Agenda

PLANNING COMMISSION REGULAR DOCKET
TUESDAY, February 14, 2012 – 5:30 P.M.
CITY COUNCIL CHAMBERS

I. PLANNING COMMISSION GATHERING -- 4:30 P.M. (Held in the NDS Conference Room) Commissioners gather to communicate with staff. (4:30-5:30 P.M.)

iPad Updates

II. REGULAR MEETING -- 5:30 P.M.

A. COMMISSIONERS' REPORTS
B. UNIVERSITY REPORT
C. CHAIR'S REPORT
D. DEPARTMENT OF NDS
E. MATTERS TO BE PRESENTED BY THE PUBLIC NOT ON THE FORMAL AGENDA
F. CONSENT AGENDA
(Items removed from the consent agenda will be considered at the end of the regular agenda)

1. Minutes - January 10, 2012 – Regular meeting
2. Minutes - January 10, 2012 – Pre meeting
3. Minutes – January 24, 2012 – Work Session

G. PLANNING AWARDS

III. JOINT PUBLIC HEARINGS (Beginning at 6:00 P.M.)

H. JOINT PUBLIC HEARING

1. SP-11-12-15 (Arlington & Millmont) - An application for a special use permit for the property at 2101 Arlington Boulevard, 1021 & 1023 Millmont Street and Parcel X (Tax Map 6 Parcel 1.12) for increased density to 64 dwelling units per acre (maximum 21 dwelling units per acre by right) and increased building height to 78 feet (maximum 60 feet by right height). The applicant is also requesting a setback modification to allow a maximum setback between 20' and 50' on Millmont Street and between 30' and 48' on Arlington Boulevard. The existing regulations allow for a 20' and 30' maximum setback on Millmont Street and Arlington Boulevard, respectively. The property is further identified on City Real Property Tax Map 6 Parcels 1.11 & 1.12 and Tax Map 1 Parcel 1.8 and 1.9 having frontage on Arlington Boulevard and Millmont Street. The site is zoned URB (Urban Corridor) and is approximately 4.72 acres or 205,400 square feet. The Land Use Plan generally calls for Commercial. **Report prepared by Ebony Walden, Neighborhood Planner.**

IV. REGULAR MEETING ITEMS (Cont.) – 7:00 P.M.

I. Site Plan
a. Arlington Boulevard & Millmont Street Apartments

J. FUTURE MEETING SCHEDULE

Date and Time	Type	Items
Tuesday, February 28, 2012 – 5:00 PM	Work Session	Land Use Projects (meeting with City Council)
Tuesday March 13, 2012 – 4:30 PM	Pre- Meeting	
Tuesday, March 13, 2012 – 5:30 PM	Regular Meeting	Preliminary Discussion – Lochlyn Hill PUD Site Plan – 850 Estes Street CDBG/HOME funding Zoning Text Amendments – Waiver Provisions

Anticipated Items on Future Agendas

- Entrance Corridor – Belmont Cottages PUD
- Preliminary Site Plan and Critical Slopes – Willoughby Place
- SUP – Sigma Chi Expansion request on Old Preston
- Special Permit – 608 Preston Place

PLEASE NOTE: THIS AGENDA IS SUBJECT TO CHANGE PRIOR TO THE MEETING.

PLEASE NOTE: We are including suggested time frames on Agenda items. These times are subject to change at any time during the meeting.

MINUTES
CITY OF CHARLOTTESVILLE
PLANNING COMMISSION
TUESDAY, January 10, 2012 -- 5:30 P.M.
CITY COUNCIL CHAMBERS

Commissioners Present:
Ms. Genevieve Keller (Chairperson)
Mr. Dan Rosensweig
Mr. Michael Osteen
Ms. Lisa Green
Mr. John Santoski
Mr. Kurt Keesecker

Mr. David Neuman, Ex-officio, UVA Office of the Architect

Not Present:
Ms. Natasha Sienitsky

Staff Present:
Ms. Missy Creasy, AICP, Planning Manager
Ms. Ebony Walden, AICP, Neighborhood Planner

Also Present
Mr. Richard Harris, Deputy City Attorney

II. REGULAR MEETING

Ms. Keller convened the meeting.

A. COMMISSIONERS' REPORT

- Ms. Green -had nothing to report, but gave a reminder of the MPO meeting scheduled for next month.
- Mr. Osteen -didn't attend the BAR meeting last month but did review the actions taken at that meeting.
- Mr. Rosensweig -No report
- Mr. Keesecker –Will be attending the PACC TECC meeting on January 17th.
- Mr. Santoski-Nothing to report

B. UNIVERSITY REPORT

Mr. Neuman stated that the University is preparing for the return of the students.

C. CHAIR'S REPORT

Ms. Keller attended the Annual meeting of the TJPDC Commission Corporation and a new Chairman was elected with the resignation of Jason Pearson.

D. DEPARTMENT OF NDS/STAFF REPORTS/WORK PLAN

Planning Awards Voting-Nominations are due and they should be given to Michael Smith. Recipients will be informed and awards presented at the next meeting.

Ms. Creasy stated that IT has been informed about some of the iPad applications presented to them. They will be taking them under advisement, but some may not be able to be installed due to security concerns. There will be a work session on January 24th and the build out analysis will be discussed. Planning Commission and City Council will have a joint meeting on Land Use on January 26th.

E. MATTERS TO BE PRESENTED BY THE PUBLIC NOT ON THE FORMAL AGENDA.

There were none.

F. CONSENT AGENDA

(Items removed from the consent agenda will be considered at the end of the regular agenda)

1. Minutes - December 13, 2011 – Regular meeting
2. Minutes - December 13, 2011 – Pre meeting

Mr. Osteen made a motion to approve the Consent Agenda
Mr. Keesecker seconded the motion.
All in favor
Motion Carried.

While waiting for Councilors to arrive, the Commission decided to hear the preliminary discussion first.

H. Preliminary Discussion

a. Millmont Street and Arlington Boulevard Project (10 minute presentation)

Jeff Givens and Valerie Long presented a 10 minute PowerPoint presentation and requested input from the Commission.

Comments from Commissioners

- **Would like the applicant to work with the Traffic Engineer on bike lane locations**
- **Would like to see a breakdown of the number of bedrooms per unit**
- **Feels like the site will be over parked**
- **The building scale is large**
- **Would like to see the building line at the corner modified**
- **The project would make the north side of Millmont more interesting**
- **Some don't have a problem with the parking and feel that it is shielded properly from the street.**

III. JOINT PUBLIC HEARINGS (Beginning at 6:00 P.M.)

G. JOINT PUBLIC HEARING

1. SP-11-11-14: (100, 102, 104 Oakhurst Circle, 1616 Jefferson Park Avenue, and adjacent Parcel X): An application for a special use permit for the property at 100, 102, & 104 Oakhurst Circle, 1616 Jefferson Park Avenue, and Parcel X, as shown on the plat last revised 10/5/09 of record as instrument # 2009004661 in the office of the Clerk of the Charlottesville Circuit Court. A special use permit was granted in January, 2009 increasing allowable density from 21 units per acre to 32 units per acre and reducing front yard setbacks from 25 feet to 12 feet. The special use permit was granted with the intent of combining the five parcels into one parcel. The applicant now plans to combine the five parcels into two parcels. This request it to (A) increase density to 50 dwelling units per acre and reduce rear setbacks to 5' on one parcel, and (B) to reduce rear setbacks to 10' on the other parcel (with density of 9 dwelling units per acre). The applicant also seeks an exception to the parking requirements in section 34-973 to allow all required parking to be accommodated on only on parcel.

The applicant plans to develop the entire site in conformance with the currently approved site plan which includes (A) the conversion of two existing apartment building and one single family dwelling into a 27 room bed & breakfast, and the renovation of one existing building which will have 5 apartments (on one parcel) and (B) a new residential building with 36 units (on the other parcel).

This property is further identified on City Real Property Tax Map #11 as parcels 1, 2, 3, 4 and parcel X, as shown on the plat last revised 10/5/09 of record as Instrument #2009004661 in the office of the Clerk of the Charlottesville Circuit Court having approximately 450 feet of frontage on Jefferson Park Ave and 170 feet of frontage on Oakhurst Circle and containing approximately 56,105 square feet of land or 1.288 acres. The zoning of this property is currently R-3 with Historic Overlay and general uses called for in the Land Use Plan of the Comprehensive Plan for Two Family Residential. **Report prepared by Ebony Walden, Neighborhood Planner.**

Ms. Walden provided her staff report.

Ms. Keller asked if the applicant wished to speak.

Bill Chapman, 709 Lexington Avenue provided a brief explanation of why the parcels needed to be divided in the way presented due to acquiring financing for both projects.

Questions or Comments from the Commission

- **Concern was expressed about the potential for parking on Oakhurst**
- **Will there be a parking agreement included in the deed?**
- **What is the time frame for the realignment of Jefferson Park Avenue intersection?**

The applicant noted that a parking agreement will be executed as a requirement of financing as well as good practice. He also noted that the road work will be done at the same time as the construction.

Mr. Rosensweig moved to recommend approval of the Special Use Permit application for increased density of 50 dwelling units per acre at Tax Map 11, Parcels 1,2,3,4 and Parcel X shown on the plat last revised 10/5/09 of record as instrument number 2009004661 of the Office of the Clerk of Charlottesville Circuit Court referred to as Oakhurst in an apartment with the six conditions outlined in the staff report on the basis that this proposal would serve the interest of the general public welfare and good zoning practice.

Mr. Osteen seconded the motion

Ms. Creasy called the question

Green	Yes
Osteen	Yes
Rosensweig	Yes
Keesecker	Yes
Santoski	Yes
Keller	Yes

Motion Passed

Ms. Green motioned to adjourn until the second Tuesday in February 2012.

CITY OF CHARLOTTESVILLE
PLANNING COMMISSION PRE MEETING
TUESDAY, January 10, 2012 -- 4:30 P.M.
NDS CONFERENCE ROOM

Planning Commissioners present
Ms. Genevieve Keller
Mr. Dan Rosensweig
Mr. Kurt Keesecker
Ms. Lisa Green
Mr. Michael Osteen
Mr. John Santoski

Staff Present:
Mr. Jim Tolbert, NDS Director
Ms. Missy Creasy, Planning Manager
Mr. Brian Haluska, Neighborhood Planner
Ms. Ebony Walden, Neighborhood Planner
Mr. Mike Smith, Neighborhood Planner
Mr. Richard Harris, Deputy City Attorney

The Commission began to gather at 4:30 and was called to order at 5:00. Ebony Walden provided an orientation to the Oakhurst plan to clarify differences between the request and the current approval. There was a discussion about the parking configuration since off-site parking would now be a factor.

Dan Rosensweig asked for additional information on the preliminary discussion item. Staff informed the commission that the applicant would be providing a presentation and commissioners should focus on the SUP standard of review as they provide comments and ask questions.

The discussion adjourned at 5:25pm.

Planning Commission Work session
January 24, 2012
Minutes

Commissioners Present:
Ms. Genevieve Keller (Chairperson)
Mr. Kurt Keesecker
Ms. Lisa Green
Mr. Dan Rosensweig
Mr. Michael Osteen
Mr. John Santoski
Ms. Natasha Sienitsky

Staff Present:
Jim Tolbert
Missy Creasy
Brian Haluska
Richard Harris
Michael Smith
Willy Thompson
Ebony Walden

Ms. Keller convened the meeting at 5:00 p.m and turned the time to Mr. Tolbert.

Waivers

Mr. Tolbert informed the Planning Commission of the Virginia Supreme Court ruling that will not allow Planning Commissions to grant waivers as they are not a governing body. Staff will be studying both Chapters 34 and 29 to find all waiver occurrences to address. A Public Hearing on text changes is anticipated for March.

Discussion on Housing Economic Drivers Survey

- The Planning Commission and City Council would like a copy of the 60 pages of comments from Survey Monkey.
- A lot of people prefer not living in the City or the County and the commission would like to find ways to make living in the City more desirable.
- Link this information to the Build out Analysis.

Upcoming Events

Ms. Creasy informed the Planning Commission of the Livability project community meeting on Thursday on "Long Range Transportation" to be held at the Water Street Center. The City and County are in the process of scheduling a joint meeting for April.

Build out Analysis

Brian presented a PowerPoint presentation on the Build out Analysis. This is part 6 of the Land Use Project. He noted the process used to get the data and gave an overview of the report.

Discussion

- Kristin Szakos wanted to know what opportunities are available based on this data?
- Can there be a historical analysis of the density achieved over time to see what has been utilized? How many applicants have taken advantage of new zoning regulations since 2003?
- How is redevelopment accounted for in the Build Out Analysis and where are increases in density shown?
- Some of the non-vacant lots are being redeveloped. Could there be some speculation on this based on the last 20 years?
- More people are in R-1 areas than expected due to economic circumstances.
- There is a lot of potential on West Main for development.
- Zoning changes could create jobs in the area.
- The mixed used zoning has been divided into many classifications which could be diluting the effect. Staff feels the categories reflect characteristics of individual areas and that some should be reviewed.
- Many properties have been owned by people for a long time and no changes have occurred.
- Some commissioners feel that we have the zoning we need for the community and others do not.
- It is possible that if undeveloped property awaits development, the projects would be much better.
- Some commissioners felt we have the right categories just in the wrong places.
- The price of land is high but there is money available to assist with financing.
- Think about infrastructure and look more holistically
- Map density by census track data to present a visual of where the density is.

Brian noted some great highlights of the discussion and added that the Planning Commission has really given him a lot of information to work with for the next draft of the materials.

Kristin Szakos complemented the crowd on the discussion.

Public Comment

Bill Emory was interested in the breakdown of vacant land in the city. The city should be broken down in quads and looked at in that way with comparison to the state code. He expressed concern with different treatment of the east and west sides of the city.

Mr. Keesecker noted that the east side of city more has more concerns since that is where the wind blows.

Jack Marshall was really impressed with the discussion and feels that good information was given. Need to see if the number is appropriate and clarify what we want to look like in the future. He feels these things can be worked on.

Meeting adjourned at 6:55 pm.

CITY OF CHARLOTTESVILLE
DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT SERVICES
STAFF REPORT

APPLICATION FOR A SPECIAL USE PERMIT

PLANNING COMMISSION AND CITY COUNCIL JOINT PUBLIC HEARING

DATE OF HEARING:
APPLICATION NUMBER: SP-11-12-15

Project Information

Project Planner: Ebony Walden, Neighborhood Planner
Applicant: Peak Campus Development, LLC
Applicants Representative: Jeff Githens
Applicable City Code Provisions: 34-156 through 34-164 (Special Use Permits), 34-800 through 34-827 (Site Plans), 34-867 (Landscape Plans), Section 34-420 Use Matrix

Application Information

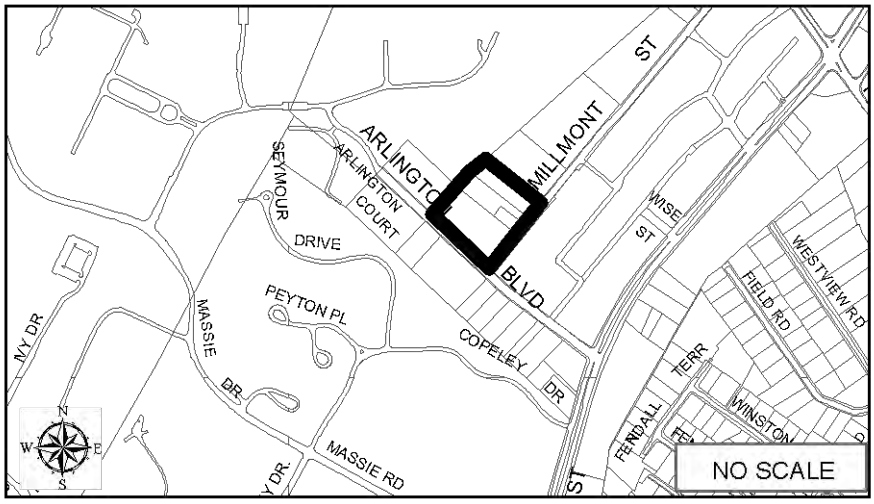
Property Street Address: 2101 Arlington Blvd, 1021-23 Millmont Avenue and TMP 6-1.12
Tax Map/Parcel #: Tax Map 6 Parcels 1.11 and 1.12 and Tax Map 1 Parcels 1.8 and 1.9
Total Square Footage/Acreage Site: 205,428 or 4.72 acres
Comprehensive Plan (Land Use Plan) Designation: Commercial
Current Zoning Classification: URB (Urban Corridor)
Tax Status: No delinquent taxes

Applicant's Request:

The applicant has submitted a site plan for a 300 unit apartment building at 2101 Arlington Blvd, 1021-23 Millmont Avenue and TMP 60-1.12. The site plan proposes the demolition of the existing structures and the consolidation of four parcels in a 2 phase apartment development with an attached parking garage. Phase one proposes the demolition of the existing structures and the construction of 230 residential units with an attached parking garage. Phase two proposes the construction of 70 additional units.

The applicant has submitted a special use permit for increased density from 21 dwelling units per acre to 64 dwelling units per acre. The applicant is also requesting an increase in the allowable building height from 60 feet to 78 feet, up to 80 feet is allowed by special use permit.

Vicinity Map:



Standard of Review: The Planning Commission must make an advisory recommendation to the City Council concerning approval or disapproval of a special permit or special use permit for the proposed development based upon review of the site plan for the proposed development and upon the criteria set forth.

Section 34-157 of the City Code sets the general standards of issuance for a special use permit.

(1) Whether the proposed use or development will be harmonious with existing patterns of use and development within the neighborhood;
(2) Whether the proposed use or development and associated public facilities will substantially conform to the city's comprehensive plan;
(3) Whether proposed use or development of any buildings or structures will comply with all applicable building code regulations;
(4) Whether the proposed use or development will have any potentially adverse impacts on the surrounding neighborhood, or the community in general; and if so, whether there are any reasonable conditions of approval that would satisfactorily mitigate such impacts. Potential adverse impacts to be considered include, but are not necessarily limited to, the following:

a) Traffic or parking congestion;
b) Noise, lights, dust, odor, fumes, vibration, and other factors which adversely affect the natural environment;
c) Displacement of existing residents or businesses;
d) Discouragement of economic development activities that may provide desirable employment or enlarge the tax base;
e) Undue density of population or intensity of use in relation to the community facilities existing or available;
f) Reduction in the availability of affordable housing in the neighborhood;
g) Impact on school population and facilities;
h) Destruction of or encroachment upon conservation or historic districts; and,

i) Conformity with federal, state and local laws, as demonstrated and certified by the applicant
j) Massing and scale of project;

(5) Whether the proposed use or development will be in harmony with the purposes of the specific zoning district in which it will be placed; and
(6) Whether the proposed use or development will meet applicable general and specific standards set forth within the zoning ordinance, subdivision regulations, or other city ordinances or regulations.

City Council may grant an applicant a special permit or special use permit, provided that the applicant's request is in harmony with the purposes and standards stated in the zoning ordinance (Sec. 34-157(a)(1)). Council may attach such conditions to its approval, as it deems necessary to bring the plan of development into conformity with the purposes and standards of the comprehensive plan and zoning ordinance.

In reviewing an application for a special use permit, the City Council may expand, modify, reduce or otherwise grant exceptions to yard regulations, standards for higher density, parking standards, and time limitations, provided: (1) Such modification or exception will be in harmony with the purposes and intent of the zoning district regulations under which such special use permit is being sought; (2) Such modification or exception is necessary or desirable in view of the particular nature, circumstances, location or situation of the proposed use; and (3) No such modification or exception shall be authorized to allow a use that is not otherwise allowed by this ordinance within the zoning district in which the subject property is situated. The Planning Commission may include comments or recommendations regarding the advisability or effect of the modifications or exceptions. The resolution adopted by Council shall set forth the approved modifications or exceptions.

Background: (Relevant Code Sections)

- Section 34:756-760 - Urban Corridor zoning designation consists of commercial and residential areas in which commercial and mixed use developments, including multifamily uses, are encouraged.

Density

- Section 34:760 allows residential developments with a density of 22-64 DUA by special use permit in the Urban Corridor District.

Height

- Section 34:757 (2) allows up to eighty feet in height by special use permit.

Overall Analysis:

1. **Proposed Use of the Property.**
   The applicant plans to use the proposed property as a 300 unit apartment complex with an attached parking garage.

2. **Zoning History**

This property was not incorporated into the city until 1976. The 1976 zoning map shows the property as B-1 Business and MI – Restricted Industrial. The 1991 map shows this property as B-1 Business. It is currently zoned Urban Corridor, its designation since 2003.

3. Character and Use of Adjacent Properties

Direction	Use	Zoning
North	Millmont Shopping Center	URB
South	Apartments	URB
East	Barracks Road Shopping Center	URB
West	Apartments	URB and R-3

4. Reasonableness/Appropriateness of Current Zoning

Urban Corridor zoning is reasonable and appropriate because of the proximity of the site to Emmett Street, Barracks Road Shopping Center, the University of Virginia and other multifamily housing. The current zoning has been in place since 2003.

5. Reasonableness/Appropriateness of Proposed Zoning

The intent of the Urban Corridor is to continue the "close in" urban commercial activity, to provide for a mixture of uses, and to provide a pedestrian and auto oriented environment. The request for a special use permit to allow for a 300 unit apartment building is reasonable and appropriate on this site. The site is close to a major shopping center and the North Campus of the University of Virginia, making it suitable for greater density that would support the university's housing needs and the adjacent commercial center with little impact to the surrounding area.

6. Consistency with Comprehensive Plan

The comprehensive plan designates this area as commercial. The proposed use is not commercial, but not inconsistent with the increased density, mixture of uses and concentration of pedestrian and residential activity needed to support the neighboring commercial establishments.

7. Potential Uses of the Property (By-Right)

Offices, restaurants, retail establishments, medical laboratories, multi-family dwellings, bed-and-breakfasts, convents and monasteries, houses of worship, health clinics, educational facilities, and libraries, among others.

Project Review

1. Harmonious with existing patterns of use and development within the neighborhood

The proposed development is at the corner of Arlington Boulevard and Millmont Avenue, which is generally referred to as the Barracks Road/UVA North Grounds Area. To the north and east of the site are the Millmont and Barracks Road Shopping centers respectively. These commercial areas consist of one story restaurants, retails shops and consumer service businesses. South and west of the site are two and three story apartment buildings. Thus, the proposed development sits at an important intersection of commercial and residential activity. While it will be denser and built at a greater scale and mass than the surrounding area, it is precisely the type of development that the zoning ordinance and comprehensive plan encourage. The prevailing wisdom in city planning supports denser, pedestrian and bicycle friendly development that is in close proximity to commercial centers.

2. Conformity with comprehensive plan and policies

The proposal is consistent with the following comprehensive plan policies:

- Infill development goals of using existing land to accommodate new uses.
- Supports a diversity of transportation options. The site is along a bicycle path and bus route, has structured parking and promotes pedestrian connectivity.
- Housing goals to:
  - Continue to grow the city's housing stock
  - Offer a range of housing options; this site offers high density multi-family housing adjacent to a commercial corridor.
  - Promote an assortment of affordable housing initiatives. Over $300,000 will be donated to the city's housing fund.

3. Building code regulations

The site plan has been reviewed by the City's Building Code official. The project will be required to submit a building permit and adhere to the City's building code regulations.

4. Impact on the neighborhood

a. Traffic or parking congestion

The redevelopment of this site will result in a 589 trip reduction. A traffic study was submitted and there were no significant issues identified. A turning lane will be added to accommodate the development entrance. Parking congestion is not anticipated as there are over 600 parking spaces proposed.

b. Noise, light, dust, odor fumes, vibrations, and other factors, which adversely affect the natural environment, including quality of life of the surrounding community.

None anticipated.

c. Displacement of existing residents or businesses;

The proposed development will displace the three medical office tenants: Jefferson Trail Behavioral System, Region Ten Community Services and The University of Virginia Phycology Department.

d. Discouragement of economic development activities that may provide desirable employment or enlarge the tax base;

The presence of new tenants near this commercial area and the change in use in the site will encourage economic development activities.

e. Undue density of population or intensity of use in relation to the community facilities existing or available;

Correspondence with the Utilities Division and Rivanna Water and Sewer authority indicate that there is adequate utility capacity in this area.

f. Reduction in the availability of affordable housing which will meet the current and future needs of the city;

The redevelopment of this site requires that the applicant contribute over $360,000 to the city's housing fund, which will increase affordable housing efforts.

g. Impact on school population and facilities;

No significant impact anticipated.

h. Destruction of or encroachment upon conservation or historic districts; and

This project is not within a design control district.

i. Massing and scale of the project

The mass and scale of the project presents visual impacts. This project will be taller than any building in the adjacent area. Staff does not find the height to be an issue, as long as the applicant addresses the pedestrian environment at the 1st level to make the project more human scaled. Staff has made this concern known to the applicant. The applicant has incorporated a plaza and 2 entrances on Millmont to help mitigate the building mass. The proposed landscaping will also help to mitigate this impact.

5. Reasonable conditions of approval that would satisfactorily mitigate impact on the surrounding neighborhood.

The primary impact that staff found regarding this application is the massing and scale of the project. The proposed form made the 1st level on Millmont impenetrable. The applicant has taken significant measures to mitigate these impacts.

This development will have nearly 600 residents, many of whom will be walking and biking to get to UVA, Barracks Road Shopping Center and other commercial establishments in this

area. Thus, there will be increased pedestrian traffic at the Arlington/ Millmont intersection in light of this development. To mitigate this impact, the Traffic Engineer has recommended that the applicant improve the ADA ramps at the 4 corners of the Arlington/ Millmont intersection to make this intersection more functional, accessible and safe for pedestrians.

6. **Requested exceptions and modifications.**

The applicant is also requesting a setback modification to allow a maximum setback between 20' and 50' on Millmont and between 30' and 48' on Arlington. The existing regulations allow for a 20' and 30' maximum setback on Millmont and Arlington respectively. This modification is to allow for additional landscaping and pedestrian improvements. See the attached diagram and chart below for details. On Millmont 86% of the building is within 30" and on Arlington 87% of the building is within 40'.

Distance From Millmont Street Property Line		% of Bldg Face*	Length of Bldg Face
>5'	<=20'	34%	145'
>20'	<=30'	52%	222'
>30'	<=50'	14%	59'

*As measured to building face and back of balcony – although front of balconies are flush with building face.

Distance From Arlington Blvd Property Line		% of Bldg Face*	Length of Bldg Face
>5'	<=30'	60%	235'
>30'	<=40'	27%	105'
>40'	<=48'	12%	48'

*As measured to building face and back of balcony – although front of balconies are flush with building face.

Low Impact Development Strategies:

The applicant is incorporating a cistern in the courtyard area, and treating storm water run-off with swales and filters.

Attachments:

Site Plan, SUP package and supplemental documents

Public Comments Received:

None at this time this report was written.

Staff Analysis

Staff finds that this is an appropriately dense development adjacent to a mixed use commercial corridor and a number of the University's graduate schools. The increases in density and height are both reasonable and appropriate and present minor impacts to the surrounding area. The setback modification helps support the concept of a pedestrian scaled environment.

Staff Recommendation

Staff recommends approval with the condition of ADA improvements at the Arlington/Millmont intersection.

Suggested Motions:

1. "I move to recommend the approval of this Special Use Permit application for the Arlington & Millmont Apartments at 2101 Arlington Blvd, 1021-23 Millmont Avenue and TMP 6-1.12 on the basis that the proposal would serve the interests of the general public welfare and good zoning practice."

2. "I move to recommend the approval of this Special Use Permit application for the Arlington & Millmont Apartments at 2101 Arlington Blvd, 1021-23 Millmont Avenue and TMP 6-1.12 with the following conditions, exceptions and/or modifications:
    a) The applicant shall bring the intersection of Arlington/Millmont up to ADA standards including but not limited to the replacement of the curb ramps an all four corners."

    On the basis that the proposal would serve the interests of the general public welfare and good zoning practice"

3. I move to recommend denial of this Special Use Permit application for the Arlington & Millmont Apartments at 2101 Arlington Blvd, 1021-23 Millmont Avenue and TMP 6-1.12 on the basis that the proposal would not serve the intent of the general public welfare due to the following:

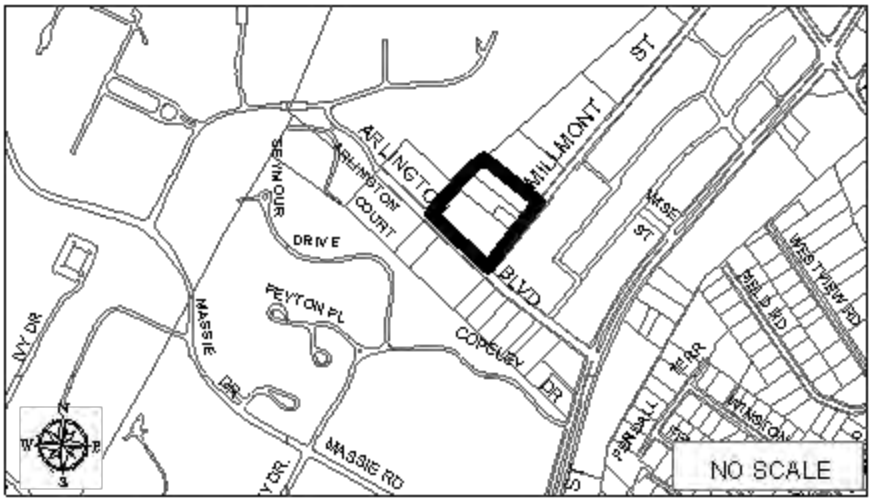
CITY OF CHARLOTTESVILLE
DEPARTMENT OF NEIGHBORHOOD DEVELOPMENT SERVICES
STAFF REPORT

APPLICATION FOR APPROVAL OF PRELIMINARY SITE PLAN

PLANNING COMMISSION REGULAR MEETING
DATE OF PLANNING COMMISSION MEETING: February 14, 2012

Author of Staff Report: Ebony Walden
Date of Staff Report: February 3, 2012
Project Name: Arlington & Millmont Apartments
Applicant: Peak Campus Development LLC.
Applicant's Representative: Jeff Githens
Applicable City Code Provisions: 34-800 - 34-827 (Site Plans), 34-867 (Landscape Plans)
Zoning District: URB – Urban Corridor District
Date of Preliminary Site Plan Submission: December 28th, 2012
Date of Site Plan Review Conference: January 18th, 2012
Reason for Planning Commission Review: In conjunction with a Special Use Permit

Site Map



Legal Standard of Review

Approval of a site plan is a **ministerial** function, as to which the Planning Commission has little or no discretion. When an applicant has submitted a site plan that complies with the requirements of the City's Site Plan Ordinance, then approval of the plan **must** be granted. In the event the Planning Commission determines there are grounds upon which to deny approval

of a site plan, the motion must clearly identify the deficiencies in the plan, that are the basis for the denial, by reference to **specific** City Code sections and requirements. Further, upon disapproval of a site plan, the Planning Commission must identify the modifications or corrections that would permit approval of the plan.

Executive Summary

Jeff Githens, acting as agent for Peak Campus Development LLC, has submitted a site plan for a 300 unit apartment building at 2101 Arlington Boulevard, 1021-23 Millmont Street and TM6 P1.12. The property is further identified on City Real Property Tax Map 6 Parcels 1.11 and 1.12 and Tax Map 1 Parcels 1.8 and 1.9 having frontage on Arlington Boulevard and Millmont Street.

The site plan proposes the demolition of the existing structures and the consolidation of four parcels in a 2-phase apartment development. Phase one proposes the demolition of the existing structure and the construction of 230 units and a parking garage. Phase two proposes the construction of 70 units. The site is zoned (URB) Urban Corridor and is approximately 4.72 acres or 205,428 square feet.

Site Plan Compliance

The preliminary site plan is currently under review, and the applicant will be required to comply with staff comments. There has been one round of review by City reviewers. A copy of the applicant's response letter is attached. This includes staff's original comments. Site plans are reviewed for compliance with city codes and standards. An overview of site plan requirements and the location of those items on the Arlington and Millmont site are outlined below.

Site Plan Requirements

A. Compliance with applicable zoning district regulations

Mixed Use - ***(per Site Plan Ordinance §34-540 -- §34-796)***

The height and density requirements for the Urban Corridor district will be satisfied by the special use permit, which would allow up 64 units per acre and 80 feet in building height. Yard modifications are allowed via special use permit by 34-162. The SUP will allow the applicant to have a setback between 20' and 50' on Millmont and between 30' and 48' on Arlington. By right setbacks are a maximum of 20' and 30' respectively.

B. Compliance with the City's Erosion and Sediment Control ordinance, City Code, Chapter 10:

The applicant's erosion and sediment control plan is currently under review, and the applicant will be required to comply with staff comments.

