

**BEFORE THE BOARD OF ZONING ADJUSTMENT
OF THE DISTRICT OF COLUMBIA**

Application of
Dorchester Associates LLC

BZA Application No. 17309
Public Hearing: April 11, 2006
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PRE-HEARING STATEMENT OF OPPONENT
CHAIN BRIDGE ROAD/UNIVERSITY TERRACE PRESERVATION COMMITTEE

The Chain Bridge Road/University Terrace Preservation Committee (the "Preservation Committee") has been granted party status in these proceedings before the Board of Zoning Adjustment (the "Board").

The Preservation Committee, by and through undersigned counsel, respectfully submits this Pre-Hearing Statement in opposition to the Application of Dorchester Associates LLC (the "Applicant") involving: (i) a special exception pursuant to Sections 3104.1 and 2516 of the Zoning Regulations to allow the construction of a theoretical lot subdivision to include thirteen (13) detached single-family homes and (ii) a waiver of the requirement of a twenty-five foot roadway under Section 2516(b) as permitted by Section 2516.6(d).

I. The Role of the Preservation Committee.

The Preservation Committee is a neighborhood 501(c)(3) charitable organization dedicated to the protection and preservation of the unique and special arboreal, topographical and landscaping features in addition to the historic, residential and park-like character of the Chain Bridge Road/University Terrace neighborhood. The Preservation Committee was instrumental in the 1999 creation of the Chain Bridge Road/University Terrace Overlay District and remains dedicated to the enforcement of the overlay on behalf of the more than seventy (70) households it represents.

**BOARD OF ZONING ADJUSTMENT
District of Columbia**

Board of Zoning Adjustment
District of Columbia
CASE NO. 17309
EXHIBIT NO. 101

At every stage of this case, the Preservation Committee has been an active and well-informed participant. At great expense, the Preservation Committee has engaged land use counsel and other experts in the fields of tree preservation, engineering and stormwater management, traffic engineering, planning and architecture. As a result of this investment of time and resources, the Preservation Committee has not simply opposed this Application, but has presented the Board with a thorough and well documented analysis of this Application. In addition to this submission, the Preservation Committee has previously filed several well-documented Statements in Opposition, including detailed tree preservation and traffic engineering reports.

II. The Property.

The property which is the subject of the Application is located along Chain Bridge Road, N.W. within the Chain Bridge Road/University Terrace Overlay District ("CBUT") (Square 1425, Lot 827, and Parcels 12/63, 12/293 and 12/294) (the "Property"). The Property is zoned CBUT/R-1-A. The Property is approximately three and one-half (3.5) acres and adjoins a half-acre lot, also owned by Applicant, occupied by a landmarked historic African-American schoolhouse. The Property was in the hands of a single owner for over fifty years before being purchased by Applicant and is the largest undeveloped site in the Palisades neighborhood. The area surrounding the Property is heavily wooded and hilly, with many large lots that contribute to its low density; these unique qualities warranted its designation as an Overlay district. Chain Bridge Road itself is a narrow and windy country lane and has existed in its current form since Colonial times. The eastern side of the road is occupied by historic Battery Kemble Park, which is owned by the National Park Service. Battery Kemble Park is a popular gathering spot for dog walkers, joggers and hikers from all over the D.C. metropolitan area.

III. The Applicant Has Failed to Meet the Burden of Proof.

In seeking a special exception, the Applicant is required to carry the burden of proof to show that the Application is in harmony with the general purpose and intent of the Zoning Regulations and Zoning Maps and will not tend to affect adversely the use of neighboring property in accordance with the Zoning Regulations and Zoning Maps. Specifically, the Applicant must meet the above stated standard for a special exception and also demonstrate compliance with the requirements of Section 2516 for a theoretical lot development, as well as with the requirements and intentions of Section 1565 *et. seq.* which governs the development of property within the CBUT Overlay District.

Under the requirements for a theoretical lot development, Subsection 2516.9 requires that the proposed development not have an adverse effect on the present character or future development of the neighborhood. In addition, the proposed development must abide by the purposes of the CBUT Overlay District, which include the following: (i) the preservation of the natural topography and mature trees to the maximum extent feasible, (ii) the prevention of significant adverse impact on adjacent open space, parkland, stream beds, or other environmentally sensitive natural areas, (iii) limitation of the amount of impervious ground cover of new and expanded buildings and other construction so as to encourage a general compatibility between the siting of new buildings or construction and the existing neighborhood, and (iv) the limitation of minimum lot size so as to prevent significant adverse impact on existing infrastructure (§1565.2). The impact of the development on the character and ecological makeup of the neighborhood, immediately adjacent historic landmark property and nearby parkland is an important factor in evaluating the Application. Applicant clearly bears the burden of showing that the development is unlikely to adversely affect these aspects of the community.

The Applicant has failed to meet these specific obligations and its voluminous submissions are most notable for the critical information which is not provided and/or cannot withstand scrutiny by the Preservation Committee's experts.

The Applicant has submitted a plan for thirteen very large houses on small lots which maximizes and greatly exceeds the reasonable development potential of the Property and is contrary to the character of the neighborhood and the preservation of its unique and special environment. The houses will in many cases be over 12,000 square feet, be built into unstable sloping areas and on the perimeter of the Property directly overlooking abutting homes, the adjacent historic landmark and Battery Kemble Park and will greatly increase the impervious surface on the Property. In particular, the Applicant's proposed theoretical lot subdivision within the CBUT Overlay District will overload the Property's delicate topography and ecology, destroy the existing forestation, overburden the existing infrastructure, overbuild the protected landscape and have a substantial negative impact on the adjoining private, landmark and National Park Service properties. Specifically, this plan maximizes development in a manner that will violate the purposes and restrictions of the CBUT Overlay regulations and requirements of a theoretical lot development under Subsection 2516.9 (thereby also failing to meet the burdens for the requested special exceptions) by (a) endangering the survival of numerous protected trees, (b) failing to provide effective safeguards against storm water management and soil erosion which will result in damage to abutting properties, (c) creating serious traffic safety problems and (d) adversely impacting the use and enjoyment of Battery Kemble Park.

A. Damage and Destruction of Existing Trees.

Applicant's development plan as proposed will fatally damage and destroy the existing trees in violation of the strict tree protection and removal limitations of the CBUT Overlay

District. Section 1568 of the Zoning Regulations limits the number of trees which may be removed, cut down or *fatally damaged*. Many of the trees on the site are mature and delicate and will not tolerate significant change or disturbance around them. Despite the Applicant's unsubstantiated assurances that many of the trees on the Property will be saved in accordance with the regulations, in reality the scope of the project and plans make it clear that almost all of the trees the Applicant intends to save, have no chance of survival. Many of the trees are so close to the proposed structures that fatal damage during construction is unavoidable. As explained in detail in the report prepared by Mr. Edward Milhous of TreesPlease, entitled "Analysis of Tree Preservation At the Chain Bridge Road Project", the impact of the proposed construction on the root systems of many of the trees the Applicant intends to save, will be devastating. See Exhibit A. Even though the location of the proposed houses does not result in the direct or immediate removal of many trees on the site, the disturbance of the terrain caused by the construction will certainly negatively impact the mature trees within the vicinity of the construction. Considerable portions of the trees' "critical root zones" (the area around a tree which must remain undisturbed in order to preserve trees at construction projects), will be stressed by the construction of the houses. Such stress on mature trees will be disastrous and result in dying trees left standing near the new houses. To illustrate, one can review the Applicant's conceptual storm water management plan which details the location of storm water drains and stormwater management devices. In many instances, the storm water piping is to run very close to trees the Applicant claims will be saved. In order to install that piping, the Applicant is undoubtedly going to have to perform extensive digging very close to those trees. Such disturbances within the critical root zone of the trees, whether due to the laying of a pipe, a

drain or other storm water device or the excavation of a basement or other required grading, will result in the deliberate damage and destruction of those trees.

B. Grading and Storm-Water Management .

The regulations of the CBUT Overlay District require that the natural topography of the Property be preserved. With its grading plan, Applicant has represented that there will be little change to the topography of the Property due to its proposed construction. Yet Applicant proposes to construct thirteen (13) very large residential structures with basements and individual driveways, as well as storm water management piping and devices, which will undoubtedly require excavating thousands of cubic yards of earth in the process. Applicant's representation that the topography of the Property will not be greatly altered by the construction is also simply not credible.

Particularly, the grading plan fails to anticipate the grading required for the overdig and basement excavation as well as grading for proper building shelves and swales to direct drainage properly around the proposed houses which are built into slopes. As proposed construction within the CBUT Overlay District, Applicant's grading plan should fully anticipate all probable site disturbance and properly account for the successful management of site disturbance as well as the limits of disturbance to the Property. Furthermore, the Applicant should provide specific information of the erosion and sediment control measures necessary for the development of the Property in a manner which will not violate the purposes of the CBUT Overlay regulations.

The Property is approximately a 3.5 acre parcel that has never been improved by more than a modest dwelling and a twelve foot-wide access drive. Applicant's proposed storm water management plan illustrates a roadway storm drain inlets and a pipe network that discharges to a Baysaver water quality device and underground detention storage devices, driveway trench

drains with underdrains, surface vegetate swales with check dams, surface infiltration trenches, and drywell ex-filtration devices for rooftop runoff. However, Applicant's plans fail to provide sufficient information to verify whether the storm water management plan will effectively prevent adverse impacts to adjacent properties. In particular, the plans do not reflect the current proposed house footprints and roadway width dimensions or grading required to accommodate the required capacity and construction limits of disturbance. Additionally, no capacity sizing calculations have been provided to verify that the vegetative swale geometry and swale capacity can contain all runoff from the proposed development onsite. Without this and other information as outlined in the Peer Review provided by Ms. Mary K. Sears of Greenhorne & O'Mara, Inc., it is impossible to properly ensure that the storm water management plan will effectively prevent adverse impacts as contemplated under the purposes of the CBUT Overlay District regulations. See Exhibit B. Furthermore, a water and sewer plan has not been provided. On the plans provided, according to Ms. Sears, it does not appear that enough horizontal space has been provided for the proposed storm drain, water and sewer utilities to be located within the proposed roadway. In the delicate ecological environment of the neighborhood, which is sought to be protected by the regulations of the CBUT Overlay, it is crucial that the Applicant thoroughly study, confirm and demonstrate that the proposed storm water management plan will adequately address any possible storm water impacts to the Property as well as to adjacent properties.

