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May 11, 2005

BY MESSENGER

Mr. Geoffrey Griffis
Chairperson
Board of Zoning Adjustment
441 Fourth Street, N.W.
Suite 210 South
Washington, D.C. 20001

Re: BZA Application No. 17309 – Chain Bridge Road, N.W.

Dear Chairperson Griffis:

Enclosed please find two expert reports prepared on the behalf of the Chain Bridge Road/University Terrace Preservation Committee in connection with the above noted Application. The first is a report prepared by certified arborist, Edward P. Milhous of Treesplease Consulting Firm, and the second is a report prepared by traffic consultant, Stephen G. Petersen, P.E. of Street Traffic Studies, Ltd.

We provide these reports to assist the Board in its review of the Application. More importantly, this information is being provided to the Applicant and the Office of Planning to respond cooperatively and constructively to the Applicant's stated rationale for seeking a continuance of the hearing in this matter, – namely – his desire to have "the opportunity to have further meetings and discussions with agency and neighborhood representatives to determine how to address their concerns, which may result in changes to the project now pending." (See Letter to Chairperson Griffis dated April 21, 2005.)

Both reports raise substantial issues, including tree preservation and traffic safety, that call into question the viability of Applicant's current plans and demonstrate the need for substantial revisions. We are hopeful that Applicant will carefully consider these reports and address the challenges they pose in his new plan. The Committee looks forward to the meetings

BZA
Case No. 17309
Exhibit No. 66

Board of Zoning Adjustment
District of Columbia
CASE NO. 17309
EXHIBIT NO. 66

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GREENSTEIN DELORME & LUCHS, P.C.

Mr. Geoffrey Griffis

May 11, 2005

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and discussions that Applicant has stated he intends to initiate in an effort to address the community's concerns.

The Preservation Committee is committed to working with the Applicant to ensure that a new plan will be in the best interest of the community and can be approved by the Board.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'JPB', with a long horizontal line extending to the right.

John Patrick Brown, Jr.

260568v1

Enclosures

cc: Robert Sussman, Esquire, Chair, CBRUTPC
Mr. Rudy Djabbarzadeh
Mr. Alan Aiches, Palisades Citizens Association
Mr. Stuart Spencer, Palisades Citizens Association
Mark Brodsky, Esquire
Norman M. Glasgow, Jr., Esquire
Ms. Alma Gates, Chairperson, Advisory Neighborhood Commission 3D
Ms. Maxine Brown-Roberts, Office of Planning
Ms. Ainsley Caldwell, Urban Forestry Administration, DDOT
Mr. Kenneth G. Laden, District Department of Transportation
Stephanie A. Baldwin, Esquire

Analysis Of Tree Preservation At The Chain Bridge Road Project

**for
The Chain Bridge Road/University Terrace
Preservation Committee**

20 April, 2005

By Ed Milhous
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CONSULTING ARBORISTS

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Introduction And Summary

At the request of the Chain Bridge Road/University Terrace Preservation Committee, I visited the site of the proposed Chain Bridge Road Project to make observations about the tree preservation aspects of the project. I also reviewed the submission documents and the report of Project Arborist Lew Bloch dated July 20, 2002.

I am of the opinion that many of the trees on this site are old and delicate, and will not tolerate significant changes around them. The plans are lacking in details necessary to fully comprehend what will be done on site. However, the scope of the project and the plans provided make it clear that most of the currently viable trees the developer indicates will be saved have no chance of survival. In fact, the plans propose to preserve trees the developer's own arborist, Mr. Bloch, recommended he remove regardless of construction because Mr. Bloch contends they are in poor condition.

From a tree preservation perspective, based on the plan documents alone, it would not be realistic to expect most of the larger trees to survive the construction activities necessary to implement such plans. The result would be simply to burden new homeowners with dying trees. An objective arborist would agree that only ten of the larger trees will remain viable after this project is completed. The remaining trees shown to be saved will, in fact, be nonviable if this plan is implemented, which would be in violation of the Tree & Slope Overlay regulations [11 DCMR, 1568.1].

Furthermore, no trees in the size range of twelve to thirty-eight inches circumference were included on the plans, as required by Tree & Slope Overlay regulations [11 DCMR, 1568.1(c)]. Thus the submission is incomplete.

Observations And Discussion

The Site

The site of the proposed Chain Bridge Road Project is an old home site where numerous large trees had grown up over many years. When I visited on October 11, 2004, the house had been razed, but remnants of gardens were still visible. I could not tell how much area was altered in the process of demolition, but it appears that reasonable care was taken not to disturb the trees.

I did not rate the trees, and this report is based on an assumption that Mr. Bloch's ratings are correct. I walked all except the steepest slopes to get an impression of what the trees were like, and how they would tolerate the changes necessary to redevelop the property. I reached the conclusion that the larger trees included on the plan are old and must be considered intolerant of change.

Mr. Bloch's Report

I read Mr. Bloch's report to Dorchester Associates LLC, dated July 20, 2002. In his report, Mr. Bloch, using the Council of Tree and Landscape Appraisers published guidelines¹, rated the condition of sixty-four trees on a percentage basis. He stated that, "... any tree with a condition rating of less than 50% should be removed." He rated twenty trees less than fifty percent.

Mr. Bloch stated that, "A 50% rated tree is marginal and MAY be retained if there is no new construction close by the tree." He rated twelve trees fifty percent.

Mr. Bloch stated that trees rated above fifty percent could be retained, but that retention depends on "... the construction contractor properly protecting and maintaining them." He rated thirty-two trees above fifty percent.

¹ Council of Tree and Landscape Appraisers. 2000. *Guide for Plant Appraisal*. 9th edition. International Society of Arboriculture, Savoy, IL, 143 pp.

The inference of Mr. Bloch's report is that trees must be protected from construction damage in order to remain viable for the new homeowners and the community. I would agree with that.

The Trees

The most prominent trees include the American beeches (*Fagus grandifolia*)² that line both sides of the existing entrance drive (trees #13, 14, 15, 16, 17, 19, 44, 45, 46, 47, 48, 49, 50, 51, 52, and 53). Of these sixteen trees, Mr. Bloch recommended removal of two. The existing driveway is right next to the bases of these trees, and any widening of the roadway would necessitate removal of all on one side or the other, and quite possibly on both sides.

There are two other specimen quality trees:

- tree #1, a pin oak (*Quercus palustris*) that is twenty-nine inches in diameter at four and one-half feet above the soil line (referred to as diameter at breast height or DBH)
- tree #28, an American holly (*Ilex opaca*) that is twenty-one inches DBH.

There are twelve other trees that Mr. Bloch rated seventy percent or higher. These trees may be near specimen quality as well.

In addition, there are a significant number of trees larger than twelve inches circumference (approximately four inches diameter) that were not included on the plans or in Mr. Bloch's report. These trees are regulated under the Tree & Slope Overlay regulations [11 DCMR, 1568.1(c)]. Thus the plans are incomplete.

Trees And Construction Projects

Three aspects of tree preservation planning apply to this project:

- tolerance of change
- critical root zones
- the nature and scope of the impact

² These could be European beech (*Fagus sylvatica*), but I shall refer to them as American beech.

Tolerance Of Change

In general, the longer a tree has been growing in place, the less tolerant of change it is. Clearly, all the sixty-four trees listed have been here for many decades.

The better condition a tree is in, the more likely it is to tolerate change. Conversely, the poorer a tree's condition, the less likely it is to survive change. An older tree in less than good condition, which might otherwise survive in a natural setting, would be much less likely to tolerate a construction project. If the Bloch report is correct, that would lead me to conclude that most of the sixty-four trees are not going to survive a significant change in their environment. There will be too much construction activity too close to mature trees for them to tolerate.