(The applicant will be required to submit an Erosion and Sediment Control plan before approval of a final site plan.)

C. Compliance with General Standard for site plans (Sections 34-800 through 34-827)

Section 34-827 Preliminary site plan contents

1. General site plan information, including but not limited to project, property, zoning, site and traffic information: **Found on the cover sheet.**
2. Existing conditions and adjacent property information: **Found on Sheet CV-100**.
3. Demolition Plan**: Found on sheet CD-101 and CD102**
4. Proposed use, building, improvements, site plan layout and offsite improvements**: Found on sheet CS-101 & CS102**
5. Written schedules or data as necessary to demonstrate that the site can accommodate the proposed use: **Found on sheet CS-101 & CS102**
6. Phase lines: **Found on sheet CS-101 & CS102**
7. Proposed conceptual layout for water and sanitary sewer facilities and storm drain facilities including:

   Drainage Plan: **Found on sheet CE: 103 & 104**
   Utility Plan: **Found on sheet CU-101 & CU-102**

8. Landscape plan: **Found on CP-101 and C-102**
9. For proposed signs: The signs for this development will be submitted to the zoning administrator under separate application.

D. Additional information to be shown on the preliminary site plan as deemed necessary by the director or Commission in order to provide sufficient information for the director or Commission to adequately review the preliminary site plan.

No additional information has been required.

E. Compliance with Additional Standards for Specific Uses *(Site Plan Ordinance §§34-930 – 34-934*

- Section 94-932 Dumpsters: **The dumpster is located within the parking garage shown on sheet CS-101.**
- Section 94-934 Parking garages: **This site does contain a parking garage.**

Public Comments Received

A site plan conference was held on January 18th, 2012. Four members of the public were in attendance and no specific comments were received.

Recommendation

Staff recommends approval of the preliminary site plan for Arlington and Millmont apartments with the following conditions

1. The applicant comply with staff comments as outlined in the preliminary site plan letter dated January 17th, 2012 and any other comments generated from additional reviews.

SITE PLAN FOR

ARLINGTON AND MILLMONT APARTMENTS

ARLINGTON BOULEVARD AND MILLMONT STREET
CHARLOTTESVILLE, VA 22905

PROJECT CONTACT LIST

OWNER

ARLINGTON BOULEVARD LAND TRUST,
MILLMONT GYM LAND TRUST, RFBD
LAND TRUST, MILLMONT PROFESSIONAL
LAND TRUST
POST OFFICE BOX 8147
CHARLOTTESVILLE, VA 22906
TEL: 434-979-8181
FAX: 434-296-3510
CONTACT: CHARLES W. HURT, M.D.

APPLICANT/DEVELOPER

PEAK CAMPUS DEVELOPMENT, LLC
2790 CLAIRMONT ROAD, SUITE 310
ATLANTA, GA 30329
TEL: 404-920-5361
FAX: 404-920-5461
CONTACT: JEFF GITHENS
EMAIL: JGITHENS@PEAKCAMPUS.COM

CIVIL ENGINEER

KIMLEY–HORN AND ASSOCIATES, INC.
1700 WILLOW LAWN DRIVE, SUITE 200
RICHMOND, VA 23230
TEL: 804-673-3882
FAX: 804-673-3980
CONTACT: BRIAN BREWER
EMAIL: BRIAN.BREWER@KIMLEY–HORN.COM

ARCHITECT

NILES BOLTON ASSOCIATES
3060 PEACHTREE ROAD, N.W., SUITE 600
ATLANTA, GA 30305
TEL: 404-365-7600
FAX: 404-365-7615
CONTACT: JEFF SMITH, AIA
EMAIL: JSMITH@NILESBOLTON.COM

SURVEYOR

JENNINGSTEPHENSON, P.C.

JENNINGSTEPHENSON, P.C.
10160 STAPLES MILL ROAD, SUITE 103
GLEN ALLEN, VA 23060
TEL: 804-545-6235
FAX: 804-545-6259
CONTACT: TROY STEPHENSON, LS
EMAIL: TSTEPHENSON@JSPC–VA.COM

NEIGHBORHOOD DEVELOPMENT SERVICES

CITY OF CHARLOTTESVILLE
NEIGHBORHOOD DEVELOPMENT SERVICES
610 EAST MARKET STREET
CHARLOTTESVILLE, VA 22902
TEL: 434-970-3182
FAX: 434-970-3359
CONTACT: EBONY WALDEN, AICP

STORMWATER

CITY OF CHARLOTTESVILLE
NEIGHBORHOOD DEVELOPMENT SERVICES
610 EAST MARKET STREET
CHARLOTTESVILLE, VA 22902
TEL: 434-970-3991
CONTACT: MARTY SILMAN
EMAIL: SILMANM@CHARLOTTESVILLE.ORG

WATER AND WASTEWATER

CITY OF CHARLOTTESVILLE
DEPT. OF PUBLIC WORKS
PUBLIC UTILITIES DIVISION
305 4TH STREET, N.W.
CHARLOTTESVILLE, VA 22903
TEL: 434-970-3908
CONTACT: TRIP STAKEM, III, PE
EMAIL: STAKEME@CHARLOTTESVILLE.ORG

GAS

CITY OF CHARLOTTESVILLE GAS
DEPARTMENT OF PUBLIC WORKS
PUBLIC UTILITIES DIVISION / GAS
305 4TH STREET, NW
CHARLOTTESVILLE, VA 22903
PHIL GARBER
TEL. 434-970-3811
GARBER@CHARLOTTESVILLE.ORG

ELECTRIC

DOMINION VIRGINIA POWER
1719 HYDRAULIC ROAD
CHARLOTTESVILLE, VA 22901
MICHAEL CAMPBELL
TEL. 434-972-6801
MICHAEL_CAMPBELL@DOM.COM

TELEPHONE

EMBARQ
MAILSTOP: VACHRH0204
417-419 WEST MAIN ST.
CHARLOTTESVILLE, VA 22903
ROBERT G. FRASIER
TEL.: 434-971-2439
ROBERT.FRASIER@EMBARQ.COM

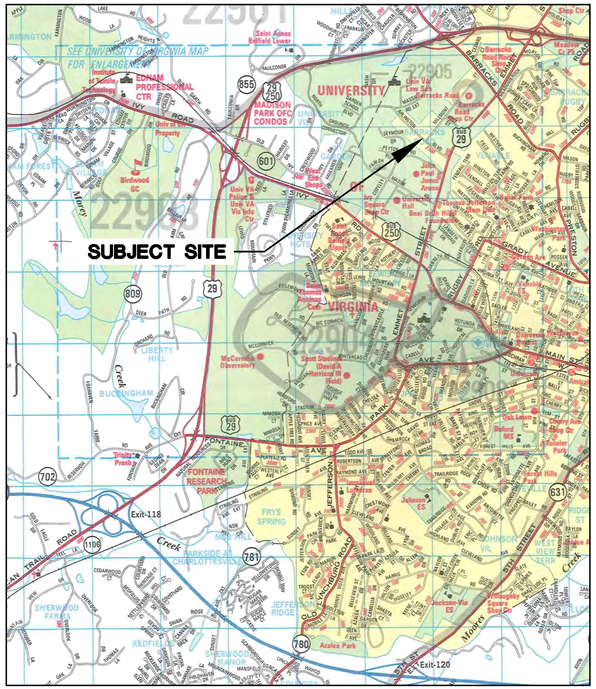
PROJECT BMP INFORMATION		
OWNER	PEAK CAMPUS DEVELOPMENT, LLC	
TYPE OF BMP	LEVEL 1 DRY SWALE, FILTERRA MANUFACTURED UNIT	
RECEIVING WATERS	MEADOW CREEK	
ACRES TREATED BY BMP	LEVEL 1 DRY SWALE	0.962 ACRES
	FILTERRA UNIT	0.121 ACRES
MAINTENANCE REQUIRED	SEE SHEET CE-501	
OWNER'S AGREEMENT TO MAINTAIN BMP FACILITIES		

PEAK CAMPUS DEVELOPMENT, LLC DATE

VICINITY MAP

APPROX. SCALE: 1" =2000'
COPYRIGHT ADC THE MAP PEOPLE, PERMITTED USE # 20912196

NORTH



CIVIL SHEET INDEX

SHT#	SHEET TITLE
CA-001	COVER SHEET
CA-002	GENERAL NOTES
CV-100	EXISTING CONDITIONS
CD-101	DEMOLITION PLAN – PHASE 1
CD-102	DEMOLITION PLAN – PHASE 2
CS-101	SITE PLAN – PHASE 1
CS-102	SITE PLAN – PHASE 2
CS-201	TYPICAL FLOOR PLAN
CS-501	SITE DETAILS
CS-502	SITE DETAILS
CE-101	E&S CONTROL PLAN – PHASE 1
CE-102	E&S CONTROL PLAN – PHASE 2
CE-103	DRAINAGE PLAN – PHASE 1
CE-104	DRAINAGE PLAN – PHASE 2
CE-501	E&S CONTROL DETAILS
CG-101	GRADING PLAN – PHASE 1
CG-102	GRADING PLAN – PHASE 2
CG-201	STORM DRAIN PROFILES – PHASE 1
CG-202	STORM DRAIN PROFILES – PHASE 2
CG-501	DRAINAGE DETAILS
CU-101	UTILITY PLAN – PHASE 1
CU-102	UTILITY PLAN – PHASE 2
CU-501	UTILITY DETAILS
CU-502	UTILITY DETAILS
CP-101	LANDSCAPING PLAN – PHASE 1
CP-102	LANDSCAPING PLAN – PHASE 2
CP-501	LANDSCAPING DETAILS

PROJECT DATA

ZONING INFORMATION

PROJECT: ARLINGTON AND MILLMONT APARTMENTS
LOCATION: NORTH QUADRANT OF ARLINGTON BLVD. AND MILLMONT ST. INTERSECTION
PROPOSED USE: APARTMENT COMPLEX / MULTI-FAMILY RESIDENTIAL
ZONING: URB - URBAN CORRIDOR

	CODE MAX.	S.U.P. MAX.	PROP. MAX.
BUILDING HEIGHT:	60 FT	80 FT	
# OF UNITS:	99	301	300

	CODE MIN.	CODE MAX.	PROP. MIN.*	PROP. MAX.*
FRONT SETBACK (ARLINGTON):	5 FT	30 FT	18.6 FT	41.4 FT
SIDE SETBACK (MILLMONT):	5 FT	20 FT	16.8 FT	50 FT
REAR SETBACK:	5 FT	NONE	33.4 FT	37.0 FT

* VARIANCE REQUESTED

	PHASE 1	PHASE 2	TOTAL
1 BR UNITS:	60	15	75
2 BR UNITS:	135	41	176
2 BR TOWNHOUSE UNITS:	6	0	6
3 BR UNITS:	29	14	43
TOTAL:	230	70	300

	PHASE 1	PHASE 2	TOTAL
PARKING REQ'D**:	259	84	343
PARKING PROP.:	480	139	619
ADA PARKING REQ'D:	7	8	8
ADA PARKING PROP.:	7	8	8

** PER CODE, 1 SPACE PER 1 OR 2 BR UNITS AND 2 SPACES PER 3 BR UNITS

PROPERTY INFORMATION

	ADDRESS	PARCEL ID #	AREA (SF)	AREA (AC)	EXISTING USE
PARCEL 1:	1023 MILLMONT ST.	060001900	48,000	1.102	UVA PSYCHOLOGY DEPT. BLDG.
PARCEL 2:	1021 MILLMONT ST.	060001120	38,920	0.893	JEFFERSON TRAIL BEHAVIORAL SYSTEM
PARCEL 3:	2101 ARLINGTON BLVD.	060001110	106,034	2.434	JEFFERSON TRAIL BEHAVIORAL SYSTEM
PARCEL 4:	1021 MILLMONT ST.	010001800	12,580	0.289	REGION TEN BUILDING

SITE INFORMATION

TOPOGRAPHY SOURCE: FIELD SURVEY BY JENNINGSTEPHENSON, P.C. DATED DECEMBER 15, 2011
HORIZONTAL DATUM: NAD 83
VERTICAL DATUM: NAVD 88

	TOTAL AREA (SF)	TOTAL AREA (AC)	IMPERV. AREA (SF)	IMPERV. AREA (AC)	IMPERV. COVERAGE	OPEN SPACE AREA (SF)	OPEN SPACE AREA (AC)	OPEN SPACE COVERAGE
EXISTING PHASE 1:	157,534	3.616	95,750	2.198	61%	61,784	1.418	39%
EXISTING PHASE 2:	48,000	1.102	29,450	0.676	61%	18,550	0.426	39%
EXISTING TOTAL:	205,534	4.718	125,200	2.874	61%	80,334	1.844	39%
PROPOSED PHASE 1:	157,534	3.616	102,100	2.344	65%	55,434	1.273	35%
PROPOSED PHASE 2:	48,000	1.102	25,700	0.590	54%	22,300	0.512	46%
PROPOSED TOTAL:	205,534	4.718	127,800	2.934	62%	77,734	1.785	38%

TRAFFIC INFORMATION

SOURCE: TRIP GENERATION, ITE 8TH EDITION, 2008, ITE USE CODE 220

	SIZE	DAILY	AM PEAK IN	AM PEAK OUT	AM PEAK TOTAL	PM PEAK IN	PM PEAK OUT	PM PEAK TOTAL
PROPOSED PHASE 1:	230 UNITS	1517	37	90	127	93	60	153
PROPOSED PHASE 2:	70 UNITS	548	12	28	40	35	22	57
PROPOSED TOTAL:		2065	49	118	167	128	82	210

PREPARED BY:

Kimley-Horn
and Associates, Inc.

THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF AND IMPROPER RELIANCE ON THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY KIMLEY–HORN AND ASSOCIATES, INC. SHALL BE WITHOUT LIABILITY TO KIMLEY–HORN AND ASSOCIATES, INC.

CITY OF CHARLOTTESVILLE APPROVAL

DIRECTOR OF NEIGHBORHOOD DEVELOPMENT SERVICES DATE

MISS UTILITY OF VIRGINIA

CALL BEFORE YOU DIG
811

BRIAN J. BREWER
Lic. No. 039045
02-01-12

ONLY THE COMPLETE AND APPROVED PAPER COPY OF THE PLAN SET INCLUDING ALL SUBSEQUENT REVISIONS WILL SERVE AS THE OFFICIAL CONSTRUCTION PLANS

SITE PLAN REVIEW STATUS

SUBMIT DATE	INITIALS	REMARKS
12/22/2011	AFS	1ST SUBMITTAL TO CITY OF CHARLOTTESVILLE
02/01/2012	AFS	2ND SUBMITTAL TO CITY OF CHARLOTTESVILLE

PLAN REVISIONS

REVISION NO.	DATE	REMARKS

KHA PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
113155000	CA-001	27

CONSTRUCTION STANDARDS

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THESE DRAWINGS, PROJECT SPECIFICATIONS, WITH ALL CURRENT APPLICABLE CODES, AND, UNLESS OTHERWISE SPECIFIED, WITH THE LATEST REVISIONS OF THE FOLLOWING REFERENCE DOCUMENTS:
   - A. CITY OF CHARLOTTESVILLE, CITY STANDARDS AND DESIGN MANUAL
   - B. VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD & BRIDGE SPECIFICATIONS
   - C. VDOT ROAD AND BRIDGE STANDARDS
   - D. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
   - E. VIRGINIA WORK AREA PROTECTION MANUAL.
   - F. VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH)
   - G. VIRGINIA DEPARTMENT OF HEALTH (VDH) SPECIFICATIONS

CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL CONFORM WITH APPLICABLE STATE (INCLUDING VDOT) AND LOCAL CONSTRUCTION STANDARDS AS IDENTIFIED IN THESE PLANS. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AND LICENSES AND MAINTAIN COPIES OF THEM ON-SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN A SET OF CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON-SITE AT ALL TIMES DURING CONSTRUCTION. A COPY OF THE VSMP PERMIT WILL BE REQUIRED PRIOR TO ISSUANCE OF A LAND DISTURBANCE PERMIT.

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.

3. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

4. ALL PAINT STRIPING, PAVEMENT MARKINGS, AND SIGNAGE SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" 2003 EDITION OR MOST CURRENT REVISION OR AS OTHERWISE SPECIFIED. ALL REFERENCED SIGN STANDARDS ARE TAKEN FROM THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". ALL NEW SIGNS SHALL BE MOUNTED ON GALVANIZED POSTS AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

5. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES ASSOCIATED WITH THE PROJECT WORK SCOPE DURING CONSTRUCTION. AT LEAST 72 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" OF VIRGINIA @ 800-552-7001 FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE.

6. ANY DAMAGE OCCURRING TO THE EXISTING SITE INFRASTRUCTURE ON THIS OR THE ADJACENT SITE DURING THE CONSTRUCTION OPERATIONS AND/OR MOBILIZATION, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL EXISTING DAMAGED ITEMS INCLUDING CONCRETE AND/OR PAVEMENT SECTIONS SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS PRIOR TO PROJECT COMPLETION AT THE EXPENSE OF THE CONTRACTOR.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, DRIVEWAYS, WALKS, CURBS, ETC. THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION INSIDE AND OUTSIDE OF THE LIMITS OF CONSTRUCTION.

8. THE CONTRACTOR SHALL KEEP AND MAINTAIN A SET OF CITY APPROVED PROJECT PLANS AND SPECIFICATIONS ON THE SITE AT ALL TIMES.

9. ANY AND ALL UTILITIES AND/OR OBSTRUCTIONS (POWER POLES, TELEPHONE PEDESTALS, GUY WIRES, WATER METERS, ETC.) THAT ARE REQUIRED TO BE RELOCATED OR ADJUSTED DUE TO CONSTRUCTION SHALL BE DONE SO AT THE OWNERS/DEVELOPERS EXPENSE.

10. SLOPES WITHIN THE LIMITS OF THE HANDICAPPED PARKING AREAS SHALL NOT EXCEED 1.5% IN ANY DIRECTION. CROSSWALKS AND SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1.5% AND A MAXIMUM LONGITUDINAL SLOPE OF 5% IN DIRECTION OF TRAVEL. SLOPES IN HANDICAP RAMPS SHALL BE BUILT IN CONFORMANCE WITH ADA CRITERIA AND LOCAL DESIGN STANDARDS.

11. THE CONTRACTOR IS RESPONSIBLE TO REMOVE ALL THE REMOVED/DEMOLISHED MATERIAL FROM THE PROJECT SITE AND DISPOSE OF SAME IN A LEGAL MANNER.

12. TYING TO EXISTING PAVEMENT: EXISTING PAVEMENT SHALL BE NEATLY SAW CUT TO A STRAIGHT LINE AND ALL PAVING ON THE NEW PAVEMENT SIDE OF THE CUT SHALL BE COMPLETELY REMOVED AND REPLACED WITH SPECIFIED MATERIALS. THE CUT LINE SHALL BE FULL-DEPTH AND COATED WITH A TACK COAT TO FURNISH A BOND BETWEEN THE EXISTING SURFACE COURSE AND THE NEW SURFACE COURSE.

13. TYING TO EXISTING CURB/GUTTER: THE EXISTING PAVEMENT SHALL BE NEATLY SAW CUT AND REMOVED FOR A DISTANCE OF 3 FEET FROM FACE OF THE CURB AND 3 FEET FROM THE EDGE OF CURB AND GUTTER AND THE SUBGRADE, BASE COURSE, AND PAVING REPLACED WITH NEW PRODUCTS.

14. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO KIMLEY-HORN & ASSOCIATES, INC. AT THE TIME OF PLAN PREPARATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY KIMLEY-HORN & ASSOCIATES, INC. IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK WOULD BE INHIBITED BY ANY OTHER SITE FEATURES.

15. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER AND OWNER IN WRITING IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

16. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/BUILDING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY LOCATIONS.

17. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED THEREON, WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION FOR SUCH DEVIATIONS FROM THE OWNER AND ENGINEER, IT SHALL BE RESPONSIBLE FOR THE PAYMENT OF ALL COSTS TO CORRECT ANY WORK DONE, ALL FINES OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ALL SUCH COSTS TO CORRECT ANY SUCH WORK AND FROM ALL SUCH FINES AND PENALTIES, COMPENSATION AND PUNITIVE DAMAGES AND COSTS OF ANY NATURE RESULTING THEREFROM.

CITY CONSTRUCTION AND DEMOLITION NOTES

1. SMOKING TO BE ALLOWED IN ONLY DESIGNATED SPACES WITH PROPER RECEPTACLES.

2. WASTE DISPOSAL OF COMBUSTIBLE DEBRIS SHALL BE REMOVED FROM THE BUILDING AT THE END OF EACH WORKDAY.

3. ACCESS TO THE BUILDING DURING DEMOLITION AND CONSTRUCTION SHALL BE MAINTAINED.

4. CUTTING AND WELDING. OPERATIONS INVOLVING THE USE OF CUTTING AND WELDING SHALL BE DONE IN ACCORDANCE WITH CHAPTER 26, OF THE INTERNATIONAL FIRE CODE, ADDRESSING WELDING AND HOTWORK OPERATIONS.

5. FIRE EXTINGUISHERS SHALL BE PROVIDED WITH NOT LESS THAN ONE APPROVED PORTABLE FIRE EXTINGUISHER AT EACH STAIRWAY ON ALL FLOOR LEVELS WHERE COMBUSTIBLE MATERIALS HAVE ACCUMULATED.

6. REQUIRED VEHICLE ACCESS FOR FIREFIGHTING SHALL BE PROVIDED TO ALL CONSTRUCTION OR DEMOLITION SITES. VEHICLE ACCESS SHALL BE PROVIDED TO WITHIN 100 FEET OF TEMPORARY OR PERMANENT FIRE DEPARTMENT CONNECTIONS. VEHICLE ACCESS SHALL BE PROVIDED BY EITHER TEMPORARY OR PERMANENT ROADS, CAPABLE OF SUPPORTING VEHICLE LOADING UNDER ALL WEATHER CONDITIONS. VEHICLE ACCESS SHALL BE MAINTAINED UNTIL PERMANENT FIRE APPARATUS ACCESS ROADS ARE AVAILABLE.

7. THE OWNER SHALL DESIGNATE A PERSON TO BE THE FIRE PREVENTION PROGRAM SUPERINTENDENT WHO SHALL BE RESPONSIBLE FOR THE FIRE PREVENTION PROGRAM AND ENSURE THAT IT IS CARRIED OUT THROUGH COMPLETION OF THE PROJECT. THE FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL HAVE THE AUTHORITY TO THE PROVISIONS OF THIS CHAPTER AND OTHER PROVISIONS AS NECESSARY TO SECURE THE INTENT OF THIS CHAPTER. WHERE GUARD SERVICE IS PROVIDED, THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE GUARD SERVICE.

8. THE FIRE PREVENTION PROGRAM SUPERINTENDENT SHALL DEVELOP AND MAINTAIN AN APPROVED PREFIRE PLAN IN COOPERATION WITH THE FIRE CHIEF. THE FIRE CHIEF AND THE FIRE CODE OFFICIAL SHALL BE NOTIFIED OF CHANGES AFFECTING THE UTILIZATION OF INFORMATION CONTAINED IN SUCH PREFIRE PLANS.

9. A SITE SPECIFIC FIRE PREVENTION PLAN SHALL BE SUBMITTED TO THE FIRE MARSHAL'S OFFICE PRIOR TO COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION.

10. WHERE A BUILDING IS BEING DEMOLISHED AND A STANDPIPE IS EXISTING WITHIN SUCH A BUILDING, SUCH STANDPIPE SHALL BE MAINTAINED IN AN OPERABLE CONDITION SO AS TO BE AVAILABLE FOR USE BY THE FIRE DEPARTMENT. SUCH STANDPIPE SHALL BE DEMOLISHED WITH THE BUILDING BUT SHALL NOT BE DEMOLISHED MORE THAN ONE FLOOR BELOW THE FLOOR BEING DEMOLISHED.

DRAINAGE / STORMWATER NOTES

1. ALL STORM SEWER PIPES, MANHOLES, AND CURB INLETS SHALL BE CLEANED OF DEBRIS AND ERODED MATERIALS AT THE LAST STAGES OF CONSTRUCTION.

2. ALL STORM SEWER PIPES SHALL BE REINFORCED CONCRETE TONGUE AND GROOVE CONFORMING TO ASTM C-76. ALL STORM DRAINAGE PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED. CONCRETE PIPE JOINTS SHALL BE SEALED WITH A RING OF MASTIC TYPE MATERIAL SUCH AS RAM-NEK, RUBRNEK, OR BUTYL-TITE, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS, AND CONFORMING TO ASTM C-76. THE CONTRACTOR SHALL WRAP AND STRAP EACH PIPE JOINT WITH A THREE (3) FOOT WIDE STRIP OF NON-WOVEN GEOTEXTILE FABRIC AND NON-METALLIC STRAPS. THE INSIDE OF ALL CONCRETE PIPE JOINTS SHALL BE MORTARED TO THE SPRINGLINE OF THE PIPE. WHERE PIPES ENTER STRUCTURES, THE OUTSIDE OF THE PIPE/STRUCTURE JOINT SHALL BE FULLY MORTARED. VERTICAL CLEARANCE OF 18" BETWEEN STORM AND OTHER UTILITIES IS REQUIRED UNLESS OTHERWISE NOTED.

3. ALL EXISTING STORM SEWER PIPES, DROP INLETS, AND CURB INLETS BEING UTILIZED BY A PART OF THE DRAINAGE SYSTEM SHALL BE CLEANED OF ERODED MATERIAL AT ALL STAGES OF CONSTRUCTION, AS DIRECTED BY THE ENGINEER. THE COST INCIDENTAL TO THIS IS TO BE INCLUDED IN THE CONTRACT PRICE FOR THE OTHER DRAINAGE ITEMS.

4. STORM SEWER PIPES AS SHOWN ON THE PLANS ARE MEASURED FROM THE CENTERLINE OF EACH STRUCTURE AND INVERT ELEVATIONS ARE ESTABLISHED BASED ON THIS CENTER LINE DISTANCE. LENGTH CALL OUTS FOR PIPES WITH FLARED END SECTIONS WILL BE MEASURED TO THE JOINT. CONTRACTOR SHALL LOCATE ALL END SECTIONS TO MATCH THE BANK SLOPE AND THE PIPE SLOPE SHALL BE ADJUSTED AS NECESSARY.

5. ALL DROP INLETS AND CURB INLETS SHALL HAVE VDOT STD. IS-1 SHAPING, WHERE APPLICABLE.

6. BOOT CONNECTIONS SHALL BE PROVIDED FOR ALL PLASTIC PIPES THAT TIE INTO A CONCRETE STRUCTURE.

7. GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START. SEE EXISTING CONDITIONS SHEET FOR UTILITY CONTACT INFORMATION.

8. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND APPROVED BY APPLICABLE AUTHORITY. CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.

9. ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED AND LOCATED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.

10. CONTRACTOR SHALL INSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FLOW ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET FLOW OVERLAND.

11. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL V.S.M.P. PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

12. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY.

13. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL PERIODICALLY INSPECT ALL EROSION CONTROL MEASURES AND CHECK FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. INSPECTIONS SHALL OCCUR EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EACH RUNOFF PRODUCING RAINFALL EVENT (GREATER THAN ONE-HALF INCH OF RAINFALL). ALL DISTURBED AREAS SHALL BE EVALUATED TO DETERMINE IF THE MEASURES ARE FUNCTIONING PROPERLY. ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY. ANY NECESSARY REPAIRS TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND CLEANUP OF SEDIMENTATION ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE IMMEDIATELY.

2. THE CONTRACTOR SHALL LIMIT SITE ACCESS BY CONSTRUCTION VEHICLES TO ENTRANCES PROTECTED BY AN EXISTING PAVEMENT OR STONE STABILIZED CONSTRUCTION ENTRANCE OR AN APPROVED COMPARABLE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED FROM PAVED AREAS ON A DAILY BASIS.

3. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES DURING CONSTRUCTION AND ANY ADDITIONAL CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED NECESSARY BY THE PLAN APPROVING AUTHORITY. MAINTENANCE SHALL BE PERFORMED TO ALLOW ALL EROSION AND SEDIMENT CONTROLS TO FUNCTION AS INTENDED.

4. AREAS NOT TO BE DISTURBED SHALL BE CLEARLY MARKED BY FENCING, FLAGS, SIGNS, OR OTHER HIGHLY VISIBLE METHODS.

5. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR HIS DESIGNATED AGENT, IS UNIFORM AND MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. VEGETATIVE COVER SHALL BE ESTABLISHED ACCORDING TO THE SEEDING SCHEDULE. (HYDROSEEDING MAY BE USED IN PLACE OF MULCHING ON AREAS OTHER THAN DITCH BANKS.) STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIVERSIONS, AND DITCH OR WATERCOURSE BEDS AND BANKS IMMEDIATELY AFTER INSTALLATION.

6. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED AT LEAST ONE (1) WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE (1) WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE (1) WEEK PRIOR TO THE FINAL INSPECTION.

7. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, SEDIMENTATION TANK OR STRAW BALE/SILT FENC PIT, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT ADJACENT PROPERTIES, WETLANDS, WATERWAYS, OR THE STORM DRAINAGE SYSTEM.CONTRACTOR IS RESPONSIBLE FOR SIZING TANK OR PITS BASED ON PROPOSED FLOWS FROM DEWATERING OPERATIONS. THIS INCLUDES THE USE OF MULTIPLE FACILITIES, IF NECESSARY. GRAVITY BAG FILTERS MAY BE USED IN LIEU OF SEDIMENTATION TANKS OR STRAW BALE/SILT FENCE PITS FOR MINOR DEWATERING OPERATIONS. THESE METHODS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION AND USE.

8. THE CONTRACTOR SHALL USE SOIL STABILIZATION BLANKETS OR MATTING, OR APPROVED EQUIVALENT, BETWEEN THE BACK OF CURB, SIDEWALK, OR SHOULDER AND THE RIGHT-OF-WAY LINE ALONG ALL ROADWAYS WITH 4:1 OR GREATER SIDE SLOPES.

9. FAILURE OF THE CONTRACTOR TO ADHERE TO THE EROSION AND SEDIMENT CONTROL PLAN OR FOLLOW THE MINIMUM STANDARDS SHALL BE A BREACH OF CONTRACT.

DEMOLITION / LAND DISTURBANCE NOTES

1. PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS RESPONSIBLE FOR/TO:
   - A. ENSURING THAT COPIES OF ALL APPLICABLE PERMITS AND APPROVALS ARE MAINTAINED ON SITE AND AVAILABLE FOR REVIEW.
   - B. INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL AND/OR TREE PROTECTION MEASURES PRIOR TO SITE DISTURBANCE.
   - C. LOCATING (VERTICALLY AND HORIZONTALLY) ALL UTILITIES AND SERVICES, INCLUDING, BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.
   - E. FAMILIARIZING THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
   - F. COORDINATION WITH UTILITY COMPANIES & ADJACENT LANDOWNERS/BUSINESSES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE AFFECTED PARTIES.

2. NEITHER KIMLEY-HORN & ASSOCIATES, INC. NOR THE OWNER IS RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR IS TO PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLLOWING ALL OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY.

3. THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES.

4. IN THE ABSENCE OF SPECIFICATIONS, THE CONTRACTOR SHALL PERFORM EARTH MOVEMENT ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS, FOOTINGS, AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE WITH DIRECTION BY OWNER'S STRUCTURAL OR GEOTECHNICAL ENGINEER.

5. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH: THE "MANUAL ON UNIFORM TRAFFIC CONTROL," AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHTS-OF-WAY.

6. CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY.

7. CONTRACTOR SHALL USE DUST CONTROL MEASURES INCLUDING, BUT NOT LIMITED TO, USE OF WATER, MULCH, OR CHEMICAL DUST ADHESIVES AND CONTROL OF CONSTRUCTION SITE TRAFFIC TO LIMIT AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR IN ACCORDANCE WITH FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.

8. CONTRACTOR IS RESPONSIBLE TO SAFEGUARD SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF UNAUTHORIZED PERSONS AT ANY TIME.

9. THE DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.

10. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.

UTILITY NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES OR UTILITIES BY OTHERS AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

2. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.

3. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, DOOR ACCESS, AND EXTERIOR GRADING. THE UTILITY SERVICE SIZES ARE TO BE DETERMINED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED. THE JURISDICTION UTILITY REQUIREMENTS SHALL ALSO BE MET, AS WELL AS COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE.

4. THE CONTRACTOR SHALL PERFORM WHATEVER TEST EXCAVATION OR OTHER INVESTIGATION IS NECESSARY TO VERIFY TIE-IN INVERTS, LOCATIONS AND CLEARANCES, AND SHALL REPORT IMMEDIATELY ANY DISCREPANCIES TO KIMLEY- HORN AND ASSOCIATES, INC. AT (804) 673-3882.

5. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.

6. MAINTAIN A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN STORM, SANITARY, AND ALL UTILITIES (UNLESS OTHERWISE NOTED).

7. CROSS CONNECTION CONTROL AND BACK FLOW PREVENTION SHALL BE IN ACCORDANCE WITH THE VIRGINIA PLUMBING CODE.

8. CONTRACTOR SHALL COORDINATE WITH THE FIRE MARSHAL BEFORE INSTALLING FIRE LANE SIGNS AND MARKINGS.

9. ALL CLEANOUTS WITHIN VEHICULAR AREAS SHALL BE TRAFFIC BEARING.

10. IF APPLICABLE, CONTRACTOR TO PROVIDE CONDUIT TO DOUBLE DETECTOR CHECK VAULT SO THAT SUMP PUMPS MAY BE INSTALLED. CONTRACTOR TO COORDINATE WITH ARCHITECTURAL PLANS.

11. CONTRACTOR SHALL SAW CUT, REMOVE, AND REPLACE ASPHALT PAVEMENT AS NECESSARY TO INSTALL UNDERGROUND ELECTRIC, TELEPHONE, SANITARY SEWER, WATER, AND COMMUNICATION CONDUITS.

12. UNDERGROUND UTILITIES INSTALLED ON PRIVATE PROPERTY OR IN PRIVATE UTILITY EASEMENTS AND BUILDING RELATED STORM DRAINS SHALL BE DESIGNED AND INSTALLED PER THE CURRENT EDITION OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.

13. PROPOSED CROSSINGS WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.

14. THE RIM ELEVATIONS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS SHALL BE ADJUSTED, IF REQUIRED, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS.

MINIMUM STANDARDS (4VAC50-30-40)

AN EROSION AND SEDIMENT CONTROL PROGRAM ADOPTED BY A DISTRICT OR LOCALITY MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:

1. PERMANENT OF TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSION IMMEDIATELY AFTER INSTALLATION.

6. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.
   - A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.
   - B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A TWENTY-FIVE YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.

7. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

8. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

10. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

11. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

12. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE SUED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.

13. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.

14. ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS PERTAINING TO WORK IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
   - A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
   - B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
   - C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
   - D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
   - E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
   - F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

17. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.

18. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURE SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASE IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA:
   - A. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.
   - B. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:
     1. THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTIONS;
     2. OR
        - NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS OR CAUSE EROSION OF CHANNEL BED OR BANKS; AND
        - ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND
        - PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.
   - C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:
     1. IMPROVE THE CHANNEL TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL BED OR BANKS; OR
     2. IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR
     3. DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR
     4. PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING AUTHORITY TO PREVENT DOWNSTREAM EROSION.
   - D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.
   - E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT.
   - F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.
   - G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.
   - H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.
   - I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.
   - J. IN APPLYING THESE STORMWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.
   - K. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

No.	REVISIONS	DATE	BY

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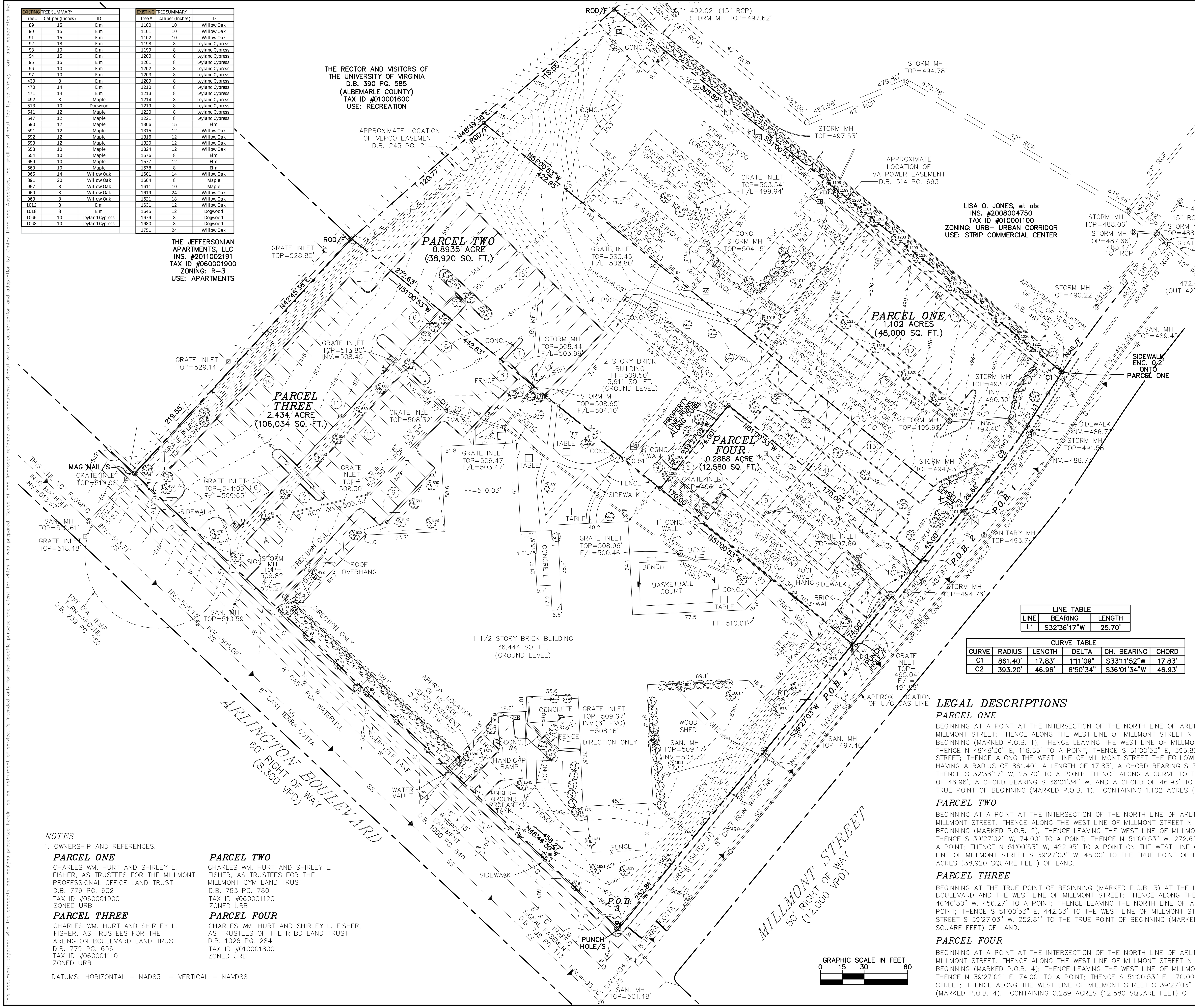
02-01-12

KHA PROJECT	113155000
DATE	02/01/2012
SCALE	AS SHOWN
DESIGNED BY	AFS
DRAWN BY	AFS
CHECKED BY	BJB

ARLINGTON AND MILLMONT
APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

GENERAL NOTES

SHEET NUMBER
CA-002



EXISTING TREE SUMMARY		
Tree #	Caliper (Inches)	ID
89	15	Elm
90	15	Elm
91	15	Elm
92	18	Elm
93	10	Elm
94	15	Elm
95	15	Elm
96	10	Elm
97	10	Elm
430	8	Elm
470	14	Elm
471	14	Elm
492	8	Maple
513	10	Dogwood
541	12	Maple
547	12	Maple
590	12	Maple
591	12	Maple
592	12	Maple
593	12	Maple
653	10	Maple
654	10	Maple
659	10	Maple
660	10	Maple
865	14	Willow Oak
891	20	Willow Oak
957	8	Willow Oak
960	8	Willow Oak
963	8	Willow Oak
1012	8	Elm
1018	8	Elm
1066	10	Leyland Cypress
1068	10	Leyland Cypress

EXISTING TREE SUMMARY		
Tree #	Caliper (Inches)	ID
1100	10	Willow Oak
1101	10	Willow Oak
1102	10	Willow Oak
1198	8	Leyland Cypress
1199	8	Leyland Cypress
1200	8	Leyland Cypress
1201	8	Leyland Cypress
1202	8	Leyland Cypress
1203	8	Leyland Cypress
1209	8	Leyland Cypress
1210	8	Leyland Cypress
1213	8	Leyland Cypress
1214	8	Leyland Cypress
1219	8	Leyland Cypress
1220	8	Leyland Cypress
1221	8	Leyland Cypress
1306	15	Elm
1315	12	Willow Oak
1316	12	Willow Oak
1320	12	Willow Oak
1324	12	Willow Oak
1576	8	Elm
1577	12	Elm
1578	8	Elm
1601	14	Willow Oak
1604	8	Maple
1611	10	Maple
1619	24	Willow Oak
1621	18	Willow Oak
1631	12	Willow Oak
1645	12	Dogwood
1679	8	Dogwood
1680	8	Dogwood
1751	24	Willow Oak

LEGEND

- SHRUB
- TREE
- HANDICAP PARKING SPACE
- NUMBER OF STANDARD PARKING SPACES
- SIGN
- DRAIN MANHOLE
- WATER MANHOLE
- SANITARY MANHOLE
- LIGHT POLE
- UTILITY POLE
- FIRE HYDRANT
- WATER VALVE
- ELECTRIC BOX
- GRATE INLET
- CLEANOUT
- BASKETBALL GOAL
- WATER METER
- TRAFFIC BOX
- HVAC UNIT
- TRAFFIC SIGNAL POLE
- ELECTRIC VAULT
- GAS METER
- OVERHEAD TELEPHONE LINE
- OVERHEAD ELECTRIC LINE
- GUARD RAIL
- UNDERGROUND GAS LINE
- FENCE
- UNDERGROUND ELECTRIC
- UNDERGROUND TELEPHONE
- UNDERGROUND TRAFFIC
- UNDERGROUND CABLE T.V.
- UNDERGROUND WATER

LINE TABLE		
LINE	BEARING	LENGTH
L1	S32°36'17"W	25.70'

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CH. BEARING	CHORD
C1	861.40'	17.83'	1°11'09"	S33°11'52"W	17.83'
C2	393.20'	46.96'	6°50'34"	S36°01'34"W	46.93'

NOTES

1. OWNERSHIP AND REFERENCES:

PARCEL ONE

CHARLES WM. HURT AND SHIRLEY L. FISHER, AS TRUSTEES FOR THE MILLMONT PROFESSIONAL OFFICE LAND TRUST
D.B. 779 PG. 632
TAX ID #060001900
ZONED URB

PARCEL TWO

CHARLES WM. HURT AND SHIRLEY L. FISHER, AS TRUSTEES FOR THE MILLMONT GYM LAND TRUST
D.B. 783 PG. 780
TAX ID #060001120
ZONED URB

PARCEL THREE

CHARLES WM. HURT AND SHIRLEY L. FISHER, AS TRUSTEES FOR THE ARLINGTON BOULEVARD LAND TRUST
D.B. 779 PG. 656
TAX ID #060001110
ZONED URB

PARCEL FOUR

CHARLES WM. HURT AND SHIRLEY L. FISHER, AS TRUSTEES OF THE RFBD LAND TRUST
D.B. 1026 PG. 284
TAX ID #010001800
ZONED URB

DATUMS: HORIZONTAL – NAD83 – VERTICAL – NAVD88

LEGAL DESCRIPTIONS

PARCEL ONE

BEGINNING AT A POINT AT THE INTERSECTION OF THE NORTH LINE OF ARLINGTON BOULEVARD AND THE WEST LINE OF MILLMONT STREET; THENCE ALONG THE WEST LINE OF MILLMONT STREET N 39°27'03" W, 371.81' TO THE TRUE POINT OF BEGINNING (MARKED P.O.B. 1); THENCE LEAVING THE WEST LINE OF MILLMONT STREET N 51°00'53" W, 422.95' TO A POINT; THENCE N 48°49'36" E, 118.55' TO A POINT; THENCE S 51°00'53" E, 395.82' TO A POINT ON THE WEST LINE OF MILLMONT STREET; THENCE ALONG THE WEST LINE OF MILLMONT STREET THE FOLLOWING FOUR COURSES: ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 861.40', A LENGTH OF 17.83', A CHORD BEARING S 33°11'52" W, AND A CHORD OF 17.83' TO A POINT; THENCE S 32°36'17" W, 25.70' TO A POINT; THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 393.20', A LENGTH OF 46.96', A CHORD BEARING S 36°01'34" W, AND A CHORD OF 46.93' TO A POINT; THENCE S 39°27'03" W, 26.66' TO THE TRUE POINT OF BEGINNING (MARKED P.O.B. 1). CONTAINING 1.102 ACRES (48,000 SQUARE FEET) OF LAND.

PARCEL TWO

BEGINNING AT A POINT AT THE INTERSECTION OF THE NORTH LINE OF ARLINGTON BOULEVARD AND THE WEST LINE OF MILLMONT STREET; THENCE ALONG THE WEST LINE OF MILLMONT STREET N 39°27'03" W, 326.81' TO THE TRUE POINT OF BEGINNING (MARKED P.O.B. 2); THENCE LEAVING THE WEST LINE OF MILLMONT STREET N 51°00'53" W, 170.00' TO A POINT; THENCE S 39°27'02" W, 74.00' TO A POINT; THENCE N 51°00'53" W, 272.63' TO A POINT; THENCE N 48°49'36" E, 120.77' TO A POINT; THENCE N 51°00'53" W, 422.95' TO A POINT ON THE WEST LINE OF MILLMONT STREET; THENCE ALONG THE WEST LINE OF MILLMONT STREET S 39°27'03" W, 45.00' TO THE TRUE POINT OF BEGINNING (MARKED P.O.B. 2). CONTAINING 0.893 ACRES (38,920 SQUARE FEET) OF LAND.

PARCEL THREE

BEGINNING AT THE TRUE POINT OF BEGINNING (MARKED P.O.B. 3) AT THE INTERSECTION OF THE NORTH LINE OF ARLINGTON BOULEVARD AND THE WEST LINE OF MILLMONT STREET; THENCE ALONG THE NORTH LINE OF ARLINGTON BOULEVARD N 46°46'30" W, 456.27' TO A POINT; THENCE LEAVING THE NORTH LINE OF ARLINGTON BOULEVARD N 42°45'38" E, 219.55' TO A POINT; THENCE S 51°00'53" E, 442.63' TO THE WEST LINE OF MILLMONT STREET; THENCE ALONG THE WEST LINE OF MILLMONT STREET S 39°27'03" W, 252.81' TO THE TRUE POINT OF BEGINNING (MARKED P.O.B. 3). CONTAINING 2.434 ACRES (106,034 SQUARE FEET) OF LAND.

PARCEL FOUR

BEGINNING AT A POINT AT THE INTERSECTION OF THE NORTH LINE OF ARLINGTON BOULEVARD AND THE WEST LINE OF MILLMONT STREET; THENCE ALONG THE WEST LINE OF MILLMONT STREET N 39°27'03" W, 252.81' TO THE TRUE POINT OF BEGINNING (MARKED P.O.B. 4); THENCE LEAVING THE WEST LINE OF MILLMONT STREET N 51°00'53" W, 170.00' TO A POINT; THENCE N 39°27'02" E, 74.00' TO A POINT; THENCE S 51°00'53" E, 170.00' TO A POINT ON THE WEST LINE OF MILLMONT STREET; THENCE ALONG THE WEST LINE OF MILLMONT STREET S 39°27'03" W, 74.00' TO THE TRUE POINT OF BEGINNING (MARKED P.O.B. 4). CONTAINING 0.289 ACRES (12,580 SQUARE FEET) OF LAND.

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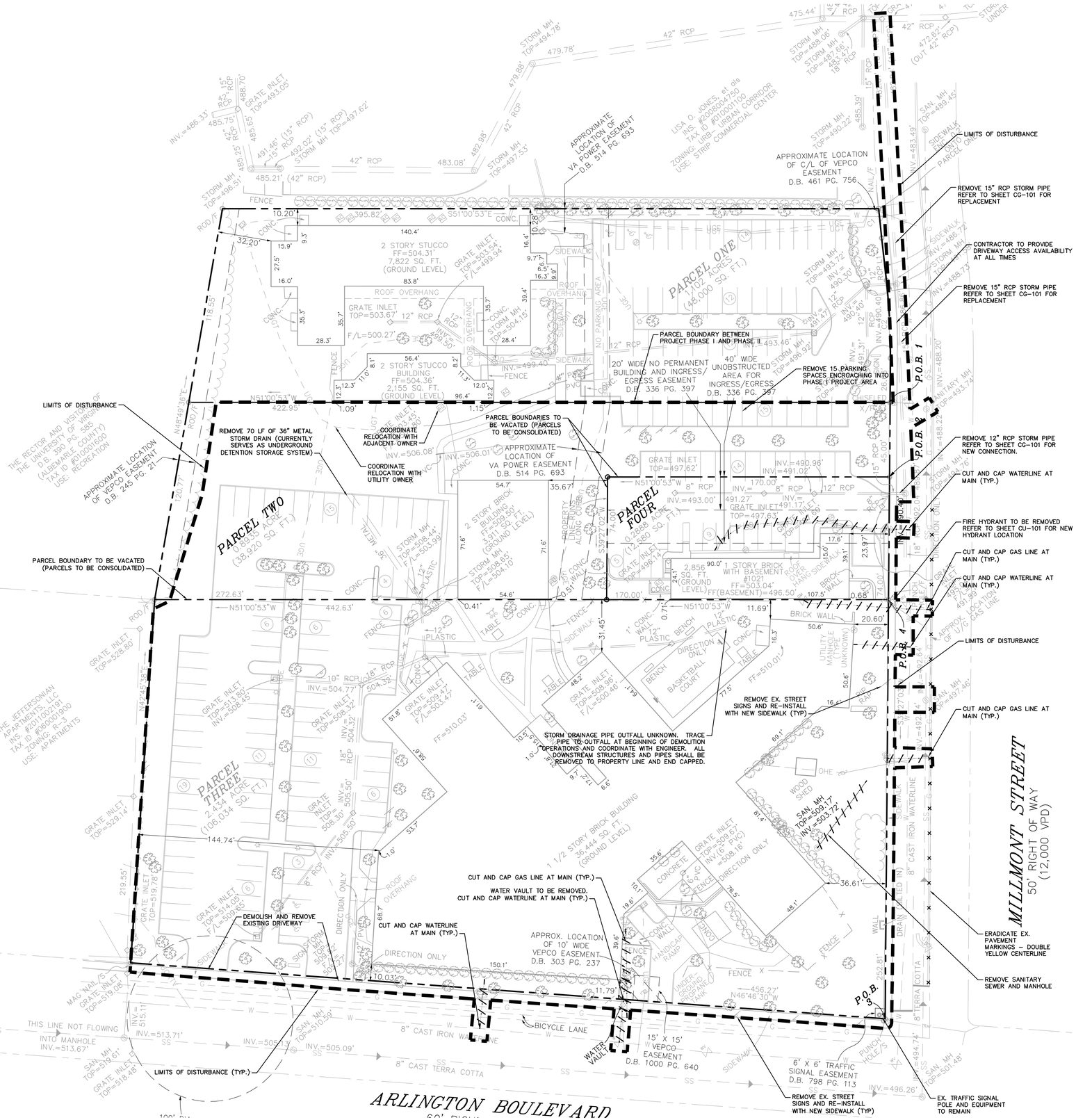
No.	REVISIONS	DATE	BY

KHA PROJECT 113155000
DATE 02/01/2012
SCALE AS SHOWN
DESIGNED BY AFS
DRAWN BY AFS
CHECKED BY BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

EXISTING CONDITIONS

SHEET NUMBER
CV-100



LEGEND

LIMITS OF DISTURBANCE

DEMO WATER, SEWER, GAS -/ / / / / / / / / / / / / / /-

DEMOLITION PLAN NOTES

1. THIS DEMOLITION PLAN IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION AND FOR THE DEMOLITION, REMOVAL, OR RELOCATION OF ITEMS IN CONFLICT WITH THE PROPOSED CONSTRUCTION. IN GENERAL AND UNLESS NOTED OTHERWISE, ALL ITEMS SHOWN INSIDE THE LIMITS OF DISTURBANCE ON THIS SHEET SHALL BE DEMOLISHED, REMOVED, AND/OR RELOCATED DURING PHASE I OF THIS PROJECT.
2. ALL ABANDONED UTILITY STUBS SHALL BE CUT AND CAPPED AT THE MAIN LINE. CONTRACTOR SHALL REMOVE AND REPLACE PAVEMENT IN THE RIGHT-OF-WAY AS NECESSARY. REFER TO SHEET CS-502 FOR PAVEMENT REPAIR DETAIL.
3. ALL CONCRETE CURB AND SIDEWALK ALONG PROJECT ROAD FRONTAGE TO BE REMOVED. REFER TO SHEETS CS-101 AND CS-102 FOR REPLACEMENT.
4. A CITY INSPECTION IS REQUIRED FOR REMOVAL OR INSTALLATION OF STORM PIPES AND STRUCTURES WITHIN THE RIGHT-OF-WAY.
5. CONTRACTOR TO CONTACT THE CITY PRIOR TO ABANDONMENT OF ANY WATER OR FIRE SERVICE LINES AT LEAST 48 HOURS IN ADVANCE. EXISTING WATER METERS ARE TO BE REMOVED BY THE CITY.
6. A TEMPORARY STREET CLOSURE PERMIT IS REQUIRED FOR CLOSURE OF SIDEWALKS, PARKING SPACES AND ROADWAYS AND IS SUBJECT TO APPROVAL BY THE CITY TRAFFIC ENGINEER.
7. ALL PAVEMENT REMOVAL REQUIRED FOR CONSTRUCTION SHALL ULTIMATELY BE REPLACED IN ACCORDANCE WITH THE PERMANENT PAVEMENT REPAIR DETAIL PROVIDED ON SHEET CS-502. IF A TEMPORARY PAVEMENT REPAIR IS NEEDED DURING CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL COORDINATE THE TEMPORARY REPAIR WITH THE CITY FOR APPROVAL.

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.
1700 WILLOW LAWN DR., SUITE 200, RICHMOND, VA. 23230
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WWW.KIMLEY-HORN.COM

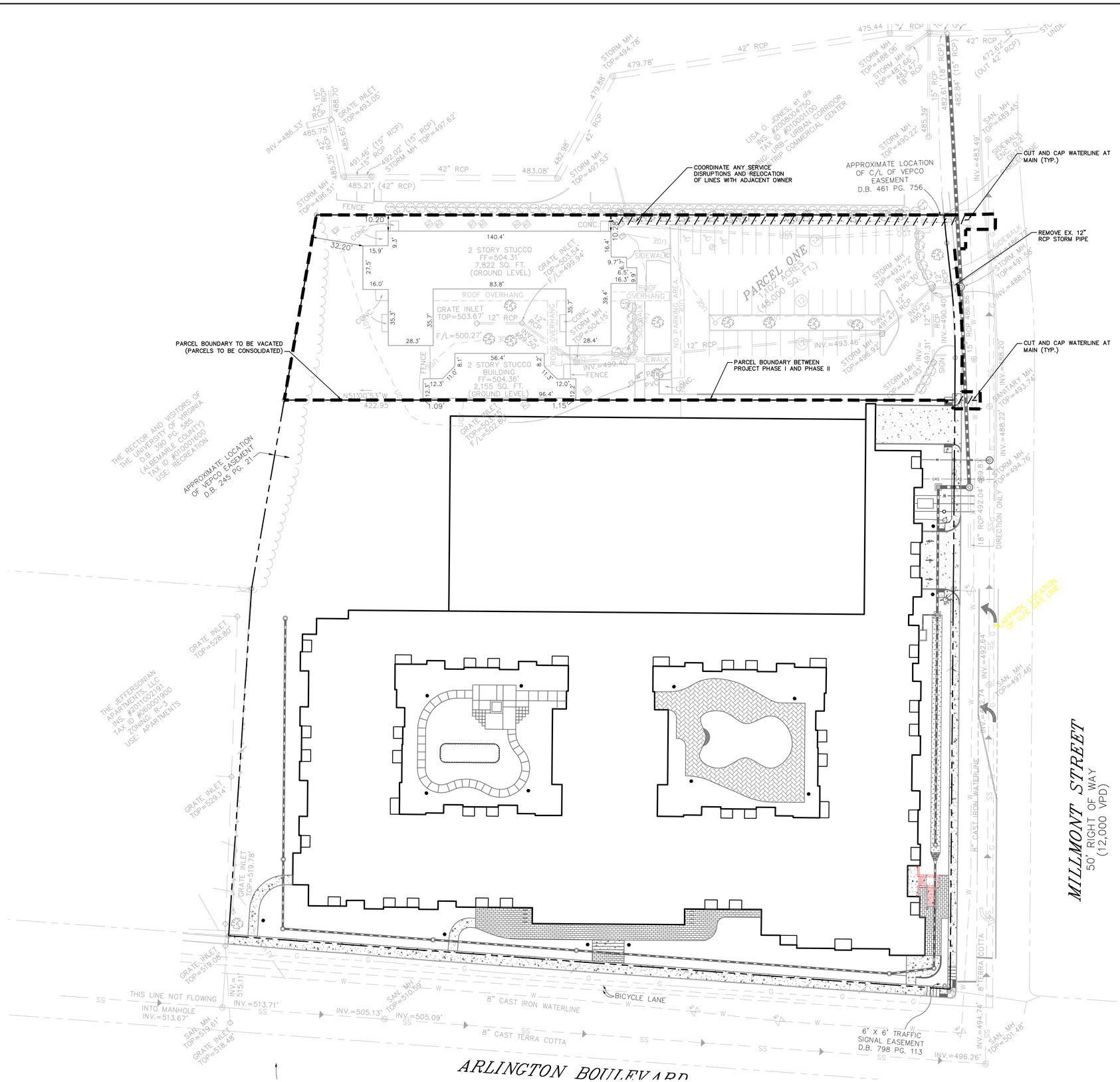
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000			
DATE	02/01/2012		
SCALE	AS SHOWN	DESIGNED BY	AFS
		DRAWN BY	AFS
		CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

DEMOLITION PLAN - PHASE 1

SHEET NUMBER
CD-101



LEGEND

LIMITS OF DISTURBANCE

DEMO WATER AND SEWER

DEMOLITION PLAN NOTE

1. THIS DEMOLITION PLAN IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION AND FOR THE DEMOLITION, REMOVAL, OR RELOCATION OF ITEMS IN CONFLICT WITH THE PROPOSED CONSTRUCTION. IN GENERAL AND UNLESS NOTED OTHERWISE, ALL ITEMS SHOWN INSIDE THE LIMITS OF DISTURBANCE ON THIS SHEET SHALL BE DEMOLISHED, REMOVED, AND/OR RELOCATED DURING PHASE II OF THIS PROJECT. ALL MATERIALS MUST BE LEGALLY DISPOSED AT A CITY APPROVED FACILITY.
2. ALL ABANDONED UTILITY STUBS SHALL BE CUT AND CAPPED AT THE MAIN LINE. CONTRACTOR SHALL REMOVE AND REPLACE PAVEMENT IN THE RIGHT-OF-WAY AS NECESSARY. REFER TO SHEET CS-502 FOR PAVEMENT REPAIR DETAIL.
3. ALL CONCRETE CURB AND SIDEWALK ALONG PROJECT ROAD FRONTAGE TO BE REMOVED. REFER TO SHEETS CS-101 AND CS-102 FOR REPLACEMENT.
4. A CITY INSPECTION IS REQUIRED FOR REMOVAL OR INSTALLATION OF STORM PIPES AND STRUCTURES WITHIN THE RIGHT-OF-WAY.
5. CONTRACTOR TO CONTACT THE CITY PRIOR TO ABANDONMENT OF ANY WATER OR FIRE SERVICE LINES AT LEAST 48 HOURS IN ADVANCE. EXISTING WATER METERS ARE TO BE REMOVED BY THE CITY.
6. A TEMPORARY STREET CLOSURE PERMIT IS REQUIRED FOR CLOSURE OF SIDEWALKS, PARKING SPACES AND ROADWAYS AND IS SUBJECT TO APPROVAL BY THE CITY TRAFFIC ENGINEER.
7. ALL PAVEMENT REMOVAL REQUIRED FOR CONSTRUCTION SHALL ULTIMATELY BE REPLACED IN ACCORDANCE WITH THE PERMANENT PAVEMENT REPAIR DETAIL PROVIDED ON SHEET CS-502. IF A TEMPORARY PAVEMENT REPAIR IS NEEDED DURING CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL COORDINATE THE TEMPORARY REPAIR WITH THE CITY FOR APPROVAL.