C. Traffic Safety Issues.

Applicant proposes that the majority of the residences to be constructed will be served by a single driveway of which a substantial part will be only twelve feet (12 ft.) wide limiting two-way traffic except for a small layby at the entrance. Applicant's plan presents serious safety issues which have not been addressed and may not be remediable. First, the present driveway

enters onto Chain Bridge Road at a curve in the road where sight lines are extremely short and visibility is severely limited. The lack of visibility, combined with the narrowness of the road and increasing instances of excessive vehicular speed on Chain Bridge Road caused by overflow from overused traditional routes such as Foxhall Road and Arizona Avenue, make this proposal a serious accident waiting to happen. See Exhibit C. Given the substantial and documented number of vehicles traveling on Chain Bridge Road exceeding the posted 25 mph speed limit, the sight lines and stopping distances are inadequate and pose a serious traffic safety hazard. Applicant's proposed to rely primarily on mirrors installed at the driveway entrances/exits to Chain Bridge Road is not appropriate or sufficient to ensure traffic safety. The Applicant's other proposals ("seek opportunities" to increase sight distances, consider reducing the speed limit and reduce roadway parking) lack any detail and are unlikely to achieve the traffic safety improvements required.

Second, a hill crest exists on the 12-foot wide driveway between Chain Bridge Road and the rear of the Property. Multiple or oncoming drivers on the one-lane driveway will not be able to see each other from each end of the road. See Exhibit D. Although the location of a layby near the entrance to the Property is to presumably address the lack of direct visual contact between opposing drivers, there is no documentation that the layby will effectively overcome this problem. As a result of the lack of visibility, drivers entering the one-way portion of the driveway will do so without being able to avoid a head-on conflict with opposing vehicles and the need to back up to allow the other vehicle to pass.

D. Battery Kemble Park.

Finally, four large houses will be built right on the steep embankment on the edge of Chain Bridge Road, directly at the property boundary, and will tower over the Park on the other

side of the road. The visual impact of these massive and threatening edifices will be very negative and will greatly diminish the vista enjoyed by users of Battery Kemble Park.

Furthermore, as previously discussed, the proposed storm water management plan fails to ensure that the system will adequately protect the Park from adverse affects caused by the proposed development.

E. Violation of Comprehensive Plan.

The Applicant's Plan is in violation of and inconsistent with the Ward 3 Comprehensive Plan, including specifically:

1. Controlling Redevelopment:

a) Single greatest concern [Ward 3 residents] is the possibility of unrestrained development diminishing the quality of life. § 1400.2(b).

b) Development on or near park borders [Battery Kemble] is another threat to the ward's natural resources. Thus, it is a major theme of this ward plan that the integrity of parklands be maintained and improved wherever necessary. § 1400.2(c)(1).

2. Housing: While new housing is needed, all development proposals must be evaluated to avoid adverse impacts on neighborhood stability, traffic, parking, and environmental quality. § 1402.1(h).

3. Environment:

a) Require strict controls in connection with construction to prevent soil erosion that may directly or indirectly (via storm sewers) cause sedimentation of the ward's streams; such controls could often include sedimentation ponds, which may need to be permanent.

b) Evaluate storm water outfalls into the ward's stream valleys; link the approval of development projects to the improvement of affected outfalls, with the objective of improving, not just maintaining, the quality of water runoff. § 1403.4(b)(3).

4. Urban Design:

a) Urban design takes many forms: building architecture (e.g., design compatibility and sensitivity of scale) . . . maintenance of environmental quality. § 1406.1(b).

b) The importance of these factors on quality of life means urban design must be included in decision making. Ward 3 has numerous features which fix its character. Of particular note are the ten (10) special streets (designated pursuant to the Historic Preservation Element, they are: Beach Drive, Broad Branch Road, Canal Road, Chain Bridge, Connecticut Avenue, MacArthur Boulevard, Massachusetts Avenue, Rock Creek and Potomac parkways, Western Avenue, and Wisconsin Avenue). § 1406.1(c) (emphasis added).

c) Land use and future development must be carefully controlled to protect the existing scale and low density character, and to enhance the maintenance and improvement of existing natural open spaces and other qualities of the ward. § 1406.2(d).

d) Urban design should respect and perpetuate the low density, wooded character of the built area, and avoid detrimental impact on the natural parkland. § 1406.5(a)(2).

e) Limit density of development adjacent to natural areas, areas with severe building restraints, or stream valleys; maintain park-like settings on streets and lands adjacent to the natural areas and stream valleys; and require ample building set-backs. § 1406.5(b)(1).

f) Encourage retention of natural growth and grades; minimize regarding or the removal of topsoil and vegetation, especially trees. § 1406.5(b)(2).

F. Responsible Development is Possible

Despite its opposition to this thirteen-house plan, the Preservation Committee is not opposed to any development of the Property. In fact, the Preservation Committee has gone to great lengths to provide the Applicant constructive and cooperative guidance to facilitate the creation of a better development plan which complies with the letter and spirit of the CBUT Overlay. See Exhibit B to Preservation Committee's January 5, 2006 Pre-hearing Statement. At every turn, the Preservation Committee's efforts have been ignored and/or rejected by the Applicant.

Undaunted, the Preservation Committee has engaged an Architect to develop conceptual development plans for the Property which would respect the uniqueness of the site and preserve the existing topography and trees. See Exhibit E.

First, the Preservation Committee has developed a matter-of-right conceptual plan for seven (7) lots. As shown in the site plan, the seven houses are shown in a limited "Build Zone" designed to preserve the trees and maintain the existing topography. A similar conceptual plan for eight (8) theoretical lots achieves the same objectives. In sharp contrast to the Applicant's thirteen (13) lot plan, both the Preservation Committee's 7 and 8 lot plans comply with the CBUT Overlay and save most, if not all, the trees destroyed by the Applicant.

IV. Conclusion.

The Applicant has thus failed to meet his burden with respect to even a minimal showing that the Application will not tend to adversely affect the use of neighboring property or the

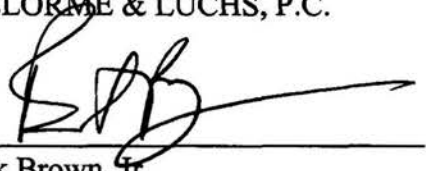
present character of the neighborhood, in accordance with the Zoning Regulations and Zoning Maps.

V. Witnesses.

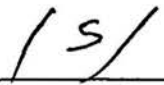
1. Robert Sussman, Esq., Chairman, Preservation Committee and Abutting Neighbor
2. Mr. Rudy Djabbarzadeh, Immediate Neighbor
3. Mr. Luther J. Carter, Neighbor
4. Ms. Mary Sears, Civil Engineer, Greenhorne & O'Mara, Inc.
5. Mr. Ed Milhous, Certified Arborist, TreesPlease
6. Mr. Steven Peterson, Traffic Consultant
7. Mr. Kenneth C. Doggett, Urban Planner
8. Mr. Allen E. Neyman, NS Architects

Respectfully submitted,
GREENSTEIN DELORME & LUCHS, P.C.

By:


John Patrick Brown, Jr.

By:


Stephanie A. Baldwin

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing Pre-Hearing Statement of the Chain Bridge Road/University Terrace Preservation Committee was mailed, first-class, postage prepaid, this 4th day of April 2006 to:

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A handwritten signature in black ink, appearing to read 'S. Baldwin', is written over a horizontal line.

Stephanie A. Baldwin

OUTLINE OF TESTIMONY OF MARY SEARS, CIVIL ENGINEER

- I. INTRODUCTION AND PROFESSIONAL QUALIFICATIONS
- II. DESCRIPTION OF SITE LOCATION AND IMMEDIATE AREA
- III. UNANSWERED CONCERNS WITH STORM WATER MANAGEMENT
- IV. UNANSWERED CONCERNS WITH SOIL INFILTRATION, TOPOGRAPHY AND GRADING
- V. CONCLUSIONS

OUTLINE OF TESTIMONY OF ED MILHOUS, CERTIFIED ARBORIST

- VI. INTRODUCTION AND PROFESSIONAL QUALIFICATIONS
- VII. DESCRIPTION OF CB/UT OVERLAY DISTRICT REQUIREMENTS RE TREES
- VIII. DESCRIPTION OF CONDITION OF TREES ON SITE
- IX. UNANSWERED CONCERNS WITH DEVELOPMENT AND APPLICANT'S TREE PRESERVATION MEASURES
- X. CONCLUSIONS

OUTLINE OF TESTIMONY OF STEVEN PETERSON, TRAFFIC CONSULTANT

- I. INTRODUCTION AND PROFESSIONAL QUALIFICATIONS
- II. DESCRIPTION OF SITE AND ROADWAY CONDITIONS
- III. UNANSWERED CONCERNS WITH PROPOSED DEVELOPMENT AND TRAFFIC CONSIDERATIONS
- IV. CONCLUSIONS

SPECIAL EXCEPTION: BZA #17309

(CHAIN BRIDGE ROAD)

OUTLINE OF TESTIMONY OF KENNETH C. DOGGETT

1. PURPOSE OF TESTIMONY.
2. DESCRIPTION OF AREA.
3. DESCRIPTION OF SUBJECT PROPERTY.
4. RELEVANT COMPREHENSIVE PLAN RECOMMENDATIONS. (LAND USE / ENVIRONMENTAL SECTIONS)
 - a. GENERAL
 - b. WARD III
5. CBR / UT TREE / SLOPE OVERLAY REQUIREMENTS.
6. DESCRIPTION OF PROPOSAL. (PLAN ATTACHED)
 - a. LAYOUT. EXCESSIVE NUMBER OF UNITS. NEGATIVE ENVIRONMENTAL IMPACT.
 - b. TREE PRESERVATION. INCORRECT DATA. EXCESSIVE CUTTING.
 - c. REGRADING. NOT FULLY SHOWN. LANDFILL NOT SHOWN.
 - d. STORM WATER MANAGEMENT PLAN. 17 SWM NOT MET. OFF-SITE IMPACT.
 - e. EGRESS. POOR / DANGEROUS.
 - f. IMPACT ON ADJACENT PROPERTY. CLOSE, OVERBEARING PROXIMITY.
7. COUNTER PROPOSAL FROM COMMUNITY. (PLAN ATTACHED)
8. CONCLUSION.

