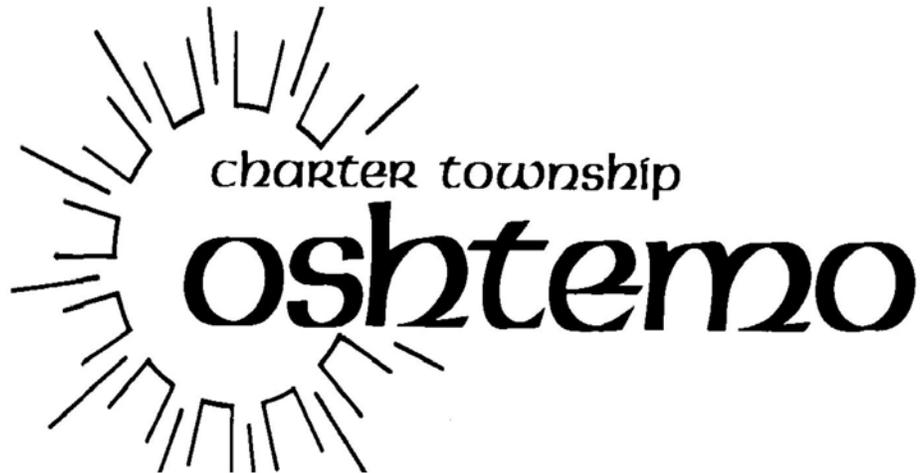


---

OSHTEMO CHARTER TOWNSHIP  
KALAMAZOO COUNTY, MI



DRAKE ROAD SIDEWALK STUDY

---

NOVEMBER 2012

## Table Of Contents

---

INTRODUCTION .....	1
PUBLIC INPUT .....	3
ALIGNMENT OVERVIEW.....	6
SECTION 1 - CROYDEN AVENUE to WEST MAIN ST.....	8
SECTION 2 - WEST MAIN ST. to WEST MICHIGAN AVE. ....	14
SECTION 3 - WEST MICHIGAN AVE. to STADIUM DRIVE.....	23
FUNDING OPTIONS.....	31
OBSERVATIONS.....	33

## Appendix

---

Typical Layout Cross Sections

Detailed Preliminary Cost Estimates

Public Input Materials

Walking Photos

## INTRODUCTION

Oshtemo Charter Township has taken a proactive role in the establishment of non-motorized facilities in the urbanized portion of the Township. The Township's Non-Motorized Facilities Plan calls for the eventual placement of sidewalks on the west side of Drake Road from Stadium Drive on the south end to Croyden Avenue on the north end. Currently, a sidewalk exists on most of the east side of Drake Road within the City of Kalamazoo jurisdiction from just north of Stadium to West Main. A new sidewalk along the 2.3-mile stretch would provide safe pedestrian access on the west side of Drake Road, within the Township.

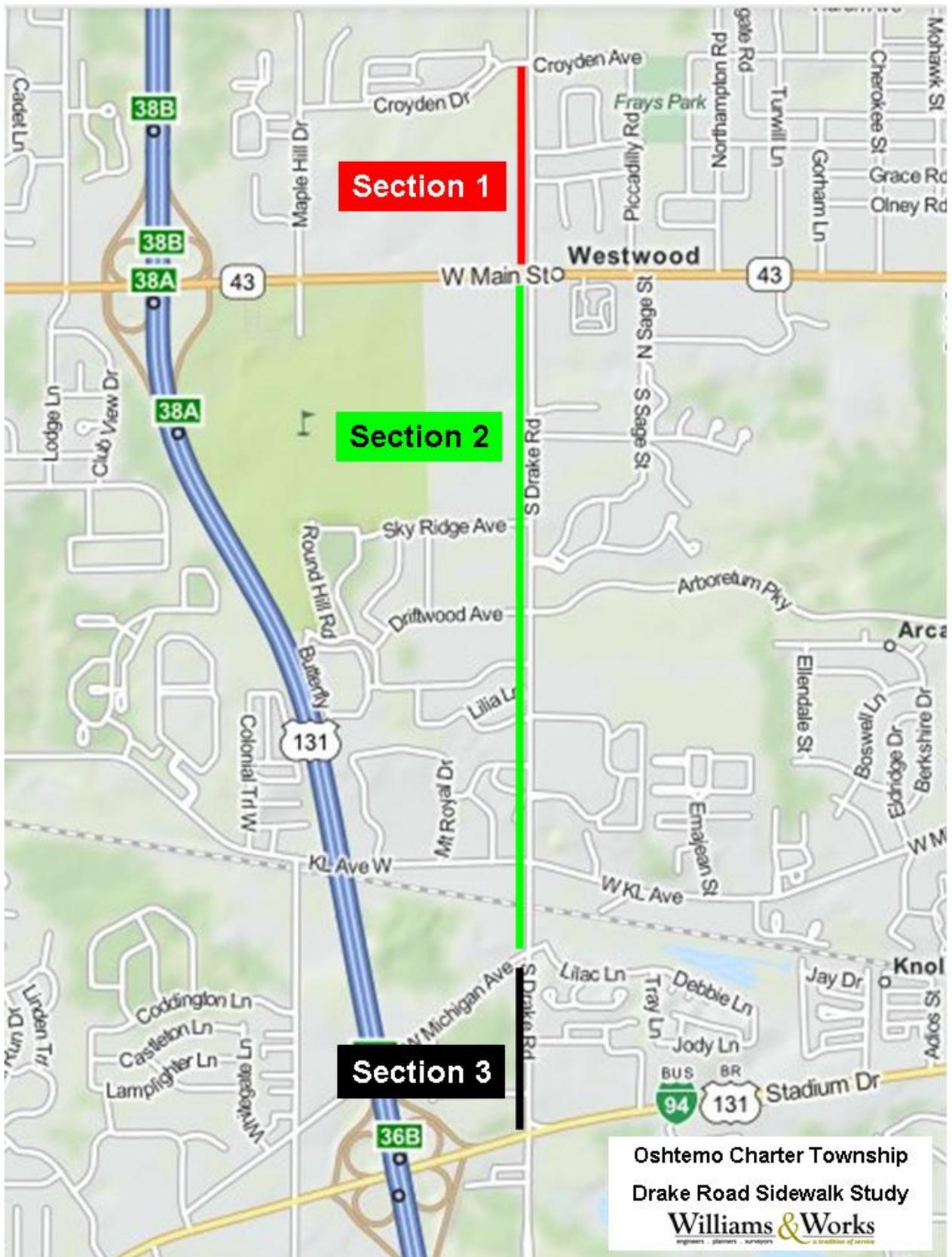
Oshtemo Charter Township retained Williams & Works to conduct a conceptual design study of options for the installation of a sidewalk on the west side of Drake Road. In order to aid in organization and presentation of the study, the route has been laid out in three segments from north to south:

Section 1 - Croyden Avenue to West Main Street

Section 2 - West Main Street to West Michigan Avenue

Section 3 - West Michigan Avenue to Stadium Drive

Following an overview of general alignment issues, a detailed review of each section is provided along with an estimate of costs. Each section includes a review of available Right of Way, grades, existing utilities and other unique features that impact the feasibility and costs for installing sidewalks.



## PUBLIC INPUT

As a part of the information gathering portion of the study, a public information meeting was held on March 28, 2012. The meeting was attended by approximately 34 people representing a variety of residential and commercial properties along the proposed route. A visual presentation of the walking route was given and participants were encouraged to provide input. Approximately 23 questionnaires were returned providing input to the proposed walking concept. A summary of the results is provided on the following pages and copies of the completed questionnaires with comments are located in the Appendix.



Based on those in attendance there was a majority support for developing sidewalks on the west side of Drake Road. There were three participants who indicated strong opposition to the concept, all commenting that the existing walk on the east side should be used. In the general question and answer period, there was a good discussion about the need for safe pedestrian access in the area particularly for children and seniors. There were questions regarding the potential costs to property owners, easements, timeline for implementation, snowplowing and long term maintenance.

