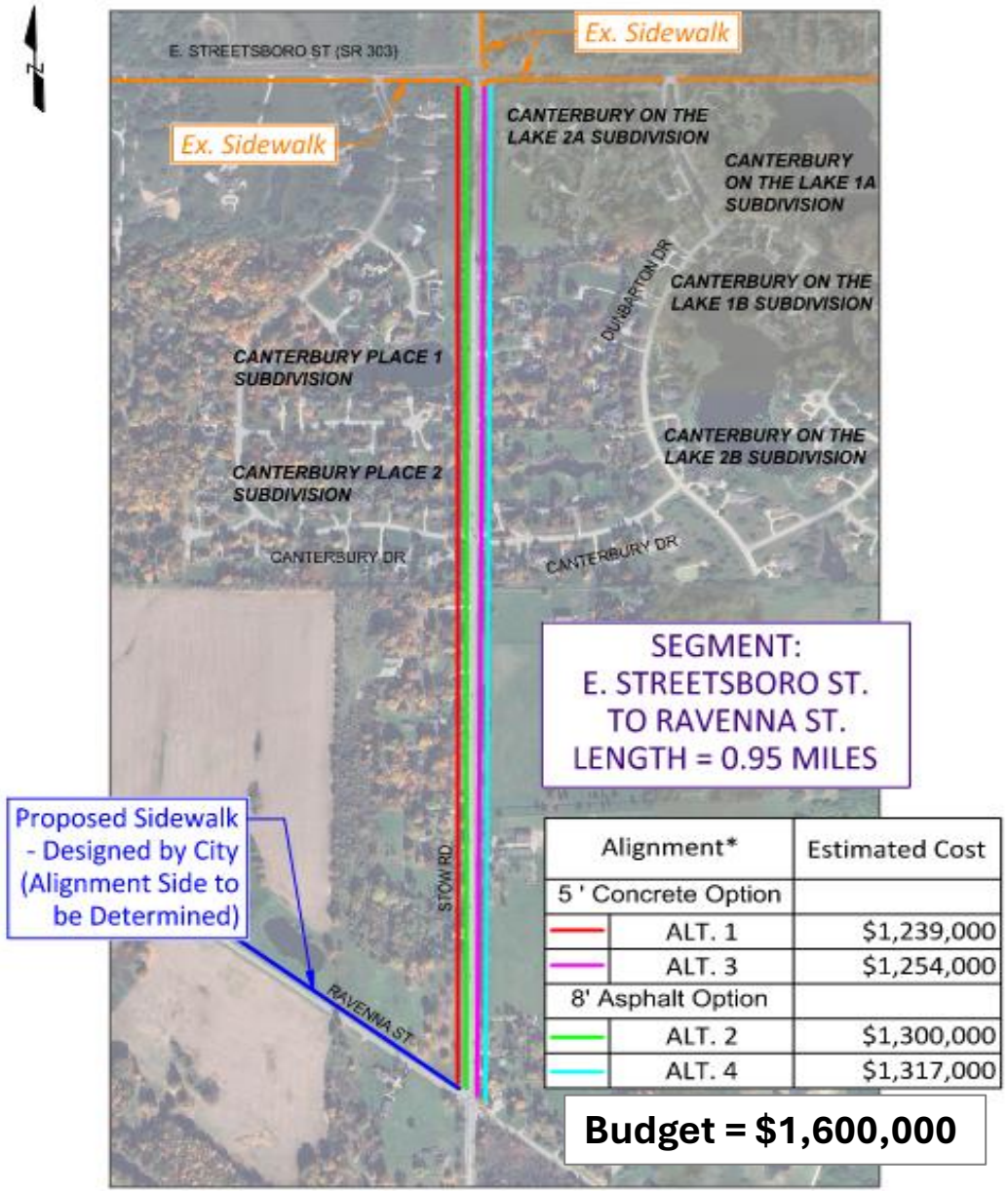
Stow Road Sidewalks

gai consultants
transforming ideas into reality

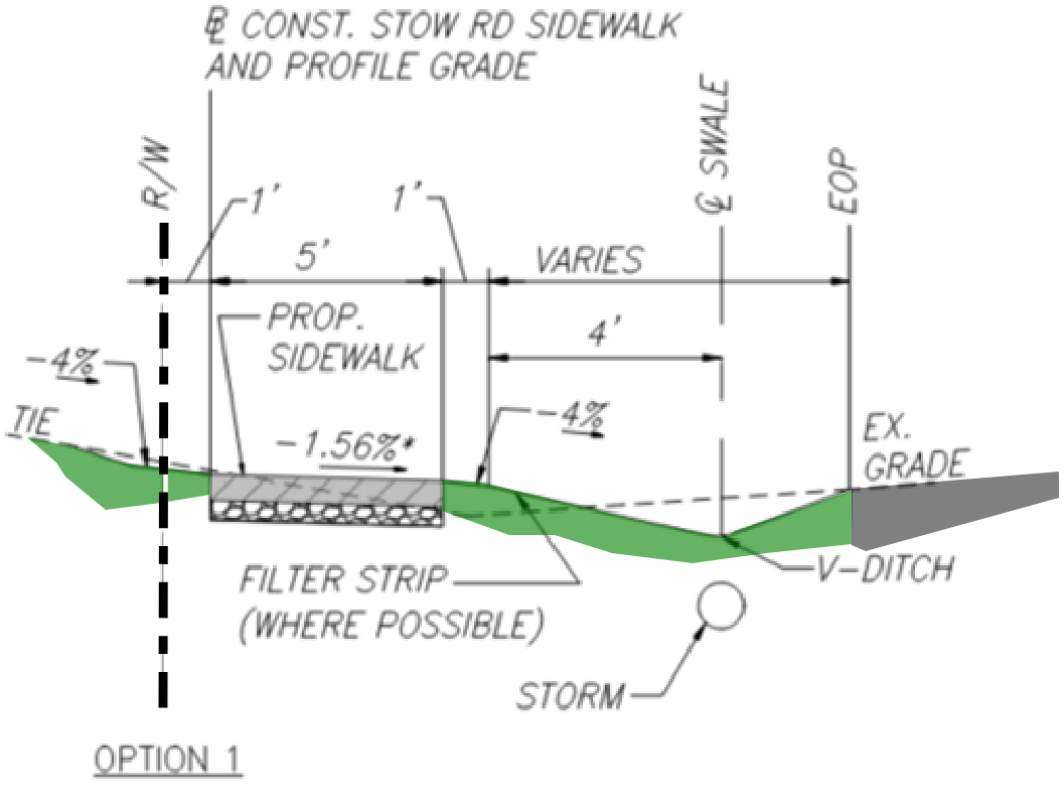
Sidewalk Alignments

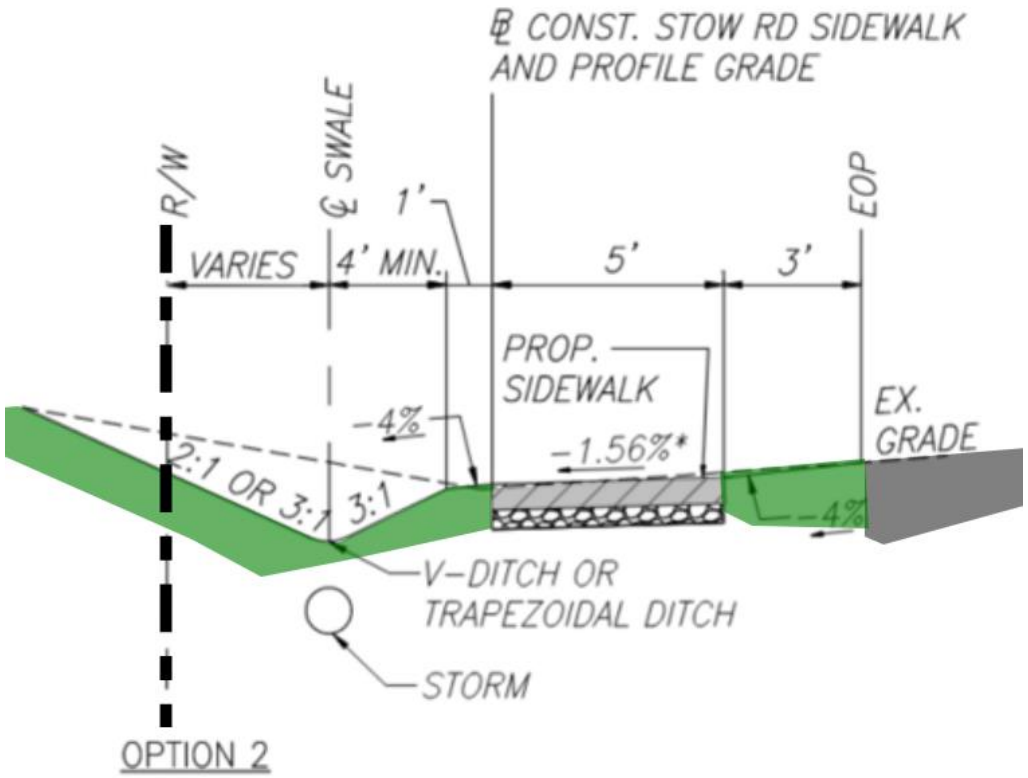
Four (4) alternatives considered



Alignment*	Estimated Cost
5 ' Concrete Option	
ALT. 1	$1,239,000
ALT. 3	$1,254,000
8' Asphalt Option	
ALT. 2	$1,300,000
ALT. 4	$1,317,000

