

SYMPHONY CIRCLE SW ENGINEERING REPORT
ROBINSON TRUST SIDEWALK PROGRAM

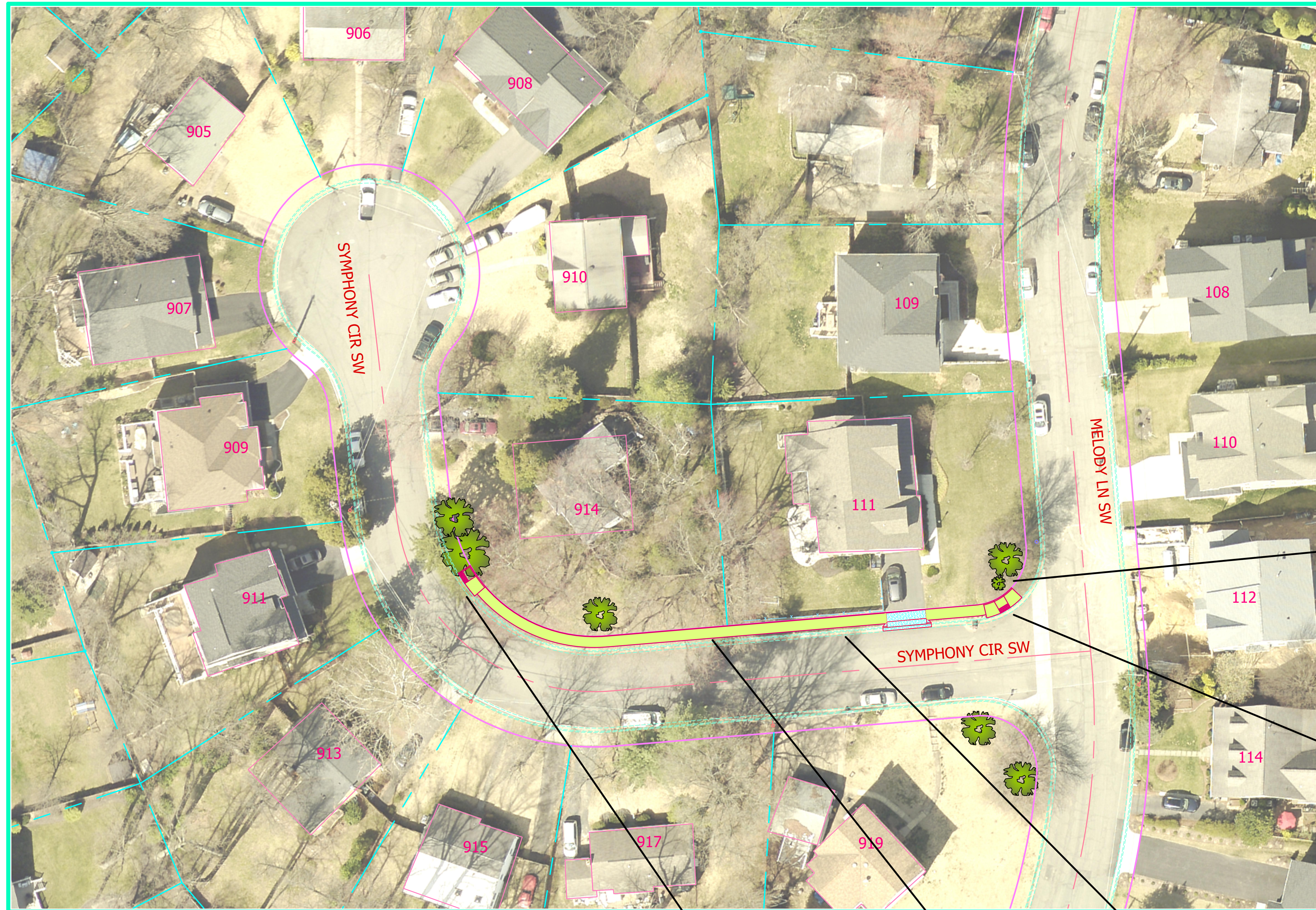
August 4, 2021

TABLE OF CONTENTS

Sheet 1 of 3	Concept 1
Sheet 2 of 3	Concept 2
Sheet 3 of 3	Analysis of Concepts and DPW Recommendation

