

VALUE ENGINEERING AND STRATEGIC TIMING

TO MOVE FORWARD WITH A GULLY EROSION AND STORMWATER PROJECT

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Introductions | Farnsworth Group, Inc.



Emily Jenkins, PhD, PE, CFM, GIP
Senior Project Engineer
17 years of experience

Scan the QR code to
read Emily's article in
Civil + Structural
Engineer Magazine



Water Resources Services

1

Sustainable and
Ecological Design

2

Stormwater
Infrastructure Design

3

Surface Water Modeling
and Mapping

Introductions | Aqua Vitae Engineering



Gary Paradossi, PE
President
30 years of experience

*Aqua Vitae specializes
in green infrastructure,
natural resources, and
water quality*

Water Resources Services

1

Green
Infrastructure

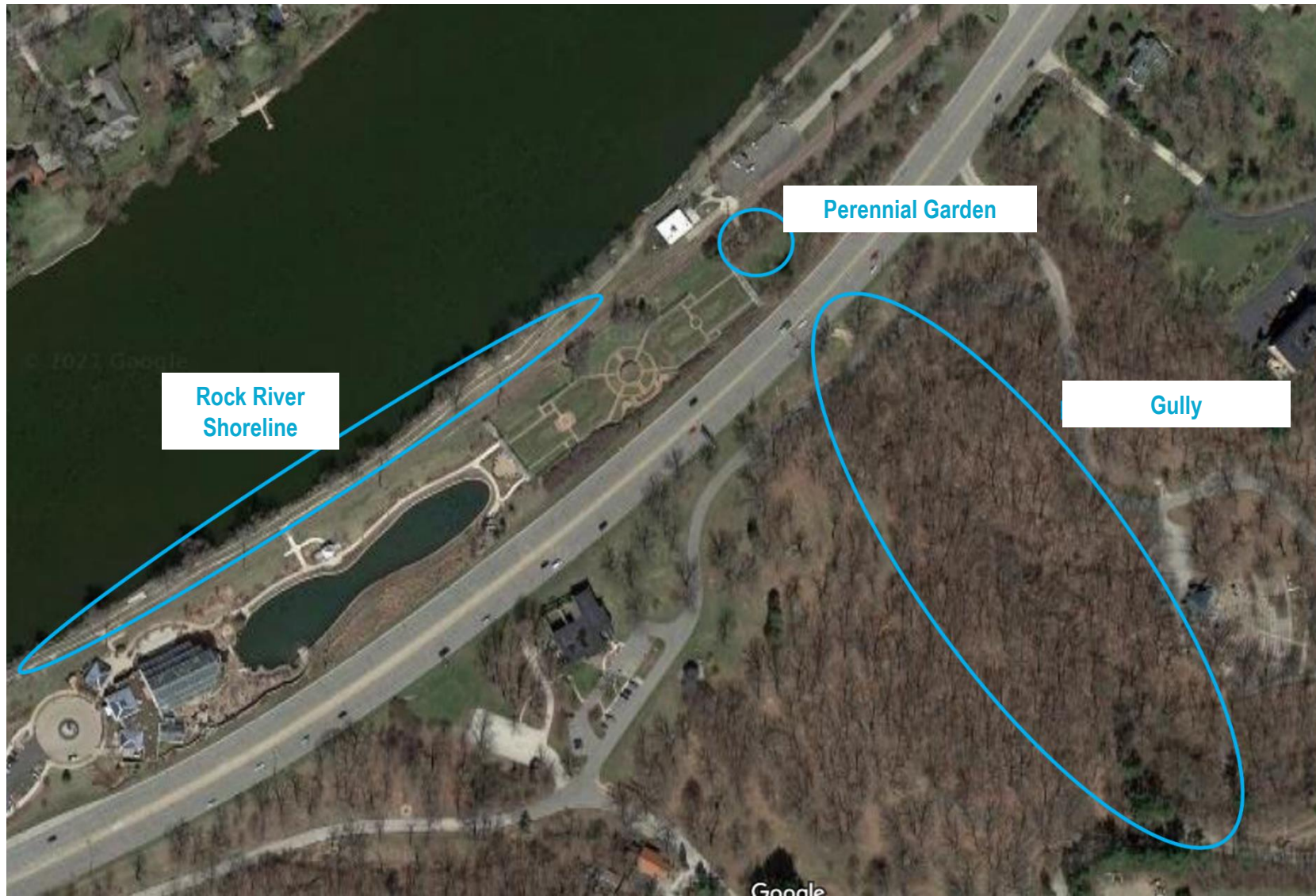
2

Natural Resources