Certain species of trees are notoriously sensitive to change. Among these are beech, tulip tree (*Liriodendron tulipifera*), and Canadian hemlock (*Tsuga canadensis*)³. Twenty-nine of the sixty-four trees are these species. Considering age and reported condition, these trees are not going to tolerate the changes necessary to implement this project.

To preserve older, less tolerant trees that are in less than very good condition requires leaving a larger area of ground undisturbed around them. Younger, more tolerant trees in good condition can tolerate a greater degree of disturbance. The trees on the Chain Bridge Road Project site are going to need a significant amount of undisturbed ground if they are to remain viable.

Critical Root Zones

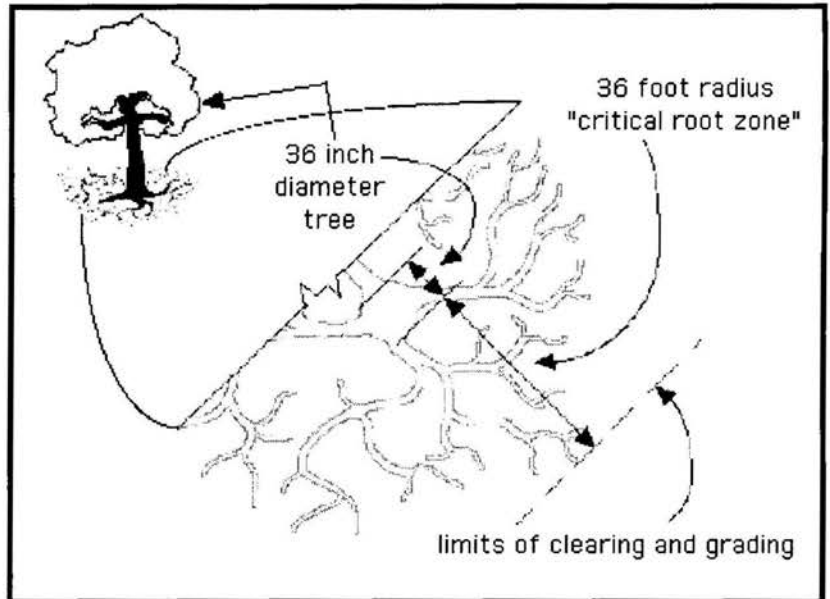
Matheny and Clarke⁴ describe several methods for determining what area must remain undisturbed in order to preserve trees during construction projects. One that arborists generally use is referred to as the "critical root zone" (CRZ). The CRZ is defined as a circle with the tree at the center, which is one foot in radius for

³ Matheny, Nelda P. and James R. Clark, 1998. *Trees and Development — A Technical Guide to Preservation of Trees During Land Development*. International Society of Arboriculture, Champaign, IL, p 165-179.

⁴ Matheny and Clarke, p 73.

each inch of tree diameter at breast height. A young tree generally has a smaller CRZ; an older, larger tree generally has a larger CRZ. Many local ordinances define the CRZ as being equal to eighteen inches per inch of DBH.

Considering the age, size, condition, and species of the trees on this plan, a CRZ of eighteen inches per inch of DBH is appropriate.



Nature And Scope Of The Impact

Following are several renderings of the Chain Bridge Road Project plan, which demonstrate the degree of change and the ramifications of that change.

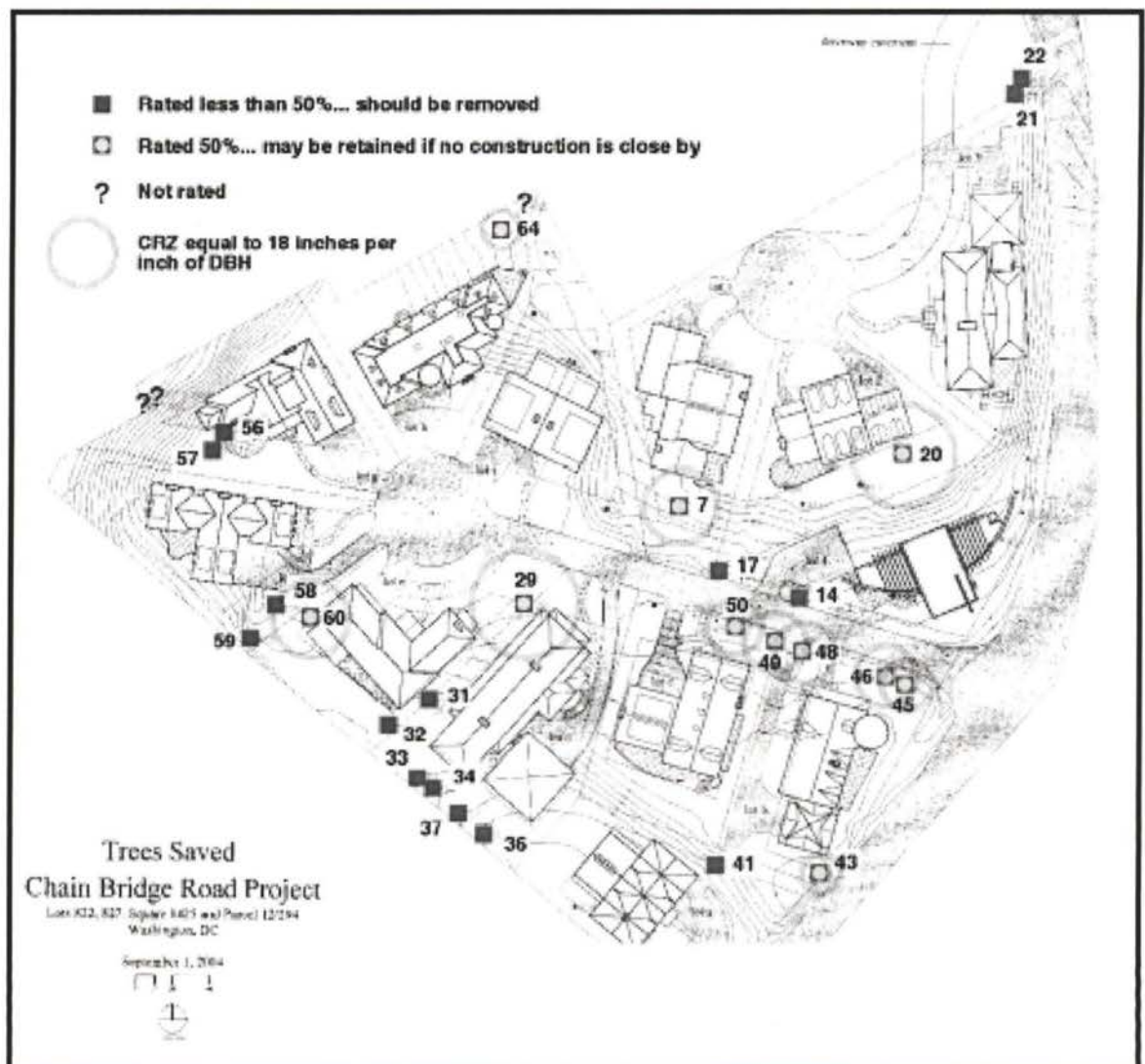
Having worked on hundreds of construction projects as a professional arborist, I can say that as far as tree preservation is concerned, it is essential that people be realistic about the prospects for each individual tree. Failure to be realistic will result in dying trees left standing near new houses.

The plan for Chain Bridge Road Project as presented simply states that the trees will be saved; there is no tree preservation plan providing details as to how this actually will be accomplished; there is no grading plan to see what ground will be left undisturbed. It is left to a reviewer to accept the tree save premise as a leap of faith.