ATTACHED: RESUME

Analysis Of Tree Preservation At The Chain Bridge Road Project

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

9 January, 2006

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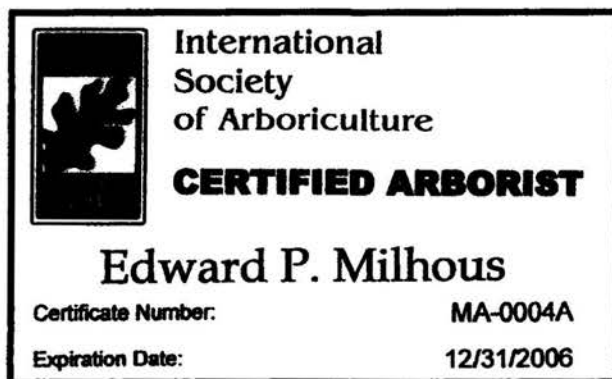
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Introduction And Summary

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, including the report of Project Arborist Lew Bloch dated July 20, 2002, and the *Tree Preservation Plan for the Chain Bridge Road Project* by Bonifant Tree Service, Inc. dated August 16, 2005.

While this report replaces all previous reports on this project, my broad opinions have not changed. 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. Newly submitted plan documents contradict each other. The scope of the project and the plans provided make it clear that almost all the currently viable trees the developer indicates will be saved have no chance of survival.

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 these plans. The result would be simply to burden new homeowners with dying trees, and remove valuable tree cover from the community. An objective reviewer would agree that only a few of the larger trees will remain viable after this project is completed. The trees shown to be saved will, in fact, be nonviable if this plan is implemented. This 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, as amended by Bonifant Tree Service, 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.

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

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.

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.

Bonifant Tree Service Report

Bonifant Tree Service based their report on Mr. Bloch's data. Bonifant states that, "Generally, no more than 25% to 30% of a trees (sic) root system should be damaged during construction; however a young tree of a tolerant species may withstand as much as 50% root loss or more." Bonifant further states that trees may be damaged by "...cutting of roots during excavation... Soil compaction from machines... alteration of water flow in the area of the tree..." I concur with this.

Bonifant's plan calls for fencing around the critical root zones² of the trees and states that no grade change is to occur and no machinery is to be allowed within the fenced areas. The layout of Bonifant's proposed fencing is described in writing, but is not shown on any plan. This lack of detail – the limits of clearing and grading (LOC) – makes it very difficult to know exactly where the fencing will

² Bonifant Tree Service's report defines critical root zone as an area equal to one foot radius per inch of trunk diameter at four and one-half feet above the soil line (referred to as diameter at breast height or DBH); or an area equal to the canopy spread of the tree. Critical root zones are discussed on page 6 of this report.

actually be. The LOC is a fundamental component of a grading plan, and is essential in judging whether any particular tree will survive what is proposed.

The Trees

The most prominent trees include the American beeches (*Fagus grandifolia*)³ 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, Bonifant recommends removal of one: tree #14. The driveway is right next to the bases of these trees, and any significant disturbance of the existing 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); Bonifant notes that this tree appears to be offsite.
- tree #28, an American holly (*Ilex opaca*) that is twenty-one inches DBH; this tree is to be removed for construction.

There are twelve other trees that Mr. Bloch rated seventy percent or higher. These trees may be near specimen quality as well. Bonifant notes that some of these trees have declined or been damaged by storms since the Bloch report was published. Having not seen the trees since 2004, I can neither verify nor refute this.

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.

³ These could be European beech (*Fagus sylvatica*), but I shall refer to them as American beech.

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

Tolerance Of Change

Much like people, older trees are less tolerant of change than younger trees. In general, the longer a tree has been growing in place, the less tolerant of change it is. Obviously, 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. The Bloch report leads 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 accept.

Certain species of trees are notoriously sensitive to change. Among these are beech, tulip tree (*Liriodendron tulipifera*), and Canadian hemlock (*Tsuga canadensis*)⁴. 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.

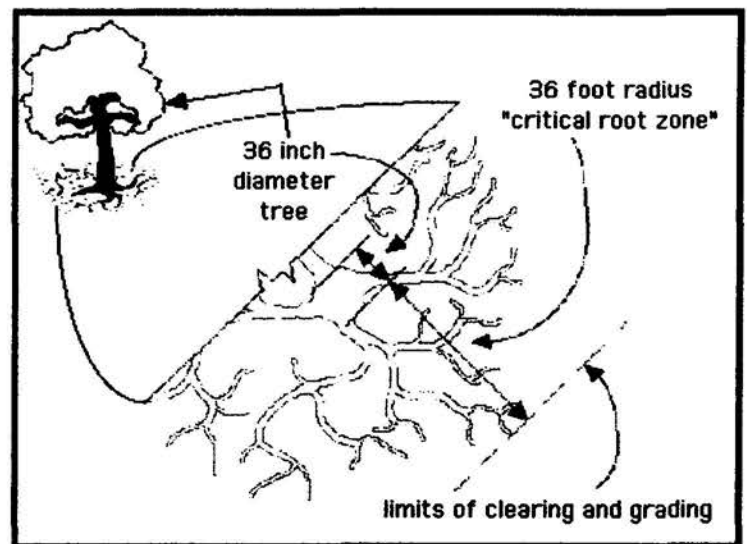
⁴ Matheny, Nelda P. and James R. Clark, 1998. *Trees and Development — A Technical Guide to Preservation of Trees During Land Development*. International Society of Arboriculture, Champaign, IL, p 165-179.

To preserve older, less tolerant trees that are in less than very good condition requires leaving a large area of ground undisturbed around them. Younger, more tolerant trees in good condition can tolerate more 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. What is critical to their survival?

Critical Root Zones

Matheny and Clarke⁵ describe several methods for determining what area must remain undisturbed in order to preserve trees at construction projects. One that arborists and planners

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 each inch of tree diameter at breast height (DBH). A young tree generally has a smaller CRZ; an older, larger tree



generally has a larger CRZ. Local ordinances typically define the CRZ as being equal to either twelve or 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

⁵ Matheny and Clarke, p 73.

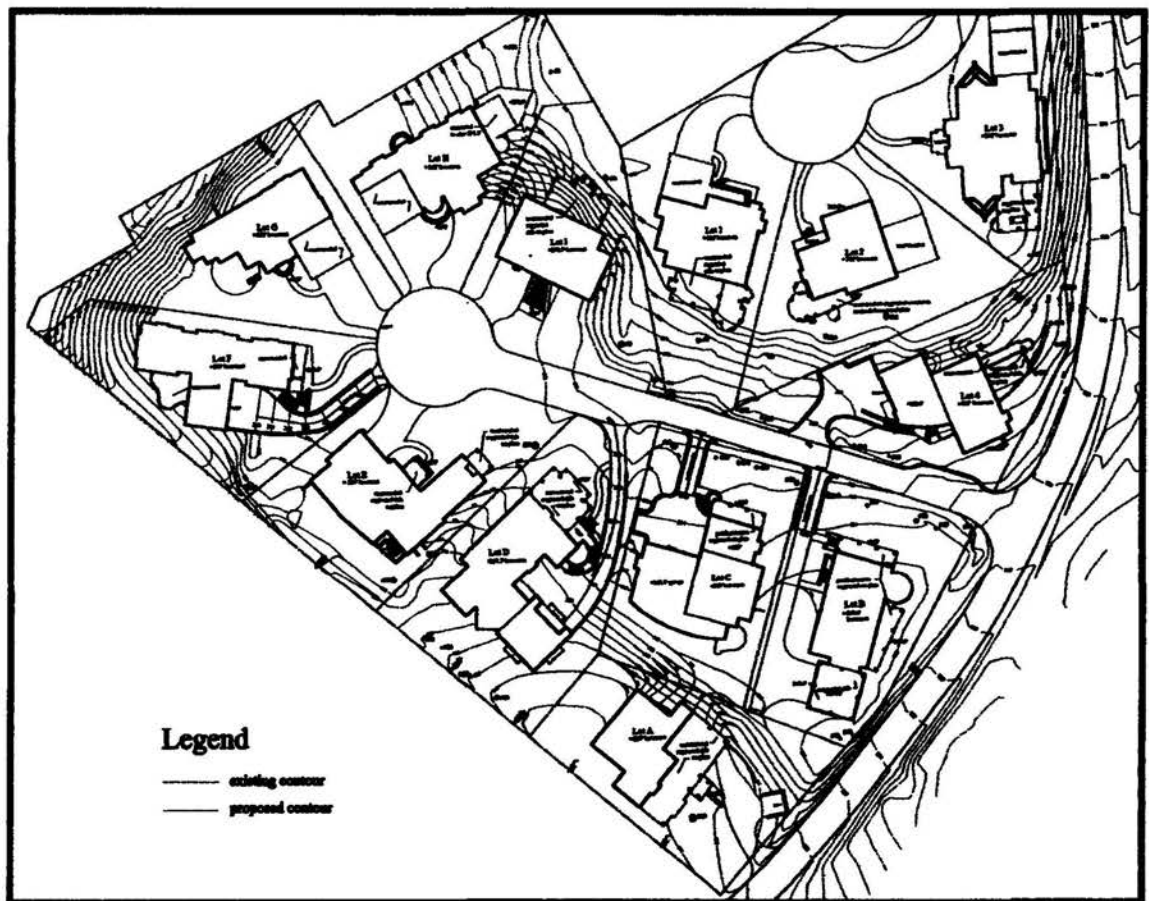
inch of DBH is appropriate. However, for purposes of this analysis, I have used the less stringent twelve inches that Bonifant suggests.

Nature And Scope Of The Impact

Two documents illustrate what the developer plans to do: the Proposed Grading Plan and the Storm Water Management Conceptual Plan (SWM plan). I am of the opinion that the Proposed Grading Plan is not realistic; and the SWM plan cannot be implemented without killing many of the trees to be preserved.

Proposed Grading Plan

The Proposed Grading Plan is shown below.