APPENDIX

Tree Inventory



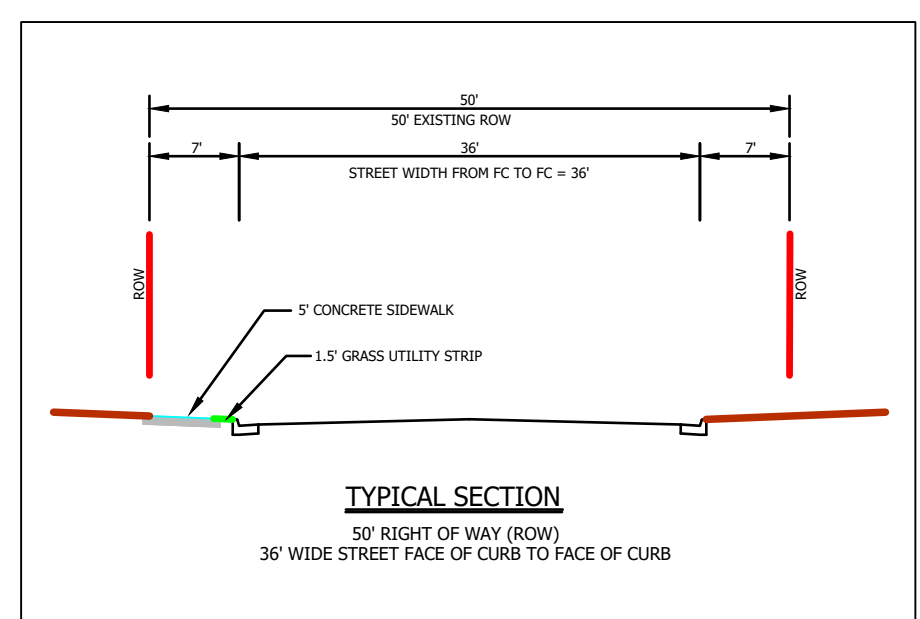
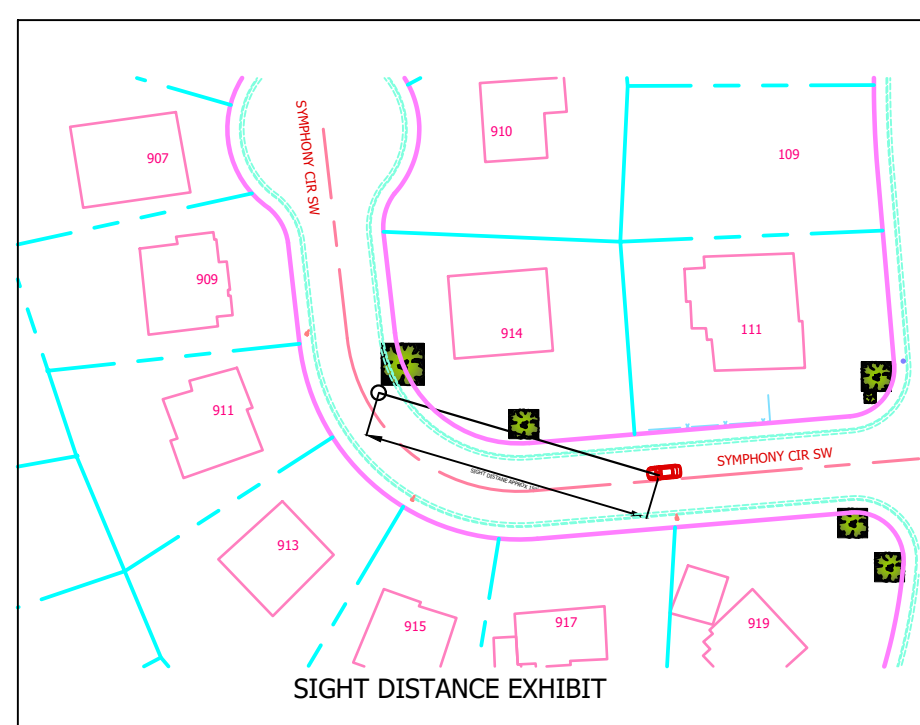
This photo shows the 7" diameter Flowering Dogwood (left in photo), and the 24" diameter Bradford Pear. The construction grading will have minor affect to the roots of the Dogwood, and moderate impact to the roots of the Bradford Pear. Ending the construction farther to the west of the intersection, constructing a smaller radii curb return, or constructing a curb extension at the curb return could be considered during design of this concept.