March 28, 2012 Public Input Meeting Questionnaire Results

<b>I represent property that is a</b>	
0	Residence - Rent
16	Residence - Own
0	Business - Retail
1	Business - Commercial
3	Business - Private
0	Business - Other
3	Institution - School
2	Institution - Church
1	Institution - Governmental
1	Institution - Other
<b>My General Location is</b>	
5	On Drake
16	Connects to Drake
3	other
<b>I would use this sidewalk in the following ways</b>	
17	Walking
8	Biking
11	Shopping
12	Exercise
2	Get to Work
3	Get to School
9	Year Round
5	Non-Winter Only
4	Other
<b>How often would you use the sidewalk ?</b>	
3	5-7 days
5	3-5 days
8	1-3 days
3	only in good weather
4	Rarely
2	Never
<b>The following applies to me</b>	
4	Visually Impaired
3	Hearing Impaired
4	Requires Wheelchair
5	Requires Walker/crutches
1	other
8	Does not apply

Cont'd →

March 28, 2012 Public Input Meeting Questionnaire Results

<b>How often to use the existing sidewalk on the east side of Drake?</b>	
1	5-7 days
0	3-5 days
2	1-3 days
4	only in good weather
12	Rarely
4	Never
<b>What Age Group do you and others at your address represent?</b>	
1	Elementary Age
2	Middle School age
2	High School Age
3	18-24
2	25-29
4	30's
3	40's
6	50's
6	60's
6	70's
5	80's
1	90+
<b>I have children who attend the following schools</b>	
1	KRESA West Campus
0	Linden Grove Middle School
5	Other
<b>How do your children get to/from school</b>	
3	School Bus
3	Ride with parent or drive
1	Walking
4	Not applicable
1	other
<b>How often would your children walk to school if sidewalk were available?</b>	
3	5 days/week or more
0	3-5 days per week
0	1-3 days per week
0	Only in good weather
1	Never
9	Not Applicable
<b>Please indicate your current interest in the development of a sidewalk along Drake Road</b>	
12	Strongly Support
4	Support
0	Don't Care
0	Oppose
3	Strongly Oppose

## ALIGNMENT OVERVIEW

While each section and subsection of the sidewalk alignment will have unique features and challenges requiring detailed design, some elements common to the area as a whole can be identified.

### Sidewalk vs. Non-motorized Trail

---

This study contemplates the feasibility of installing a concrete sidewalk at a traditional width of 5 feet, similar to the existing sidewalk on the east side of South Drake Road. These are intended for relatively low volume pedestrian (walking) traffic and not for two way bicycle use, which requires a wider, non-motorized path, typically at least 8 feet wide and required to be 10 feet wide if using federal funds. That being said, the proposed alignment will connect to both existing 5 ft. sidewalks (W. Main St. for example) and non-motorized trail sections (Stadium Dr. for example).

### Right of Way

---



A major consideration in looking at the alignment for the sidewalk is the available Right-of-Way (R.O.W.) in each section. Ideally, the sidewalk would be placed within the existing R.O.W., avoiding the need and costs for easements. The R.O.W. width does vary over the length of the study area. When discussed in this report, the R.O.W. will be given from the centerline of the road to its west boundary. The specific R.O.W. will be discussed for each section and is shown on the various study maps.

Another unique feature of the R.O.W. along this route is that Drake Road is on the City/Township line and the jurisdiction for the road is split between the City of Kalamazoo and the Kalamazoo County Road Commission as follows:

- Cryoden Ave. to West Main St. – City of Kalamazoo
- West Main St. to KL Ave – Kalamazoo County Road Commission
- KL Ave. to Stadium Dr. – City of Kalamazoo

### Trees

---

Specific information regarding rights-of-way and potential easements will be covered in additional detail by section, but it bears discussion here of some more general concerns regarding large trees in the R.O.W. Due to their extensive root networks, sidewalks should be located as far from mature trees as possible to prevent root damage. In some locations, either removal of these trees or easements will be required to facilitate the installation of the sidewalk.



### Commercial Drives

Particularly in the northern portion of Section 2, but spread throughout the project, are many commercial drives which present a large apron of pavement for pedestrians to cross without the benefit of controls. It may be worth looking at modifying a drive to add refuge islands or other features to help pedestrians safely navigate these areas.

### Utility Relocations

An important factor in the feasibility and cost of the sidewalks is the relocation of existing utility equipment. Power and light poles, telephone and cable pedestals, ground transformers, traffic signal controllers and other similar items are common through all parts of the study area. While the sidewalk can be directed around much of this, there will be cases where easements or relocations will be required. The terms of the licensing charters the Township and/or County holds with the utility owners and the amount of work required to relocate the equipment will play a significant role in the practicality and cost of constructing the sidewalk in an area.



That being said it appears that the alignment can avoid most major conflicts with the existing power line utility. There are a few instances where there will be conflicts with crossing light control boxes that will have to be addressed on an individual basis.

Due to the unpredictable costs and variable regulations governing the various utilities, an accurate, detailed estimate for this work cannot be provided until more formal survey and design efforts are underway. Rather, we have included realistic allowances in the estimates for each section for utility relocation.

### Grades



The review of the alignment in the various sections considers both existing vertical and horizontal grades and their potential impact on the feasibility and cost of the sidewalk installation. Wherever practical, the vertical grades should meet the guidelines set forth in the Americans with Disabilities Act.

The existing horizontal grades are evaluated to determine where site grading or retaining walls will be necessary in order to support the sidewalk or hold back the adjacent side slopes. This study proposes the use of segmental block retaining walls in all areas except the south end of Section 3 due to the proximity to existing houses.

**SECTION 1****CROYDEN AVE – WEST MAIN ST.**

Section 1, from Croyden Avenue to West Main Street is the shortest section in the study at just under 1,800 feet and connects several campus-type facilities to the amenities in Section 2 to the south. Section 1A, from Croyden Avenue to Canterbury Avenue, is an area of undeveloped land bridging from the residential/institutional campuses of Bronson Hospital, The Centre (student housing) and the Croyden Avenue School to the commercial hub near West Main Street. From Canterbury Avenue to West Main Street, Section 1B is a commercial area serving a large shopping center.

**General Observations****Section 1A – Croyden Ave to Canterbury Ave.**

- The first 650 feet of the alignment from Croyden Avenue is flat and in open, undeveloped grass areas. At this point south, the two lane road without curb widens to a multiple lane cross section.
- For the next 350 feet, the alignment area is in a heavily wooded (brush) area directly adjacent to the roadway. This terminates at the commercial area, currently occupied by Gordon Food Service, directly west of the intersection with Canterbury Avenue.

**Section 1B – Canterbury Ave. to West Main St.**

- The next 750 feet of alignment will occupy grass parkways adjacent to commercial parking lots, and will cross two more commercial drive openings. The terrain is flat with some landscaping and ends at the east entrance to the shopping center.
- At the northwest corner of this mall entrance drive, there is an existing sidewalk heading west and also heading south approximately 475 feet.
- The West Main and Drake Road intersection recently had sidewalk ramps installed in all directions.

**Right-of-Way**

50 feet of public R.O.W. west of the road centerline is present for the majority of the section, however just north of Canterbury Avenue lies a 300 foot long section of 33 foot R.O.W. which will require an easement from a single property owner. Fortunately, this property was recently acquired by the Township, so acquisition of the R.O.W. should be easy. Other small easements may be necessary at the shopping center entrance drives to accommodate the required ramp work.



### Grade

---

Section 1 will require a retaining wall in the northwest corner of the intersection with Canterbury Avenue. A rock wall currently at that location will need to be removed or modified. One or two commercial drives may also require small retaining walls due to the proximity of parking.

### Other Features

---

There is some historical value to the property in the northwest corner of the intersection with Canterbury Avenue, which the Township just acquired. Although not presently listed, the Oshtemo Historical Society is currently seeking designation of the property on the National Register of Historic Places. Special care will be required at this location, since a sidewalk cannot be built without modifying or removing the rock wall.



The signals in Section 1 are modern and contain pedestrian signals at all locations, however it appears the timing or controls may need to be modified at Croyden Avenue, since not all the pedestrian signal heads there appear to be operational.