Someone might look at these plans and say that anything is possible. But a

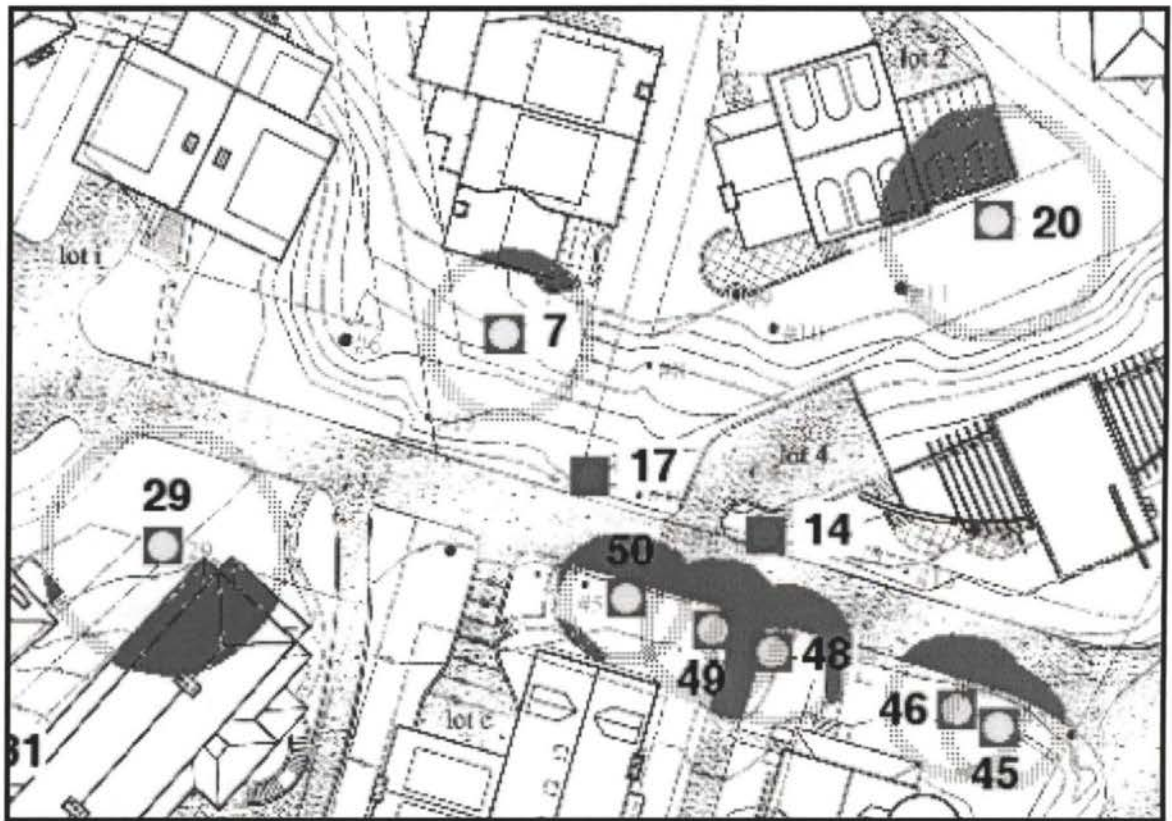
realistic and objective arborist would look at these plans, and realize that only a few of the larger trees have any chance at all of remaining in a viable state when this project is complete.

First, let's look at the *Trees Saved* plan focusing on the trees Mr. Bloch rated fifty percent or less; these are trees he stated in his July 20, 2002 letter to Mr. Bender either should be removed now (rated less than 50%), or would not tolerate construction nearby (rated 50%). The *Trees Saved* plan purports to preserve these nonviable trees.



It also is readily apparent that most of the vulnerable, construction-intolerant trees — those Mr. Bloch rated at 50% — are very close to construction. While these trees are shown on the plans as saved, it is obvious that they cannot be saved.

Next, let's look at a closer detail of this part of the plan. The detail below shows the entrance road. It shows only the trees rated fifty percent or less... those that Mr. Bender's arborist says should be removed now or will not tolerate construction nearby. It does not show trees that Mr. Bloch says should remain viable. The plan claims that all the trees shown here will be preserved. The solid rust colored areas are the portions of the CRZ of each tree that will be graded out if the builder manages to dig only the exact footprint of each structure. This is not possible, of course; there is always some over-dig to enable construction of foundations. In fact, only an extremely naïve person would think these huge houses



can be built without substantial grading and disruption of the trees' root zones. Certainly it will be impossible to put tree protection fencing at the drip lines of trees that stand next to houses, as the plan claims will be done. In addition, their canopies⁵ will have to be pruned substantially to fit these large houses in. This will dramatically alter the appearance of some of these trees. In the case of the beech trees, radical pruning could be destructive where large branches must be cut off.

The entrance roadway has to be widened significantly to achieve the sixteen-foot width being proposed. The plan does not show where utilities will be located, but along the entrance road is the logical place for water, sewer, and electric.

Given that the beeches are old and that this species is considered one of the most intolerant species there is, their immediate demise is inevitable if this project is carried out as planned.

Furthermore, while there was no storm water management plan included in what I was provided, I did see references to infiltration trenches. A tree preservation plan would have to consider the substantial disruption necessary for infiltration trenches as well. Given the sizes of these houses and the other impervious surfaces, the only realistic places for the infiltration trenches are in the space near the trees.

The Bloch report rated sixteen trees seventy percent or higher; these are the best trees on the site, and include trees #1, 4, 6, 9, 10, 12, 13, 23, 24, 25, 26, 27, 28, 40, 44, and 62. Of these, only trees #6 and 23 have a chance of remaining viable if this plan were implemented.

⁵ The spread of the aboveground parts of a tree out to the branch tips. This is equal to the shadow cast when the sun is directly overhead.

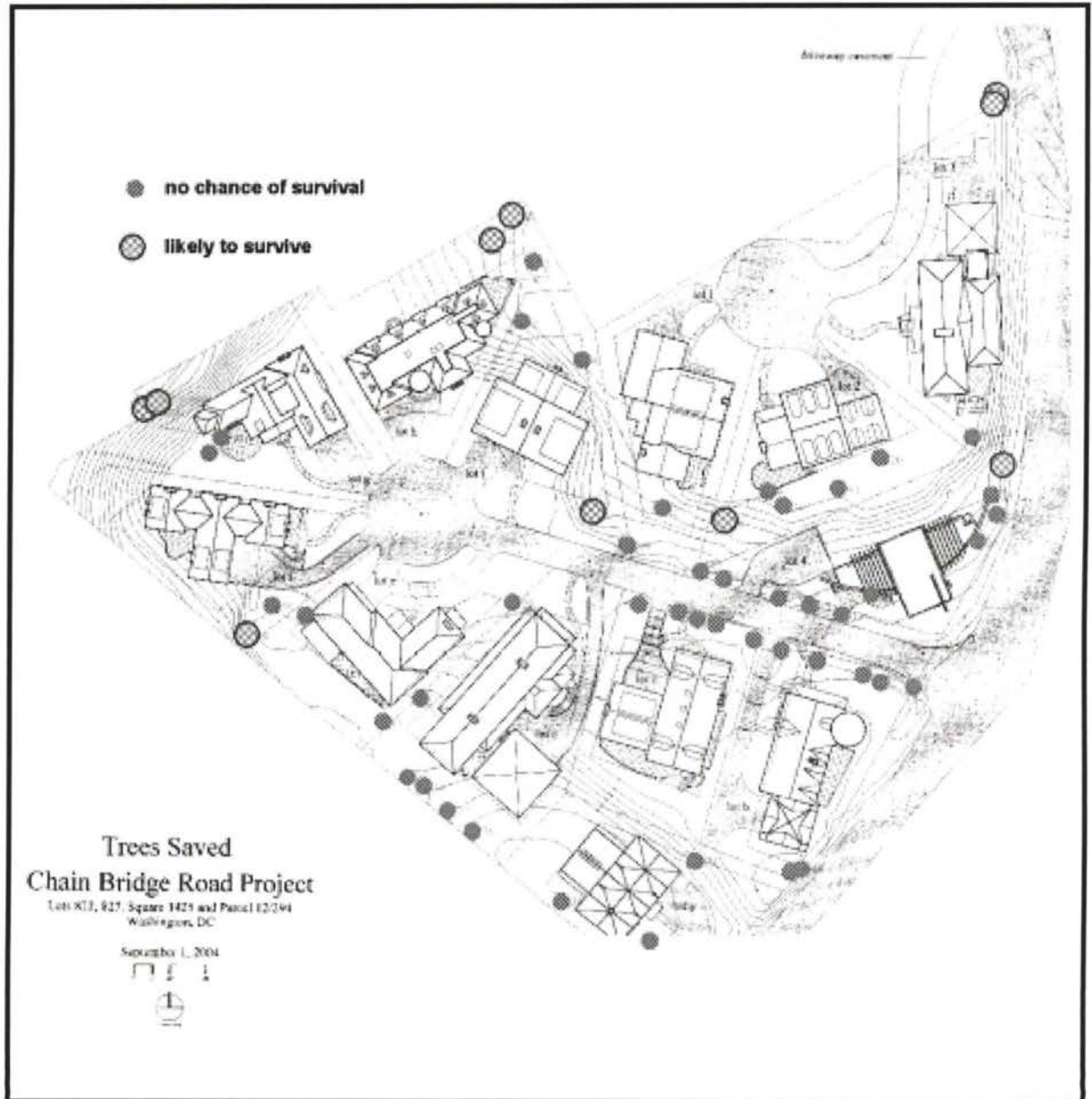
Let's take a close look at one of these highly rated trees: tree #9, a white oak (*Quercus alba*) over twenty-four inches DBH, rated seventy percent by Mr. Bloch. This detail illustrates how overly optimistic the plans for Chain Bridge Road Project are. This tree has a patio built around at least fifty percent of its base. At least one-quarter of its CRZ is lost to building and patio.