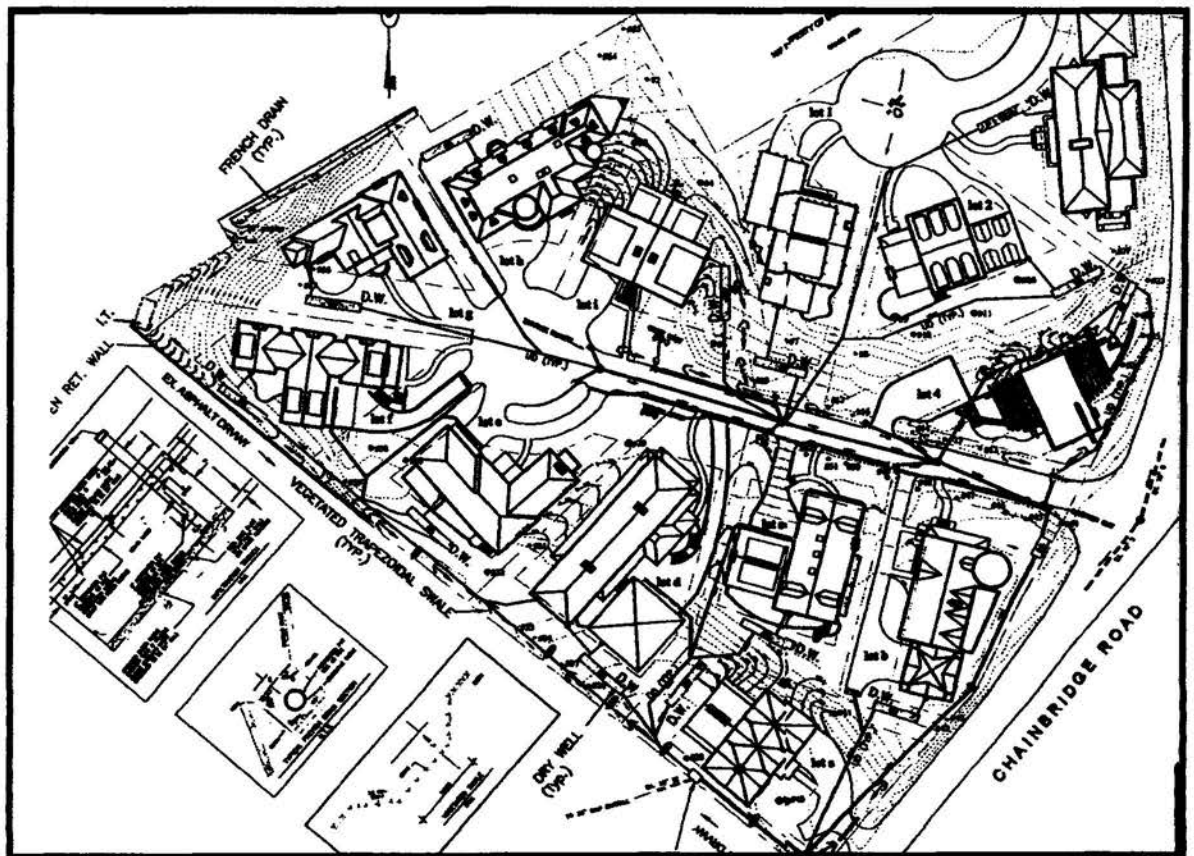


What is immediately striking about this Proposed Grading Plan is how little grading is planned. These thirteen huge houses will be built on this site with barely any change in the topography. The foundations will be dug with exactly the footprint the houses will have, with no overdig. There will be no need to alter the drainage patterns around the houses. All spoil evidently will be hauled away.

What about storm water management? It is addressed in a separate plan.

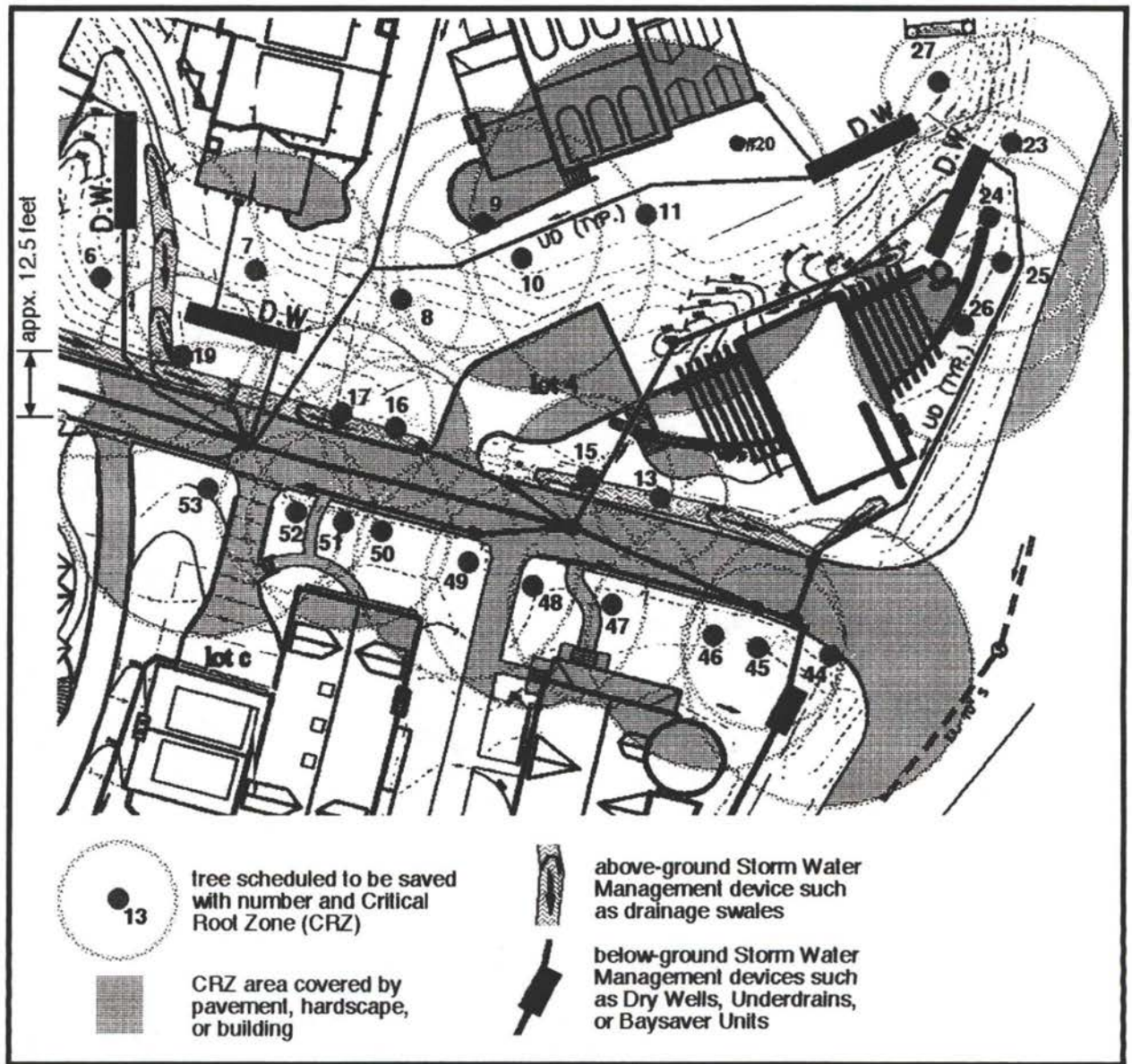
Storm Water Management Conceptual Plan

The SWM plan is below. It shows considerable alteration of the site, none of which appears on the Proposed Grading Plan. Let's take a closer look at this document.



Detail Of The Storm Water Management Conceptual Plan

Below is an annotated detail from the SWM conceptual plan, showing the most important trees in the eastern and central part of the site. These include the beech trees along the main entrance roadway (trees #13, 15, 16, 17, 19, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53).



Regarding tree preservation, the plan for Chain Bridge Road Project as presented contradicts itself. It says that the trees will be preserved, while an extensive storm water management system will be installed in the same spaces that the trees occupy. If approved, storm water management will take precedence over trees, and these trees will be taken out.

Someone might look at these plans and say that anything is possible. But a realistic and objective reviewer looking at these plans would realize that only a few of the larger trees have any chance at all of remaining viable when this project is complete.

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



ASCA Registered Consulting Arborist #350

ISA Certified Arborist MA-0004

Maryland Tree Expert #458

Date: 9 January, 2006



GREENHORNE & O'MARA
CONSULTING ENGINEERS

April 3, 2006

District of Columbia Board of Zoning Adjustment
Judiciary Square
441 4th Street, NW
Suite 210-S
Washington, DC 20001

Attention: Mr. Geoffrey Griffis (Chair)

Reference: BZA Application No. 17309
Chain Bridge Road Project
Public Hearing Date: April 11, 2006 (postponed from 1/10/06)

Dear Mr. Griffis:

Greenhorne & O'Mara, Inc. has been contracted by the Chain Bridge Road / University Terrace Preservation Committee to perform a peer review regarding stormwater management related issues of the BZA Application No. 17309 submitted by Dorchester Associates LLC (the "Applicant"), for a special exception under §2516 of the Zoning Regulations to allow the construction of a theoretical lot subdivision for thirteen (13) single family homes and a modification of the requirement of a twenty-five foot roadway under §2516.6(b) as permitted by §2516.6(d) in the CBUT/R-1-A Zone District on Chain Bridge Road, NW, Square 1425, Lot 827 and Parcels 12/63, 12/293 and 12/294.

A copy of the Applicant's most recent application submitted for the January 10, 2006 BZA Hearing was received by Greenhorne & O'Mara, Inc. on January 4, 2006 for review. The January 10, 2006 BZA Hearing was postponed and rescheduled for April 11, 2006. A site visit was held on January 27, 2006. The Stormwater Conceptual Plan (Revision dated 9/12/05) appears to meet the stormwater management technical parameters required by the Watershed Protection Division (WPD) of the D.C. Dept. of Health (DOH) for water quality treatment of proposed developments which discharge into separate storm drainage systems. However, the plan has various conflicts and areas of concern with regards to grading, limits of disturbance, stormwater management device construction, maintenance, erosion and sediment control and design capacity. Greenhorne O'Mara, Inc. offers the following peer review comments:

Grading

- Limits of Disturbance have not been shown on any of the proposed plans.
- The grading and limits of disturbance are not fully shown on the Proposed Grading Plan. Additional grading will be required for the overdig and basement excavation as well as grading for proper building shelf and swales to direct drainage around the proposed houses that are built into the slopes.