**Costs**

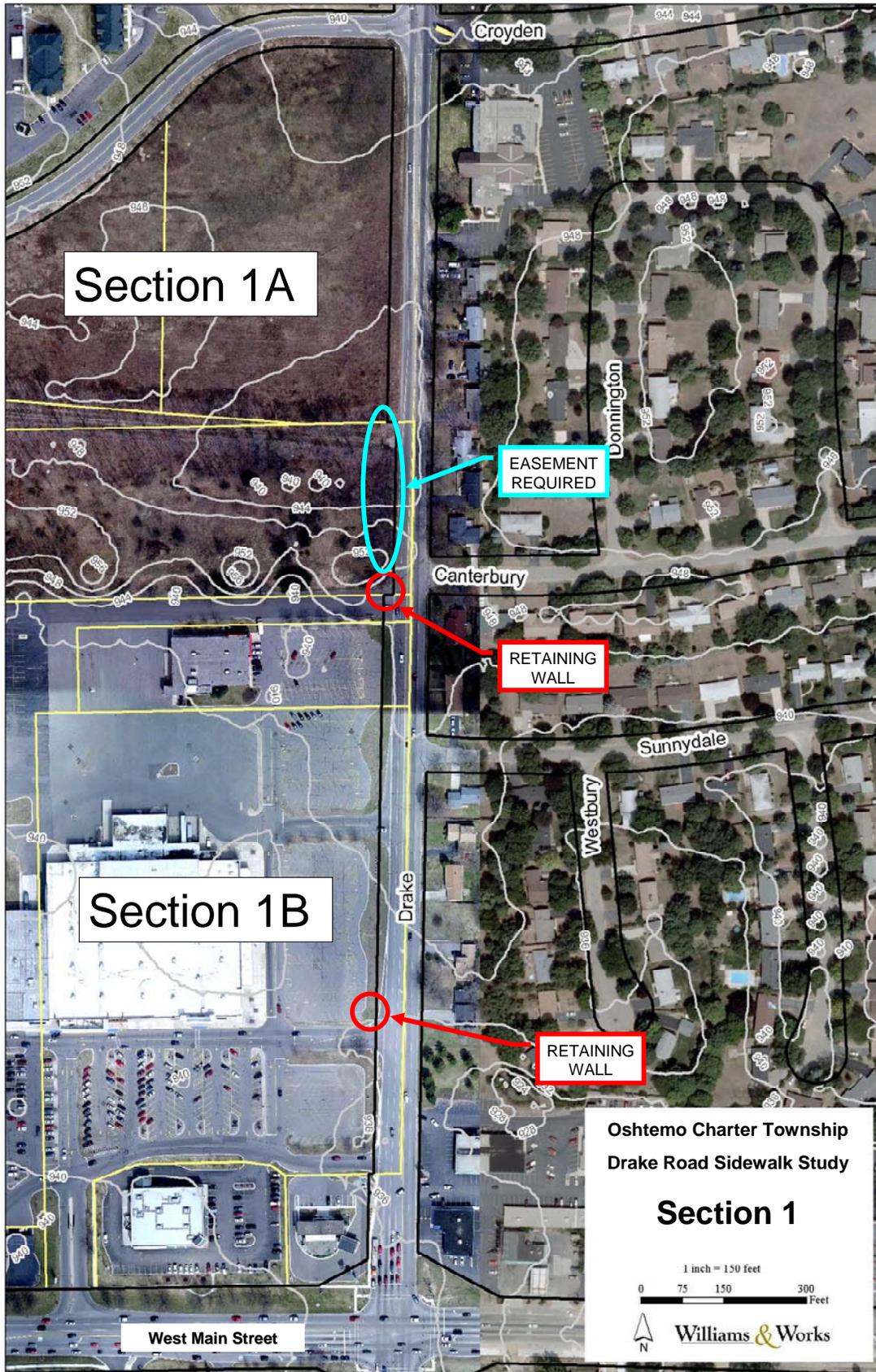
The following table presents the costs of Section 1 including a breakdown by the subsections explained earlier. The estimates are included in the Appendix and contain a budgetary amount for survey and engineering. The estimates also include an allowance for some utility relocation.

**Section 1**  
**Croyden to West Main**  
**Preliminary Cost Estimates**

<b>Subsection</b>	<b>Description</b>	<b>Cost</b>	<b>Length</b>	<b>\$\$/Ft.</b>
1A	Croyden Ave to Canterbury Ave	\$56,000	970 Ft	\$58
1B	Canterbury Ave to W. Main St.	\$38,000	800 Ft	\$48
<b>Total - Section 1</b>		<b>\$94,000</b>	<b>1,770 Ft</b>	<b>\$53</b>

**Analysis**

Section 1 is the least expensive to construct, and will provide a link for students of the Croyden Avenue School and The Centre student housing, as well as patrons of Bronson Hospital. There are few obstacles in this section and for the most part construction will be relatively conventional. Pedestrians from the north will benefit from walking access to the shopping center and to the existing sidewalks on portion all but the N.E . quadrant of West Main St.







**SECTION 2****WEST MAIN ST. – WEST MICHIGAN AVE.**

Section 2, from West Main Street to West Michigan Avenue, is the longest section in the study at over 7,600 feet. The northernmost portion, Section 2A, is a busy commercial area with multiple drives and heavy traffic.

Section 2B, directly south, is a long section of residential uses with many multi-unit buildings. From West KL Avenue to West Michigan Avenue, the last subsection (Section 2C) working from north to south is a short commercial section including a railroad crossing.

**General Observations****Section 2A - West Main St. to Stonebrook Ave.**

- At West Main St., new ramps have recently been installed in all directions.
- South of West Main St., the sidewalk would be placed within partially landscaped parkways adjacent to the large commercial area (anchor store currently Lowes) with five commercial drive openings to cross. The southern Lowes entrance has new sidewalk ramps, while the other commercial drives will need new ramps.

**Section 2B1 - Stonebrook Ave. to Driftwood Ave.**

- The next 980 feet south is flat with open grass areas and runs across the front of the U.S. Post Office and three commercial drive openings up to Skyridge Ave.
- The alignment from Skyridge Ave. continues about 300 feet south through an open grass area where it then crosses the entrance to West Kalamazoo Christian Church.
- South to Driftwood Ave., the alignment is flat and crosses in front of three residential lots, with some mature trees. At the N.W. corner of Driftwood Ave. and Drake Rd. there is an existing chain link fence currently blocking the proposed alignment. Arboretum Parkway is the connecting street to the east and this intersection is signaled. Arboretum Parkway has an existing non-motorized path on the south end that connects to Linden Grove Middle School and existing neighborhoods, many of which have sidewalks.





### Section 2B2 – Driftwood Ave. to KL Ave.

- The crossing of Driftwood Lane will require a new ramp on the south side.
- This subsection is approximately 2,750 feet long and is adjacent to several large apartment complexes. The area includes some landscaping with berms parallel to the alignment and containing some trees.
- Just north of the Green Meadow Road crossing, the sidewalk will need to be routed around an existing traffic light pedestal, control box and landscaping.
- The crossing at Green Meadow Road will require new pedestrian ramps.
- The intersection at South Drake Road extension (Nottingham Place Apartments) will require special treatment as a landscape island may not serve as a pedestrian pathway.
- The alignment continues south for about 450 feet, where it will cross a branch of South Drake Road that veers to the southwest (opposite of Clayborne). After a slight upslope, north of Beckley Road, the topography flattens out and is grass with no drive openings. There are some trees along this section.
- The Beckley Road crossing is approximately 60 feet wide, with entrance and exit openings.
- Continuing south to KL Avenue, there is a downslope to the west, with power poles directly behind the curb. The terrain is all grass in this area.
- Just north of KL Avenue, there is an existing timber retaining wall with insufficient horizontal separation from the curb that will have to be replaced in order to accept a new sidewalk.
- Newer sidewalk ramps exist at the intersection with KL Avenue.

### Section 2C - West KL Avenue to West Michigan Avenue

- The alignment continues south another 450 feet from KL Avenue with two large commercial drive openings to cross, one being an existing gas station.
- The southernmost 500 feet are adjacent to commercial businesses with a total of three drive crossings and ending in a crossing of the railroad tracks (single track).