No.	REVISIONS	DATE	BY

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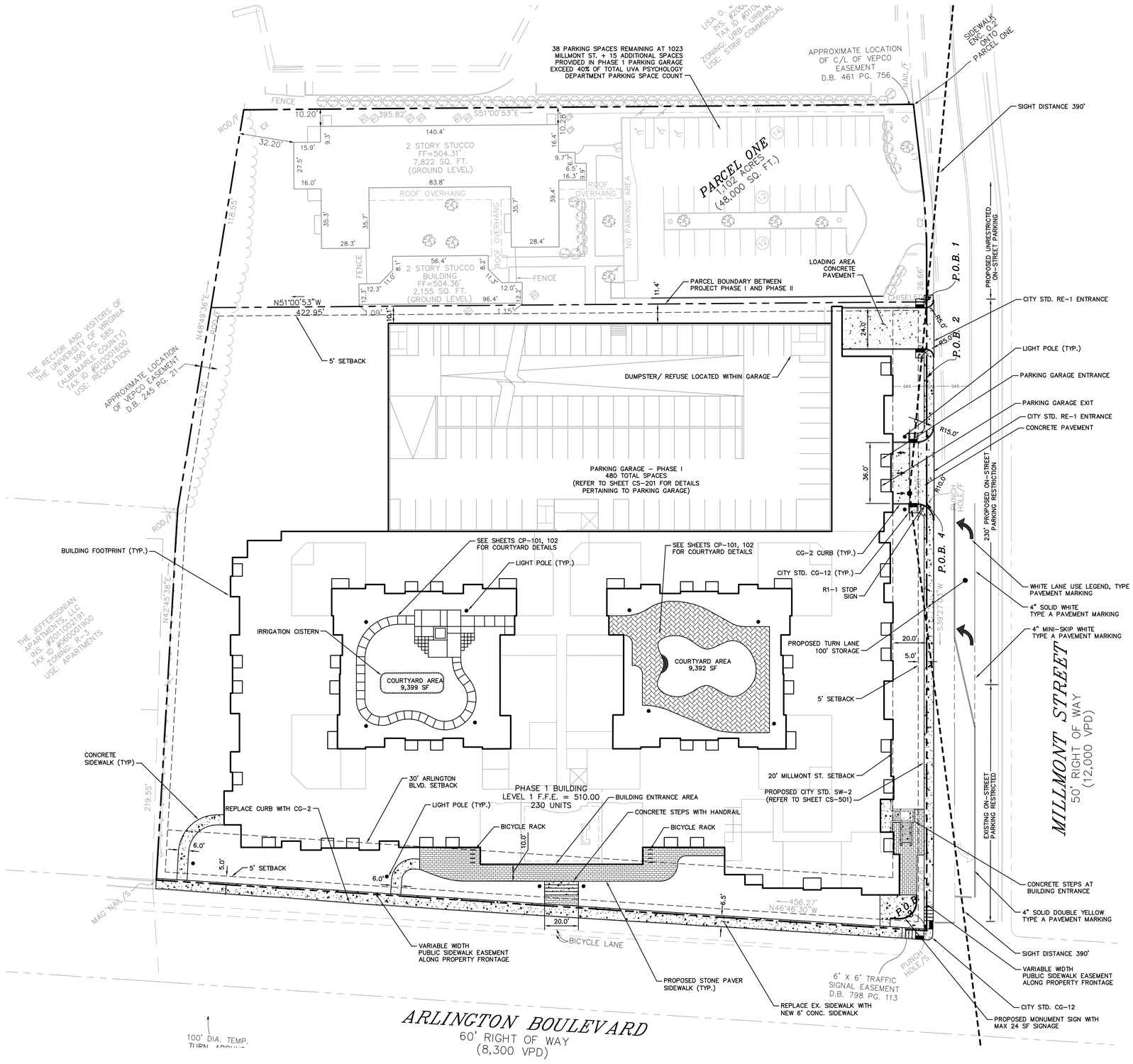
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT	113155000
DATE	02/01/2012
SCALE	AS SHOWN
DESIGNED BY	AFS
DRAWN BY	AFS
CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

DEMOLITION PLAN - PHASE 2

SHEET NUMBER
CD-102



ZONING INFORMATION

PROJECT: ARLINGTON AND MILLMONT APARTMENTS
LOCATION: NORTH QUADRANT OF ARLINGTON BLVD. AND MILLMONT ST. INTERSECTION
PROPOSED USE: APARTMENT COMPLEX / MULTI-FAMILY RESIDENTIAL
ZONING: URB - URBAN CORRIDOR

	CODE MAX.	S.U.P. MAX.	PROP. MAX.
BUILDING HEIGHT:	60 FT	80 FT	
# OF UNITS:	99	301	300

	CODE MIN.	CODE MAX.	PROP. MIN.*	PROP. MAX.*
FRONT SETBACK (ARLINGTON):	5 FT	30 FT	18.6 FT	41.4 FT
SIDE SETBACK (MILLMONT):	5 FT	20 FT	16.8 FT	50 FT
REAR SETBACK:	5 FT	NONE	33.4 FT	37.0 FT

* VARIANCE REQUESTED

	PHASE 1	PHASE 2	TOTAL
1 BR UNITS:	60	15	75
2 BR UNITS:	135	41	176
2 BR TOWNHOUSE UNITS:	6	0	6
3 BR UNITS:	29	14	43
TOTAL:	230	70	300

	PHASE 1	PHASE 2	TOTAL
PARKING REQ'D**:	259	84	343
PARKING PROP.:	480	139	619
ADA PARKING REQ'D:	7	8	8
ADA PARKING PROP.:	7	8	8

** PER CODE, 1 SPACE PER 1 OR 2 BR UNITS AND 2 SPACES PER 3 BR UNITS

PROPERTY INFORMATION

	ADDRESS	PARCEL ID #	AREA (SF)	AREA (AC)	EXISTING USE
PARCEL 1:	1023 MILLMONT ST.	060001900	48,000	1.102	UVA PSYCHOLOGY DEPT. BLDG.
PARCEL 2:	1021 MILLMONT ST.	060001120	38,920	0.893	JEFFERSON TRAIL BEHAVIORAL SYSTEM
PARCEL 3:	2101 ARLINGTON BLVD.	060001110	106,034	2.434	JEFFERSON TRAIL BEHAVIORAL SYSTEM
PARCEL 4:	1021 MILLMONT ST.	010001800	12,580	0.289	REGION TEN BUILDING

SITE INFORMATION

TOPOGRAPHY SOURCE: FIELD SURVEY BY JENNINGSTEPHENSON, P.C. DATED DECEMBER 15, 2011
HORIZONTAL DATUM: NAD 83
VERTICAL DATUM: NAVD 88

	TOTAL AREA (SF)	TOTAL AREA (AC)	IMPERV. AREA (SF)	IMPERV. AREA (AC)	IMPERV. COVERAGE	OPEN SPACE AREA (SF)	OPEN SPACE AREA (AC)	OPEN SPACE COVERAGE
EXISTING PHASE 1:	157,534	3.616	95,750	2.198	61%	61,784	1.418	39%
EXISTING PHASE 2:	48,000	1.102	29,450	0.676	61%	18,550	0.426	39%
EXISTING TOTAL:	205,534	4.718	125,200	2.874	61%	80,334	1.844	39%
PROPOSED PHASE 1:	157,534	3.616	102,100	2.344	65%	55,434	1.273	35%
PROPOSED PHASE 2:	48,000	1.102	25,700	0.590	54%	22,300	0.512	46%
PROPOSED TOTAL:	205,534	4.718	127,800	2.934	62%	77,734	1.785	38%

TRAFFIC INFORMATION

SOURCE: TRIP GENERATION, ITE 8TH EDITION, 2008, ITE USE CODE 220

	SIZE	DAILY	AM PEAK IN	AM PEAK OUT	AM PEAK TOTAL	PM PEAK IN	PM PEAK OUT	PM PEAK TOTAL
PROPOSED PHASE 1:	230 UNITS	1517	37	90	127	93	60	153
PROPOSED PHASE 2:	70 UNITS	548	12	28	40	35	22	57
PROPOSED TOTAL:		2065	49	118	167	128	82	210

SITE PLAN NOTES

1. ALL DIMENSIONS TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

No.	REVISIONS	DATE	BY

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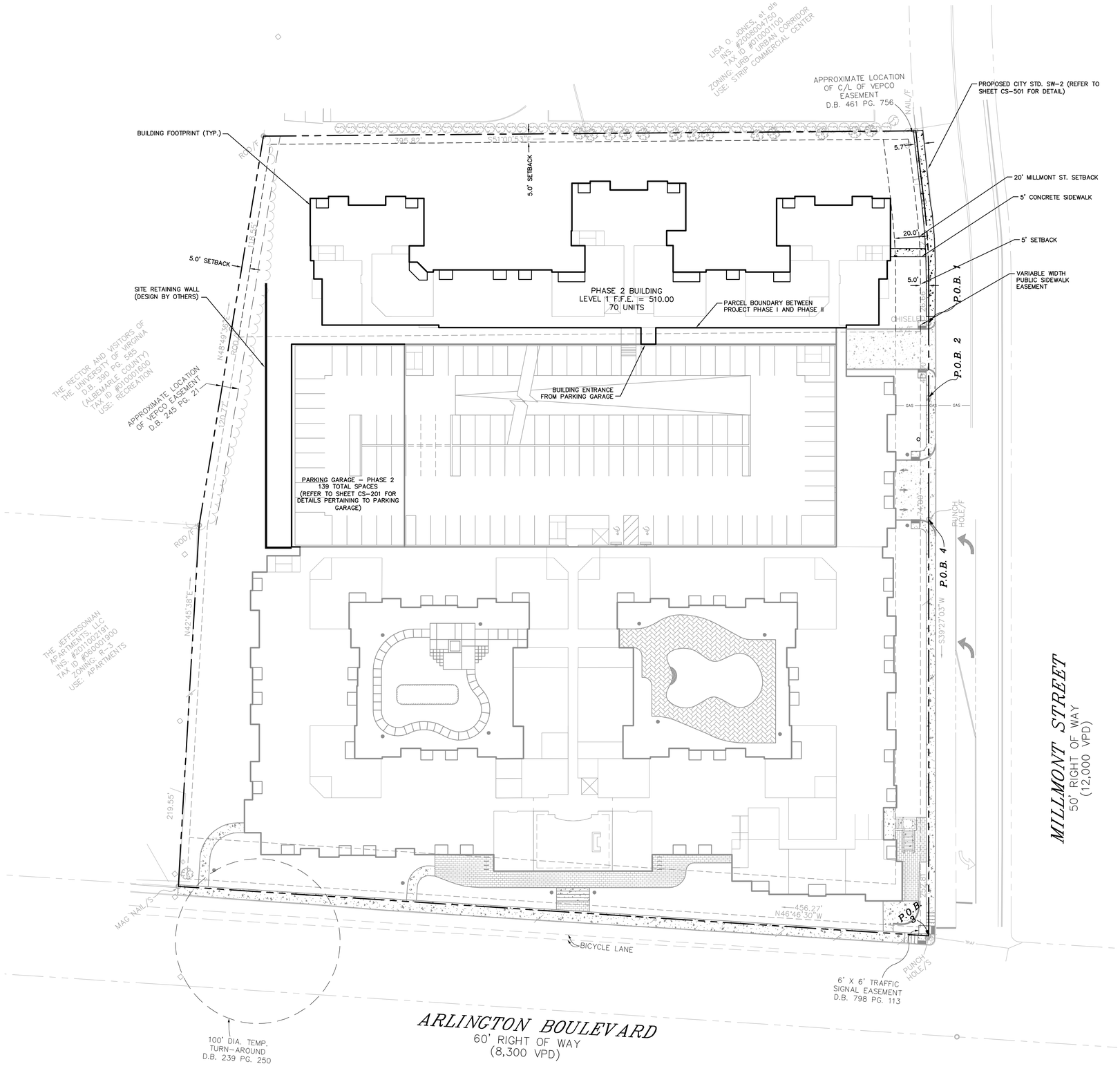
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT	113155000
DATE	02/01/2012
SCALE	AS SHOWN
DESIGNED BY	AFS
DRAWN BY	AFS
CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

SITE PLAN - PHASE 1

SHEET NUMBER
CS-101



ZONING INFORMATION

PROJECT: ARLINGTON AND MILLMONT APARTMENTS
LOCATION: NORTH QUADRANT OF ARLINGTON BLVD. AND MILLMONT ST. INTERSECTION
PROPOSED USE: APARTMENT COMPLEX / MULTI-FAMILY RESIDENTIAL
ZONING: URB - URBAN CORRIDOR

	CODE MAX.	S.U.P. MAX.	PROP. MAX.
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# OF UNITS:	99	301	300

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TOTAL:	230	70	300

	PHASE 1	PHASE 2	TOTAL
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PARKING PROP.:	480	139	619
ADA PARKING REQ'D:	7	8	8
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SITE INFORMATION

TOPOGRAPHY SOURCE: FIELD SURVEY BY JENNINGSTEPHENSON, P.C. DATED DECEMBER 15, 2011
HORIZONTAL DATUM: NAD 83
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PROPOSED TOTAL:	205,534	4.718	127,800	2.934	62%	77,734	1.785	38%

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SOURCE: TRIP GENERATION, ITE 8TH EDITION, 2008, ITE USE CODE 220

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PROPOSED TOTAL:		2065	49	118	167	128	82	210

SITE PLAN NOTES

1. ALL DIMENSIONS TO FACE OF CURB UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSIONS

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

No.	REVISIONS	DATE	BY

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1700 WILLOW LAWN DR., SUITE 200, RICHMOND, VA 23230
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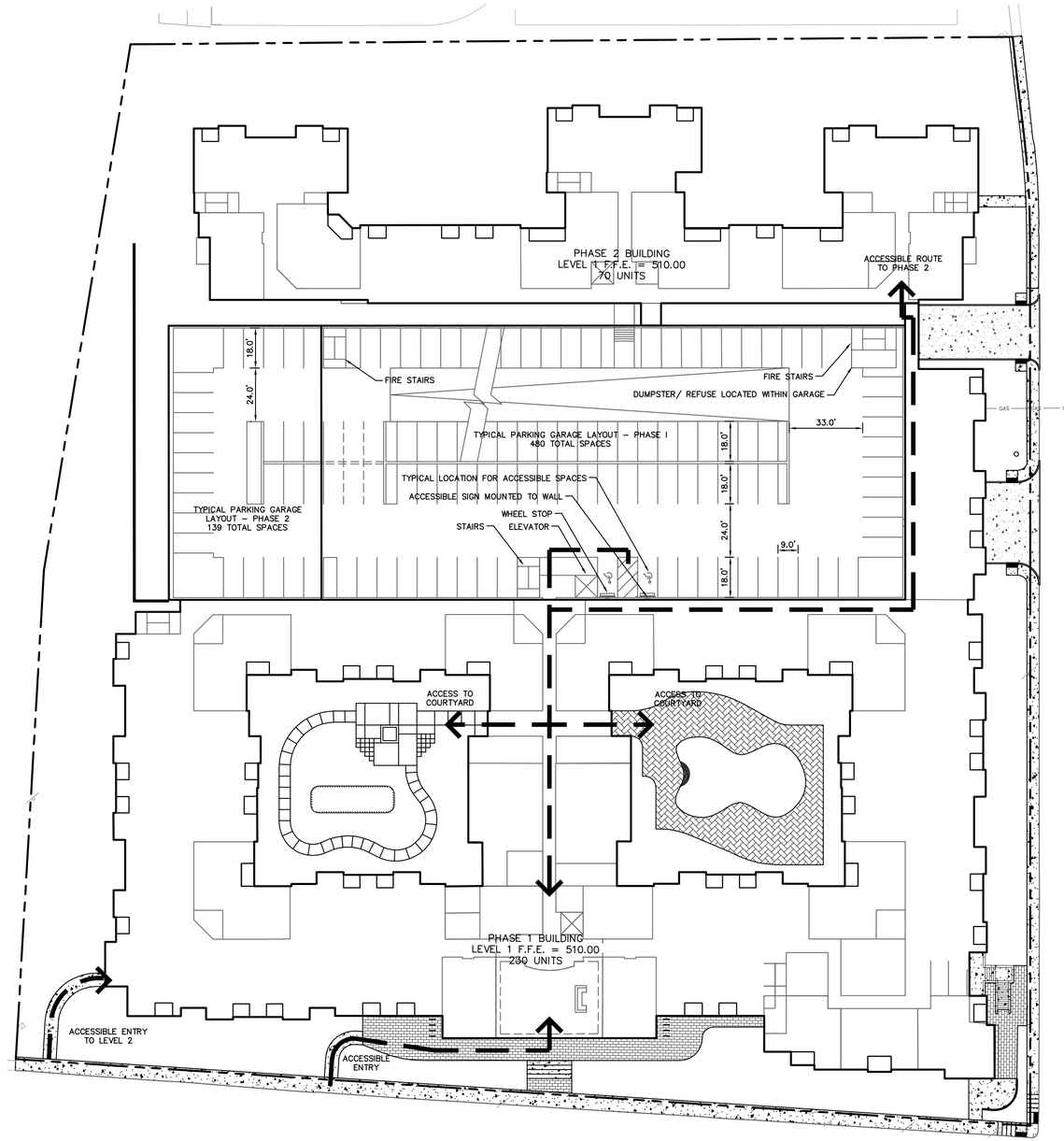
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000
DATE 02/01/2012
SCALE AS SHOWN
DESIGNED BY AFS
DRAWN BY AFS
CHECKED BY BJB

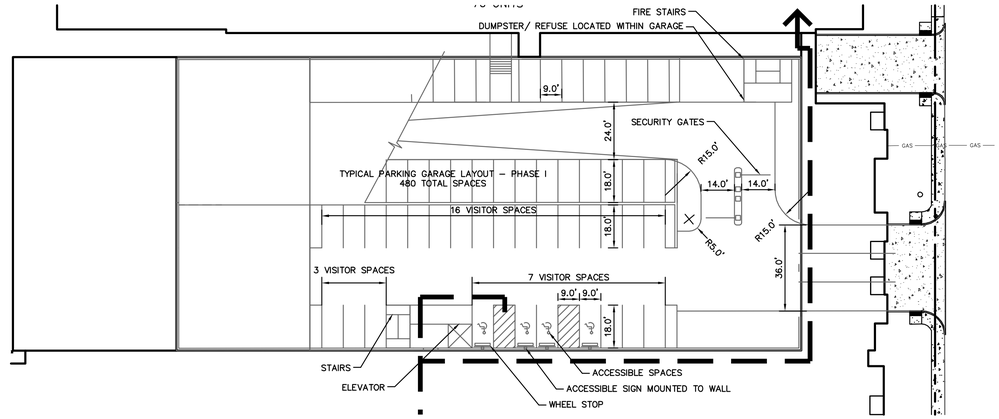
ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

SITE PLAN - PHASE 2

SHEET NUMBER
CS-102



PARKING GARAGE AND APARTMENT TYPICAL LAYOUT FOR LEVELS 1-5



PARKING GARAGE LAYOUT FOR "T" LEVEL

NOTE:

THE INFORMATION ON THIS SHEET IS FOR REFERENCE ONLY. PLEASE REFER TO ARCHITECTURAL PLANS FOR DETAILS

LEGEND:

ACCESSIBLE PATH ROUTE

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.
1700 WILLOW LAWN DR, SUITE 200, RICHMOND, VA 23230
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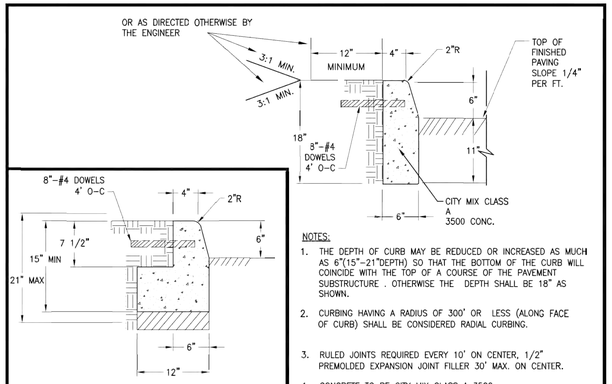
KHA PROJECT 113155000
DATE 02/01/2012
SCALE AS SHOWN
DESIGNED BY AFS
DRAWN BY AFS
CHECKED BY BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

TYPICAL FLOOR PLAN

SHEET NUMBER
CS-201



NOTES:

1. THE DEPTH OF CURB MAY BE REDUCED OR INCREASED AS MUCH AS 6"(15"-21"DEPTH) SO THAT THE BOTTOM OF THE CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE . OTHERWISE THE DEPTH SHALL BE 18" AS SHOWN.
2. CURBING HAVING A RADIUS OF 300' OR LESS (ALONG FACE OF CURB) SHALL BE CONSIDERED RADIAL CURBING.
3. RULED JOINTS REQUIRED EVERY 10' ON CENTER, 1/2" PREMOLDED EXPANSION JOINT FILLER 30' MAX. ON CENTER.
4. CONCRETE TO BE CITY MIX CLASS A 3500.

ACCEPTABLE ALTERNATE IF CURB IS EXTRUDED

CITY OF CHARLOTTESVILLE

REVISION	DATE

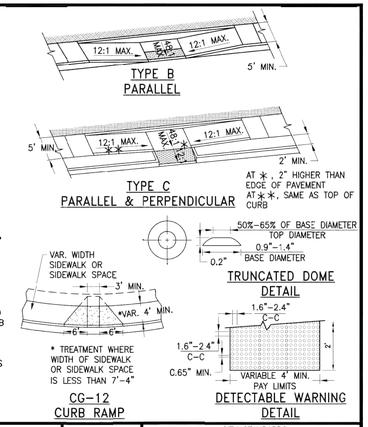
CITY STANDARDS

STANDARD CURBING

SCALE: N.T.S. | STANDARD NUMBER: CG-2

GENERAL NOTES:

1. DETECTABLE WARNING TO BE PRE-FORMED PLASTIC INSERT WITH SLIP RESISTANT SURFACE COVERING THE FULL WIDTH OF THE RAMP FLOOR BY 2 FOOT IN LENGTH IN THE DIRECTION OF TRAVEL.
2. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES. TRUNCATED DOMES TO BE STAMPED IN TOP SURFACE. THE COLOR OF THE DETECTABLE WARNING SECTION SHALL BE YELLOW.
3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
4. IF RAMP FLOOR IS PRECAST, HOLES MUST BE PROVIDED FOR DOWEL BARS SO THAT ADJOINING FLARED SIDES CAN BE CAST IN PLACE AFTER PLACEMENT OF PRECAST RAMP FLOOR. PRECAST CONCRETE SHALL BE CLASS A-4.
5. REQUIRED BARS ARE TO BE NO. 5 X 8" PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 1 1/2".
6. RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
7. TYPICAL CONCRETE SIDEWALK IS 4" THICK. WHEN THE RAMP IS PLACED IN THE CURB RETURN RADIUS IT SHALL BE 7" THICK.
8. WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.



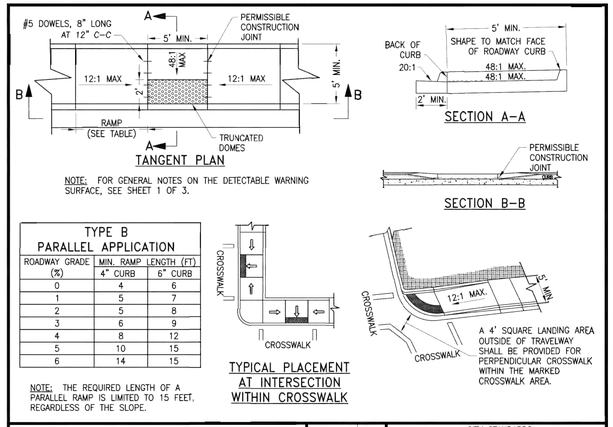
CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS

CG-12 DETECTABLE WARNING SURFACE GENERAL NOTES (SHEET 1 OF 3)

SCALE: N.T.S. | STANDARD NUMBER: CG-12



NOTE: FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 3.

TYPE B PARALLEL APPLICATION

ROADWAY GRADE (%)	MIN. RAMP LENGTH (FT) 4" CURB	6" CURB
0	4	6
1	5	7
2	5	8
3	6	9
4	8	12
5	10	15
6	14	15

NOTE: THE REQUIRED LENGTH OF A PARALLEL RAMP IS LIMITED TO 15 FEET, REGARDLESS OF THE SLOPE.

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS

CG-12 DETECTABLE WARNING SURFACE TYPE B (SHEET 2 OF 3)

SCALE: N.T.S. | STANDARD NUMBER: CG-12

NOTE: FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 3.

THIS COMBINED (PARALLEL & PERPENDICULAR) DESIGN FOR ALTERATIONS CAN BE USED WITH ADJOINING BUFFER STRIP. LANDING AT BOTTOM OF TWO SLOPING SIDES WITH 60"X60" MIN. DIMENSIONS. THE SHORT PERPENDICULAR RUN TO THE STREET CAN BE PROTECTED BY A LANDSCAPED SETBACK OR CONNECTED TO THE SIDEWALK WITH A WARPED SURFACE.

THE SELECTION OF CURB TYPE AND THE CONFIGURATION OF THE UTILITY TRIP MAY VARY TO MEET EXISTING FIELD CONDITIONS AND ROADWAY GEOMETRICS PROVIDING THE DIMENSIONS AND SLOPES ARE AS NOTED.

TYPE C PARALLEL & PERPENDICULAR APPLICATION

ROADWAY GRADE (%)	MIN. RAMP LENGTH (FT) 4" CURB	6" CURB
0	2	4
1	2	5
2	3	5
3	3	6
4	4	8
5	5	10
6	7	14
7	13	15
8	15	15

NOTE: THE REQUIRED LENGTH OF A PARALLEL RAMP IS LIMITED TO 15 FEET, REGARDLESS OF THE SLOPE.

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS

CG-12 DETECTABLE WARNING SURFACE TYPE C (SHEET 3 OF 3)

SCALE: N.T.S. | STANDARD NUMBER: CG-12

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS

ENTRANCE WALK ADJUSTMENTS

SCALE: N.T.S. | STANDARD NUMBER: EWA-1

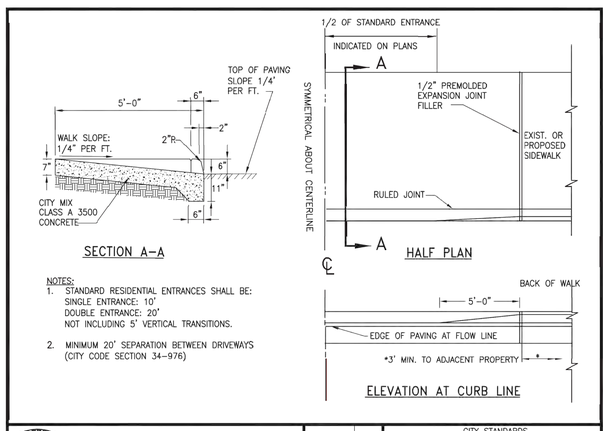
CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS

MINIMUM PAVEMENT PATCH

SCALE: N.T.S. | STANDARD NUMBER: PP-1



NOTES:

1. STANDARD RESIDENTIAL ENTRANCES SHALL BE:
   SINGLE ENTRANCE: 10'
   DOUBLE ENTRANCE: 20'
   NOT INCLUDING 5' VERTICAL TRANSITIONS.
2. MINIMUM 20' SEPARATION BETWEEN DRIVEWAYS (CITY CODE SECTION 34-976)

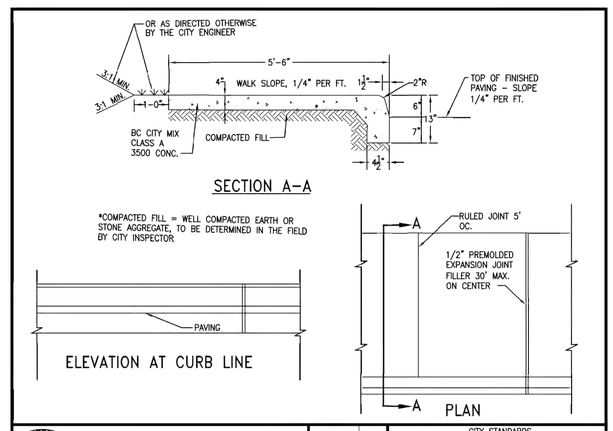
CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS

STANDARD ENTRANCE WITH 5' MONOLITHIC SIDEWALK AND CURB

SCALE: N.T.S. | STANDARD NUMBER: RE-1



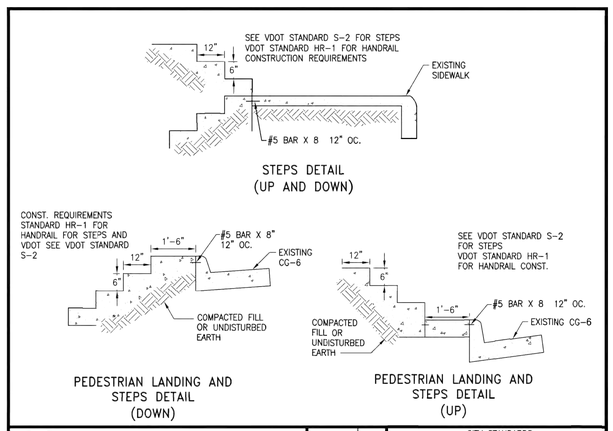
CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS

STANDARD SIDEWALK MONOLITHIC WITH CURB

SCALE: N.T.S. | STANDARD NUMBER: SW-2



CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS

STEP CONNECTIONS

SCALE: N.T.S. | STANDARD NUMBER: SC-1

No.	REVISIONS	DATE	BY

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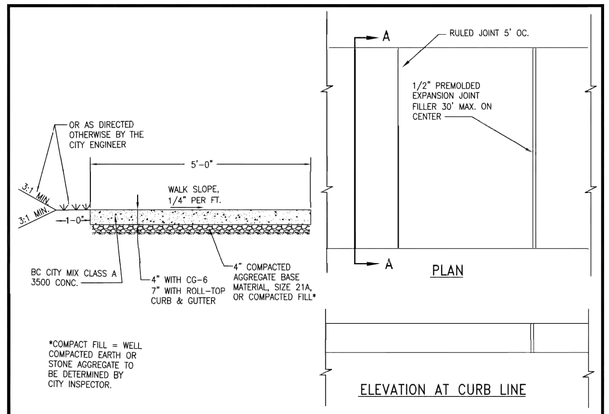
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT	113155000
DATE	02/01/2012
SCALE	AS SHOWN
DESIGNED BY	AFS
DRAWN BY	AFS
CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

SITE DETAILS

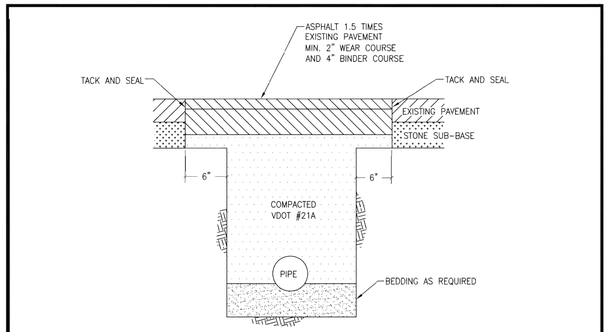
SHEET NUMBER
CS-501



CITY OF CHARLOTTESVILLE

CITY STANDARDS
STANDARD SIDEWALK WITHOUT CURB

REVISION	DATE	SCALE: N.T.S.	STANDARD NUMBER: SW-1

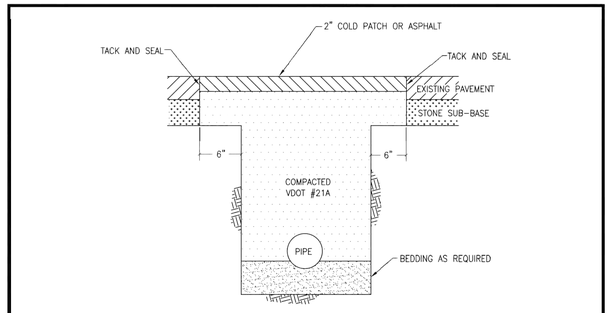


NOTES:
1. PAVEMENT CUTS SHALL BE STRAIGHT AND VERTICAL.
2. REMOVE TEMPORARY PATCH IF PRESENT. EXCAVATE COMPACTED BACKFILL AS REQUIRED TO INSTALL NEW BITUMINOUS ASPHALT. RE-COMPACT SURFACE OF BACKFILL PRIOR TO INSTALLATION OF PATCH.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
PERMANENT PAVEMENT REPAIR

REVISION	DATE	SCALE: N.T.S.	STANDARD NUMBER: P 1.0



NOTES:
1. TEMPORARY PAVEMENT REPAIR WILL BE REQUIRED IF PERMANENT PAVEMENT REPAIR CAN NOT BE PERFORMED WITHIN 24 HOURS OF TRENCH BACKFILLING.
2. PAVEMENT CUTS SHALL BE STRAIGHT AND VERTICAL.
3. CONTRACTOR SHALL MAINTAIN THE TEMPORARY REPAIR UNTIL PERMANENT PAVEMENT REPAIR IS MADE.

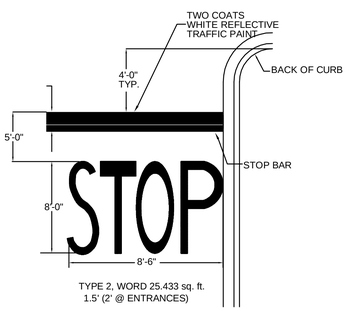
CITY OF CHARLOTTESVILLE

CITY STANDARDS
TEMPORARY PAVEMENT REPAIR

REVISION	DATE	SCALE: N.T.S.	STANDARD NUMBER: P 1.1

R1-1 STOP SIGN
(30" X30")

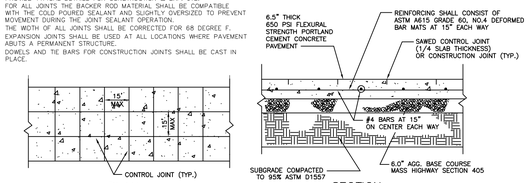
STOP SIGN
NOT TO SCALE



TYPE 2, WORD 25.433 sq. ft.
1.5' (2' @ ENTRANCES)

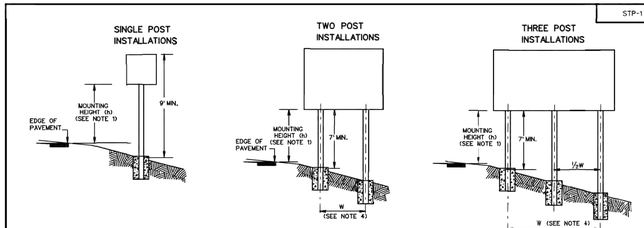
STOP BAR DETAIL
NOT TO SCALE

NOTES:
1. LONGITUDINAL AND TRANSVERSE JOINTS SHALL BE TOOLED AS INDICATED.
2. THE JOINT SEAL MANUFACTURER'S SPECIFICATIONS SHALL BE COMPATIBLE WITH THE JOINT CONFIGURATION. PROVIDE TYPICAL DETAILS FOR CONSTRUCTION & EXP. JTS.
3. FOR ALL JOINTS THE BACKER ROD MATERIAL SHALL BE COMPATIBLE WITH THE COLD POURED SEALANT AND SLIGHTLY OVERSIZED TO PREVENT MOVEMENT DURING THE JOINT SEALANT OPERATION.
4. THE WIDTH OF ALL JOINTS SHALL BE CORRECTED FOR 68 DEGREE F.
5. EXPANSION JOINTS SHALL BE USED AT ALL LOCATIONS WHERE PAVEMENT ABUTS A PERMANENT STRUCTURE.
6. DOWELS AND TIE BARS FOR CONSTRUCTION JOINTS SHALL BE CAST IN PLACE.



CONCRETE PAVEMENT DETAIL
N.T.S.