Summary

I can neither verify nor rebut Mr. Bloch's assessment of the condition of these trees. However, a realistic view of this project is that, using Mr. Bloch's own assessment of tree conditions, many if not most of the larger viable trees are too close to disturbances that would be essential to build the Chain Bridge Road Project as planned. The plan rendering on the following page shows graphically what trees an objective arborist would expect to remain and what trees would be lost as a result of the development.

It is apparent that the Chain Bridge Road Project cannot be built as planned and meet the requirements of the Tree & Slope Overlay regulations [11 DCMR, 1568.1].



Appendix: Trees Listed

Tree #	Tree Name	Circumference	DBH	Bloch Rating
1	pin oak	91	28.97	.85
2	eastern white pine	62	19.1	.60
3	pin oak	110	35.01	.60
4	American elm	99	31.51	.70
5	flowering cherry	68	21.65	.50
6	pin oak	114	36.29	.70
7	red oak	87	27.69	.50
8	red oak	51	16.23	.60
9	white oak	77	24.51	.70
10	red oak	87	27.69	.70
11	red oak	117	37.24	.65
12	tulip tree	124	39.47	.70
13	American beech	41	13.05	.75
14	American beech	41	13.05	.45
15	American beech	56	17.83	.60
16	American beech	48	15.28	.65
17	American beech	61	19.42	.45
18	red maple	37	11.78	.60
19	American beech	54	17.19	.65
20	black cherry	126	40.11	.50
21	black cherry	49	15.6	.45
22	boxelder	64	20.37	.45
23	tulip tree	74	23.55	.75
24	tulip tree	73	23.24	.75
25	tulip tree	70	22.28	.70
26	tulip tree	74	23.55	.75
27	red oak	37	11.78	.75
28	American holly	67	21.33	.80
29	red maple	127	40.43	.50

Tree #	Tree Name	Circumference	DBH	Bloch Rating
30	red maple	112	35.65	.45
31	flowering cherry	55	17.51	.45
32	Canadian hemlock	102	32.47	.40
33	Canadian hemlock	48	15.28	.45
34	spruce	48	15.28	.45
35	magnolia species	48	15.28	.65
36	eastern white pine	61	19.42	.45
37	Canadian hemlock	56	17.83	.45
38	sycamore	89	28.33	.60
39	tulip tree	96	30.56	.30
40	tulip tree	121	38.52	.75
41	tulip tree	102	32.47	.40
42	white oak	42	13.37	.65
43	white oak	44	13.37	.50
44	American beech	87	27.69	.75
45	American beech	53	16.87	.50
46	American beech	84	26.74	.50
47	American beech	65	20.69	.60
48	American beech	78	24.83	.50
49	American beech	77	24.51	.50
50	American beech	66	21.01	.50
51	American beech	62	19.74	.60
52	American beech	52	16.55	.60
53	American beech	102	32.47	.65
54	Canadian hemlock	43	13.69	.45
55	eastern white pine	50	15.92	.40
56	eastern white pine	54	17.19	.40
57	eastern white pine	42	13.37	.40
58	Canadian hemlock	92	29.28	.40

Tree #	Tree Name	Circumference	DBH	Bloch Rating
59	Canadian hemlock	48	15.28	.40
60	American holly	83	26.42	.50
61	eastern white pine	40	12.73	.45
62	willow oak	62	19.74	.75
63	red oak	64	20.37	.60
64	red oak	44	14.01	.50

CERTIFICATION

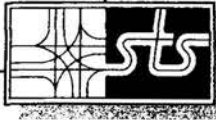
I, Edward P. Milhous, certify that the foregoing is true to the best of my knowledge at the time produced; that I have no past, present, or contemplated future interest in the property; that I received no material assistance in reaching my conclusions; that neither employment nor compensation was contingent on my conclusions; and that I was not influenced in my judgment by anybody.

Edward P. Milhous, Inc.
dba TreesPlease®



Edward P. Milhous, President
Registered Consulting Arborist #350
Certified Arborist MA-0004
Maryland Tree Expert #458

Date: 20 April, 2005



Street Traffic Studies, Ltd.

April 25, 2005

MEMORANDUM

To: District of Columbia Board of Zoning Adjustment

Subject: BZA Case #17309 Application of Dorchester Associates, Inc.
Chain Bridge Road Traffic Study Evaluation

Prepared by: Stephen G. Petersen, P.E.

At the request of the Chain Bridge Road/University Terrace Preservation Committee, we have developed the following information about traffic operations along Chain Bridge Road in the immediate vicinity of the proposed development by Dorchester Associates using existing driveways located at 2762 and 2800 Chain Bridge Road. Following a discussion of the findings of our study we provide some observations relative to the report prepared by O.R. George & Associates, Inc. dated March 29, 2005 and entitled *Traffic Impact Assessment – Board of Zoning Adjustment Application for Chain Bridge Road Properties, Palisades Area, Northwest, Washington, D.C.* as well as the reports submitted by District Government agencies.

Description of Studies

Our studies were directed toward obtaining information on two key elements that will affect the safety of future residents using the two existing driveways to the property as well as current users of Chain Bridge Road. The first of these was to develop a speed profile of traffic on Chain Bridge Road at the north and south limits of the property. To secure this data an Automatic Traffic Recorder (ATR) was installed to record the speed and volume of southbound vehicles traveling downhill at a point just south of #2824. A similar recorder was installed about 100 feet north of the driveway for #2730-2740 to collect similar data for northbound vehicles traveling uphill.

The second area that was examined was the distance that a driver exiting either of the driveways could see in each direction under current conditions or, in technical terms, the "sight distance" that was available to the driver to make a decision that it was safe to enter Chain Bridge Road via a left or right turn. To make these measurements the "eye" of the driver was placed 10 feet behind the edge of the travel way of the southbound lane of Chain Bridge Road. (Current design criteria suggest that this point should be 14 feet from the edge of the travel way but, since there is no existing sidewalk on the west side, it is anticipated a driver would pull close to the edge of the travel way.)