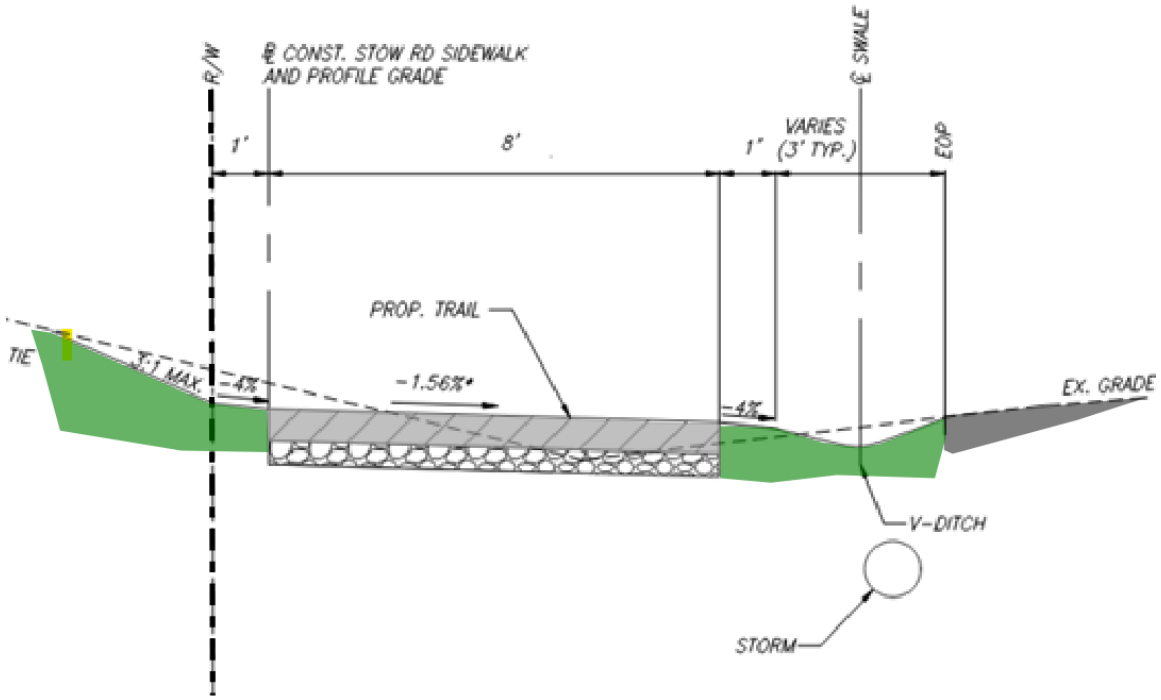
Alignment Options



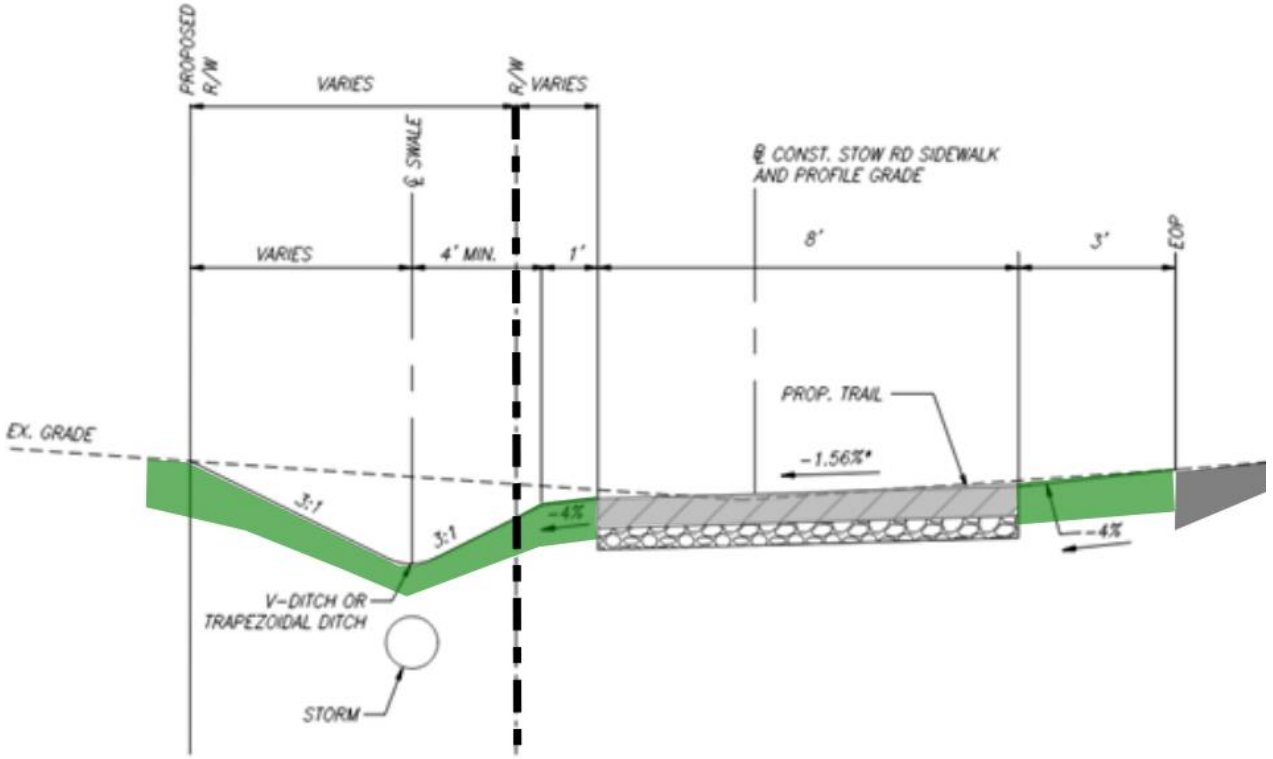


Typical Sections (5' Sidewalk)

- Preferred typical section (Option 1)
- Allows greater distance between sidewalk and road
- Allows for placement of grass filter strip



OPTION 1



OPTION 2

Typical Sections (8’ Path/Trail)

- Preferred typical section (Option 1)
- Allows greater distance between sidewalk and road
- Limits right-of-way impacts

Decision Matrix

CONSTRUCTION BUDGET= $1,600,000

Recommendation:

Based on the above evaluation GAI's recommendation is for:

5' concrete sidewalk on the west side of Stow Rd - **Alternative No. 1**
8' asphalt trail on the west side of Stow Rd - **Alternative No. 2**
5' concrete sidewalk on the east side of Stow Rd - **Alternative No. 3**
8' asphalt trail on the east side of Stow Rd - **Alternative No. 4**

