

**CALUMET CONNECTION**  
**M A S T E R P L A N**

**· FINAL REPORT ·**

**NOVEMBER 9, 2015**

**PREPARED BY**  
**BUTLER, FAIRMAN & SEUFERT, INC.**



# LETTER OF INTRODUCTION

Butler Fairman & Seufert, Inc. (BF&S) is pleased to present the Calumet Connection of the Dunes Kankakee Trail and Streetscape Improvements Plan to the citizens and administrators of the Town of Chesterton, Indiana. This report is the product of a collaborative effort by city staff, BF&S design professionals, the Steering Committee, local merchants and members of the community. It is intended to serve as a guide for development of the Dunes Kankakee Trail along Calumet Avenue.

The shared use path and streetscape improvements were thoroughly researched. Decisions were based on a process that consisted of a city-wide, inventory and analysis process, design synthesis, public input, cost analysis, and development of design standards before ultimately reaching the master plan stage. The resulting recommendations are the best solutions to implementing a shared use path along Calumet Avenue.

BF&S is very appreciative to have been able to assist the Town of Chesterton in this planning effort and looks forward to the implementation of these recommendations.

Respectfully submitted on the 9th day of November 2015,

***Butler, Fairman, & Seufert, Inc.***

Alan L. Hamersly, P.E.



Jason G. Griffin, P.L.A.



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Private Property Owners Stakeholder Meeting - July 14, 2015  
Steering Committee Meeting - Inventory & Analysis Phase - August 6, 2015  
Steering Committee Meeting - Draft Plan Review - September 10, 2015  
Draft Plan Presentation - September 24, 2015  
Steering Committee Meeting - Final Plan Review - October 22, 2015  
Final Plan Presentation - November 9, 2015

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**CALUMET CONNECTION**

**M A S T E R P L A N**

**· PROJECT BACKGROUND ·**





# PROJECT BACKGROUND

## BACKGROUND

In the Spring of 2012 the Town of Chesterton completed a master plan for the Dunes – Kankakee Trail. The plan identified three main routes of which the South Calumet Road corridor was identified as a potential route for the Dunes Kankakee Trail. The Town has already begun the development of the Dune Kankakee Trail along the West side of South Calumet Road from CR 1100 North to approximately Abbey Lane.

The Calumet Connection Master Plan will develop a conceptual plan for a multi-use trail and street-scape improvements along South Calumet Road. The Town's intent is to create a connection between the South Calumet Business District to the Downtown Business District and to create a gateway corridor into the Town of Chesterton. Elements of the street-scape improvements include road rehabilitation, signage, lighting, street furnishings, landscaping, crosswalks, and bicycle facilities.

# PROJECT BACKGROUND

## NEED FOR THE PLAN

In the United States of America, 30% of the population currently does not drive a motor vehicle. This includes children, the elderly, those people that are physically unable to drive, those that are financially unable to afford the cost and maintenance of a vehicle, and an increasing population of those who chose to use alternative transportation for its economic, environmental, and health benefits.

Currently it is recommended that adults participate in moderate activity for 150 minutes a week. This translates to 30 minutes a day for 5 days a week. In the State of Indiana, 30% of adults fall into the obese category and 16% of teenagers are obese. This alarming fact is partly attributed to an increasingly sedentary lifestyle. In 1969 the percentage of school children walking to school was 48% and today that number is down to 13%. Getting more kids to walk or bike to school could help lower this percentage and an added benefit is that kids who walk or ride arrive ready to learn and more focused. This is also true of workers who use alternative modes of transportation.

## TARGET USERS

This plan is intended for pedestrians and bicyclists who either wish to or need to make daily trips for goods and services within their community, and recreational users looking to maintain or improve their health. Users that fall into the category of needing to make trips by foot are the elderly who can no longer drive, schoolchildren, those people that are unable to afford or maintain a car and therefore need to find alternative means to make connections.

This plan is also for casual bike riders that may not be comfortable riding among automobile or truck traffic. These types of riders account for 60% of the bicycling population, and require improved infrastructure or residential streets with low traffic and speed limits to make connections within the community.

# PROJECT BACKGROUND

## GOALS & OBJECTIVES

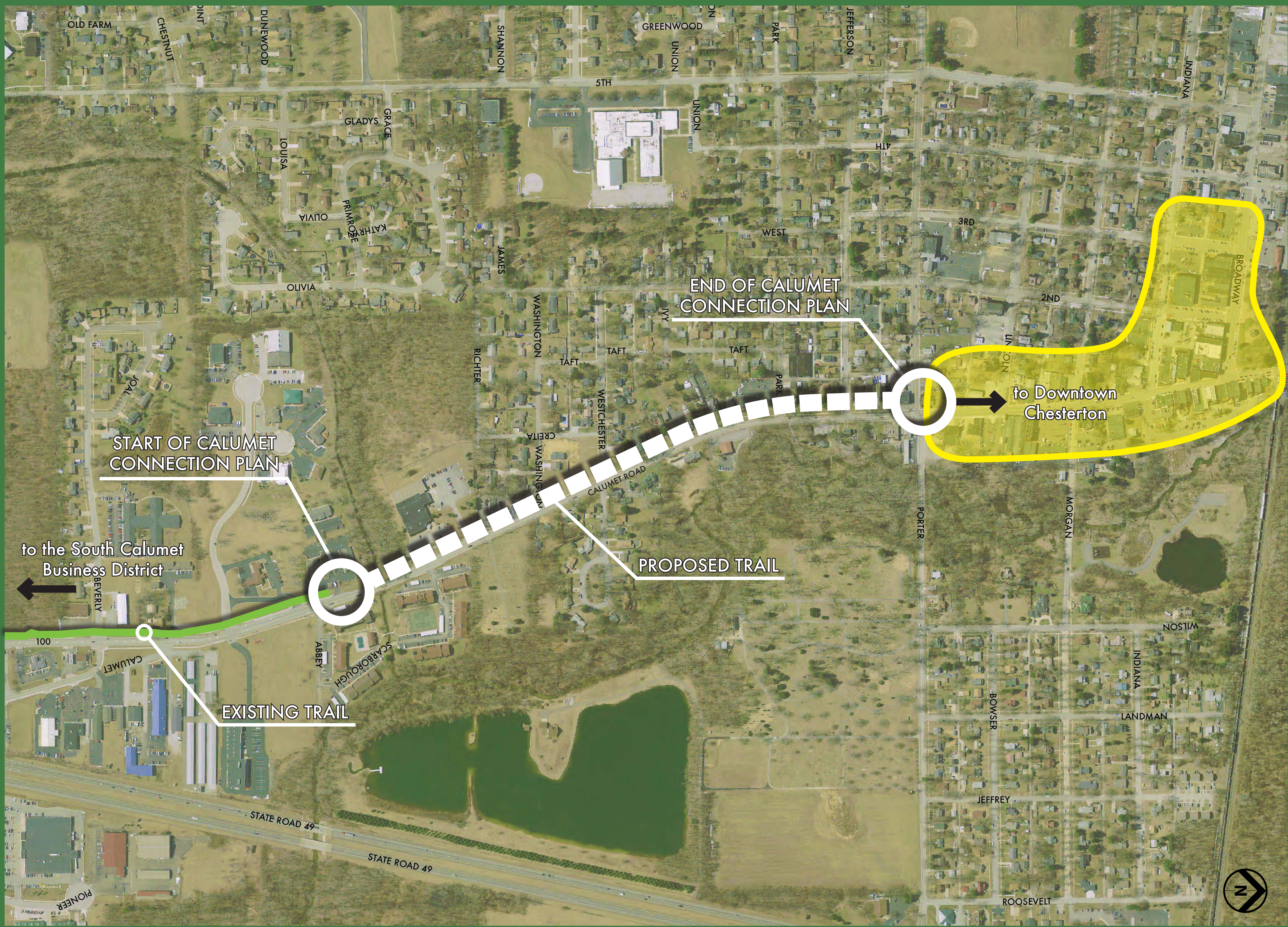
1. Provide a connection to the Downtown Business District of Chesterton by means of an alternative transportation route - multi use trail.
2. Increase the number of people that exercise daily by providing a safe walking and biking experience for citizens of all ages and levels of ability.
3. Increase the number of people walking and cycling for every day transportation purposes such as commuting to work and school as well as running errands.
4. Establish standards for future design and development.
5. Identify development costs and funding opportunities.
6. Be prepared for future funding opportunities when they present themselves.
7. Provide transparency to the public throughout the master plan process by providing numerous opportunities for residents and business owners to provide input on the final plan.
8. Provide a pleasing user experience through providing an aesthetic gateway corridor for both trail and vehicular users.

## SCOPE OF THE PLAN

This master plan had studied the areas surrounding Calumet Road, starting at the Driftwood Commons entrance and ending at Porter Avenue. The trail will be located along the west side of Calumet Road. It will link to the existing trail to the south end of the Driftwood Commons entrance and terminating just before entering downtown Chesterton. The following map exhibits the project's area of scope.



SCOPE OF  
MASTER PLAN



# PROJECT BACKGROUND

## PROJECT TIME FRAME



## DESIGN PROCESS



# PROJECT BACKGROUND

## PROJECT SCHEDULE

<u>DESCRIPTION:</u> _____	<u>DATE:</u> _____
Kick-off Meeting	June 18, 2015
Government / Agency Stakeholder Meeting	July 13, 2015
Public Input Open House	July 13, 2015
Private Property Owners Stakeholder Meeting	July 14, 2015
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**• PUBLIC INVOLVEMENT •**



## SUMMARY OF PUBLIC INPUT

In an effort to get as much input from as many different members of the community as possible there were several different types of meetings provided throughout the course of the project.

There were a series of 4 steering committee meetings held to review the major stages of the plan process. These meetings consisted of meetings with Town staff and two members of the Town Council. See Appendix “A” for a list of the Steering Committee members and meeting minutes from each meeting.

Two stakeholder meetings were held during the inventory and analysis stage of the project. The groups were split into government/agency stakeholders and private property owners. Private property owners along the route were direct mailed to alert them of the upcoming meeting. See Appendix “A” for meeting minutes from each stakeholder meeting.

During the inventory and analysis phase of the project the Town held a public open house at the Town Hall to give as much opportunity for the public to express its desires and wants for the project. The open house allowed for citizens to come and go at their leisure and on their schedule. Members of the consultant team and city staff were able to interact with the public in “one-on-one” sessions. See Appendix “A” for a summary of comments that were heard at the meetings.

There were two public presentations of the Calumet Connection of the Dunes Kankakee Trail Master Plan. The first presentation was given on September 24, 2015. This presentation was given while the plan was in a draft stage and the public was encouraged to provide feedback at the meeting. Private property owners were direct mailed to alert them of the meeting. The final presentation of the plan was given at the Town Council Meeting on November 9, 2015 for adoption. See Appendix “A” for a summary of the presentations and comments received.



**CALUMET CONNECTION**

**M A S T E R P L A N**

**· INVENTORY & ANALYSIS ·**



# INVENTORY & ANALYSIS

## SUMMARY OF INVENTORY

Following public input from the community regarding the project, the team went out and documented the existing conditions along the route.

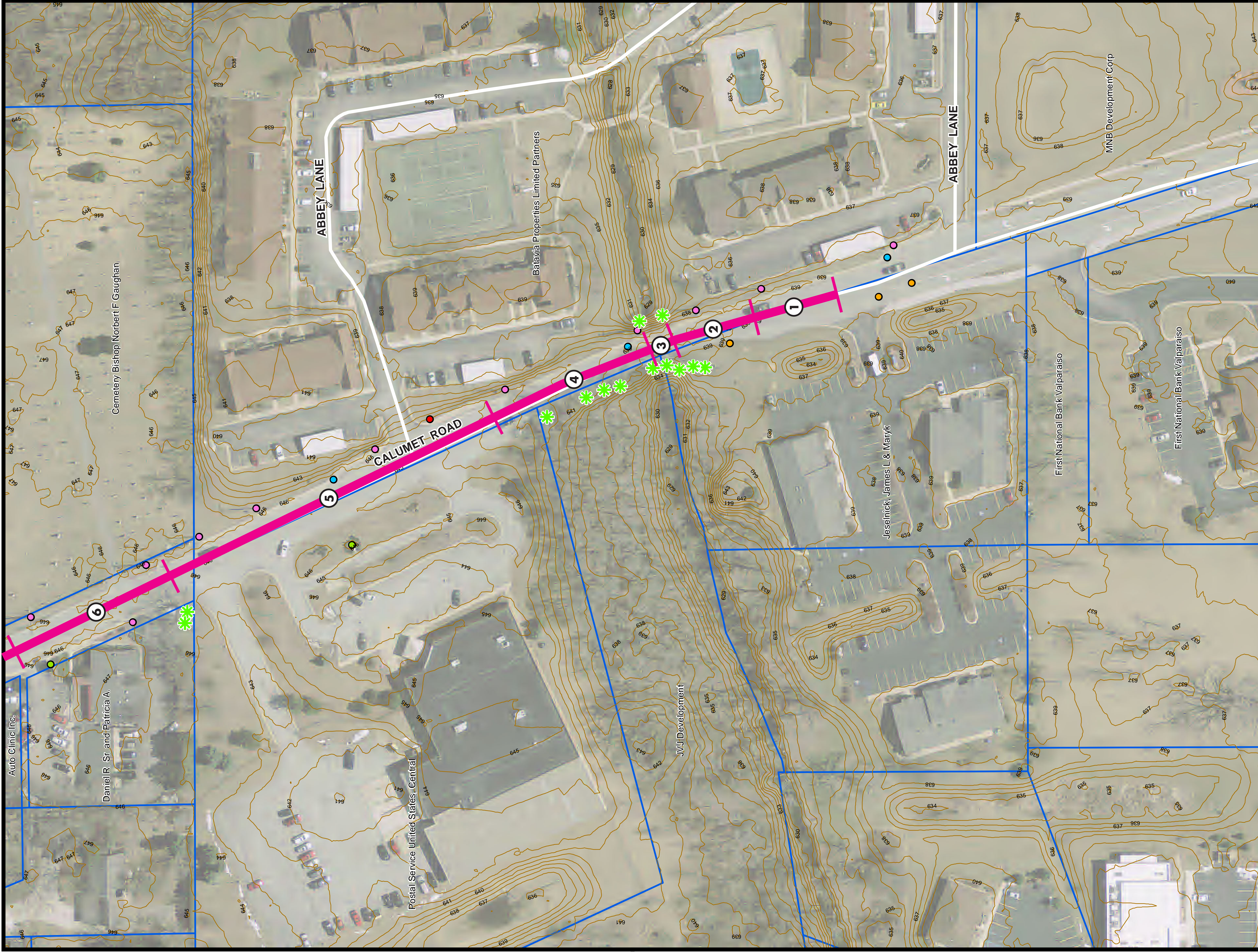
The team divided the roadway into sections and took note of the existing features. Utilities, light poles, storm inlets, signs, street trees, and hydrants were located along the route.

Measurements were taken of road lane widths, buffer widths, and sidewalk widths along Calumet Avenue. These measurements were then used to create existing cross sections of the route. The inventory maps show the locations of each section that was drawn.

Finally, two pavement cores were taken along the roadway to find out the condition of the existing roadway pavement. See Appendix “B” for the geotechnical report and the pavement cores.







# CALUMET CONNECTION OF DUNES TRAIL PLAN INVENTORY MAP A

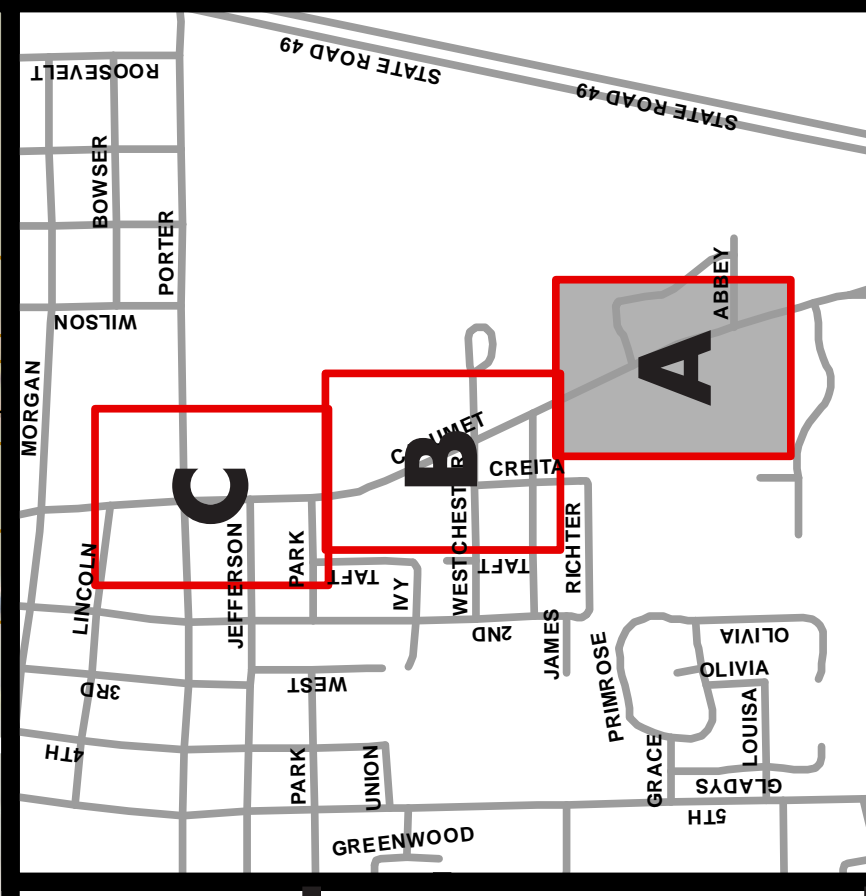
August 6, 2015

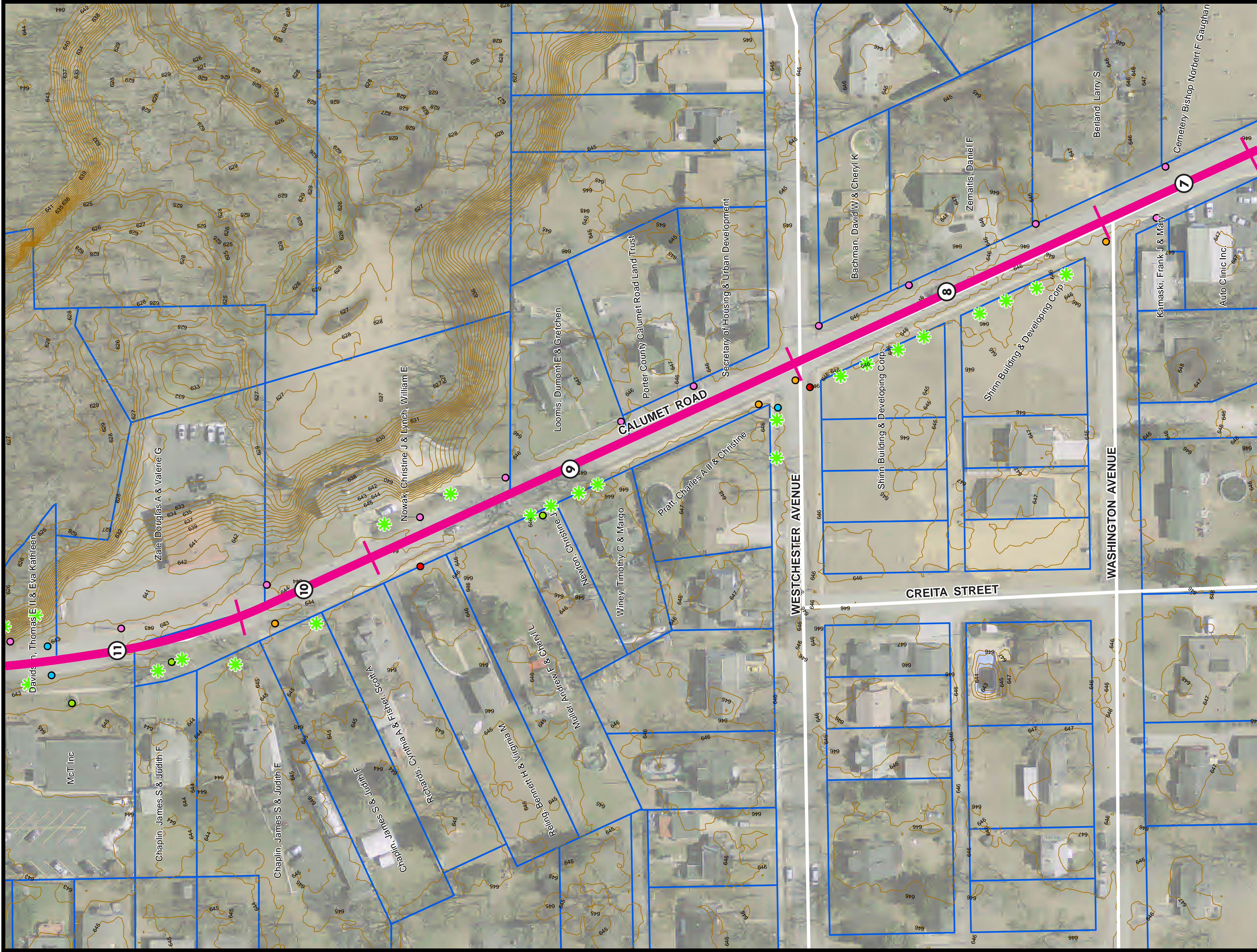
- PROPERTY LINES
- ROADWAY
- 1' CONTOUR LINES
- ROUTE SEGMENT
- STREET TREES
- UTILITY POLE
- STORMWATER INLET
- MANHOLE
- HYDRANT
- SIGN

\*The number associated with each on-road route segment corresponds with a matching cross section segment.




0 25 50 100 Feet

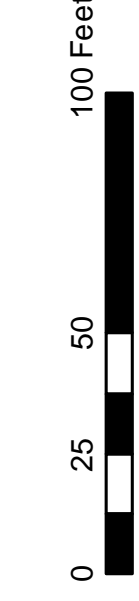


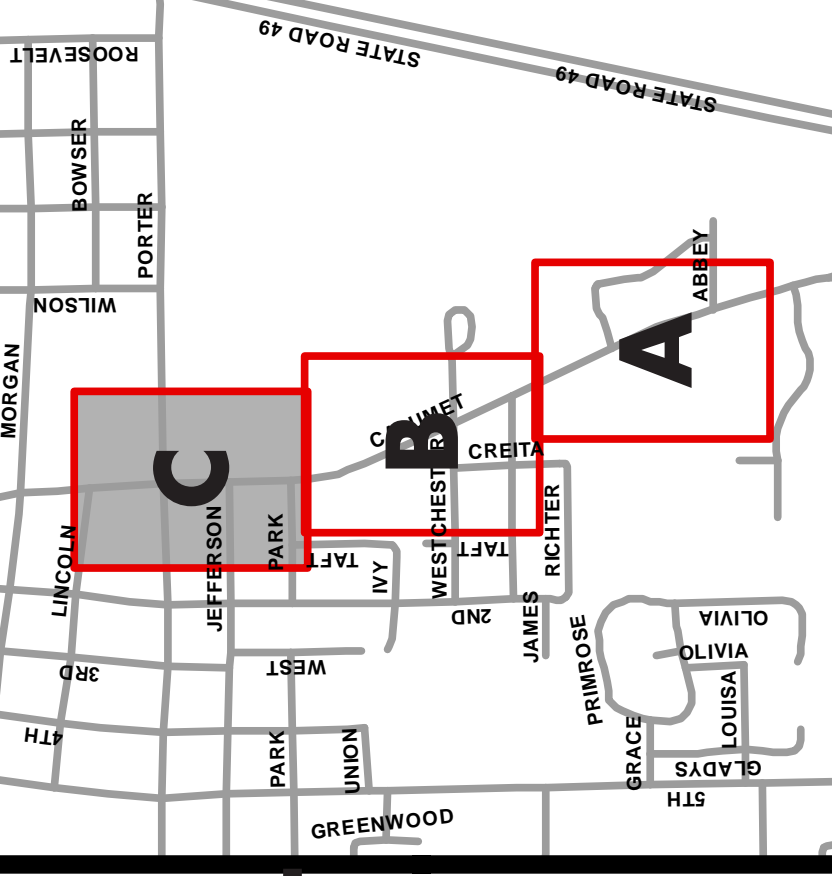


# CALUMET CONNECTION OF DUNES TRAIL PLAN INVENTORY MAP B

August 6, 2015

-  PROPERTY LINES
-  ROADWAY
-  1' CONTOUR LINES
-  ROUTE SEGMENT  
\*The number associated with each on-road route segment corresponds with a matching cross section segment.
-  STREET TREES
-  UTILITY POLE
-  STORMWATER INLET
-  MANHOLE
-  HYDRANT
-  SIGN





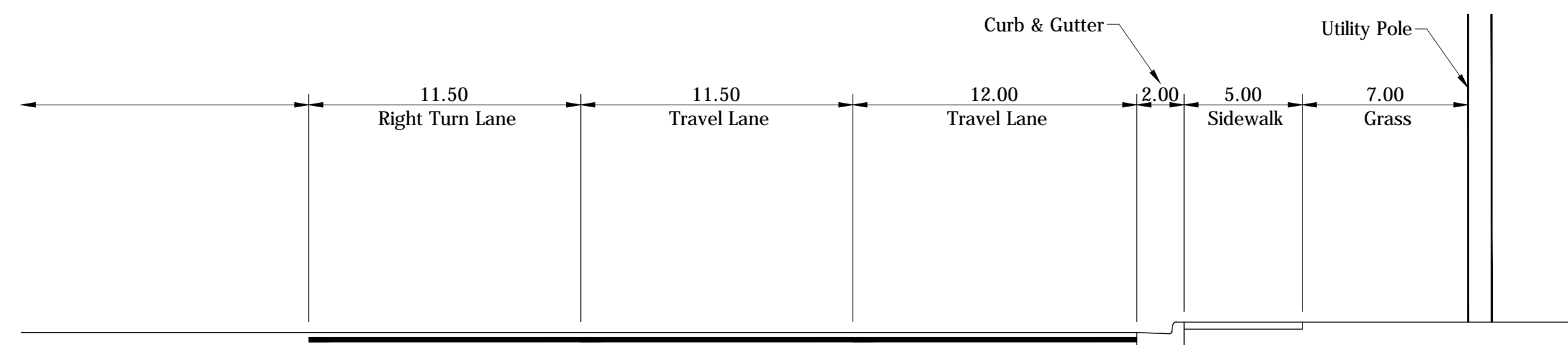
# CALUMET CONNECTION OF DUNES TRAIL PLAN INVENTORY MAP C

August 6, 2015

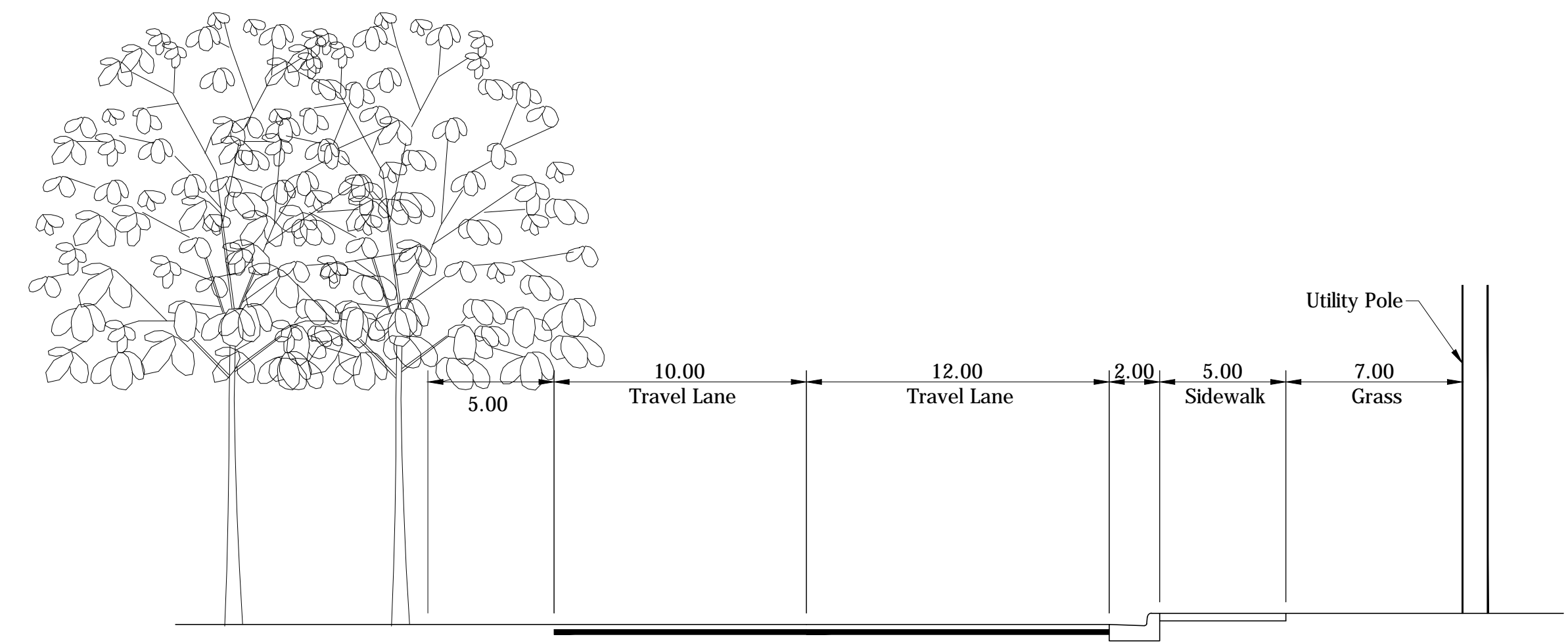
	PROPERTY LINES		STREET TREES		SIGN
	ROADWAY		UTILITY POLE		STORMWATER INLET
	1' CONTOUR LINES		STORMWATER INLET		MANHOLE
	ROUTE SEGMENT *The number associated with each on-road route segment corresponds with a matching cross section segment.		HYDRANT		



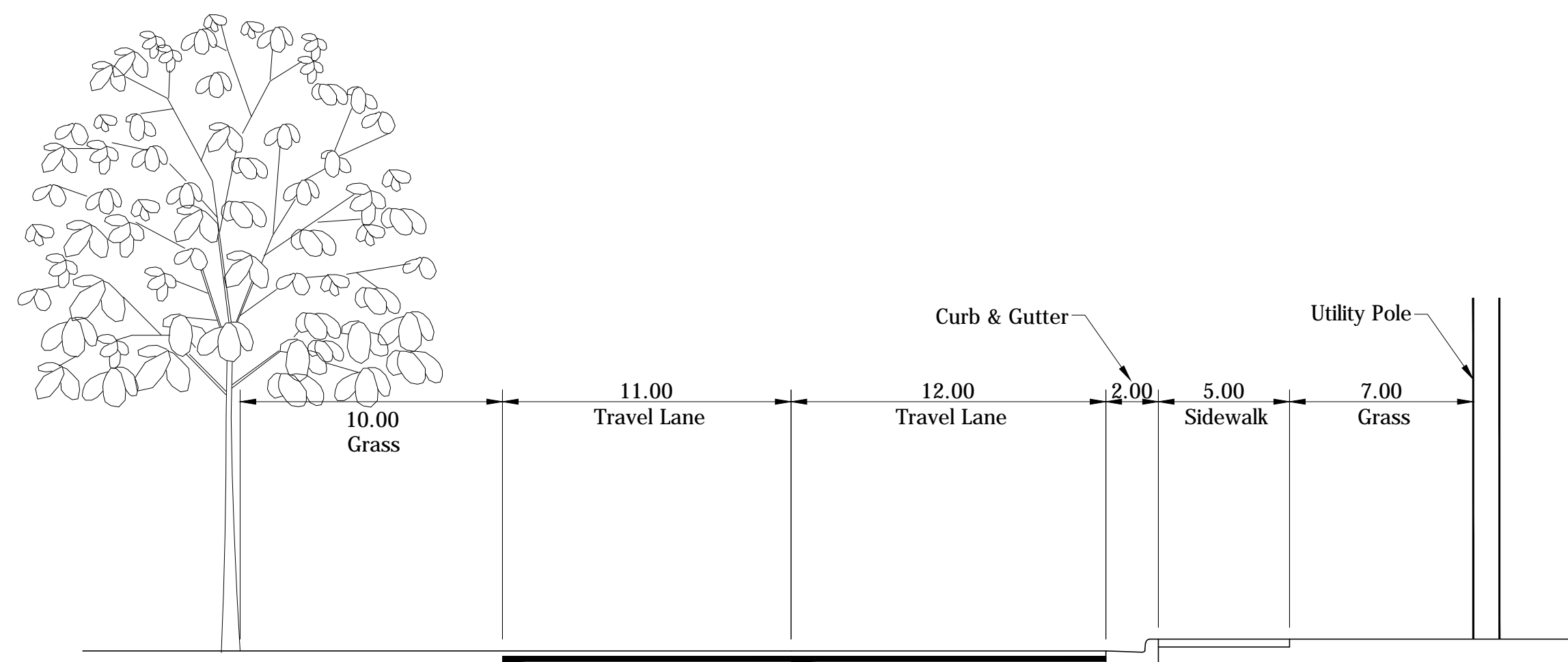
# EXISTING CROSS SECTIONS



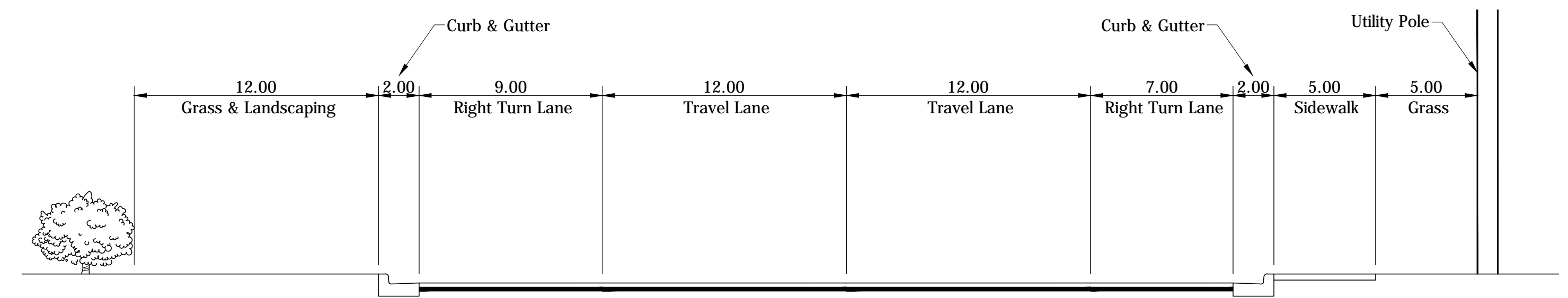
①  
SCALE: 1" = 10'  
From Driftwood Commons Entrance to Start of the Right Turn Lane