Results of Studies

The ATRs recorded speed data for almost 1400 southbound vehicles and 1300 northbound vehicles over a five-day period from Wednesday, April 6 thru Sunday, April 10, 2005. Of these 38% were traveling between 20 and 25 mph. However, the ATRs also

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Traffic Study Evaluation – Chain Bridge Road Development by Dorchester Associates

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recorded the fact that 41% of southbound (downhill) vehicles and 30% of northbound (uphill) vehicles were exceeding the posted 25 mph speed limit. The distribution of travel speeds in 5 mile per hour increments is shown on Exhibits 1A and 1B. These charts show about one percent of the vehicles exceed 45 mph with a few traveling as high as 50 to 55 mph.

Another statistic that was derived from the speed data was a value for the "design" speed of geometric features such as the sight distance that should be provided for drivers using the road. Defined as the speed at or below which 85% of the drivers are traveling, the data from the ATRs indicate that this speed is 30 mph (see Exhibits 2A and 2B). A more conservative approach would be to use a value of 95% for design which would be equivalent to a speed of 35 mph.

Based on *A Policy of Geometric Design of Highways and Streets*, 2001 Edition published by the American Association of State Highway and Transportation Officials (AASHTO), for a speed of 30 mph, the design distance for a driver to safely stop a vehicle is 200 feet on a level road. For grades such as those in the vicinity of the site, the range is 185 feet uphill to 215 feet downhill. For a driver exiting from a side street the Policy recommends a sight distance of 335 feet. However, because of design constraints for local streets, the usual goal is to use "stopping sight distance" as the design criterion or, in this case 200 feet.

The values for a design speed of 35 mph would be 250 feet on a level road and a range of 230 feet uphill to 270 feet downhill. The intersection sight distance recommended by AASHTO for a speed of 35 mph is 390 feet.

The field measurements that were made of *existing* conditions at the two driveways serving the property produced the following results:

2762 Driveway – Visibility to Left – 100 feet, Visibility to Right – 85 feet

2800 Driveway – Visibility to Left – 45 feet, Visibility to Right – 30 feet

Photographs of what a driver can see from each of the existing driveways under existing conditions are shown on Exhibits 3A and 3B.

A vehicle moving at 30 mph travels 44 feet in one second. Thus, the above distances provide time intervals for a driver to observe conditions, make a decision to proceed and to start moving of 0.7 to 2.3 seconds compared to a 30 mph design value of 4.5 seconds (200 feet divided by 44 feet/second) and a 35 mph design value of 4.9 seconds (250 feet divided by 51 feet/second).

Contrast of Study Findings to Applicants Traffic Report

The four significant proposals in the traffic report to ameliorate the sight distance concerns are as follows:

- 1) Install mirrors at the two driveways that will serve multiple units.
- 2) Seek opportunities to enhance sight distance as a part of the landscaping of the property.
- 3) Work with DDOT to reduce the speed limit.

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Traffic Study Evaluation – Chain Bridge Road Development by Dorchester Associates

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- 4) Prohibit parking on the west side of Chain Bridge Road for 40 feet each way from each driveway.

In our professional opinion relying on the use of mirrors is not an appropriate primary measure to alleviate a sight distance constraint at a driveway that must serve multiple residential units. If a driver trying to exit the driveway can not see, the length of the gaps in the thru traffic stream is of no value. In the case of the driveway at #2762 this would imply that 80 times/day (using the traffic report assumptions on trip generation) an exiting driver would need to make a decision based on a flash lasting a fraction of a second in a mirror that there was, in fact, an adequate gap to exit the driveway. Residents may in time learn to judge conditions but visitors who do not use this device regularly are more likely to be at risk.

A proffer to “seek opportunities” to enhance sight distance is far too weak. If this development is to be approved, the condition should be that a minimum of 200 feet of sight distance, and preferably 250 feet, each way will be provided and maintained.

In regard to the proposal to modify the speed limit, unless there is intensive enforcement, the net result of lowering the speed limit will be to increase the percentage of drivers exceeding the limit to 95% at 15 mph and 70 to 80% at 20 mph. The majority of drivers using Chain Bridge Road, as well as any street, operate their vehicles at a speed they consider to be safe in part because they assume that a driver entering from a side street or a driveway can see them and will yield the right-of-way to the thru vehicle. Changing a few signs to read 15 or 20 mph will **not** change this pattern of driver behavior.

As for the proposal to prohibit parking for only 40 feet in each direction, the paved width of Chain Bridge Road is only 17 to 18 feet between embankments that restrict the ability of a driver to get his vehicle off of the paved surface. This condition exists along the entire frontage of the subject property and suggests that there is no area where parking should be permitted on the west side of Chain Bridge Road adjacent to the subject property. Parking is already prohibited on the east side.

In summary, if the residents of the proposed development as well as existing residents and other users of Chain Bridge Road are to be provided with a reasonable level of safety at the points of entry into Chain Bridge Road from the subject property, a minimum sight distance of 200 feet, and preferably 250 feet, in each direction from the existing driveways needs to be provided.

Other Observations about the Applicants Traffic Report and Agency Reports

The data that were provided in the O.R. George report indicating the daily volume of traffic using Chain Bridge Road is approximately the same as we measured – about 700 vehicles/day along the frontage of the site. Saturday traffic was 575 vehicles and Sunday traffic was 535 vehicles. The variation in the daily traffic flow is shown in Exhibit 4. However, it should be noted that only about 35% of the daily traffic passing the site is generated by the residents living along Chain Bridge Road. The other 65% is made up of drivers using Chain Bridge Road as a short cut or to access the park.

We do not disagree with the request to reduce the width of the access drives to the multiple units to 16 feet. However, our measurements of the gates to the property revealed

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that the gate for #2762 was only 12 feet wide between the posts. At #2800, the gate posts were 16 feet apart but the driveway leading up to them from the street was only 14.5 feet wide between the fences. We were not able to access the property to measure the driveways beyond the gates, but at #2762 the edges of the driveway appear to be continuations of the lines established by the gate posts. In reaching the conclusion about the adequacy of a 16 foot wide driveway, we contrasted this with the fact that Chain Bridge Road itself is only 17 to 18 feet wide along the property frontage and serves over four times as many vehicles/day as were projected by the consultant to use the driveway for #2762. However, we would recommend that the first 50 feet off the edge of Chain Bridge Road be widened to 25 feet to ease ingress and egress when these two movements occur simultaneously. These observations relate to the fact that 95% to 98% of the vehicles using these roads are passenger cars or light trucks that can pass each other in lanes that are eight feet wide at the low speeds that should prevail on the driveways. However, as noted in the report from the Fire and Emergency Services Department, the people responsible for public safety have a different perspective on the matter of the width of streets and driveways serving multiple dwelling units.