STP-1



MINIMUM MOUNTING HEIGHT (h) (SEE NOTE 1)				
SIGN TYPES	LIMITED ACCESS HIGHWAY		NON-LIMITED ACCESS HIGHWAYS	
	SIGNS LOCATED LESS THAN 30' FROM THE EDGE OF TRAVEL LANE	SIGNS LOCATED 30' OR MORE FROM THE EDGE OF TRAVEL LANE	RURAL AREAS	URBAN AREAS
DIRECTIONAL SIGNS	7'	5'	5'	7'
ROUTE MARKERS, WARNING AND REGULATORY SIGNS	6'	5'	5'	7'
SECONDARY SIGNS (SEE NOTE 2)	5' (SEE NOTE 3)	5' (SEE NOTE 3)	4'	6'

1. MOUNTING HEIGHT MAY NEED TO BE GREATER THAN INDICATED IN CHART TO PROVIDE THE MINIMUM HEIGHT TO THE TOP OF THE SIGN FOR SINGLE POST INSTALLATIONS AND THE MINIMUM HEIGHT TO THE BOTTOM OF THE SIGN FOR MULTI-POST INSTALLATIONS.
2. A SECONDARY SIGN IS CONSIDERED TO BE A SIGN MOUNTED BELOW ANOTHER SIGN, EXCEPT A ROUTE MARKING ASSEMBLY, CONSISTING OF A ROUTE MARKER WITH AN AUXILIARY PLATE IS CONSIDERED TO BE A SINGLE SIGN.
3. MOUNTING HEIGHT (h) OF THE MAJOR SIGN ABOVE THE SECONDARY SIGN SHALL BE 9' MINIMUM.
4. W = (0.60) X (SIGN PANEL WIDTH)
5. STRUCTURAL DESIGN SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION 2001 WITH A WIND LOAD OF 120 MPH.
6. SQUARE TUBE SIGN POST LARGER THAN 2 INCHES SHALL HAVE AN FHWA APPROVED BREAKWAY SUPPORT SYSTEM CONFORMING TO AASHTO'S STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS.
7. SIGN PANEL SHALL BE IN ACCORDANCE WITH SPD-5.

TABLE FOR SQUARE TUBE POST

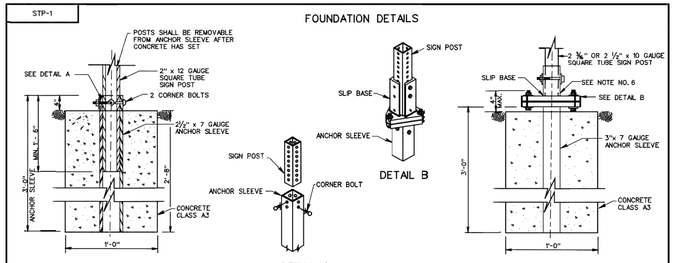
SIZE OF POST	CENTROID	MAXIMUM AREA (TOTAL OF SIGN PANELS) (FT2) SINGLE-POST	TWO-POST	THREE-POST
2 INCH 12 GA.	8	7.29	14.58	21.87
	10	6.86	13.72	20.58
	12	6.48	12.96	19.44
2⅜ INCH 10 GA.	8	10.23	20.46	30.69
	10	8.19	16.38	24.57
	12	6.82	13.64	20.46
2½ INCH 10 GA.	8	13.69	27.38	41.07
	10	10.95	21.90	32.85
	12	9.12	18.24	27.36
2⅜ INCH * 2½ INCH 10 GA.	8	23.92	47.84	71.76
	10	19.14	38.28	57.42
	12	15.95	31.90	47.85

* THE INNER POST SHALL BE NO LESS THAN 6 FEET IN LENGTH.
CENTROID SHALL BE DETERMINED IN ACCORDANCE WITH PCS-1.

SPECIFICATION REFERENCE	SQUARE TUBE SIGN POST	VDOT ROAD AND BRIDGE STANDARDS
700	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: 1321.10 — SHEET 1 OF 3

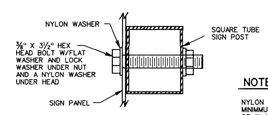
STP-1

FOUNDATION DETAILS



SIGN POST TO BE INSTALLED ON SLIP BASE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

SIGN PANEL ATTACHMENT DETAILS



CORNER BOLT

NOTES:

NYLON WASHER SHALL BE ⅛" THICK MINIMUM WITH AN OUTSIDE DIAMETER OF 1" AND AN INSIDE DIAMETER OF ⅜".

TOP OF SIGN PANEL SHALL BE FLUSH WITH THE TOP OF THE POST.

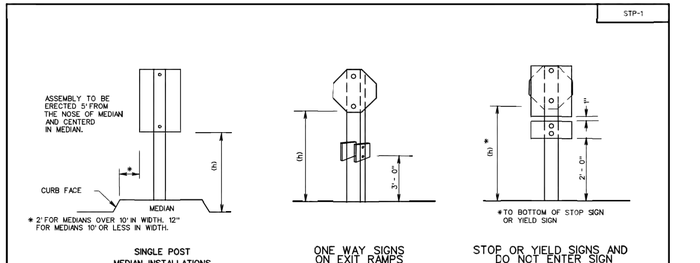
SIGN PANEL DESIGN SHALL BE IN ACCORDANCE WITH STANDARD SPD-5.

CORNER BOLTS SHALL BE USED FOR ATTACHING THE SQUARE TUBE SIGN POST TO THE ANCHOR SLEEVE OR SLIP BASE.

CORNER BOLTS SHALL BE USED FOR ATTACHING THE SQUARE TUBE SIGN POST TO THE ANCHOR SLEEVE OR SLIP BASE.

VDOT ROAD AND BRIDGE STANDARDS	SQUARE TUBE SIGN POST	SPECIFICATION REFERENCE
SHEET 2 OF 3 — REVISION DATE: 1321.11	VIRGINIA DEPARTMENT OF TRANSPORTATION	700

STP-1



SPECIFICATION REFERENCE	SQUARE TUBE SIGN POST	VDOT ROAD AND BRIDGE STANDARDS
700	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE — SHEET 3 OF 3: 1321.12

No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000
DATE 02/01/2012
SCALE AS SHOWN
DESIGNED BY AFS
DRAWN BY AFS
CHECKED BY BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

SITE DETAILS

SHEET NUMBER
CS-502

EROSION CONTROL LEGEND AND QUANTITIES

APPROX. QTY.		REF.	VESCH STD. AND SPEC.
300 LF		3.01 (SAF)	SAFETY FENCE
1 EA		3.02 (CE)	CONSTRUCTION ENTRANCE
600 LF		3.05 (SF)	SILT FENCE
15 EA		3.07 (IP)	STORM DRAIN INLET PROTECTION
200 LF		3.09 (DD)	DIVERSION DIKE
350 CY		3.13 (ST)	TEMPORARY SEDIMENT TRAP
5 EA		3.20 (CD)	ROCK CHECK DAM
1 AC		3.31 (TS)	TEMPORARY SEEDING
1 AC		3.32 (PS)	PERMANENT SEEDING
1 AC		3.36 (BM)	SOIL STABILIZATION BLANKETS AND MATTING
3.79 AC (ON-SITE AND OFF-SITE)		(LD)	LIMITS OF CLEARING/DISTURBANCE
2.56 AC (MAX)		(DA)	DRAINAGE AREA TO SEDIMENT TRAP
			REMOVE/DEMOLISH DRAINAGE PIPE

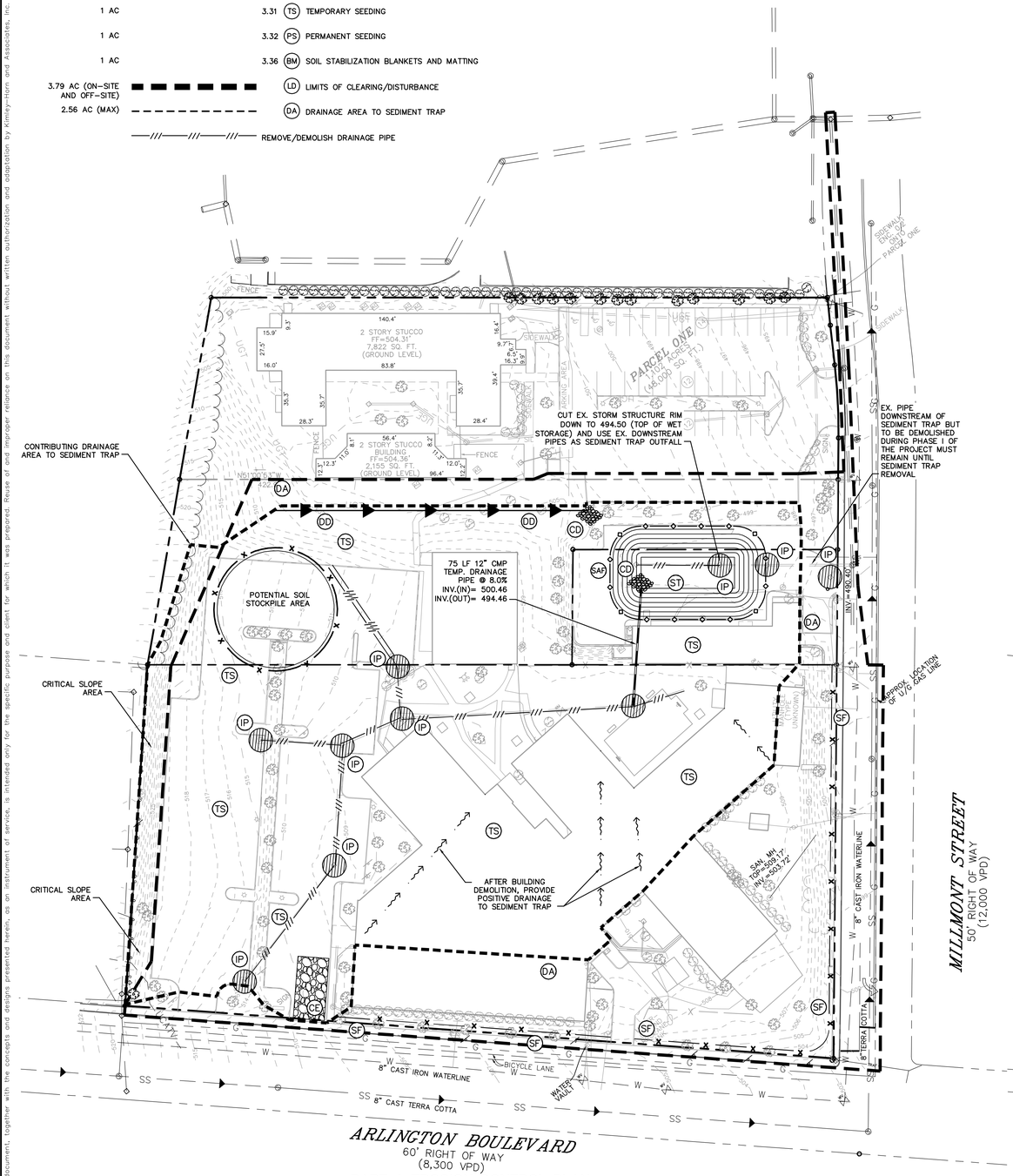
Sediment Trap Design

			Stage (ft)	Area (sq ft)	Storage (cu ft)
Contributing Drainage Area	2.56	acres	492.00	1,200	0
Wet/Dry Storage Required	67.0	cu yd/ac	493.00	1,708	1,454
Wet/Dry Storage Required	4,631	cu ft	494.00	2,273	3,445
			495.00	2,894	6,028
Equation for Estimated Storage	$S = A*E^2 + B*E + C$		496.00	3,572	9,261
A = 310.670			497.00	4,307	13,201
B = -304,623.51					
C = 74,672,857					

		Storage Volume	
		0 cu ft	
Bottom of Trap	492.00 ft		
Sediment Cleanout Level	493.50 ft	2,426 cu ft	2,429 cu ft max buildup
Top of Wet Storage	494.50 ft	4,744 cu ft	
Top of Dry Storage	496.00 ft	9,387 cu ft	4,643 cu ft above wet vol.
Top of Embankment	497.00 ft	13,259 cu ft	
Freeboard Provided	12 inches		

NORTH

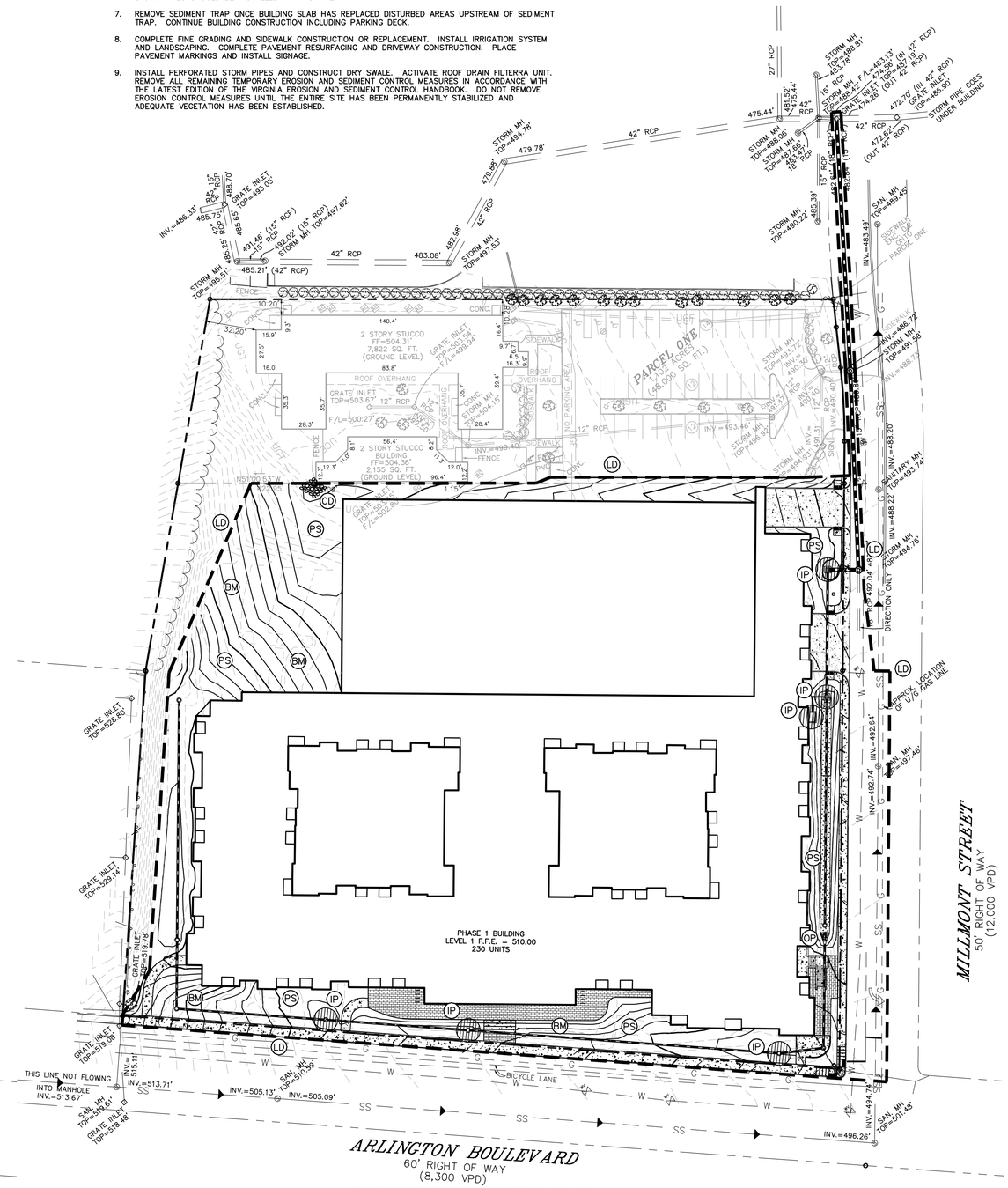
GRAPHIC SCALE IN FEET
0 20 40 80



PART A EROSION CONTROL PLAN

CONSTRUCTION SEQUENCE - PHASE I (PARTS A AND B)

1. COORDINATE REMOVAL OR RELOCATION OF POWER POLES AND UTILITY LINES WITH DOMINION VIRGINIA POWER AND OTHER UTILITY PROVIDERS. DISCONNECT ALL EXISTING UTILITIES SERVING EXISTING STRUCTURES TO BE DEMOLISHED. COORDINATE RELOCATION OF ANY EXISTING UTILITIES LOCATED WITHIN CONSTRUCTION LIMITS WHICH CURRENTLY SERVE STRUCTURES TO REMAIN.
2. DEMOLISH EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS. PERFORM DEMOLITION OPERATIONS ONLY AND DO NOT PROCEED WITH ANY LAND DISTURBANCE.
3. STAKEOUT AND INSTALL PERIMETER EROSION CONTROLS INCLUDING CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, AND CHECK DAMS.
4. EXCAVATE SEDIMENT TRAP, CONSTRUCT DIVERSION DIKE, AND INSTALL TEMPORARY DRAINAGE PIPE TO SEDIMENT TRAP. START DEMOLITION OF ALL REMAINING ON-SITE CONCRETE, PAVEMENT, AND STORM DRAINS.
5. CLEAR AND GRUB SITE. BEGIN GRADING AND EARTHWORK OPERATIONS. PROVIDE TEMPORARY SEEDING FOR ALL DENUDED AREAS. PROVIDE POSITIVE DRAINAGE TO SEDIMENT TRAP FOR AREAS WITHIN DESIGNED SEDIMENT TRAP DRAINAGE AREA.
6. COMPLETE ROUGH GRADING OPERATIONS. PROVIDE PERMANENT SEEDING AND SOIL STABILIZATION BLANKETS AND MATTING. PREPARE BUILDING PAD AND POUR BUILDING FOUNDATIONS. START UTILITY AND STORM DRAIN INSTALLATIONS WITH INLET PROTECTION WHERE APPLICABLE. ONLY NON-PERFORATED STORM PIPES SHOULD BE INSTALLED AT THIS TIME.
7. REMOVE SEDIMENT TRAP ONCE BUILDING SLAB HAS REPLACED DISTURBED AREAS UPSTREAM OF SEDIMENT TRAP. CONTINUE BUILDING CONSTRUCTION INCLUDING PARKING DECK.
8. COMPLETE FINE GRADING AND SIDEWALK CONSTRUCTION OR REPLACEMENT. INSTALL IRRIGATION SYSTEM AND LANDSCAPING. COMPLETE PAVEMENT RESURFACING AND DRIVEWAY CONSTRUCTION. PLACE PAVEMENT MARKINGS AND INSTALL SIGNAGE.
9. INSTALL PERFORATED STORM PIPES AND CONSTRUCT DRY SWALE. ACTIVATE ROOF DRAIN FILTERRA UNIT. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. DO NOT REMOVE EROSION CONTROL MEASURES UNTIL THE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED AND ADEQUATE VEGETATION HAS BEEN ESTABLISHED.



PART B EROSION CONTROL PLAN

No.	REVISIONS	DATE	BY

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ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

E&S CONTROL PLAN - PHASE 1

SHEET NUMBER
CE-101

EROSION CONTROL LEGEND AND QUANTITIES

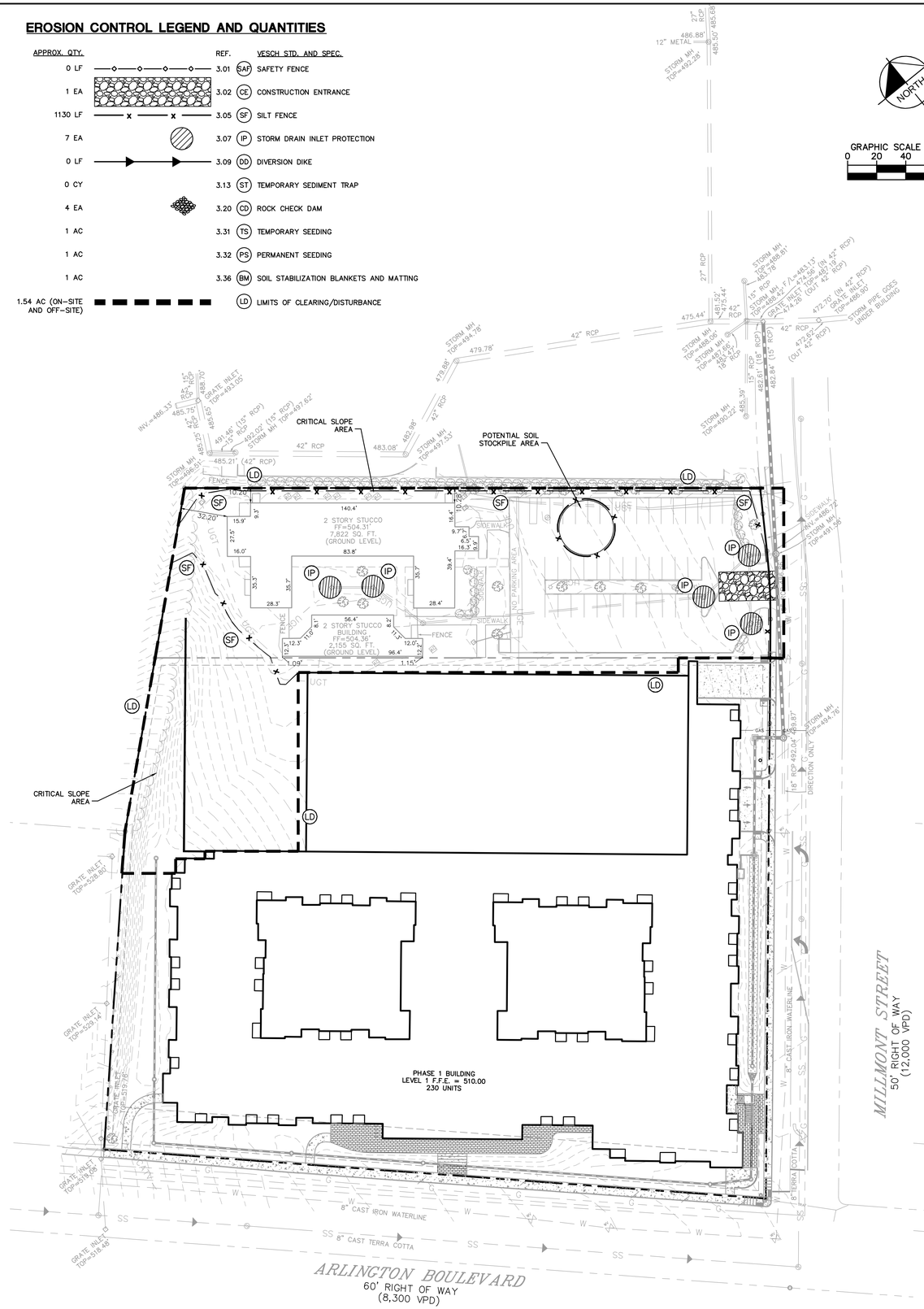
APPROX. QTY.		REF.	VESCH STD. AND SPEC.
0 LF		3.01 (SAP)	SAFETY FENCE
1 EA		3.02 (CE)	CONSTRUCTION ENTRANCE
1130 LF		3.05 (SF)	SILT FENCE
7 EA		3.07 (IP)	STORM DRAIN INLET PROTECTION
0 LF		3.09 (DD)	DIVERSION DIKE
0 CY		3.13 (ST)	TEMPORARY SEDIMENT TRAP
4 EA		3.20 (CD)	ROCK CHECK DAM
1 AC		3.31 (TS)	TEMPORARY SEEDING
1 AC		3.32 (PS)	PERMANENT SEEDING
1 AC		3.36 (BM)	SOIL STABILIZATION BLANKETS AND MATTING
1.54 AC (ON-SITE AND OFF-SITE)			(LD) LIMITS OF CLEARING/DISTURBANCE

NORTH

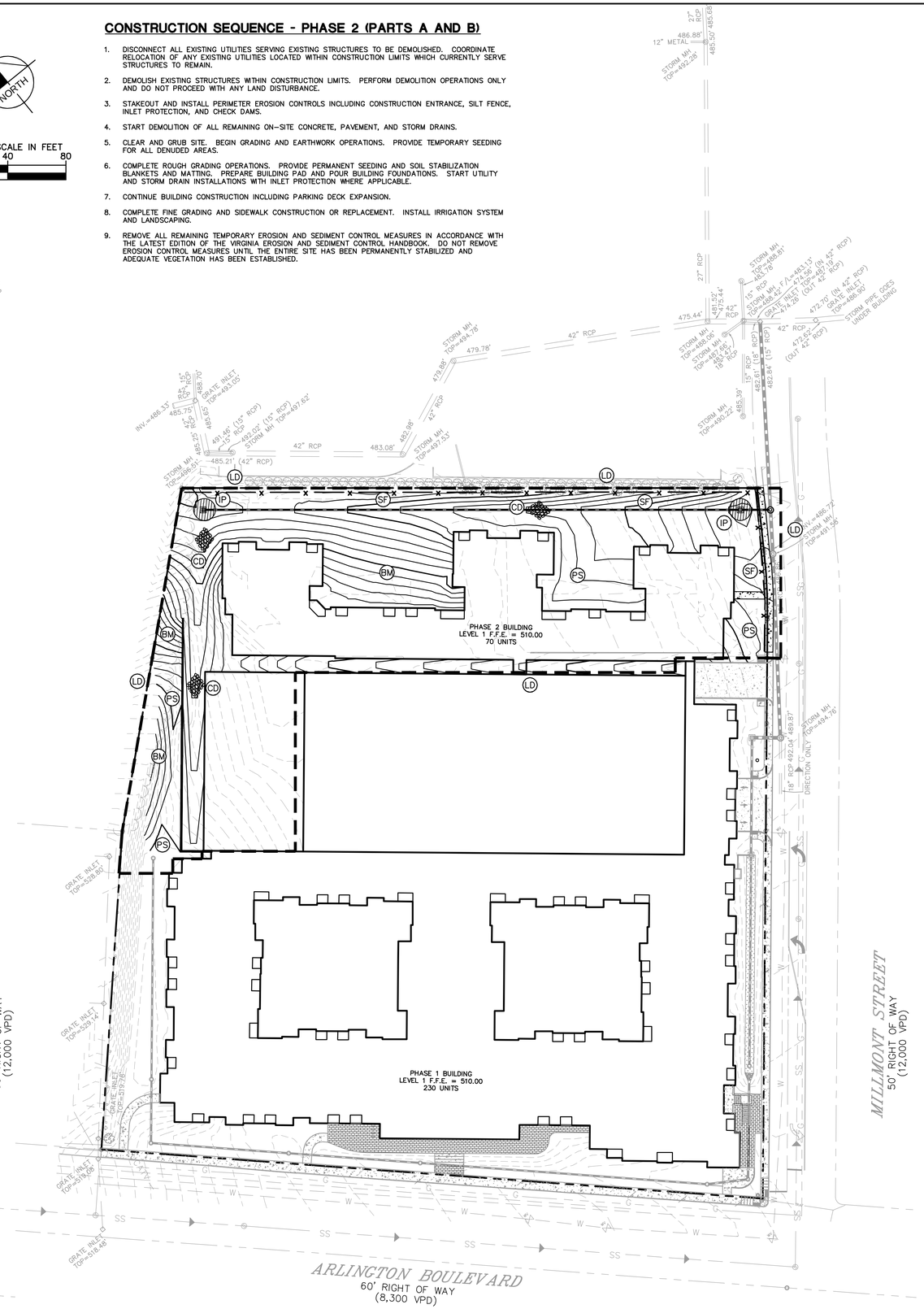
GRAPHIC SCALE IN FEET
0 20 40 80

CONSTRUCTION SEQUENCE - PHASE 2 (PARTS A AND B)

1. DISCONNECT ALL EXISTING UTILITIES SERVING EXISTING STRUCTURES TO BE DEMOLISHED. COORDINATE RELOCATION OF ANY EXISTING UTILITIES LOCATED WITHIN CONSTRUCTION LIMITS WHICH CURRENTLY SERVE STRUCTURES TO REMAIN.
2. DEMOLISH EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS. PERFORM DEMOLITION OPERATIONS ONLY AND DO NOT PROCEED WITH ANY LAND DISTURBANCE.
3. STAKEOUT AND INSTALL PERIMETER EROSION CONTROLS INCLUDING CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, AND CHECK DAMS.
4. START DEMOLITION OF ALL REMAINING ON-SITE CONCRETE, PAVEMENT, AND STORM DRAINS.
5. CLEAR AND GRUB SITE. BEGIN GRADING AND EARTHWORK OPERATIONS. PROVIDE TEMPORARY SEEDING FOR ALL DENUDED AREAS.
6. COMPLETE ROUGH GRADING OPERATIONS. PROVIDE PERMANENT SEEDING AND SOIL STABILIZATION BLANKETS AND MATTING. PREPARE BUILDING PAD AND POUR BUILDING FOUNDATIONS. START UTILITY AND STORM DRAIN INSTALLATIONS WITH INLET PROTECTION WHERE APPLICABLE.
7. CONTINUE BUILDING CONSTRUCTION INCLUDING PARKING DECK EXPANSION.
8. COMPLETE FINE GRADING AND SIDEWALK CONSTRUCTION OR REPLACEMENT. INSTALL IRRIGATION SYSTEM AND LANDSCAPING.
9. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. DO NOT REMOVE EROSION CONTROL MEASURES UNTIL THE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED AND ADEQUATE VEGETATION HAS BEEN ESTABLISHED.