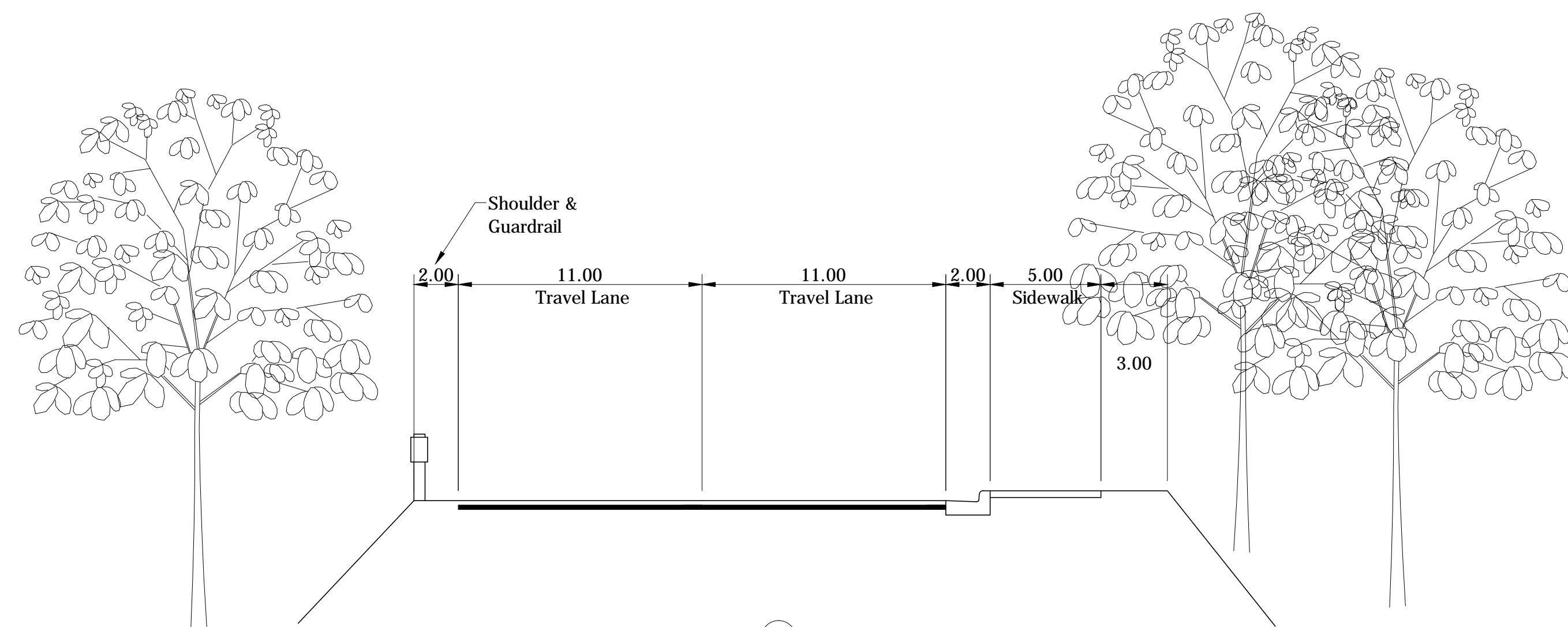
④  
SCALE: 1" = 10'  
From Bridge to Post Office South Entrance



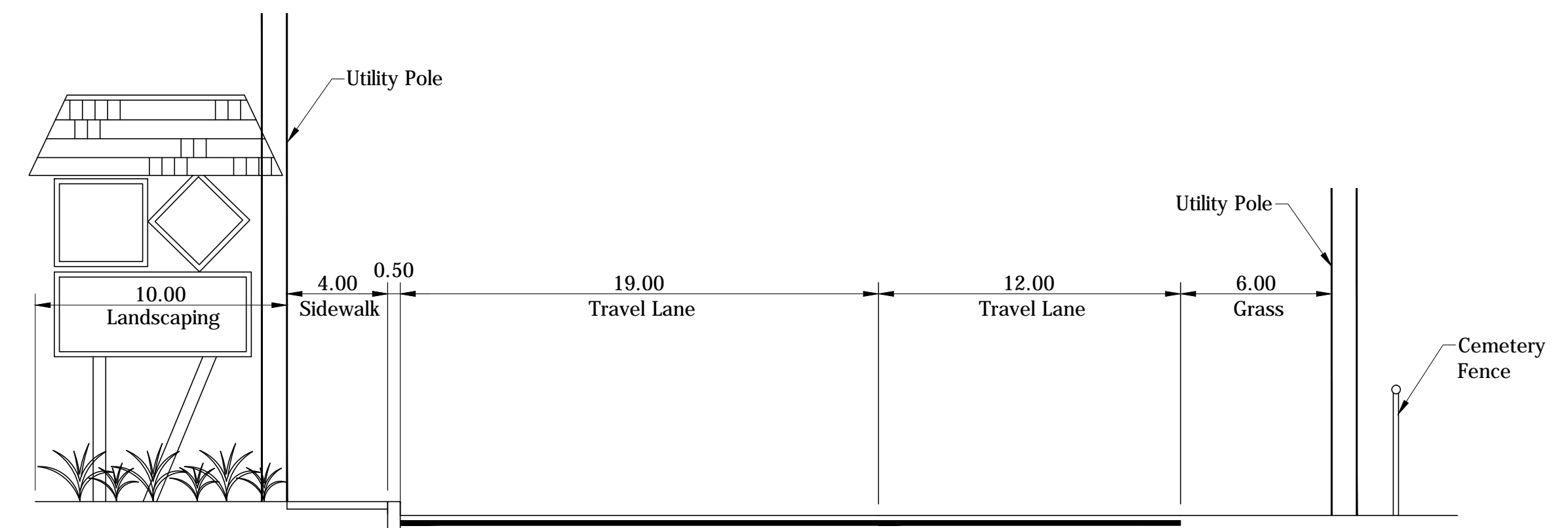
②  
SCALE: 1" = 10'  
From Start of Right Turn Lane to Bridge



⑤  
SCALE: 1" = 10'  
From Post Office South Entrance to Post Office North Entrance

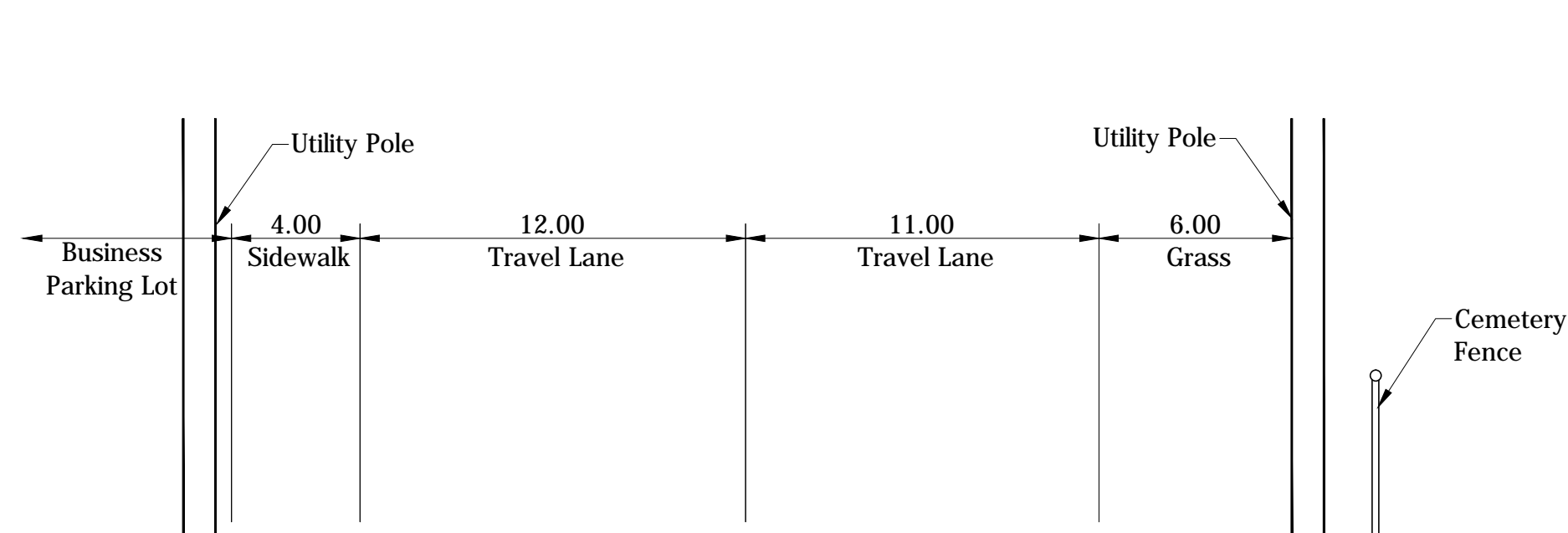


③  
SCALE: 1" = 10'  
From Bridge Start to Bridge End

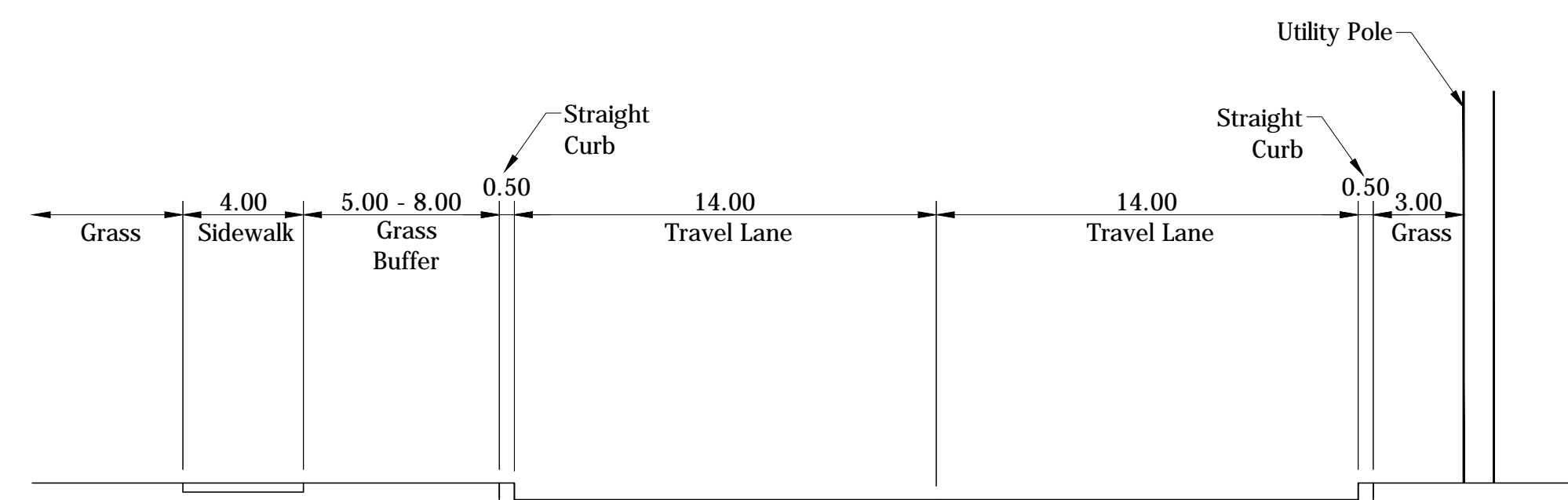


⑥  
SCALE: 1" = 10'  
From Post Office North Entrance to Danny O's North Entrance

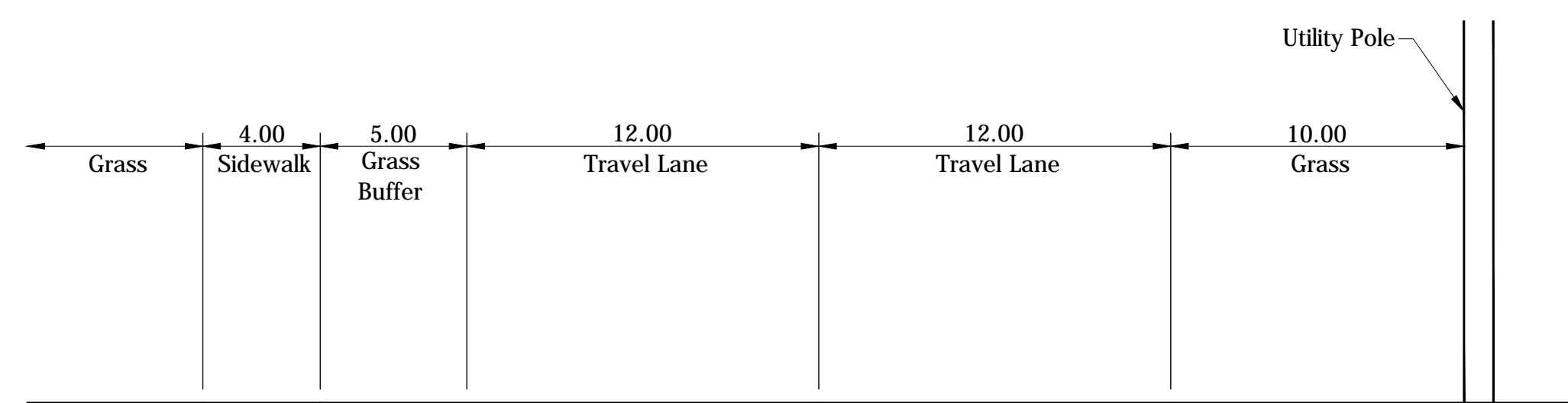
# EXISTING CROSS SECTIONS



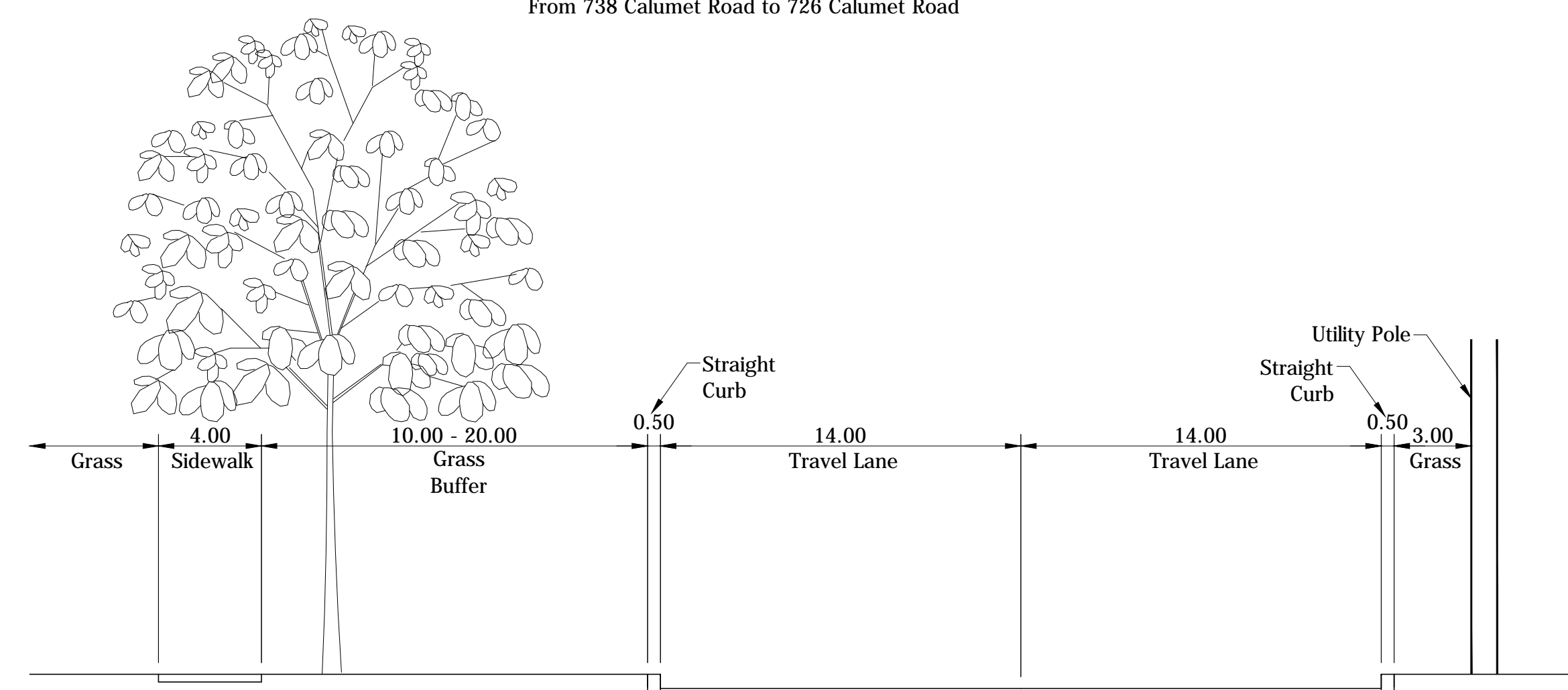
7  
SCALE: 1" = 10'  
From Danny O's North Entrance to Washington Avenue



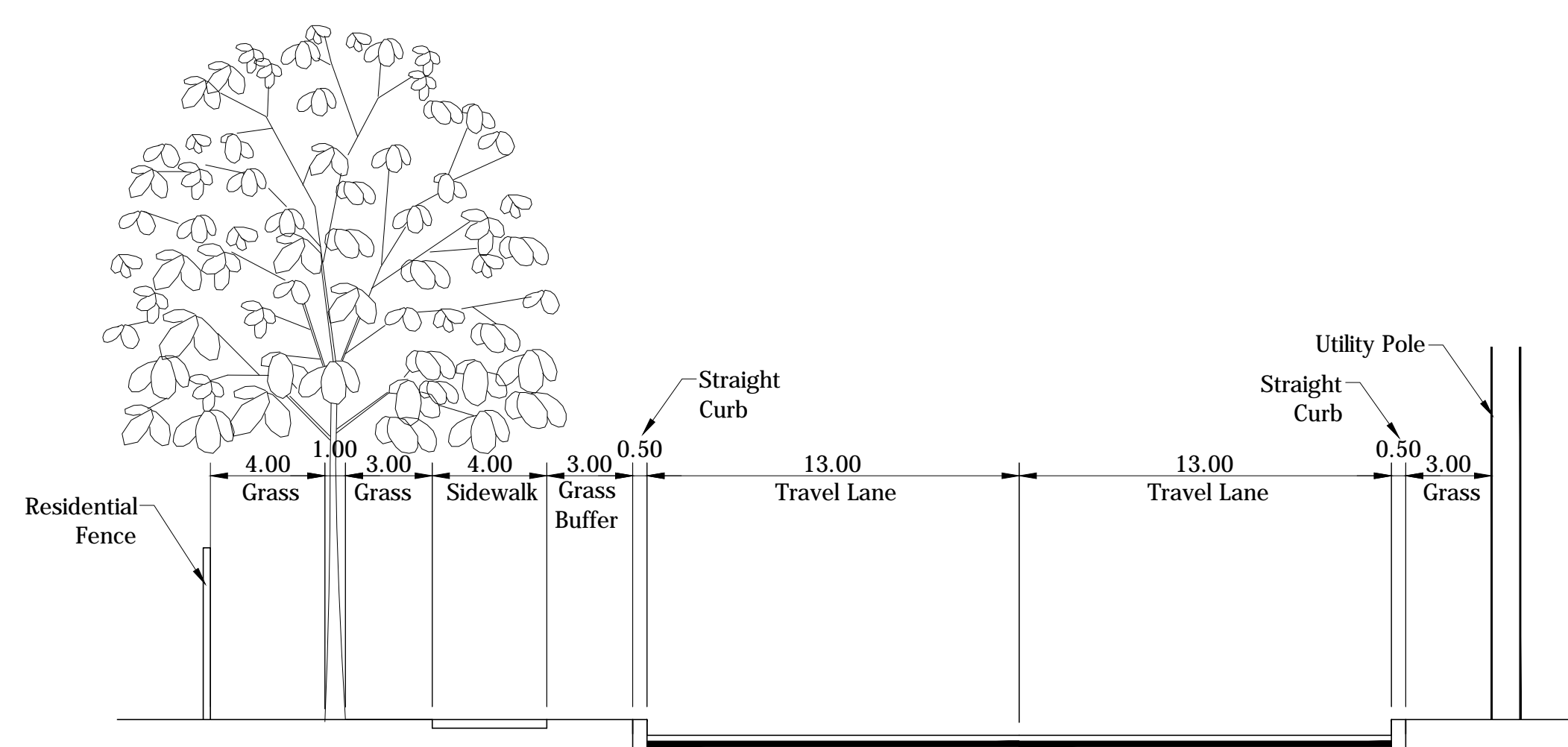
10  
SCALE: 1" = 10'  
From 738 Calumet Road to 726 Calumet Road



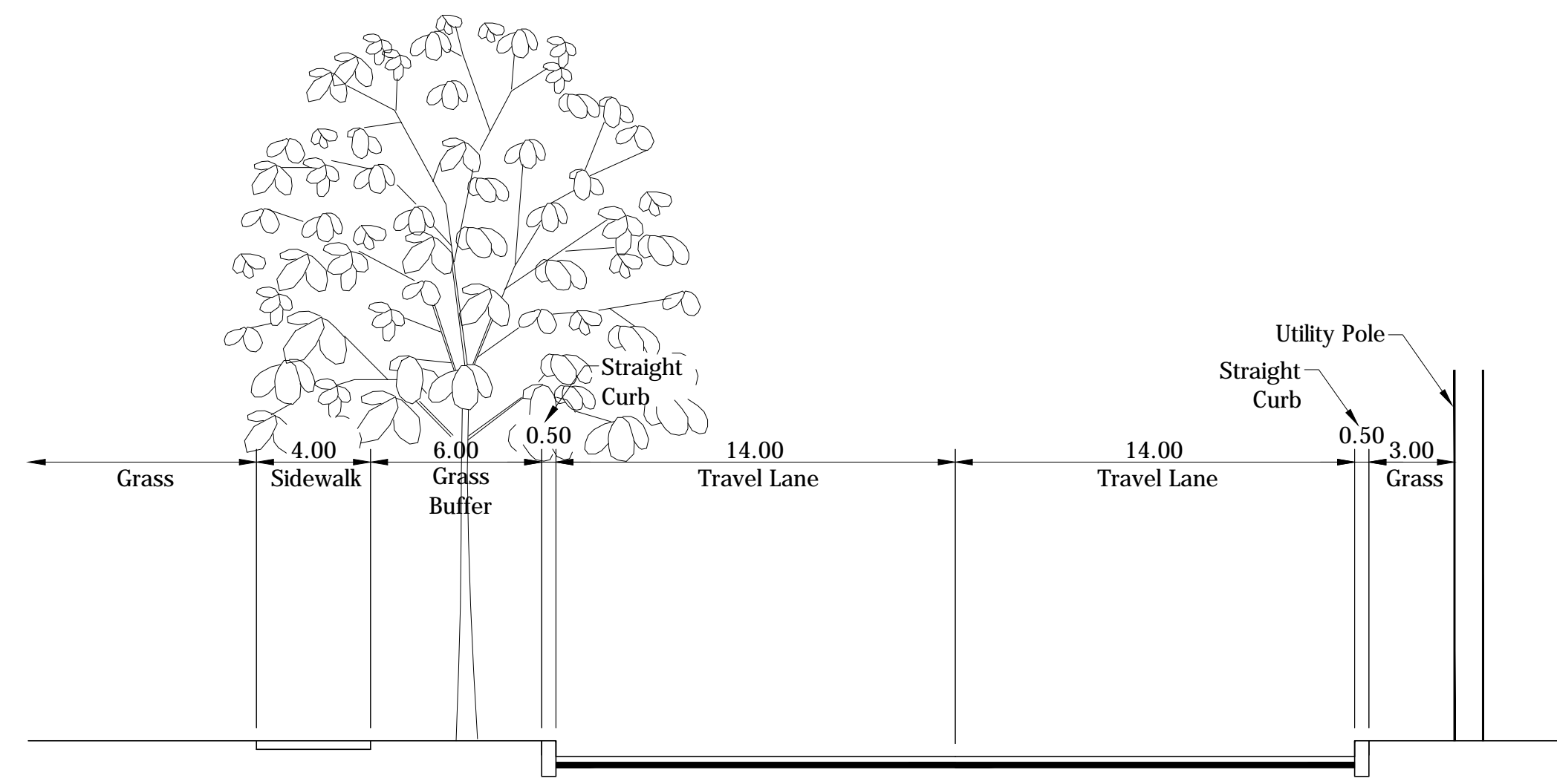
8  
SCALE: 1" = 10'  
From Washington Avenue to Westchester Avenue



11  
SCALE: 1" = 10'  
From 726 Calumet Road to Park Avenue

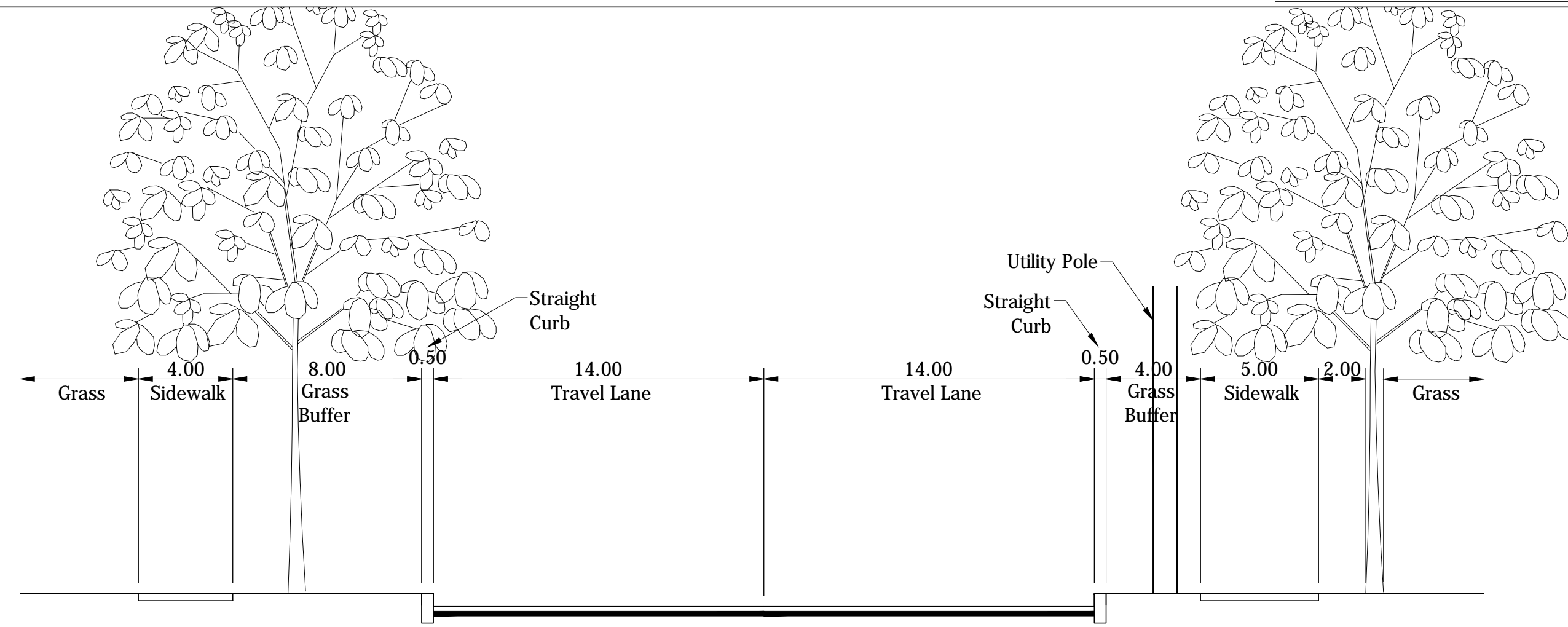


9  
SCALE: 1" = 10'  
From Westchester Avenue to 738 Calumet Road



12  
SCALE: 1" = 10'  
From Park Avenue to Jefferson Avenue

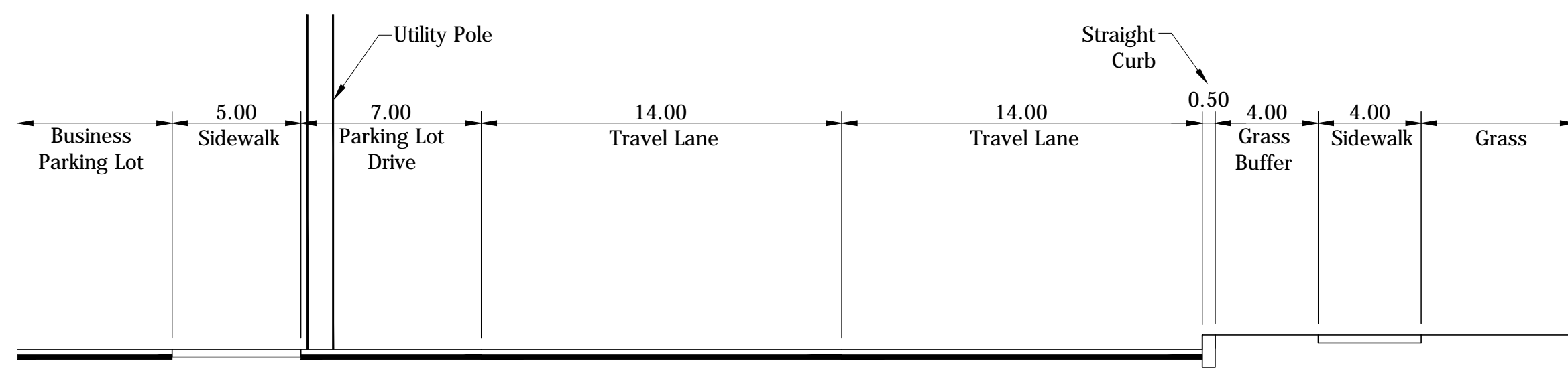
# EXISTING CROSS SECTIONS



13

SCALE: 1" = 10'

From Jefferson Avenue to Details Dry Cleaning Entrance



14

SCALE: 1" = 10'

From Details Dry Cleaning Entrance to Porter Avenue

# INVENTORY & ANALYSIS

## SUMMARY OF ANALYSIS

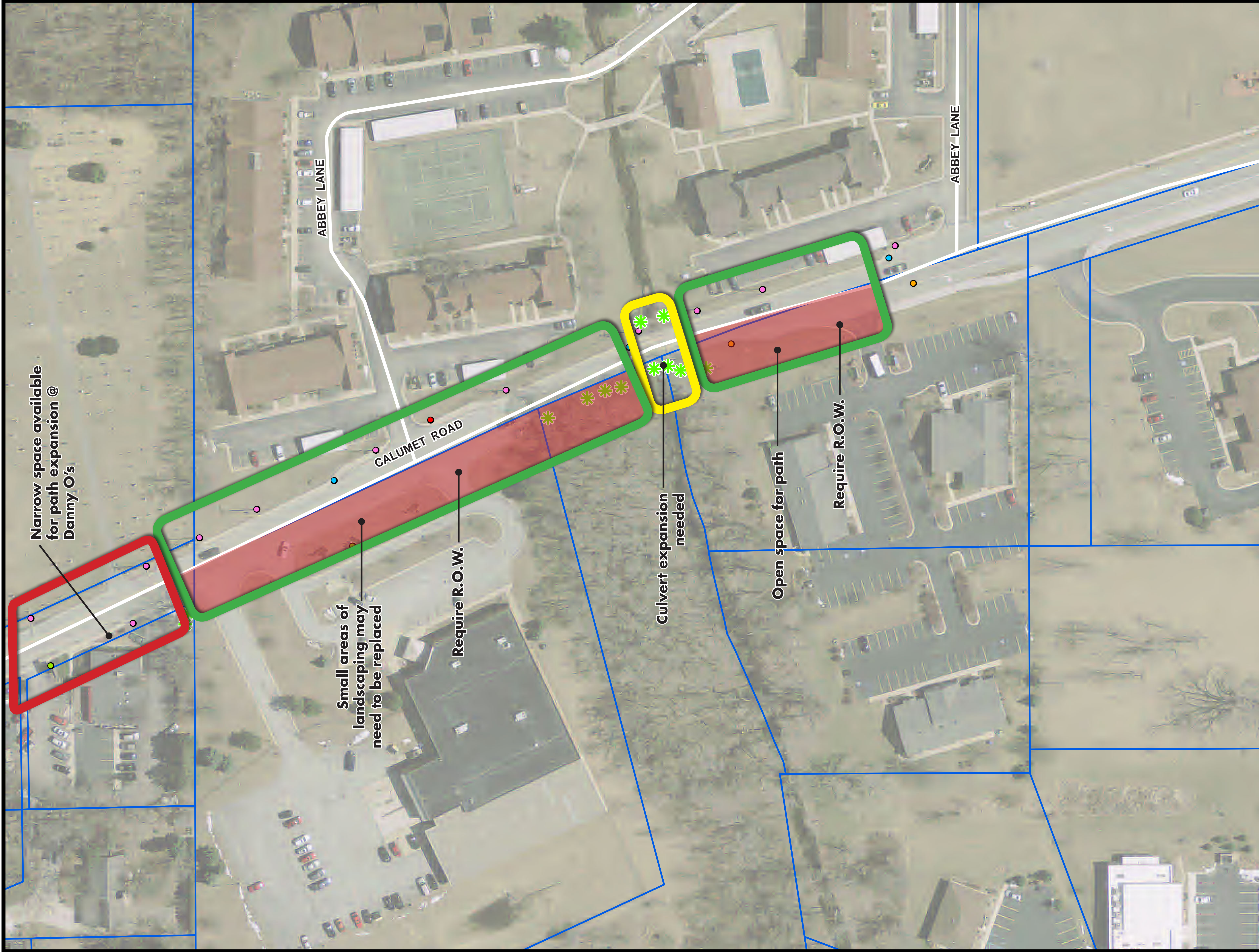
The team used the information that was collected in the field to analyze opportunities and constraints along the route.

A map was created along with analysis cross sections to document where the roadway was constrained due to existing structures, signs, parking, and landscaping. The type of street trees and conditions of each tree was also noted along the route.

An engineering report was created to analyze the pavement cores that were taken. A recommendation was made for rehabilitation of the pavement. See Appendix “B” for the engineering report.







Narrow space available for path expansion @ Danny O's

Small areas of landscaping may need to be replaced

Require R.O.W.

Culvert expansion needed

Open space for path

Require R.O.W.

