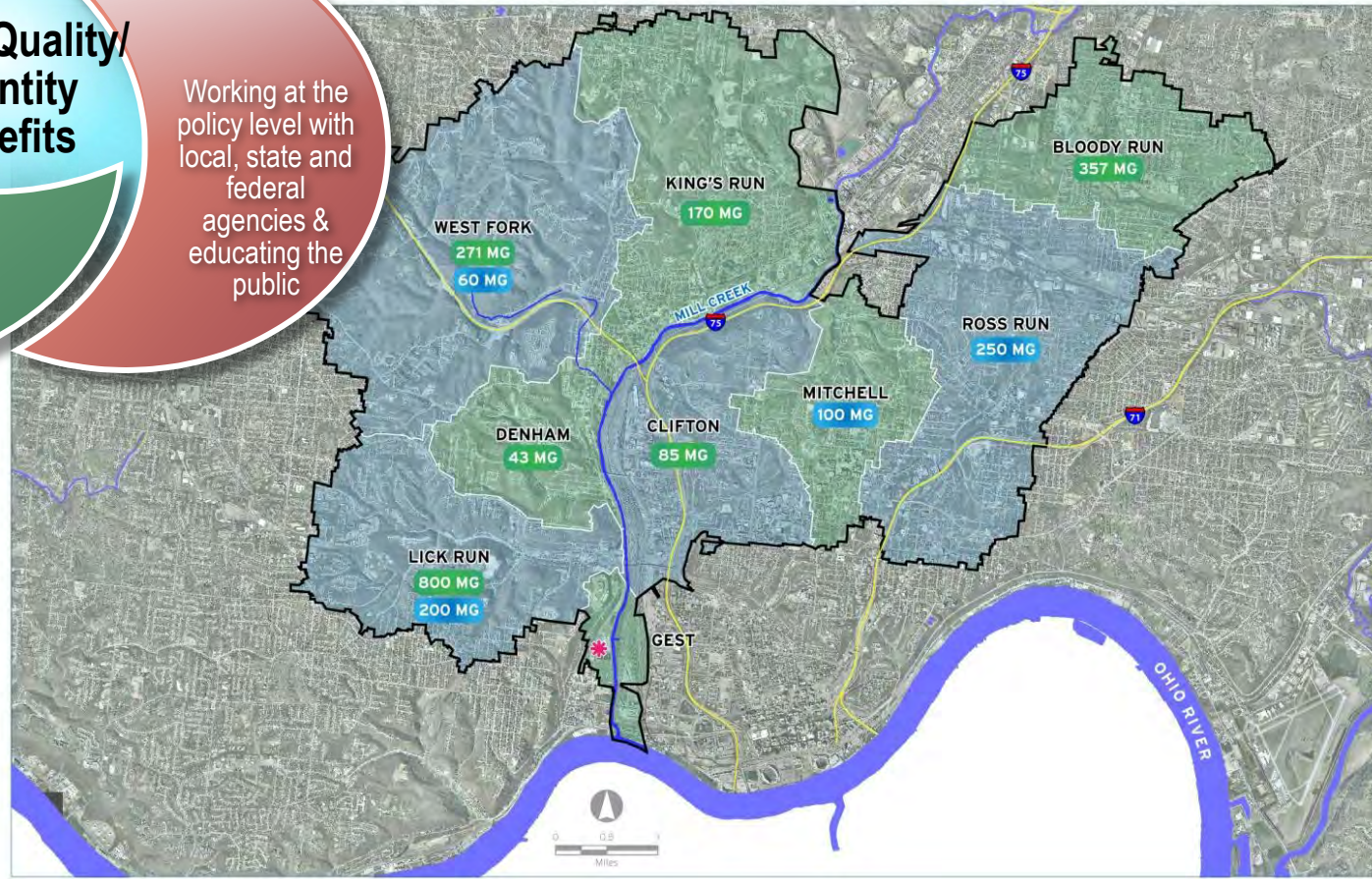
LMC-WAP MSD Solutions

Projects Built 100% by MSD: Open or Pipe conveyance systems, HRTs, Green Roofs

Water Quality/ Quantity Benefits

MSD serves as enabler of BMP's (10MG) with Partners – public and private

Working at the policy level with local, state and federal agencies & educating the public



LMC-WAP and CFAC

- How can CFAC help?
 - Help to advance & complete the WAP
 - Join the work group
 - Help get the word out to community councils and watershed stakeholders
 - Celebrate the Mill Creek as an asset to our region
- Consider potential local WRRSP projects for
Consideration once WAP is complete



Mill Creek Yacht Club paddlers at the Western Hills Viaduct

OTHER ISSUES/DISSION