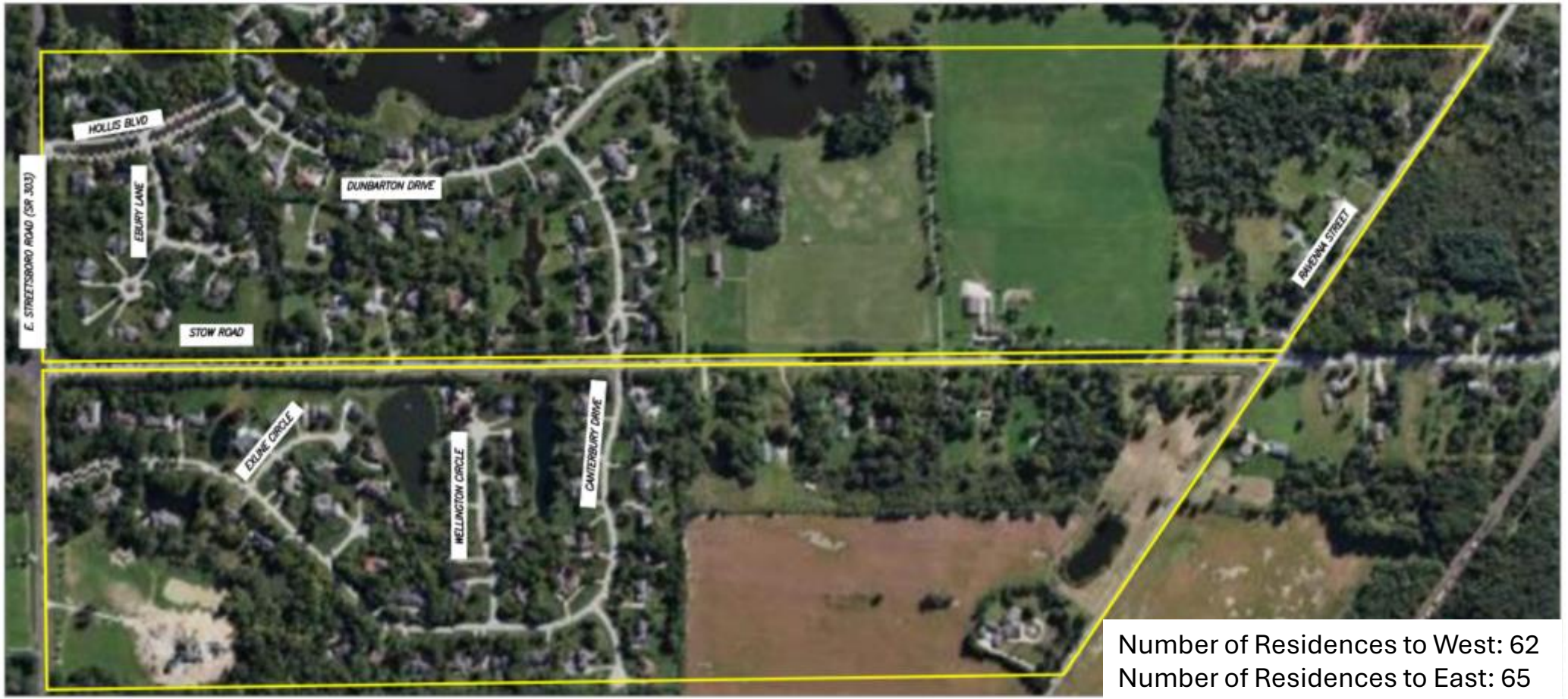
ALTERNATIVE RANKING MATRIX FOR STOW ROAD SIDEWALK PROJECT: BEGINNING AT RAVENNA ST/STOW RD INTERSECTION, TERMINATING AT SR-303/STOW RD INTERSECTION