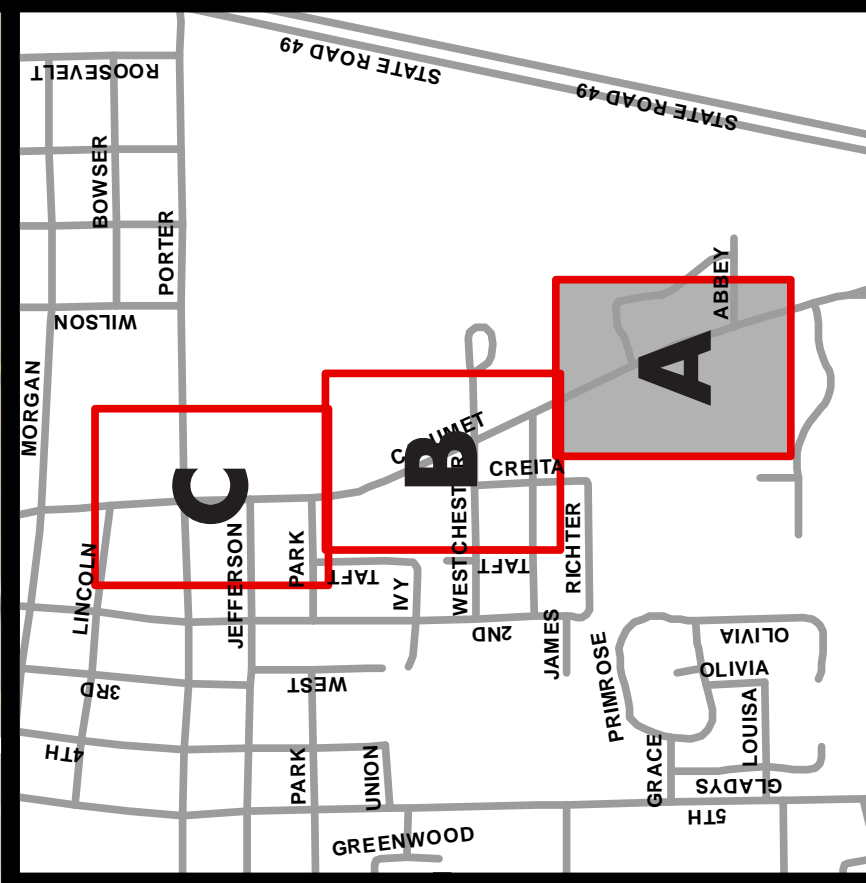


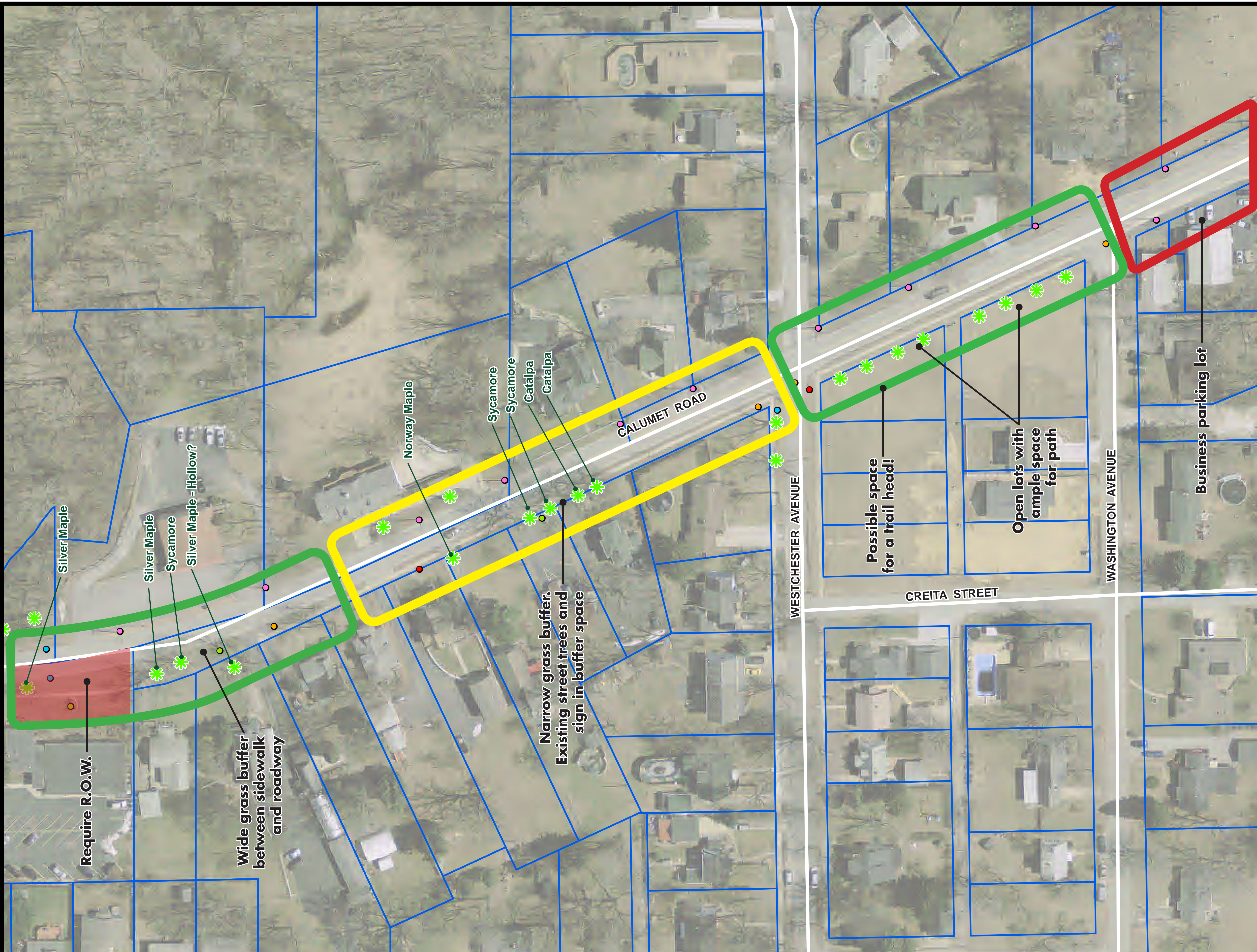
# CALUMET CONNECTION OF DUNES TRAIL PLAN

## ANALYSIS MAP A

August 6, 2015

PROPERTY LINES	STORMWATER INLET	LEVEL OF DESIGN CONSTRAINT
ROADWAY	MANHOLE	LOW
1' CONTOUR LINES	HYDRANT	MODERATE
STREET TREES	SIGN	HIGH
UTILITY POLE	REQUIRE R.O.W.	



# CALUMET CONNECTION OF DUNES TRAIL PLAN

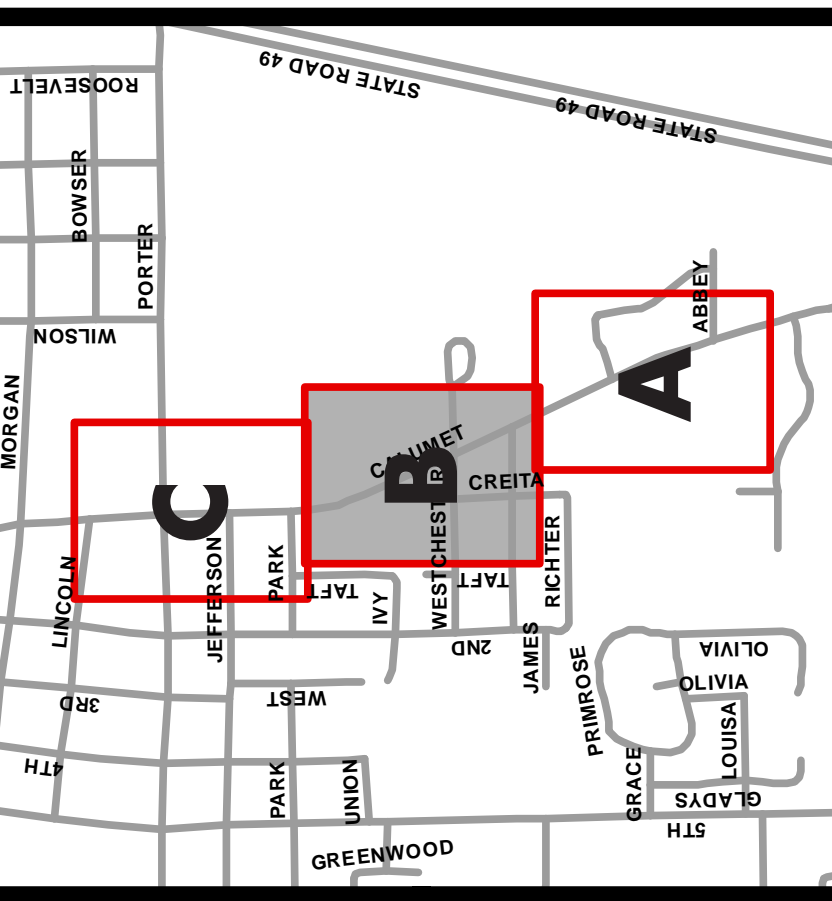
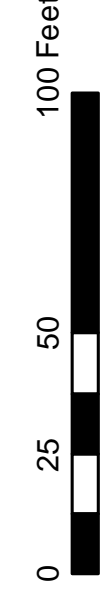
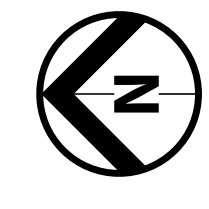
## ANALYSIS MAP B

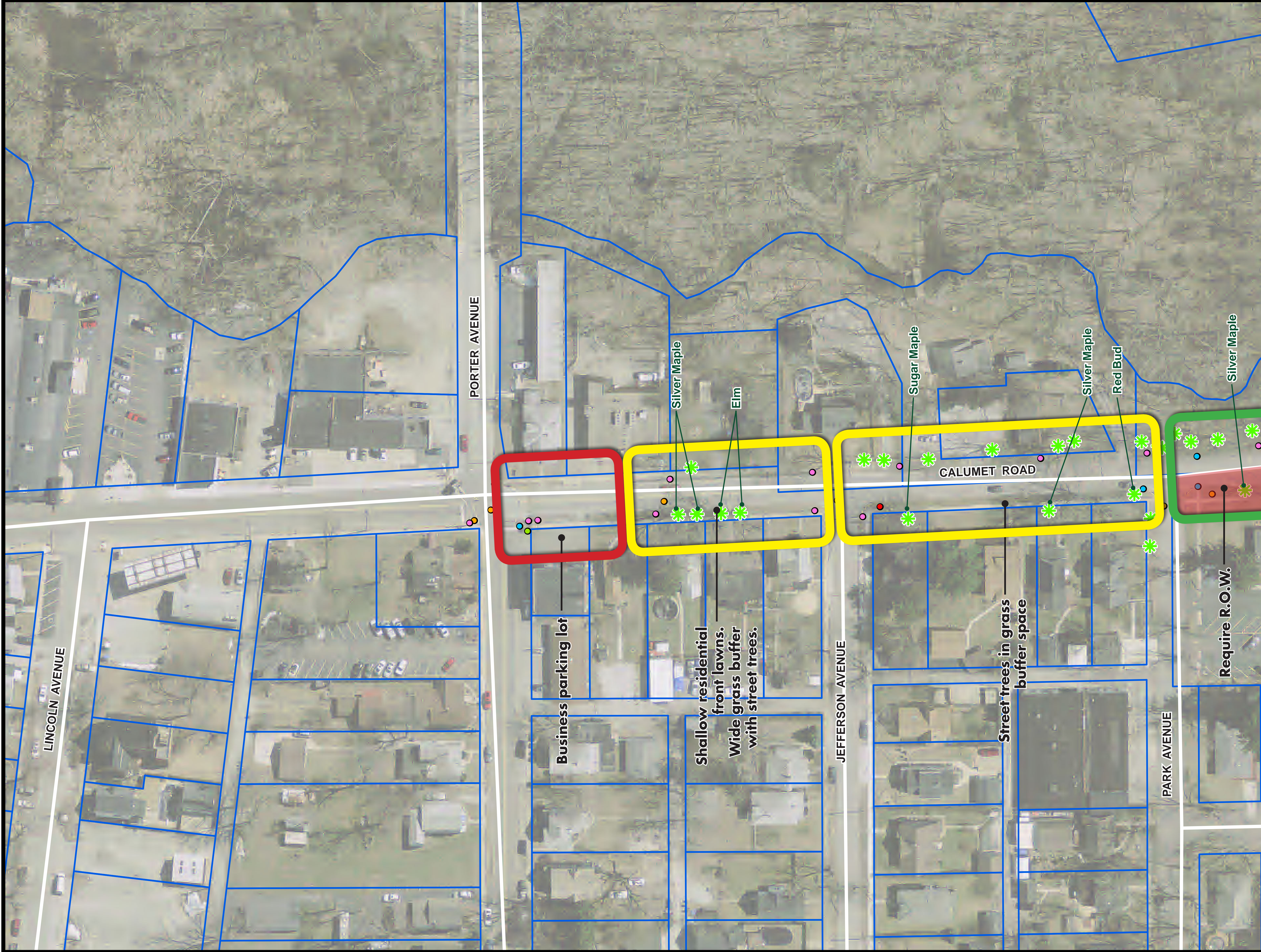
August 6, 2015

- PROPERTY LINES
- ROADWAY
- 1' CONTOUR LINES
- STREET TREES
- UTILITY POLE
- STORMWATER INLET
- MANHOLE
- HYDRANT
- SIGN
- REQUIRE R.O.W.

LEVEL OF DESIGN CONSTRAINT

- LOW
- MODERATE
- HIGH

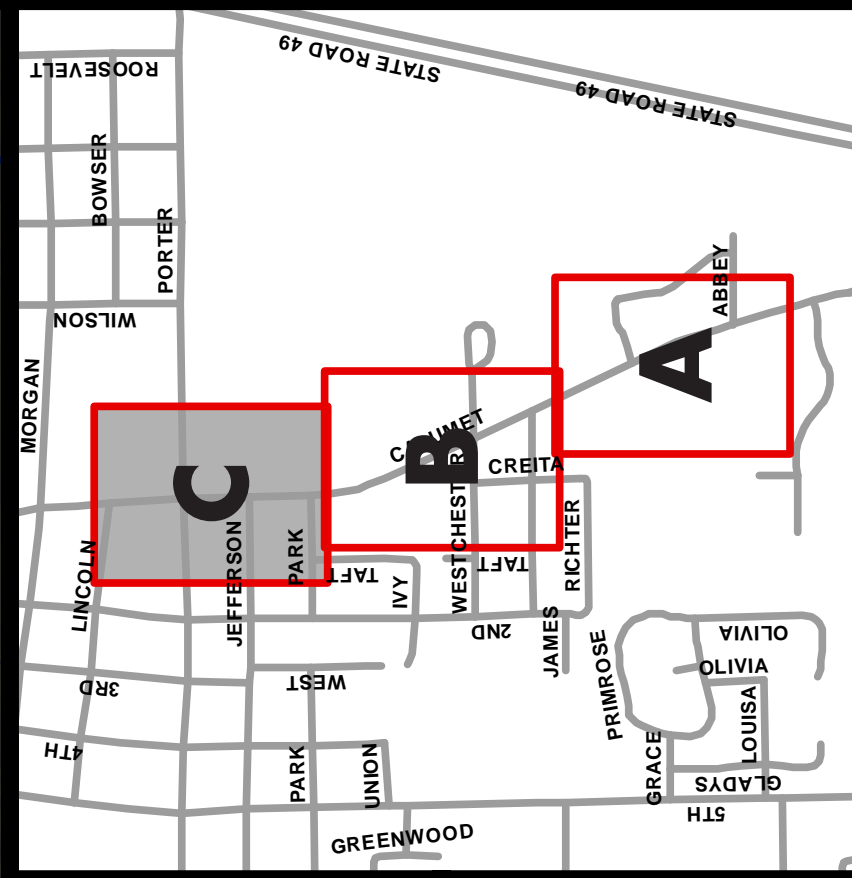
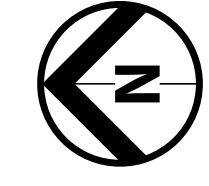




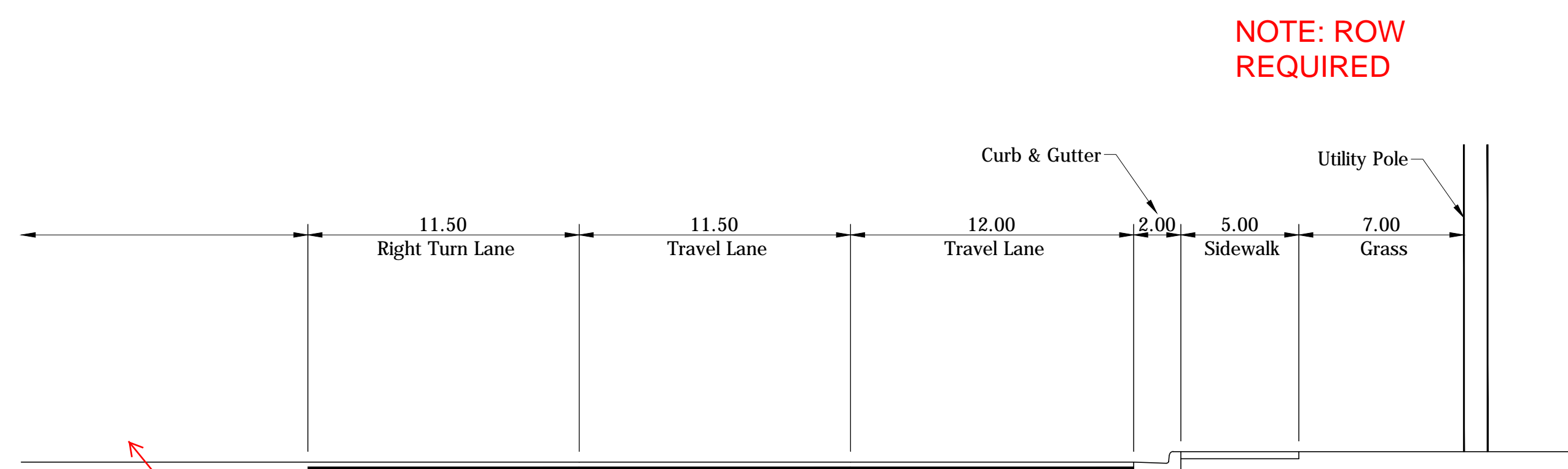
# CALUMET CONNECTION OF DUNES TRAIL PLAN ANALYSIS MAP C

August 6, 2015

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>— PROPERTY LINES</li> <li>— ROADWAY</li> <li>— 1' CONTOUR LINES</li> <li>— STREET TREES</li> <li>— UTILITY POLE</li> </ul> | <ul style="list-style-type: none"> <li>● STORMWATER INLET</li> <li>● MANHOLE</li> <li>● HYDRANT</li> <li>● SIGN</li> <li>■ REQUIRE R.O.W.</li> </ul> | <p>LEVEL OF DESIGN CONSTRAINT</p> <ul style="list-style-type: none"> <li>■ LOW</li> <li>■ MODERATE</li> <li>■ HIGH</li> </ul> |
|---|--|---|



# EXISTING CROSS SECTIONS

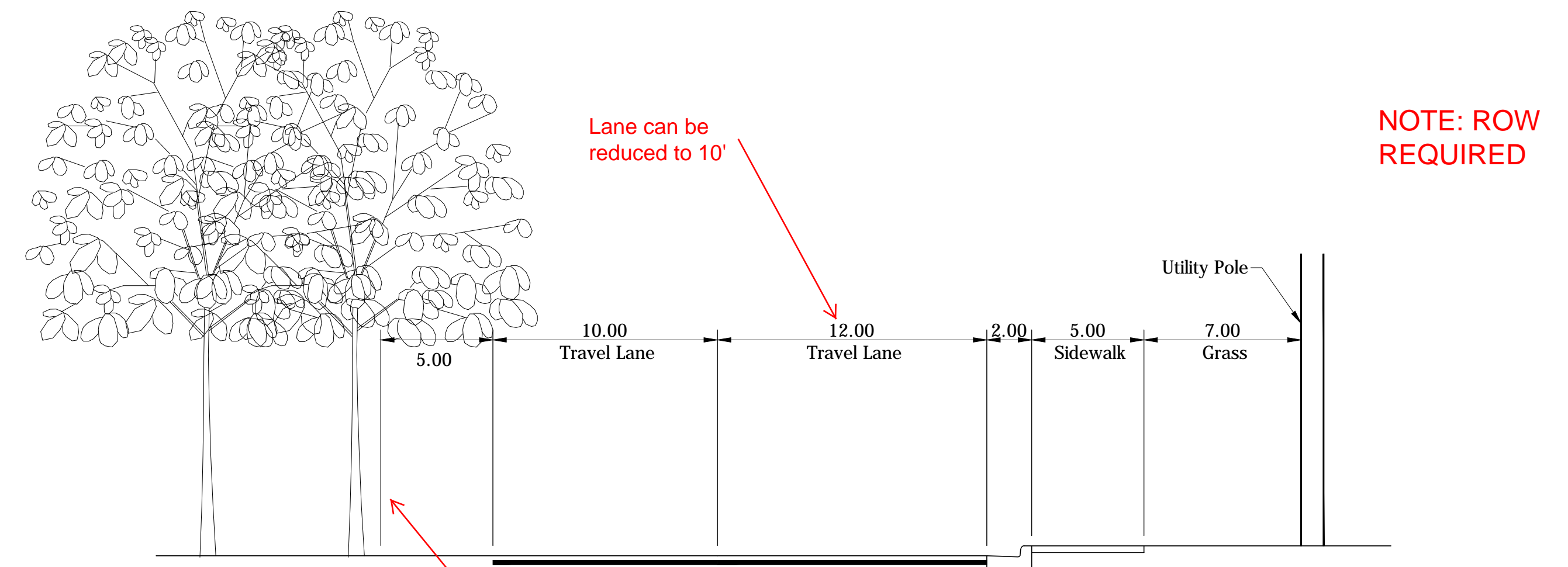


Appears to be room for path

1

SCALE: 1" = 10'

From Driftwood Commons Entrance to Start of the Right Turn Lane



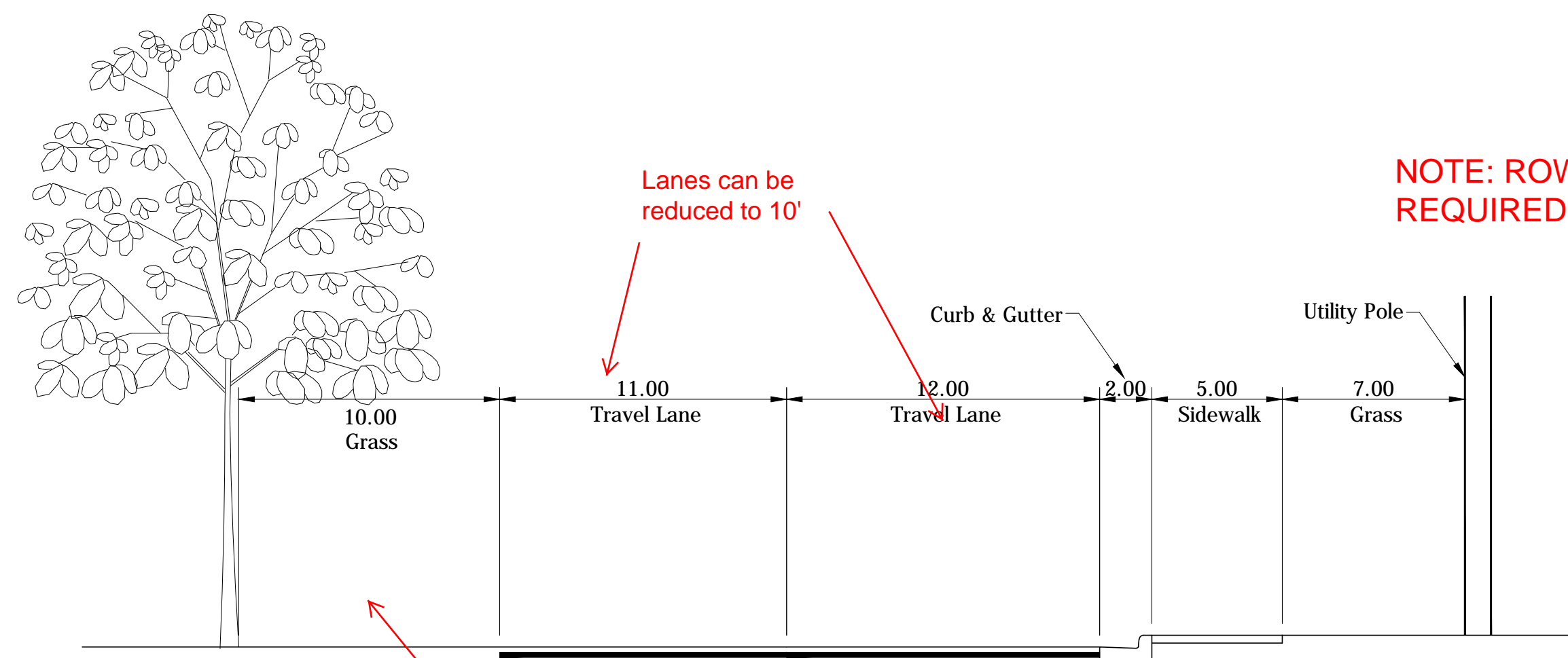
Lane can be reduced to 10'

Area constrained

4

SCALE: 1" = 10'

From Bridge to Post Office South Entrance



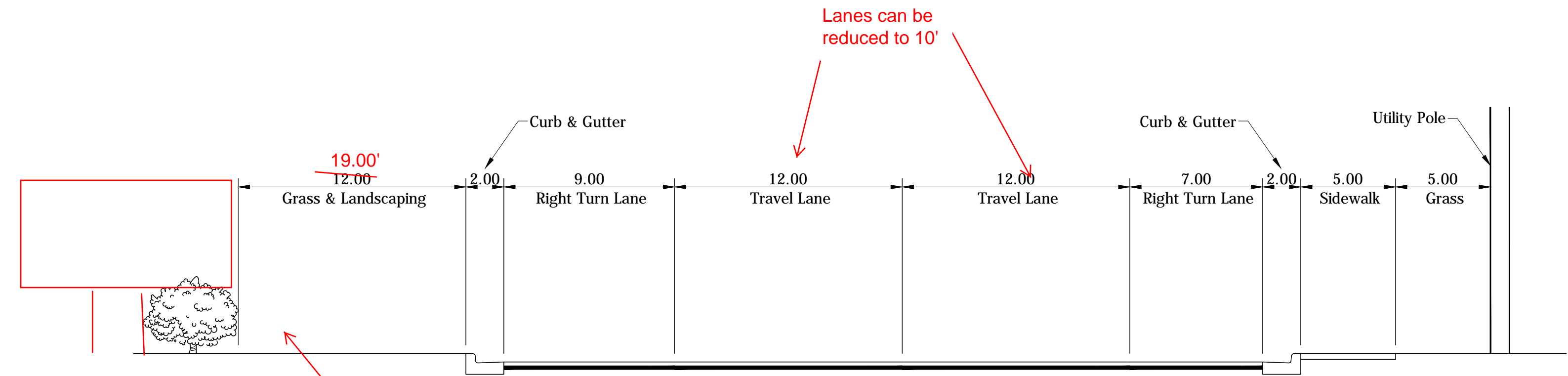
Lanes can be reduced to 10'

Area constrained

2

SCALE: 1" = 10'

From Start of Right Turn Lane to Bridge



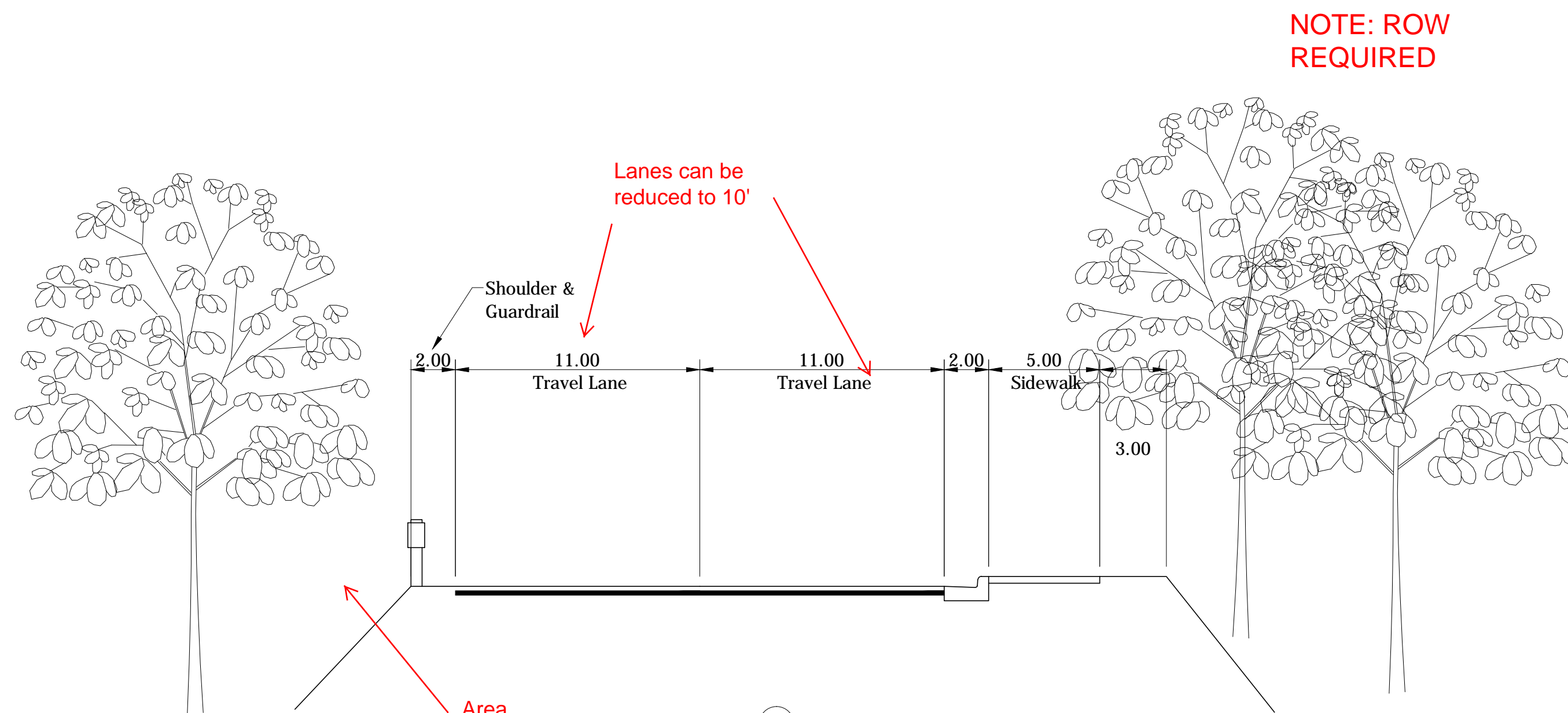
Lanes can be reduced to 10'

Appears to be room for path

5

SCALE: 1" = 10'

From Post Office South Entrance to Post Office North Entrance



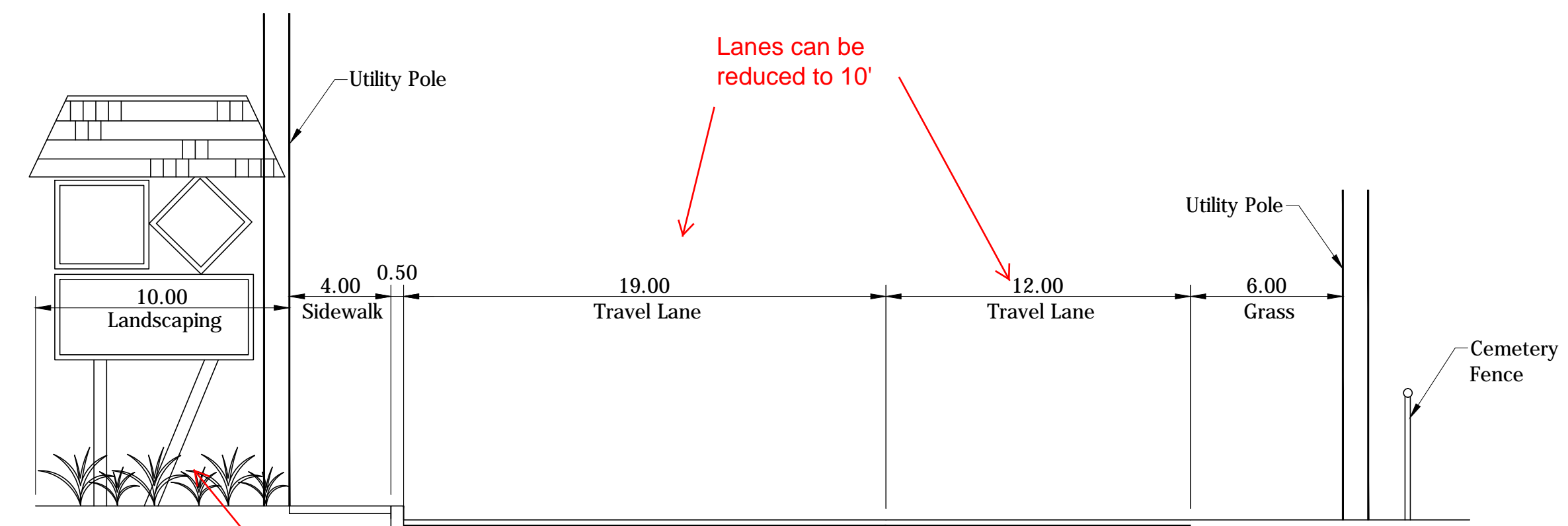
Lanes can be reduced to 10'

Area constrained

3

SCALE: 1" = 10'

From Bridge Start to Bridge End



Lanes can be reduced to 10'