### **Right-of-Way**

---

50 feet of public R.O.W. west of the road centerline is present for most of Section 2, however a portion from Sky Ridge Avenue to Driftwood Avenue to in the middle of Section 2B1 has only 33 feet west of centerline. A lengthy easement of about 1200 feet total will be needed there, from as many as ten property owners. Additionally, there are single-family homes in the area of the easement that are close to the road, forcing the sidewalk to be placed in what may be perceived as the “front yard.”

In Section 2A, there are large commercial drives which have parking close to the drive and are steeply pitched. These areas may require temporary or permanent easements to install small retaining walls allowing for ramp construction.

### **Grade**

---

Overall, Section 2 is relatively flat. There is one area just north of West KL Avenue, in Section 2B2, that will require a large retaining wall, however its construction can be more conventional than that of those in Section 3 since no older buildings are nearby. As mentioned above, small walls may be needed near some of the commercial drives in Section 2A due to the proximity of parking.

### **Other Features**

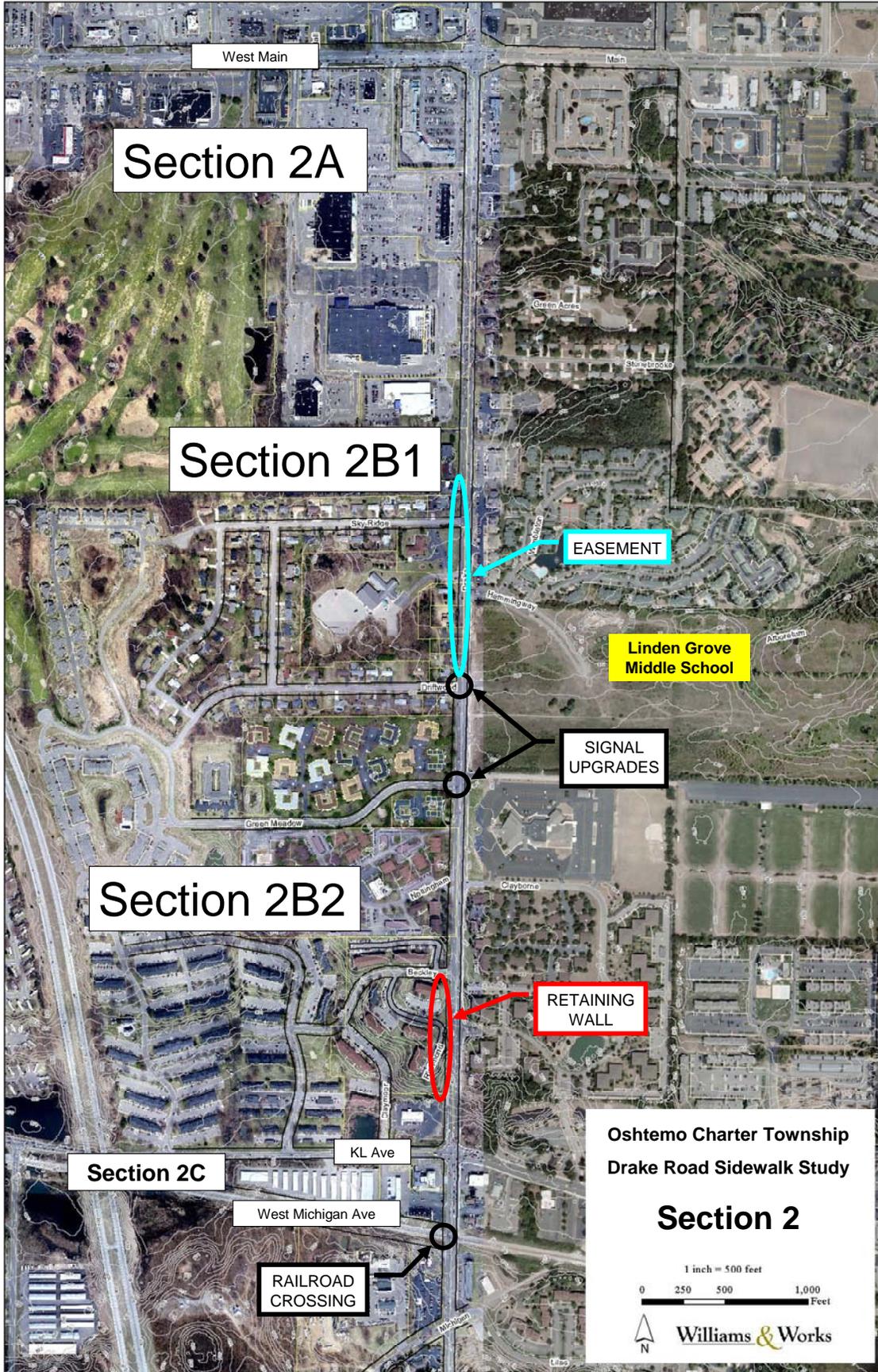
---

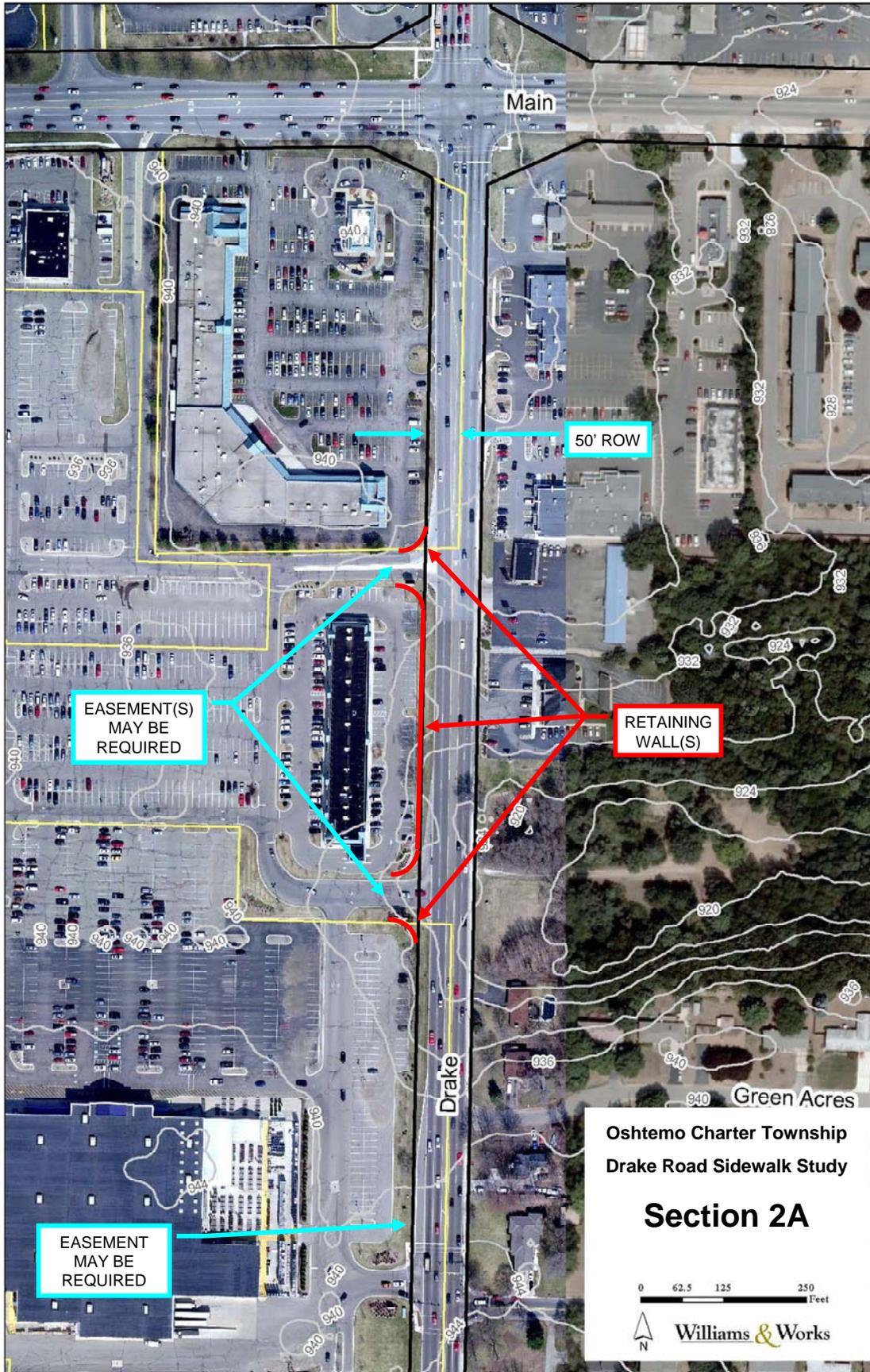
In Section 2C a railroad crossing sits between West Michigan Avenue and West KL Avenue. While not complicated from a technical perspective, the crossing will require advanced coordination with the railroad company and a complex review process should be anticipated.