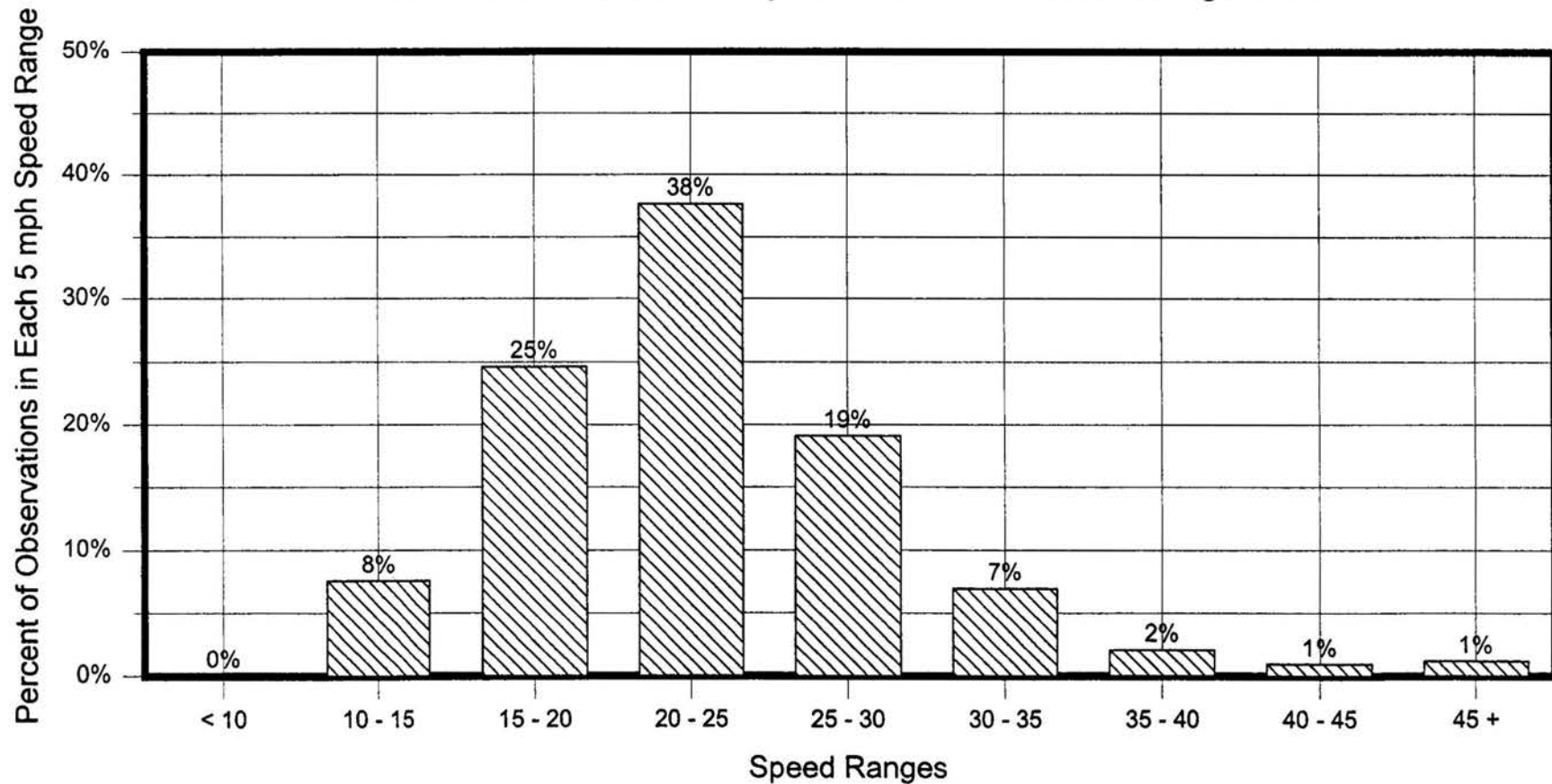
The Office of Planning report characterizes Chain Bridge Road as a street with a 30 foot width. This may be correct if it refers to the width of the right-of-way but there is no section of this street where the paved width is equal to 30 feet. As indicated earlier, the pavement along the site frontage is only 17 to 18 feet wide.

The DDOT report indicates that concave mirrors at the site entrances will "ensure appropriate sight distance". This statement ignores the fact that such mirrors cover only a limited area and that the view is distorted because of the curvature of the mirror (vehicles look to be further away than they actually are). As a result, a vehicle on Chain Bridge Road approaching the site driveways is seen as a flash for a fraction of a second. This compresses the time that a driver has to make a decision to exit the driveway and can hardly be considered an adequate substitute for a proper sight triangle for a driveway serving multiple units. The department also ignores the fact that such mirrors can be damaged and do deteriorate over time thus depreciating what assistance they may provide to a driver. Further, based on the manner in which the department's report is worded, it appears that the responsibility for maintenance lies with the homeowners even though this is a device installed on a public street. Finally, the fact that that the department would consider mirrors as an acceptable substitute for the provision of adequate sight distance for egress from a new development raises serious concern about their report. Overcoming existing bad situations by using mirrors is one thing; perpetuating an existing bad situation where this is to be a significant change in the underlying conditions is another.

In summary, the increase in usage of Chain Bridge Road caused by up to 13 additional dwellings is not a significant impact in terms of traffic flow. However, for safety reasons, as indicated previously, improvements to egress conditions from the subject site are an essential element of this application that needs to be considered by the Board of Zoning Adjustment.

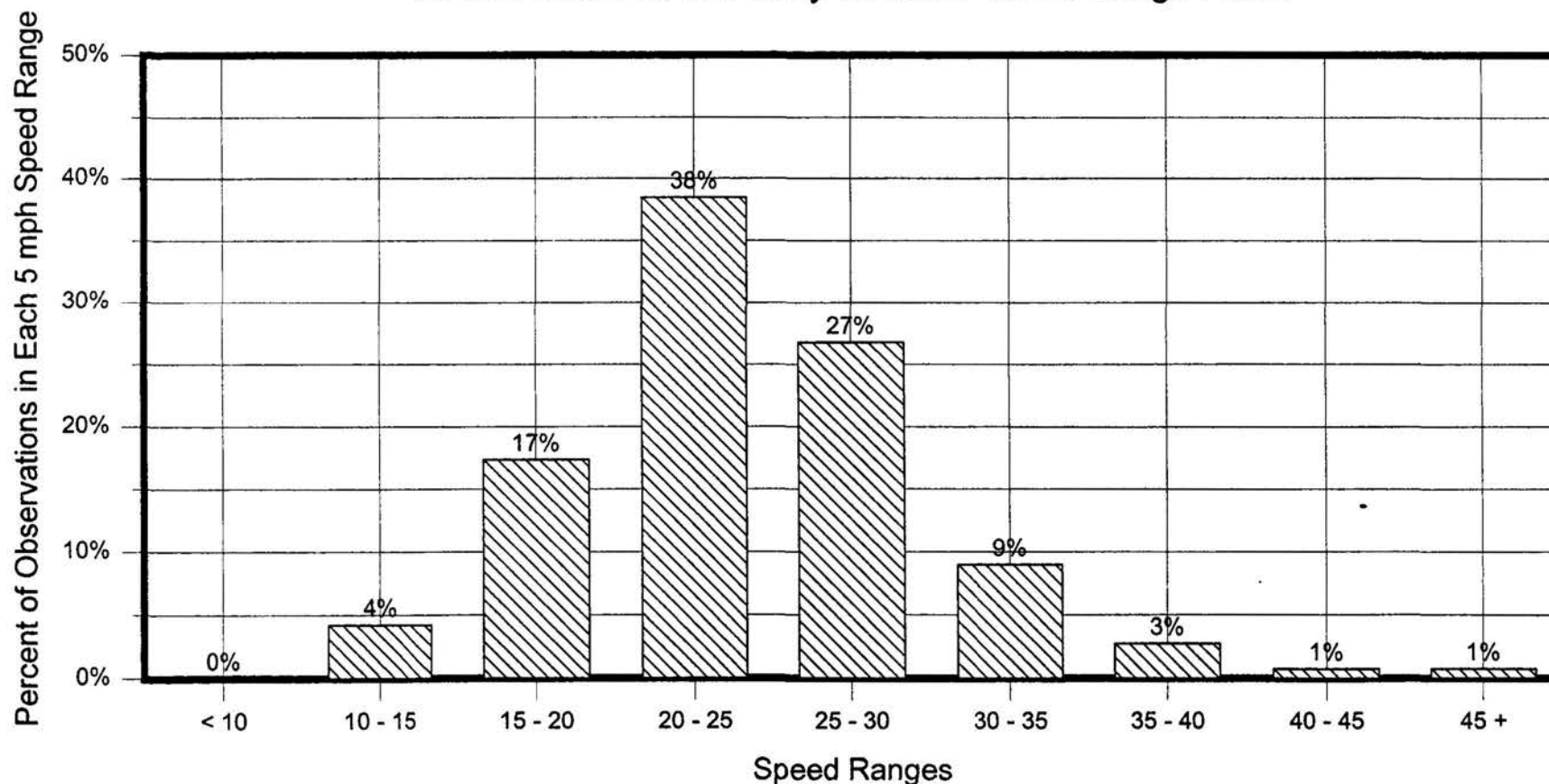
Exhibits 1 thru 4 follow.

