

CHARLES ST SE ENGINEERING REPORT
ROBINSON TRUST SIDEWALK PROGRAM

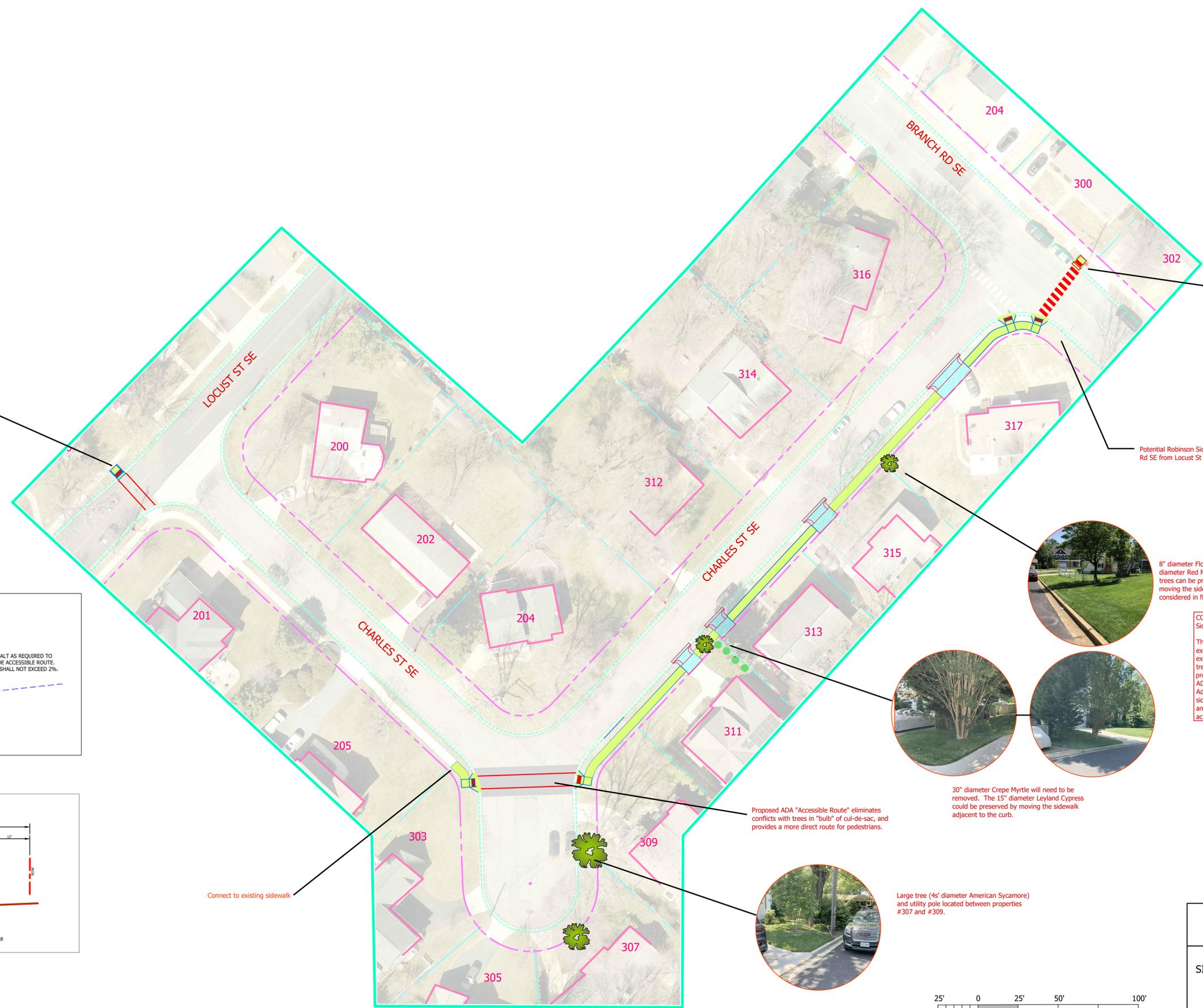
August 4, 2021

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APPENDIX

Tree Inventory



Area across Branch Rd SE is clear and will provide good location for new marked crosswalk and new ADA ramp.