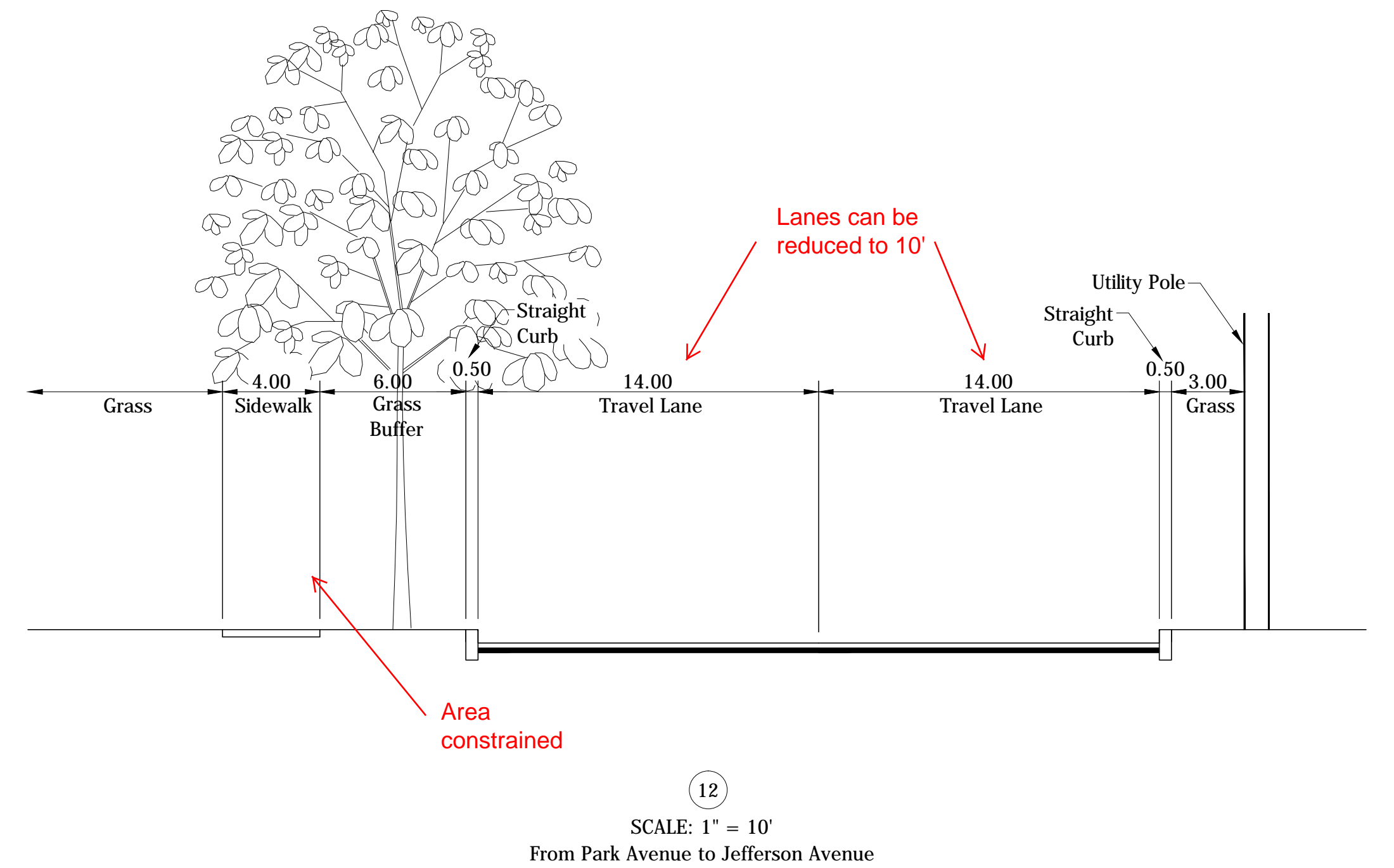
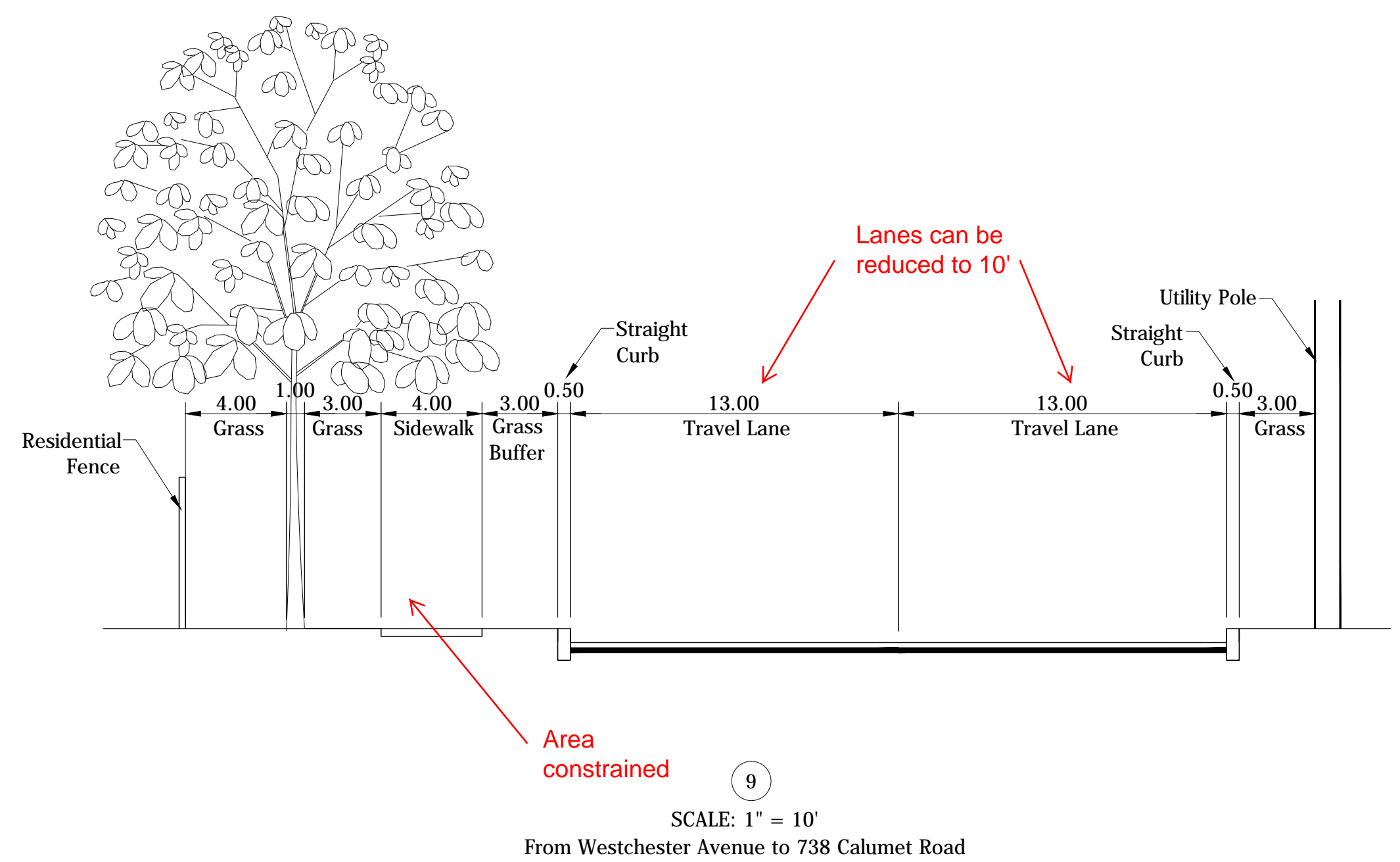
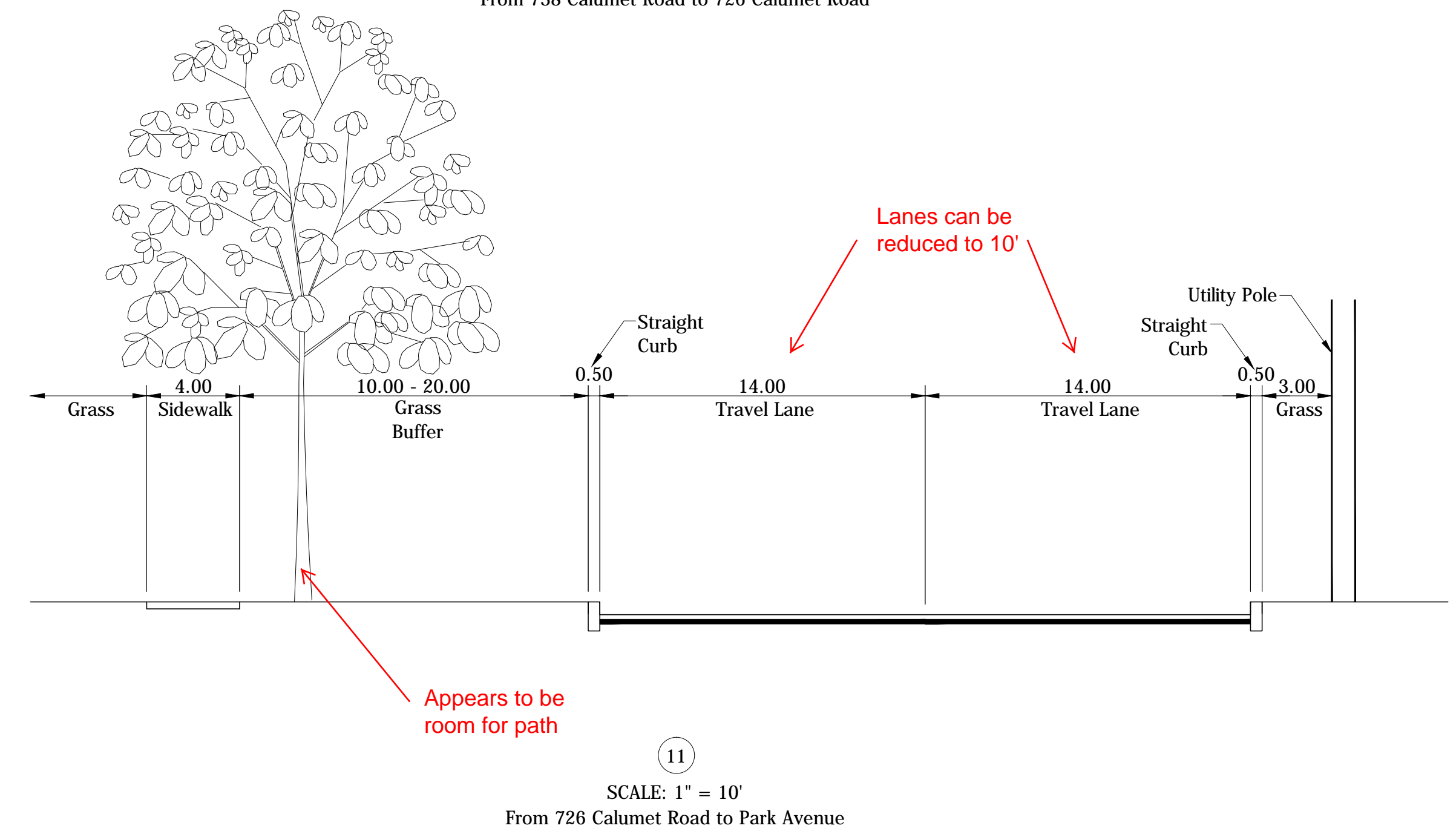
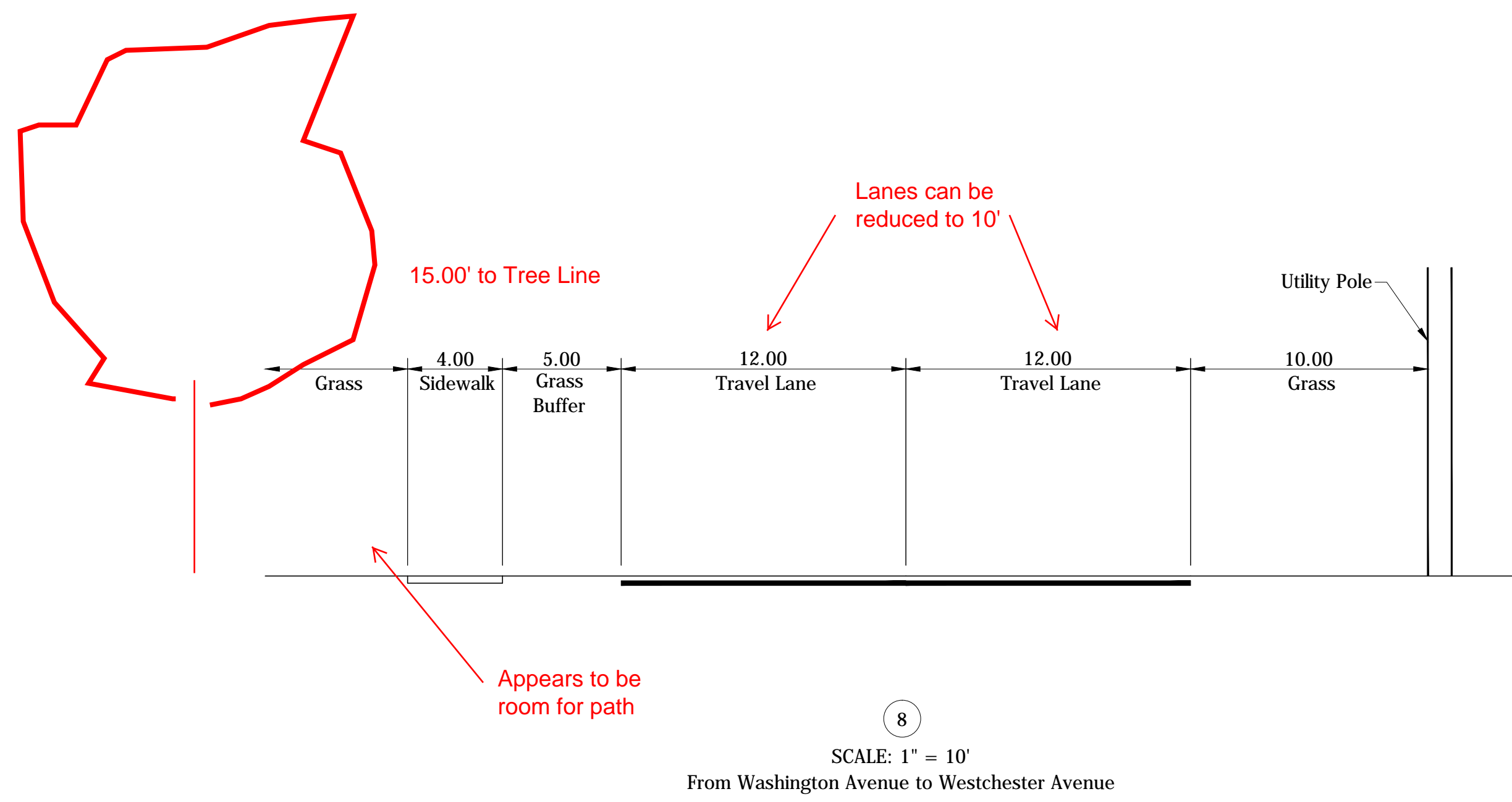
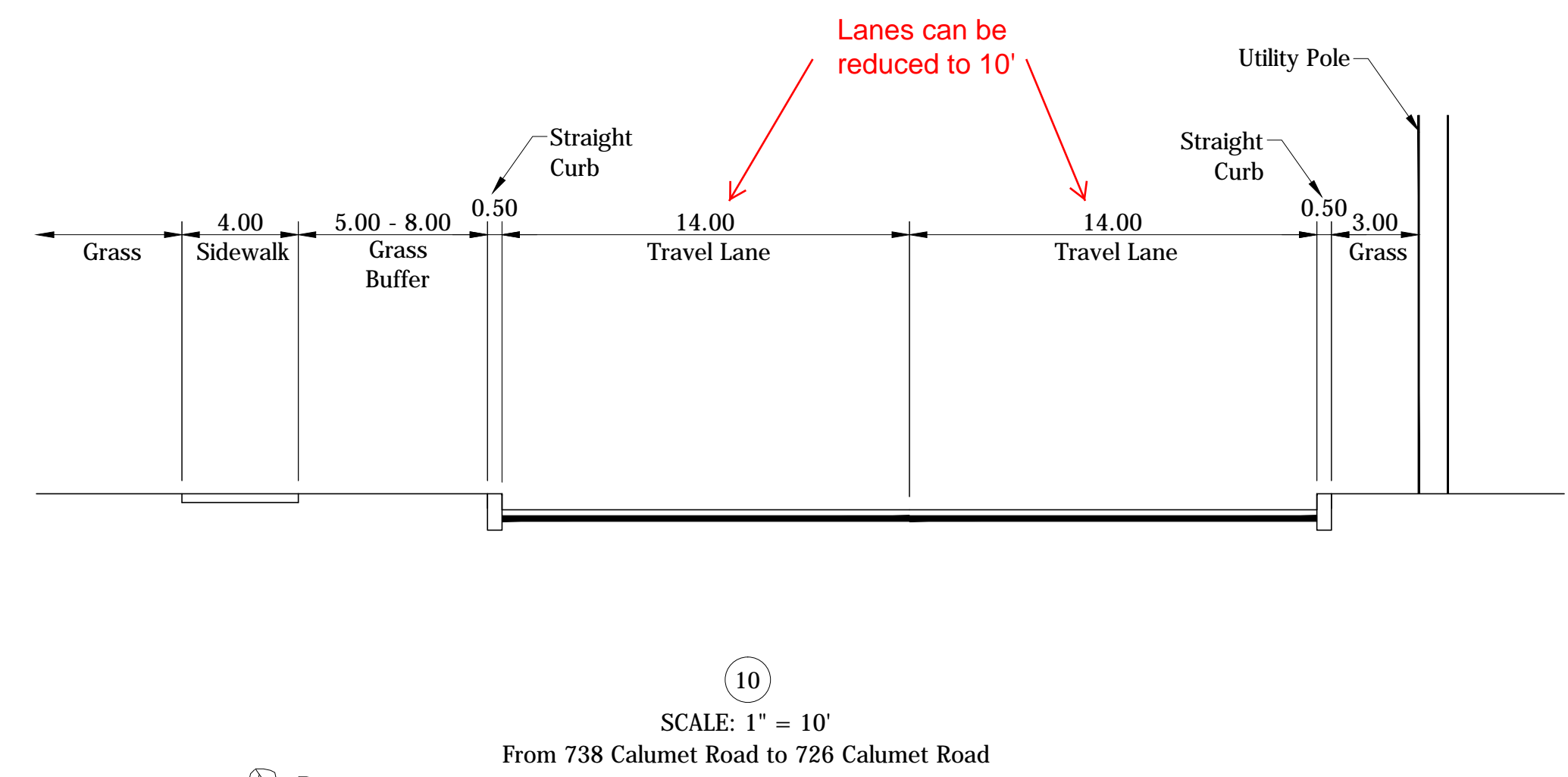
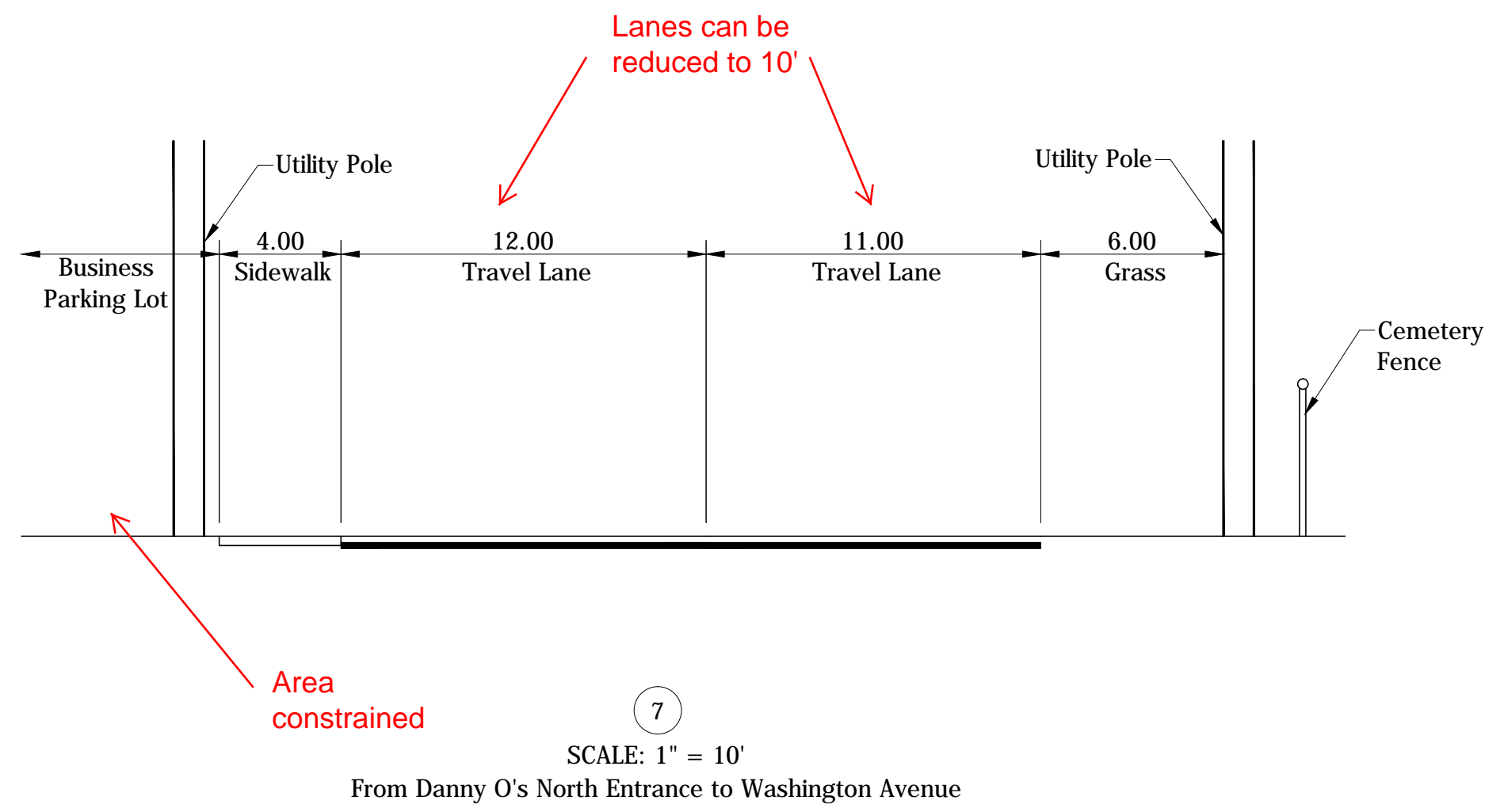
Area constrained

6

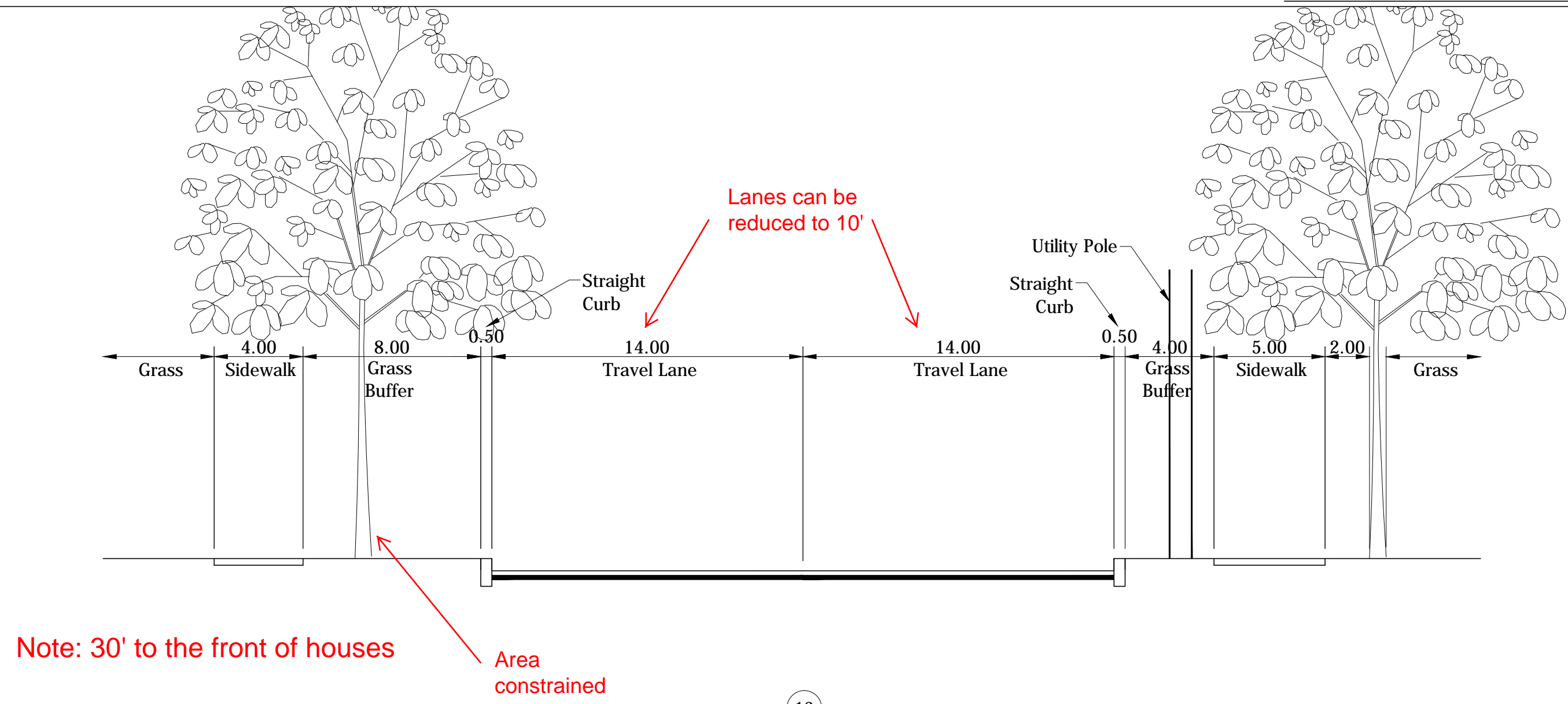
SCALE: 1" = 10'

From Post Office North Entrance to Danny O's North Entrance

# EXISTING CROSS SECTIONS



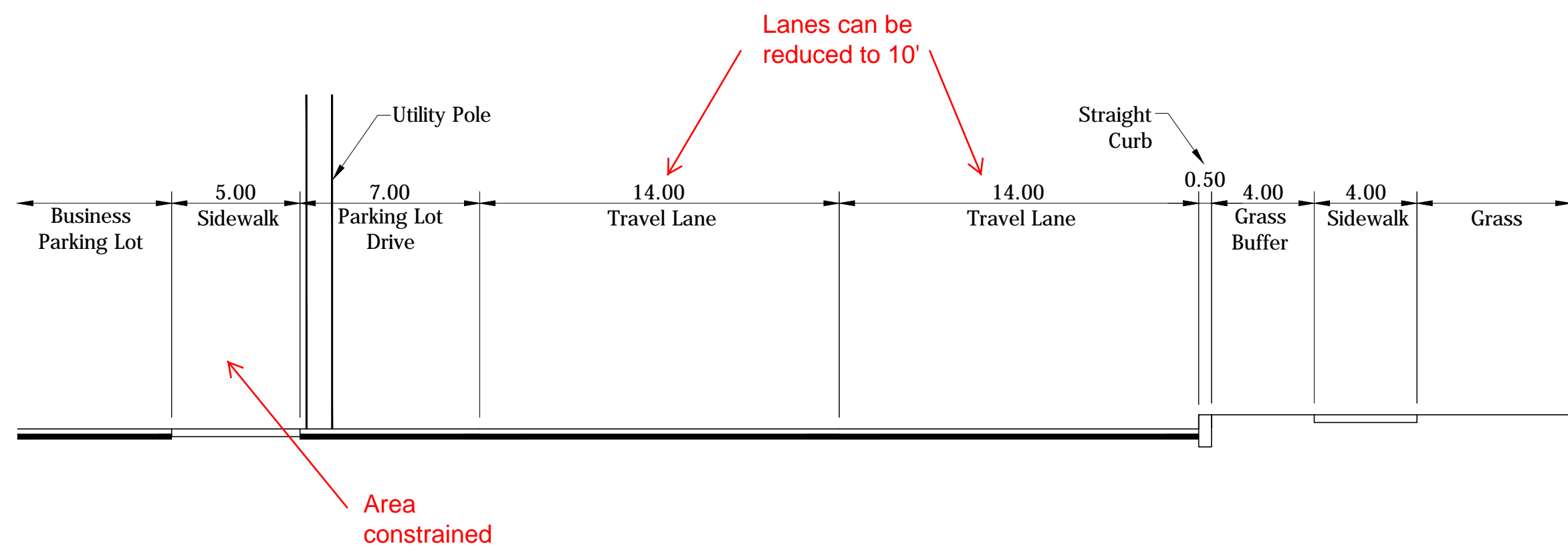
# EXISTING CROSS SECTIONS



13

SCALE: 1" = 10'

From Jefferson Avenue to Details Dry Cleaning Entrance



14

SCALE: 1" = 10'

From Details Dry Cleaning Entrance to Porter Avenue

**CALUMET CONNECTION**

**M A S T E R P L A N**

**FINAL PLAN**





## SUMMARY OF SHARED USE PATH & STREETScape MASTER PLAN

The final shared-use path and streetscape master plan proposes to improve 0.5 mile of Calumet Road from the Driftwood Commons Drive (just south of the Pope O'Connor Ditch) north to Porter Avenue. A minimum 8 foot wide separated trail will be developed along with supporting amenities and roadway improvements.

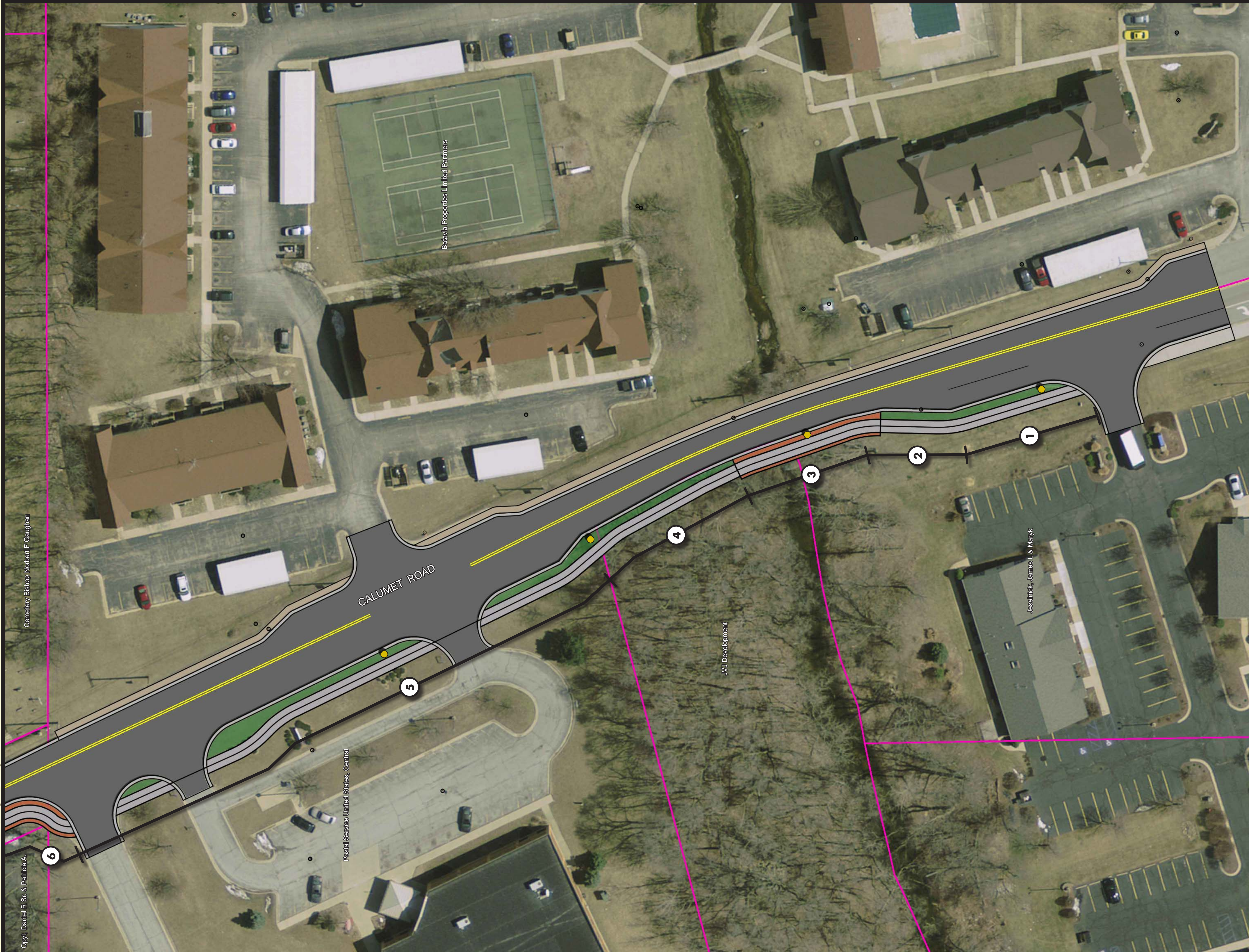
The 8 foot wide shared-use path creates a safe corridor for bicyclists and pedestrians. The trail will be separated from vehicular traffic a minimum of 4 feet in extremely constrained areas (a 2 foot recovery shoulder plus a 2 foot curb and gutter section). Most of the trail will be separated from the vehicular travel way by a 5 foot grass buffer from the back of curb. Decorative street lamps will provide safety for the users of the trail as well as provide an aesthetic element to the corridor.

In an effort to avoid having to acquire additional right-of-way, the extra space for the shared-use path has been taken out of Calumet Road. North of the Post Office, the existing lanes were approximately 14 feet wide. It was determined that reducing the lanes to 10 feet would give enough room for the shared use-path. The reduction of the lanes has an extra added benefit by slowing traffic along the corridor in a residential area. Several residents as well as businesses indicated they felt traffic was moving too fast through this area.

The entire roadway will be milled and resurfaced north of the Pope O'Connor Ditch and new curb and gutter will be added on both sides of the roadway.

Where possible green infrastructure systems will be added within the buffer between the shared-use path and the curb and gutter sections.

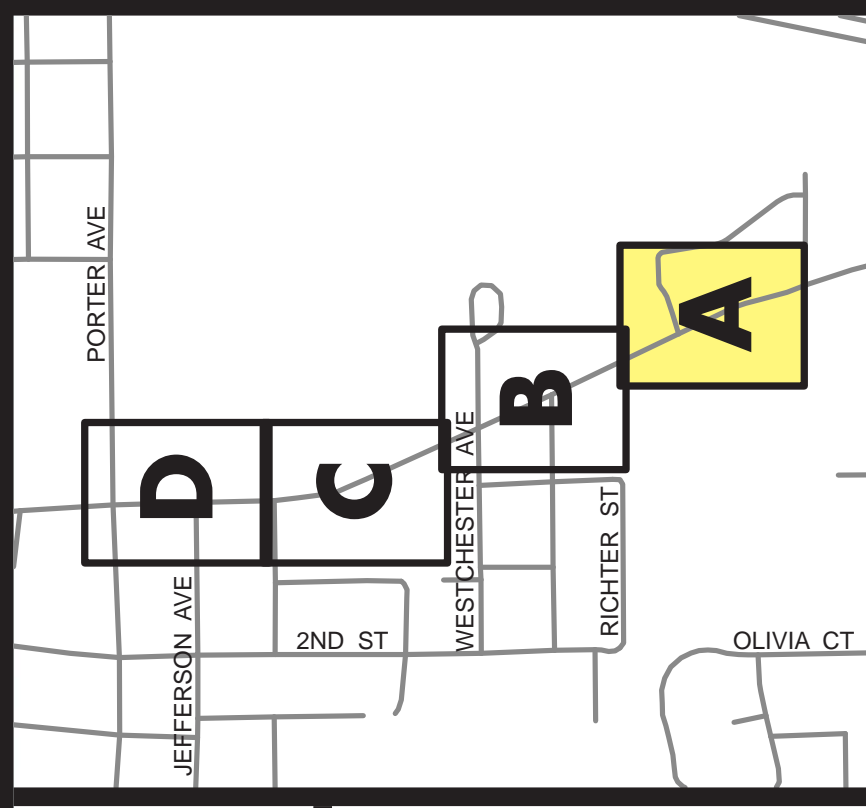
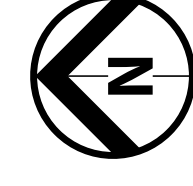




# CALUMET CONNECTION OF DUNES TRAIL PLAN

## DRAFT MAP A

September 24, 2015



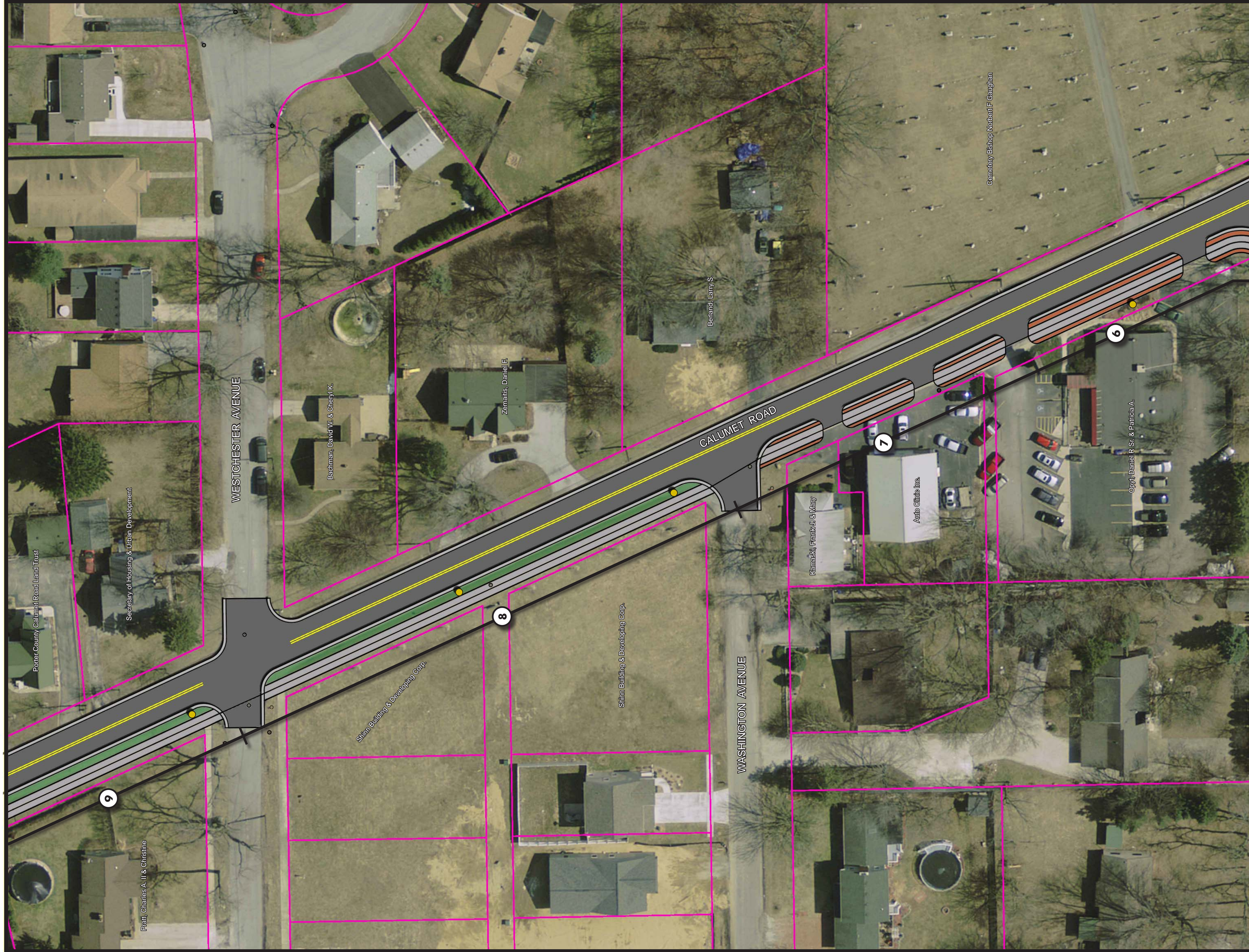
**PROPOSED TRAIL FEATURES**

- 8' WIDE TRAIL
- COLORED CONCRETE
- \*CROSS SECTION SEGMENT LOCATION
- TRAIL LIGHTS

**EXISTING FEATURES**

- PROPERTY LINE
- SIDEWALK
- UTILITY LOCATIONS

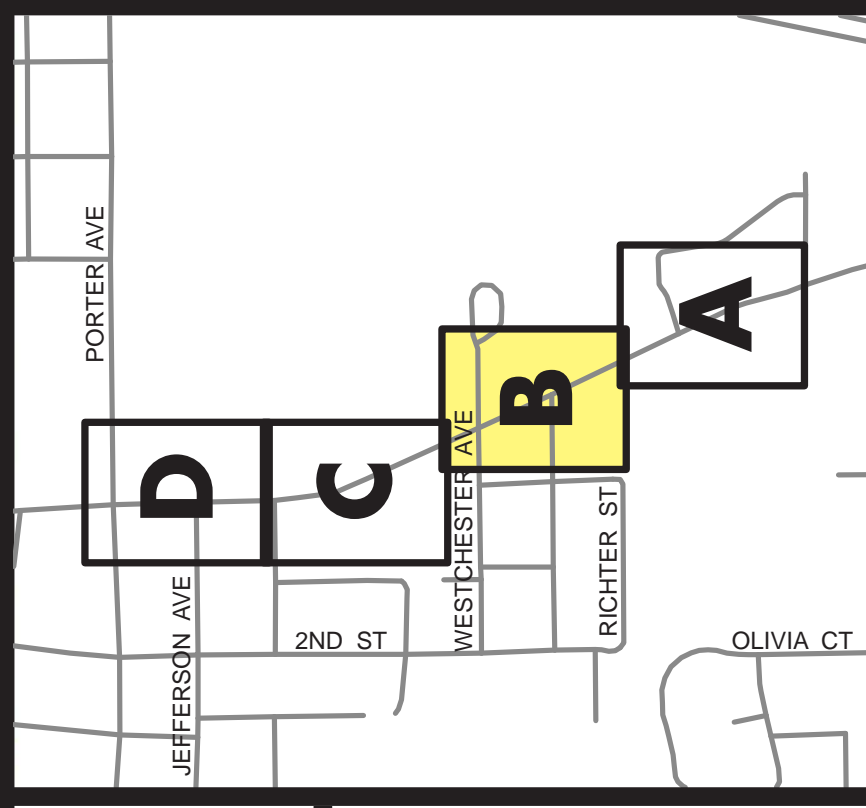
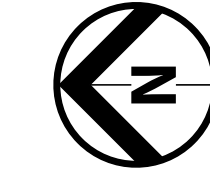
\*The number associated with each air-road route segment corresponds with a matching cross section segment.