RANKING CATEGORY	Weighting Factor [1]	ALTERNATIVE NO. 1: 5' SIDEWALK - WEST			ALTERNATIVE NO. 2: 8' TRAIL - WEST			ALTERNATIVE NO. 3: 5' SIDEWALK - EAST			ALTERNATIVE NO. 4: 8' TRAIL - EAST		
		Comments Cost Estimate = $1,238,830	Rank	Weighted Score	Comments Cost Estimate = $1,300,100	Rank	Weighted Score	Comments Cost Estimate = $1,253,065	Rank	Weighted Score	Comments Cost Estimate = $1,316,800	Rank	Weighted Score
Connectivity	5	62 homes are located within a 1/4 mile corridor to the west. Refer to exhibit for more detail.	3	15	62 homes are located within a 1/4 mile corridor to the west. Refer to exhibit for more detail.	3	15	65 homes are located within a 1/4 mile corridor to the west. Refer to exhibit for more detail.	4	20	65 homes are located within a 1/4 mile corridor to the west. Refer to exhibit for more detail.	4	20
Construction Cost	5	Least expensive Major costs: Concrete, storm sewers, temp. ROW	4	20	2nd Most Expensive Major costs: Asphalt, storm sewers, temp. ROW, permanent ROW, structural BMPs	2	10	2nd Least Expensive Major costs: Concrete, storm sewers, temp. ROW	3	15	Most Expensive Major costs: Asphalt, storm sewers, temp. ROW, permanent ROW, structural BMPs	1	5
Maintenance Cost	5	Design life~25-30 years	4	20	Design life~15-20 years	3	15	Design life~25-30 years	4	20	Design life~15-20 years	3	15
Estimated ROW Impacts	5	Temp. ROW: 24 parcels, 1.00 acre affected Perm. ROW: 2 parcels, 0.01 acre affected	4	20	Temp. ROW: 24 parcels, 1.00 acre affected Perm. ROW: 2-24 parcels, 0.02-0.60 acre affected May require additional ROW for structural BMPs	2	10	Temp. ROW: 22 parcels, 1.20 acres affected Perm. ROW: 1 parcel, 0.01 acre affected	4	20	Temp. ROW: 22 parcels, 1.32 acres affected Perm. ROW: 6-22 parcels, 0.05-0.55 acres affected May require additional ROW for structural BMPs	1	5
Safety	5	Two road crossings: Canterbury Dr, Stow Rd at Canterbury Dr	4	20	Two road crossings: Canterbury Dr, Stow Rd at Canterbury Dr	4	20	Three road crossings: Canterbury Dr, Stow Rd at Canterbury Dr, Ravenna St	2	10	Three road crossings: Canterbury Dr, Stow Rd at Canterbury Dr, Ravenna St	2	10
Utility Impact	5	Pole relocation - min. 3 poles, Possible gas line relocation - approx. 3,000 LF	4	20	Pole relocation - min. 3 poles, Possible gas line relocation - approx. 3,000 LF	3	15	Pole relocation - up to 15 poles Possible gas line relocation - approx. 3,300 LF Possible impacts to fiber optic line	2	10	Pole relocation - up to 28 poles Possible gas line relocation - approx. 3,300 LF Possible impacts to fiber optic line	1	5
Storm Water Quality	4	BMP requirements can likely be achieved using non-structural means.	4	16	Likely to require structural BMPs	1	4	BMP requirements can likely be achieved using non-structural means.	3	12	Likely to require structural BMPs	2	8
Schedule (Utility Relocation and Construction)	3	Similar construction timeframes, least utility coordination anticipated	4	12	Similar construction timeframes, 2nd least utility coordination anticipated	3	9	Similar construction timeframes, more utility coordination anticipated	2	6	Similar construction timeframes, significant utility coordination anticipated (most)	1	3
Wetland Impacts	2	No wetland impacts are anticipated in any Alternative. All items are scored evenly to account for this.	4	8	No wetland impacts are anticipated in any Alternative. All items are scored evenly to account for this.	4	8	No wetland impacts are anticipated in any Alternative. All items are scored evenly to account for this.	4	8	No wetland impacts are anticipated in any Alternative. All items are scored evenly to account for this.	4	8
TOTAL WEIGHTED SCORE				151			106			121			79

[1]Weighted Factors: Factors ranked from 1-5, with 1 being least important and 5 being most important.
Each item ranked from 1-4, with 4 being preferred and 1 being not preferred. If items were considered equal, the same ranking was given.