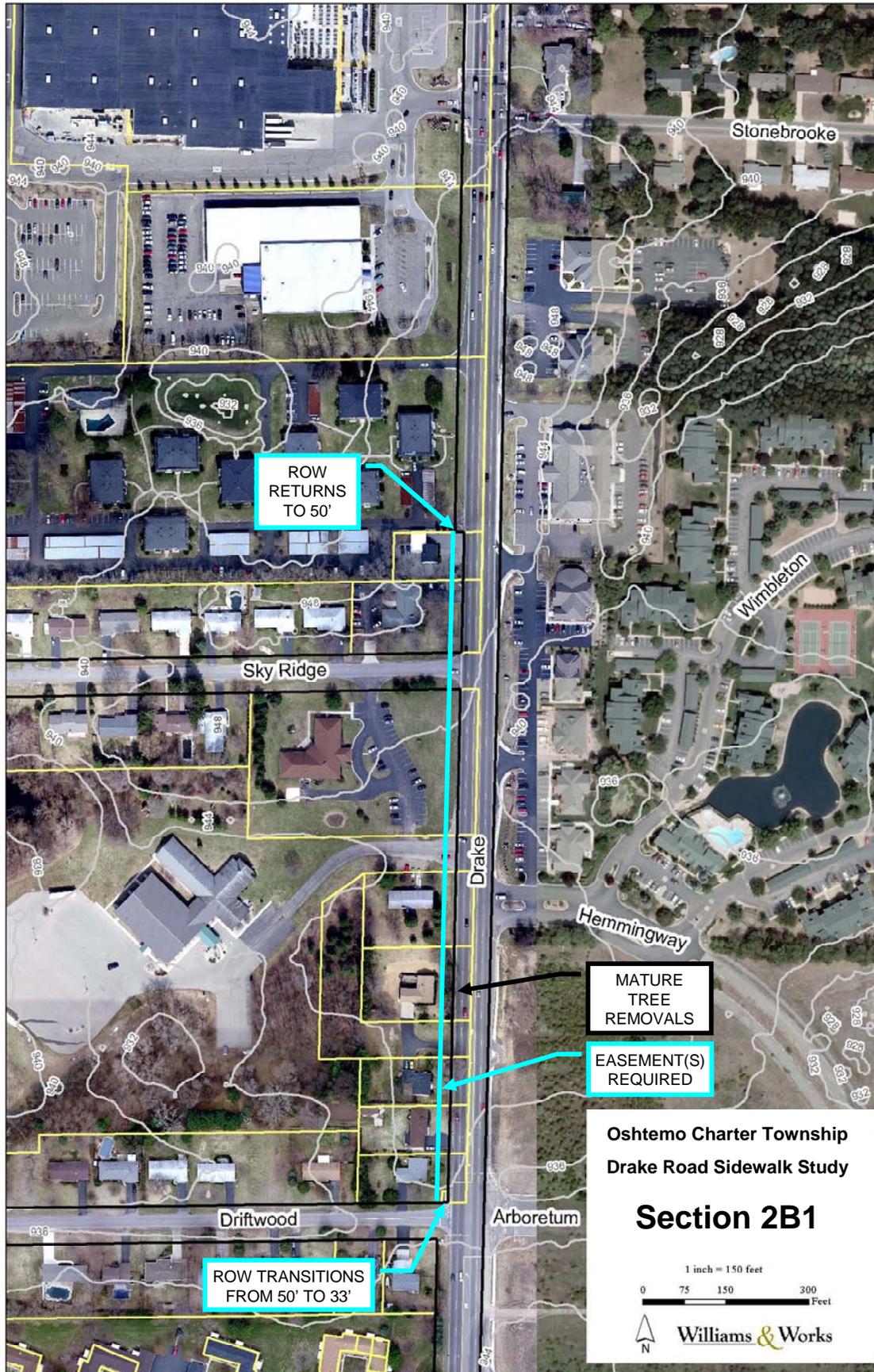
All the signals in Section 2 are modernized, however those at Green Meadow Road and Driftwood Avenue will need upgrades, since pedestrian signals are not present in all four corners. Due to their modern electrical components, adding the pedestrian signals should not be complicated. Coordination with the City will be necessary to properly outfit the intersections for complete accessibility.

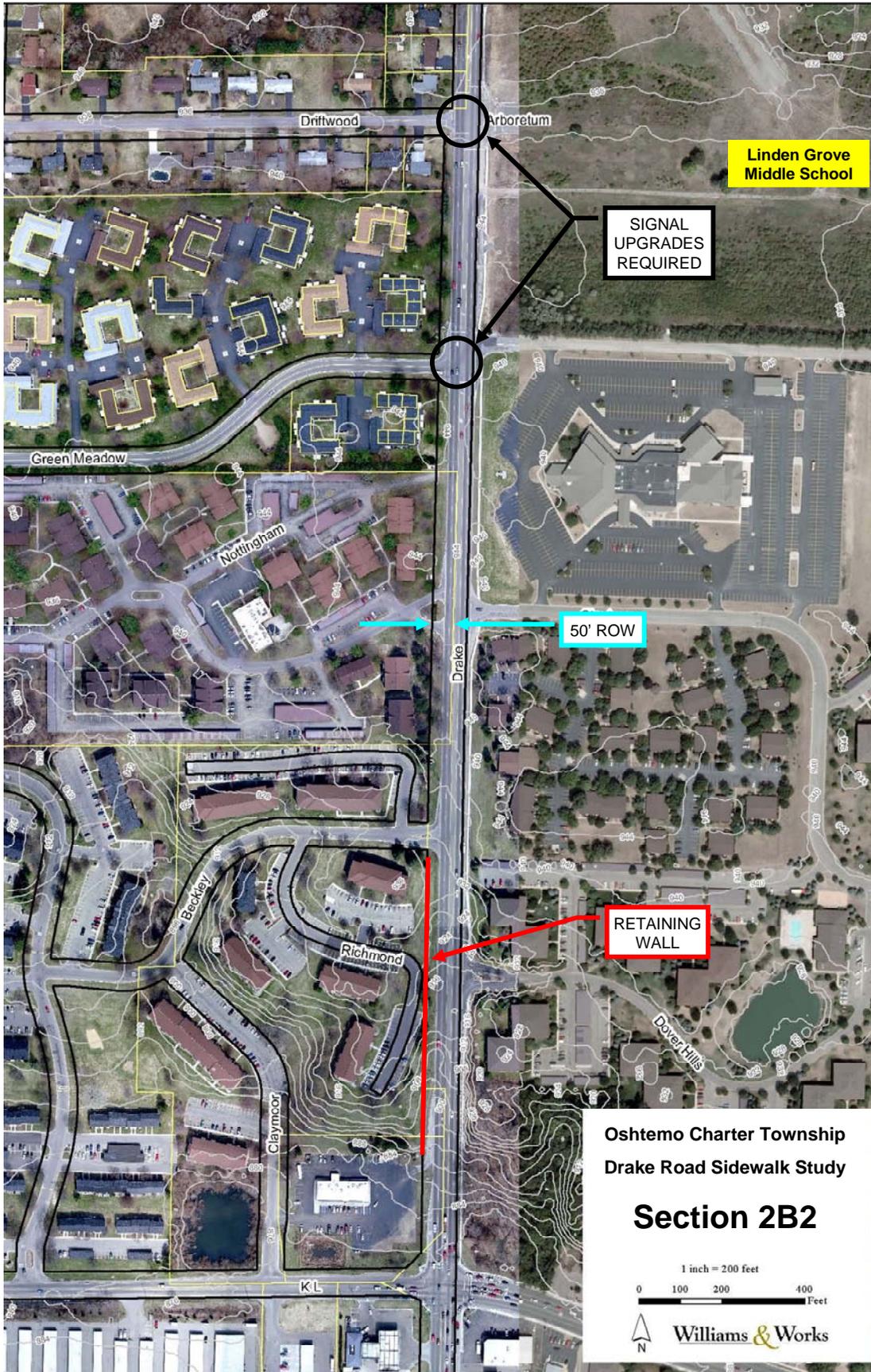
Section 2B contains areas of large, mature trees that will need to be addressed in the manner discussed in the Alignment Overview above. Several of these trees are in the area identified for the easement.