This photo shows where the proposed sidewalk would end at the intersection with Melody Lane. There is a potential sidewalk project being considered for this side of Melody Lane, which would connect to this sidewalk.

CONCEPT 1
 Sidewalk along the north side of the "mainstem" of Symphony Cir SW. This street is approximately 480 feet in length and is an "L" shaped mainstem street with a cul de sac "bulb" at its end. There are 12 homes with frontage on this street. The alignment of the street limits the sight distance for vehicles entering the cul de sac.

This concept will extend from the Melody Lane intersection along the first two properties (#111 Melody Lane and #914 Symphony Circle) for a length of approximately 250 feet. The first property (#111) has a privacy fence along a portion of the street and the second property (#914) has a new house under construction. The sidewalk proposed with this concept will end with an ADA ramp just after the turn in order to save the existing Norway Spruce at #914. This concept would provide a safe connection to the potential sidewalk project along the west side of Melody Lane.



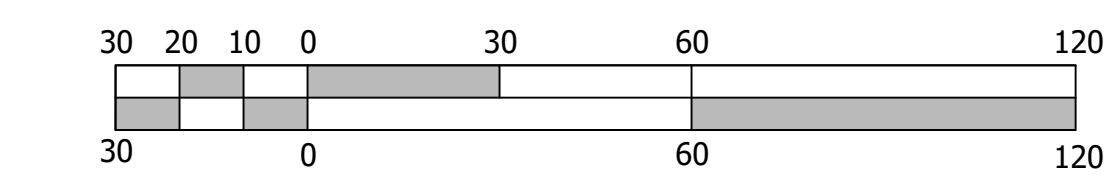
With this concept the sidewalk continues along the frontage of #914 (under construction) ending with an ADA ramp before the two Norway Spruce (18" DBH and 11" DBH) trees that are being preserved.



This photo shows the frontage of #316 from the driveway toward the bend of the mainstem of the street. There is an existing fence along this portion of frontage.



This photo shows the "bend" in the mainstem portion of the street. The developer of #914 has cleared the frontage; however, he plans to add landscaping and tree(s) later in construction.





Existing utility pole and cluster of trees (American Arborvitae) near the curb in front of #911. These trees would have to be removed if the sidewalk were to be built behind existing curb. Moving the curb and sidewalk into the street would preserve these trees.



Large trees in front yards of #915 (left side photo) and #913 (right side of photo). The trees are 16" Red Maple, and 34" American Sycamore. The Sycamore appears to be in excellent condition. The critical root zone is estimated at 34 feet. Constructing the sidewalk at the back of existing curb would impact these roots significantly.