# CALUMET CONNECTION OF DUNES TRAIL PLAN

## DRAFT MAP B

September 24, 2015



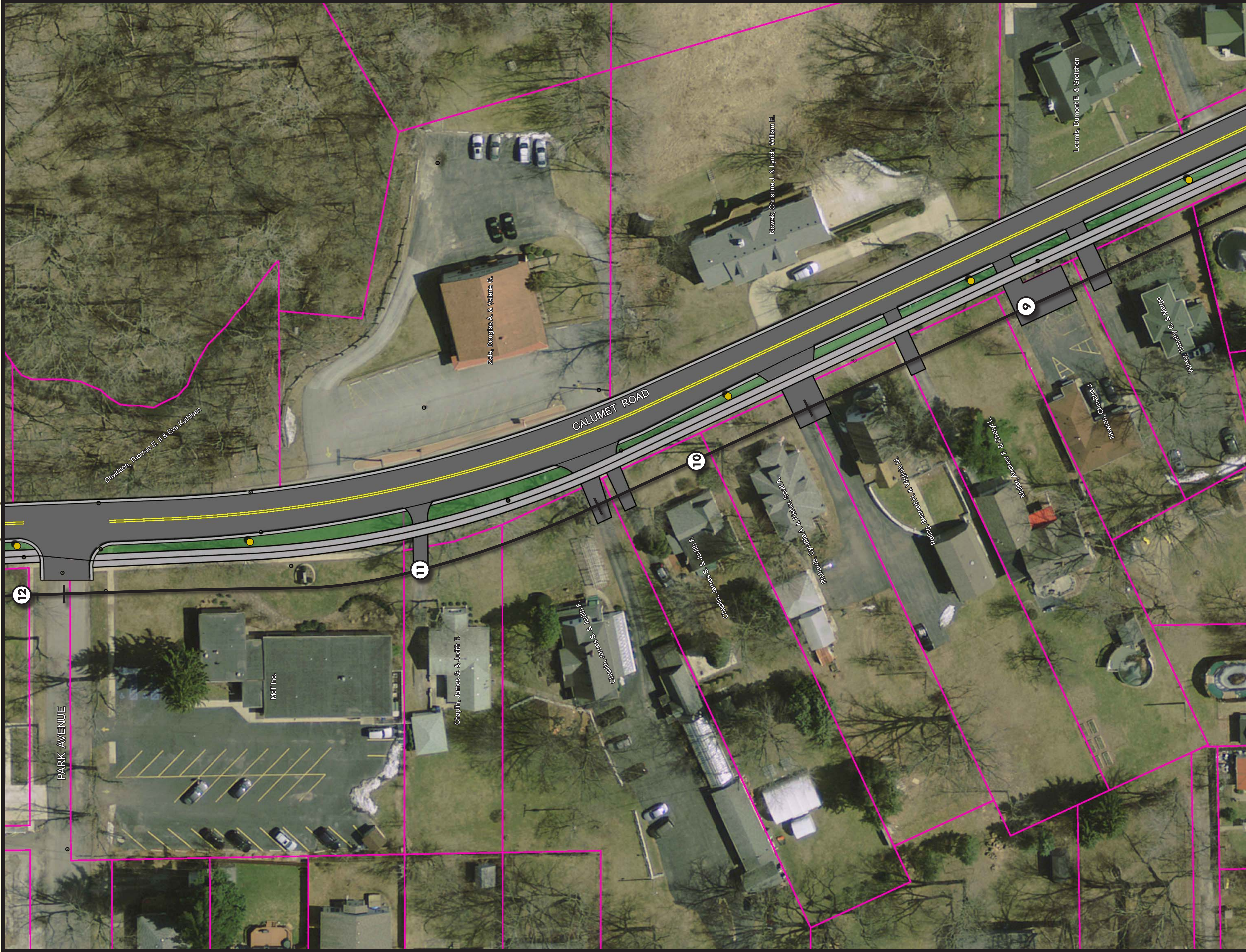
### PROPOSED TRAIL FEATURES

-  8' WIDE TRAIL
-  COLORED CONCRETE
-  \*CROSS SECTION SEGMENT LOCATION
-  TRAIL LIGHTS

### EXISTING FEATURES

-  PROPERTY LINE
-  SIDEWALK
-  UTILITY LOCATIONS

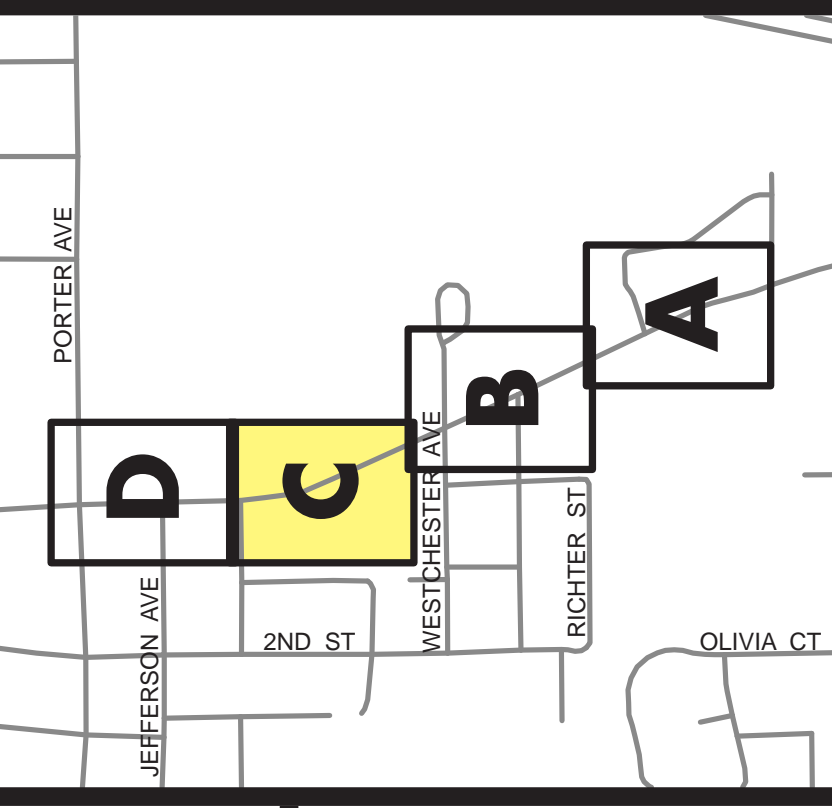
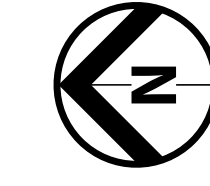
\*The number associated with each on-road route segment corresponds with a matching cross section segment.



# CALUMET CONNECTION OF DUNES TRAIL PLAN

## DRAFT MAP C

September 24, 2015



### PROPOSED TRAIL FEATURES

- 8' WIDE TRAIL
- COLORED CONCRETE
- \*CROSS SECTION SEGMENT LOCATION
- TRAIL LIGHTS

### EXISTING FEATURES

- PROPERTY LINE
- SIDEWALK
- UTILITY LOCATIONS

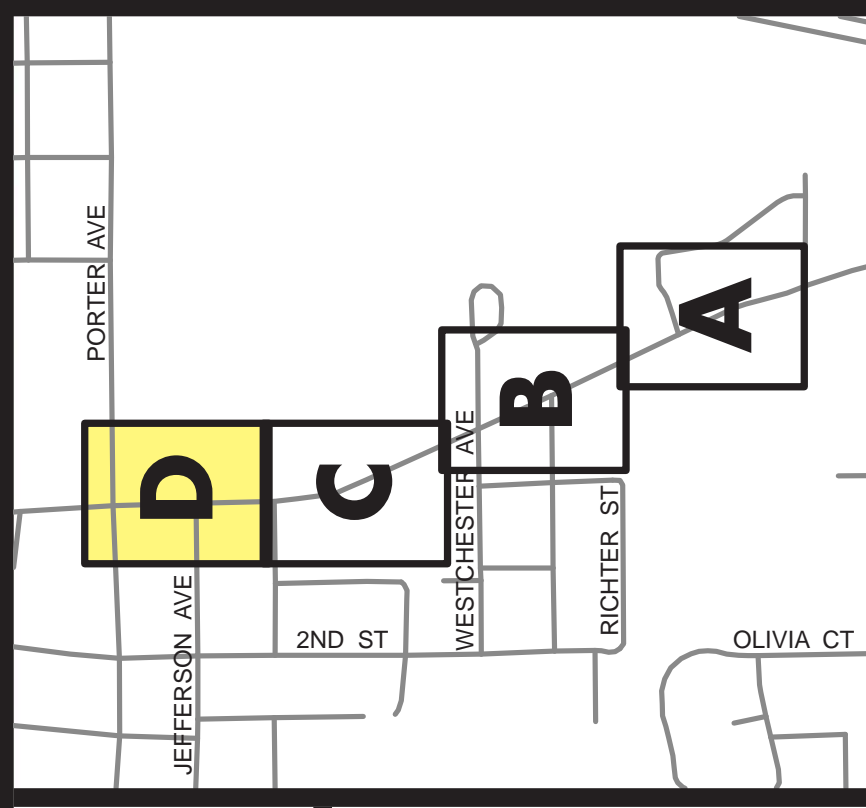
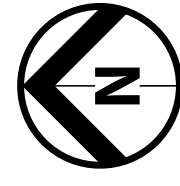
\*The number associated with each on-road route segment corresponds with a matching cross section segment.







# CALUMET CONNECTION OF DUNES TRAIL PLAN

## DRAFT MAP D



September 24, 2015



### PROPOSED TRAIL FEATURES

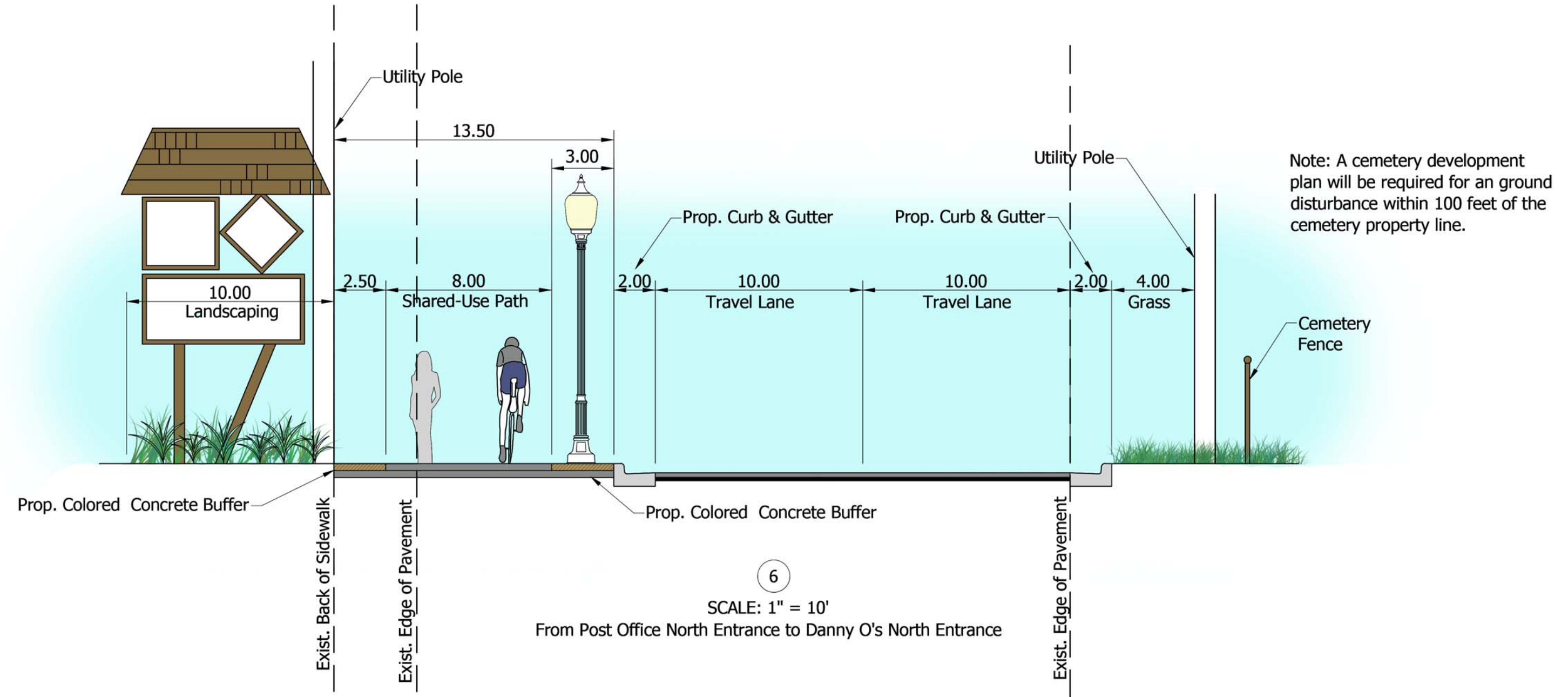
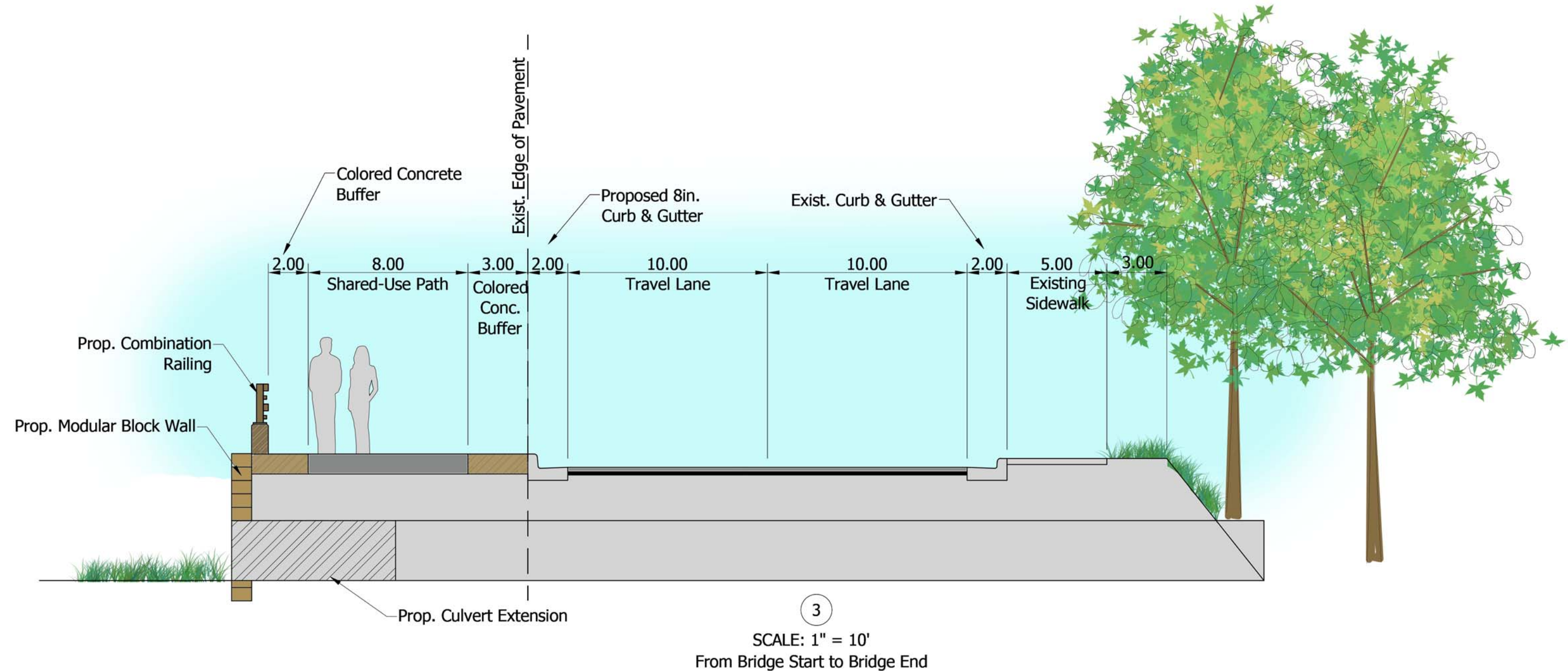
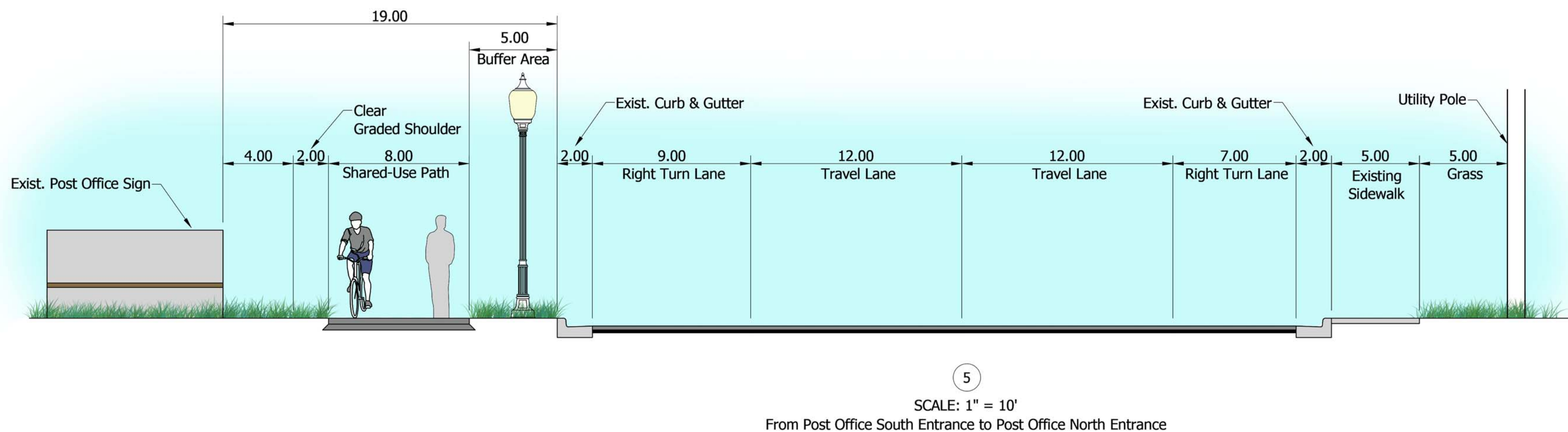
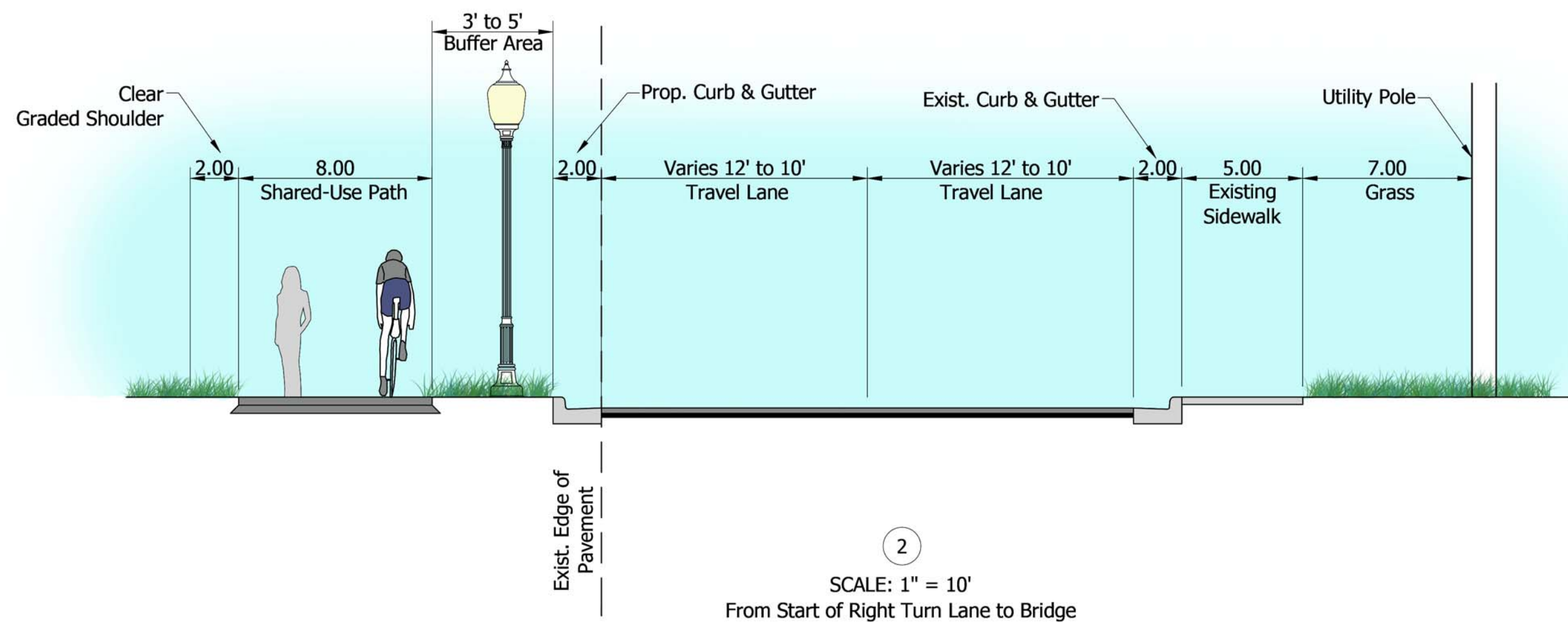
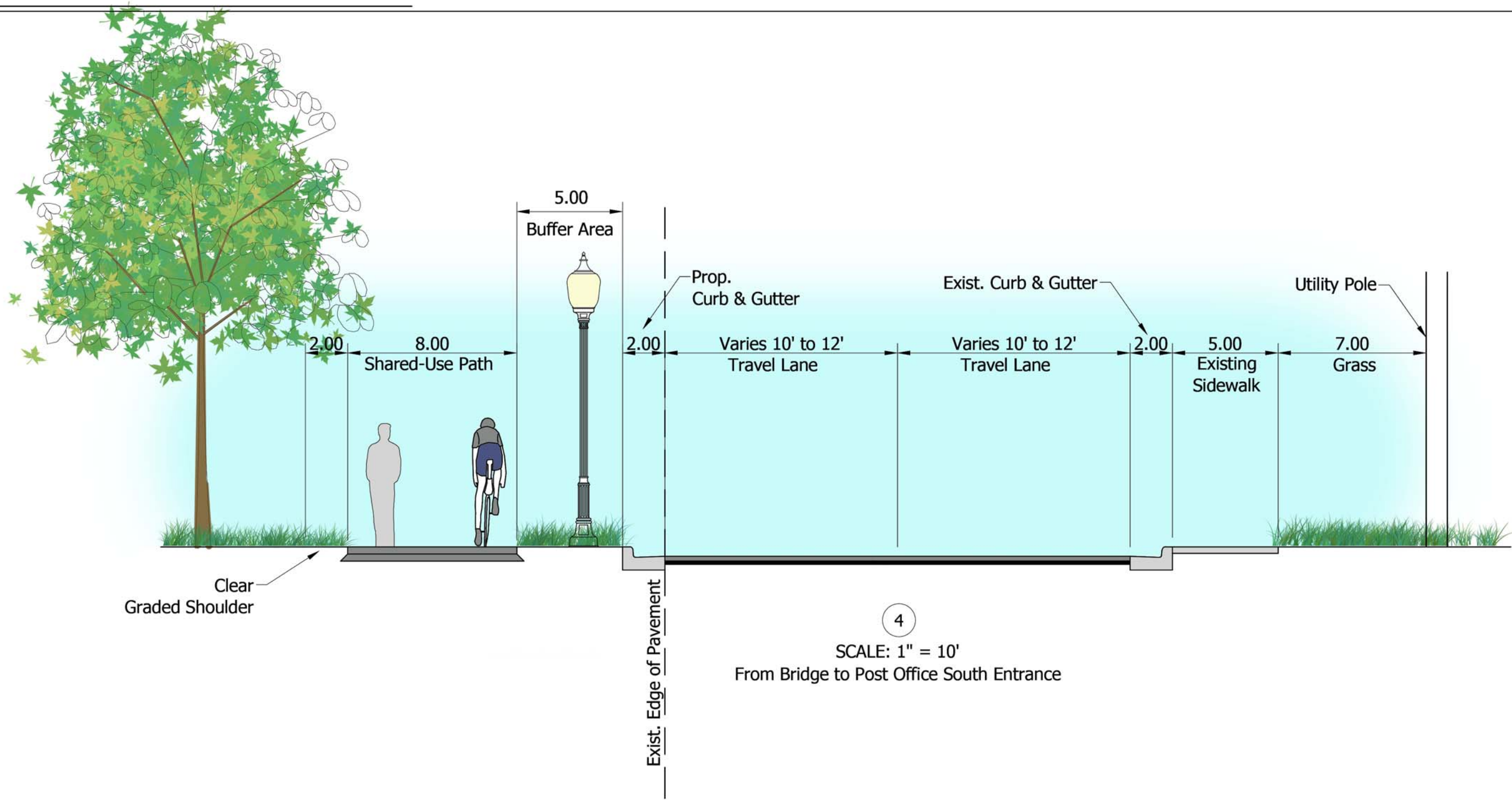
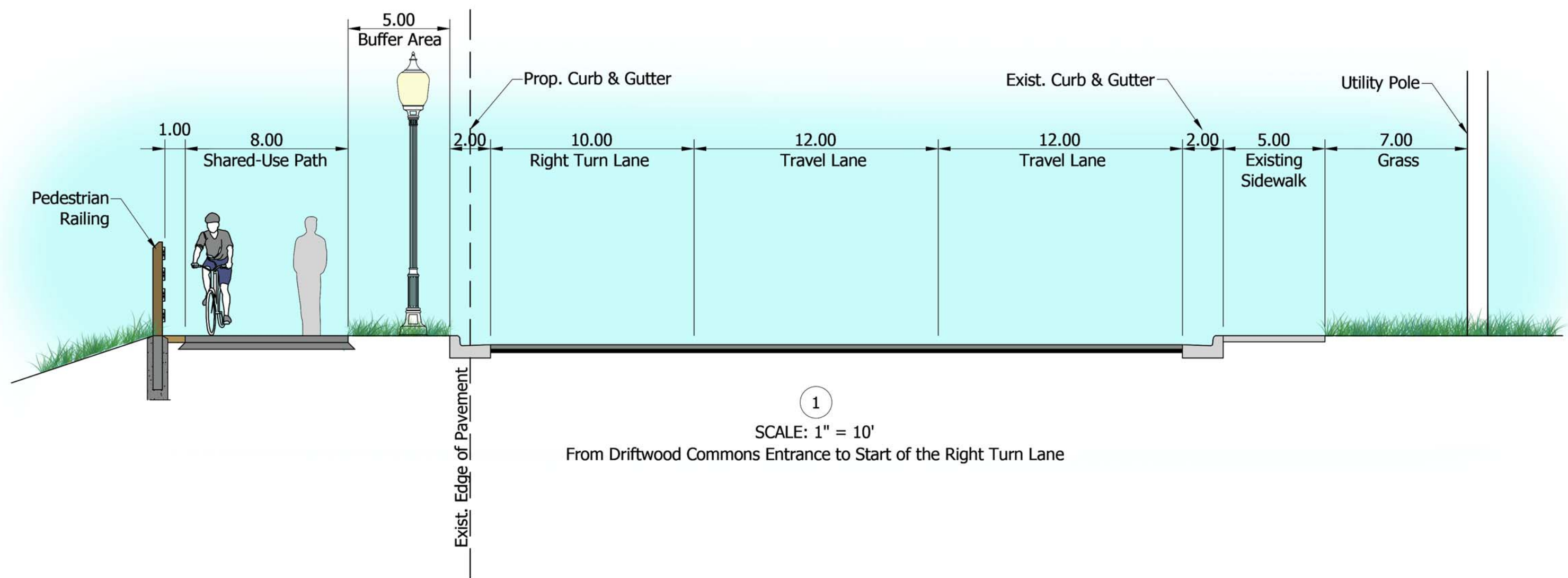
-  8' WIDE TRAIL
-  COLORED CONCRETE
-  \*CROSS SECTION SEGMENT LOCATION
-  TRAIL LIGHTS

### EXISTING FEATURES

-  PROPERTY LINE
-  SIDEWALK
-  UTILITY LOCATIONS

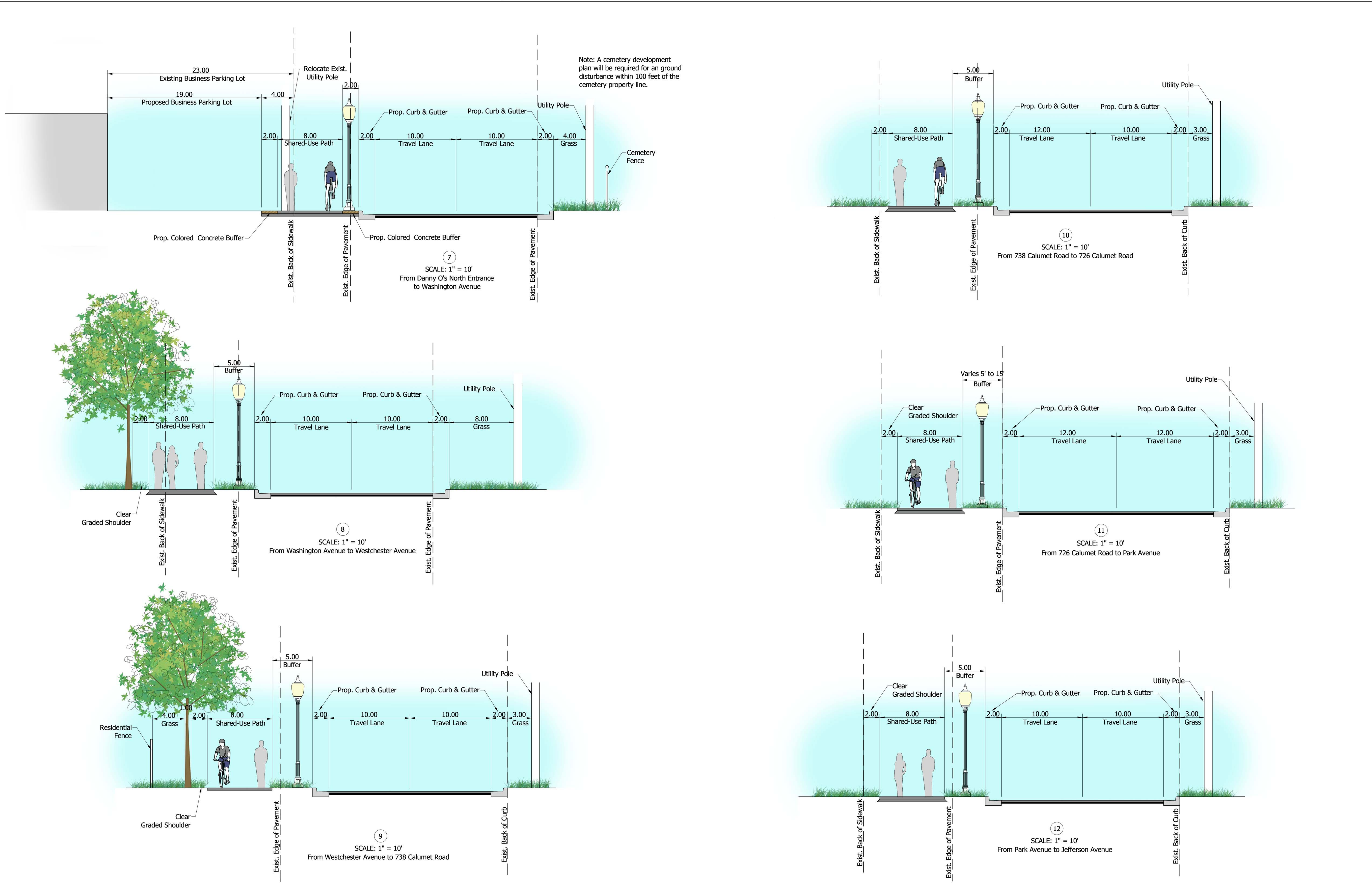
\*The number associated with each air-road route segment corresponds with a matching cross section segment.