- Erosion and sediment control devices are mentioned in general text only but are not shown in conjunction with the proposed development specifically. A conceptual Erosion and Sediment Control Plan could be prepared to show:
 - a) Phasing & Sequence of Construction
 - b) Location of proposed sediment control devices (perimeter and interior)
 - c) Adequate space and limits of disturbance for all sediment control devices, grading, house construction, retaining wall construction, excavation for utilities and stormwater management devices.
 - d) Removal, storage and haul-off of excavated material for the house construction and site grading.

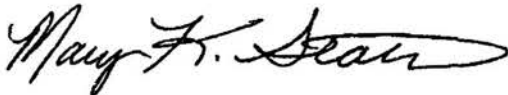
Stormwater Management

- The proposed stormwater management plan consists of roadway storm drain inlets and pipe network that discharge to a Baysaver water quality device and underground detention storage device, driveway trench drains w/ underdrains, surface vegetated swales with check dams, surface infiltration trench, and drywell ex-filtration devices for rooftop runoff.
- However, the Stormwater Concept Plan does not reflect the current proposed house footprints and roadway width dimensions or grading required to accommodate the required capacity and/or construction limits of disturbance. This needs to be shown to verify adequate horizontal space is available for this layout to work and function properly without adverse impact to adjacent properties.
- DC WPD references that infiltration tests have been performed at the drywell locations and confirm infiltration feasibility even though a complete geotechnical report has not been provided. However, without a full geotechnical report, no information has been provided to verify the type of soils (i.e. fill material) or location of groundwater. To prevent seepage and slope failures, infiltration/exfiltration devices are not permitted to be within fill soils and typically are required to meet horizontal and vertical parameters with respect to steep slopes (>6%), building setbacks (15' min. for devices >3' deep) and groundwater (4' above). This would be difficult to achieve with the existing and proposed topography of the site while maintaining a maximum depth of trench (12' to top of trench in DC).
- DC WPD requires all runoff from proposed development be contained onsite. No capacity sizing calculations have been provided to verify the vegetative swale geometry and swale capacity.
- The overflow from these devices has not been addressed with respect to offsite runoff. What measures are being proposed to ensure that the overflow runoff will be non-erosive?
- Existing topography not shown offsite. Need to confirm amount of offsite/uphill runoff flowing onto property. Will additional storm drain inlets be needed to pickup runoff?
- The proposed pull-off drive area at the entrance conflicts with the proposed vegetated swale location.
- In general, the proposed grading and vegetative swale locations shown will conflict with the trees that are shown as being saved. Examples locations of such conflict are:
 - a) trees #13, 15-17, 19, 4I & 4H along the north side of the entrance road conflict with the proposed vegetated swale when final grading of swale is reflected on plans. Even if final swale grading is minimized and meanders around the trees the excavation for storm drainage structures and pipe construction will disturb the trees in this vicinity.

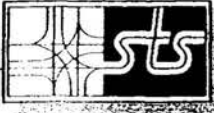
- b) trees #H1-H4, #I8-I10 between Lot G & Lot H conflict with the proposed grading for lot drainage between houses.
- c) trees #33, 34, 36, 37, D1, A1, A2 along south side of property conflict with proposed vegetated swale when final grading of swale is reflected on plans.
- The proposed storm drain and underground stormwater management devices can not be installed without substantial site disturbance for excavataion and grading within many of the tree save areas.
- Private maintenance agreements with homeowners will be required. Boring of utilities may avoid some existing trees during initial installation however space must be provided around all storm drain & stormwater management devices for future maintenance access. This maintenance access requirement will likely conflict with additional tree save areas.
- A preliminary Water & Sewer Plan has not been provided. There does not appear to be enough horizontal space for proposed storm drain, water and sewer utilities to be located within the proposed residential road. Where will these utilities be located and will they create additional impacts to tree save areas?
- Downstream capacity analysis has not been addressed to ensure the existing 18" terra-cotta pipe can accommodate the proposed storm drain design. It is not clear as to what storm event this system is designed for. (15-year post development runoff back to 2-year pre-development runoff)?
- When stormwater runoff from a planned development will increase the downstream discharge into an area with flooding hazards the DC DOH/WRD may require analysis of the downstream peak discharge and overflow path for a 100-year frequency storm event (Q_T). How will this be addressed?
- A construction management plan was not provided to address construction inspection in order to ensure proper installation of underground devices to prevent clogging etc.?

Sincerely,

GREENHORNE & O'MARA, INC.



Mary K. Sears, P.E.
Senior Project Manager



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

PROPOSAL

Traffic Study Evaluation – Chain Bridge Road Development by Dorchester Associates

April 25, 2005

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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.

PROPOSAL

Traffic Study Evaluation – Chain Bridge Road Development by Dorchester Associates

April 25, 2005

Page 3

- 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

PROPOSAL

Traffic Study Evaluation – Chain Bridge Road Development by Dorchester Associates

April 25, 2005

Page 4

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.

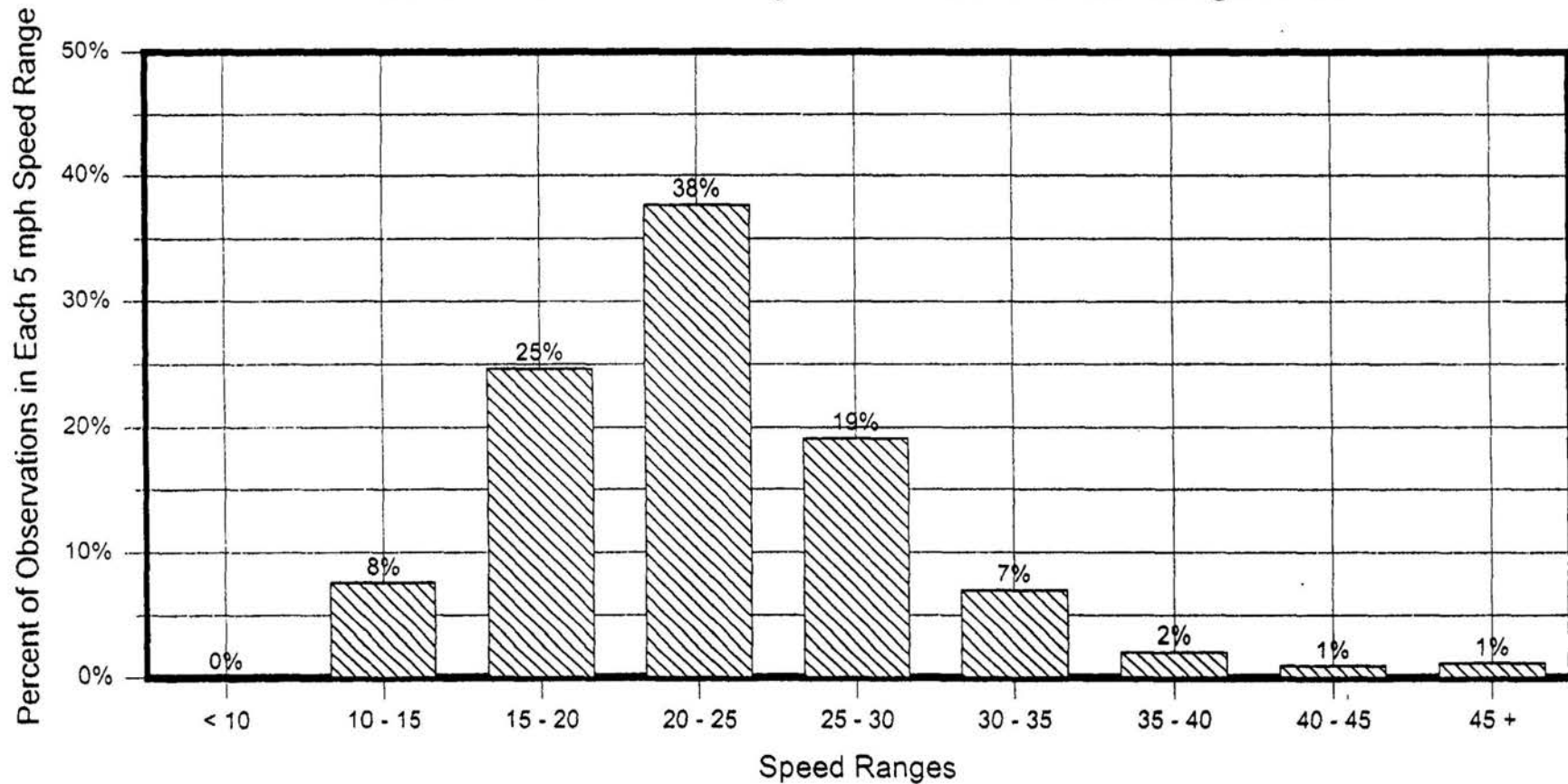
The DDOT report indicates that concave mirrors at the site entrances will "ensure appropriate sight distance". This statement ignores the fact that such mirrors cover only a limited area and that the view is distorted because of the curvature of the mirror (vehicles look to be further away than they 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.

