

BLACKSTONE TERRACE NW ENGINEERING REPORT
ROBINSON TRUST SIDEWALK PROGRAM

August 9, 2021

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Tree Inventory

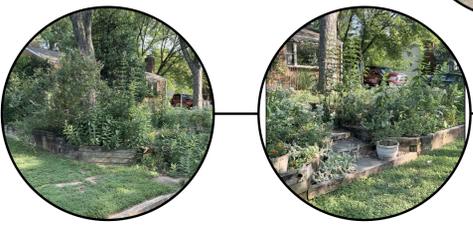
Plot of Critical Root Zones



The sidewalk would be built against the curb (without a utility strip) in front of the existing utility pole. The photo also shows the two driveways that do not have concrete aprons or the aprons have been deteriorated and repaired with asphalt. Most of the driveways along the street are similar. The project will include replacement of these driveway aprons if this concept is constructed.



The sidewalk would be constructed against the curb (without a utility strip) to minimize impacts to 28" and 29" diameter Red Maples. The trees are approximately 16 feet behind the curb and located "upslope". The Arborist has noted that the trees are in "Good" and "Fair" condition respectively. The terraced planting beds are in the right-of-way and will be modified to accommodate the sidewalk. A segmented retaining wall could be built in front of the second-level terrace.



The sidewalk would be constructed in front of existing utility poles and against the curb (without a utility strip). The pole is 64" from back of existing curb. An ADA sidewalk width can be provided.



The sidewalk would be constructed against the curb (without a utility strip) to minimize impacts to 40" diameter Red Maple. The Arborist has noted that the tree is in "Good" condition. The tree is approximately 30' from the curb.



The sidewalk would be constructed in front of existing utility poles and against the curb (without a utility strip).



The sidewalk would be constructed in front of existing fence. Trees in the background (three Crepe Myrtles) will be preserved.

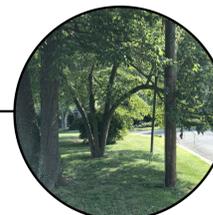


With this concept the sidewalk connects to the existing sidewalk along Lawyers Rd NW. The existing ADA ramp would be replaced with a new (current standard) ADA ramp.



With this concept the sidewalk connects to the existing sidewalk along Holmes Dr NW. The existing ADA ramp would be replaced with a new (current standard) ADA ramp.

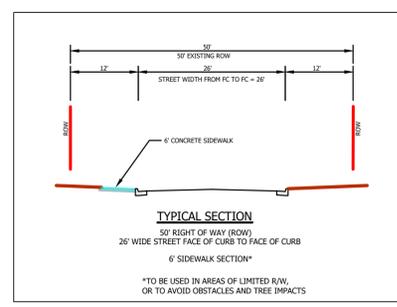
The sidewalk would be built against the curb (without a utility strip) in front of the existing utility pole and guy anchor. The existing trees would be preserved. The trees are 22" diameter Black Cherry, and 18" diameter Flowering Dogwood; preserve the tree. The Arborist has noted that the trees are in "Good", and "Fair" condition respectively.



CONCEPT 1
Sidewalk along the "Even" side addresses (west side) of Blackstone Terrace NW.

This concept will extend from the existing sidewalk at Holmes Dr curb return to the existing sidewalk at the corner of Lawyers Rd. Construction of this concept does not require removal of any large trees. Although there are existing utility poles on this side of the street, the poles are far enough from the curb to allow an adequate ADA-compliant sidewalk to be built.

There are two small trees that are in the right-of-way that are small enough to be transplanted to a location on the property, or can be replaced with nursery stock trees. The trees are the 2" Flowering Dogwood, and 2" Redbud. They are located along the frontage of #612 approximately 3 and 4 feet from the curb.



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FAIRFAX COUNTY, VIRGINIA

CONCEPT 1-
SIDEWALK ALONG "EVEN SIDE" ADDRESSES-

BLACKSTONE TERRACE NW
LAWYERS RD NW TO HOLMES DR NW

PREPARED JULY 26, 2021

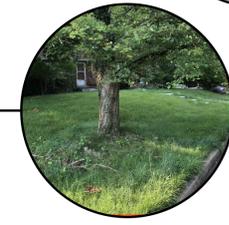
SHEET 1 OF 3



With this concept the sidewalk connects to the existing sidewalk along Holmes Dr NW. The existing ADA ramp would be replaced with a new (current standard) ADA ramp.



In order to preserve the existing 8" diameter Ginkgo tree, and to maintain the existing lead walk from #621 Blackstone Terrace the sidewalk would be built against the curb (without a utility strip). The Arborist has noted that the Ginkgo tree is in "Excellent" condition.