Potential Robinson Sidewalk project on Branch Rd SE from Locust St to Valley Dr.

8" diameter Flowering Dogwood and 3" diameter Red Maple in #317 and #315. These trees can be preserved- root pruning and moving the sidewalk to the curb can be considered in final design.



CONCEPT 1
Sidewalk along the "ODD" side addresses
This concept depicts sidewalk along the south side of Charles St SE and extends from the existing sidewalk located at #303 Charles St SE and extends to Branch Dr SE. The concept avoids the utility pole and large tree (42" diameter American Sycamore) conflicts located at the contiguous property line of #307 and #309. The conflict is avoided by creating an ADA "Accessible Route" across the bulb portion of Charles St SE. Additionally this route is more direct for sidewalk users than if the sidewalk were continued along the curb of the bulb. Marked crosswalks and new ADA receiving ramps are provided across Locust St SE and across Branch Rd SE.



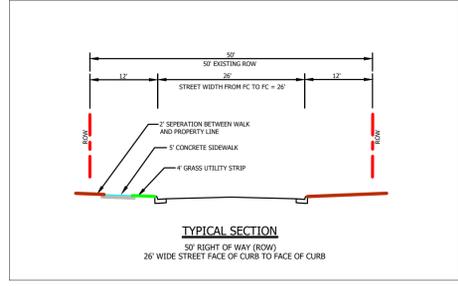
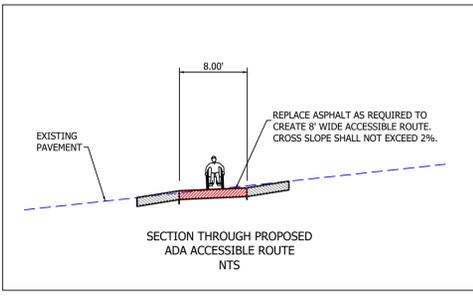
30" diameter Crepe Myrtle will need to be removed. The 15" diameter Leyland Cypress could be preserved by moving the sidewalk adjacent to the curb.

Proposed ADA "Accessible Route" eliminates conflicts with trees in "bulb" of cul-de-sac, and provides a more direct route for pedestrians.

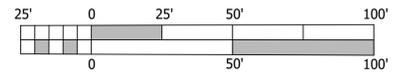
Large tree (45" diameter American Sycamore) and utility pole located between properties #307 and #309.



Proposed ADA Ramp and marked crosswalk



Connect to existing sidewalk



TOWN OF VIENNA
DEPARTMENT OF PUBLIC WORKS
FAIRFAX COUNTY, VIRGINIA

**CONCEPT 1-
SIDEWALK ALONG "ODD" NUMBERED ADDRESSES**

CHARLES ST SE
LOCUST ST SE TO BRANCH RD SE

PREPARED JUNE 9, 2021

SHEET 1 of 3

20" diameter Red Maple at #200, and 3 Crepe Myrtles. Red Maple will be preserved with this concept the Crepe Myrtle's would be impacted- moving the sidewalk adjacent to the curb could be considered in design phase to reduce impact on these trees.



Potential "Missing Link" Robinson Sidewalk project- Locust St SE from Charles St to Branch Rd.

Proposed ADA Ramp and marked crosswalk

Two large trees at #204- 40" diameter Silver Maple, and 28" diameter American Elm. The sidewalk would be moved adjacent to the curb to reduce affect on the critical root zones of these large trees.



One of two large trees at #316. This is a 38" diameter Red Maple. The sidewalk would be moved adjacent to the curb to reduce affect on the critical root zones of these large trees.