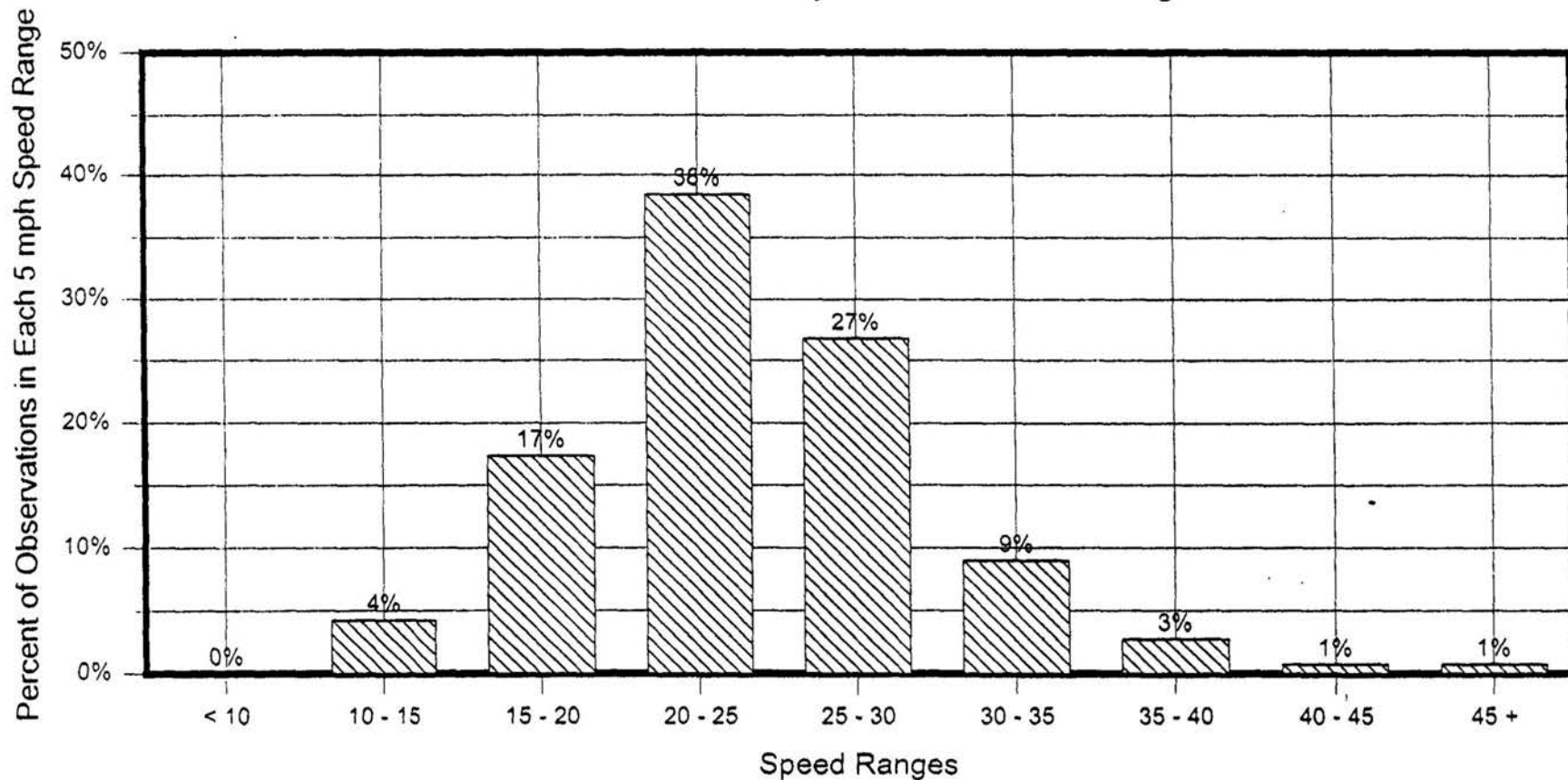
Vehicles Traveling Northbound (Uphill) - Posted Speed Limit 25 MPH
100 feet North of Driveway for 2730-2740 Chain Bridge Road



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.

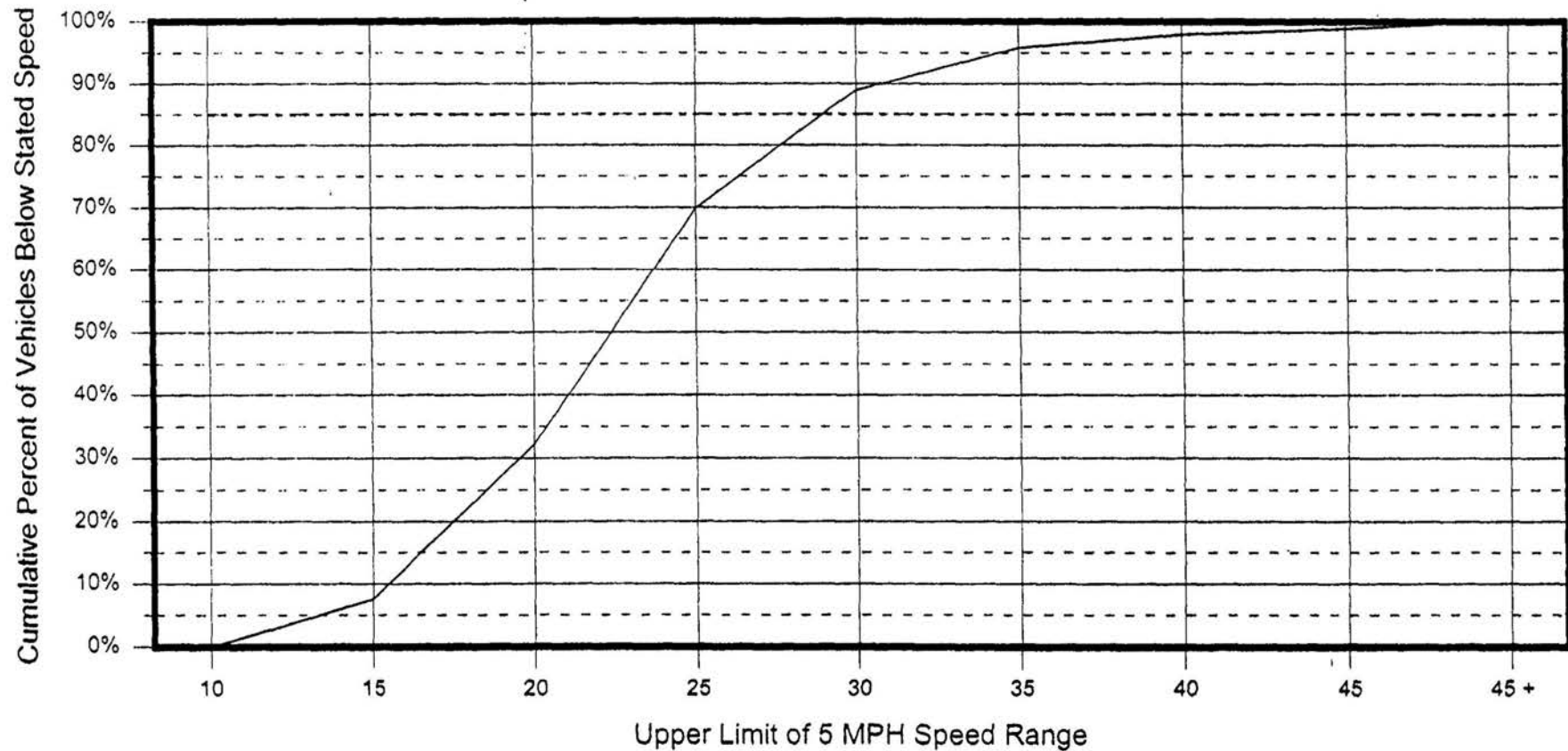
Vehicles Traveling Southbound (Downhill) - Posted Speed Limit 25 MPH
50 feet South of Driveway for 2824 Chain Bridge Road



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

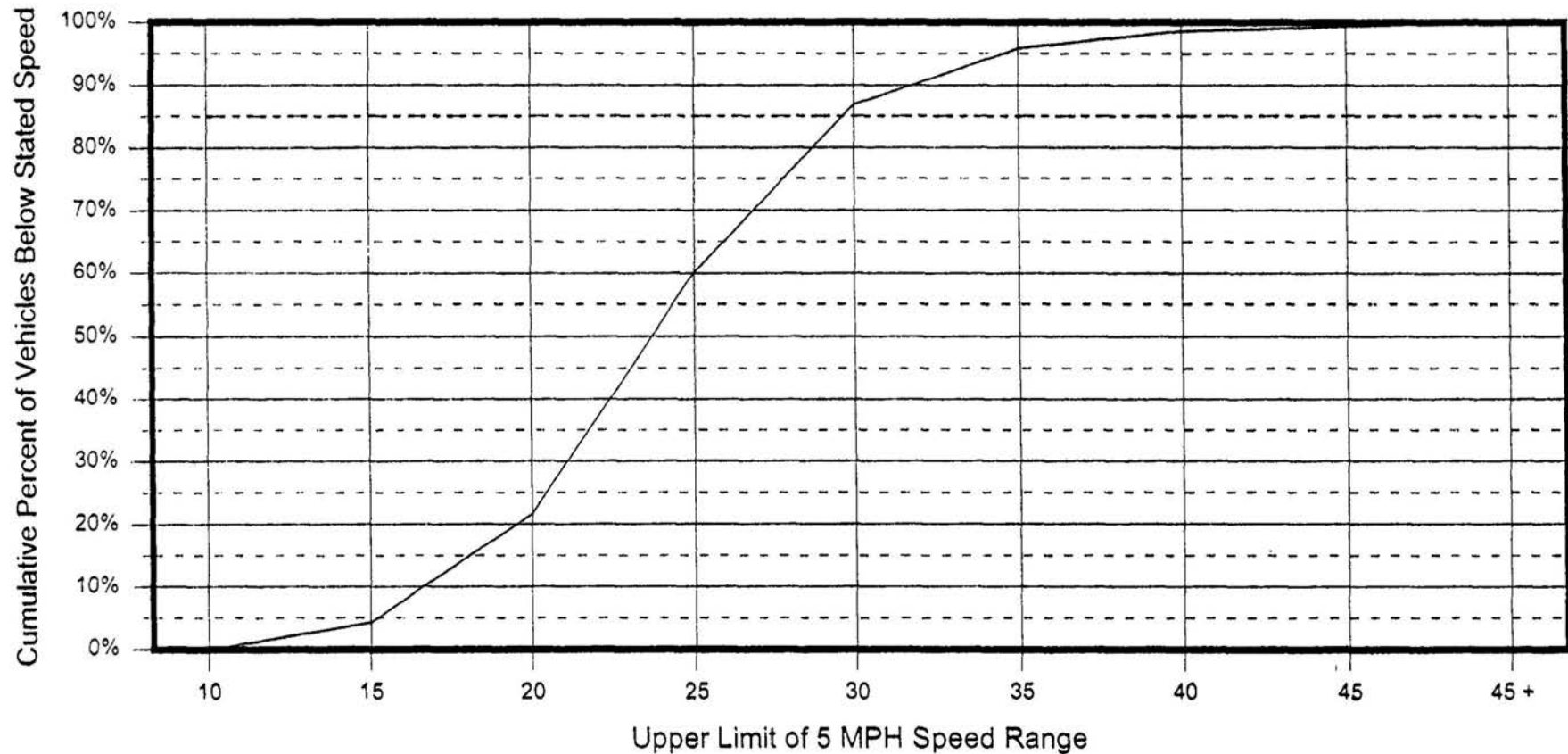
SPEED STUDY - CHAIN BRIDGE ROAD, N.W.