# PROPOSED CROSS SECTIONS

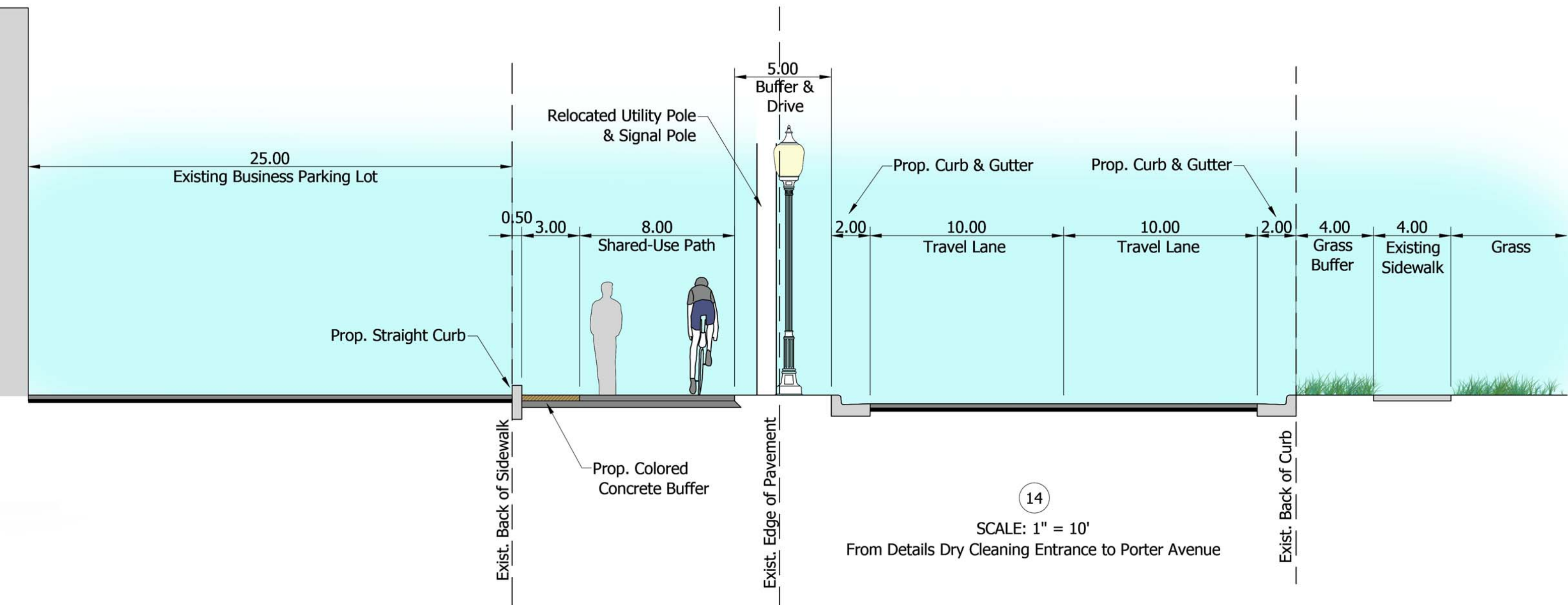
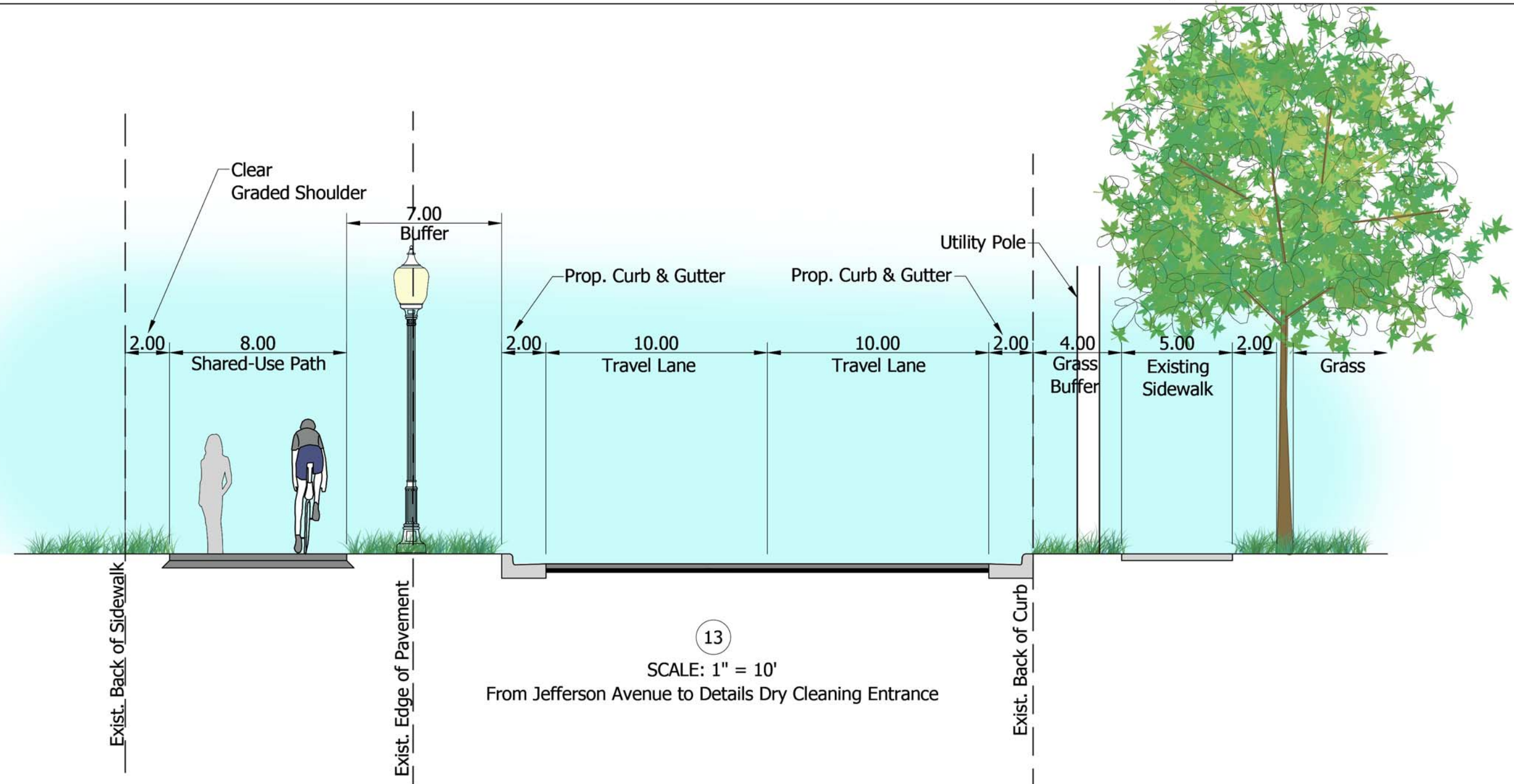




# PROPOSED CROSS SECTIONS



# PROPOSED CROSS SECTIONS



## SHARED USE PATH (TRAIL) STANDARDS

### Shared Use Path Type

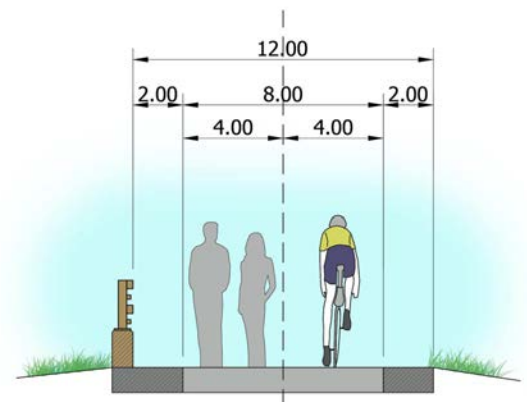
It is recommended that the shared-use path be a universally accessible multi-use path. The American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities (2012) and Chapter 51 of the Indiana Department of Transportation (INDOT) Design Manual defines a shared-use path as an off-road, two-way facility designed for use by bicyclists, in-line skaters, wheelchair users, and pedestrians on exclusive right-of-way with minimal cross flow by motor vehicles. This means that the paths will have to be wide enough to accommodate two way travel for each type of use. In order to allow accessibility to each use, the path's surface must be adequate and slopes must follow guidelines developed by the US Access Board or regulations from the US Department of Justice. At the time this document was created there were several guidelines that apply: 1) Guidelines for Shared Use Paths; 2) Guidelines for Outdoor Developed Areas; and 3) Guidelines for Pedestrian Facilities in the Public Right-of-Ways. Although INDOT and AASHTO regulations may not be required for all shared-use paths, it is recommended that these guidelines be followed on all path applications.

### Shared Use Width

AASHTO recommends a width of 10 feet for shared-use paths, with 2 foot wide graded shoulders on either side of the path. However, in physically constrained areas due to structures, fences, and utilities an 8 foot path with shoulders may be implemented. An 8 foot path also should not be regularly subjected to maintenance vehicles loading.



Shared-Use Path  
Clear Creek Trail, Bloomington, IN



Typical Shared Use Path Cross Section

# FINAL PLAN



## **Shared-Use Path Slope**

It is important that the path cross slope provide positive drainage, but not create a non-traversable slope for trail users or those in wheel chairs. For this reason all cross slopes shall be no more than 2%. Trail shoulders create recovery areas for bicycle users and should not have cross slopes greater than 4%.

Side slopes beyond the shoulders should not be greater than 4:1. Steeper slopes are non-mowable and therefore create maintenance issues. Additionally, slopes steeper than 3:1 within 5 feet of the trail's edge must be protected.

Longitudinal trail slope should be no greater than 5% in most circumstances. The INDOT Design Manual gives more guidance on when it is permissible to exceed this guideline and appropriate mitigation techniques.

## **Shared-Use Path Surface**

The primary concern with path surfacing is accommodating a variety of path users and providing accessibility.

Concrete provides a surface that accommodates all types of users. It is rigid and requires less long term maintenance. It is recommended that PCCP 4" be used over 4" of No. 53 Stone over Type III Subgrade Treatment.



Shared-Use Path  
Lafayette, IN

# FINAL PLAN

## **Shared Us Path - Street Intersection Design:**

Intersection design for shared use-paths should be based upon sound “engineering judgment” at each intersection and each should be treated individually as each has unique characteristics. Uniformity in the use of traffic control devices is critical to encourage proper and predictable behavior by shared-use path users. The Manual on Uniform Traffic Control Devices (MUTCD) shall be followed for size, shape, color and placement of signs on both the path and the street. In addition, coordination with the City should ensure the proper design and layout of traffic control devices necessary to warn vehicular traffic on public streets of path crossings. The North American Cities and Towns Organization (NACTO) Urban Bikeway Design Guide can also be consulted for unique situations.

All street crossings will occur as at-grade. Traffic will have the right-of-way and path users, at most crossings, will have to stop.

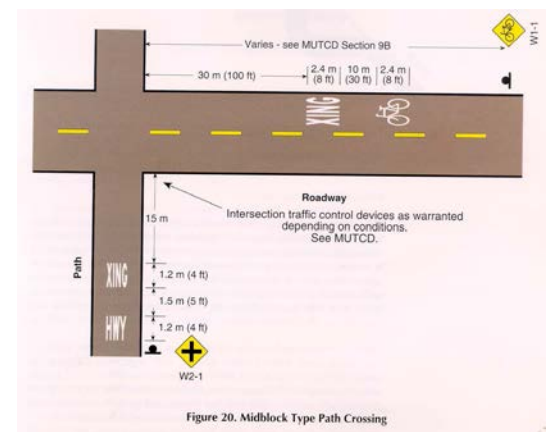
The following treatments are minimum recommendations.

### ***At-Grade Road Crossing - Level 1:***

- Used on local roads with a maximum of two lanes. Speed limit should be under 40 mph.
- Warning Signs of an upcoming intersection will be placed on the roadway based upon MUTCD standards.
- No Motor Vehicles signs placed facing the street at all path intersections
- Stop sign along the path placed approximately 10 feet from the edge of the street.
- Crosswalk pavement markings at crossing point.
- “Trail Xing” markings on the roadway



Example of a Street Crossing on the Monon Trail  
Carmel, Indiana



Example of an At-grade Crossing Level 1 -  
'Guide for the Development of Bicycle Facilities' -  
AASHTO 1999

# FINAL PLAN

## ***Access of Shared-Use Path At Public Road Crossings***

A public road crossing provides an opportunity to bring identity and attention to the path. It also should provide plenty of room for trail users to cross without having conflicts with other users crossing in the opposing direction. Restricting vehicular access without restricting maintenance vehicles can also be a concern. The following is an option to consider based upon available right-of-way.

- Option: Colored concrete node without a bollard or central median. This option should be used if the area appears to be too narrow or there is not enough right-of-way for a split entry, and the risk of motor vehicles entering the path is low.



Example of a Concrete Node Entry without Bollards

## **Shared-Use Path Signage**

There are many different issues to consider in the design of signs for a shared-use path. Signs along the system will need to serve a variety of purposes, including: providing traffic control along the path, alerting users to potential hazards, identifying path access points, providing historic information, providing educational information, indicating path distance, and providing orientation on the path and to surrounding communities.

Signs will need to be located so they are legible to path users and must be constructed in methods and materials that are somewhat vandal resistant and easy to maintain.

The need for different types of signs must be balanced with the idea of creating a visually pleasing landscape in which to use the shared-use path. The paths will feature a system of signage to clearly communicate a variety of messages in a graphically consistent manner. The signage system is divided into the following categories: Shared-Use Path Traffic Signs, Shared-Use Path Identity Signs, Shared-Use Path Guidance and Interpretive Signs, and Mile Markers.



# FINAL PLAN

## ***Shared-Use Path Traffic Signs:***

The shared-use path system will be a transportation corridor and, therefore, must have recognizable transportation signs that follow MUTCD guidelines. The shared-use path traffic signs will include regulatory and warning signs, such as: STOP, YIELD, and TRAIL NARROWS signs.

The design of the shared-use path traffic signs should be consistent from path to path. Signs can have graphic information on one or both sides, reducing the overall number of signs needed. Signs should be placed 3 feet from the path's edge and be mounted at a height of 5 feet.

If the shared-use path is parallel with a roadway, "Yield To Trail Users" signage should be placed to warn motorists when turning that pedestrians and bicyclists may be crossing the roadway or drive intersection. This provides added safety for both the motorist and pedestrian.



## ***Shared-Use Path Identity Signs:***

The shared-use path system will have numerous points of access. It is important that these points of entry be identified for the public in an appropriate and consistent manner. The shared-use path identity sign is intended to serve two functions: identify the main entry points to the path, and establish for the public a consistent and lasting identity for the path. By selecting a consistent treatment for each path it will help the user to know which route they are currently on. Each sign should be designed to incorporate a unique feature of each path. The city park's logo should be incorporated into each sign and the identity sign should follow the same color scheme as the route it is representing. The identity sign should be 9 feet to the bottom of the sign, minimum, to provide visibility and clearance. The signs should be visible by the public at the shared-use path and street intersections and at other significant access points.



# FINAL PLAN

## ***Shared-Use Path Guidance & Interpretive Signs:***

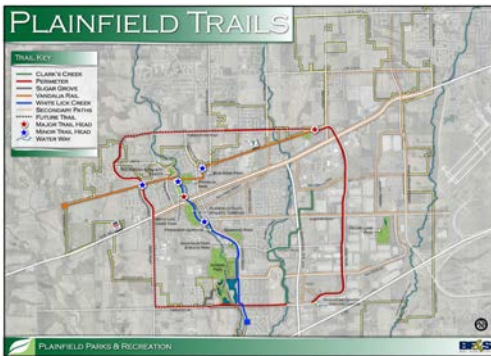
Along the path, there should be several different types of signs that provide the user with guidance information such as points of interest, path support facilities, and orientation.

Shared-use path guidance signs can be placed into two different categories. One type would be a directory sign which would show the path users how they can reach key destination points within the entire community. This sign would give an overall view of the entire shared-use path system and would need to be 30" x 42" in size to show enough detail. There should be a consistent layout for all these signs so they match and give a cohesive design throughout the system. Directory signs would typically be placed at major trailheads or key path access points.

The second type of guidance sign is a wayfinding sign. This type of sign is a map indicating amenities that are within close proximity to your current location on the path. These signs should be located at intersecting routes. A wayfinding sign should be no larger than 24" x 36", but at a scale that shows much more detail than the directory signs. The image located at the top of the next page represents an example of this type of sign.

Interpretive signs are another type of sign that provide educational information to path users and enhance their experience. These signs help to convey the historical, cultural, or ecological significance of certain points along the path. Examples would be the importance of protecting wetlands or water bodies, geological formations unique to the area, or a historically significant feature within the community.

With all these functions, the materials that the signs are made of must be flexible enough to incorporate a variety of graphic information and, yet, be consistent in appearance and presentation. It is recommended that a high pressure laminate be used for the directory, wayfinding, and interpretive signs. High pressure laminates provide high quality graphics and longevity at a reasonable price. A ½ inch thick sign should be employed to avoid the use of a frame. A high pressure laminate sign has a very clean print, has a low replacement cost, and resists shattering, and typically has a warranty period of 10 years. The interpretive signs and guidance signs should be mostly conveyed graphically, with minimal text and at a size that is at a comfortable height.





# FINAL PLAN

## **Site Furnishings**

In addition to signage, the design of the shared-use path system will include site furnishings to accommodate the needs of the path users along the length of the entire route. Amenities such as benches, informal seating areas, trash receptacles, bicycle racks, and bollards will be clustered together at major, minor, and shared-use trailheads.

Locations of amenities along paths will depend on the characteristics of each path segment and should be addressed on a case by case situation. The purpose of most shared-use paths is to move people between various locations and for recreation. As such people are less likely to stop in between access points. Benches generally should be located at overlook points along paths where appropriate and where enough right-of-way exists. Paths located in sections of the city where there is a more elderly population or where there might be a need for people to stop more frequently may require benches to be placed in between access points. Paths located near hospitals may need to have benches placed more frequently if the hospital plans to use the route for rehabilitation programs.

Along with path signage, site furniture will be among the most frequently utilized elements along the path, setting the tone for the overall image of the path system in the minds of the users. It is important that design standards for the paths' site furnishings be established to ensure overall consistency of design and path image. The colors should be consistent with the route color scheme that the furnishing is located along. Along with consistency of color, a consistent style of furnishings needs to be established and followed as paths begin to be constructed. Establishing a color and style to use throughout the path it will minimize the amount of cost for the City because replacement parts can be stockpiled for one style of bench instead of five styles. See the following product information for consistency in site furnishings.

For federally funded projects it will be important to use the information in this document to complete the proprietary selection form.



# FINAL PLAN



## ***Benches:***

- Minimum of 6 feet long
- Color and style should match existing amenities along the trail for a cohesive look
- Arm rests should be provided to help those that are more physically challenged
- A backrest should be provided to help those that are more physically challenged
- Powder or plastisol coating should be applied to reduce maintenance
- The bench must have a firm and stable pad underneath it and provide a 3 foot wide area for a wheelchair to sit next to it
- Model: Cassidy Bench 02CL1371

## **Shared-Use Path Landscaping**



The shared-use path system, due to its overall length and diverse scenery, may require more landscaping in urban areas and less in rural areas. The presence of mature vegetative cover not only adds to the natural beauty of the path experience, but also minimizes the amount of new landscaping necessary to improve the appearance of the path system and screening of the path from undesirable views and adverse adjacent path conditions.

In areas along the path where the appearance warrants improvement and no existing vegetation is present, plantings of trees, shrubs and ground cover should be considered to create a linear park effect alongside the route. New plantings should also be used to identify and improve “entrances” to parks (trail access points) and street crossings.

In addition, plantings should be used to screen certain land uses adjacent to the corridor (such as business service areas and industrial sites) and to separate the path from other improvements within the right-of-way (such as parking lots). Native plant material should be used where possible in an effort to keep landscape maintenance to a minimum and to maximize the ecological benefits of the plantings.

# FINAL PLAN

## **Shared-Use Path Lighting**

For extra safety and to add an aesthetic element to the shared-use path / roadway corridor a decorative light post will be used throughout the project. The light should match the existing lighting used on the trail section immediately to the south of this project and in the downtown area immediately north of this project. This will give the trail system a cohesive look.

- Sternberg Model A850 / 5PPT – Old Town Acorn, Post Top Mount, 5P Fitter
- 4212FPR / VG– August Series 12’ tall, 4” OD, Straight Fluted Pole, Verde Green
- XRLED-12L45T3-MDL21 – LED Upgrade Kit



## **Shared-Use Path Maintenance Issues And Safety**

Maintenance costs are expected to be a minimum for the first 5-10 years. Costs will vary depending on the amount of paths needing to be maintained and the location of the paths. On a typical mile-long trail, maintenance could cost approximately \$3,000 per year. Long term maintenance costs could consist of repairing any concrete damage. The city or parks department should have a general maintenance fund set aside. Below is a list of general system maintenance items to keep in mind during the upkeep of the shared-use paths:

- Treat any wooden railing at least every 5 years to keep from rotting
- Properly prune trees above trails and shoulders to maintain 12 feet of vertical clearance.
- Properly prune trees and shrubs to maintain at least 5 feet of horizontal clearance from trail pavement edge. Use horticultural accepted pruning techniques and do not “top” trees (do not cut mid branch). Improper pruning can put stress on trees and cause more harm to the public in the long run.
- Properly prune any dead limbs out of trees to protect trail users. Remove any existing trees within close proximity that may die over time to protect trail users.
- Perform routine maintenance: mowing, clearing, trimming, vandalism repair, and litter control.
- Edge pavement or shoulder periodically to prevent roots/vegetation from compromising pavement.



# FINAL PLAN



## **Accessibility**

As mentioned previously, all new path construction must follow guidelines developed by the US Access Board or regulations from the US Department of Justice. At the time this document was created there were several guidelines that applied: 1) Guidelines for Shared Use Paths; 2) Guidelines for Outdoor Developed Areas; and 3) Guidelines for Pedestrian Facilities in the Public Right-of-Ways.

Some of these accessibility standards have already been addressed in other sections of the design guidelines, but there are a few others to consider:

- Ramps – See Guidelines for Pedestrian Facilities in the Public Right-of-Ways
- Detectable warnings – See ADA Chapter 7: Communication Elements and Features, Section 705 and Guidelines for Pedestrian Facilities in the Public Right-of-Ways
- Push buttons (activation)/signalization standards – See Guidelines for Pedestrian Facilities in the Public Right-of-Ways
- Site amenities – See Accessibility Guidelines for Outdoor Developed Areas

## **Green Infrastructure / Road Runoff Treatment Area**

Where there is room between the shared use path and Calumet Road, storm water treatment areas can be added to collect storm water and treat it. Plants along with bio-media can be used to break down oils that leak from vehicles. It is recommended that a 5 foot wide by 20 foot long area be constructed with 6 inch tall curb all around the treatment area. A curb turn out along with a concrete splash pad can allow storm water to drop down into the treatment area. A raised inlet will allow water to pool and then slowly soak into 18” of bioengineered soil on top of 2 feet of drainage stone.



## FUNDING SOURCES

There are various sources of funding available for the design, development and construction of bicycle facilities and pedestrian projects. The following is a summary of some of the most often utilized sources.

### TRANSPORTATION ALTERNATIVES PROGRAM (TAP)

The current federal highway bill, Moving Ahead for Progress in the 21st Century, or MAP-21, is a two year bill that will provide transportation funding from October 1, 2012, through September 30, 2014. MAP-21 combines several previous biking and pedestrian programs into one program known as the Transportation Alternatives Program (TAP). TAP includes the Recreational Trails Program (RTP), Transportation Alternatives (TA) activities (many of the projects and programs that were included in the former Transportation Enhancement [TE] program), and Safe Routes to School (SRTS). The following discussion is related to all of these programs. Information specific to each program is addressed in later sections.

If the State does not opt out of the RTP funding, the RTP funds are set aside, and the remaining TAP funds are divided equally into two categories. The first half is sub-allocated based on population, in which INDOT will distribute half of the TAP funds to communities according to their share of population within the state. These population categories are as follows:

- MPOs with populations greater than 200,000: INDOT will sub-allocate funds to Metropolitan Planning Organizations (MPOs). MPOs will distribute their funds through their own competitive application process.
- Other urbanized and rural areas: MAP-21 allows state DOTs to hold a competitive application process for communities to compete for these funds. INDOT is currently developing their process, including the possibility of sub-allocating to smaller MPOs.

The second half of the remaining TAP funds will be distributed state-wide by a competitive application process through INDOT, where population is not considered. Eligible entities include local governments, school districts, tribal governments, and public lands agencies. In MAP-21, the State has the ability to transfer funds both into and out of TAP for other transportation programs

Federal TAP funds provide 80% of the costs for preliminary engineering (survey, design, and construction documents), right-of-way (engineering, management, acquisition), construction, and construction supervision. The local agency is required to provide the matching 20%. The local match for TA funds can be obtained from various sources, such as budget appropriations, cash donations, right-of-way donations, and other grant sources, provided the other grant programs allow their funds to be used as a match for MAP-21 funds. Currently, Indiana has received approximately \$21 million for funding the TAP program. Approximately \$1 million is taken off the top and distributed to Recreational Trails Program, and the other \$20 million is distributed to Transportation Alternatives and Safe Routes to School.

# FINAL PLAN

## **TRANSPORTATION ALTERNATIVES (TA)**

Under MAP-21, eligible activities included in the former Transportation Enhancement (TE) program are now referred to as Transportation Alternatives (TA) activities, and are included in TAP funding that remains after RTP funds are set aside. Although some former TE eligible activities are not included in TA, the activities most closely related to the development of trails, greenways, and bike/pedestrian facilities are still eligible. These activities include: on-road and off-road facilities for pedestrians, bicyclists, and other non-motorized forms of transportation; developing safe routes for non-drivers; conversion of abandoned railroad corridors for trails; and, historic preservation and rehabilitation of historic transportation facilities.

At this time, the new federal guidelines for the implementation and use of TA funds are being reviewed. The details for the State's program and process for acquiring and using the funds is being developed. In recent years, approximately \$16 million to \$20 million in TE funds were available annually in Indiana. At this time, Indiana has received approximately \$20 million to be split between TA and Safe Routes to School. The process for applying for the funds and the funding cycle has not yet been determined.

### ***Contact for TA Funds:***

Kathy Eaton-McKalip  
LPA/MPO& Grants Administration  
Indiana Department of Transportation  
100 N. Senate Ave. IGCN 955  
Indianapolis, IN 46204  
keaton-mckalip@indot.in.gov

Northwest Indiana Regional Planning Commission(NIRPC)  
Mitch Barloga, Nonmotorized Transportation and Greenways Planner  
6100 Southport Road  
Portage, Indiana 46368  
(219) 763-6060  
FAX (502) 266-5074  
mbarloga@nirpc.org  
www.nirpc.org

# FINAL PLAN

## **CONGESTION MITIGATION & AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)**

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) is a federal financial assistance program administered through the U.S. Department of Transportation (USDOT) in consultation with the Environmental Protection Agency (EPA). The funds are set aside for projects that encourage the reduction of smog-producing emissions in communities that fall below the EPA minimum standard for air quality (not in attainment). Under MAP-21, CMAQ funds will require a 20% local match.

### ***Contact for CMAQ:***

Northeast Indiana Regional Planning Commission (NIRPC)  
Gary Evers, Transportation Projects Manager  
6100 Southport Road  
Portage, Indiana 46368  
(219) 763-6060  
FAX (502) 266-5074  
gevers@nirpc.org  
www.nirpc.org

## **SURFACE TRANSPORTATION PROGRAM (STP) & HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)**

The Surface Transportation Program (STP) provides funding that may be used by States and localities for projects to preserve and improve the conditions and performance on Federal-aid projects. Eligible projects include highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. Therefore, any pedestrian or bicycle facility that has been previously funded by federal-aid can use this funding to “preserve and improve the conditions and performance.” Eligible activities that relate to bicycle and pedestrian projects are as follows: fringe and corridor parking facilities and programs, bicycle transportation and pedestrian walkways, ADA sidewalk modifications; transportation alternatives; and recreational trails projects.

Similarly, under MAP-21 there appear to be opportunities for bicycle and pedestrian facilities funding in the Highway Safety Improvement Program (HSIP). Traffic and accident data would need to support the development of bicycle and pedestrian facilities as a means to improve overall safety.

### ***Contact for STP and HSIP***

Northeast Indiana Regional Planning Commission (NIRPC)  
Gary Evers, Transportation Projects Manager  
6100 Southport Road  
Portage, Indiana 46368  
(219) 763-6060  
FAX (502) 266-5074  
gevers@nirpc.org  
www.nirpc.org

# FINAL PLAN

## **TAX INCREMENT FINANCING (TIF)**

Tax increment financing or TIF is a way of subsidizing redevelopment, infrastructure, or other community improvement projects. Future gains in taxes from the completion of a community improvement project are dedicated within a certain defined district to finance the debt that is issued or money that is borrowed to pay for the project. Gains can come from the projected increase of surrounding real estate as a result from the project, which generates additional tax revenue. Tax revenue increases can also come from increased sales-tax and the addition of more jobs within the community as a result of the project. Defined districts are usually areas of distressed, underdeveloped, or underutilized parts of the community that might not otherwise see development and that would benefit from the completion of a the project.

## **PRIVATE FOUNDATIONS**

There are a number of foundations and trust funds which support the planning and development of trails and greenways, in the interest of conservation, preservation, and outdoor recreation. Although many of them fund only nonprofit organizations, some will assist local public agencies. A few of these organizations include:

1. Kodak American Greenways Awards through the Conservation Fund  
[www.conservationfund.org/?article=2106](http://www.conservationfund.org/?article=2106)
2. Nina Mason Pulliam Charitable Trust  
<http://www.ninapulliamtrust.org/index.php/grant-information/>
3. Robert Wood Johnson Foundation's Active Living by Design program  
<http://www.activelivingbydesign.org/what-we-do/albd-grant-program>

## **CORPORATE SPONSORSHIP**

In addition to the federal and private foundation options, corporate sponsorship presents another opportunity for funding. As trails and roadways are developed, especially in close proximity to businesses or industries, there are opportunities for corporations to sponsor trails. Sponsorships can be direct financial support of construction activities for trails, trailheads, specific trail or trailhead amenities, or even trail maintenance. The donation of land for the development of trails is also an excellent method of corporate support that can become a sponsorship opportunity. Sponsorship often includes granting naming rights to the sponsor for the items or areas that were financed or donated. Contacting adjacent or area corporations should be considered for these types of sponsorships.

## **LOCAL BUSINESSES AND ORGANIZATIONS**

Corporations and organizations within the community are often willing to help with projects that attract employees and residents to the community through bettering the amenities available. The municipality should continue to identify organizations within the community that would be willing to help with some of the smaller projects or possibly provide match money for the larger projects.



# FINAL PLAN

## **CREATING LIVABLE COMMUNITIES (CLC) GRANT PROGRAM**

The Northwestern Indiana Regional Planning Commission has indicated that the same program which funded the Master Plan will have construction dollars available.

### ***Contact for CLC Funds:***

Northwest Indiana Regional Planning Commission(NIRPC)  
Mitch Barloga, Nonmotorized Transportation and Greenways Planner  
6100 Southport Road  
Portage, Indiana 46368  
(219) 763-6060  
FAX (502) 266-5074  
mbarloga@nirpc.org  
www.nirpc.org

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE SUMMARY

<b>Name:</b>	Calumet Road, Total		
	<b>From:</b>	Diftwood Commons Drive	
	<b>To:</b>	Porter Avenue	
<b>Type:</b>	Shared-Use Path & Road Rehabilitation		
<b>Distance:</b>	2900 Feet - 0.5 Miles		

<b>TOTAL</b>	<b>\$</b>	<b>1,762,749.00</b>
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# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #1	
	From:	Driftwood Commons Drive
	To:	Right Turn Lane Into Driftwood
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	90 Feet	

<b>Shared Use Path:</b>		<b>0.02 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 9' Wide (PCCP 4")	90	SYS	\$ 55.00	\$ 4,950.00
Compacted Agg. No 53. (4" Depth x 9')	20	TONS	\$ 24.00	\$ 480.00
Subgrade Treatment, Type 3	90	SYS	\$ 10.00	\$ 900.00
Common Excavation	20	CYS	\$ 30.00	\$ 600.00
Special Colored Concrete per Intersection	40	SYS	\$ 85.00	\$ 3,400.00
<b>Signage:</b>				
Trail Identification	1	EACH	\$ 2,000.00	\$ 2,000.00
Curb and Gutter, Concrete	123	LFT	\$ 20.00	\$ 2,460.00
Pavement Removal	13	SYS	\$ 25.00	\$ 325.00
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	519.3	SYS	\$ 10.50	\$ 5,452.65
HMA Surface	43	TON	\$ 80.00	\$ 3,440.00
HMA Patching, Type B (770# / SYS)	7.7	TON	\$ 275.00	\$ 2,117.50
Fence, Pedestrian	90	LFT	\$ 32.00	\$ 2,880.00
<b>Lighting:</b>				
Light Pole, Ornamental	1	EACH	\$ 6,000.00	\$ 6,000.00
2" Conduit	90	LFT	\$ 14.00	\$ 1,260.00
Wiring	90	LFT	\$ 7.50	\$ 675.00
18" RCP	90	LFT	\$ 60.00	\$ 5,400.00
Inlet, Type J or M	1	EACH	\$ 2,500.00	\$ 2,500.00
Seeding	0.02	MILES	\$ 9,500.00	\$ 190.00
Green Infrastructure (Storm Treatment)	1	LS	\$ 7,800.00	\$ 7,800.00
General Trail Landscape Work	1	LS	\$ 1,700.00	\$ 1,700.00

<b>SUBTOTAL</b>	<b>\$ 54,530.15</b>
2% MAINT. OF TRAFFIC	\$ 1,090.60
(LS) EARTHWORK	\$ 5,000.00
(LS) EROSION CONTROL	\$ 1,000.00
(LS) UTILITY RELOCATIONS	\$ -
2.5% CONSTRUCTION ENGINEERING	\$ 1,090.60
5% MOB. & DEMOBILIZATION	\$ 2,726.51
3% CLEARING OF ROW	\$ 1,635.90
15% CONTINGENCY	\$ 8,179.52
<b>TOTAL</b>	<b>\$ 75,253.29</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #2	
	From:	Right Turn Lane Into Driftwood
	To:	Culvert
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	55 Feet	

<b>Shared Use Path:</b>		<b>0.01 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	48.9	SYS	\$ 55.00	\$ 2,689.50
Compacted Agg. No 53. (4" Depth x 8')	10.9	TONS	\$ 24.00	\$ 261.60
Subgrade Treatment, Type 3	48.9	SYS	\$ 10.00	\$ 489.00
Common Excavation	10.9	CYS	\$ 30.00	\$ 327.00
Curb and Gutter, Concrete	55	LFT	\$ 20.00	\$ 1,100.00
Sidewalk, Concrete, Colored (PCCP 4")	0	SYS	\$ 85.00	\$ -
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	0	SYS	\$ 10.50	\$ -
HMA Surface	0	TON	\$ 80.00	\$ -
HMA Patching, Type B (770# / SYS)	4.7	TON	\$ 275.00	\$ 1,292.50
<b>Lighting:</b>				
Light Pole, Ornamental	0	EACH	\$ 6,000.00	\$ -
2" Conduit	55	LFT	\$ 14.00	\$ 770.00
Wiring	55	LFT	\$ 7.50	\$ 412.50
18" RCP	55	LFT	\$ 60.00	\$ 3,300.00
Inlet, Type J or M	0	EACH	\$ 2,500.00	\$ -
Fence, Pedestrian	25	LFT	\$ 32.00	\$ 800.00
Seeding	0.01	MILES	\$ 9,500.00	\$ 95.00
General Trail Landscape Work	1	LS	\$ 1,200.00	\$ 1,200.00
<b>SUBTOTAL</b>				<b>\$ 12,737.10</b>
2% MAINT. OF TRAFFIC				\$ 254.74
(LS) EARTHWORK				\$ 2,000.00
(LS) EROSION CONTROL				\$ 800.00
(LS) UTILITY RELOCATIONS				\$ -
2.5% CONSTRUCTION ENGINEERING				\$ 254.74
5% MOB. & DEMOBILIZATION				\$ 636.86
3% CLEARING OF ROW				\$ 382.11
15% CONTINGENCY				\$ 1,910.57
<b>TOTAL</b>				<b>\$ 18,976.12</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #3	
	From:	Bridge Start
	To:	Bridge End
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	120 Feet	

<b>Shared Use Path:</b>		<b>0.007 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	106.7	SYS	\$ 55.00	\$ 5,868.50
Compacted Agg. No 53. (4" Depth x 14')	41.4	TONS	\$ 24.00	\$ 993.60
Subgrade Treatment, Type 3	186.7	SYS	\$ 10.00	\$ 1,867.00
Common Excavation	41.4	CYS	\$ 30.00	\$ 1,242.00
Curb and Gutter, Concrete	120	LFT	\$ 20.00	\$ 2,400.00
Sidewalk, Concrete, Colored (PCCP 4")	80	SYS	\$ 85.00	\$ 6,800.00
Pavement Removal	26.6	SYS	\$ 25.00	\$ 665.00
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	266.6	SYS	\$ 10.50	\$ 2,799.30
HMA Surface, Type B	22	TON	\$ 80.00	\$ 1,760.00
HMA Patching, Type B (770# / SYS)	10.3	TON	\$ 275.00	\$ 2,832.50
Modular Block Wall	960	SFT	\$ 40.00	\$ 38,400.00
Combination Railing	50	LFT	\$ 250.00	\$ 12,500.00
Fence, Pedestrian	70	LFT	\$ 32.00	\$ 2,240.00
<b>Lighting:</b>				
Light Pole, Ornamental	1	EACH	\$ 6,000.00	\$ 6,000.00
2" Conduit	120	LFT	\$ 14.00	\$ 1,680.00
Wiring	120	LFT	\$ 7.50	\$ 900.00
18" RCP	120	LFT	\$ 60.00	\$ 7,200.00
Inlet, Type J or M	1	EACH	\$ 2,500.00	\$ 2,500.00
60" Culvert	15	LFT	\$ 150.00	\$ 2,250.00
Seeding	0.02	MILES	\$ 9,500.00	\$ 190.00
General Trail Landscape Work	1	LS	\$ 1,500.00	\$ 1,500.00