PART A EROSION CONTROL PLAN



PART B EROSION CONTROL PLAN

No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT	113155000
DATE	02/01/2012
SCALE	AS SHOWN
DESIGNED BY	AFS
DRAWN BY	AFS
CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

E&S CONTROL PLAN - PHASE 2

SHEET NUMBER
CE-102

DRAINAGE AREA DATA

DRAINAGE AREA	INLET	TOTAL AREA (AC.)	PERVIOUS AREA (AC.)	IMPERVIOUS AREA (AC.)	EXPANSION AREA (AC.)	C	CN	TIME OF CONC. T_c (min)	OVERLAND FLOW TIME (SEELYE) $T_{off} = 0.225L^{0.42}S^{-0.19}C^{-1.0}$				SHALLOW CONCENTRATED FLOW TIME (TR-55) $V = 16.1345S^{0.5}$ (UNPAVED), $V = 20.3282S^{0.5}$ (PAVED)				
									L (ft)	C	S (ft/ft)	T_{off} (min)	PAVED?	S (ft/ft)	V (ft/s)	L (ft)	T_{sct} (min)
PRE 1A (SCENARIO 1)	N/A	4.937	1.716	3.024	0.197	0.67	89	11.5	150	0.30	0.050	10.87	P	0.050	4.55	185	0.68
PRE 1A (SCENARIO 2)	N/A	3.284	0.260	3.024	0.000	0.85	96	8.8	150	0.90	0.100	3.18	P	0.018	2.73	925	5.65
PRE 1B	N/A	0.433	0.306	0.127	0.000	0.48	81	10.8	135	0.30	0.040	10.85					
POST 1A	N/A	0.846	0.060	0.786	0.000	0.86	96	8.8	150	0.90	0.100	3.18	P	0.018	2.73	925	5.65
POST 1B	X4	0.302	0.072	0.230	0.000	0.76	92	5.0									
POST 1C	X5	0.164	0.045	0.119	0.000	0.74	91	7.6	35	0.30	0.020	7.02	P	0.050	4.55	160	0.59
POST 1D	X7	0.092	0.031	0.061	0.000	0.70	90	5.0									
POST 1E	X8	0.076	0.033	0.043	0.000	0.64	88	8.2	50	0.30	0.020	8.16					
POST 1F	X9	0.021	0.000	0.021	0.000	0.90	98	5.0									
POST 1G	2	0.090	0.084	0.006	0.000	0.34	76	14.8	150	0.30	0.010	14.76					
POST 1H	6	0.114	0.087	0.027	0.000	0.44	80	12.6	150	0.30	0.023	12.60					
POST 1I	7	0.059	0.026	0.033	0.000	0.64	87	9.5	75	0.30	0.022	9.50					
POST 1J	8	0.091	0.084	0.007	0.000	0.35	76	8.8	115	0.30	0.085	8.79					
POST 1K	10	0.145	0.145	0.000	0.000	0.30	74	12.9	150	0.30	0.020	12.94					
POST 1L	3	0.121	0.000	0.121	0.000	0.90	98	5.0									
POST 1M	5	0.207	0.000	0.207	0.000	0.90	98	5.0									
POST 1N	9	0.152	0.000	0.152	0.000	0.90	98	5.0									
POST 1O	11	0.104	0.000	0.104	0.000	0.90	98	5.0									
POST 1P	1	2.067	0.471	1.596	0.000	0.76	93	5.0									
POST 1Q	N/A	0.719	0.592	0.127	0.000	0.41	78	12.4	150	0.30	0.033	11.76	U	0.040	3.23	120	0.62

STORMWATER QUALITY SUMMARY

PHASE 1 (PARCELS 2, 3, AND 4)	TOTAL AREA (AC.)	PERVIOUS AREA (AC.)	IMPERVIOUS AREA (AC.)	IMPERVIOUS COVER	P LOAD (LB/YR)		
PRE-DEVELOPMENT	3.616	1.418	2.198	60.8%	4.92	0.79	<< REMOVAL REQUIRED
POST-DEVELOPMENT	3.616	1.273	2.344	64.8%	5.22	0.80	<< REMOVAL PROVIDED
*BMP - LEVEL 1 DRY SWALE	0.962	0.426	0.536	55.7%	1.21	52%	<< BMP EFFICIENCY
^BMP - PHASE 1 ROOF DRAIN FILTERRA UNIT	0.121	0.000	0.121	100.0%	0.26	65%	<< BMP EFFICIENCY

* DRAINAGE AREAS POST 1G, 1H, 1I, 1J, 1K, 1M, 1N, AND 1O TREATED BY DRY SWALE

^ DRAINAGE AREAS POST 1L TREATED BY ROOF DRAIN FILTERRA UNIT

NOTES

SCENARIO 1 ASSUMES THAT LARGEST PEAK FLOW OCCURS WHEN Tc EQUALS THE MOST HYDRAULICALLY DISTANT POINT IN WATERSHED ANALYSIS AREA

SCENARIO 2 ASSUMES THAT LARGEST PEAK FLOW OCCURS ONLY ONCE ALL PRE-DEVELOPMENT IMPERVIOUS AREAS AND STEEP SLOPE AREAS (> 2:1) CONTRIBUTE TO OUTFALL

REFER TO DESIGN REPORT FOR DETAILED EXPLANATION AND COMPLETE PRE-DEVELOPMENT AND POST-DEVELOPMENT CALCULATIONS

LEGEND

DRAINAGE BOUNDARY

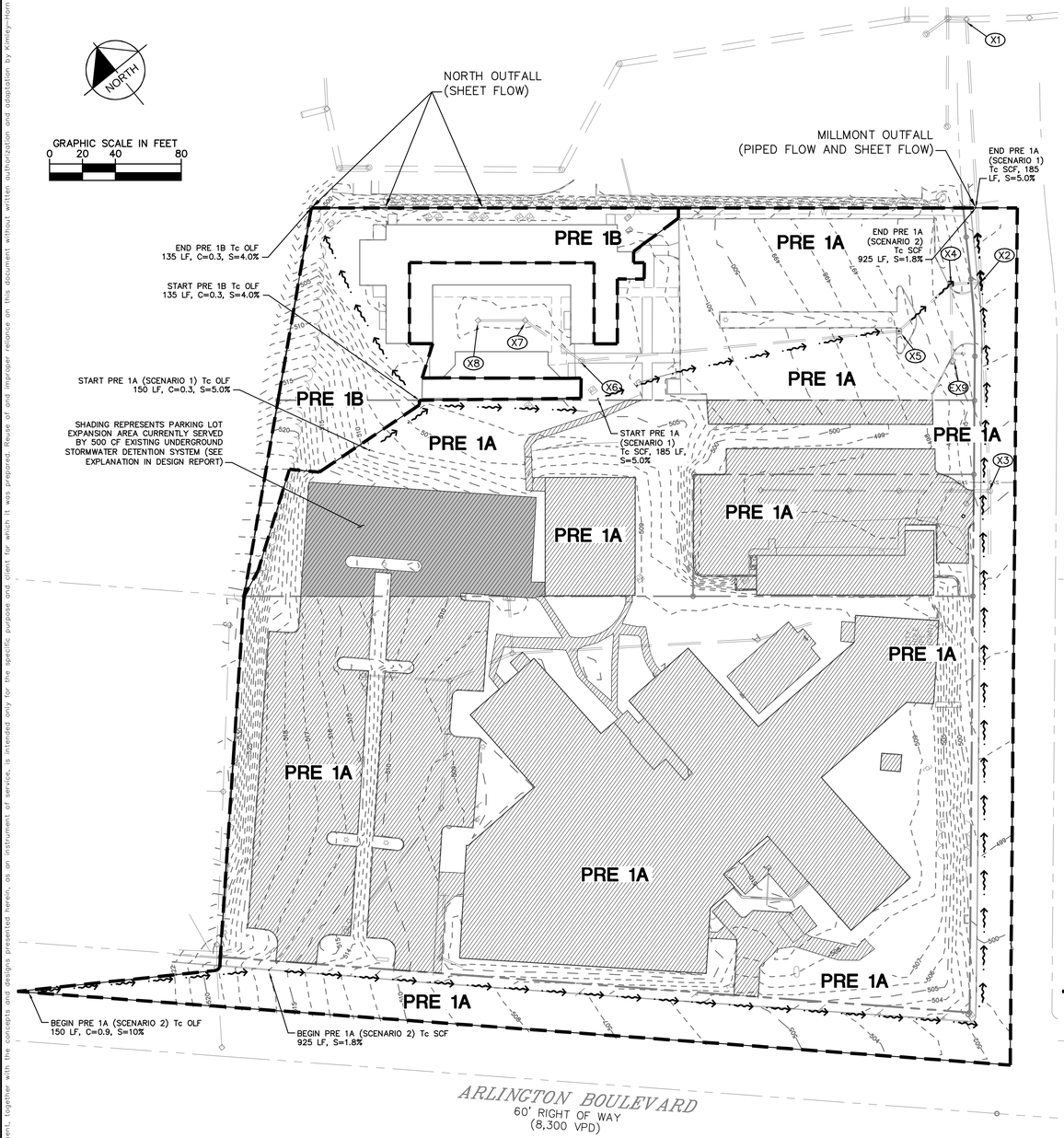
TIME OF CONC. PATH

ON-SITE IMPERVIOUS COVER (FOR WATER QUALITY CALC.)

150' x 6' TRAPEZOIDAL DRY SWALE @ 1.0%

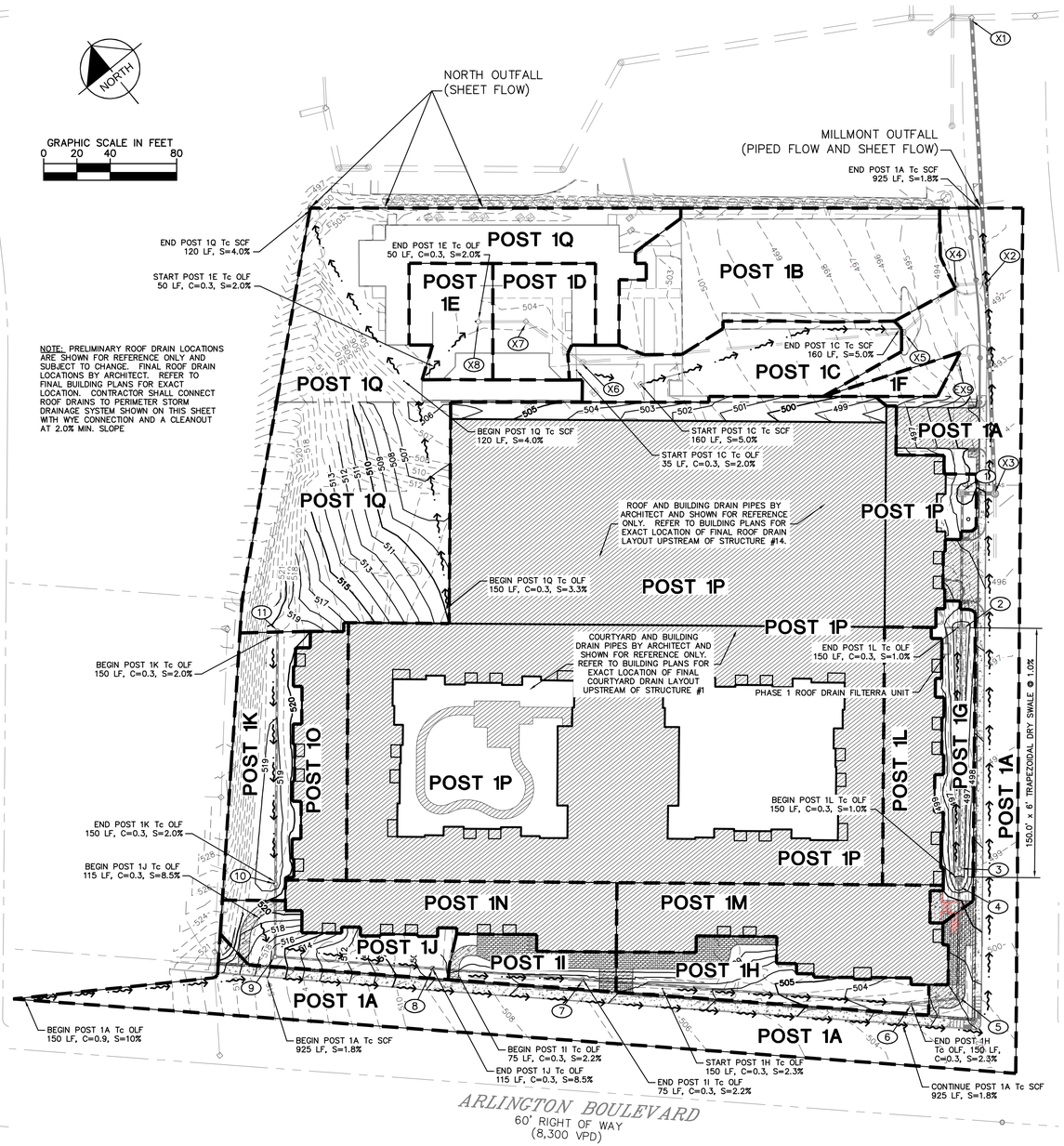
OVERLAND FLOW — OLF

SHALLOW CONCENTRATED FLOW — SCF



PRE-DEVELOPMENT DRAINAGE PLAN

NOTE: PRELIMINARY ROOF DRAIN LOCATIONS ARE SHOWN FOR REFERENCE ONLY AND SUBJECT TO CHANGE. FINAL ROOF DRAIN LOCATIONS BY ARCHITECT. REFER TO FINAL BUILDING PLANS FOR EXACT LOCATION. CONTRACTOR SHALL CONNECT ROOF DRAINS TO PERIMETER STORM DRAINAGE SYSTEM SHOWN ON THIS SHEET WITH WYE CONNECTION AND A CLEANOUT AT 2.0% MIN. SLOPE



POST-DEVELOPMENT DRAINAGE PLAN

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COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000	DATE 02/01/2012	SCALE AS SHOWN	DESIGNED BY AFS	DRAWN BY AFS	CHECKED BY BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

DRAINAGE PLAN - PHASE 1

SHEET NUMBER
CE-103

No.	REVISIONS	DATE	BY

DRAINAGE AREA DATA

DRAINAGE AREA	INLET	TOTAL AREA (AC.)	PERVIOUS AREA (AC.)	IMPERVIOUS AREA (AC.)	EXPANSION AREA (AC.)	C	CN	TIME OF CONC. T_c (min)	OVERLAND FLOW TIME (SEELYE) $T_{OF} = 0.225(L^{0.42}S^{-0.19}c^{-1.0}$				SHALLOW CONCENTRATED FLOW TIME (TR-55) V = 16.1345$S^{0.5}$ (UNPAVED), V = 20.3282$S^{0.5}$ (PAVED)				
									L (ft)	C	S (ft/ft)	T_{OF} (min)	PAVED?	S (ft/ft)	V (ft/s)	L (ft)	T_{CF} (min)
PRE 2A (SCENARIO 1)	N/A	4.937	1.716	3.024	0.197	0.67	89	11.5	150	0.30	0.050	10.87	P	0.050	4.55	185	0.68
PRE 2A (SCENARIO 2)	N/A	3.284	0.260	3.024	0.000	0.85	96	8.8	150	0.90	0.100	3.18	P	0.018	2.73	925	5.65
PRE 2B	N/A	0.433	0.306	0.127	0.000	0.48	81	10.8	135	0.30	0.040	10.85					
POST 2A	N/A	0.846	0.060	0.786	0.000	0.86	96	8.8	150	0.90	0.100	3.18	P	0.018	2.73	925	5.65
POST 2B	2	0.090	0.084	0.006	0.000	0.34	76	14.8	150	0.30	0.010	14.76					
POST 2C	6	0.114	0.087	0.027	0.000	0.44	80	12.6	150	0.30	0.023	12.60					
POST 2D	7	0.059	0.026	0.033	0.000	0.64	87	9.5	75	0.30	0.022	9.50					
POST 2E	8	0.091	0.084	0.007	0.000	0.35	76	8.8	115	0.30	0.085	8.79					
POST 2F	10	0.200	0.200	0.000	0.000	0.30	74	12.9	150	0.30	0.020	12.94					
POST 2G	3	0.121	0.000	0.121	0.000	0.90	98	5.0									
POST 2H	5	0.207	0.000	0.207	0.000	0.90	98	5.0									
POST 2I	9	0.152	0.000	0.152	0.000	0.90	98	5.0									
POST 2J	11	0.104	0.000	0.104	0.000	0.90	98	5.0									
POST 2K	1	2.259	0.469	1.790	0.000	0.78	93	5.0									
POST 2L	13	0.469	0.469	0.000	0.000	0.30	74	12.9	150	0.30	0.030	11.98	U	0.040	3.23	170	0.88
POST 2M	14	0.710	0.238	0.472	0.000	0.70	90	13.2	150	0.30	0.020	12.94	U	0.080	4.56	85	0.31

STORMWATER QUALITY SUMMARY

PHASE 2 (PARCELS 1, 2, 3, AND 4)	TOTAL AREA (AC.)	PERVIOUS AREA (AC.)	IMPERVIOUS AREA (AC.)	IMPERVIOUS COVER	P LOAD (LB/YR)		
PRE-DEVELOPMENT	4.718	1.418	2.874	60.9%	6.44	0.77	<< REMOVAL REQUIRED
POST-DEVELOPMENT	4.718	1.273	2.934	62.2%	6.56	0.80	<< REMOVAL PROVIDED
*BMP - LEVEL 1 DRY SWALE	1.017	0.481	0.536	52.7%	1.22	52%	<< BMP EFFICIENCY
^BMP - PHASE 1 ROOF DRAIN FILTERRA UNIT	0.121	0.000	0.121	100.0%	0.26	65%	<< BMP EFFICIENCY

* DRAINAGE AREAS POST 2B, 2C, 2D, 2E, 2F, 2H, 2I, AND 2J TREATED BY DRY SWALE (INSTALLED DURING PHASE 1)

^ DRAINAGE AREA POST 2G TREATED BY PHASE 1 ROOF DRAIN FILTERRA UNIT (NSTALLED DURING PHASE 1)

NOTES

SCENARIO 1 ASSUMES THAT LARGEST PEAK FLOW OCCURS WHEN Tc EQUALS THE MOST HYDRAULICALLY DISTANT POINT IN WATERSHED ANALYSIS AREA

SCENARIO 2 ASSUMES THAT LARGEST PEAK FLOW OCCURS ONLY ONCE ALL PRE-DEVELOPMENT IMPERVIOUS AREAS AND STEEP SLOPE AREAS (> 2:1) CONTRIBUTE TO OUTFALL

REFER TO DESIGN REPORT FOR DETAILED EXPLANATION AND COMPLETE PRE-DEVELOPMENT AND POST-DEVELOPMENT CALCULATIONS

LEGEND

DRAINAGE BOUNDARY

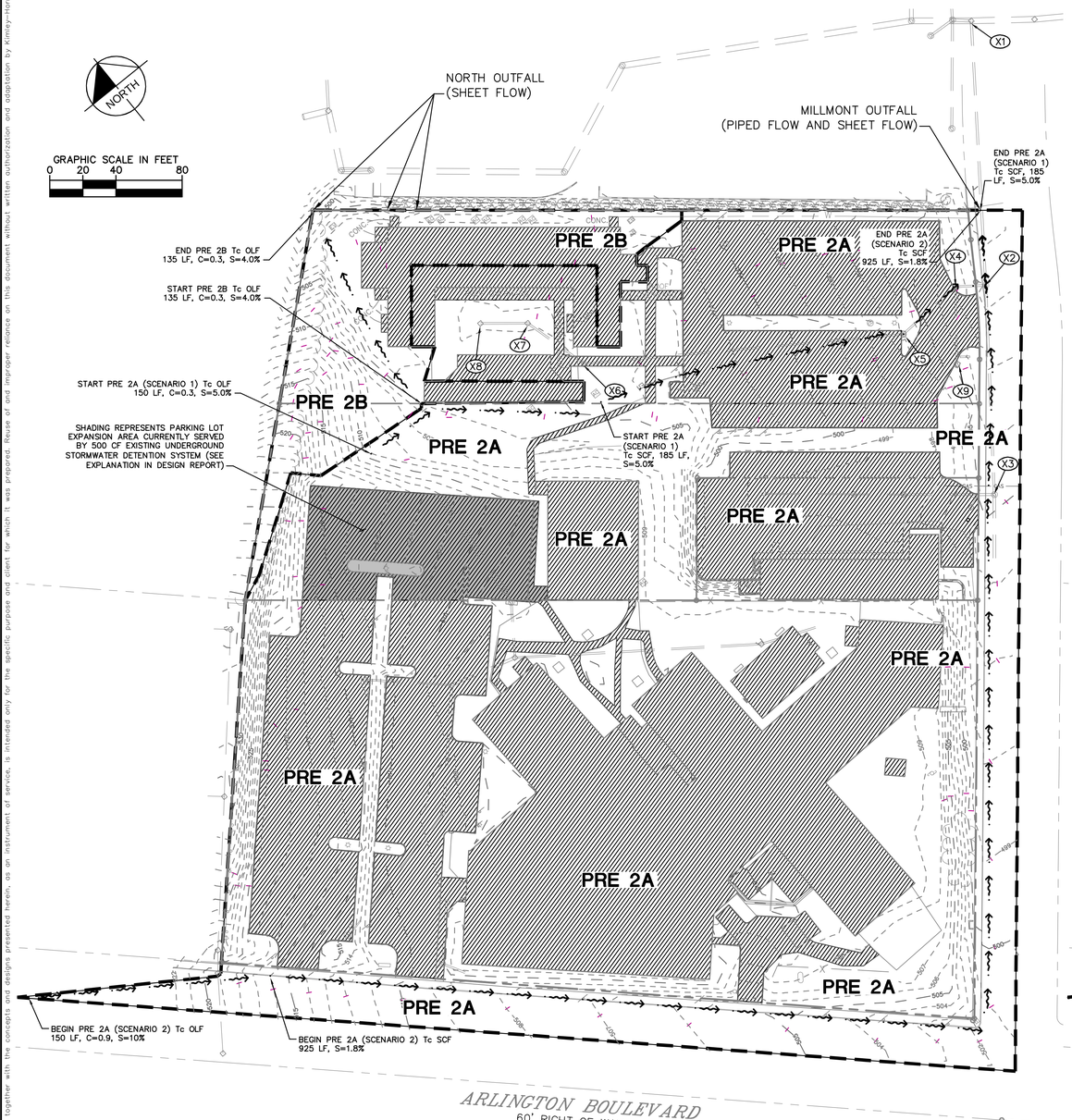
TIME OF CONC. PATH

ON-SITE IMPERVIOUS COVER (FOR WATER QUALITY CALC.)

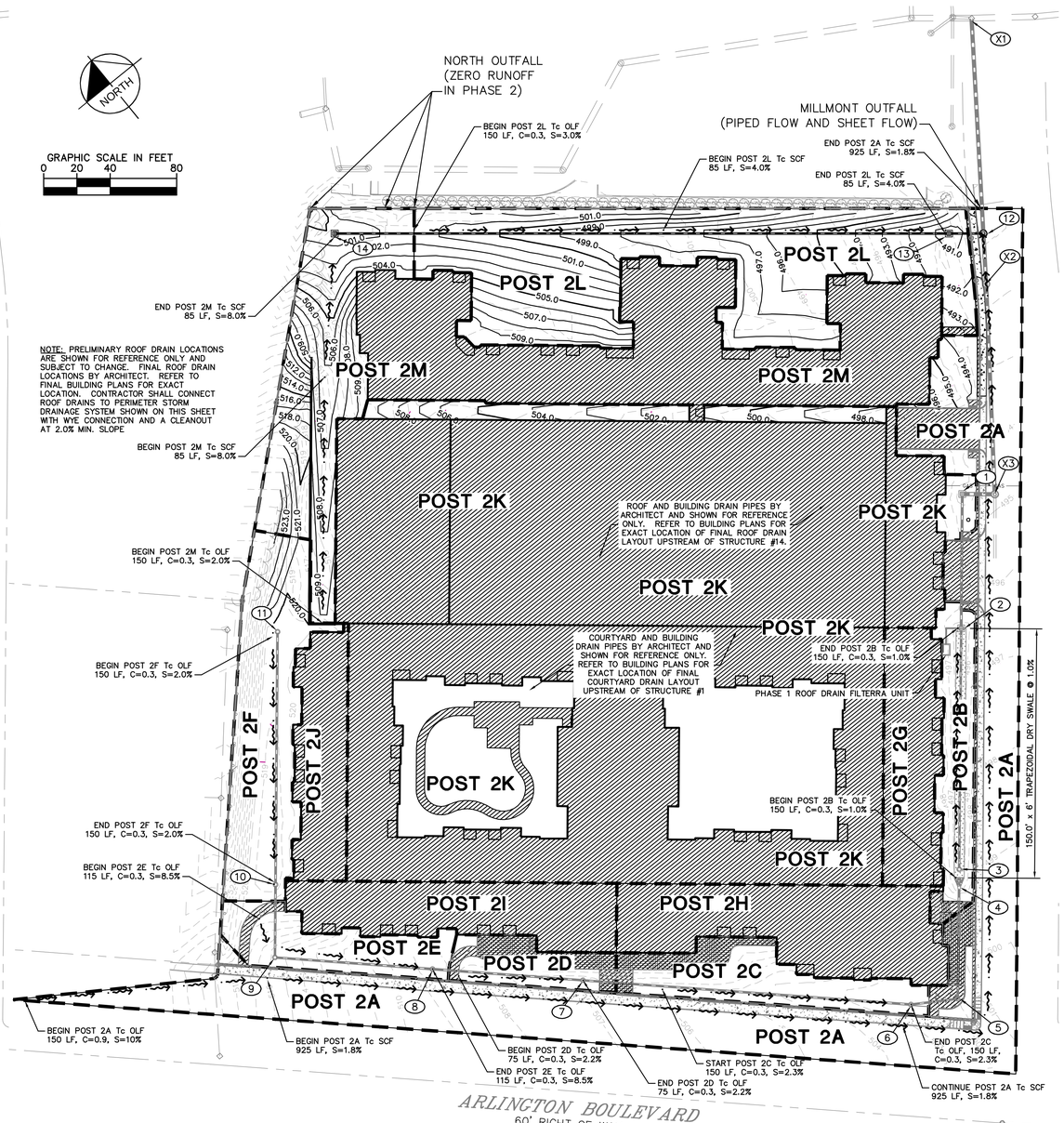
150' x 6' TRAPEZOIDAL DRY SWALE @ 1.0%

OVERLAND FLOW — OLF

SHALLOW CONCENTRATED FLOW — SCF



PRE-DEVELOPMENT DRAINAGE PLAN



POST-DEVELOPMENT DRAINAGE PLAN

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02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000			
DATE	02/01/2012		
SCALE	AS SHOWN	DESIGNED BY	AFS
		DRAWN BY	AFS
		CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

DRAINAGE PLAN - PHASE 2

SHEET NUMBER
CE-104

No.	REVISIONS	DATE	BY

EROSION AND SEDIMENT CONTROL NARRATIVE

SECTION 1 – PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF IMPROVEMENTS ASSOCIATED WITH A NEW MULTI–FAMILY RESIDENTIAL APARTMENT COMPLEX TO BE LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION BETWEEN ARLINGTON BOULEVARD AND MILLMONT STREET IN CHARLOTTESVILLE, VIRGINIA. THE PROJECT WILL BE COMPLETED IN TWO SEPARATE PHASES. PHASE 1 CONSISTS OF THREE PARCELS TO BE CONSOLIDATED INTO A 3.616± ACRE PARCEL AND WILL CONTAIN A SINGLE FIVE–STORY, 230 UNIT APARTMENT BUILDING AND A 480 SPACE PARKING STRUCTURE. FOR PHASE 2, AN ADDITIONAL PARCEL WILL BE ABSORBED TO CREATE THE FINAL 4.718± ACRE SITE AND WILL INCLUDE ANOTHER 70 UNIT APARTMENT BUILDING AND A 139 SPACE ADDITION TO THE PARKING DECK. SITE WORK FOR EACH PHASE WILL INCLUDE DEMOLITION, CLEARING, GRADING, UTILITY INSTALLATIONS, MINOR CONCRETE WORK, MINOR PAVING, AND LANDSCAPING.

VEHICULAR ACCESS TO THE SITE WILL BE PROVIDED AT ONE LOCATION ONLY ALONG MILLMONT STREET ALTHOUGH THERE WILL ALSO BE A SEPARATE LOADING/SERVICE DRIVE ALSO LOCATED ALONG MILLMONT STREET. A NEW LEFT TURN LANE INTO THE SITE WILL BE CREATED BY MODIFYING THE LANE CONFIGURATION OF MILLMONT STREET AND RESTRIPING THE ROADWAY. IN ORDER TO ACCOMMODATE THE PROPOSED LEFT–TURN LANE SOME ON–STREET PARKING SPACES ALONG THE EAST SIDE OF MILLMONT STREET WILL BE ELIMINATED, BUT NO WIDENING OF THE ROAD IS NECESSARY OR PROPOSED.

THE CURRENT SCHEDULE IS TO BEGIN CONSTRUCTION OF PHASE 1 IN MAY 2012 FOR COMPLETION IN AUGUST 2013. THE PHASE 2 PARCEL IS CURRENTLY OCCUPIED BY A USER WITH A LEASE EXTENDING THROUGH MAY 2014 AND AN OPTION TO EXTEND THROUGH MAY 2017. CONSTRUCTION OF PHASE 2 WILL NOT COMMENCE UNTIL EXPIRATION OF THE LEASE.

SECTION 2 – EXISTING CONDITIONS

CURRENTLY, SEVERAL INSTITUTIONAL TYPE USES OCCUPY THE SITE INCLUDING THE JEFFERSON TRAIL BEHAVIORAL SYSTEM, REGION TEN, AND THE UVA PSYCHOLOGY DEPARTMENT. ELEVATIONS RANGE FROM APPROXIMATELY 490 FEET NEAR THE NORTHEAST CORNER OF THE SITE TO 530 FEET ALONG THE WESTERN PROPERTY LINE WITH EXISTING SLOPES AS GREAT AS 1H:1V. BASED ON THE CITY OF CHARLOTTESVILLE STEEP SLOPES MAPPING AND TOPOGRAPHIC SURVEY, THERE ARE LOCATIONS ACROSS THE SITE THAT EXCEED A 25–PERCENT SLOPE. A MAJORITY OF THESE SLOPES ARE WELL STABILIZED AND DO NOT EXHIBIT EROSION; HOWEVER THE SLOPE IMMEDIATELY ADJACENT TO MILLMONT STREET HAS EXPERIENCED MODERATE TO SEVERE LEVELS OF EROSION AND IS NOT COMPLETELY STABILIZED. EXISTING ON–SITE VEGETATION IS LIMITED AND CONSISTS OF GRASSED AREAS, PLANTER BEDS, SHRUBS, SHADE TREES, AND A FEW LIGHTLY WOODED AREAS NEAR THE WEST PROPERTY LINE. MUCH OF THE SITE CONSISTS OF IMPERVIOUS COVER DUE TO EXISTING BUILDINGS, PARKING AREAS, AND DRIVEWAYS. NEARLY ALL EXISTING INFRASTRUCTURE ON–SITE WILL BE DEMOLISHED AND REMOVED TO ACCOMMODATE THE PROPOSED DEVELOPMENT.

THE SITE HAS TWO OUTFALLS FOR STORMWATER RUNOFF AS DESCRIBED BELOW:

MILLMONT OUTFALL – THE EXISTING STORM STRUCTURE LABELED AS “X1” ON THE SITE PLAN SERVES AS THE PRIMARY OUTFALL FOR STORMWATER RUNOFF FROM THE SITE. EXISTING RUNOFF REACHES THE OUTFALL VIA PIPED FLOW THROUGH AN EXISTING 15–INCH CONCRETE PIPE AND VIA SHEET FLOW FROM MILLMONT STREET.

NORTH OUTFALL – A LIMITED AMOUNT OF STORMWATER RUNOFF FROM THE NORTHERNMOST PART OF THE SITE LEAVES THE SITE AS SHEET FLOW TOWARD ADJACENT LAND TO THE NORTH. THIS RUNOFF IS QUICKLY INTERCEPTED ON THE ADJACENT PROPERTIES BY A LARGER 42–INCH STORM DRAINAGE SYSTEM. THIS SYSTEM CONVERGES WITH THE MILLMONT OUTFALL A SHORT DISTANCE DOWNSTREAM (THE ULTIMATE OUTFALL) AND CONTINUES TOWARD THE EAST.

BASED ON SITE RECONNAISSANCE, BOTH OUTFALLS APPEAR ADEQUATE AND THERE WAS NO VISIBLE EVIDENCE NOTED OF DRAINAGE ISSUES OR EROSION PROBLEMS.

ACCORDING TO A SITE PLAN FOR A PARKING LOT EXPANSION OF THE JEFFERSON TRAIL BEHAVIORAL SYSTEM PARCEL, STORMWATER DETENTION OF THE EXPANDED PARKING AREA IS CURRENTLY PROVIDED BY AN EXISTING 70–FOOT, 36–INCH STORM PIPE WITH ROUGHLY 500 CUBIC FEET OF UNDERGROUND STORAGE. SINCE THE DETENTION SYSTEM MUST BE REMOVED TO ACCOMMODATE THE PROPOSED IMPROVEMENTS, THIS CURRENTLY IMPERVIOUS EXPANSION AREA HAS BEEN ANALYZED AS UNDEVELOPED (AS PERVIOUS LAND) TO ACCURATELY ACCOUNT FOR REMOVAL OF THE DETENTION SYSTEM IN DRAINAGE CALCULATIONS.

THE SUBJECT SITE IS BORDERED BY ARLINGTON BOULEVARD TO THE SOUTH, MILLMONT STREET TO THE EAST, A COMMERCIAL STRIP SHOPPING CENTER TO THE NORTH, AND ANOTHER APARTMENT COMPLEX TO THE WEST. APPROPRIATE PERIMETER CONTROLS AS SHOWN THE EROSION CONTROL PLAN SHEET(S) OF THE SITE PLAN WILL PROVIDE SUFFICIENT PROTECTION FROM THESE ADJACENT AREAS. MINIMAL OFF–SITE LAND DISTURBANCE WITHIN THE RIGHT–OF–WAY AREAS ALONG THE SITE FRONTAGE IS REQUIRED FOR REMOVAL OF ENTRANCE APRONS, REPLACEMENT OF CURBING AND SIDEWALK, DRAINAGE PIPE INSTALLATION, UTILITY CONNECTIONS, AND PAVEMENT RESURFACING. NO OTHER OFF–SITE LAND DISTURBANCE IS NECESSARY OR PROPOSED TO COMPLETE THIS PROJECT.

SECTION 3 – EROSION AND SEDIMENT CONTROL NARRATIVE

DESCRIBED BELOW ARE THE MAJOR ACTIVITIES FROM START OF CONSTRUCTION THROUGH PERMANENT STABILIZATION. THEY ARE PRESENTED IN THE ORDER THEY ARE EXPECTED TO BEGIN, BUT EACH ACTIVITY WILL NOT NECESSARILY BE COMPLETED BEFORE THE NEXT BEGINS. ALSO, THESE ACTIVITIES COULD OCCUR IN A DIFFERENT ORDER IF NECESSARY TO MAINTAIN ADEQUATE EROSION AND SEDIMENT CONTROL:

CONSTRUCTION SEQUENCE – PHASE 1

1. COORDINATE REMOVAL OR RELOCATION OF POWER POLES AND UTILITY LINES WITH DOMINION VIRGINIA POWER AND OTHER UTILITY COMPANIES. DISCONNECT ALL EXISTING UTILITIES SERVING EXISTING STRUCTURES TO BE DEMOLISHED. COORDINATE RELOCATION OF ANY EXISTING UTILITIES LOCATED WITHIN CONSTRUCTION LIMITS WHICH CURRENTLY SERVE STRUCTURES TO REMAIN.
2. DEMOLISH EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS. PERFORM DEMOLITION OPERATIONS ONLY AND DO NOT PROCEED WITH ANY LAND DISTURBANCE.
3. INSTALL PERIMETER EROSION CONTROLS INCLUDING CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, AND CHECK DAMS.
4. EXCAVATE SEDIMENT TRAP, CONSTRUCT DIVERSION DIKE, AND INSTALL TEMPORARY DRAINAGE PIPE TO SEDIMENT TRAP. START DEMOLITION OF ALL REMAINING ON–SITE CONCRETE, PAVEMENT, AND STORM DRAINS.
5. CLEAR AND GRUB SITE. BEGIN GRADING AND EARTHWORK OPERATIONS. PROVIDE TEMPORARY SEEDING FOR ALL DENUDED AREAS. PROVIDE POSITIVE DRAINAGE TO SEDIMENT TRAP FOR AREAS WITHIN DESIGNED SEDIMENT TRAP DRAINAGE AREA.
6. COMPLETE ROUGH GRADING OPERATIONS. PROVIDE PERMANENT SEEDING AND SOIL STABILIZATION BLANKETS AND MATTING. PREPARE BUILDING PAD AND POUR BUILDING FOUNDATIONS. START UTILITY AND STORM DRAIN INSTALLATIONS WITH INLET PROTECTION WHERE APPLICABLE. ONLY NON–PERFORATED STORM PIPES SHOULD BE INSTALLED AT THIS TIME. STOCKPILE SOIL MATERIALS AWAY FROM CRITICAL SLOPES AND DRAINAGE WAYS, STABILIZE WITH VEGETATION, AND SURROUND WITH SILT FENCE.
7. REMOVE SEDIMENT TRAP ONCE BUILDING SLAB HAS REPLACED DISTURBED AREAS UPSTREAM OF SEDIMENT TRAP. CONTINUE BUILDING CONSTRUCTION INCLUDING PARKING DECK.
8. COMPLETE FINE GRADING AND SIDEWALK CONSTRUCTION OR REPLACEMENT. INSTALL IRRIGATION SYSTEM AND LANDSCAPING. COMPLETE PAVEMENT RESURFACING AND DRIVEWAY CONSTRUCTION. PLACE PAVEMENT MARKINGS AND INSTALL SIGNAGE.
9. INSTALL PERFORATED STORM PIPES AND CONSTRUCT DRY SWALE. ACTIVATE ROOF DRAIN FILTERRA UNIT. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. DO NOT REMOVE EROSION CONTROL MEASURES UNTIL THE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED AND ADEQUATE VEGETATION HAS BEEN ESTABLISHED.