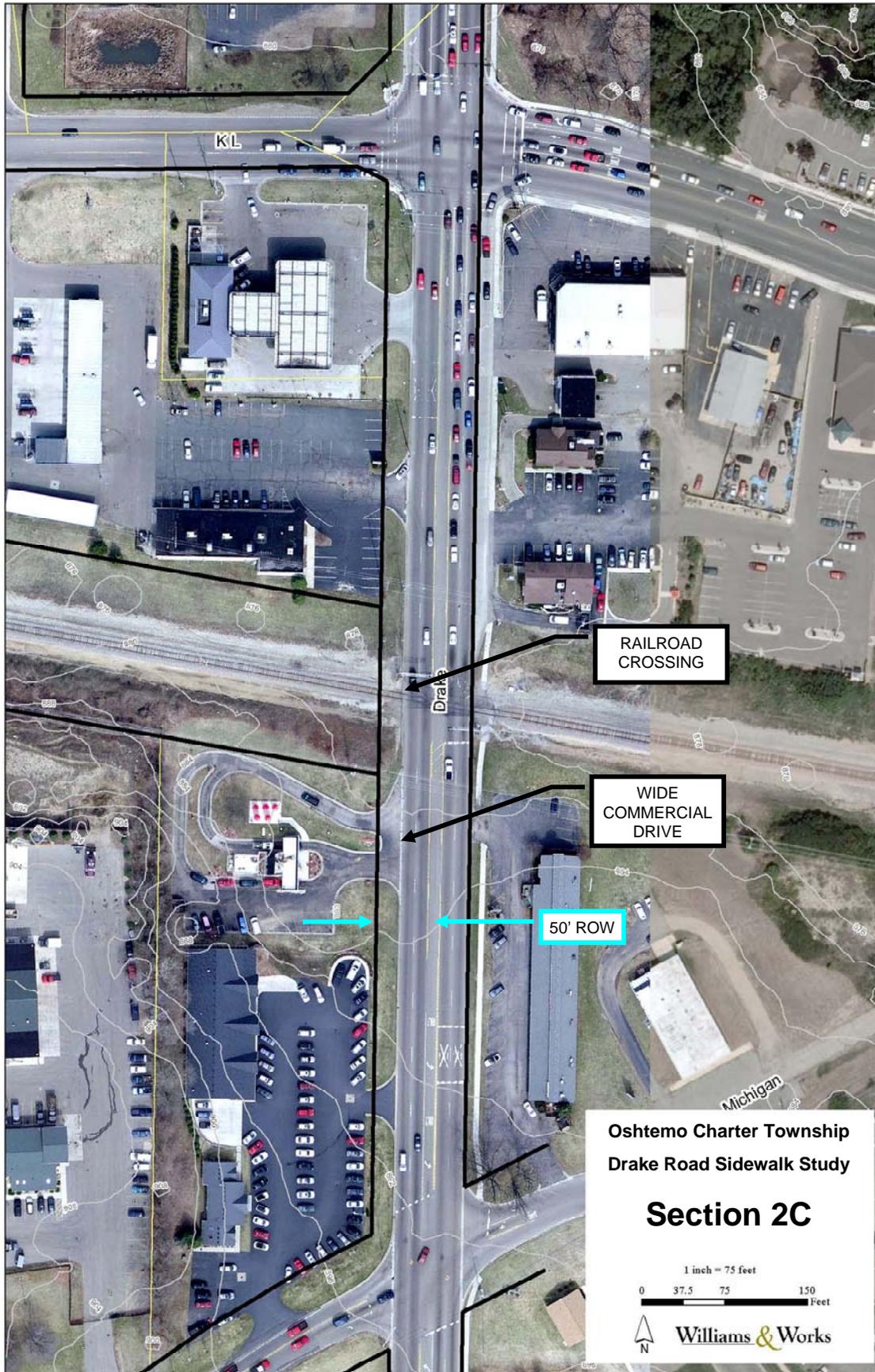












**Costs**

The following table presents the costs of Section 2 including a breakdown by the subsections explained earlier. The estimates are included in the Appendix and contain a budgetary amount for survey and engineering. The estimates also include an allowance for some utility relocation.

**Section 2**  
**West Main to West Michigan**  
**Preliminary Cost Estimates**

<b>Subsection</b>	<b>Description</b>	<b>Cost</b>	<b>Length</b>	<b>\$/Ft.</b>
2A	W Main St to Stonebrook Ave	\$190,000	1,750 Ft	\$109
2B	Stonebrook Ave to KL Ave	\$509,000	4,800 Ft	\$106
2C	W KL Ave to W Michigan Ave	\$51,000	1,050 Ft	\$49
<b>Total - Section 2</b>		<b>\$750,000</b>	<b>7,600 Ft</b>	<b>\$99</b>

**Analysis**

Section 2 makes up the most heavily travelled and desired portion of the study area based on observation and public comments. Providing a link for the dense residential areas in Section 2B to the commercial destinations in Section 2A will improve safety along Drake Road and improve access for Township residents to services and amenities. Fortunately, with few exceptions, Section 2 should be relatively simple to design and construct and be reasonably economical to do so. The major design challenges will be the intersections with commercial drives and retaining walls. In addition, there could be potential opposition related from property owners

## SECTION 3

## WEST MICHIGAN AVE. – STADIUM DRIVE

From West Michigan Avenue to Stadium Drive, Section 3 is the most complicated in the study area due to steep grades and variable cross section. Tall slopes near Stadium Drive will require detailed attention and significant cost to construct retaining walls directly adjacent to turn-of-the-century homes. Low areas in the middle of the section will require timber boardwalks, and a commercial area fills out the northerly portion. These northern, middle and southern portions have been designated Sections 3A, 3B and 3C, respectively.

Currently, MDOT is planning a major improvement to the U.S. 131 – Stadium Drive interchange that will provide for a non-motorized connection to Stadium Drive. In addition, there are plans to extend non-motorized trails to the south of Stadium Drive.

### General Observations

The alignment begins on the north end at West Michigan Ave. and proceeds south approximately 2,500 feet to Stadium Drive, where it is just east of the U.S. 131 interchange.



#### Section 3A – West Michigan to south 250 ft.

- At the busy West Michigan Avenue intersection, there are no connecting walkways to the east or west, but there are existing ramps at the intersection from a previous intersection upgrade.
- This subsection will involve placing the sidewalk within a flat existing grass area currently occupied by several small to medium sized trees that may be impacted.
- The southernmost portion of this subsection is across the front of an existing commercial business (dentist office) at 1624 Drake Road.



#### Section 3B – 1624 Drake Road, south 650 ft to Ridgeway Lane (approx).

- This subsection contains two low areas currently protected by guardrails. They are separated by a residential property, located approximately 250 feet south of 1624 Drake.
- The sub-section ends at 2012 South Drake, just south of Ridgeway Lane on the east side of the road.



### Section 3C - Ridgeway Lane to Stadium Drive

- Starting at 2012 S. Drake Rd., the alignment continues south where it crosses Century Avenue.
- This subsection contains steep upgrades to the west for most of the alignment, requiring retaining walls.
- There are power poles parallel to alignment.
- Existing non-motorized trail to east on the north end, connecting to the commercial district.

