

BELOIT HOUSING CONFERENCE 2017

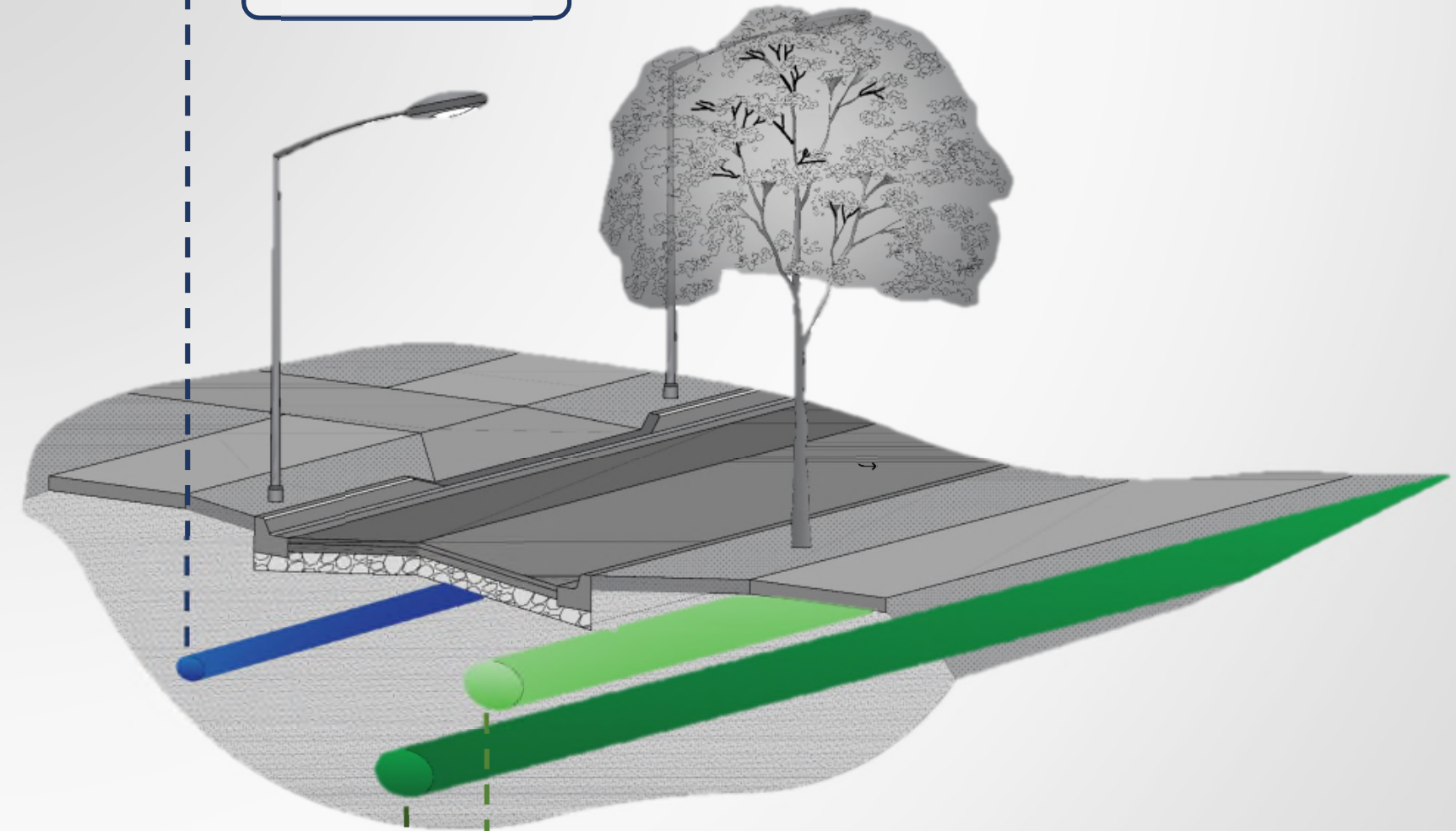
Infrastructure
Requirements and Costs



**UNDERGROUND
INFRASTRUCTURE**

**Sanitary Sewer
Watermain
Storm Sewer**

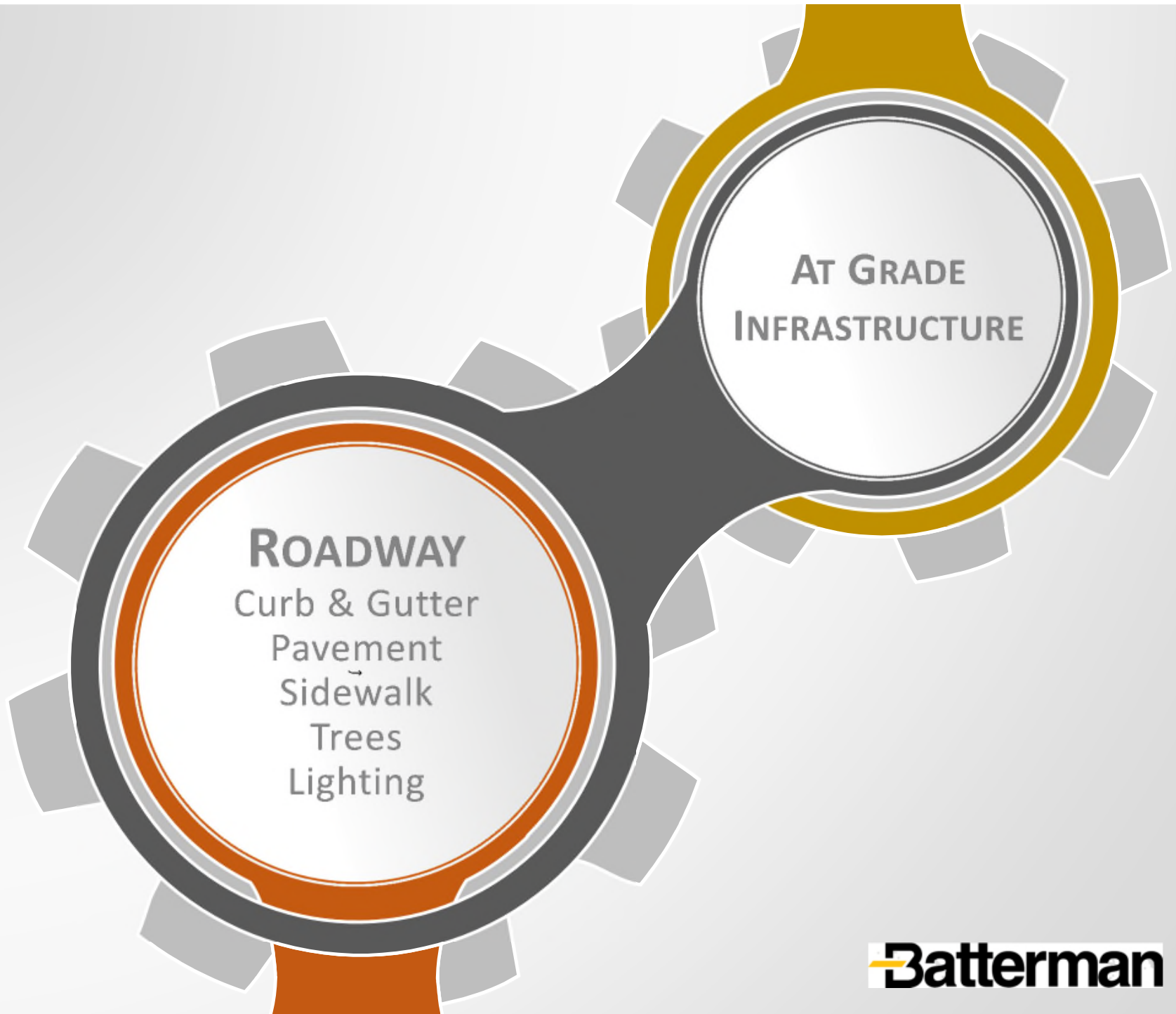
Watermain



Sanitary Sewer

Storm Sewer

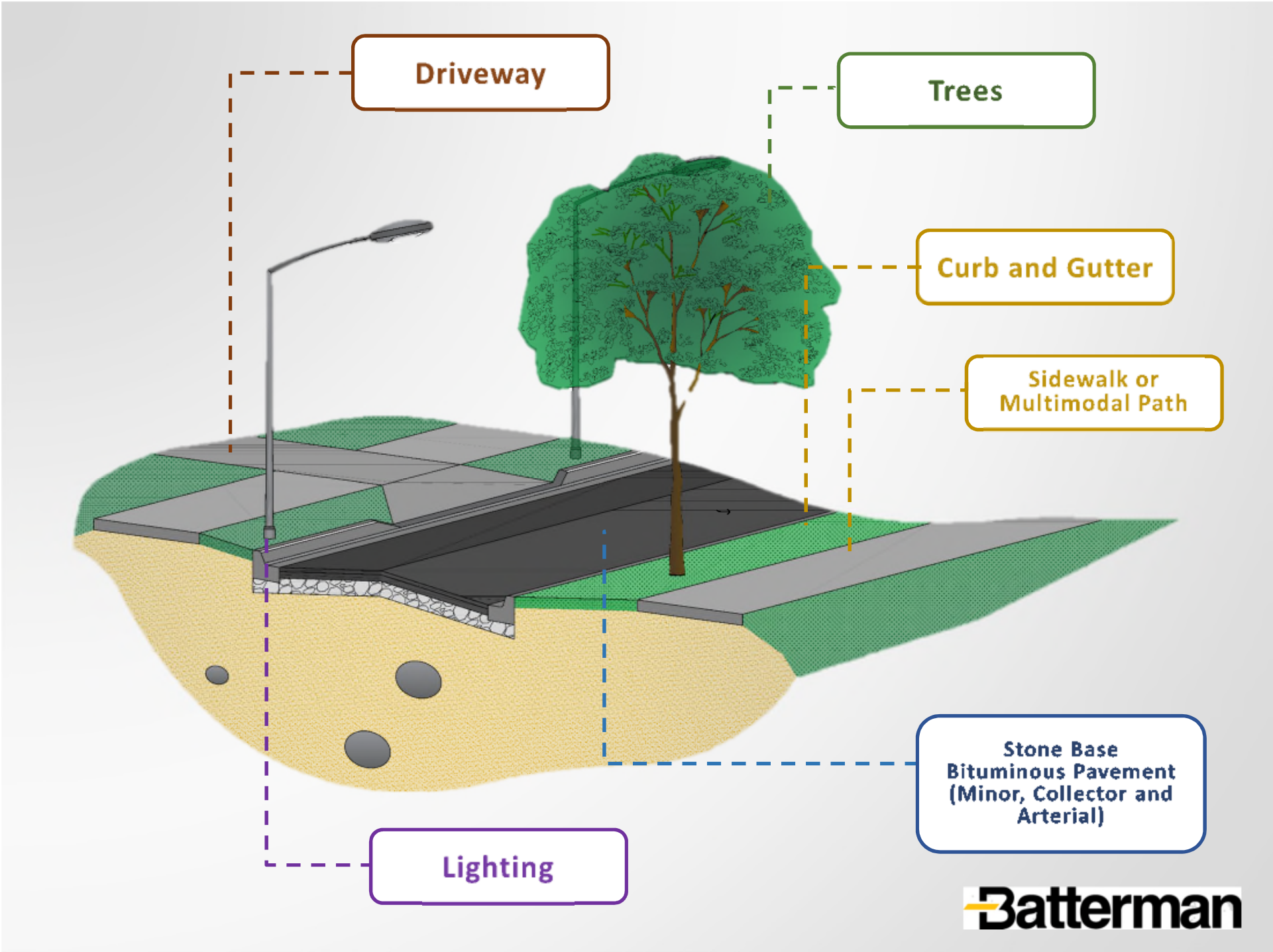
Batterman



ROADWAY

- Curb & Gutter
- Pavement
- Sidewalk
- Trees
- Lighting

**AT GRADE
INFRASTRUCTURE**







Stormwater Management

DNR REQUIREMENTS NR 151 (RUNOFF MANAGEMENT) AND NR 216 (STORMWATER DISCHARGE PERMITS)

- Quantity
- Quality
- Infiltration

The City and DNR have requirements for peak discharges, total suspended solids and infiltration.

CITY CODE