3

Water Quality

Project Introduction

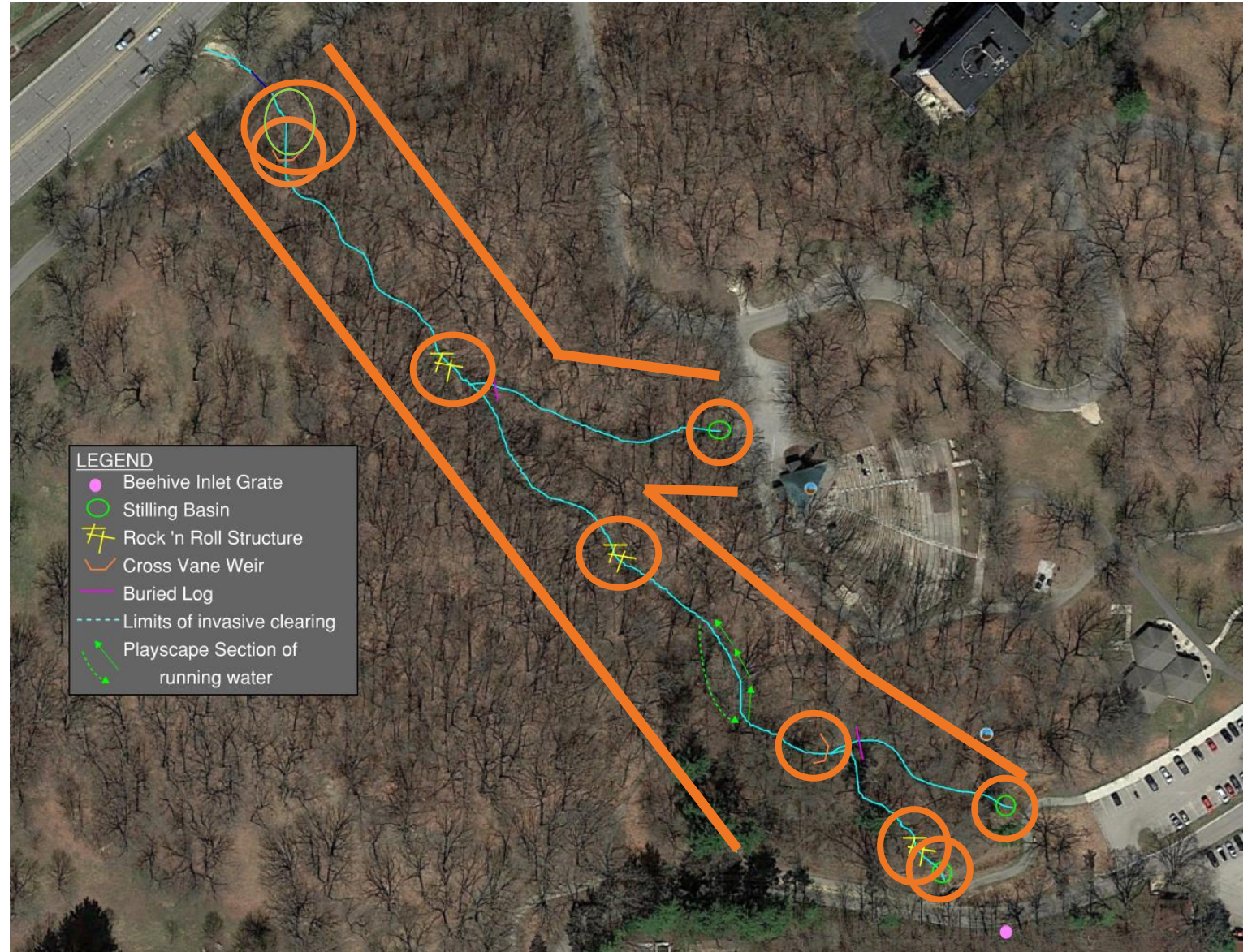


Project Team

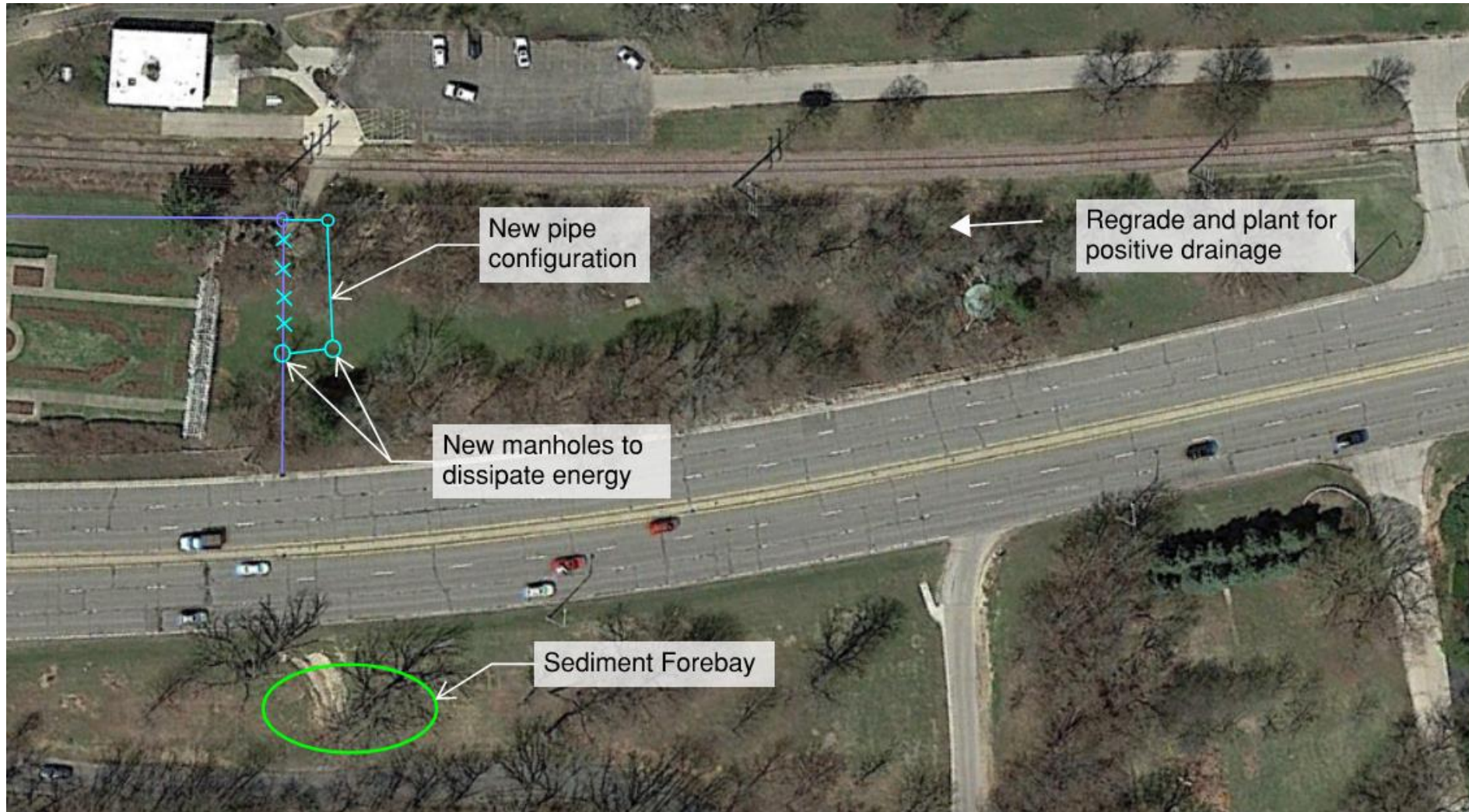


Gully Approach

- Install rock stilling basins
- Install sediment basin
- Install cross vane weirs
- Remove invasive vegetation, selected canopy trees, and plant natives



Perennial Garden Approach



River Trail Approach





Bid Fail



Bid Fail

CLIENT PERSPECTIVE



Bid Fail

ENGINEER PERSPECTIVE



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WHAT WENT WRONG

- + Fuel prices spiked
- + Strikes at major rock quarries
- + Timing
- + Design changed from concept to bid
- + Specialty work → several subcontractors



Bid Fail

WHAT TO DO?

LEGEND

- Infiltration Basin
- Stilling Basin
- ⌵ Cross Vanes in Series
- ⌵ Cross Vane Weir
- - - Limits of canopy clearing

New trench drain and trail shoulder work to protect Rock River shoreline

Grading and planting

Value Engineering

1 Simplify design

2 Reduce footprint of ecological clearing

3 Provide contractor option of materials

LEGEND

- Infiltration Basin
- Stilling Basin
- ⌵ Cross Vanes in Series
- ⌵ Cross Vane Weir
- Limits of canopy clearing

PACKAGE B

New trench drain and trail
shoulder work to protect
Rock River shoreline

Grading and planting

PACKAGE A

Strategic
Planning of Bid

1

Two bid packages

2

Timing of bid

3

Several alternatives

Lessons Learned

- Ask questions during pre-construction
- Take a step back and look at big picture



Outcome: Package A – Gully and Native Plantings



Outcome: Package B – Sinnissippi Riverfront



Questions and Discussion