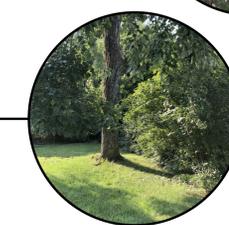
Existing 17" diameter Red Maple. The sidewalk would be built against the curb (without a utility strip) in order to preserve the tree. The Arborist has noted that the tree is in "Fair" condition.



Existing 28" diameter Red Maple. The tree is too close to the curb to allow an ADA sidewalk to be built. The tree must be removed if this concept is built. The Arborist has noted that the tree is in "Fair" condition.



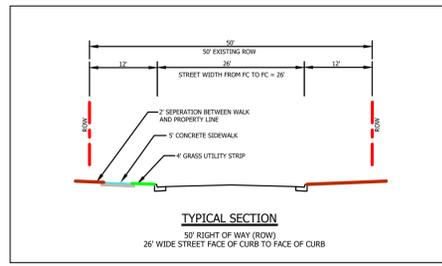
Existing 28" diameter Red Maple. The tree is too close to the curb to allow an ADA sidewalk to be built. The tree must be removed if this concept is built. The Arborist has noted that the tree is in "Fair" condition.



Existing 28" diameter Red Maple. This tree could be preserved with this concept as it is located approximately 21' behind the curb. The Arborist has noted that the tree is in "Good" condition.

CONCEPT 2
Sidewalk along the "Odd" side addresses (east side) of Blackstone Terrace NW.

This concept will extend from Holmes Dr to the existing sidewalk along the sideage of #349 Lawyers Rd. If this concept is constructed the two large Red Maple trees at #613, and #609 are too close to the curb and would require removal. The trees at #621 (8" Ginkgo), and #617 (17" Red Maple) can be preserved by constructing a reduced width sidewalk against the curb at these locations; however, there will be an impact on the critical root zones of these trees.



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**CONCEPT 2-
SIDEWALK ALONG "ODD SIDE" ADDRESSES-**

BLACKSTONE TERRACE NW
LAWYERS RD NW TO HOLMES DR NW

PREPARED JULY 21, 2021 SHEET 2 OF 3

Analysis of Concept 1- Blackstone Terrace NW

Analysis of Concept 2- Blackstone Terrace NW

DESCRIPTION	Sidewalk along the "Even" side addresses (west side) of Blackstone Terrace NW and extends from the existing sidewalk at Holmes Dr curb return to the existing sidewalk at the corner of Lawyers Rd.	Sidewalk along the "Odd" side addresses (east side) of Blackstone Terrace NW. This concept will extend from Holmes Dr to the existing sidewalk along the sideage of #349 Lawyers Rd.
SIDEWALK SUPPORT-RESPONSE TO QUESTIONNAIRE	Based upon the Questionnaire from DPW to homeowners that was sent in Fall of 2020 the even 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 even side of the street had more supporters of sidewalk (3 to 1).
TREE IMPACTS	Construction of this concept does not require removal of any large trees. The larger trees are located far enough from the curb that much of their critical root zones will be preserved. This concept uses a narrower typical section to minimize grading near these tree roots and to avoid the existing utility poles. The typical section is a 6-foot wide concrete sidewalk to be built adjacent to the existing curb (with no utility strip). There are two small trees that are in the right-of-way that are small enough to be transplanted to a location on the property, or can be replaced with nursery stock trees. The trees are the 2" Flowering Dogwood, and 2" Redbud. They are located along the frontage of #612 approximately 3 and 4 feet from the curb.	This concept has significant tree impact. If this concept is constructed the two large Red Maple trees at #613, and #609 are too close to the curb and would require removal. The trees at #621 (8" Ginko), and #617 (17" Red Maple) can be preserved by constructing a reduced width sidewalk against the curb at these locations; however, there will be an impact on the critical root zones of these trees. 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.
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 significant grading in the right-of-way in front of #612. Along this frontage there is a terraced planting bed constructed with timbers. The terracing is within the right-of-way and will need to be modified to build the sidewalk. The lowest level of the terrace will be removed. A segmented retaining wall can be built in front of the second level terrace to retain the grading. The segmented retaining wall would cost approximately \$20,000. 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. In the areas of the utility poles the section will be built narrower as required. In all areas the sidewalk is wide enough to comply with the ADA required minimum width of 4 feet. Existing water meters will be relocated to the utility strip as necessary.	There are some minor constructability issues with this concept. The proposed sidewalk would be brought adjacent to the curb (with no utility strip) to preserve the Ginko tree and lead walk/steps at #621. 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. Both concepts are relatively similar in terms of cost with the additional cost of the segmental retaining required at #621 making Concept 1 slightly more expensive.	The cost of this concept should be comparable to other Robinson Sidewalk Projects. Both concepts are relatively similar in terms of cost with the additional cost of the segmental retaining required at #621 making Concept 2 slightly less expensive.
CONNECTIVITY	Both concepts are comparable in terms of connectivity.	Both concepts are comparable in terms of connectivity.
RECOMMENDATION	<i>Because there was more support for sidewalk from owners on the "even" side addresses, and because of significantly less tree impact to construct Concept 1 DPW recommends Concept 1.</i>	