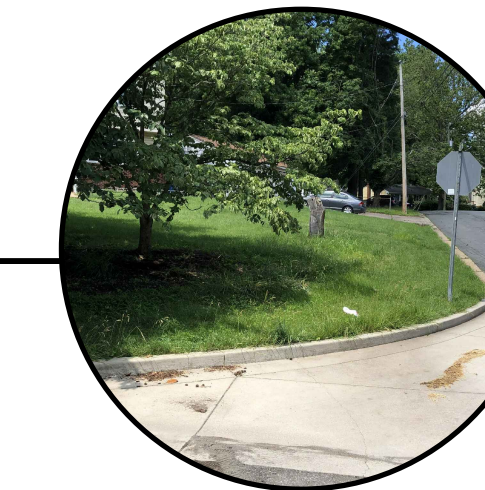


Photo taken from within center of Melody Lane looking west. The potential sidewalk and new curb and gutter would begin at the intersection where the concrete valley gutter is located.

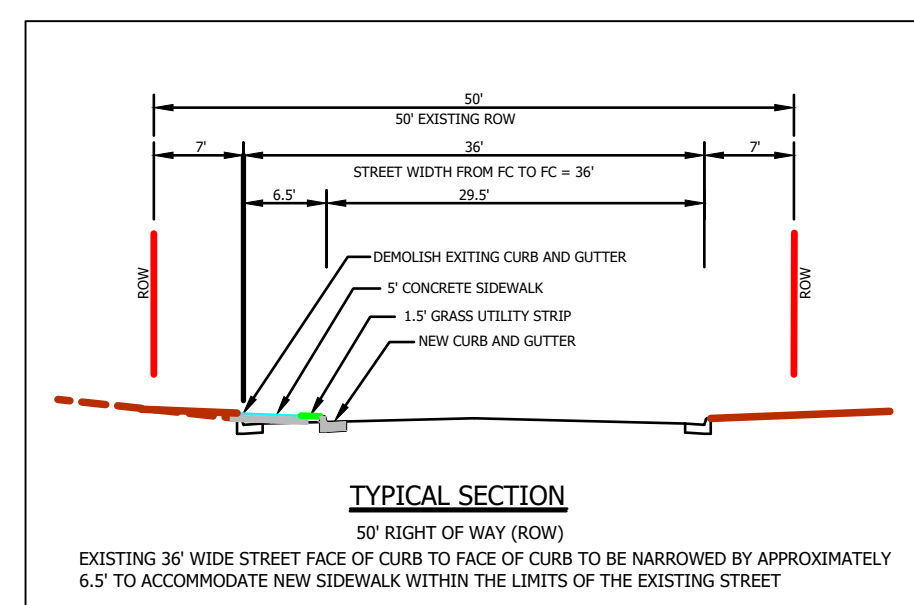
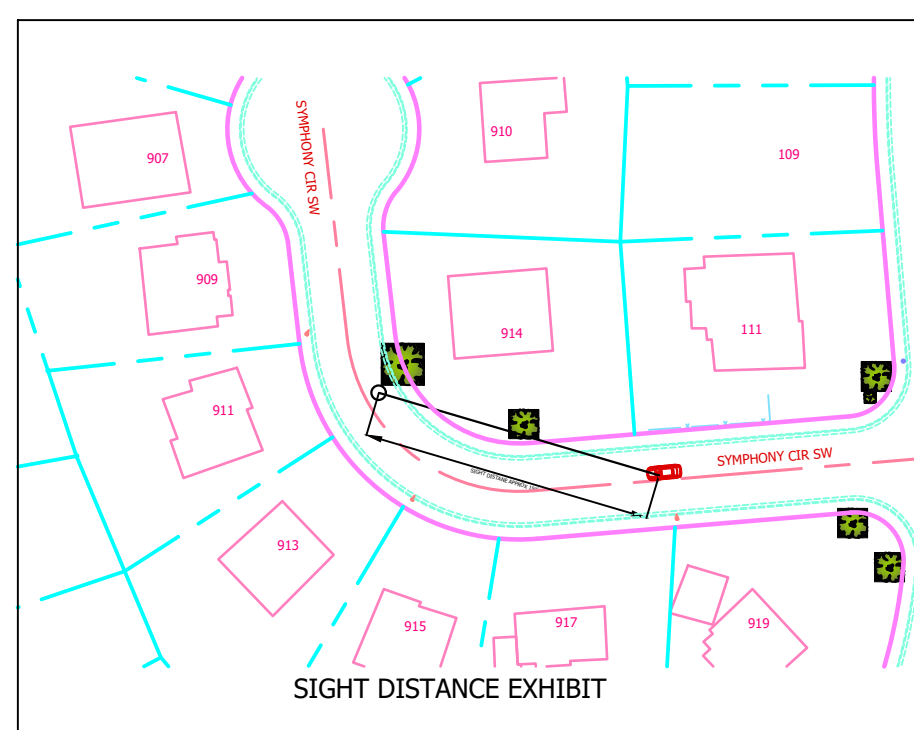