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



STREET
TRAFFIC
STUDIES
LTD.

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

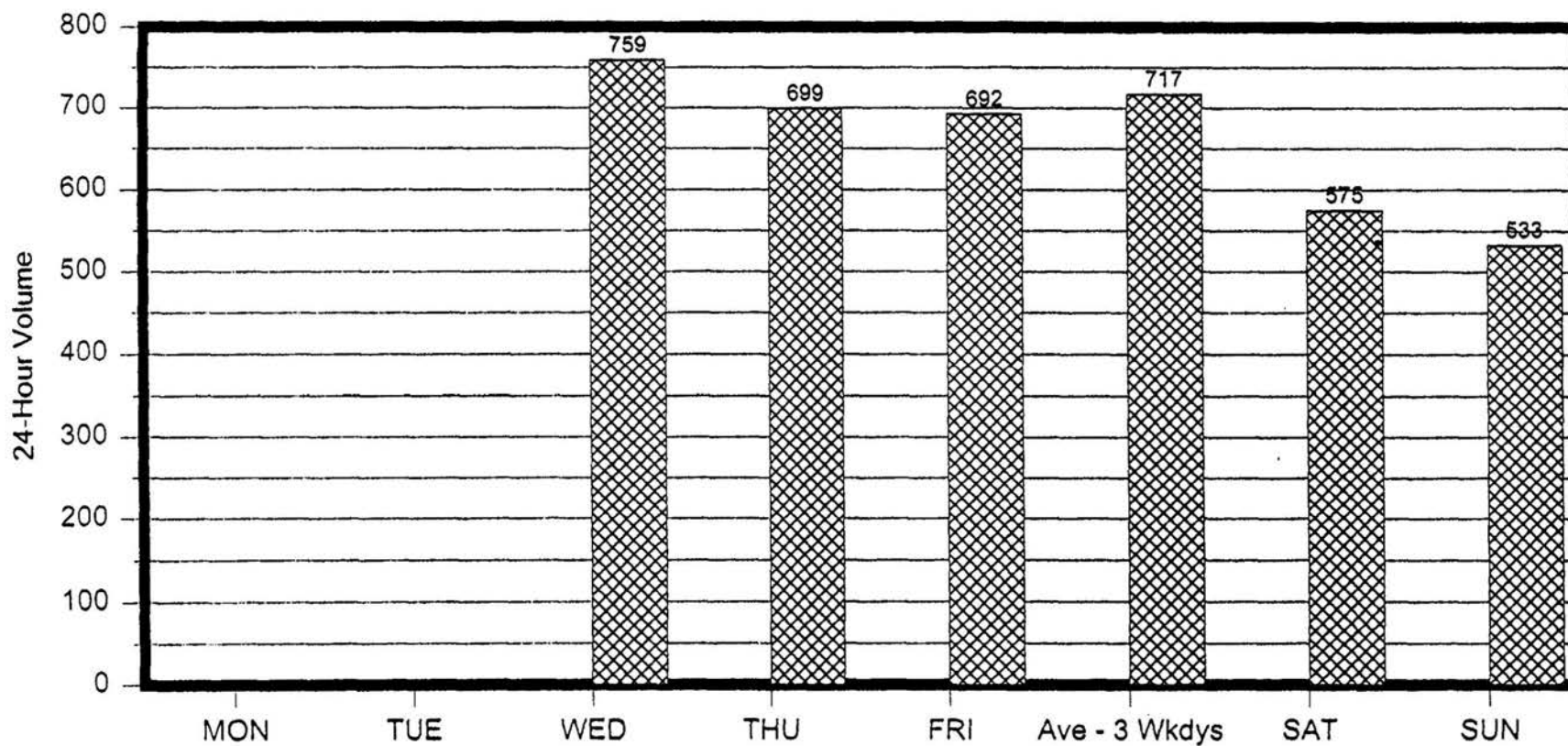


STREET
TRAFFIC
STUDIES
LTD.

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

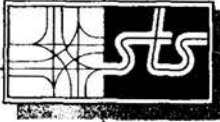


DAYS OF WEEK

Study Dates: April 6 thru 10, 2005

☒ Total, Both Ways

Source: Vehicle Volume Recording Company, Gaithersburg, Maryland



Street Traffic Studies, Ltd.

MEMORANDUM

March 29, 2006

To: District of Columbia Board of Zoning Adjustment

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

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

At the January 10, 2006 hearing before the BZA additional documentation was provided that would preserve the existing driveway as access to the property at 2762 Chain Bridge Road. This driveway is the more southerly of the two that will be used to serve the proposed development on the Dorchester Associates "Chain Bridge Road Project". The information provided included plans that showed the contours of land as they crossed the existing driveway. These contours, in turn, provide the basis for this supplemental evaluation.

In the *Site Photos* section of the submission, "Site Photograph #1" indicates that there is a hill crest between the entrance from Chain Bridge Road and the rear of the property. (Attached as Exhibit S-1 dated December 1, 2005.) This fact then raises a question as to how the one-lane driveway will function when there are multiple users if drivers at each end can not see each other. Apparently, in recognition of this potential problem, the applicant has proposed the construction of a "layby" starting at the Chain Bridge Road property line and extending for 48.5 feet including tapers. (The full width portion is approximately 25 to 30 feet long.) However, there is no documentation as to how the layby will overcome the lack of direct visual contact between opposing drivers.

To evaluate the sight distance question, two drawings from the applicant's submission were examined. (Attached as Exhibits S-2 and S-3 dated December 1, 2005.) The elevation at the each point where the contours cross the driveway were plotted along the centerline of the driveway to produce Exhibit S-4. The solid black line indicates the profile of the driveway if one was to cut a section in an east-west direction looking north. The west end is at the west edge of the cul-de-sac shown on the "Road Alignment Plan" (Exhibit S-3). The dashed black line with points labeled A and B is the "Line of Sight" between two drivers, one at the west end of the cul-de-sac and the other at the east end of the proposed layby near the entrance from Chain Bridge Road. As demonstrated by the dashed line, which is **below** the profile of the road, neither driver would be aware of the approach of the other.

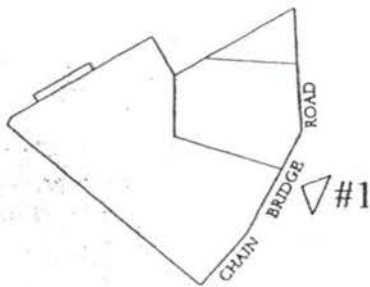
MEMORANDUM

BZA Case #17309- Application of Dorchester Associates, Inc.

March 29, 2006

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Based on the above preliminary analysis, it is my opinion that line of sight along the southerly driveway for the subject property is not adequate to insure that drivers can enter the proposed single lane portion of the driveway without encountering a situation where one or the other will be required to back up to avoid a head-on conflict.



Site Photograph #1
Chain Bridge Road Project

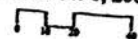
Square 1425 Lot 827 Parcels 12/63, 12/293 and 12/294
December 1, 2005



EXHIBIT S-2

Proposed Grading Plan
Chain Bridge Road Project
Square 1425 Lot 827, Parcels 12/63, 12/293 and 12/294
Washington, DC

December 1, 2005



Note:
All houses are
fully sprinklered.