Connectivity

RESIDENCES WITHIN A 1/4 MILE EAST/WEST AREA



Right-of-Way Impacts

- **Does not include potential right-of-way impacts for structural stormwater quality treatment*
- ***Final design may increase/decrease right-of-way impacts*

	Alternative 1 (Sidewalk on West Side)	Alternative 2 (Trail on West Side)	Alternative 3 (Sidewalk on East Side)	Alternative 4 (Trail on East Side)
Temporary Right-of-Way**	1.00 AC	1.00 AC	1.20 AC	1.20 AC
# Parcels Impacted	24	24	22	22
Permanent Right-of-Way**	0.01 AC*	0.02 AC*	0.01 AC*	0.05 AC*
# Parcels Impacted	2	3	1	6
Permanent Right-of-Way (Worst Case)**	0.01 AC	0.60 AC*	0.06 AC*	0.55 AC*
# Parcels Impacted (Worst Case)	2	**24**	4	22

Safety

Roadway Crossings

- Alternatives 1 and 2:
  - West Side of Stow Road
  - 2 Crossings – Canterbury Drive, Stow Rd at Canterbury Dr
- Alternatives 3 and 4:
  - East Side of Stow Road
  - 3 Crossings – Canterbury Dr, Stow Rd at Canterbury Dr, Stow Rd at Ravenna St

Proximity to Roadway

- Wider sidewalk/path will need to be closer to edge of pavement to avoid right-of-way impacts
- Wide asphalt path within close proximity to the roadway may look like an extension of the roadway pavement to a confused driver

Utility Impacts

Alternatives 1 and 2:

- Electric – Relocation of up to 3 poles at north end of Stow Rd
- Gas: Potential relocation (approx. 3,000 LF), depends on Enbridge requirements
- Fiber Optic: No Impacts
- Water: No Impacts
- Sanitary: No Impacts

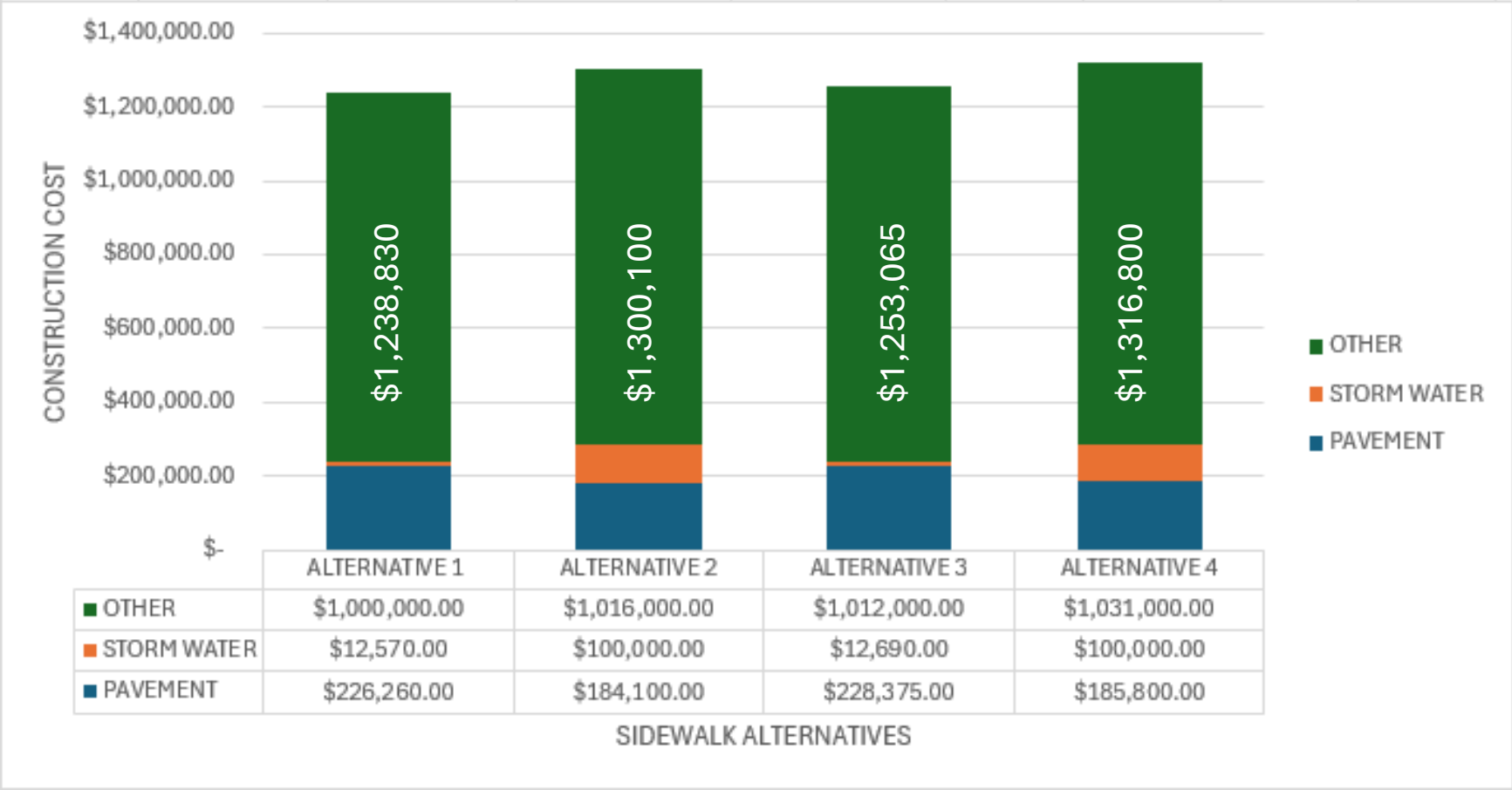
Alternatives 3 and 4:

- Electric – Relocation of up to 30 poles
- Gas: Potential relocation (approx. 3,300 LF), depends on Enbridge requirements
- Fiber Optic: Relocation
- Water: No Impacts
- Sanitary: No Impacts

Storm Water Quality

- Storm Water Quality and Best Management Practices (BMPs): grass filter strips vs structural BMP
  - Grass filter strip: Grass area of designated width that storm water runoff is required to flow across
  - Structural BMPs:
    - Hydrodynamic Separator – storm water quality unit that traps trash, sediment, and oil from storm water using non-blocking screen technology
  - Other BMPs considered but eliminated:
    - Infiltration Trench – soil types not a good candidate, cost
    - Storm Water Pond – right-of-way acquisition ($1/CF typ. cost)
    - Underground Detention – right-of-way acquisition, cost ($10-12/CF), elevation/fall
    - Permeable pavement – cost (approximately double the cost of traditional concrete)
    - Vegetated Biofilter/swale - cost

Preliminary Construction Cost Estimates
Budget = $1,600,000



	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
OTHER	$1,000,000.00	$1,016,000.00	$1,012,000.00	$1,031,000.00
STORM WATER	$12,570.00	$100,000.00	$12,690.00	$100,000.00
PAVEMENT	$226,260.00	$184,100.00	$228,375.00	$185,800.00

**Preliminary costs do not include right-of-way acquisition or right-of-way plan preparation*

Maintenance

Concrete	Design life of 25-30 years
Asphalt	Design life of 15-20 years Crack sealing throughout design life
Snow removal	5’ vs 8’ width Sidewalk at rear of some properties, property lines indistinguishable
Storm Water Quality and BMPs	Grass filter strip: mowing only, low cost Hydrodynamic Separator: requires periodic maintenance

Schedule

Major Impacts:

- Utility Coordination/Relocation
- Sidewalk Material: Asphalt vs Concrete
- Storm Water Quality (BMPs)
- Right-of-Way Impacts

Environmental Impacts

Wetlands

- Wetlands: 0.01 AC located at the NW quadrant of the Ravenna St/ Stow Rd intersection- avoid

Trees

- Attempt to minimize tree clearing (landscaping screen/noise abatement) while keeping tree roots away from sidewalk