CONSTRUCTION SEQUENCE – PHASE 2

1. DISCONNECT ALL EXISTING UTILITIES SERVING EXISTING STRUCTURES TO BE DEMOLISHED. COORDINATE RELOCATION OF ANY EXISTING UTILITIES LOCATED WITHIN CONSTRUCTION LIMITS WHICH CURRENTLY SERVE STRUCTURES TO REMAIN.
2. DEMOLISH EXISTING STRUCTURES WITHIN CONSTRUCTION LIMITS. PERFORM DEMOLITION OPERATIONS ONLY AND DO NOT PROCEED WITH ANY LAND DISTURBANCE.
3. INSTALL PERIMETER EROSION CONTROLS INCLUDING CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, AND CHECK DAMS.
4. START DEMOLITION OF ALL REMAINING ON–SITE CONCRETE, PAVEMENT, AND STORM DRAINS.
5. CLEAR AND GRUB SITE. BEGIN GRADING AND EARTHWORK OPERATIONS. PROVIDE TEMPORARY SEEDING FOR ALL DENUDED AREAS.
6. COMPLETE ROUGH GRADING OPERATIONS. PROVIDE PERMANENT SEEDING AND SOIL STABILIZATION BLANKETS AND MATTING. PREPARE BUILDING PAD AND POUR BUILDING FOUNDATIONS. START UTILITY AND STORM DRAIN INSTALLATIONS WITH INLET PROTECTION WHERE APPLICABLE.
7. CONTINUE BUILDING CONSTRUCTION INCLUDING PARKING DECK EXPANSION.
8. COMPLETE FINE GRADING AND SIDEWALK CONSTRUCTION OR REPLACEMENT. INSTALL IRRIGATION SYSTEM AND LANDSCAPING.
9. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. DO NOT REMOVE EROSION CONTROL MEASURES UNTIL THE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED AND ADEQUATE VEGETATION HAS BEEN ESTABLISHED.

EROSION AND SEDIMENT CONTROL MEASURES

THE EROSION CONTROL MEASURES DESCRIBED BELOW AND AS SHOWN ON THE EROSION CONTROL PLAN SHEET(S) OF THE SITE PLAN WILL BE USED FOR THIS PROJECT:

3.01 SAFETY FENCE – A PROTECTIVE BARRIER INSTALLED TO PREVENT ACCESS TO AN EROSION CONTROL MEASURE. THE PURPOSE OF THIS PRACTICE IS TO PROHIBIT THE UNDESIRABLE USE OF AN EROSION CONTROL MEASURE.

3.02 TEMPORARY STONE CONSTRUCTION ENTRANCE – A STABILIZED STONE PAD WITH A FILTER FABRIC UNDERLINER WILL BE PROVIDED AT EACH CONSTRUCTION ACCESS POINT. THE PURPOSE OF THIS PRACTICE IS TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PAVED PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.

3.05 SILT FENCE – A TEMPORARY SEDIMENT BARRIER CONSISTING OF A SYNTHETIC FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED WILL BE PROVIDED AROUND MOST OF THE SITE PERIMETER. THE PURPOSE OF THIS PRACTICE IS TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

3.07 STORM DRAIN INLET PROTECTION – A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET WILL BE PROVIDED AT ALL INLET LOCATIONS WITHIN THE LIMITS OF DISTURBANCE. THE PURPOSE OF THIS PRACTICE IS TO PREVENT SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.

3.09 DIVERSION DIKE – A CHANNEL CONSTRUCTED ACROSS THE SLOPE WITH A SUPPORTING EARTHEN RIDGE ON THE LOWER SIDE WILL BE PROVIDED AS SHOWN ON THE PLAN. THE PURPOSE OF THIS PRACTICE IS TO INTERCEPT AND DIVERT STORMWATER RUNOFF FROM DISTURBED AREAS TO OTHER EROSION CONTROL MEASURES.

3.13 TEMPORARY SEDIMENT TRAP – A TEMPORARY PONDING AREA FORMED BY CONSTRUCTING AN EARTHEN EMBANKMENT WITH A STONE OUTLET WILL BE PROVIDED AS SHOWN ON THE EROSION CONTROL PLAN. THE PURPOSE OF THIS PRACTICE IS TO DETAIN SEDIMENT–LADEN RUNOFF FROM SMALL DISTURBED AREAS LONG ENOUGH TO ALLOW THE MAJORITY OF THE SEDIMENT TO SETTLE OUT.

3.20 ROCK CHECK DAMS – SEVERAL SMALL TEMPORARY STONE DAMS WILL BE PROVIDED TO REDUCE THE VELOCITY OF CONCENTRATED STORMWATER FLOWS AND THEREFORE REDUCE THE POTENTIAL FOR EROSION. AS A SECONDARY FUNCTION, SOME SEDIMENT WILL BE TRAPPED PRIOR TO BEING TRANSPORTED DOWNSTREAM.

3.31 TEMPORARY SEEDING – THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING WITH APPROPRIATE RAPIDLY GROWING ANNUAL PLANTS WILL BE PROVIDED ON ALL DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE WITHIN 30 DAYS. THE PURPOSE OF THIS PRACTICE IS TO PROVIDE PROTECTION TO BARE SOILS EXPOSED DURING CONSTRUCTION UNTIL PERMANENT VEGETATION OR OTHER EROSION CONTROL MEASURES CAN BE ESTABLISHED.

3.32 PERMANENT SEEDING – THE ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER ON DISTURBED AREAS BY PLANTING SEED WILL BE PROVIDED AS SHOWN ON THE LANDSCAPING PLAN. THE PURPOSE OF THIS PRACTICE IS TO REDUCE EROSION AND DECREASE SEDIMENT YIELD FROM DISTURBED AREAS AND TO PERMANENTLY STABILIZE DISTURBED AREAS IN A MANNER THAT IS ECONOMICAL, ADAPTABLE TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.

3.36 SOIL STABILIZATION BLANKETS AND MATTING – THE INSTALLATION OF PROTECTIVE COVERINGS WITH SOIL STABILIZATION MATS WILL BE PROVIDED AS SHOWN ON THE EROSION CONTROL PLAN TO AID IN CONTROLLING EROSION ON CRITICAL AREAS AND PROTECT YOUNG VEGETATION DURING EARLY VEGETATIVE ESTABLISHMENT.

MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AFTER EACH RAINFALL, OR WEEKLY, WHICHEVER IS MOST FREQUENT, AND SHALL BE CLEANED AND REPAIRED TO PROVIDE WORKING EROSION CONTROL MEASURES IN ACCORDANCE WITH THE VESCH. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND REPAIR OF ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL FINAL CERTIFICATE OF OCCUPANCY IS OBTAINED BY THE OWNER. PRIOR TO LAND DISTURBANCE, THE CONTRACTOR MUST PROVIDE AN EMERGENCY CONTACT NAME AND PHONE NUMBER TO THE CITY AND OWNER. THE FOLLOWING IS A GENERAL LIST OF EROSION CONTROL MAINTENANCE AND REMOVAL MEASURES TO BE EMPLOYED ON SITE:

1. EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION AND BUILD–UP OR CLOGGING WITH SEDIMENT. CORRECTIVE ACTION WILL BE TAKEN IMMEDIATELY.
2. EROSION AND SEDIMENT CONTROL MEASURES WHICH HAVE FAILED AND ARE BEYOND REPAIR SHALL BE REMOVED AND REPLACED BY CONTRACTOR.
3. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RE–SEEDED AS NECESSARY.
4. WEEKLY EROSION AND SEDIMENT CONTROL MONITORING REPORTS MUST BE SUBMITTED TO THE OWNER BY THE RESPONSIBLE LAND DISTURBER.
5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL INSPECTION AND APPROVAL BY THE CITY OF CHARLOTTESVILLE.
6. STOCK PILES OF SOIL AND OTHER ERODIBLE MATERIALS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION FOR STOCKPILES ON SITE AS WELL AS FOR MATERIALS TRANSPORTED FROM THE PROJECT SITE.
7. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WITHIN 30 DAYS OF SITE STABILIZATION.

SECTION 4 – DRAINAGE NARRATIVE

STORMWATER QUANTITY – PHASE 1

POST–DEVELOPMENT DRAINAGE PATTERNS HAVE GENERALLY BEEN MAINTAINED COMPARED TO PRE–DEVELOPMENT DRAINAGE PATTERNS AS SHOWN ON THE DRAINAGE PLAN SHEET(S) OF THE SITE PLAN. ALTHOUGH IMPROVEMENTS ASSOCIATED WITH PHASE 1 OF THE PROJECT WILL CREATE A SLIGHT INCREASE IN IMPERVIOUS COVER, THE POST–DEVELOPMENT FLOW WILL IN FACT BE REDUCED COMPARED TO THE PRE–DEVELOPMENT CONDITION AT THE ULTIMATE OUTFALL. THE REDUCTION IN FLOW CAN BE DEMONSTRATED USING BOTH RATIONAL METHOD CALCULATIONS AND SCS METHOD CALCULATIONS.

THE PHASE 1 GRADING PLAN HAS BEEN DESIGNED TO REPLACE SEVERAL EXISTING STEEP SLOPES ON SITE WITH MORE MODERATELY SLOPED DRAINAGE SWALES AROUND MOST OF THE SITE PERIMETER. ADDITIONALLY, RUNOFF GENERATED FROM A SIGNIFICANT PORTION OF THE PROPOSED IMPERVIOUS ROOF AREA DAYLIGHTS INTO A DRY SWALE BMP PRIOR TO DISCHARGE. THESE GRADING TRANSFORMATIONS INCREASE THE POST–DEVELOPMENT TIME OF CONCENTRATION SUCH THAT THE POST–DEVELOPMENT FLOW IS REDUCED.

PROPER APPLICATION OF THE RATIONAL METHOD INVOLVES SELECTING A TIME OF CONCENTRATION AND ASSOCIATED CONTRIBUTING DRAINAGE AREA COMBINATION THAT RESULTS IN THE GREATEST PEAK FLOW (MOST CONSERVATIVE RUNOFF ESTIMATE). THE HIGHEST TIME OF CONCENTRATION (MOST HYDRAULICALLY DISTANT FLOW PATH) WILL OFTEN RESULT IN THE GREATEST PEAK FLOW BECAUSE THIS IS THE EARLIEST TIME WHEN THE ENTIRE WATERSHED CONTRIBUTES TO RUNOFF AT THE SELECTED ANALYSIS POINT. THIS ASSUMPTION HAS BEEN ANALYZED AS SCENARIO 1.

FOR THIS PARTICULAR PROJECT, HOWEVER, MOST RUNOFF FROM THE EXISTING IMPERVIOUS AREAS AND EXISTING STEEP SLOPE AREAS (>2:1) WILL REACH THE OUTFALL LOCATION RELATIVELY QUICKLY WHILE RUNOFF FROM THE PERVIOUS AREAS WILL ARRIVE SOME TIME LATER. SIMILARLY, MOST OF THE PROPOSED IMPERVIOUS AREAS WILL ALSO REACH THE ANALYSIS POINT AT A RELATIVELY LOW CONCENTRATION TIME. THIS ASSUMPTION HAS BEEN ANALYZED AS SCENARIO 2. THE EXCEPTION IS SOME RUNOFF FROM IMPERVIOUS AREAS IS DISCONNECTED FROM THE DRAINAGE SYSTEM AND FIRST ROUTED THROUGH THE PROPOSED DRY SWALE BMP. ACCORDINGLY, ALL POST–DEVELOPMENT AREAS UPSTREAM OF THE DRY SWALE BMP ARE NOT INCLUDED IN SCENARIO 2 SINCE THIS RUNOFF WILL ARRIVE AT THE OUTFALL SOME TIME LATER.

REFER TO THE APPENDIX FOR COMPLETE RATIONAL METHOD OUTFALL SUMMARY AND CALCULATIONS. SINCE THE POST–DEVELOPMENT PEAK FLOW DOES NOT EXCEED THE PRE–DEVELOPMENT PEAK FLOW AT THE ULTIMATE OUTFALL UNDER BOTH SCENARIOS, TRADITIONAL STORMWATER DETENTION IS NOT NECESSARY OR PROPOSED DESPITE REMOVAL OF THE EXISTING 500 CUBIC–FOOT DETENTION SYSTEM.

THE DRY SWALE BMP MENTIONED PREVIOUSLY HAS BEEN DESIGNED IN ACCORDANCE WITH VIRGINIA DCR STORMWATER DESIGN SPECIFICATION NO. 10 AND IS A LEVEL 1 DRY SWALE. THIS TYPE OF DESIGNED DRY SWALE IS AN INNOVATIVE TYPE OF BIORETENTION CONSTRUCTED IN A LINEAR CHANNEL. THE DRY SWALE IS TYPICALLY COVERED WITH TURF OR SOD BUT INCLUDES AT LEAST 18 INCHES OF SPECIFICALLY ENGINEERED BIORETENTION SOIL MEDIA AND AN UNDERDRAIN SYSTEM. UNDER THE RECENTLY ADOPTED VIRGINIA STORMWATER REGULATIONS, A LEVEL 1 DRY SWALE IS CREDITED WITH A 40% REDUCTION IN RUNOFF VOLUME FOR TREATED AREAS.

IN ORDER TO QUANTIFY THE PEAK FLOW AND VOLUME REDUCTION, SCS RUNOFF EQUATIONS 2–1 THROUGH 2–4 AS PROVIDED IN TR–55 CAN BE USED TO DERIVE AN ADJUSTED RUNOFF CURVE NUMBER (CN). THE ADJUSTED CN IS CALCULATED BY FIRST SUBTRACTING THE RUNOFF VOLUME REDUCTION FROM THE RUNOFF VOLUME GENERATED. THIS NEW REDUCED VOLUME (AFTER REMOVING THE RUNOFF VOLUME REDUCTION CREDIT) IS NEXT USED TO RECALCULATE THE DEPTH OF RUNOFF AND THEN THE CORRESPONDING CN VALUE IS USED AS THE ADJUSTED CN. IN THIS CASE, THE DRY SWALE PROVIDES ADEQUATE PEAK FLOW AND VOLUME ATTENUATION USING SCS METHODS. NOTE THAT THE ADJUSTED CN PROCEDURE IS CONSIDERED TO BE A CONSERVATIVE AND MODEST ESTIMATE OF THE ACTUAL RUNOFF REDUCTION EXPECTED FROM THE BMP.

STORMWATER QUALITY – PHASE 1

STORMWATER QUALITY COMPLIANCE IS DEMONSTRATED USING PERFORMANCE–BASED CRITERIA. ACCORDING TO THE RECENTLY ADOPTED VIRGINIA STORMWATER REGULATIONS, A PROPERLY SIZED LEVEL 1 DRY SWALE ACHIEVES A 52% TOTAL PHOSPHOROUS REMOVAL EFFICIENCY. SIZING OF THE DRY SWALE IS BASED ON THE COMPUTED TREATMENT VOLUME OF THE CONTRIBUTING DRAINAGE AREA. THE TREATMENT VOLUME IS DEFINED AS THE RUNOFF VOLUME FROM ONE–INCH OF RAINFALL FROM THE SCS 24–HOUR STORM. THE DRY SWALE STORAGE VOLUME WITHIN THE SOIL MEDIA AND STONE BASE MUST BE GREATER THAN THE TREATMENT VOLUME. IN ADDITION TO THE DRY SWALE, ONE 4' X 6' ROOF DRAIN FILTERRA BIORETENTION SYSTEM UNIT IS PROPOSED TO CAPTURE AND TREAT A PORTION OF THE PHASE 1 BUILDING PRIOR TO CONNECTION TO THE DRAINAGE SYSTEM AT THE ACCEPTED 65% TOTAL PHOSPHOROUS REMOVAL EFFICIENCY. REFER TO THE COMPLETE STORMWATER QUALITY CALCULATION WORKSHEETS FOR CALCULATIONS CONFIRMING THE MINIMUM 10% REDUCTION IN POLLUTANT LOADING FROM PRE–DEVELOPMENT TO POST–DEVELOPMENT CONDITIONS IS ACHIEVED.

DOWNSTREAM ADEQUACY – PHASE 1

SINCE THE 10–YEAR PEAK FLOW HAS BEEN REDUCED AT THE DOWNSTREAM ANALYSIS POINT COMPARED TO PRE–DEVELOPMENT CONDITIONS, NO STORMWATER MANAGEMENT OR DETENTION FACILITIES ARE NECESSARY OR PROPOSED FOR COMPLIANCE WITH MINIMUM STANDARD 19 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS. HOWEVER, A LARGE PORTION OF EXISTING RUNOFF FROM THE SUBJECT SITE REACHES THE MILLMONT OUTFALL AT STRUCTURE X1 AS SHEET FLOW IN THE PRE–DEVELOPMENT CONDITION. UNDER THE POST–DEVELOPMENT CONDITION, THE AMOUNT OF SHEET FLOW IN THE ROADWAY WILL BE REDUCED AS MORE OF THE RUNOFF DIRECTED TO THE MILLMONT OUTFALL WILL BE CONVEYED THROUGH THE PIPES X3 – X2 AND X2 – X1 INSTEAD OF AS SHEET FLOW. THIS IS A POSITIVE IMPACT AS IT REDUCES SPREAD AND THE POTENTIAL OF FLOODING IN THE ROADWAY, BUT THE EXISTING DRAINAGE SYSTEM DOWNSTREAM OF THE PROJECT, WHICH IS LIKELY ALREADY DEFICIENT AND UNDERSIZED, DOES NOT HAVE ANY ADDITIONAL CAPACITY. THEREFORE, EXISTING STORM PIPES X3 – X2 AND X2 – X1 HAVE BEEN PROPOSED TO BE UPSIZED FROM 15 INCHES TO 24 INCHES TO INCREASE CAPACITY AND REDUCE THE POSSIBILITY OF ON–SITE FLOODING. RATIONAL METHOD CALCULATIONS HAVE BEEN PERFORMED TO CONFIRM THAT ALL PIPES WILL HAVE CAPACITY TO CONVEY THE 10–YEAR PEAK FLOW AND THAT THE 10–YEAR HYDRAULIC GRADE LINE IS CONTAINED WITHIN THE DRAINAGE SYSTEM.

STORMWATER QUANTITY – PHASE 2

UPON COMPLETION OF PHASE 2 CONSTRUCTION ACTIVITIES, THE AMOUNT OF IMPERVIOUS COVER WILL BE REDUCED COMPARED TO THE AMOUNT OF IMPERVIOUS COVER AFTER PHASE 1 CONSTRUCTION ACTIVITIES. IN OTHER WORDS, MORE IMPERVIOUS AREA WILL BE DEMOLISHED DURING PHASE 2 CONSTRUCTION THAN WILL BE REPLACED WITH PHASE 2 IMPROVEMENTS. THEREFORE, THE EFFECT OF PHASE 2 CONSTRUCTION ON THE POST–DEVELOPMENT DRAINAGE AND HYDROLOGY COMPARED TO THE PHASE 2 IMPROVEMENTS IS IMPROVED OR AT THE VERY LEAST – INSIGNIFICANT. HOWEVER, SEPARATE CALCULATIONS AND DRAINAGE PLANS HAVE BEEN PROVIDED IN TO CONFIRM STORMWATER QUANTITY CONTROL TO PRE–DEVELOPMENT LEVELS. NOTE THAT UPON COMPLETION OF PHASE 2, ALL STORMWATER RUNOFF IS DIRECTED TOWARD THE MILLMONT OUTFALL. SINCE THE NORTH OUTFALL AND MILLMONT OUTFALL CONVERGE A SHORT DISTANCE DOWNSTREAM OF THE PROJECT, THE STORMWATER QUANTITY IMPACT AT THE ULTIMATE OUTFALL IS VIRTUALLY UNCHANGED.

STORMWATER QUALITY – PHASE 2

THE MINIMUM 10% REDUCTION IN POLLUTANT LOADING FROM PRE–DEVELOPMENT TO POST–DEVELOPMENT CONDITIONS IS ACHIEVED VIA THE REDUCTION OF IMPERVIOUS COVER UPON COMPLETION OF PHASE 2 CONSTRUCTION ACTIVITIES

DOWNSTREAM ADEQUACY – PHASE 2

RATIONAL METHOD CALCULATIONS HAVE BEEN PERFORMED TO CONFIRM THAT ALL PIPES WILL HAVE CAPACITY TO CONVEY THE 10–YEAR PEAK FLOW AND THAT THE 10–YEAR HYDRAULIC GRADE LINE IS CONTAINED WITHIN THE DRAINAGE SYSTEM. SINCE ALL STORMWATER RUNOFF AFTER PHASE 2 IS DIRECTED TOWARD THE MILLMONT OUTFALL INSTEAD OF BEING SPLIT WITH THE NORTH OUTFALL, THERE IS AN INCREASE IN FLOW IN THE PIPES TO STRUCTURE X1. BECAUSE THESE PIPES WILL BE UPSIZED DURING PHASE 1, SUFFICIENT CAPACITY IS AVAILABLE TO CONVEY THE INCREASE IN FLOW FROM PHASE 2. AGAIN, NOTE THAT SINCE THE NORTH OUTFALL AND MILLMONT OUTFALL CONVERGES A SHORT DISTANCE DOWNSTREAM OF THE PROJECT, THE STORMWATER QUANTITY IMPACT AT THE ULTIMATE OUTFALL IS VIRTUALLY UNCHANGED.

SECTION 5 – STORMWATER BMP MAINTENANCE

THERE ARE TWO STORMWATER BEST MANAGEMENT PRACTICES (BMPS) UTILIZED ON–SITE – A LEVEL 1 DRY SWALE WITH BIORETENTION MEDIA AND A ROOF DRAIN FILTERRA MANUFACTURED STORMWATER TREATMENT UNIT. BOTH THE DRY SWALE AND THE FILTERRA UNIT WILL TREAT A PORTION OF STORMWATER RUNOFF GENERATED FROM THE ROOF RUNOFF OF THE PHASE 1 BUILDING. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE BMPS UNTIL FINAL ACCEPTANCE FROM THE OWNER. THE FOLLOWING IS A SUMMARY OF ANTICIPATED MAINTENANCE RESPONSIBILITIES NECESSARY FOR EACH FACILITY TO WORK PROPERLY.

LEVEL 1 DRY SWALE WITH BIORETENTION MEDIA

SOIL

URBAN PLANT COMMUNITIES TEND TO BECOME VERY ACIDIC DUE TO PRECIPITATION AS WELL AS THE INFLUENCES OF STORM WATER RUNOFF. FOR THIS REASON, IT IS RECOMMENDED THAT THE APPLICATION OF ALKALINE, SUCH AS LIMESTONE, BE CONSIDERED ONCE TO TWICE A YEAR. TESTING OF THE PH OF THE ORGANIC LAYER AND SOIL, SHOULD PRECEDE THE LIMESTONE APPLICATION TO DETERMINE THE AMOUNT OF LIMESTONE REQUIRED.

SOIL TESTING SHOULD BE CONDUCTED ANNUALLY SO THAT THE ACCUMULATION OF TOXINS AND HEAVY METALS CAN BE DETECTED OR PREVENTED. OVER A PERIOD OF TIME, HEAVY METALS AND OTHER TOXIC SUBSTANCES WILL TEND TO ACCUMULATE IN THE SOIL AND THE PLANTS. DATA FROM OTHER ENVIRONS SUCH AS FOREST BUFFERS AND GRASS SWALES SUGGEST ACCUMULATION OF TOXINS AND HEAVY METALS WITHIN FIVE YEARS OF INSTALLATION. HOWEVER, THERE IS NO METHODOLOGY TO ESTIMATE THE LEVEL OF TOXIC MATERIALS IN THE BIORETENTION AREAS SINCE RUNOFF, SOIL, AND PLANT CHARACTERISTICS WILL VARY FROM SITE TO SITE.

AS THE TOXIC SUBSTANCES ACCUMULATE, THE PLANT BIOLOGIC FUNCTIONS MAY BECOME IMPAIRED, AND THE PLANT MAY EXPERIENCE DWARFED GROWTH FOLLOWED BY MORTALITY. THE BIOTA WITHIN THE SOIL CAN ALSO BECOME VOID AND THE NATURAL SOIL CHEMISTRY MAY BE ALTERED. THE PREVENTATIVE MEASURES WOULD INCLUDE THE REMOVAL OF THE CONTAMINATED SOIL. IN SOME CASES, REMOVAL AND DISPOSAL OF THE ENTIRE SOIL BASE AS WELL AS THE PLANT MATERIAL MAY BE REQUIRED.

PLANT MATERIALS

ONGOING MONITORING AND MAINTENANCE IS VITAL TO THE OVERALL SUCCESS OF THE DRY SWALE WITH BIORETENTION MEDIA. ANNUAL MAINTENANCE WILL BE REQUIRED FOR PLANT MATERIAL AND THE SOIL LAYER. A MAINTENANCE SCHEDULE SHOULD INCLUDE ALL OF THE MAIN CONSIDERATIONS DISCUSSED BELOW. SOIL AND GRASS LAYER MAINTENANCE WILL BE MOST LIKELY LIMITED TO CORRECTING AREAS OF EROSION. PLANT MATERIAL UPKEEP WILL INCLUDE ADDRESSING PROBLEMS ASSOCIATED WITH DISEASE OR INSECT INFESTATIONS, REPLACING DEAD PLANT MATERIAL, AND ANY NECESSARY PRUNING.

CONTROL OF SEDIMENTS ON THE DRAINAGE SHED

CARE MUST BE TAKEN TO PROTECT THE DRY SWALE AND BIORETENTION MEDIA FROM EXCESSIVE SEDIMENTS FROM THE DRAINAGE SHED. WHENEVER ADDITIONAL LAND DISTURBING ACTIVITY TAKES PLACE IN THE AREA DRAINING TO THE BASIN, EFFECTIVE EROSION AND SEDIMENT CONTROL MEASURES MUST FIRST BE PUT IN PLACE TO EXCLUDE SEDIMENTS FROM THE BASIN.

FILTERRA MANUFACTURED STORMWATER UNIT

THE FILTERRA® STORMWATER BIORETENTION FILTRATION SYSTEM IS A MANUFACTURED STORMWATER TREATMENT UNIT THAT IS COMPRISED OF A CONCRETE BOX THAT HOLDS AN ENGINEERED SOIL MEDIA THAT IS USED TO FILTER AND DECOMPOSE POLLUTANTS FROM STORMWATER. AT THE BASE OF THE CONCRETE BOX IS A PERFORATED UNDERDRAIN THAT INTERCEPTS THE TREATED STORMWATER AND DISCHARGES THE FLOW TO A DOWNSTREAM STRUCTURE. IN ORDER TO HELP WITH THE DECOMPOSITION OF POLLUTANTS, THE UNIT ALSO CONSISTS OF A SMALL MULCH AND LANDSCAPED AREA AT THE RIM OF THE UNIT WHERE THE ROOTS OF THE LANDSCAPING ACTUALLY GROW INTO THE ENGINEERED SOIL MEDIA AND HELP WITH THE ROOT UPTAKE OF POLLUTANTS. THE LIFE EXPECTANCY OF A WELL–MAINTAINED FILTERRA UNIT IS IN EXCESS OF 50 YEARS.

TABLE 3.31-B
(REVISED JUNE 2003)
TEMPORARY SEEDING SPECIFICATIONS
QUICK REFERENCE FOR ALL REGIONS

	SEED	
APPLICATION DATES	SPECIES	APPLICATION RATES
SEPT. 1 - FEB. 15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) AND CEREAL (WINTER) RYE (SECALE CEREALE)	50-100 LBS/ACRE
FEB. 16 - APR. 30	ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM)	60-100 LBS/ACRE
MAY 1 - AUG. 31	GERMAN MILLET	50 LBS/ACRE

FERTILIZER AND LIME
- APPLY 10–10–10 FERTILIZER AT A RATE OF 450 LBS./ACRE (OR 10 LBS./1,000 SQ. FT.)
- APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE (OR 90 LBS./1,000 SQ. FT.)

MULCHING
STRAW IS TO BE USED IN CONJUNCTION WILL ALL TEMPORARY SEEDING OPERATIONS DURING CONSTRUCTION

NOTE:
1. A SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL PH OF SITE.
2. INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 4–6 INCHES OF THE SOIL BY DISKING OR BY OTHER MEANS.
3. WHEN APPLYING SLOWLY AVAILABLE NITROGEN, USE RATES AVAILABLE IN EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN #4. 2003 NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES AT HTTP://WWW.DCR.STATE.VA.US/SW/E&S.HTM#PUBS

SAFETY FENCE

SOURCE: CONWED PLASTICS
VDOT ROAD AND BRIDGE STANDARDS
VA. DSWC
PLATE. 3.01-1

STONE CONSTRUCTION ENTRANCE

SOURCE: ADAPTED from 1983 Maryland Standards for Soil erosion and Sediment Control, and Va. DSWC
Plate 3.02-1

SILT FENCE DROP INLET PROTECTION

SPECIFIC APPLICATION
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

SOURCE: N.C. Erosion and Sediment Control Planning and Design Manual, 1988
PLATE 3.07-1

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

SPECIFIC APPLICATION
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.
- GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

SOURCE: VA. DSWC
PLATE. 3.07-2

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

SPECIFIC APPLICATION
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.
- GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

SOURCE: VA. DSWC
PLATE. 3.07-5

GRAVEL CURB INLET SEDIMENT FILTER

SPECIFIC APPLICATION
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.
- GRAVEL SHALL BE VDOT #3, #357 OR 5 COARSE AGGREGATE.