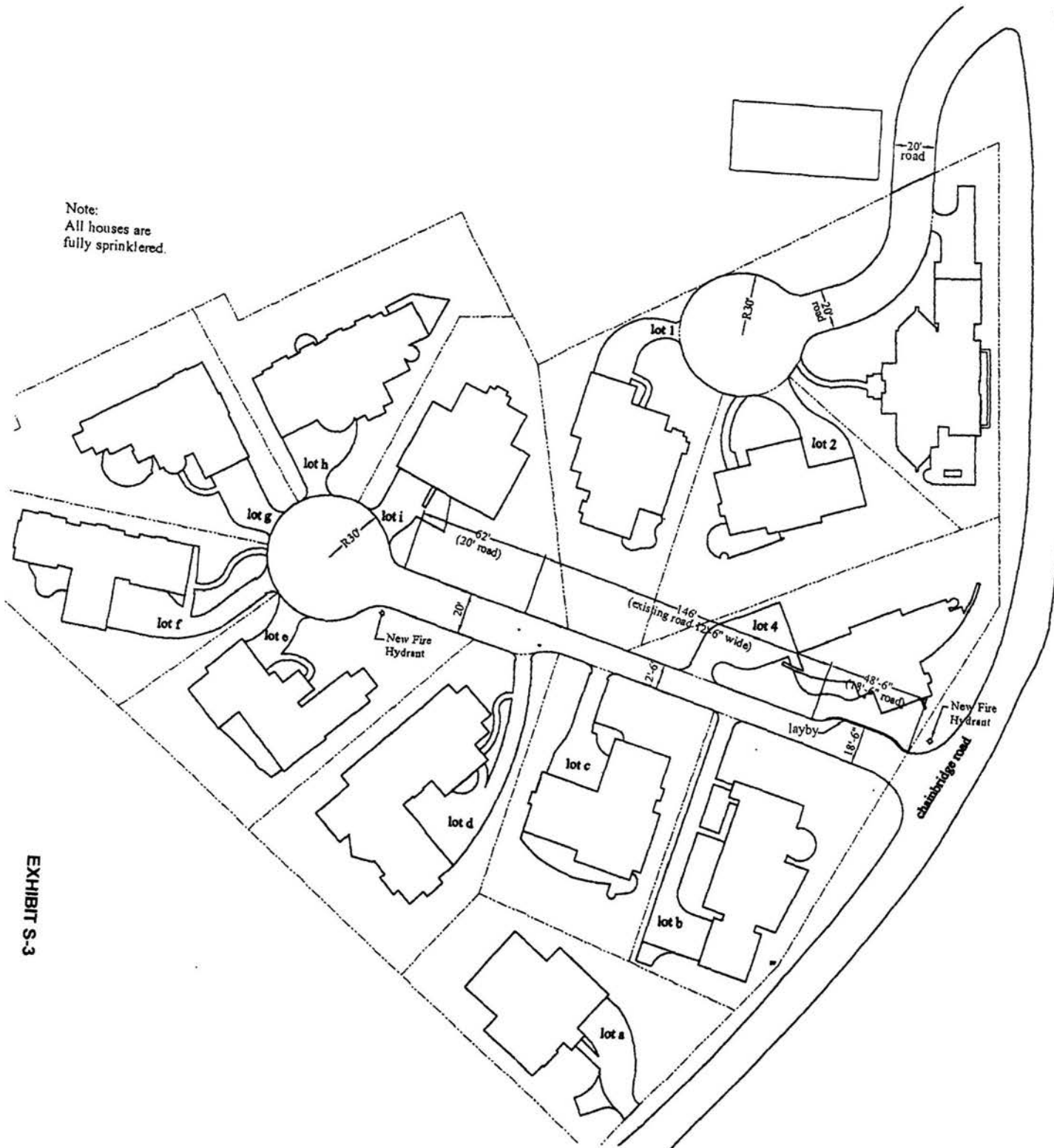
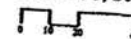
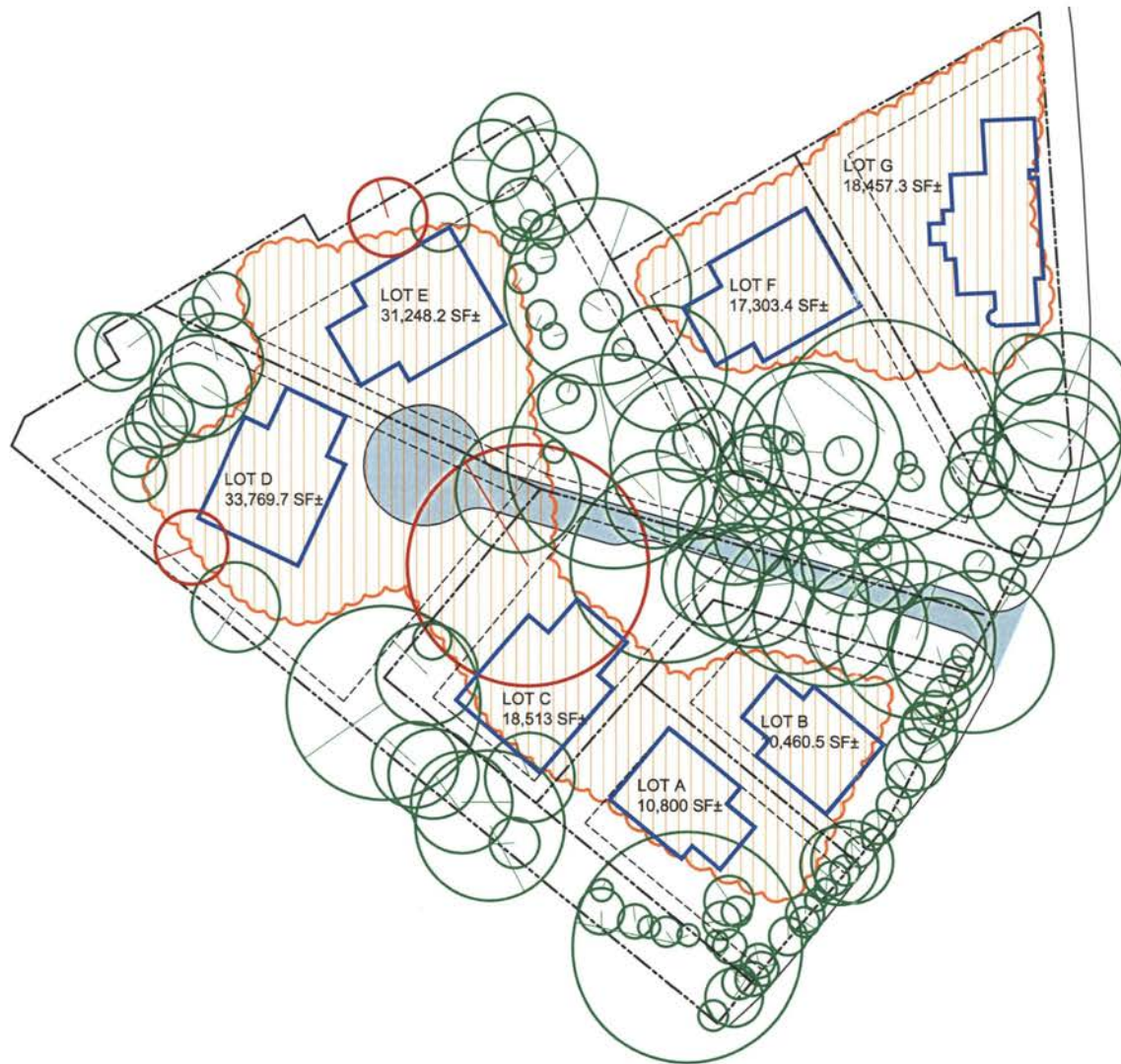


EXHIBIT S-3

(Reuse Existing Road)
Road Alignment
Chain Bridge Road Project
Square 1425 Lot 827, Parcels 12/63, 12/293 and 12/294
Washington, DC

December 1, 2005





KEY

-  TREES SAVED
-  DEAD TREES
-  BUILD ZONE

CONCEPT SUBDIVISION (SHOWING TREES BEING SAVED BY ALTERNATE CONCEPT SUBDIVISION AND LOTS BY RIGHT)

SCALE: 1"=60'

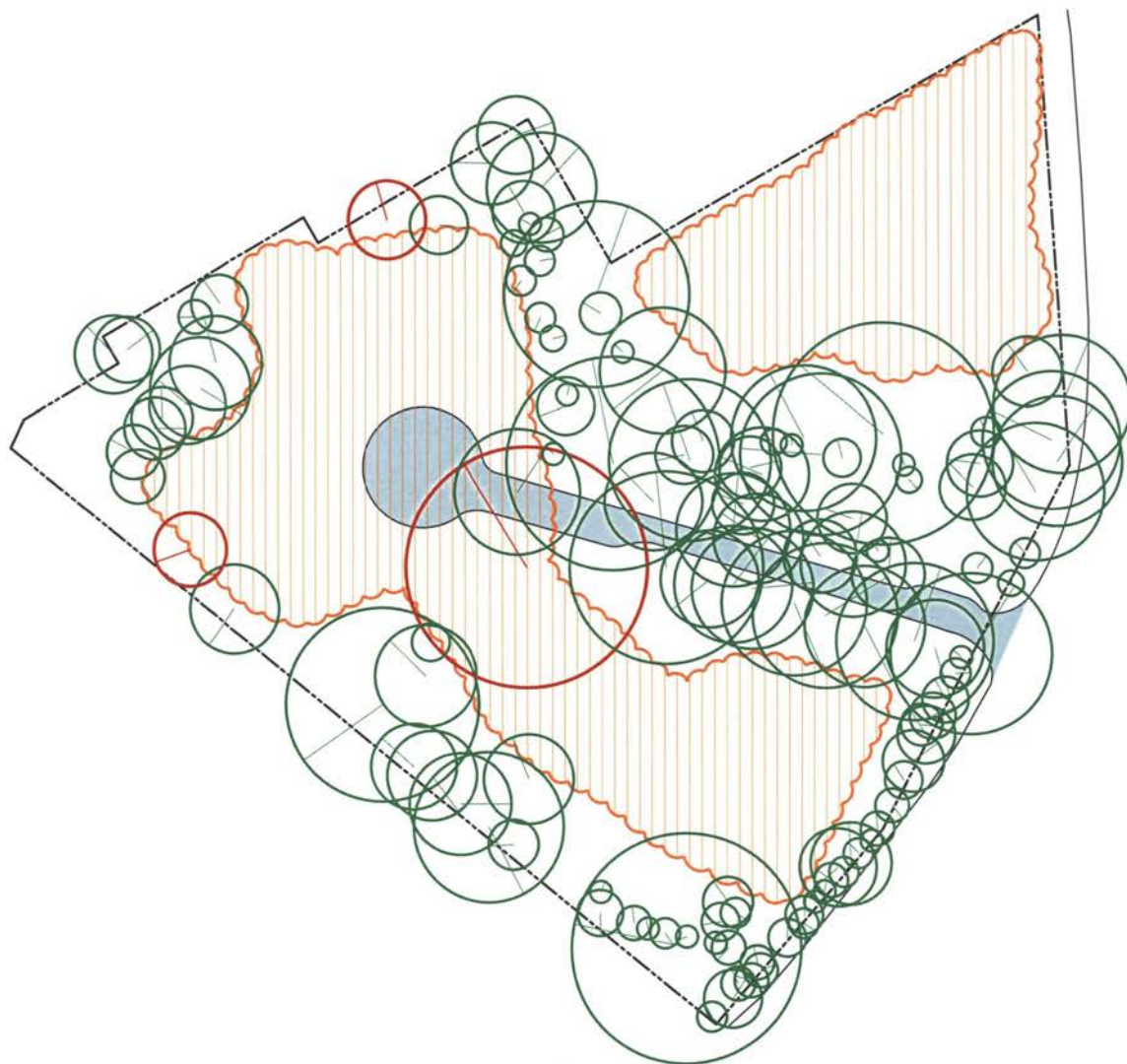


KEY

-  TREES SAVED
-  DEAD TREES
-  BUILD ZONE

CONCEPT SUBDIVISION (SHOWING TREES BEING SAVED BY ALTERNATE CONCEPT SUBDIVISION AND THEORETICAL LOTS)

SCALE: 1"=60'



KEY



TREES SAVED



DEAD TREES



BUILD ZONE

CONCEPT SUBDIVISION (SHOWING TREES BEING SAVED BY ALTERNATE CONCEPT SUBDIVISION AND PROPOSED BUILD ZONE)

SCALE: 1"=60'



KEY



TREES SAVED



TREES DESTROYED



AREAS OF NEW CONSTRUCTION
AFFECTING ROOT ZONE

PROPOSED DEVELOPMENT (SHOWING TREES BEING DESTROYED BY PROPOSED DEVELOPMENT)

SCALE: 1"=60'

KEY



TREES SAVED



PROPOSED DEVELOPMENT (SHOWING TREES BEING SAVED BY NEW DEVELOPMENT)

SCALE: 1"=40'