- More restrictive for peak discharge than DNR. Volume of runoff from a 100 Year storm event after development cannot exceed the before development 10 Year storm event.
- Rule of thumb 6%-8% of total land area will be needed for stormwater management



INFRASTRUCTURE
BUDGETS

Underground
Roadway
→
Stormwater
Management
Gas, Electric,
Cable, Phone

General Costs

STARTS WITH UNDERGROUND UTILITIES

- Sanitary Sewer _____ **\$92 per LF**
- Watermain _____ **\$96 per LF**
- Stormwater _____ **\$3,000 - \$5,000 per Acre**

ROADWAY

- Excavation, stone base, Bituminous Pavement, Curb & Gutter, Sidewalk, and Terrace Restoration (Minor Street) _____ **\$135 per LF**

ROADWAY, SANITARY & WATERMAIN _____ \$323 per LF

VARIABLES

- Cost of pavement, Time of Year
- Ideally Bid in the Winter and Construct in the Spring/Summer



General Costs

GAS & ELECTRIC

- Gas _____ **\$16 per LF**
- Electric _____ **\$16 per LF**

Utility will refund the costs as customers connect over a 5 year period. After that, no refund





Hypothetical Subdivision

20 Acres of Land
2,200 LF of Roads and Infrastructure
37 Proposed Lots after Right of Way and Stormwater
Management

COSTS

ROADWAY, SANITARY & WATERMAIN		
2,200 LF x \$325	_____	\$715,000
STORMWATER		
20 Acres x \$5,000	_____	\$100,000
GAS & ELECTRIC		
2,200 LF x \$32	_____	\$70,400
TOTAL COST	_____	\$885,400 \$23,930 per Lot

- Range of \$20,000 to \$25,000 per Lot for Infrastructure