### Right-of-Way

---

For the majority of Section 3, based on multiple sources including existing road plans, tax maps, and geographic information system data, R.O.W. is not a concern. 50 feet of public R.O.W. west of the road centerline provides almost 20 feet behind the curb, allowing for construction of the retaining walls and timber boardwalks necessary to this area.

Just south of West Michigan Avenue the R.O.W. is only 33 feet west of the centerline, providing virtually no room for improvements. In this area, about 300 feet long, an easement will be required. Tax maps show it to be a single property owner.

### Grade

---

As mentioned, grades are steep in this area, both high and low depending on location. The northern portion of this section is relatively flat and commercial. One small retaining wall may be required near West Michigan Avenue due to the proximity of parking.

The timber boardwalks in the middle of the section will anchor to the roadside embankment and carry pedestrians over the steep slopes and low areas below. While boardwalks are common in trail and sidewalk construction and known to be a relatively economical solution, it is more expensive than standard sidewalk.

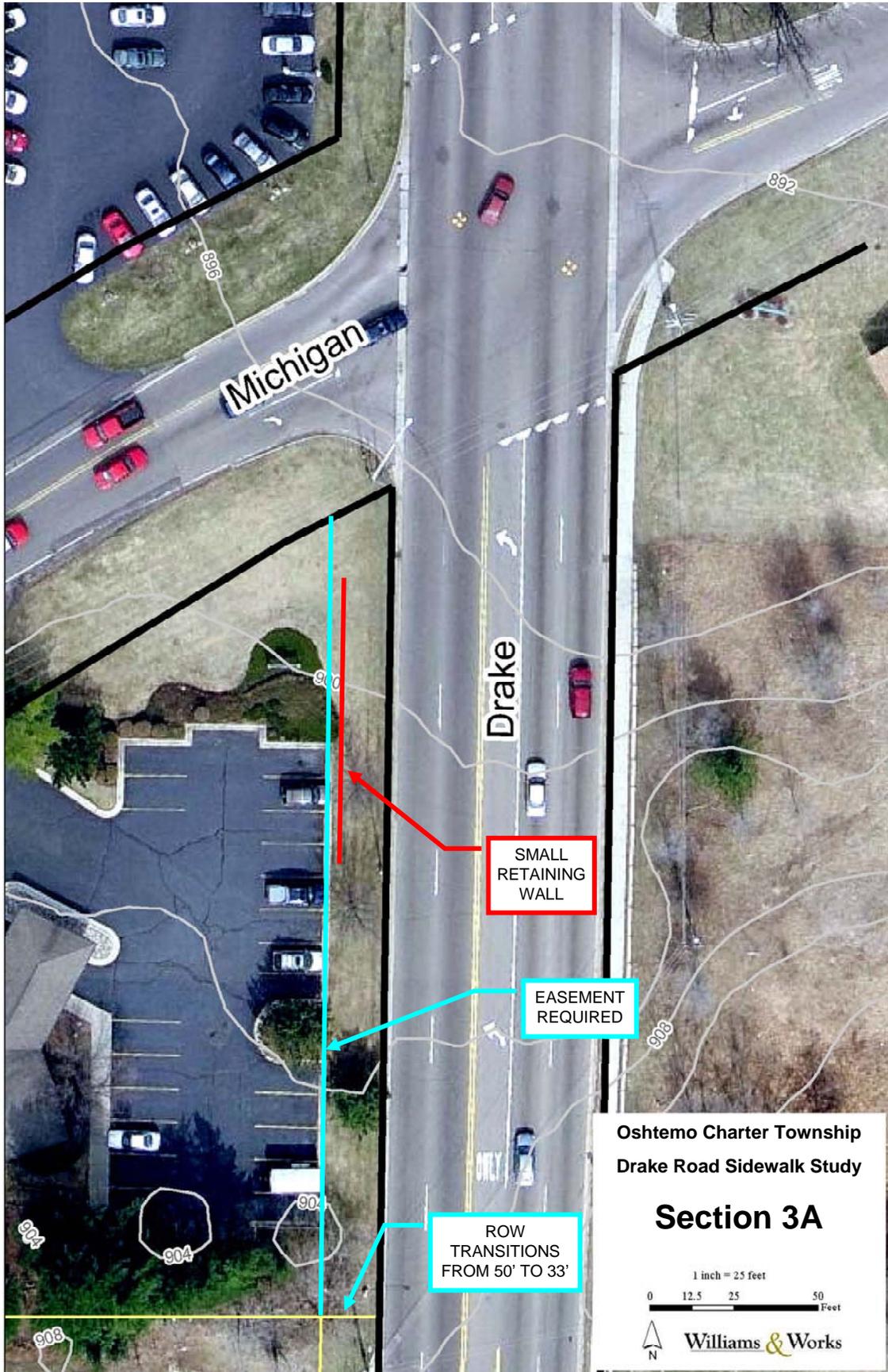
At the south end near Century Avenue, older homes sitting very close to the road at the top of steep slopes will require retaining wall construction to be virtually vibration-free, adding complication and cost.

### Other Features

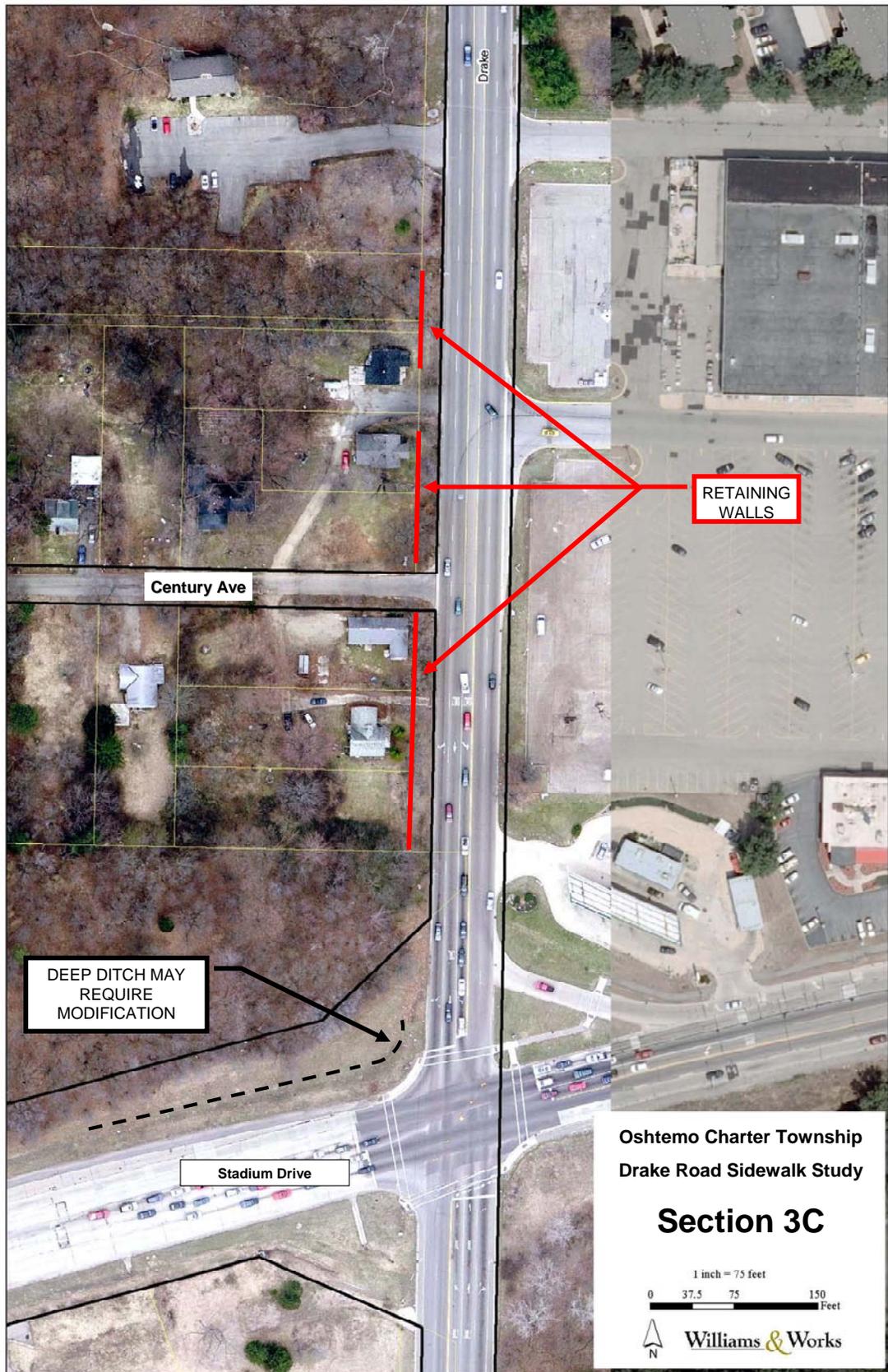
---

The intersections of Stadium Dr. and West Michigan Ave. are modern and already include pedestrian signals, crosswalks and accessible ramps. In the northwest corner of the Stadium Dr. intersection, MDOT maintains a deep ditch which may require modification.