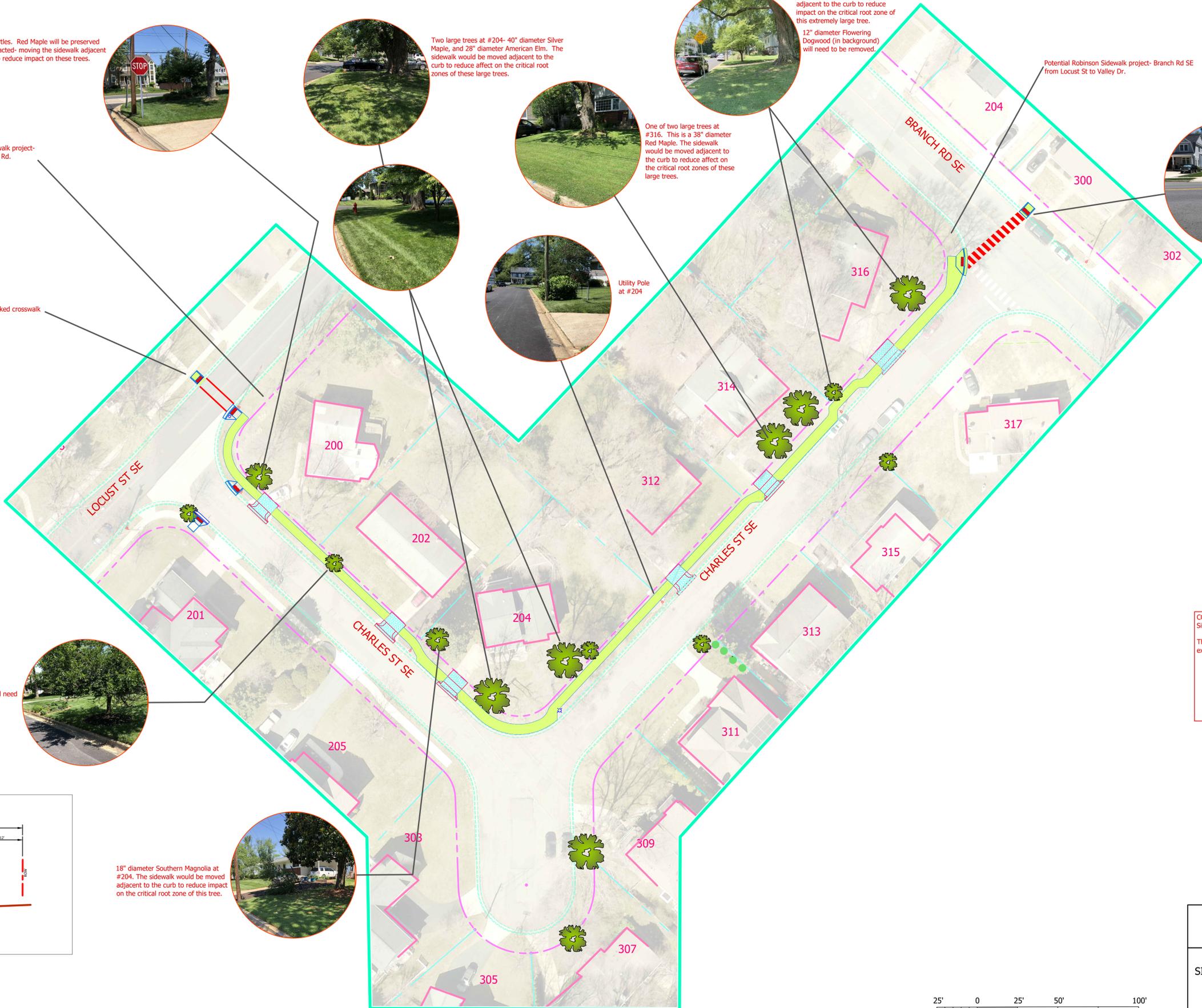
Utility Pole at #204



40" diameter Red Maple at #316. The sidewalk would be moved adjacent to the curb to reduce impact on the critical root zone of this extremely large tree.
12" diameter Flowering Dogwood (in background) will need to be removed.

Potential Robinson Sidewalk project- Branch Rd SE from Locust St to Valley Dr.