<b>SUBTOTAL</b>	<b>\$ 102,587.90</b>
2% MAINT. OF TRAFFIC	\$ 2,051.76
(LS) EARTHWORK	\$ 5,000.00
(LS) EROSION CONTROL	\$ 2,500.00
(LS) UTILITY RELOCATIONS	\$ 10,000.00
2.5% CONSTRUCTION ENGINEERING	\$ 2,051.76
5% MOB. & DEMOBILIZATION	\$ 5,129.40
3% CLEARING OF ROW	\$ 3,077.64
15% CONTINGENCY	\$ 15,388.19
<b>TOTAL</b>	<b>\$ 147,786.63</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #4	
	From:	Culvert End
	To:	Post Office South Drive
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	150 Feet	

<b>Shared Use Path:</b>		<b>0.02 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	133.3	SYS	\$ 55.00	\$ 7,331.50
Compacted Agg. No 53. (4' Depth x 11.5')	29.6	TONS	\$ 24.00	\$ 710.40
Subgrade Treatment, Type 3	133.3	SYS	\$ 10.00	\$ 1,333.00
Common Excavation	29.6	CYS	\$ 30.00	\$ 888.00
Special Colored Concrete per Intersection	40	SYS	\$ 85.00	\$ 3,400.00
Curb and Gutter, Concrete	150	LFT	\$ 20.00	\$ 3,000.00
Sidewalk, Concrete, Colored (PCCP 4")	0	SYS	\$ 85.00	\$ -
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	373.3	SYS	\$ 10.50	\$ 3,919.65
HMA Surface	31	TON	\$ 80.00	\$ 2,480.00
HMA Patching, Type B (770# / SYS)	12.8	TON	\$ 275.00	\$ 3,520.00
Center Striping	300	LFT	\$ 1.00	\$ 300.00
Fence, Pedestrian	70	LFT	\$ 32.00	\$ 2,240.00
<b>Lighting:</b>				
Light Pole, Ornamental	1	EACH	\$ 6,000.00	\$ 6,000.00
2" Conduit	150	LFT	\$ 14.00	\$ 2,100.00
Wiring	150	LFT	\$ 7.50	\$ 1,125.00
18" RCP	150	LFT	\$ 60.00	\$ 9,000.00
Seeding	0.02	MILES	\$ 9,500.00	\$ 190.00
Green Infrastructure (Storm Treatment)	1	LS	\$ 7,800.00	\$ 7,800.00
General Trail Landscape Work	1	LS	\$ 2,000.00	\$ 2,000.00
<b>SUBTOTAL</b>				<b>\$ 57,337.55</b>
2% MAINT. OF TRAFFIC				\$ 1,146.75
(LS) EARTHWORK				\$ 2,000.00
(LS) EROSION CONTROL				\$ 1,000.00
(LS) UTILITY RELOCATIONS				\$ -
2.5% CONSTRUCTION ENGINEERING				\$ 1,146.75
5% MOB. & DEMOBILIZATION				\$ 2,866.88
3% CLEARING OF ROW				\$ 1,720.13
15% CONTINGENCY				\$ 8,600.63
<b>TOTAL</b>				<b>\$ 75,818.69</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #5	
	From:	Post Office South Drive
	To:	Post Office North Entrance
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	290 Feet	

<b>Shared Use Path:</b>		<b>0.07 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	257.8	SYS	\$ 55.00	\$ 14,179.00
Compacted Agg. No 53. (4" Depth x 8')	57.2	TONS	\$ 24.00	\$ 1,372.80
Subgrade Treatment, Type 3	257.8	SYS	\$ 10.00	\$ 2,578.00
Common Excavation	56.7	CYS	\$ 30.00	\$ 1,701.00
Special Colored Concrete (5 intersersections)	200	SYS	\$ 85.00	\$ 17,000.00
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	1288.9	SYS	\$ 10.50	\$ 13,533.45
HMA Surface	135	TON	\$ 80.00	\$ 10,800.00
HMA Patching, Type B (770# / SYS)	12.8	TON	\$ 275.00	\$ 3,520.00
Center Line Striping	600	LFT	\$ 1.00	\$ 600.00
<b>Lighting:</b>				
Light Pole, Ornamental	1	EACH	\$ 6,000.00	\$ 6,000.00
2" Conduit	290	LFT	\$ 14.00	\$ 4,060.00
Wiring	290	LFT	\$ 7.50	\$ 2,175.00
18" RCP	290	LFT	\$ 60.00	\$ 17,400.00
Inlet, Type J or M	2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding	0.07	MILES	\$ 9,500.00	\$ 665.00
Site Furnishing, Bench	2	Each	\$ 3,000.00	\$ 6,000.00
Green Infrastructure (Storm Treatment)	1	LS	\$ 7,800.00	\$ 7,800.00
General Trail Landscape Work	1	LS	\$ 4,500.00	\$ 4,500.00

<b>SUBTOTAL</b>	<b>\$ 118,884.25</b>
2% MAINT. OF TRAFFIC	\$ 2,377.69
(LS) EARTHWORK	\$ 2,500.00
(LS) EROSION CONTROL	\$ 1,500.00
(LS) UTILITY RELOCATIONS	\$ -
2.5% CONSTRUCTION ENGINEERING	\$ 2,377.69
5% MOB. & DEMOBILIZATION	\$ 5,944.21
3% CLEARING OF ROW	\$ 3,566.53
15% CONTINGENCY	\$ 17,832.64
<b>TOTAL</b>	<b>\$ 154,983.00</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #6	
	From:	Post Office North Entrance
	To:	Danny O's North Entrance
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	195 Feet	

<b>Shared Use Path:</b>		<b>0.03 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	173.3	SYS	\$ 55.00	\$ 9,531.50
Compacted Agg. No 53. (4' Depth x 11.5')	55.3	TONS	\$ 24.00	\$ 1,327.20
Subgrade Treatment, Type 3	249.2	SYS	\$ 10.00	\$ 2,492.00
Common Excavation	54.8	CYS	\$ 30.00	\$ 1,644.00
Special Colored Concrete Pavement (4 Intersections)	160	SYS	\$ 85.00	\$ 13,600.00
Curb and Gutter, Concrete	390	LFT	\$ 20.00	\$ 7,800.00
Sidewalk, Concrete, Colored (PCCP 4")	119.2	SYS	\$ 85.00	\$ 10,132.00
Pavement Removal	292.8	SYS	\$ 25.00	\$ 7,320.00
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	433.3	SYS	\$ 10.50	\$ 4,549.65
HMA Surface	36	TON	\$ 80.00	\$ 2,880.00
HMA Patching, Type B (770# / SYS)	33.4	TON	\$ 275.00	\$ 9,185.00
Center Line Striping	400	LFT	\$ 1.00	\$ 400.00
<b>Lighting:</b>				
Light Pole, Ornamental	1	EACH	\$ 6,000.00	\$ 6,000.00
2" Conduit	195	LFT	\$ 14.00	\$ 2,730.00
Wiring	195	LFT	\$ 7.50	\$ 1,462.50
18" RCP	220	LFT	\$ 60.00	\$ 13,200.00
Inlet, Type J or M	2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding	0.03	MILES	\$ 9,500.00	\$ 285.00
General Trail Landscape Work	1	LS	\$ 1,000.00	\$ 1,000.00
			<b>SUBTOTAL</b>	<b>\$ 100,538.85</b>
			2% MAINT. OF TRAFFIC	\$ 2,010.78
			(LS) EARTHWORK	\$ 1,000.00
			(LS) EROSION CONTROL	\$ 2,500.00
			(LS) UTILITY RELOCATIONS	\$ 10,000.00
			2.5% CONSTRUCTION ENGINEERING	\$ 2,010.78
			5% MOB. & DEMOBILIZATION	\$ 5,026.94
			3% CLEARING OF ROW	\$ 3,016.17
			15% CONTINGENCY	\$ 15,080.83
			<b>TOTAL</b>	<b>\$ 141,184.34</b>



# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #7	
	From:	Danny O's North Entrance
	To:	Washington Avenue
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	160 Feet	

<b>Shared Use Path:</b>		<b>0.03 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	142.2	SYS	\$ 55.00	\$ 7,821.00
Compacted Agg. No 53. (4" Depth x 11.5')	47.3	TONS	\$ 24.00	\$ 1,135.20
Subgrade Treatment, Type 3	213.3	SYS	\$ 10.00	\$ 2,133.00
Common Excavation	46.9	CYS	\$ 30.00	\$ 1,407.00
Special Colored Concrete per Intersection	80	SYS	\$ 85.00	\$ 6,800.00
Curb and Gutter, Concrete	380	LFT	\$ 20.00	\$ 7,600.00
Sidewalk, Concrete, Colored (PCCP, 4")	71.1	SYS	\$ 85.00	\$ 6,043.50
Pavement Removal	106.6	SYS	\$ 25.00	\$ 2,665.00
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	455.5	SYS	\$ 10.50	\$ 4,782.75
HMA Surface	29	TON	\$ 80.00	\$ 2,320.00
HMA Patching, Type B (770# / SYS)	40.8	TON	\$ 275.00	\$ 11,220.00
Center Line Striping	320	LFT	\$ 1.00	\$ 320.00
<b>Lighting:</b>				
2" Conduit	160	LFT	\$ 14.00	\$ 2,240.00
Wiring	160	LFT	\$ 7.50	\$ 1,200.00
18" RCP	185	LFT	\$ 60.00	\$ 11,100.00
Inlet, Type J or M	2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding	0.03	MILES	\$ 9,500.00	\$ 285.00
General Trail Landscape Work	1	LS	\$ 500.00	\$ 500.00
<b>SUBTOTAL</b>				<b>\$ 62,076.25</b>
2% MAINT. OF TRAFFIC				\$ 1,241.53
(LS) EARTHWORK				\$ 1,500.00
(LS) EROSION CONTROL				\$ 1,000.00
(LS) UTILITY RELOCATIONS				\$ 10,000.00
2.5% CONSTRUCTION ENGINEERING				\$ 1,241.53
5% MOB. & DEMOBILIZATION				\$ 3,103.81
3% CLEARING OF ROW				\$ 1,862.29
15% CONTINGENCY				\$ 9,311.44
<b>TOTAL</b>				<b>\$ 91,336.84</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #8	
	From:	Washington Avenue
	To:	Westchester Avenue
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	300 Feet	

<b>Shared Use Path:</b>		<b>0.05 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	266.7	SYS	\$ 55.00	\$ 14,668.50
Compacted Agg. No 53. (4" Depth x 8')	59.2	TONS	\$ 24.00	\$ 1,420.80
Subgrade Treatment, Type 3	266.7	SYS	\$ 10.00	\$ 2,667.00
Common Excavation	58.7	CYS	\$ 30.00	\$ 1,761.00
Special Colored Concrete at each Intersection	80	SYS	\$ 85.00	\$ 6,800.00
<b>Signage:</b>				
Trail Identification	1	EACH	\$ 2,000.00	\$ 2,000.00
Directory	1	EACH	\$ 2,500.00	\$ 2,500.00
(Stop, Stop Ahead)	2	EACH	\$ 500.00	\$ 1,000.00
(No Motor Vehicles)(Cross Traffic Does Not Stop)	2	EACH	\$ 100.00	\$ 200.00
Curb and Gutter, Concrete	700	LFT	\$ 20.00	\$ 14,000.00
Pavement Removal	200	SYS	\$ 25.00	\$ 5,000.00
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	755.6	SYS	\$ 10.50	\$ 7,933.80
HMA Surface	62.3	TON	\$ 80.00	\$ 4,984.00
HMA Patching, Type B (770# / SYS)	51.3	TON	\$ 275.00	\$ 14,107.50
Center Line Striping	600	LFT	\$ 1.00	\$ 600.00
<b>Lighting:</b>				
Light Pole, Ornamental	2	EACH	\$ 6,000.00	\$ 12,000.00
2" Conduit	300	LFT	\$ 14.00	\$ 4,200.00
Wiring	300	LFT	\$ 7.50	\$ 2,250.00
18" RCP	325	LFT	\$ 60.00	\$ 19,500.00
Inlet, Type J or M	2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding	0.05	MILES	\$ 9,500.00	\$ 475.00
Trailhead	1	LS	\$ 20,000.00	\$ 20,000.00
Green Infrastructure (Storm Treatment)	1	LS	\$ 7,800.00	\$ 7,800.00
General Trail Landscape Work	1	LS	\$ 5,000.00	\$ 5,000.00
<b>SUBTOTAL</b>				<b>\$ 155,867.60</b>
2% MAINT. OF TRAFFIC				\$ 3,117.35
(LS) EARTHWORK				\$ 3,000.00
(LS) EROSION CONTROL				\$ 1,000.00
(LS) UTILITY RELOCATIONS				\$ -
2.5% CONSTRUCTION ENGINEERING				\$ 3,117.35
5% MOB. & DEMOBILIZATION				\$ 7,793.38
3% CLEARING OF ROW				\$ 4,676.03
15% CONTINGENCY				\$ 23,380.14
<b>TOTAL</b>				<b>\$ 201,951.85</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #9	
	From:	Westchester Avenue
	To:	738 Calumet Road
Type:	Shared-Use Path & Road Rehabilitation	
Distance:	425 Feet	

<b>Shared Use Path:</b>		<b>0.08 Miles</b>			
<b>Improvement Description</b>		<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")		377.8	SYS	\$ 55.00	\$ 20,779.00
Compacted Agg. No 53. (4" Depth x 8')		83.9	TONS	\$ 24.00	\$ 2,013.60
Subgrade Treatment, Type 3		377.8	SYS	\$ 10.00	\$ 3,778.00
Common Excavation		84.4	CYS	\$ 30.00	\$ 2,532.00
Special Colored Concrete at each Intersection		40	SYS	\$ 85.00	\$ 3,400.00
Signage:					
(Stop, Stop Ahead)		1	EACH	\$ 500.00	\$ 500.00
(No Motor Vehicles)(Cross Traffic Does Not Stop)		1	EACH	\$ 100.00	\$ 100.00
Curb and Gutter, Concrete		850	LFT	\$ 20.00	\$ 17,000.00
Pavement Removal		330.5	SYS	\$ 25.00	\$ 8,262.50
Mill and Resurface:					
HMA Milling, 1.5"		944.4	SYS	\$ 10.50	\$ 9,916.20
HMA Surface		78	TON	\$ 80.00	\$ 6,240.00
HMA Patching, Type B (770# / SYS)		72.7	TON	\$ 275.00	\$ 19,992.50
Center Line Striping		850	LFT	\$ 1.00	\$ 850.00
Lighting:					
Light Pole, Ornamental		3	EACH	\$ 6,000.00	\$ 18,000.00
2" Conduit		425	LFT	\$ 14.00	\$ 5,950.00
Wiring		425	LFT	\$ 7.50	\$ 3,187.50
18" RCP		450	LFT	\$ 60.00	\$ 27,000.00
Inlet, Type J or M		2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding		0.08	MILES	\$ 9,500.00	\$ 760.00
Green Infrastructure (Storm Treatment)		1	LS	\$ 7,800.00	\$ 7,800.00
General Trail Landscape Work		1	LS	\$ 2,000.00	\$ 2,000.00

<b>SUBTOTAL</b>	<b>\$ 165,061.30</b>
2% MAINT. OF TRAFFIC	\$ 3,301.23
(LS) EARTHWORK	\$ 3,500.00
(LS) EROSION CONTROL	\$ 1,500.00
(LS) UTILITY RELOCATIONS	\$ -
2.5% CONSTRUCTION ENGINEERING	\$ 3,301.23
5% MOB. & DEMOBILIZATION	\$ 8,253.07
3% CLEARING OF ROW	\$ 4,951.84
15% CONTINGENCY	\$ 24,759.20
<b>TOTAL</b>	<b>\$ 214,627.85</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	<b>Calumet Road #10</b>	
	From:	738 Calumet Road
	To:	726 Calumet Road
Type:	Shared-Use Path & Road Rehabilitation	
Distance:	140 Feet	

<b>Shared Use Path:</b>		<b>0.02 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	124.4	SYS	\$ 55.00	\$ 6,842.00
Compacted Agg. No 53. (4" Depth x 8')	27.6	TONS	\$ 24.00	\$ 662.40
Subgrade Treatment, Type 3	124.4	SYS	\$ 10.00	\$ 1,244.00
Common Excavation	27.6	CYS	\$ 30.00	\$ 828.00
Curb and Gutter, Concrete	280	LFT	\$ 20.00	\$ 5,600.00
Pavement Removal	280	SYS	\$ 25.00	\$ 7,000.00
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	342.2	SYS	\$ 10.50	\$ 3,593.10
HMA Surface	28	TON	\$ 80.00	\$ 2,240.00
HMA Patching, Type B (770# / SYS)	23.9	TON	\$ 275.00	\$ 6,572.50
Center Line Striping	280	LFT	\$ 1.00	\$ 280.00
<b>Lighting:</b>				
Light Pole, Ornamental	1	EACH	\$ 6,000.00	\$ 6,000.00
2" Conduit	140	LFT	\$ 14.00	\$ 1,960.00
Wiring	140	LFT	\$ 7.50	\$ 1,050.00
18" RCP	140	LFT	\$ 60.00	\$ 8,400.00
Seeding	0.02	MILES	\$ 9,500.00	\$ 190.00
General Trail Landscape Work	1	LS	\$ 1,500.00	\$ 1,500.00
<b>SUBTOTAL</b>				<b>\$ 53,962.00</b>
2% MAINT. OF TRAFFIC				\$ 1,079.24
(LS) EARTHWORK				\$ 2,000.00
(LS) EROSION CONTROL				\$ 600.00
(LS) UTILITY RELOCATIONS				\$ -
2.5% CONSTRUCTION ENGINEERING				\$ 1,079.24
5% MOB. & DEMOBILIZATION				\$ 2,698.10
3% CLEARING OF ROW				\$ 1,618.86
15% CONTINGENCY				\$ 8,094.30
<b>TOTAL</b>				<b>\$ 71,131.74</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	<b>Calumet Road #11</b>	
	From:	738 Calumet Road
	To:	Park Avenue
Type:	Shared-Use Path & Road Rehabilitation	
Distance:	315 Feet	

<b>Shared Use Path:</b>		<b>0.05 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	280	SYS	\$ 55.00	\$ 15,400.00
Compacted Agg. No 53. (4" Depth x 8')	62.1	TONS	\$ 24.00	\$ 1,490.40
Subgrade Treatment, Type 3	280	SYS	\$ 10.00	\$ 2,800.00
Common Excavation	62.1	CYS	\$ 30.00	\$ 1,863.00
Special Colored Concrete per Intersection	40	SYS	\$ 85.00	\$ 3,400.00
<b>Signage:</b>				
Trail Identification	1	EACH	\$ 2,000.00	\$ 2,000.00
(Stop, Stop Ahead)	1	EACH	\$ 500.00	\$ 500.00
(No Motor Vehicles)(Cross Traffic Does Not Stop)	1	EACH	\$ 100.00	\$ 100.00
Curb and Gutter, Concrete	630	LFT	\$ 20.00	\$ 12,600.00
Pavement Removal	140	SYS	\$ 25.00	\$ 3,500.00
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	840	SYS	\$ 10.50	\$ 8,820.00
HMA Surface	69	TON	\$ 80.00	\$ 5,520.00
HMA Patching, Type B (770# / SYS)	53.9	TON	\$ 275.00	\$ 14,822.50
Center Line Striping	630	LFT	\$ 1.00	\$ 630.00
<b>Lighting:</b>				
Light Pole, Ornamental	1	EACH	\$ 6,000.00	\$ 6,000.00
2" Conduit	315	LFT	\$ 14.00	\$ 4,410.00
Wiring	315	LFT	\$ 7.50	\$ 2,362.50
18" RCP	340	LFT	\$ 60.00	\$ 20,400.00
Inlet, Type J or M	2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding	0.05	MILES	\$ 9,500.00	\$ 475.00
Green Infrastructure (Storm Treatment)	1	LS	\$ 7,800.00	\$ 7,800.00
General Trail Landscape Work	1	LS	\$ 3,000.00	\$ 3,000.00
<b>SUBTOTAL</b>				<b>\$ 122,893.40</b>
2% MAINT. OF TRAFFIC				\$ 2,457.87
(LS) EARTHWORK				\$ 3,000.00
(LS) EROSION CONTROL				\$ 1,200.00
(LS) UTILITY RELOCATIONS				\$ -
2.5% CONSTRUCTION ENGINEERING				\$ 2,457.87
5% MOB. & DEMOBILIZATION				\$ 6,144.67
3% CLEARING OF ROW				\$ 3,686.80
15% CONTINGENCY				\$ 18,434.01
<b>TOTAL</b>				<b>\$ 160,274.62</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #12	
	From:	Park Avenue
	To:	Jefferson Avenue
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	290 Feet	

<b>Shared Use Path:</b>		<b>0.05 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	257.8	SYS	\$ 55.00	\$ 14,179.00
Compacted Agg. No 53. (4" Depth x 8')	57.2	TONS	\$ 24.00	\$ 1,372.80
Subgrade Treatment, Type 3	257.8	SYS	\$ 10.00	\$ 2,578.00
Common Excavation	57.2	CYS	\$ 30.00	\$ 1,716.00
Special Colored Concrete per Intersection	80	SYS	\$ 85.00	\$ 6,800.00
<b>Signage:</b>				
Trail Identification	1	EACH	\$ 2,000.00	\$ 2,000.00
(Stop, Stop Ahead)	1	EACH	\$ 500.00	\$ 500.00
(No Motor Vehicles)(Cross Traffic Does Not Stop)	1	EACH	\$ 100.00	\$ 100.00
Curb and Gutter, Concrete	610	LFT	\$ 20.00	\$ 12,200.00
Pavement Removal	257.7	SYS	\$ 25.00	\$ 6,442.50
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	716	SYS	\$ 10.50	\$ 7,518.00
HMA Surface	59	TON	\$ 80.00	\$ 4,720.00
HMA Patching, Type B (770# / SYS)	52.1	TON	\$ 275.00	\$ 14,327.50
Center Line Striping	600	LFT	\$ 1.00	\$ 600.00
<b>Lighting:</b>				
Light Pole, Ornamental	2	EACH	\$ 6,000.00	\$ 12,000.00
2" Conduit	290	LFT	\$ 14.00	\$ 4,060.00
Wiring	290	LFT	\$ 7.50	\$ 2,175.00
18" RCP	315	LFT	\$ 60.00	\$ 18,900.00
Inlet, Type J or M	2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding	0.05	MILES	\$ 9,500.00	\$ 475.00
Green Infrastructure (Storm Treatment)	1	LS	\$ 7,800.00	\$ 7,800.00
General Trail Landscape Work	1	LS	\$ 3,200.00	\$ 3,200.00

<b>SUBTOTAL</b>	<b>\$ 128,663.80</b>
2% MAINT. OF TRAFFIC	\$ 2,573.28
(LS) EARTHWORK	\$ 3,000.00
(LS) EROSION CONTROL	\$ 1,000.00
(LS) UTILITY RELOCATIONS	\$ -
2.5% CONSTRUCTION ENGINEERING	\$ 2,573.28
5% MOB. & DEMOBILIZATION	\$ 6,433.19
3% CLEARING OF ROW	\$ 3,859.91
15% CONTINGENCY	\$ 19,299.57
<b>TOTAL</b>	<b>\$ 167,403.03</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #13	
	From:	Jefferson Avenue
	To:	Details Dry Cleaning Entrance
<b>Type:</b>	Shared-Use Path & Road Rehabilitation	
<b>Distance:</b>	240 Feet	

<b>Shared Use Path:</b>		<b>0.04 Miles</b>		
<b>Improvement Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")	213.3	SYS	\$ 55.00	\$ 11,731.50
Compacted Agg. No 53. (4" Depth x 8')	47.4	TONS	\$ 24.00	\$ 1,137.60
Subgrade Treatment, Type 3	213.3	SYS	\$ 10.00	\$ 2,133.00
Common Excavation	47.4	CYS	\$ 30.00	\$ 1,422.00
Special Colored Concrete per Intersection	40	SYS	\$ 85.00	\$ 3,400.00
<b>Signage:</b>				
(Stop, Stop Ahead)	1	EACH	\$ 500.00	\$ 500.00
(No Motor Vehicles)(Cross Traffic Does Not Stop)	1	EACH	\$ 100.00	\$ 100.00
Curb and Gutter, Concrete	555	LFT	\$ 20.00	\$ 11,100.00
Pavement Removal	213.3	SYS	\$ 25.00	\$ 5,332.50
<b>Mill and Resurface:</b>				
HMA Milling, 1.5"	533.3	SYS	\$ 10.50	\$ 5,599.65
HMA Surface	44	TON	\$ 80.00	\$ 3,520.00
HMA Patching, Type B (770# / SYS)	47.5	TON	\$ 275.00	\$ 13,062.50
Center Line Striping	480	LFT	\$ 1.00	\$ 480.00
<b>Lighting:</b>				
Light Pole, Ornamental	2	EACH	\$ 6,000.00	\$ 12,000.00
2" Conduit	240	LFT	\$ 14.00	\$ 3,360.00
Wiring	240	LFT	\$ 7.50	\$ 1,800.00
18" RCP	265	LFT	\$ 60.00	\$ 15,900.00
Inlet, Type J or M	2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding	0.04	MILES	\$ 9,500.00	\$ 380.00
Green Infrastructure (Storm Treatment)	1	LS	\$ 7,800.00	\$ 7,800.00
General Trail Landscape Work	1	LS	\$ 2,500.00	\$ 2,500.00

<b>SUBTOTAL</b>	<b>\$ 108,258.75</b>
2% MAINT. OF TRAFFIC	\$ 2,165.18
(LS) EARTHWORK	\$ 3,000.00
(LS) EROSION CONTROL	\$ 1,200.00
(LS) UTILITY RELOCATIONS	\$ -
2.5% CONSTRUCTION ENGINEERING	\$ 2,165.18
5% MOB. & DEMOBILIZATION	\$ 5,412.94
3% CLEARING OF ROW	\$ 3,247.76
15% CONTINGENCY	\$ 16,238.81
<b>TOTAL</b>	<b>\$ 141,688.61</b>

# FINAL PLAN

## CALUMET CONNECTION TRAIL MASTER PLAN COST ESTIMATE

<b>Name:</b>	Calumet Road #14	
	From:	Details Dry Cleaning Entrance
	To:	Porter Avenue
Type:	Shared-Use Path & Road Rehabilitation	
Distance:	60 Feet	

<b>Shared Use Path:</b>		<b>0.01 Miles</b>			
<b>Improvement Description</b>		<b>Qty.</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Cost</b>
Concrete Trail, 8' Wide (PCCP 4")		53.3	SYS	\$ 55.00	\$ 2,931.50
Compacted Agg. No 53. (4" Depth x 8')		16.3	TONS	\$ 24.00	\$ 391.20
Subgrade Treatment, Type 3		73.3	SYS	\$ 10.00	\$ 733.00
Common Excavation		16	CYS	\$ 30.00	\$ 480.00
Special Colored Concrete per Intersection		40	SYS	\$ 85.00	\$ 3,400.00
<b>Signage:</b>					
Trail Identification		1	EACH	\$ 2,000.00	\$ 2,000.00
Directory		1	EACH	\$ 2,500.00	\$ 2,500.00
(Stop, Stop Ahead)		1	EACH	\$ 500.00	\$ 500.00
(No Motor Vehicles)(Cross Traffic Does Not Stop)		1	EACH	\$ 100.00	\$ 100.00
Curb and Gutter, Concrete		120	LFT	\$ 20.00	\$ 2,400.00
Curb, Concrete, Straight		30	LFT	\$ 20.00	\$ 600.00
Sidewalk, Concrete, (PCCP 4")		20	SYS	\$ 85.00	\$ 1,700.00
Pavement Removal		53.3	SYS	\$ 25.00	\$ 1,332.50
<b>Mill and Resurface:</b>					
HMA Milling, 1.5"		133.3	SYS	\$ 10.50	\$ 1,399.65
HMA Surface		11	TON	\$ 80.00	\$ 880.00
HMA Patching, Type B (770# / SYS)		10.3	TON	\$ 275.00	\$ 2,832.50
Center Line Striping		120	LFT	\$ 1.00	\$ 120.00
<b>Lighting:</b>					
Light Pole, Ornamental		1	EACH	\$ 6,000.00	\$ 6,000.00
2" Conduit		60	LFT	\$ 14.00	\$ 840.00
Wiring		60	LFT	\$ 7.50	\$ 450.00
18" RCP		1	LS	\$ 1,000.00	\$ 1,000.00
Signal Pole Foundation 36 IN x 144 IN		1	LS	\$ 2,500.00	\$ 2,500.00
Signal Strain Pole and New Singal Service		1	LS	\$ 15,000.00	\$ 15,000.00
18" RCP		85	LFT	\$ 60.00	\$ 5,100.00
Inlet, Type J or M		2	EACH	\$ 2,500.00	\$ 5,000.00
Seeding		0.01	MILES	\$ 9,500.00	\$ 95.00
General Trail Landscape Work		1	LS	\$ 1,000.00	\$ 1,000.00
<b>SUBTOTAL</b>					<b>\$ 61,285.35</b>
2% MAINT. OF TRAFFIC					\$ 1,225.71
(LS) EARTHWORK					\$ 2,000.00
(LS) EROSION CONTROL					\$ 500.00
(LS) UTILITY RELOCATIONS					\$ 20,000.00
2.5% CONSTRUCTION ENGINEERING					\$ 1,225.71
5% MOB. & DEMOBILIZATION					\$ 3,064.27
3% CLEARING OF ROW					\$ 1,838.56
15% CONTINGENCY					\$ 9,192.80
<b>TOTAL</b>					<b>\$ 100,332.39</b>



**CALUMET CONNECTION**

**M A S T E R P L A N**

**FINAL REPORT  
APPENDICES**

**NOVEMBER 9, 2015**

**PREPARED BY  
BUTLER, FAIRMAN & SEUFERT, INC.**



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Steering Committee Members  
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Steering Committee Meeting - Inventory & Analysis Phase - August 6, 2015  
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Steering Committee Meeting - Final Plan Review - October 22, 2015  
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## APPENDIX B

Geotech and Asphalt Cores Report  
Engineering Report by Andrea Langille, PE  
Lighting Information Summary  
Lighting Figure



**• APPENDIX A •**



**Chesterton – Calumet Connection of the Dunes Kankakee Trail**  
**Kickoff Meeting**  
**June 18, 2015**  
**2:00pm CT**

- 1) Sign In and Introductions (5 Minutes)
  - a. Welcome from the Town
  - b. BF&S Role
  
- 2) Review Scope (15 Minutes)
  - a. Project Limits
  - b. Shared Use Path
  - c. Streetscape Elements
  
- 3) Process and Schedule (15 Minutes)
  - a. 4 Project Phases
  - b. Review and Confirm Schedule
  
- 4) Discuss Goals and Objectives (10 Minutes)
  
- 5) Stake Holder Meetings (10 minutes)
  - a. Number of Meetings
  - b. Meeting Location
  - c. List of Stakeholders
  
- 6) Public Input (5 Minutes)
  - a. Location
  - b. Format

**CHESTERTON**  
**CALUMET CONNECTION OF THE DUNES KANKAKEE TRAIL**  
**KICKOFF MEETING MINUTES**  
**June 18, 2015**

**Attendees:**

Jim Ton	Town of Chesterton Town Council	<a href="mailto:jton@chestertonin.org">jton@chestertonin.org</a>
Emerson Delaney	Town of Chesterton Town Council	<a href="mailto:Emerson5@comcast.net">Emerson5@comcast.net</a>
Mark O'Dell	Town of Chesterton	<a href="mailto:modell@chestertonin.org">modell@chestertonin.org</a>
Chris Nesper	Town of Chesterton	<a href="mailto:cnesper@chestertonin.org">cnesper@chestertonin.org</a>
Jason Griffin	Butler, Fairman & Seufert	<a href="mailto:jgriffin@bfsengr.com">jgriffin@bfsengr.com</a>
Jessica Gordon	Butler, Fairman & Seufert	<a href="mailto:jgordon@bfsengr.com">jgordon@bfsengr.com</a>
Jake Dammarell	Butler, Fairman & Seufert	<a href="mailto:jdammarell@bfsengr.com">jdammarell@bfsengr.com</a>

1. The meeting began with everyone introducing themselves.  
*Attendance sheet attached.*
2. Jason Griffin stated that BF&S' role was to assist the Town with the project and provide technical advice. BF&S understands that this is the Town of Chesterton's project and we are here to help make the project successful.
3. The group reviewed the schedule provided. Locations and timing of each meeting was discussed.  
*A revised schedule has been provided along with a summary of the stakeholder and public meetings. Following the meeting it was determined that Chris Nesper had a conflict on July 9<sup>th</sup>. The public open house and stakeholder meetings were moved to July 13<sup>th</sup> and 14<sup>th</sup>.*
4. The group discussed the limits of the project. The project will start at approximately Abbey Lane (just south of Pope O'Conner Ditch) to Porter Ave. The project will be a conceptual plan for a shared use path and streetscape improvements. Streetscape elements include lighting, landscaping, drainage/green infrastructure, roadway reconstruction, decorative crosswalks, signage, trash receptacles, and benches. Calumet Ave. will be a gateway from the South Calumet Business District to the Downtown Business District. Corings will be done to determine the best course of action regarding road reconstruction.
5. There will be four project phases. The first phase is the inventory phase in which BF&S will collect information on the existing conditions and seek public input. The second phase is the analysis phase where we will start to assess the opportunities and constraints of the project. The third phase is the draft plan stage in which we develop a preliminary



solution and ask for the steering committee and then the public to provide feedback. The fourth phase is the final master plan in which we revise the draft plan based upon public input and then create preliminary cost opinions. The plan will be adopted by the Town Council as a resolution.

The group discussed the proposed schedule that was provided. There were no objections or revisions to the proposed schedule.

*Schedule attached.*

6. The group discussed the goals and objectives of the project. It was emphasized that public transparency is a critical aspect to the project. A recent project in the area has drawn the suspicions of the public. The more public input we can gather the better the project will be received. Safety and aesthetics were also mentioned as key goals.
7. The group discussed the number of stakeholder meetings. It was decided that 2 stakeholder meetings will be held. All meetings will be held at the Town Hall. The first stakeholder meeting will be comprised of government officials and private organizations. The second meeting will be for private property owners along the route. Invitees to the first meeting will be contacted by email. The group reviewed the list of stakeholders and suggested revisions were noted. The second group of stakeholders will be identified by the County GIS database and addresses will be provided to the Town for direct mailing. *See attached final list of stakeholders and property owners.*
8. The group discussed the format of the public meeting. The meeting will be an open house that is held from 3:00pm to 7:00pm. The public can stop by anytime during this period to discuss the project and ask questions. BF&S will provide a press release to Chris Nesper for advertising the meeting. The meeting will also be held at the Town Hall.
9. The topic of the Post Office came up and who to contact about crossing their property. BF&S indicated that they had worked with the U.S. Postal Service on another trail that crossed their property. Jason Griffin will look up that contact and invite them to stakeholder meeting.

*Following the meeting BF&S contacted the U.S. Postal Service regarding the project. Susan Bourgart was no longer with the U.S. Postal Service, but we were directed to Marcia Larsen Williams. She indicated that she should be sent any information, and she would make sure that the proper person was notified. She indicated that her office in Illinois no longer handled the real estate, and that Jim Ruffing in D.C. would most likely be the person. However, since it is in her backyard and she handled this area for so*

*long, she would probably continue to be in the loop in an advisory capacity. She indicated that U.S. Postal Service is not allowed to donate property. Since the postal service is required to handle all expenses through postage, they do not receive money from any branch of government. Contact information for Marcia Larsen Williams; T: (630)295-6289, E: [Marcia.j.larsen-williams@USPS.GOV](mailto:Marcia.j.larsen-williams@USPS.GOV)*

10. Signage that includes GPS tags (locators) should be considered. These were used in Dogwood Park. Contact Bruce Mathis for more information (T: 219-926-3000).
11. Contact John Schnadenberg (T: 219-926-2222) for information regarding existing lighting, benches, and signage used along Calumet Ave. and in the downtown area.
12. Mark O'Dell indicated that he was told that INDOT quarterly reports would not be required for this project.

These notes are the recollection of the writer. If any adjustments or corrections are required, please notify Butler, Fairman & Seufert within 5 business days so that an addendum may be issued.