**Costs**

The following table presents the costs of Section 3 including a breakdown by the subsections explained earlier. The estimates are included in the Appendix and contain a budgetary amount for survey and engineering. The estimates also include an allowance for some utility relocation.



It should be noted that the estimates for subsection 3C assume that the required retaining wall would be an augercast soldier pile structure with timber lagging. This is due to the presence of the residential homes relatively close to the road. This type of construction is approximately 90% greater than a conventional segmental block retaining wall. However, a segmental block retaining wall would require too much horizontal space to be feasible and steel sheet piling would result in vibrations that could damage the homes. In the selected alternative, steel I beams (piles) are installed at intervals using an auger which requires no hammering or vibration. The spaces between the piles are then filled with timber slats (lagging) to the required height. The timber facing can be left as-is or decorated with a variety of surface treatments to meet the aesthetic needs of the community. (The cost for the aesthetic treatment is not included in our estimates).



**Section 3**  
**West Michigan to Stadium**  
**Preliminary Cost Estimates**

Subsection	Description	Cost	Length	\$/Ft.
3A	W Michigan Ave to 1624 S Drake Rd	\$38,000	335 Ft	\$113
3B	1624 S Drake Rd to Ridgeway Ln	\$310,000	825 Ft	\$376
3C	Ridgeway Ln to Stadium Dr	\$394,000	820 Ft	\$480
<b>Total - Section 3</b>		<b>\$742,000</b>	<b>1,980 Ft</b>	<b>\$375</b>

### **Analysis**

---

Due to the complex retaining walls and boardwalks needed to deal with the steep grades both up and down from Drake Road, Section 3, and particularly subsections 3B and 3C, is the most expensive area of the study in which to build sidewalk. Based on the comments gathered at the Public Information Meeting, this is also the area least traveled by potential users of a sidewalk.

For these reasons, we recommend the Township place this as its lowest priority. That being said, the land is held predominantly by one entity and likely to be redeveloped at some point in the future. Such redevelopment and/or the pending improvement project for the intersection by MDOT may provide opportunities to facilitate the development of sidewalk in the areas.

Subsection 3A, while not likely to be heavily travelled, is relatively easily constructed and could be combined with another project to implement more quickly.

As an interim solution until sidewalks are installed in this area, the Township could approach the City regarding a joint effort to improve the existing facilities on the east side of Drake Road, which should involve fewer obstacles. Users from the west could use the signals and crosswalks at Stadium Drive and West Michigan Avenue to cross to the east side of Drake Road and back.

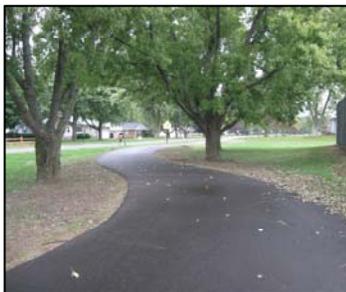
## FUNDING OPTIONS

Communities utilize a variety of methods for funding sidewalk projects.



Two of the most common options include special assessments and dedicated millages which can be used independently or in combination to fund an improvement. Sometimes, sidewalks are installed as a part of a new commercial or residential development per the ordinances of the municipality or as may be negotiated as in the case of a Planned Unit Development. (The Township's ordinances do require developers to install sidewalks in certain instances, as guided by the Township' Master Land Use Plan.) Also, sidewalks are sometimes installed in conjunction with a parallel road project and paid for with those funds. (Recent improvements to the intersections on Drake Road resulted in the installation of new sidewalk ramp improvements, even though many of those do not yet connect to sidewalks).

Grant programs just for sidewalks are limited in the State of Michigan. The MDOT Transportation Enhancement (TE) Program, which has been used to fund non-motorized trails, does not typically allow for the funding of 5 ft. wide sidewalks. Current regulations require a minimum width of 10 ft. for non-motorized trails. The same is true for other programs using federal funding such as the Congestion Mitigation Air Quality Program (CMAQ). There are exceptions of course and we have experience with designing parallel 6 ft. wide sidewalks (one on each side of a road), that was accepted for a CMAQ funded project, but typically this is not the case.



*(Note: The TE Program is being replaced with the Transportation Alternatives Program (TAP) as a result of the Moving Ahead for Progress in the 21st Century Act (MAP-21) which was recently adopted at the federal level).*

Community Development Block Grant funds can be used for funding sidewalks in areas that qualify. These are usually associated with Economic Development projects or improvements serving residents and businesses in low income areas.

Another source that allows for the specific funding of sidewalks is the Safe Routes to School (SR2S) program that does allow for the funding of facilities that improve the ability of students to walk and bike to and from area schools. Over \$21 million has been awarded to projects to 140 schools in Michigan since 2008. This federal program is administered through the Michigan Department of Transportation (MDOT) and is applied for by a school in conjunction with a qualified Act 51 agency (for this area, the Kalamazoo County Road Commission or the City of Kalamazoo would

qualify). Beginning in October 2012, SR2S activities will be eligible to compete for funding alongside other programs, including the Transportation Enhancements program and Recreational Trails program, as part of new Transportation Alternatives Program.



The SR2S program has a very formal process that involves the school, the residents and the community in the development of a plan and application. Even though it is the school that is technically the applicant, it is common for the municipality to be heavily involved in the process as in most cases, improvements are being made in the public right-of-way. The State of Michigan has a well laid out program which can be seen at <http://saferoutesmichigan.org/>.

Two schools, both located on the east side of Drake Road are eligible for SR2S funding. They are Croyden Avenue School located in Section 1A. and Lincoln Grove Middle School, located on Arboretum Drive in Section 2B1.

## OBSERVATIONS

When looked at as a whole, sidewalk installation along Drake Road from Stadium Drive to Croyden Avenue is a major undertaking encompassing technical challenges, varying character and significant distance and cost. That said, this is a heavily travelled corridor by all modes of transportation from motorists to pedestrians, and both accessibility and safety would be greatly improved by sidewalks throughout the area.

Based on the initial public input meeting, there appeared to be interest in pursuing at least a portion of the alignment, but the major question, as with any project, was the anticipated costs to the property owners. Since each section is unique, the Township will need to determine the specific areas they are most interested in pursuing, identify the properties involved, and then develop a more specific cost estimate for each property based on the funding method selected.

Overall, based on our observations while performing this study, we recommend the Township consider focusing its initial efforts on Section 2 from West Michigan Avenue to West Main Street. This is an area which will serve the most pedestrian traffic and provide access and safety for a reasonable cost per unit length, continuing as funds allow with Section 1 north of West Main Street, and finally Section 3 south of West Michigan Avenue if needs in that area increase over time.

Portions of the sections connecting to the schools (Sections 1 and 2) can be considered for Safe Routes to School funding. Since this process is quite lengthy and involves coordination with the schools, formal inquiries into the program should begin as early as possible if there is interest.

### Costs

The following table summarizes the estimated costs of the Sections and the study area as a whole. Again, detailed estimates are provide in the Appendix.

Section	Description	Cost
1	Croyden Ave to W Main St	\$ 94,000
2	W Main St to W Michigan Ave	\$ 750,000
3	W Michigan Ave to Stadium Dr	\$ 742,000