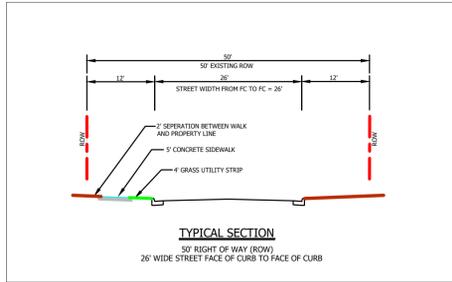
Potential crosswalk across Branch Rd.



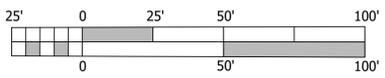
6" Crab Apple at #202 will need to be removed with this concept.



18" diameter Southern Magnolia at #204. The sidewalk would be moved adjacent to the curb to reduce impact on the critical root zone of this tree.



CONCEPT 1
Sidewalk along the "even" side addresses
This concept depicts sidewalk along the north side of Charles St SE and extends from Locust St SE to Branch Rd SE.



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DEPARTMENT OF PUBLIC WORKS
FAIRFAX COUNTY, VIRGINIA

CONCEPT 2-
SIDEWALK ALONG "EVEN" NUMBERED ADDRESSES

CHARLES ST SE
LOCUST ST SE TO BRANCH RD SE

PREPARED JUNE 22, 2021

SHEET 2 of 3

Analysis of Concept 1- Charles St SE

Analysis of Concept 2- Charles St SE

DESCRIPTION	Sidewalk along the "Odd" side addresses. This concept depicts sidewalk along the south side of Charles St SE and extends from the existing sidewalk located at #303 Charles St Se and extends to Branch Dr SE.	Sidewalk along the "even" side addresses. This concept depicts sidewalk along the north side of Charles St SE and extends from Locust St SE to Branch Rd SE.
SIDEWALK SUPPORT-RESPONSE TO	Based upon the Questionnaire from DPW to homeowners that was sent in Fall of 2020 the odd side of the street had more supporters of sidewalk (3 to 1).	Based upon the Questionnaire from DPW to homeowners that was sent in Fall of 2020 the odd side of the street had more supporters of sidewalk (3 to 1).
TREE IMPACTS	This concept has minimal tree impact. The Crepe Myrtle at #311 will need to be removed. The 15" Leyland Cypress at #311 could be preserved by moving the sidewalk adjacent to the curb. A replacement tree would be provided if this project option is constructed. Additionally, there are two small trees that are near to the limits of construction that will likely have roots affected by the construction. These trees are an 8" diameter Flowering Dogwood and 3" diameter Red Maple in #317 and #315. Root pruning and moving the sidewalk to the curb can be considered in final design. The large tree located near the shared property line of 307 and 309 will be minimally affected by the project. The Accessible Route of this concept keeps the construction approximately 40 feet from this tree.	This concept has significant tree impact. The 6" diameter Crab Apple at #202 will need to be removed. A replacement tree would be planted if this project option is constructed. The more significant tree impact is that there are 6 large trees that are 12 to 20 feet from the curb. The large trees are 40" Red Maple at #316; 38" and 22" Red Maple at #314; 40" Silver Maple and 28" American Elm at #204; and a 20" Red Maple at #200. Additionally, there are two small trees at #204 and one medium size tree at #200. These trees will likely have roots affected by the construction. The large trees have a critical root zone (CRZ) that is quite extensive. For example the 30" diameter tree has a CRZ that extends radially to approximately 30 feet. As a general rule of thumb if greater than 40% of a trees CRZ is disturbed the tree should be considered not suitable for preservation. Root pruning and moving the sidewalk to the curb can be considered in final design.
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 appears to be some minor grading at #315. The construction limits will be determined during later stages of design if this concept is pursued.	There appears to be minimal grading for this concept. 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. There are no utility poles to obstruct this alignment. Existing water meters will be relocated to the utility strip as necessary.	There are some minor constructability issues with this concept. There are utility poles located near to the curb in front of #200, #202, #204, and #316. The poles can be accommodated in the utility strip. The guy wires that are attached to some of the poles and extend away from the curb may need to be adjusted by the utility companies (sidewalk guying). Also the fire hydrant near the curb return in front of #204 will be within the utility strip. Existing water meters will be relocated to the utility strip as necessary.
COST	The cost of this concept should be comparable to other Robinson Sidewalk Projects. Concept 1 has more asphalt work; whereas, Concept 2 has more concrete work (a longer length of sidewalk). Both concepts are similar in terms of cost.	The cost of this concept should be comparable to other Robinson Sidewalk Projects. Concept 1 has more asphalt work; whereas, Concept 2 has more concrete work (a longer length of sidewalk). Both concepts are similar in terms of cost.
CONNECTIVITY	Concept 1 will connect with existing sidewalk on Locust St. and will connect to a potential sidewalk project on Branch Rd. As Concept 2 will have similar connections to potential projects on Locust (missing Link Project as part of Robinson Sidewalk Program) and to a potential project on Branch Rd SE., both concepts are comparable in terms of connectivity.	Concept 1 will connect with existing sidewalk on Locust St. and will connect to a potential sidewalk project on Branch Rd. As Concept 2 will have similar connections to potential projects on Locust (missing Link Project as part of Robinson Sidewalk Program) and to a potential project on Branch Rd SE., both concepts are comparable in terms of connectivity.
RECOMMENDATION	<i>Because there was more support for sidewalk from owners on the "odd" side addresses, and because of significantly less tree impact to construct Concept 1 DPW recommends Concept 1.</i>	