CONCEPT 2
 Sidewalk along the south side of the "mainstem" of Symphony Cir SW. This street is approximately 480 feet in length and is an "L" shaped mainstem street with a cul de sac "bulb" at its end. There are 12 homes with frontage on this street. The alignment of the street limits the sight distance for vehicles entering the cul de sac.

This concept will extend from the Melody Lane intersection to just west of the cluster of trees and utility pole located at the common property line between #911 and #909. The length of this sidewalk is approximately 380 feet and is longer than option 1 because it is on the outside of the curve of the mainstem.

The area near the common property line between #919 and #917 does not allow enough clearance for a potential sidewalk because of the utility pole. The sidewalk cannot be constructed in front or behind the pole. Furthermore, the many trees near to the curb along the frontages and the cluster of trees between #911 and #909 are problematic for construction of sidewalk behind the existing curb.

Because of these issues with Concept 2, the sidewalk would be built within the limits of the existing street. The street would be narrowed by approximately 6.5 feet requiring new curb and gutter to be constructed. The cross section would result in a street width of approximately 29.5 feet (face of curb to face of curb) and a 1.5 foot wide utility strip and 5 foot wide concrete sidewalk. ADA ramps would be provided at the intersection and where the sidewalk ends in front of #909. This concept would provide a safe connection to the potential sidewalk project along the west side of Melody Lane.



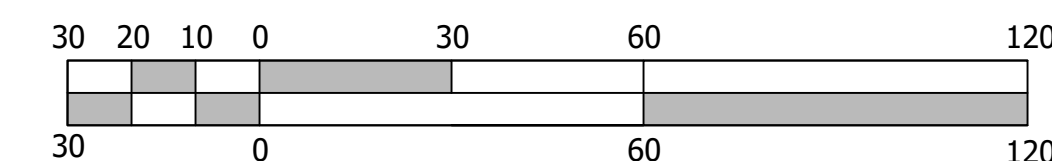
The potential sidewalk does not have adequate clearance to pass either in front or behind the existing utility pole.



There are five trees in the front yard of #917. The trees are 24" Sugar Maple, 18" White Pine, 12" Canadian Hemlock, 18" White Pine, and 26" Norway Maple.



Existing utility pole in front of #915 and large tree in background.