SPEED STUDY - CHAIN BRIDGE ROAD, N.W.
Vehicles Traveling Northbound (Uphill) - Posted Speed Limit 25 MPH
100 feet North of Driveway for 2730-2740 Chain Bridge Road



Study Dates: From - 12:00 a.m. Wednesday, 04/06/05 thru 12:00 a.m. Monday, 04/11/05
Total Vehicles Observed - 1299; Average Speed = 22.9 mph; Exceeding Posted Speed - 30%
Source: Vehicle Volume Recording Company, Gaithersburg, Maryland

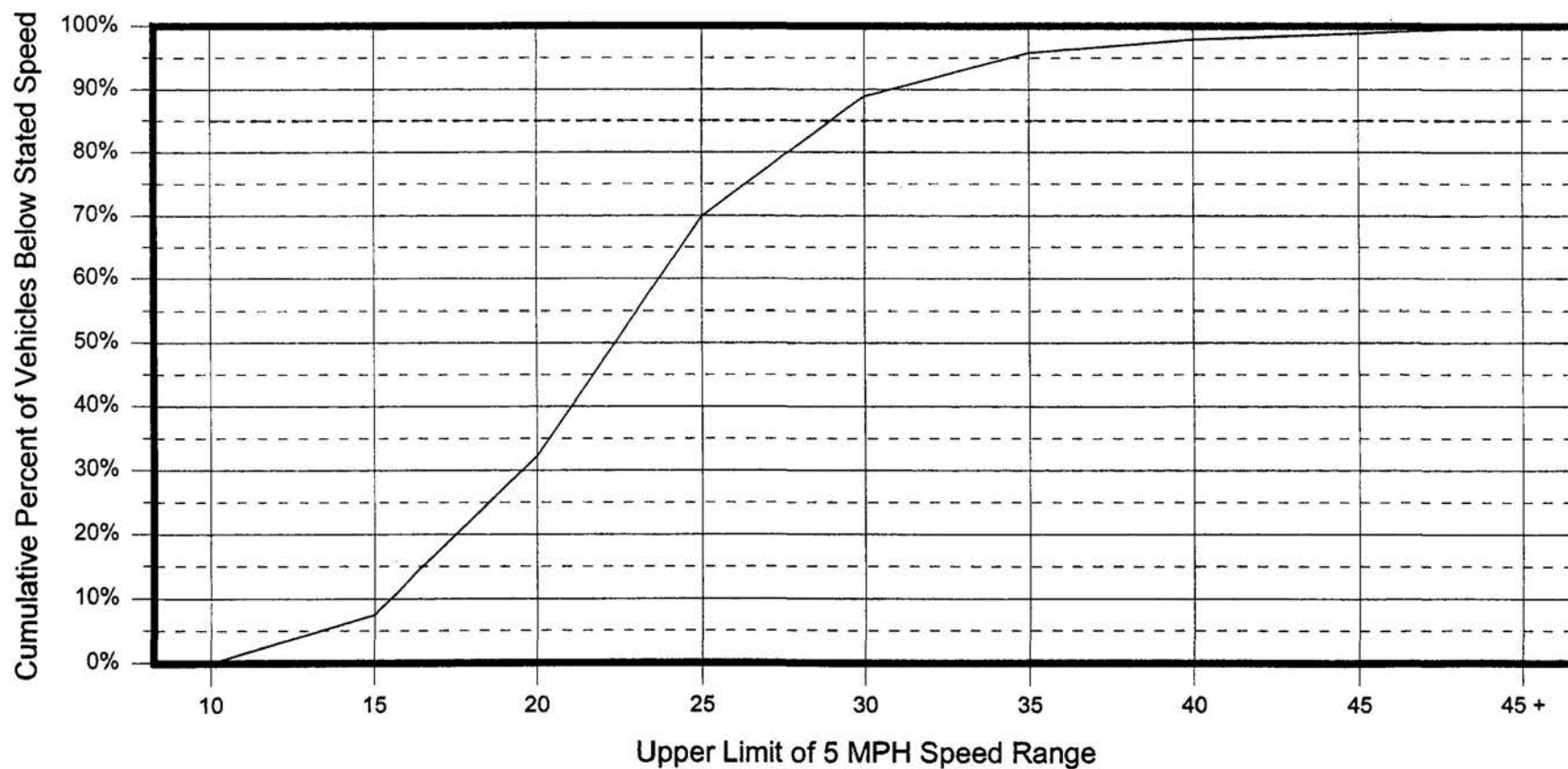
SPEED STUDY - CHAIN BRIDGE ROAD, N.W.
Vehicles Traveling Southbound (Downhill) - Posted Speed Limit 25 MPH
50 feet South of Driveway for 2824 Chain Bridge Road



Study Dates: From - 12:00 a.m. Wednesday, 04/06/05 thru 12:00 a.m. Monday, 04/11/05
Total Vehicles Observed - 1390; Average Speed = 24.2 mph; Exceeding Posted Speed - 41%
Source: Vehicle Volume Recording Company, Gaithersburg, Maryland

SPEED STUDY - CHAIN BRIDGE ROAD, N.W.