Charles St. SE
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>Acer rubrum</i>	Red Maple	40"		40'	20'	Excellent	81.25		Large critical root zone will be affected.
2	<i>Cornus florida</i>	Flowering Dogwood	12"		12'	6'	Fair	56.25		Anthracnose disease; dieback; potentially would have to be removed for walk construction.
3	<i>Acer rubrum</i>	Red Maple	22"		22'	11'	Good	68.75		Branches cut for power lines; Decay in trunk
4	<i>Acer rubrum</i>	Red Maple	38"		38'	19'	Fair	53.13		Lots of decay in trunk; Wilted
5	<i>Cornus florida</i>	Flowering Dogwood	5"		5'	3'	Good	71.88		Trunk damage from mower
6	<i>Ulmus americana</i>	American Elm	28"		28'	14'	Fair	59.38		Co-dominant; trunk stains and thin leaves indicating stress
7	<i>Acer saccharinum</i>	Silver Maple	40"		40'	20'	Poor	34.38		Dieback; lots of damage; many surface roots broken off top
8	<i>Magnolia grandiflora</i>	Southern Magnolia	18"		18'	9'	Excellent	84.38		
9	<i>Malus spp.</i>	Crab Apple	6"		6'	3'	Good	65.63		
10	<i>Acer rubrum</i>	Red Maple	20"		20'	10'	Poor	37.50		Significant decay
11	<i>Acer rubrum</i>	Red Maple	20"		20'	10'	Good	75.00		
12	<i>Plantanus occidentalis</i>	American Sycamore	42"		42'	21'	Good	68.75		Lots of plants at base of tree.
13	<i>Lagerstroemia indica</i>	Crape Myrtle	30"		30'	15'	Good	75.00		Multi-stem (15+); would have to be removed to construct walk.
14	<i>X Cupressocyparis leylandii</i>	Leyland Cypress	15"		15'	8'	Fair	53.13		Natural lean; sheared; removing may exposed interior dead branches on next tree.
14A	<i>Acer rubrum</i>	Red Maple	16"		16'	8'	Fair	56.25		Large critical root zone will be affected.
15	<i>Cornus florida</i>	Flowering Dogwood	8"		8'	4'	Good	68.75		Dieback; Anthracnose
16	<i>Acer rubrum</i>	Red Maple	3"		3'	1'	Good	71.88		Sun damage to trunk

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



0 100 200 Feet

Charles St SE- Branch Rd to End
SCALE 1" = 100'