Analysis of Concept 1- Symphony Cir SW

Analysis of Concept 2- Symphony Cir SW

DESCRIPTION	This street is approximately 480 feet in length and is an "L" shaped mainstem street with a cul de sac "bulb" at its end. There are 12 homes with frontage on this street. The alignment of the street limits the sight distance for vehicles entering the cul de sac. Concept 1 includes sidewalk along the north side of the "mainstem" of Symphony Circle SW. This concept extends across the frontage of two properties- #111 Melody Lane and #914 Symphony Cir (a new house currently under construction). The project length is approximately 250 feet	This street is approximately 480 feet in length and is an "L" shaped mainstem street with a cul de sac "bulb" at its end. There are 12 homes with frontage on this street. The alignment of the street limits the sight distance for vehicles entering the cul de sac. Concept 2 includes sidewalk along the south side of the "mainstem" of Symphony Cir SW.
SIDEWALK SUPPORT-RESPONSE TO QUESTIONNAIRE	Based upon the Questionnaire from DPW to homeowners that was sent in Fall of 2020 both sides had one supporter of sidewalk. The north side response has 1 in favor of sidewalk and 1 not in favor of sidewalk. The owner who supports having sidewalk is along the limits of this concept (the other property along the limits of this concept is under construction).	Based upon the Questionnaire from DPW to homeowners that was sent in Fall of 2020 both sides had one supporter of sidewalk. The south side response has 1 in favor of sidewalk and 3 not in favor of sidewalk.
TREE IMPACTS	Construction of this concept does not require removal of any trees. The western limits of this concept ends east of the existing Norway Spruce that the developer has preserved. The sidewalk construction should not affect the roots of this tree in that area as the developer cut a trench at this same location to replace the water line. At the east end of the project there will be minor disturbance to the roots of a 7" diameter Flowering Dogwood, and moderate disturbance to the roots of the 24" Bradford Pear. A shorter curb return radii, ending the sidewalk farther to the west (farther from the trees), or constructing a curb extension at the curb return could be considered during design.	This concept has very minimal tree impact. Concept 2 will be constructed within the limits of the existing paved street except for the ADA ramp that is built where the project meets existing curb and gutter at the intersection of Melody Lane.
IMPACTS ON VEGETATION (OTHER THAN TREES)	There are other plants and vegetation that may be affected by the construction. This analysis focuses more on the potential construction impacts to larger trees. If this concept is pursued replacement vegetation and possibly transplanted of plants/trees will be considered.	There are other plants and vegetation that may be affected by the construction. This analysis focuses more on the potential construction impacts to larger trees. If this concept is pursued replacement vegetation and possibly transplanted of plants/trees will be considered.
GRADING IMPACTS	There will be minimal grading along the frontage of the two properties bordering this concept. The property that is under development (#914 Symphony Circle SW) has been regraded as part of the house construction and appears that the right-of-way is fairly level relative to the existing curb. The corner property (#111 Melody Lane SW) has a privacy fence along approximately one-half of the Symphony Circle sideage. The area between that fence and the existing curb appears to be graded fairly level so that the proposed sidewalk can be built with minimal grading. There will be some grading nearest to the intersection where the project ends with a curb ramp. The construction limits for all properties will be determined during later stages of design if this concept is pursued.	There appears to be minimal grading for this concept overall. At the corner property #621 there will be slightly more grading as the property is a few feet higher than the road. The construction limits will be determined during later stages of design if this concept is pursued.
CONSTRUCTABILITY ISSUES	There does not appear to be constructability issues with this concept. Existing water meters will be relocated as necessary.	The area near the common property line between #919 and #917 does not allow enough clearance for a potential sidewalk. Also, the existing utility pole between the common property line of #919 and #917 is positioned approximately 3' from the curb and 3' from the right-of-way so that a sidewalk cannot be constructed in front or behind the pole. Furthermore, the many trees near to the curb along the frontages and the cluster of trees between #911 and #909 are problematic for construction of sidewalk behind the existing curb.
COST	The cost of this concept should be comparable to other Robinson Sidewalk Projects. Concept 2 has the additional cost of the curb and gutter reconstruction and the longer project length.	The cost of this concept is greater than other Robinson Sidewalk Projects as it includes reconstruction of the existing curb and gutter. Concept 2 is more expensive than Concept 1 because it has the additional cost of the curb and gutter reconstruction and the longer project length.
CONNECTIVITY	Both concepts are comparable in terms of connectivity. There is another sidewalk project being considered along Melody Lane SW.	Both concepts are comparable in terms of connectivity. There is another sidewalk project being considered along Melody Lane SW.
RECOMMENDATION	<i>Because Concept 1 effects only two properties; with one of the properties under development, and the second having responded in favor of sidewalks on the questionnaire, because Concept 1 does not require narrowing the street, and because of the lower cost, DPW recommends Concept 1.</i>	

