WHY IS THIS PLACE CALLED GRAND RAPIDS?

• We have been asking for over 100 years, “where are the rapids?”
“compare it with the rapids at Sault Ste. Marie” -1913
Grand Rapids Progress
DEGRADATION: DAMS

5 dams in City
Last maintained in 1929

Unsafe conditions downstream of dam for recreational users

Final construction of repairs to the 4th (Sixth) Street Dam 1929, close up of large gate and sluicing conduit above.
Credit Grand Rapids History & Special Collections, Archives, Grand Rapids Public Library, Grand Rapids, MI.
DEGRADATION: LOGGING
DEGRADATION: DREDGING AND CHANNELIZING
BEAUTIFICATION DAMS?
STORM DRAIN?
HYDROPOWER?

8 feet of head
5,000 Mega Watts per Year
$325,000 per year return
NATURAL GRAND RIVER

- Longest river in Michigan
- Oldest River in Michigan
- Rapids are only 1 percent of the rivers in the lower Michigan peninsula
BEDROCK

Extremely rare for the lower peninsula rivers is bedrock substrate.

Over 1 mile of the rarest Bayport Limestone bedrock outcrop drowned by the dam.
GRAND RIVER

• 18’ drop as river passes through Grand Rapids
LAKE STURGEON

- Spawning habitat in the Grand River through Grand Rapids
- Existing Bedrock shelf upstream of 6th Street dam, and adjacent deep channel
- Upstream of 6th Street Dam, approximately 88 acres of river channel are available in the project area
- Areas available for staging and spawning varies depending on water flows
- 47 acres of complex and diverse rapid habitat are proposed downstream of the 6th Street Dam
FRESH WATER MUSSELS
FLOOD CONVEYANCE

1% 50,000 in 1904
5% 34,500 in 2013
SEA LAMPREY BARRIER

• Preventing sea lamprey from migrating upstream is a critical goal of the project
• Proposed Barrier 1 mile upstream
• Within the City floodwalls
• No tributary connections
RIVER IMPROVEMENTS & BENEFICIAL USES

• Improve safety
• Increase recreation opportunities
• Increase infrastructure lifespan
• Ecologic Connectivity
• Relocate sea lamprey barrier
• Lake sturgeon spawning
• Rapids in Grand Rapids
OUTDOOR LIFESTYLE

- Outdoor Recreation is cited as a $646 Billion Dollar Industry
- Retaining our young professionals with lifestyle
- Namesake and Legacy
- Attract tourism, businesses, special events and employment opportunities
- $15-$19 Million annual return for Grand Rapids
IMPROVED RIVER QUALITY & HABITAT

- 5 fold increase in Mussel Habitat
- 44 acres increase in sturgeon spawning
- 100% upstream fish passage management
- 5 fold increase in sport fish holding areas
EDUCATIONAL OPPORTUNITY

• Generate a stewardship ethic for the river through education and outreach, especially with urban youth
PROJECT GOALS

• Restore the rapids to the Grand River for everyone
• Improve habitat and recreational benefits
• Balance benefits of connectivity with ongoing management programs
**PROJECT TO DATE**

- 50% Design Developed
- Stakeholder Outreach, including with Feds, Native American Tribes, State & Local Gov’ts
- Endorsement by City of Grand Rapids
- Support by Governor
- Designated as Urban Waters Federal Partnership

**Analysis and Investigations:**
- River Sediment Hazardous Materials Testing
- Mussel Study
- Sturgeon Study
- Sea Lamprey Study
- Geomorphic Analysis
- Bathymetric Survey
- Economic Impacts Study

**Completion of Steering Committee & GR Forward Process**
PROJECT VISION

STRENGTH IN DIVERSITY

UNCOVER THE BEDROCK RAPIDS

RESTORE THE BOULDER RAPID

CREATE SHORELINE ACCESS

GRAND RAPIDS REVITALIZATION WWW.RIVERRESTORATION.ORG
PROPOSED CONDITIONS

The proposed adjustable hydraulic structure (AHS) can be fully adjustable and span the 600 feet between floodwalls.

Cutaway view of Obermeyer Gates in free overfall condition. Greater than 2 feet of steel lip are overhanging in the downstream direction at the crest of the gate.
FREEBOARD!

0.75 feet freeboard increase
2 miles of floodwall
GREEN GRAND RAPIDS

Community driven goals supported by a City Planning process - 2009
CITY OF GRAND RAPIDS SUPPORT

- Combined Sewer Separation 98% complete
- Rapids Restoration as catalyst for river corridor and downtown development
- Recent City Commission Presentation and Resolution
- Floodwall Improvements

GRAND RAPIDS REVITALIZATION WWW.RIVERRESTORATION.ORG
COMMITTEE PROCESS
QUESTIONS AND DISCUSSION
BALANCING CONNECTIVITY AND MANAGEMENT

- Healthy benthos
FLOW VELOCITIES
2500 CFS
DIVERSITY AND COMPLEXITY

• Distribute the hydraulic gradient