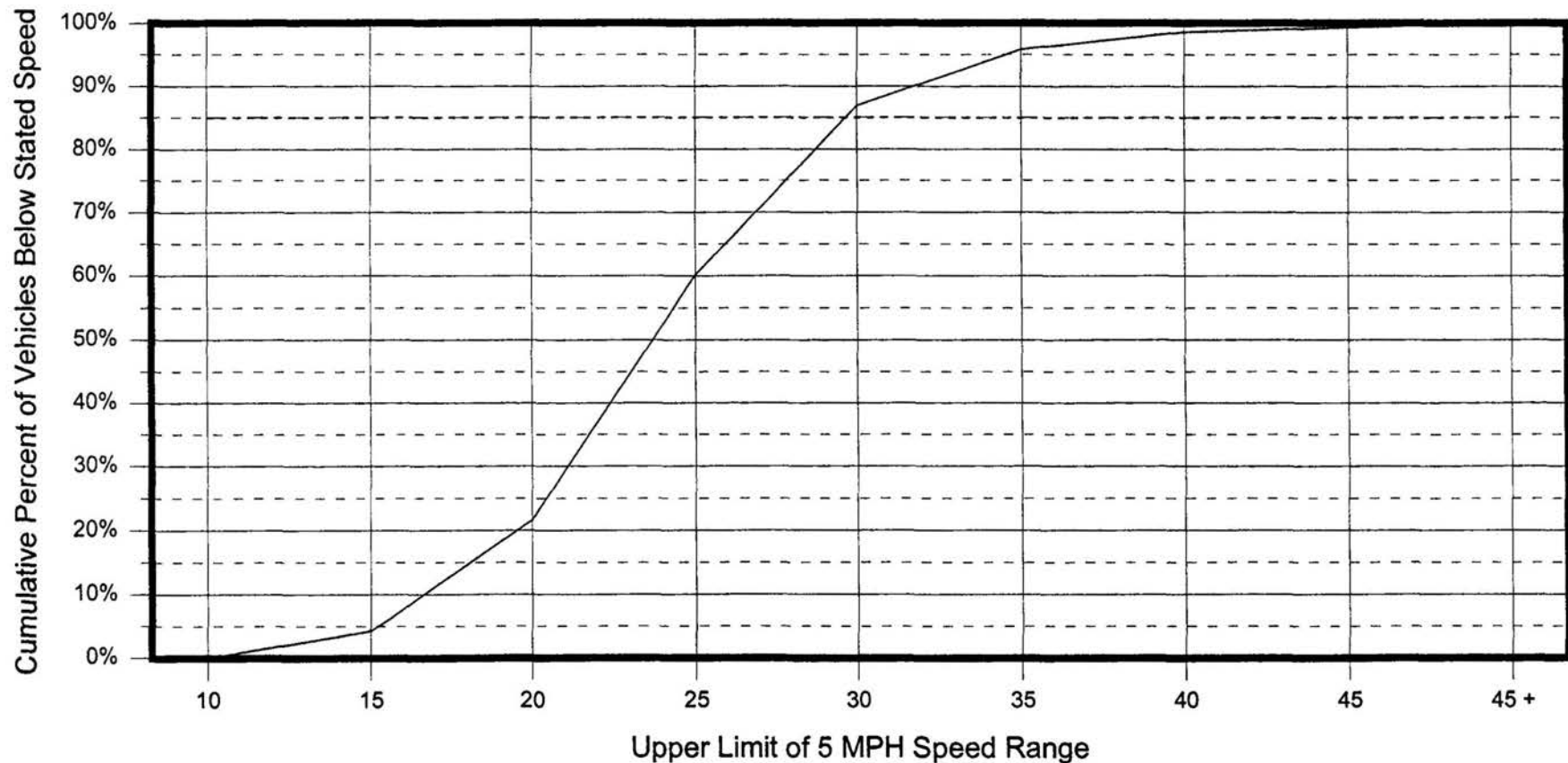
Vehicles Traveling Northbound (Uphill) - Posted Speed Limit 25 MPH
100 feet North of Driveway for 2730-2740 Chain Bridge Road



Study Dates: From - 12:00 a.m. Wednesday, 04/06/05 thru 12:00 a.m. Monday, 04/11/05
Total Vehicles Observed - 1299; Median Speed = 22.4 mph; 85th Percentile Speed = 29.0
Source: Vehicle Volume Recording Company, Gaithersburg, Maryland

SPEED STUDY - CHAIN BRIDGE ROAD, N.W.

Vehicles Traveling Southbound (Downhill) - Posted Speed Limit 25 MPH
50 feet South of Driveway for 2824 Chain Bridge Road



Study Dates: From - 12:00 a.m. Wednesday, 04/06/05 thru 12:00 a.m. Monday, 04/11/05
Total Vehicles Observed - 1390; Median Speed = 23.7 mph; 85th Percentile Speed = 29.7
Source: Vehicle Volume Recording Company, Gaithersburg, Maryland



Above - View to Left of Downhill Traffic

Below - View to Right of Uphill Traffic



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EXHIBIT 3B
VIEW TO LEFT & RIGHT FOR A DRIVER EXITING
FROM DRIVEWAY FOR #2800 CHAIN BRIDGE ROAD
Driver's Eye is Located 10 Feet from Edge of Travel Way



Above - View to Left of Downhill Traffic

Below - View to Right of Uphill Traffic

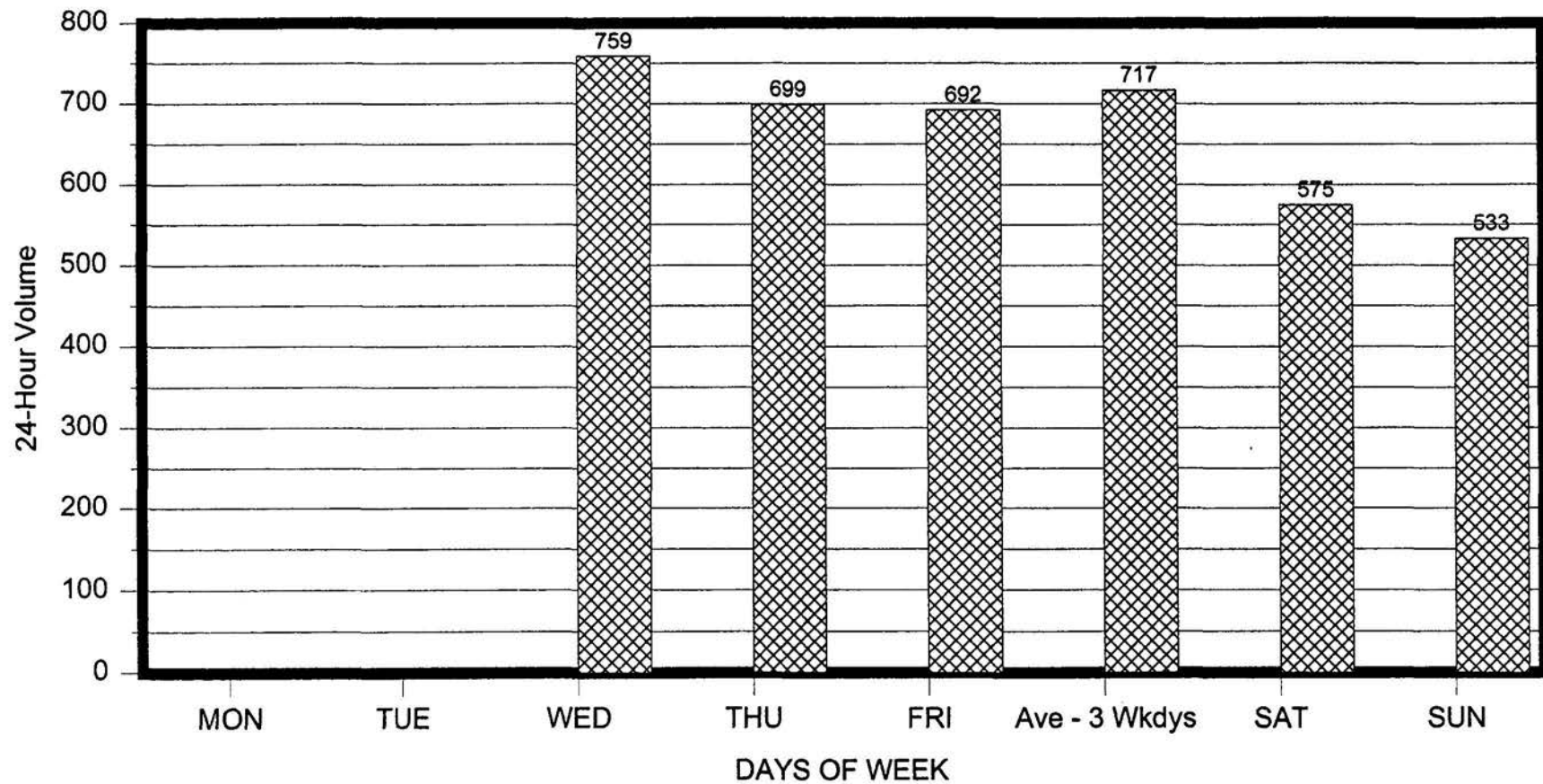


STREET
TRAFFIC
STUDIES
LTD.

EXHIBIT 3A
VIEW TO LEFT & RIGHT FOR A DRIVER EXITING
FROM DRIVEWAY FOR #2762 CHAIN BRIDGE ROAD
Driver's Eye is Located 10 Feet from Edge of Travel Way

DAILY TRAFFIC VOLUME

Along Chain Bridge Road between 2740 and 2824



Study Dates: April 6 thru 10, 2005

☒ Total, Both Ways

Source: Vehicle Volume Recording Company, Gaithersburg, Maryland