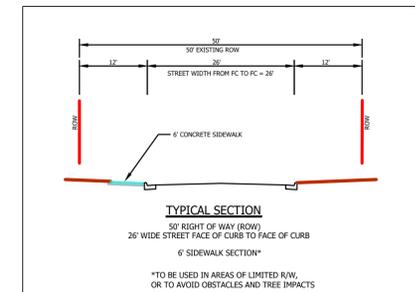
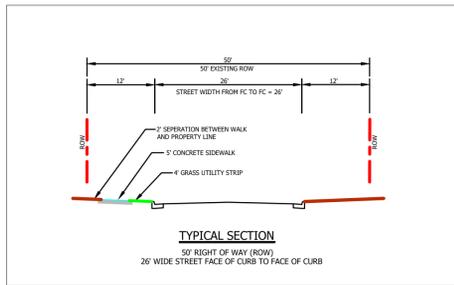
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ANALYSIS OF CONCEPTS 1 AND 2

BLACKSTONE TERRACE NW
LAWYERS RD NW TO HOLMES DR NW



CRITICAL ROOT ZONE (CRZ)
 This drawing plots the critical root zone (CRZ) of existing trees.
 1" of tree diameter dbh (diameter breast height) equals 1' radius of CRZ.
 (TOV R/W) indicates that the tree is on Town of Vienna right of way based upon field measurement.



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CRITICAL ROOT ZONE (CRZ)
 CONCEPTS 1 AND 2

BLACKSTONE TERRACE NW
 LAWYERS RD NW TO HOLMES DR NW

PREPARED JULY 26, 2021 APPENDIX- SHEET 3

Blackstone Terr. NW
Vienna, VA

Tree Inventory and Condition Analysis
Completed: 07/15/2021
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>Ginkgo biloba</i>	Ginkgo	8"		8'	4'	Excellent	87.50		
2	<i>Acer rubrum</i>	Red Maple	17"		17'	9'	Fair	59.38		Vines; dieback; decay
3	<i>Acer rubrum</i>	Red Maple	28"		28'	14'	Fair	59.38		Dieback; girdling roots; trunk decay
4	<i>Acer rubrum</i>	Red Maple	28"		28'	14'	Fair	59.38		Girdling roots; surface roots from overmulching, trunk stains indicating possible decay
5	<i>Acer rubrum</i>	Red Maple	28"		28'	14'	Good	65.63		
6	<i>Lagerstroemia indica</i>	Crapemyrtle	5"		5'	3'	Good	75.00		Multi-trunk; in corner of fence
7	<i>Lagerstroemia indica</i>	Crapemyrtle	16"		16'	8'	Good	75.00		Multi-trunk
8	<i>Lagerstroemia indica</i>	Crapemyrtle	5"		5'	3'	Good	75.00		Multi-trunk; in corner of fence
9	<i>Acer rubrum</i>	Red Maple	40"		40'	20'	Good	71.88		Quad trunk; Stress growth
10	<i>Acer rubrum</i>	Red Maple	28"		28'	14'	Fair	56.25		Included bark at Y crotch; broken off top; potential trunk decay
11	<i>Acer rubrum</i>	Red Maple	29"		29'	15'	Good	68.75		
12	<i>Cornus florida</i>	Flowering Dogwood	2"		2'	1'	Fair	56.25		In path of proposed sidewalk
13	<i>Cercis canadensis</i>	Redbud	2"		2'	1'	Good	75.00		In path of proposed sidewalk; double trunk
14	<i>Acer rubrum</i>	Red Maple	26"		26'	13'	Poor	31.25		Broken off; Large ivy vine on trunk
15	<i>Cornus florida</i>	Flowering Dogwood	17"		17'	9'	Excellent	81.25		Multi-trunk
16	<i>Cornus florida</i>	Flowering Dogwood	8"		8'	4'	Good	75.00		
17	<i>Acer rubrum</i>	Red Maple	28"		28'	14'	Excellent	59.38		Triple-trunk
18	<i>Prunus serotina</i>	Black Cherry	22"		22'	11'	Good	65.63		Co-dominant; decay in trunk; surface roots; guy wire embedded in tree; pruning damage; crack in front trunk
19	<i>Cornus florida</i>	Flowering Dogwood	18"		18'	9'	Fair	59.38		Triple-trunk; one broken off
20	<i>Quercus phellos</i>	Willow Oak	15"		15'	8'	Excellent	81.25		

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 07/15/2021

Fairfax County, Virginia



0 50 100 200 Feet



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

Blackstone Terr. NW

Scale 1' = 200'