**CALUMET CONNECTION OF DUNES KANKAKEE TRAIL AND STREETScape PLAN  
CHESTERTON, IN  
STAKEHOLDER MEETINGS AND AGENDA**

**Monday, July 13, 2015**

1:00pm – 2:15pm

Governmental / Agency Stakeholders

**Tuesday, July 14, 2015**

9:00am – 10:15am

Private Property Owners

**Agenda (Each Meeting)**

- 1) Sign In (5 minutes)
- 2) Background and Need for the Plan (5 minutes)
- 3) Scope of the Plan (10 Minutes)
- 4) Goals and Objectives (5 minutes)
  - a. City's Goals and Objectives
- 5) Schedule and Next Steps (5 minutes)
- 6) Group Discussion of Study Area (40 minutes)
  - a. Introduction of individual / organization
  - b. Individual Expectations and Goals for the plan
  - c. Constraints and Perceived Problem Areas
- 7) Closing (5 Minutes)



- GABRIEL
- OPP. TO CREATE CONNECTION W/
- TOWN COUNCIL IN FAVOR TO  
CREATE
- UNDER RP TO CONSERVANCY
- NIRPC LIVEABLE CENTERS STUDY  
REDUCE SPRAWL. MORE LIVEABLE.  
CONNECTIONS
- ROUND OF FUNDING FOR CONSTRUCTION  
TALK TO MITCH
- CLC CONSTRUCTION DOLLARS
- WALK TO LIBRARY, WALK TO DOWNTOWN  
CONNECTIVITY IS NOT THERE
- A LOT OF BUSINESS SOUTHEAST. "VITAC  
LIKE TO SUBDIVISIONS SOUTH.
- GROWTH 25% IN LAST 15 YEARS  
SMALL GROWTH. LONG TERM FUTURE  
SAFETY. IMPACT ON BUSINESS. COST?
- 1100 WESTCHESTER LIBERTY TRAIL  
ST<sup>h</sup> TO CALMUT

- UACPO IS POWER WITH THEIR PORTION
- ACQUIRE BOARDWALK, GIVING UP ~~CONNECTION~~ AESTHETIC FOR KEY C/W, COFFEE CREEK NOT VIABLE OPTION
- FRONTIER SERVICE POLLS
- IH POW, DOES NOT THINK ~~THEY~~ HAVE EASEMENT





## PUBLIC OPEN HOUSE

GLORIA ~

- CONCERNED ABOUT REMOVING CREEK
- CONCERNED ABOUT WIDENING ROADWAY  
(NOT NECESSARY)
- CALUMET AVE. WAS FIRST VIEW OF  
CHESTERTON IN 1968 WHEN THEY  
MOVED FROM BALTIMORE, MD.

**CALUMET CONNECTION OF DUNES KANKAKEE TRAIL AND STREETScape PLAN  
CHESTERTON, IN  
STAKEHOLDER MEETINGS AND AGENDA**

**Monday, July 13, 2015**

1:00pm – 2:15pm

Governmental / Agency Stakeholders

**Tuesday, July 14, 2015**

9:00am – 10:15am

Private Property Owners

**Agenda (Each Meeting)**

- 1) Sign In (5 minutes)
- 2) Background and Need for the Plan (5 minutes)
- 3) Scope of the Plan (10 Minutes)
- 4) Goals and Objectives (5 minutes)
  - a. City's Goals and Objectives
- 5) Schedule and Next Steps (5 minutes)
- 6) Group Discussion of Study Area (40 minutes)
  - a. Introduction of individual / organization
  - b. Individual Expectations and Goals for the plan
  - c. Constraints and Perceived Problem Areas
- 7) Closing (5 Minutes)



CHESTERMAN

STAKEHOLDER  
(PRIVATE PROPERTY)

7/19/15

SAINW

→ TRAILHEAD

- NORTH LOT BUILDABLE
- ENTRANCE OFF OF CALUMET TO LOTS
- LIGHT OFFICE
- CONSIDER SNOW REMOVAL (MAKES IT MORE PEP FRIENDLY)

CHRIS NEWTON

- PARKING LOSS
- NON COMPLIANCE
- SIGNAGE ? LOSS
- TREES ? LOSS

WINEY

- TREES
- LIGHTS

JACK HUMPHREY - 618

- MAINTAINENCE ? - SNOW REMOVAL CONCERN

- EMPTYING TRASH RECEP.

-

**Chesterton – Calumet Connection of the Dunes Kankakee Trail**  
**Inventory and Analysis Review**  
**August 6, 2015**  
**1:00pm CT**

- 1) Sign In and Introductions (5 Minutes)
- 2) Review Schedule (10 Minutes)
- 3) Review Stakeholder Meetings (10 Minutes)
- 4) Review Public Input (10 Minutes)
- 5) Inventory (10 minutes)
  - a. Right-of-way
  - b. Utilities
  - c. Drainage
  - d. Cross Sections
- 6) Analysis (15 Minutes)
  - a. Cross Sections
  - b. Opportunities
  - c. Constraints





# MEETING ATTENDANCE RECORD

PROJECT: Chesterton – Calumet Connection of the Dunes Kankakee Trail

DESCRIPTION: Advisory Committee – Inventory and Analysis Review 1:00pm

DATE: August 6, 2015

NAME	ORGANIZATION	E-MAIL ADDRESS	TELEPHONE
JIAN TON	TOWN COUNCIL		
Chris Nesper	Town of Chesterton	cnesper@chesterton.in.gov	249 - 758-1336
JESSICA GOLDEN	BF + S		
JASON GAFFNEY	BF&S		

**Chesterton – Calumet Connection of the Dunes Kankakee Trail  
Stakeholder and Public Input Review**

1) Stakeholder Meetings

a. Government

i. Total Invited = 15 different groups

ii. Total Attendees = 7

iii. Organizations represented:

1. NIRPC
2. Indiana Dunes Tourism
3. NIPSCO
4. Town Manager
5. Town Council
6. Town Engineer

iv. Key Points

1. The project creates an opportunity to create connections to the downtown which is a livable center. Helps reduce sprawl by allowing walking and biking to the downtown.
2. There will be an opportunity to apply for a round of funding through the Creating Livable Communities (CLC) Grant program. This round of funding will be for construction. Talk to Mitch Barloga for more information.
3. Need a vital link to businesses and subdivisions to the southeast of Town.
4. The Town has grown 25% in the last 15 years. Need for smart growth and think about the long term future.
5. The Town is also working on the design of Liberty Trail at this time.
6. Valparaiso is done with their portion of the Dunes Kankakee Trail.
7. Coffee Creek was discussed as a more aesthetic route, but not a viable option.
8. NIPSCO does not believe that they have an easement along the route and most of their poles are service lines, not high transmission lines.

b. Private Property Owners

i. Total Invited = 25

ii. Total Attendees = 4

iii. Key Points

1. Snow removal concern
2. Does not want trash receptacles in front of home and does not want to have to empty them.
3. Empty north lot owned by Paul Shinn may not be buildable if there is too much loss of property. Would be willing to sell for a trailhead. Would like to have an access off of Calumet Ave to the lots. Thinks the Town should consider snow removal if the goal is to make the Town more pedestrian friendly.
4. Chris Newton is concerned with parking loss and also being in non-compliance due to the path. Concerned with losing signage and losing trees.
5. Tim Winey was appreciative of the meeting and the open dialogue. He reviewed the current streetscape following the meeting. He is not averse to losing a tree or two if it will help with the character of the pathway. He also reemphasized that he was open to having a street lamp in front of his business.

2) Public Open House

a. Total Attendees = 4

b. Key Points:

- i. Gloria Rector was concerned about losing trees and widening the roadway. She believes that widening the roadway is not necessary. She indicated that her first memory of Chesterton when they moved here in 1968 was the entrance from Calumet Ave.
- ii. Patti Scott lives along Calumet Ave. She did not understand why we were picking this section as the next phase. She was concerned with the sidewalk being widened toward her house and taking up more of the yard. She concerned with snow removal, a trash receptacle or bench being in front of her home.
- iii. Two reporters stopped by to cover the project.



**Chesterton – Calumet Connection of the Dunes Kankakee Trail**  
**Draft Plan Review**  
**September 10, 2015**  
**1:00pm CT**

- 1) Sign In (5 Minutes)
- 2) Review Schedule (5 Minutes)
- 3) Pavement Cores / Existing Roadway Condition (10 Minutes)
  - a. Existing Pavement
  - b. Traffic
- 4) Preliminary Standards (20 Minutes)
  - a. Recommended Pavement Overlay
  - b. Vehicular Lane Widths and Curb Width
  - c. Object Free Zone and Appurtenance Free Zone
  - d. Shared Use Path Width and Minimum Separation
  - e. Lighting
  - f. Benches
- 5) Review Draft Plan (45 Minutes)
  - a. Proposed Cross Sections
  - b. Draft Plan Map
- 6) Questions (5 Minutes)



**CHESTERTON**  
**CALUMET CONNECTION OF THE DUNES KANKAKEE TRAIL**  
**DRAFT PLAN PRESENTATION – SUMMARY OF COMMENTS**  
**September 24, 2015**

**Attendees:**

See Attached Attendance Sheet

1. Butler, Fairman, and Seufert gave a brief presentation. Attendees were informed of the need for the plan, scope of the plan, process, and typical proposed sections along the route.
2. Attendees were then invited to meet with members of Butler, Fairman, and Seufert and Town Staff to review the draft master plan.
3. A question was asked about the time of the final master plan presentation to the Town Council on November 9<sup>th</sup>, 2015. It was stated that Town Council meetings start at 7:00pm.
4. Chris Newton reviewed the area in front of her business. She wanted to confirm that her parking and sign would not be affected. It was stated that the shared-use path is proposed to only affect at the most 2 feet past the sidewalk. We also can reduce the buffer width in certain areas to avoid constraints. The shared use-path will definitely not affect her parking and most likely will not affect her sign. During design, a survey will be done and the path can be laid out to avoid the sign.
5. Jennie Harmon works for Zale Eye Center. She was there representing the Zale's and to make sure that there were that the parking or eye center were not negatively impacted. It was stated the most affect would be the new curb along the east side, but that we were holding the east curb line and all improvements would be west of that line. She indicated that she like the idea of the reducing the lane widths to reduce speeds along Calumet Rd. She feels like people speed through the curve and it is dangerous. She was planning on calling the Town to request signage to slow vehicles down.
6. Mr. and Mrs. Gordon were in favor of the trail and thought that it was a great improvement for the region.

These notes are the recollection of the writer.



# MEETING ATTENDANCE RECORD

PROJECT: Chesterton - Calumet Connection of the Dunes Kankakee Trail

DESCRIPTION: Draft Plan Presentation - 5:00pm

DATE: September 24, 2015

NAME	ADDRESS	E-MAIL ADDRESS	TELEPHONE
JESSICA GORDIN	BF & S		
JASON SKIFFIN	BF & S		
Chris Nepper	Town of Chesterton		
Jesse Gordon	VTRM...		
John Gordon	VTRM...		
Dennis Harmon	Zale Eye Center		219 9261001
Chris Newton	760 S Calumet Rd		219 395-1747

September 10, 2015

**For Immediate Release:**

**Calumet Connection of the Dunes Kankakee Trail and Streetscape Plan**

Chesterton, Indiana

The Town of Chesterton requests the attendance of interested citizens to attend a presentation of the Dunes Kankakee Trail and Streetscape Draft Plan. The study area is along the west side of Calumet Road beginning at approximately Abbey Lane and ending at Porter Avenue. Butler, Fairman and Seufert, Inc. (BF&S), will be presenting information on the draft infrastructure plan and proposed standards. A brief presentation will be followed by a public open house for comment and suggestions.

The meeting will be held at the following time and location:

Public Presentation: September 24, 2015

Location: Chesterton Town Hall

Address: 726 Broadway

Time: 5:00pm

The Town of Chesterton and their consultant thank you for your time and look forward to meeting with you regarding this important project. If you have any questions regarding this meeting or the plan, please feel free to contact Chris Nesper, Assistant Town Engineer, for more information.

Chris Nesper, Assistant Town Engineer

Town of Chesterton

(219) 728-1336

[cnesper@chestertonin.org](mailto:cnesper@chestertonin.org)

# DRAFT PLAN PUBLIC PRESENTATION SEPTEMBER 24, 2015



*Chesterton, Indiana*

CALUMET CONNECTION OF THE DUNES KANKAKEE TRAIL  
MASTER PLAN

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### NEED FOR THE PLAN



- Improved Health Benefits
- Economic Development
- Environmental Benefits
- Better Quality of Life

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### NEED FOR THE PLAN



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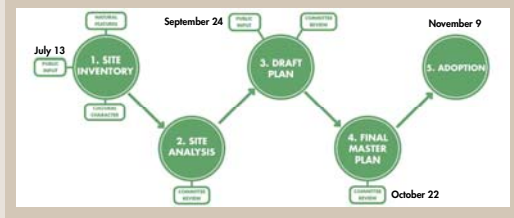
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## PROJECT PROCESS



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## Project Scope

- Connection
- Shared-Use Path
- Gateway / Streetscape



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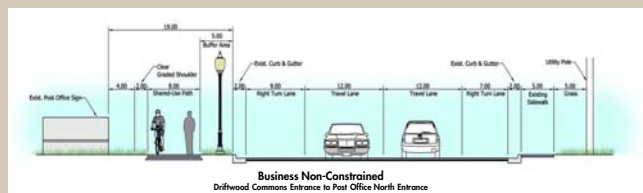
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## TYPICAL SECTIONS



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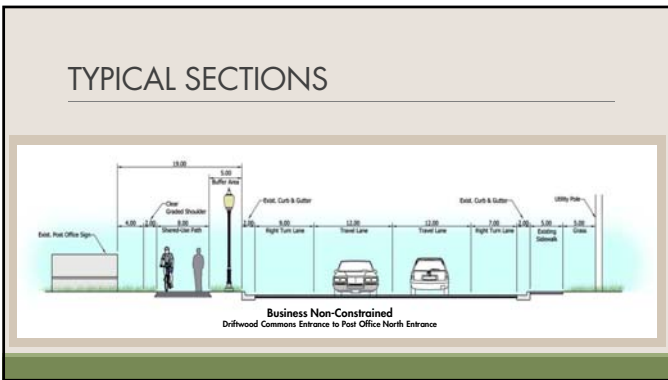
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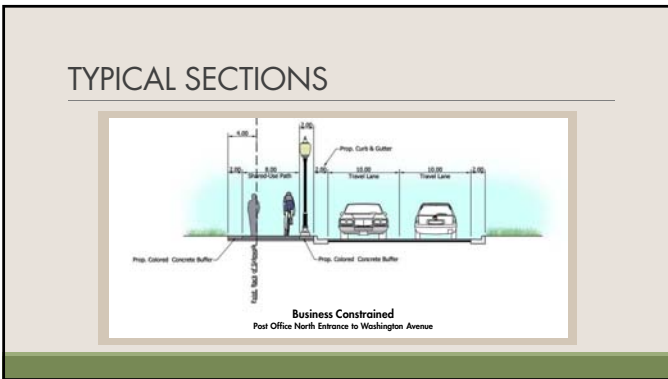
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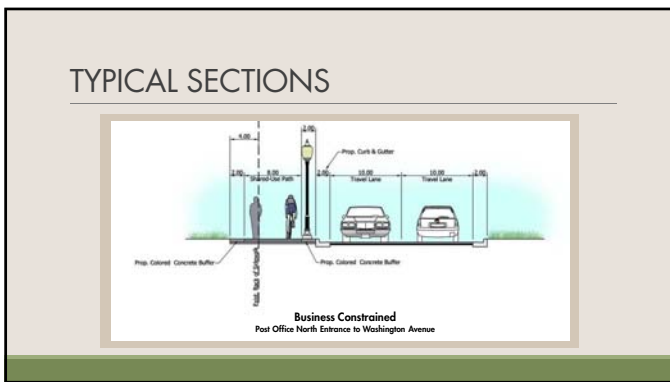
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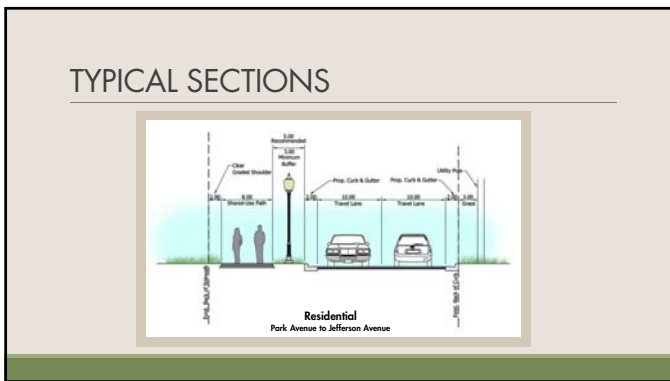
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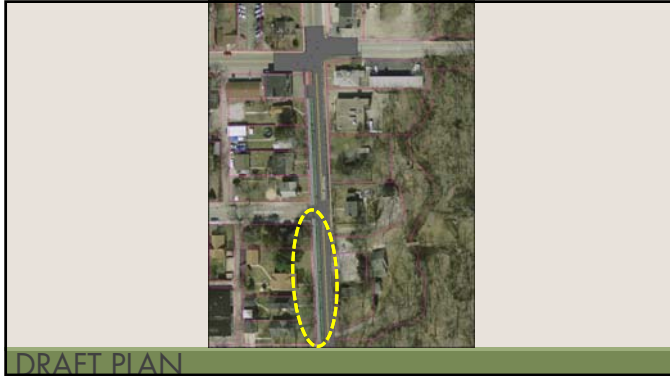
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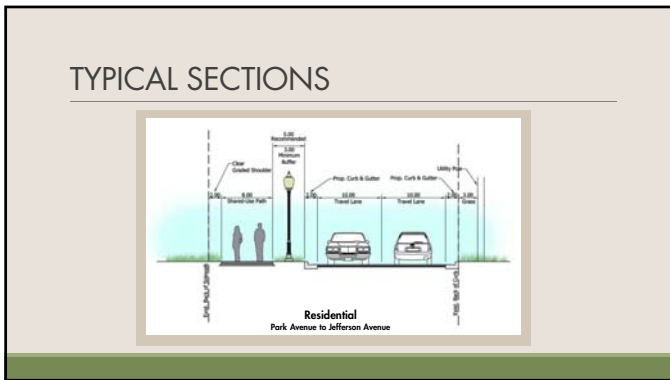
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## *Chesterton, Indiana*

Calumet Connection of the Dunes Kankakee Trail  
Master Plan

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**Chesterton – Calumet Connection of the Dunes Kankakee Trail**  
**Final Plan Review**  
**October 22, 2015**  
**1:00pm CT**

- 1) Sign In (5 Minutes)
- 2) Review Schedule (5 Minutes)
- 3) Review Public Presentation of Draft Plan (10 Minutes)
  - a. Number of Attendees
  - b. Comments Received
- 4) Review Executive Summary (30 Minutes)
  - a. Overview
  - b. Final Plan
  - c. Final Cross Sections
  - d. Cost Opinion
- 5) Review Final Plan (15 Minutes)
  - a. Overview
  - b. Standards
- 6) Questions (5 Minutes)



**• APPENDIX B •**



9715 KENNEDY AVENUE • HIGHLAND, INDIANA 46322  
(219) 924-5231 • (773) 734-5900 • FAX (219) 924-5271

www.kandsengineers.com • info@kandsengineers.com

August 21, 2015

File No. 11470

Butler, Fairman & Seufert, Inc.  
8450 Westfield Blvd., Suite 300  
Indianapolis, IN 46240

Attn: Mr. Jason G. Griffin

**Re: Pavement Cores  
Proposed Chesterton Trail and Streetscape Project  
Calumet Road, From Pope O’Conner Ditch to Porter Avenue  
Chesterton, Porter County, Indiana**

Dear Mr. Griffin:

Pursuant to your request K & S Engineers, Inc. (K & S), is pleased to present this report of a geotechnical exploration, which was performed to evaluate the thickness of the existing asphalt pavement at the above referenced street in Chesterton, Indiana.

The scope of work included coring the asphalt pavement at a total of 2 locations and measuring its thickness. The coring locations were selected by the client and marked in field by a representative of K&S. The pavement cores were obtained using a portable coring machine and 6-inch diameter core bit.

Upon completion of coring, the core holes were filled and patched with asphalt. Approximate coring locations are described in the following table and are shown on the attached Exhibit-1, Site Plan and Coring Locations. The pictures of cores are included in Exhibits 2-A and 2-B. The location of cores and thickness of surface and binder layers is presented in the following table.

<b>Core No.</b>	<b>Coring Location</b>	<b>Asphalt/Concrete Thickness (inch)</b>
C-1	North bound lane 100’ south of the intersection of Washington Street and Calumet Road	Asphalt Surface = 3.25 Asphalt Binder = 2.25 Total Thickness = 5.5
C-2	South bound lane 135’ North of the intersection of Park Avenue and Calumet Road	Asphalt Surface = 1.75 Asphalt Binder = 2.25 Concrete = 8.0 Total thickness = 12.0

**Remarks:**

Core C-1:

The asphalt core was observed to be in good condition with no voids, cracks or segregation of the aggregate/particles.

Core C-2:

8 inches of concrete pavement was noted under about 4 inches of asphalt. Both asphalt and concrete cores were observed to be in good condition. No bond was noted between the asphalt and underlying concrete pavement layer.

We appreciate the opportunity to work with you on this project. If you have any questions or need additional information, please do not hesitate to call us at (219) 924-5231.

Very truly yours,  
**K & S Engineers, Inc.**



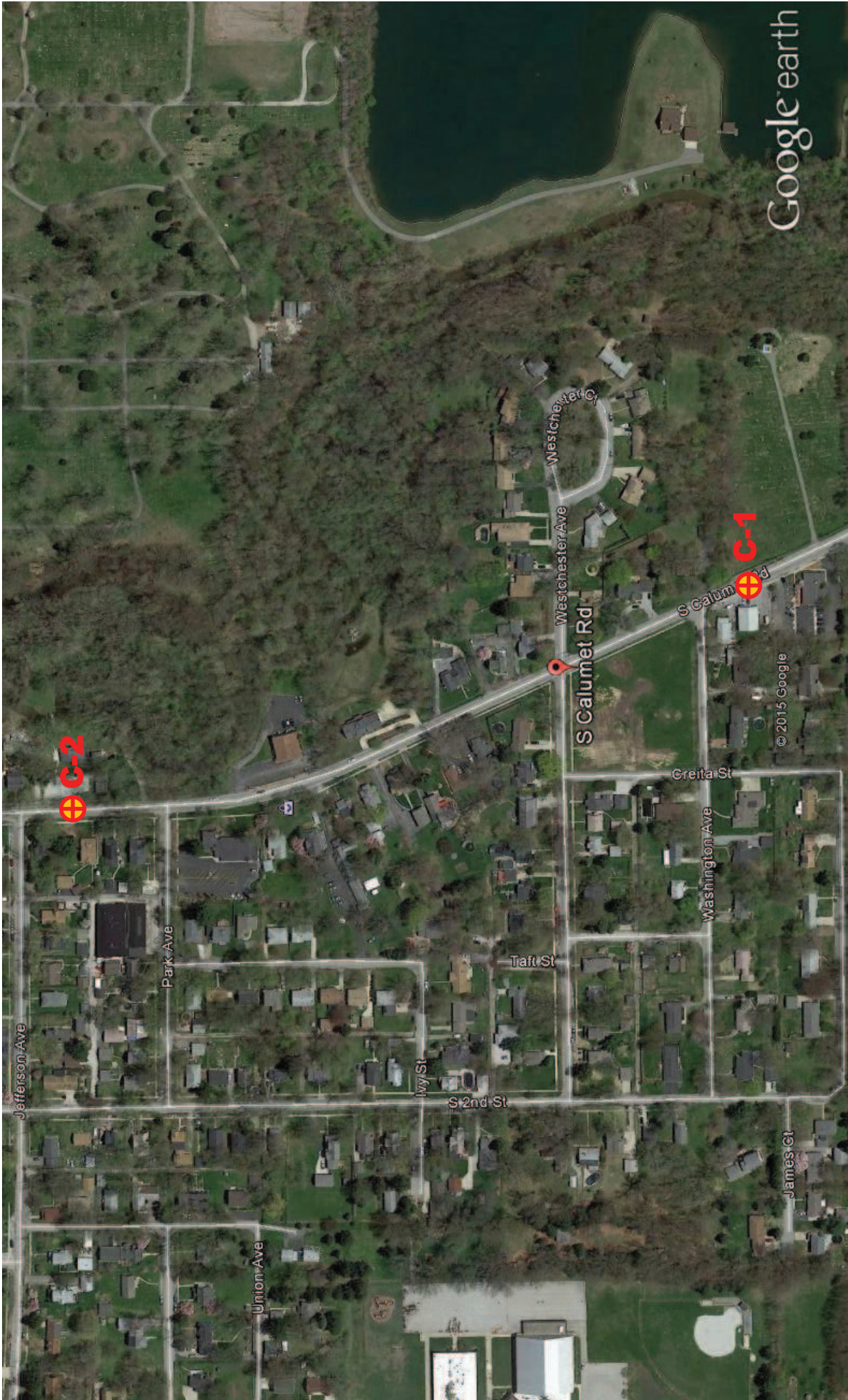
Tahir (Tony) Munawar  
Project Engineer





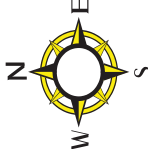
Dibakar Sundi, P.E.  
Senior Engineer

Attachments:

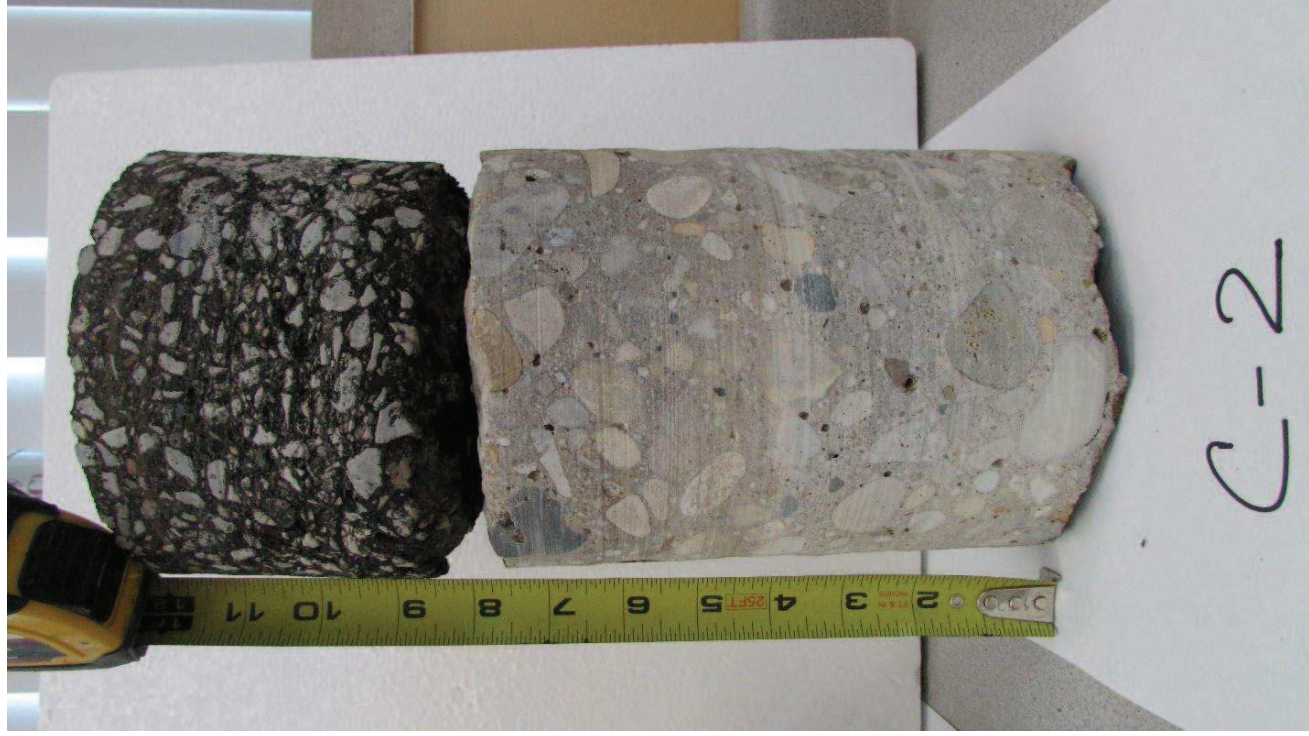
- Exhibit 1, Site Plan and Coring Locations.
- Exhibits 2-A and 2-B, Pictures of Cores



<p> <b>K &amp; S ENGINEERS, INC.</b> SOIL TESTING AND FOUNDATION CONSULTANTS</p>	<p><b>Date:</b> 8-21-2015</p>	<p><b>EXHIBIT-1</b></p>
<p>SITE PLAN AND CORING LOCATIONS PROPOSED CHESTERTON TRAIL &amp; STREETSCAPE PROJECT CHESTERTON, PORTER COUNTY, INDIANA</p>	<p><b>Scale:</b> Not to Scale</p>	<p><b>File No.</b> 11470</p>
<p><b>LEGEND:</b>  Proposed Coring Location</p>		







<p><b>K &amp; S ENGINEERS, INC.</b>          SOIL TESTING AND FOUNDATION CONSULTANTS</p>	<p><b>EXHIBIT-2-A</b></p>
<p>PAVEMENT CORES</p>	<p><b>Date:</b> 8-21-2015</p>
<p>PROPOSED CHESTERTON TRAIL &amp; STREETSCAPE PROJECT          CHESTERTON, PORTER COUNTY, INDIANA</p>	<p><b>Scale:</b> Not to Scale</p> <p><b>LEGEND:</b> Pictures of Cores</p>
<p><b>File No. 11470</b></p>	




**K & S ENGINEERS, INC.**  
 SOIL TESTING AND FOUNDATION CONSULTANTS

PAVEMENT CORES  
 PROPOSED CHESTERTON TRAIL & STREETSCAPE PROJECT  
 CHESTERTON, PORTER COUNTY, INDIANA

**Date:** 8-21-2015

**Scale:** Not to Scale

**LEGEND:** Pictures of Cores

**EXHIBIT-2-B**

**File No. 11470**

# ENGINEERING REPORT

## **Calumet Connection of Dunes Trail Plan**

### **Calumet Avenue from Abbey Road to Porter Avenue**

#### **Existing Roadway Condition**

The existing roadway contains varying lane widths and typical section configurations. Calumet Road is a two lane roadway with lane widths that vary from 10 feet to 19 feet with the occasional turn lane added in. Portions of the roadway contain concrete curb and gutter on one or both sides of the road and portions also include concrete sidewalk. The existing pavement is bituminous asphalt. Pavement core taken on the south end of the project revealed 5.5 inches of bituminous asphalt. Pavement core taken on the north end revealed 4 inches of bituminous asphalt on 8 inches of concrete pavement. Both cores were in good condition. The existing roadway has a posted speed limit of 30 mph and is classified as an urban minor arterial and carries an estimated 3900 vehicles per day. Truck traffic is approximately 6.5 % of the total traffic volume. Overall the existing roadway exhibits both longitudinal and transverse cracking with minor settlement and minimal areas of pavement failure.

#### **Roadway Typical Section**

The proposed typical section along the corridor will include a trail along the west side of the roadway. To minimize impacts to adjacent properties and to minimize the amount of additional right-of-way required to add in the trail, the typical roadway section can be adjusted. As noted above the current lanes widths vary throughout the corridor. It is recommended that lane widths be revised to be more uniform throughout the corridor. Where feasible a lane width of 11 feet should be used. In constrained areas the lane width can be reduced to 10 feet. Turn lanes where possible should be 11 feet wide but can be reduced to 10 feet if necessary. Curb and Gutter shall be added to each side of the roadway. Curb and gutter width should match that of adjacent sections which appears to 2 foot 7 inches curb and gutter. However, if necessary, curb and gutter width could be reduced to 2 feet.

#### **Roadway Drainage**

With the addition of the curb and gutters along the corridor the existing drainage patterns will need to be revised. Curb inlets, spaced to meet current design standards and storm sewer will need to be added to collect storm water runoff. Storm water would be ultimately discharged to one of two watersheds in the area; Pope O'Conner Ditch or Copper Creek. Cooper Creek runs along the east side of Calumet Avenue and Pope O'Conner Ditch which crosses under Calumet Avenue. Depending on the extent of any widening, the structure carrying Calumet Avenue over Pope O'Conner Ditch may need to be lengthened or replaced. The requirements for this would be coordinated with the Porter County Surveyor and would follow current ordinances set by the County.

Drainage design could also incorporate some green infrastructure practices. Small rain gardens could be added near curb inlets and mechanical water quality treatment devices could be installed prior to discharging storm water to receiving waters.

### **Pavement Treatment**

Based on the existing pavement sections and condition of the roadway a functional overlay consisting of 4 inches of bituminous asphalt is recommended. Vertical alignment of the roadway would need to be adjusted to provide positive minimum roadway slope and grade to ensure proper drainage. Bituminous wedge and level will be needed to accomplish this. Pavement analysis can be completed to determine if a thinner over lay can be used such as surface only. Installation of the new curb and gutters will require a minimum two foot full depth patch. This can consist of 7 inches of asphalt pavement on compacted aggregate on subgrade treatment.

JOB 5781 Columnet Connection of Dupes TRAIL

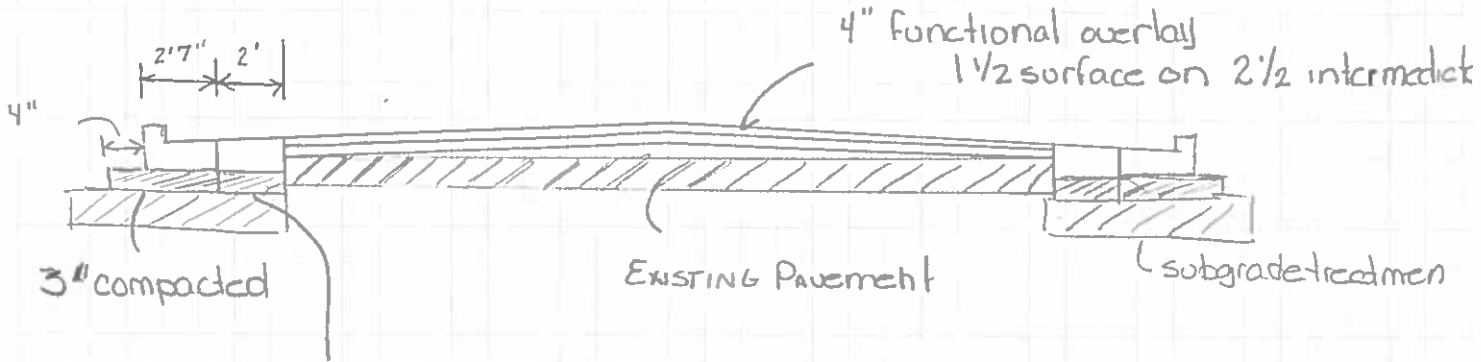
DES. AML

DATE 9-2-15

ITEM TYPICAL PAVEMENT

CK. \_\_\_\_\_

DATE \_\_\_\_\_



HMA PATCHING

165#/syd	Surface	(1 1/2 IN)
245#/syd	INTERMEDIATE	(2 1/2 IN)
330#/syd	BASE	(3 IN)

ON 3" COMPACTED AGG FOR BASE No 53

Job Description: 5781 - Chesterton Dunes Trail  
 Item: Lighting Information Summary

Luminaire Data	
Luminaire	Sternberg XRLED - A850 (Old Town Acorn)
Order Number	SRLED-A850-12L45T3-MDL21
Photometric File	XRLED-A850-12L45T3-MD-21.IES
Wattage	96 Watt
Initial Lumen Output	6,485 Lumens
Light Loss Factor	0.78

Assumptions	
1	8' Wide Concrete Path with 5' Buffer
2	Luminaires placed in buffer, 2' behind back of curb
3	12' Luminaire Effective Mounting Height

Criteria	
Reference	AASHTO Roadway Lighting Design Guide - Residential Sidewalk (Table 3-5a, Pg. 24)
Avg Maintained Illuminance	0.3 fc
Uniformity Ratio	6 : 1

Results	
Avg Maintained Illuminance	1.0 fc
Uniformity Ratio	10 : 1
Spacing	150 LFT