TOWN OF VIENNA
DEPARTMENT OF PUBLIC WORKS
FAIRFAX COUNTY, VIRGINIA

ANALYSIS OF CONCEPTS 1 AND 2

SYMPHONY CIRCLE SW
MELODY LN TO CUL DE SAC

Symphony Cir. SW
Vienna, VA

Tree Inventory and Condition Analysis
Completed: 07/08/2021
Kevin J. Tankersley, ISA Certified Arborist #MA-5871A

TREE INVENTORY & CONDITION ANALYSIS

TREE NO.	SPECIES		SIZE	DRIP-LINE	CRITICAL ROOT ZONE	STRUCTURAL ROOT ZONE	CONDITION	CONDITION RATING	STATUS	COMMENTS
	Botanical Name	Common Name	DBH (in)	R (ft.)	R (ft.)	R (ft.)		%	(Remove or Preserve)	
1	<i>Pyrus calleryana</i>	Bradford Pear	24"		24'	12'	Good	62.50		Multi-stem; grading for walk would affect tree
2	<i>Cornus florida</i>	Flowering Dogwood	7"		7'	4'	Poor	37.50		Grading for walk would affect tree
3	<i>Quercus phellos</i>	Willow Oak	2"		2'	1'	Good	75.00		Newly Planted
4	<i>Picea abies</i>	Norway Spruce	12"		12'	6'	Fair	53.13		Elderly tree; exhibits typical thin needles.
5	<i>Thuja occidentalis</i>	American Arborvitae	12"		12'	6'	Fair	50.00		Severely pruned at top for power lines
6	<i>Thuja occidentalis</i>	American Arborvitae	18"		18'	9'	Fair	53.13		Severely pruned at top for power lines
7	<i>Thuja occidentalis</i>	American Arborvitae	22"		22'	11'	Poor	31.25		Decay evident; severely pruned for power lines
8	<i>Thuja occidentalis</i>	American Arborvitae	18"		18'	9'	Poor	37.50		Severely pruned at top for power lines
9	<i>Ilex opaca</i>	American Holly	13"		13'	7'	Good	75.00		
10	<i>Platanus occidentalis</i>	American Sycamore	34"		34'	17'	Excellent	87.50		Pruned for power lines
11	<i>Acer rubrum</i>	Red Maple	16"		16'	8'	Fair	43.75		Trunk decay; dieback
12	<i>Acer platanoides</i>	Norway Maple	26"		26'	13'	Good	65.63		Some trunk decay
13	<i>Pinus strobus</i>	White Pine	18"		18'	9'	Good	71.88		One-sided canopy
14	<i>Tsuga canadensis</i>	Canadian Hemlock	12"		12'	6'	Poor	25.00		Co-dominant; nearly dead
15	<i>Pinus strobus</i>	White Pine	18"		18'	9'	Good	71.88		Natural lean
16	<i>Acer saccharum</i>	Sugar Maple	24"		24'	12'	Fair	43.75		Lots of decay; Chopped for power lines; Unbalanced canopy; extensive invasive Euonymus vines growing well up into tree.
17	<i>Cornus florida</i>	Flowering Dogwood	7"		7'	4'	Fair	46.88		Grading for walk may affect critical root zone.
18	<i>Prunus x yedoensis</i>	Yoshino Cherry	20"		20'	10'	Good	75.00		Low canopy overhangs street significantly impeding traffic flow.

Note: Tree sizes are by visual estimate as most trees are located on private property and were not measured; Tree locations are approximate and not surveyed.



TREE LOCATIONS FOR INVENTORY
BY URBAN - LTD 07/08/2021

Fairfax County, Virginia



0 50 100 200 Feet



Coordinate System NAD 1983 State Plane VA
Projection: Lambert Conformal Conic North American 1983

Symphony Cir SW

Scale 1' = 200'