SOURCE: VA. DSWC
PLATE 3.07-6

BLOCK & GRAVEL CURB INLET SEDIMENT FILTER

SPECIAL APPLICATION
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.
- GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

SOURCE: VA. DSWC
PLATE 3.07-8

FENCING AND ARMORING

Source: Va. DSWC
PLATE 3.38-2

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyant
PLATE 3.05-2

TEMPORARY DIVERSION DIKE

SOURCE: VA. DSWC
PLATE 3.09-1

TEMPORARY FILL DIVERSION

PLATE 3.10-1

TEMPORARY RIGHT–OF–WAY DIVERSIONS

Source: Va. SWCC
Plate 3.11-1

DIVERSIONS

Source: Va. DSWC
Plate 3.12-1

ROCK CHECK DAM

SOURCE: VA. DSWC
PLATE. 3.20-1

TYPICAL ORIENTATION OF TREATMENT – 1 (SOIL STABILIZATION BLANKET)

SOURCE: ADAPTED FROM LUDLOW PRODUCTS BROCHURE
PLATE: 3.36-1

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.
1700 WILLOW LAWN DR, SUITE 200, RICHMOND, VA 23230
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WWW.KIMLEY-HORN.COM

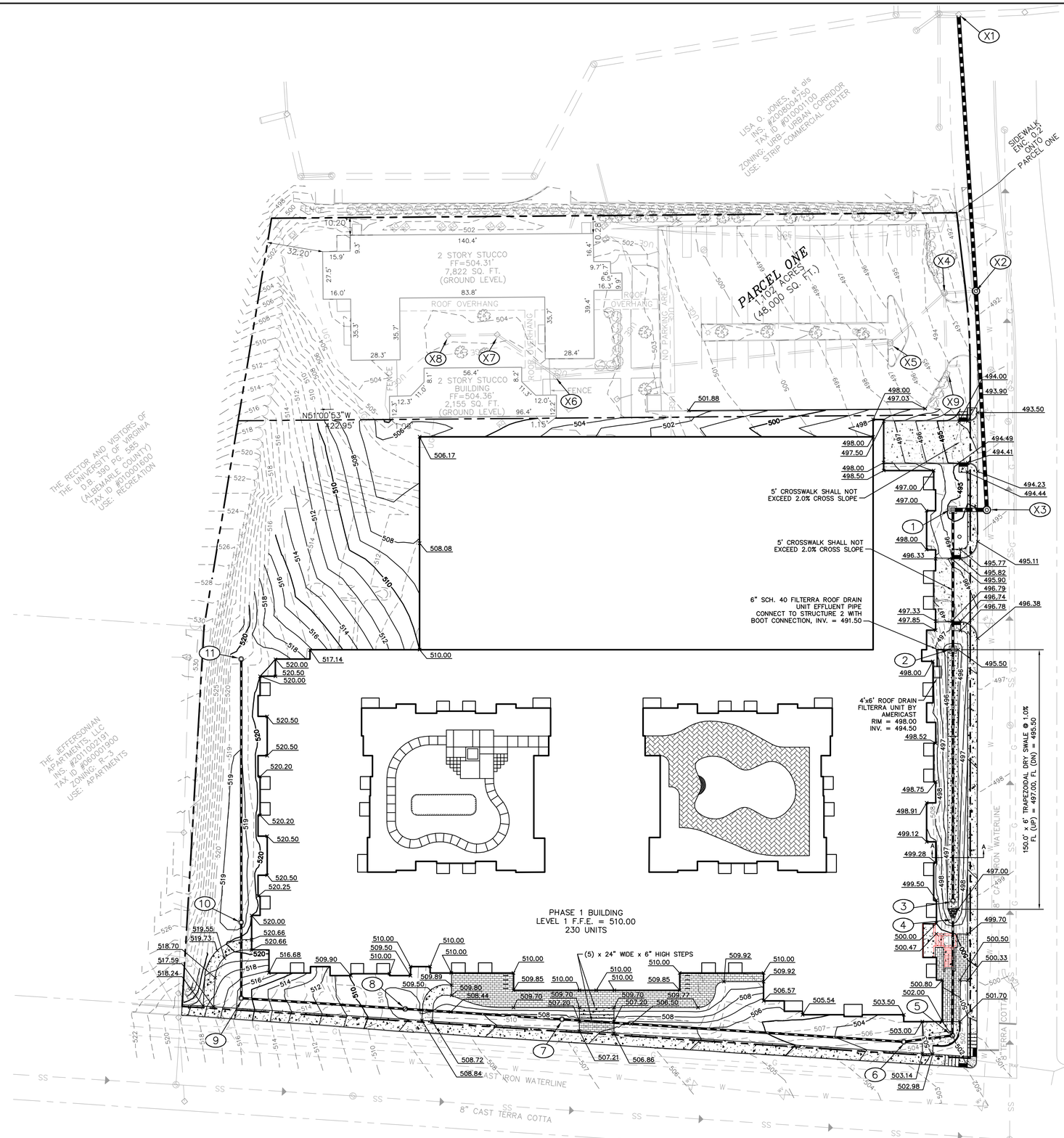
BRIAN J. BREWER
Lic. No. 039045
02-01-12

KHA PROJECT 113155000
DATE 02/01/2012
SCALE AS SHOWN
DESIGNED BY AFS
DRAWN BY AFS
CHECKED BY BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

E&S CONTROL DETAILS

SHEET NUMBER
CE-501



STORM STRUCTURES

1 VDOT STD DI-7
TOP = 494.50; INV = 485.25; H = 9.25'

2 VDOT STD DI-7 (BOOT CONNECTION REQ'D)
TOP = 495.50; INV = 487.68; H = 7.82'

3 CLEANOUT STRUCTURE
TOP = 497.50; INV = 493.00; H = 4.50'

4 VDOT STD ES-1 WITH 2 CY CLASS I RIPRAP
TOP = N/A; INV = 497.10; H = N/A

5 NYLOPLAST JUNCTION OR APPR. EQUAL
TOP = 502.00; INV = 498.80; H = 3.20'

6 2'x2' NYLOPLAST GRATE INLET OR APPR. EQUAL
TOP = 503.00; INV = 499.50; H = 3.50'

7 2'x2' NYLOPLAST GRATE INLET OR APPR. EQUAL
TOP = 507.00; INV = 503.46; H = 3.54'

8 2'x2' NYLOPLAST GRATE INLET OR APPR. EQUAL
TOP = 508.00; INV = 505.28; H = 2.72'

9 NYLOPLAST JUNCTION OR APPR. EQUAL
TOP = 515.70; INV = 510.03; H = 5.67'

10 2'x2' NYLOPLAST GRATE INLET OR APPR. EQUAL
TOP = 518.00; INV = 511.35; H = 6.65'

11 CLEANOUT STRUCTURE
TOP = 519.50; INV = 515.91; H = 3.59'

X1 REPLACE EX. WITH VDOT STD DI-3C
TOP = 487.19; INV = 482.84; H = 4.35'

X2 REPLACE EX. WITH VDOT STD MH-1
TOP = 491.58; INV = 483.96; H = 7.62'

X3 REPLACE EX. WITH VDOT STD MH-1
TOP = 494.76; INV = 484.85; H = 9.91'

STORM PIPES

11 - 10 152 LF - 8 in PERF. HDPE @ 3.00%
INV (IN) = 515.91; INV (OUT) = 511.35

10 - 9 44 LF - 8 in HDPE @ 3.00%
INV (IN) = 511.35; INV (OUT) = 510.03

9 - 8 95 LF - 10 in HDPE @ 5.00%
INV (IN) = 510.03; INV (OUT) = 505.28

8 - 7 91 LF - 10 in HDPE @ 2.00%
INV (IN) = 505.28; INV (OUT) = 503.46

7 - 6 198 LF - 10 in HDPE @ 2.00%
INV (IN) = 503.46; INV (OUT) = 499.50

6 - 5 28 LF - 10 in HDPE @ 2.50%
INV (IN) = 499.50; INV (OUT) = 498.80

5 - 4 68 LF - 12 in CLASS V RCP @ 2.50%
INV (IN) = 498.80; INV (OUT) = 497.10

3 - 2 150 LF - 12 in PERF. HDPE @ 1.00%
INV (IN) = 493.00; INV (OUT) = 491.50

2 - 1 81 LF - 15 in CLASS III RCP @ 3.00%
INV (IN) = 487.68; INV (OUT) = 485.25

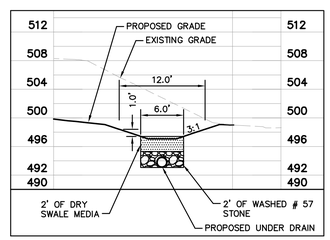
1 - X3 20 LF - 24 in CLASS III RCP @ 2.00%
INV (IN) = 485.25; INV (OUT) = 484.85

X3 - X2 127 LF - 24 in CLASS III RCP @ 0.70%
INV (IN) = 484.85; INV (OUT) = 483.96
(REPLACE EXISTING)

X2 - X1 160 LF - 24 in CLASS III RCP @ 0.70%
INV (IN) = 483.96; INV (OUT) = 482.84
(REPLACE EXISTING)

NOTES:

1. SPOT ELEVATIONS REFER TO GROUND OR TOP OF PAVEMENT/SIDEWALK.
2. CONTRACTOR TO USE EC-2 MATTING ON SLOPES 4:1 AND GREATER
3. SLOPES SHALL NOT EXCEED 2:1, ALTHOUGH 3:1 IS PREFERRED WHERE ACHIEVABLE.
4. ALL WORK IN THE ROW, INCLUDING BUT NOT LIMITED TO SIDEWALKS, STREET PAVING, UTILITIES AND STORM INFRASTRUCTURE WILL REQUIRE INSPECTION AND APPROVAL BY THE CITY.
5. ROOF DRAIN LOCATIONS UNKNOWN AT THIS TIME. ALL ROOF LEADERS SHALL BE 6" HDPE PIPE AND TIED INTO NEAREST ADJACENT STORM DRAIN WITH WYE CONNECTION AND CLEANOUT. REFER TO FINAL BUILDING PLANS FOR EXACT ROOF DRAIN LOCATIONS.
6. DRAINAGE SYSTEM FOR PARKING GARAGE AND COURTYARD AREAS BY ARCHITECT. REFER TO BUILDING PLANS FOR EXACT DRAIN LOCATIONS AND ROUTING. DRAINAGE FOR PARKING GARAGE, COURTYARD, AND INNER MOST ROOF AREAS SHALL CONNECT TO SITE DRAINAGE SYSTEM AT STRUCTURE #1. REFER TO CE-103 AND CE-104 FOR DRAINAGE BOUNDARIES.



DRY SWALE CROSS SECTION A-A
SCALE 1"=10'

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

No.	REVISIONS	DATE	BY

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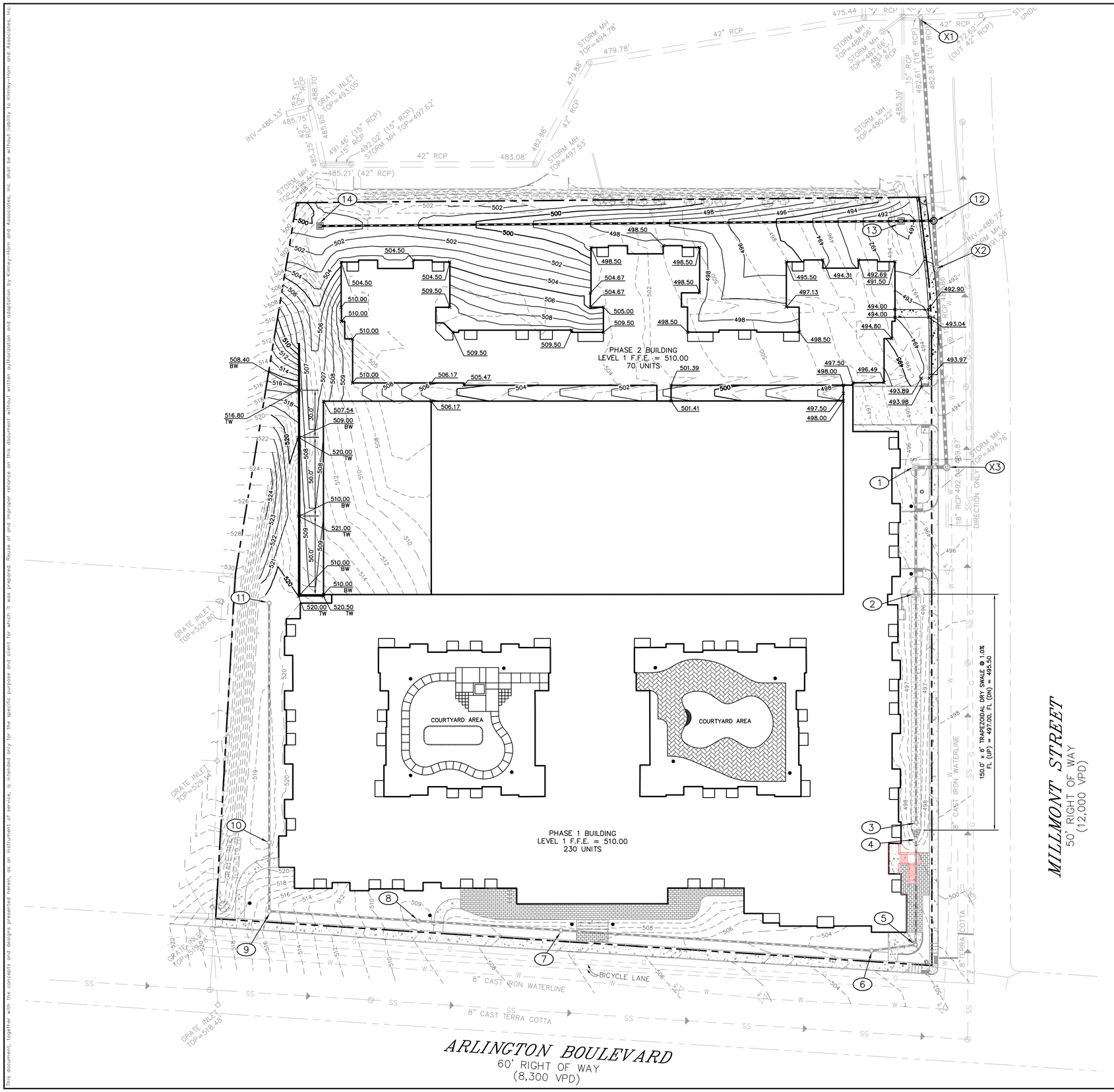
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000			
DATE	02/01/2012		
SCALE	AS SHOWN	DESIGNED BY	AFS
		DRAWN BY	AFS
		CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

GRADING PLAN - PHASE 1

SHEET NUMBER
CG-101



STORM STRUCTURES

12 VDOT STD MH-1
TOP = 490.80; INV = 483.75; H = 7.05'

13 VDOT STD DI-7
TOP = 490.50; INV = 485.84; H = 4.66'

14 VDOT STD DI-7
TOP = 500.50; INV = 496.94; H = 3.56'

STORM PIPES

14 - 13 370 LF - 12 in HDPE @ 3.00%
INV (IN) = 496.94; INV (OUT) = 485.84

13 - 12 20 LF - 15 in CLASS III RCP @ 3.00%
INV (IN) = 485.84; INV (OUT) = 485.24

NOTES:

1. SPOT ELEVATIONS REFER TO GROUND OR TOP OF PAVEMENT/SIDEWALK.
2. CONTRACTOR TO USE EC-2 MATTING ON SLOPES 4:1 AND GREATER
3. SLOPES SHALL NOT EXCEED 2:1, ALTHOUGH 3:1 IS PREFERRED WHERE ACHIEVABLE.
4. ALL WORK IN THE ROW, INCLUDING BUT NOT LIMITED TO SIDEWALKS, STREET PAVING, UTILITIES AND STORM INFRASTRUCTURE WILL REQUIRE INSPECTION AND APPROVAL BY THE CITY.
5. ROOF DRAIN LOCATIONS UNKNOWN AT THIS TIME. ALL ROOF LEADERS SHALL BE 6" HDPE PIPE AND TIED INTO NEAREST ADJACENT STORM DRAIN WITH WYE CONNECTION AND CLEANOUT. REFER TO FINAL BUILDING PLANS FOR EXACT ROOF DRAIN LOCATIONS.
6. DRAINAGE SYSTEM FOR PARKING GARAGE AND COURTYARD AREAS BY ARCHITECT. REFER TO BUILDING PLANS FOR EXACT DRAIN LOCATIONS AND ROUTING. DRAINAGE FOR PARKING GARAGE, COURTYARD, AND INNER MOST ROOF AREAS SHALL CONNECT TO SITE DRAINAGE SYSTEM AT STRUCTURE #1. REFER TO CE-103 AND CE-104 FOR DRAINAGE BOUNDARIES.

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KHA PROJECT	113155000
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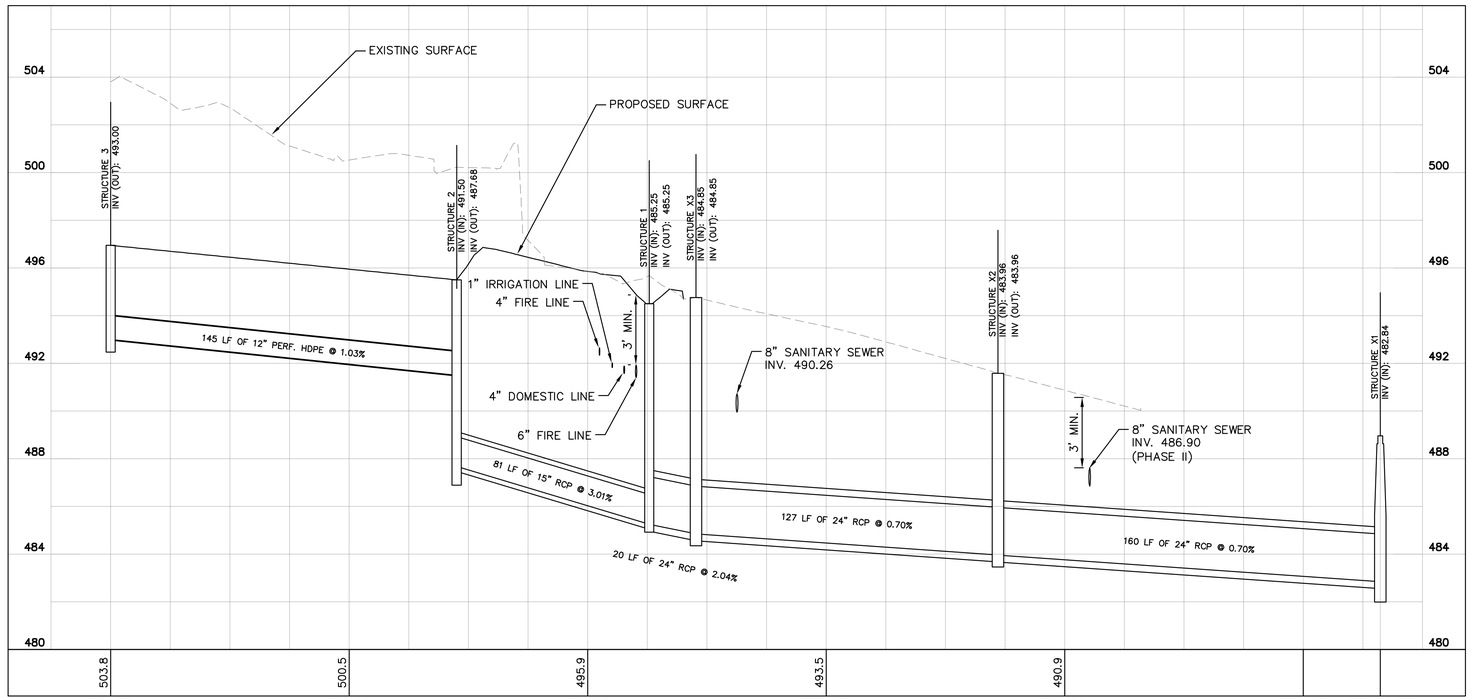
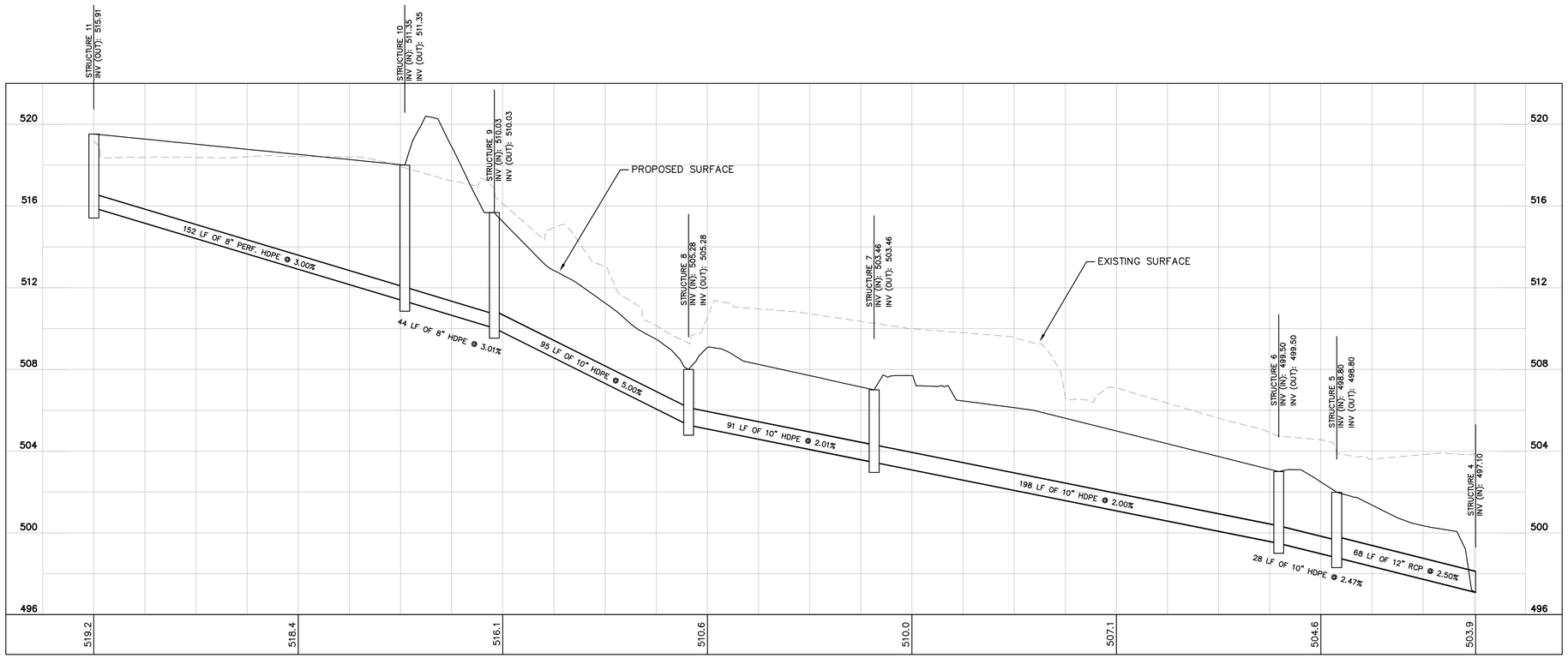
ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

GRADING PLAN - PHASE 2

SHEET NUMBER
CG-102



STORM PROFILE 3 TO X1



STORM PROFILE 11 TO 4

VERT. SCALE 1"= 3'

3
0
0
30'

HORIZONTAL SCALE 1"= 30'

No.	REVISIONS	DATE	BY

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KHA PROJECT	113155000
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SCALE	AS SHOWN
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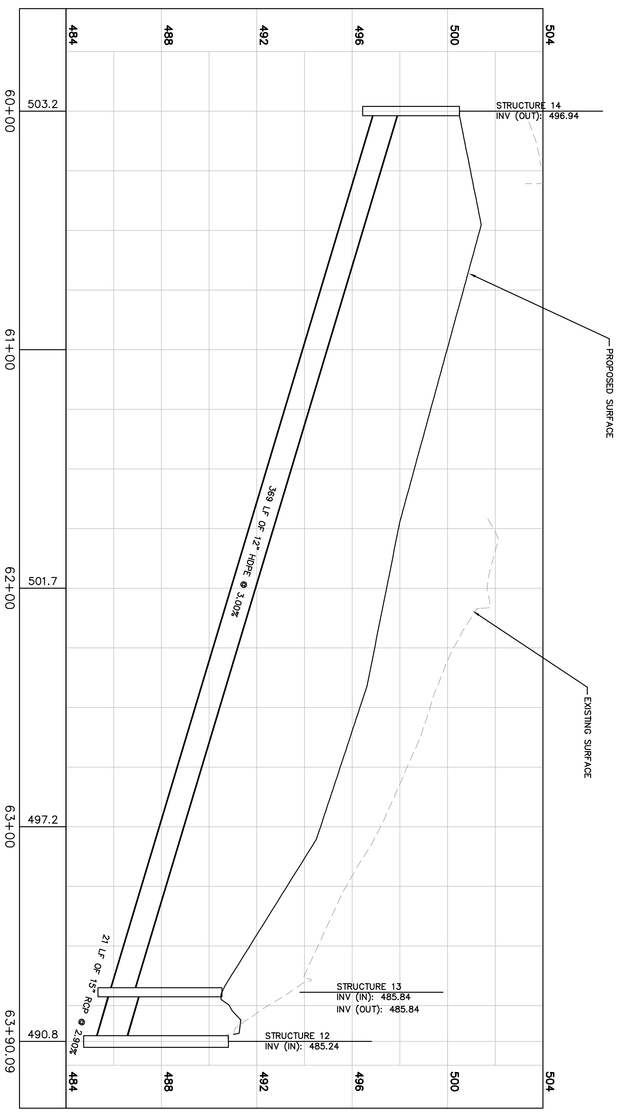
ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

STORM DRAIN PROFILES - PHASE 1

SHEET NUMBER
CG-201



VERT.
SCALE
1" = 3'

0 3
0

30' HORIZONTAL
SCALE
1" = 30'

SHEET NUMBER
CG-202

STORM DRAIN PROFILES - PHASE 2

ARLINGTON AND MILLMONT
APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC

CHARLOTTESVILLE VIRGINIA

KHA PROJECT	113155000
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02-01-12

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No.	REVISIONS	DATE	BY

filterra
A Growing Idea in Stormwater Filtration.

Table 2: Filterra® Roofdrain (FTRD) Standard Sizing Table (where C = 1.0) (Virginia)

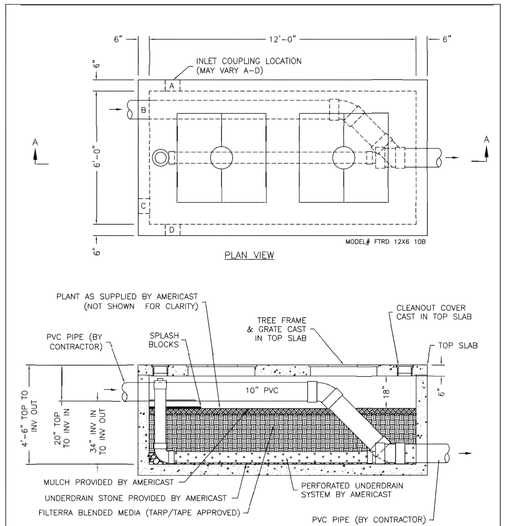
Available Filterra® Roofdrain Box Sizes (feet)	Total Contributing Drainage Area (acres)	Bypass Pipe Size / Max. Flow (cfs)
FTRD 6x4	up to 0.17	6" PVC / 1.15 cfs or 8" PVC / 2.25 cfs
FTRD 8x4	0.18 to 0.22	6" PVC / 1.15 cfs or 8" PVC / 2.25 cfs
FTRD 12x4	0.26 to 0.33	6" PVC / 1.15 cfs or 8" PVC / 2.25 cfs
FTRD 6x6	0.23 to 0.25	6" PVC / 1.15 cfs or 8" PVC / 2.25 cfs or 10" PVC / 3.80 cfs
FTRD 8x6	0.26 to 0.33	6" PVC / 1.15 cfs or 8" PVC / 2.25 cfs or 10" PVC / 3.80 cfs
FTRD 10x6	0.32 to 0.42	6" PVC / 1.15 cfs or 8" PVC / 2.25 cfs or 10" PVC / 3.80 cfs
FTRD 12x6	0.43 to 0.50	6" PVC / 1.15 cfs or 8" PVC / 2.25 cfs or 10" PVC / 3.80 cfs

Notes:
1. All boxes are a standard 3' 8" feet depth (INV to TC), **plus** the depth of bypass pipe, e.g. FTRD - 12x6 unit with 10" pipe has INV to TC = 4.5' (FTRD 12x8-10)

2. A standard PVC pipe coupling is cast into the box wall for simple connection.

3. Size dimensions shown are internal. Please add 1' to each for external (using 6" walls)

4. For Commercial Developments a minimum (runoff coefficient) C factor of 0.85 is required. Most roof drain application require use of C = 1.0 or C = 0.95



MODIFICATIONS OF DRAWINGS ARE ONLY PERMITTED BY WRITTEN AUTHORIZATION FROM FILTERRA

DRAWING AVAILABLE IN TIF FILE FORMAT.

AMERICAST®

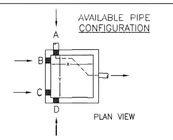
DATE: 02-01-10 DWG: FTRD 12x6 10

12x6' PRECAST FILTERRA® UNIT ROOF DRAIN CONFIGURATION WITH 10" PVC PIPED IN

filterra US PAT 6,277,274 AND 6,569,321

BOX SIZE	X	Y	AVAILABLE PIPE SIZE
FTRD 6X6	6'	6'	6", 8", 10"

AVAILABLE PIPE CONFIGURATION

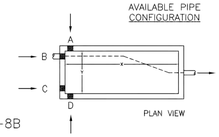


EXAMPLE MODEL #: FTRD 6X6-6A

PLAN VIEW

BOX SIZE	X	Y	AVAILABLE PIPE SIZE
FTRD 6X4	6'	4'	6", 8"
FTRD 8X4	8'	4'	6", 8"
FTRD 12X4	12'	4'	6", 8"

AVAILABLE PIPE CONFIGURATION

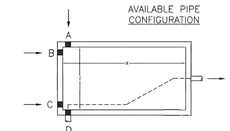


EXAMPLE MODEL #: FTRD 8X4-8B

PLAN VIEW

BOX SIZE	X	Y	AVAILABLE PIPE SIZE
FTRD 8X6	8'	6'	6", 8", 10"
FTRD 10X6	10'	6'	6", 8", 10"
FTRD 12X6	12'	6'	6", 8", 10"

AVAILABLE PIPE CONFIGURATION



EXAMPLE MODEL #: FTRD 12X6-10D

PLAN VIEW

ENGINEER TO SPECIFY ONE (1) INLET PIPE LOCATION (A, B, C, OR D).
A PVC COUPLING WILL BE CAST INTO THE WALL (BY AMERICAST) FOR FIELD CONNECTION (BY CONTRACTOR)

MODIFICATIONS OF DRAWINGS ARE ONLY PERMITTED BY WRITTEN AUTHORIZATION FROM FILTERRA

AMERICAST®

DATE: 01-20-10 DWG: FTRD IPC-1

FILTERRA® ROOFDRAIN PVC INLET PIPE COUPLING LOCATIONS MID ATLANTIC REGION

filterra US PAT 6,277,274 AND 6,569,321

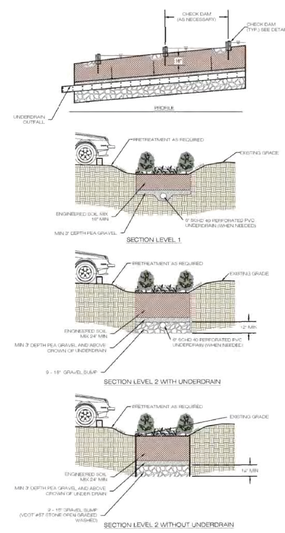
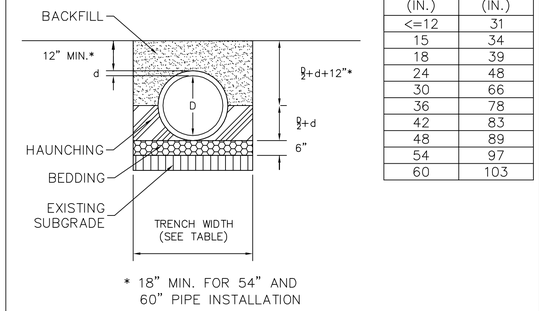


Figure 10.2. Typical Details for Level 1 and 2 Dry Swales



* 18" MIN. FOR 54" AND 60" PIPE INSTALLATION

PIPE DIAMETER (IN.)	TRENCH WIDTH (IN.)
<=12	31
15	34
18	39
24	48
30	66
36	78
42	83
48	89
54	97
60	103

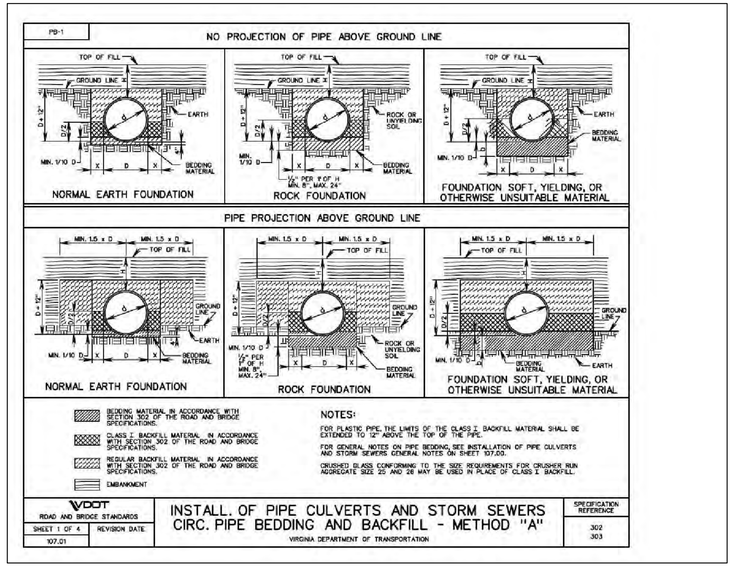
NOTES:

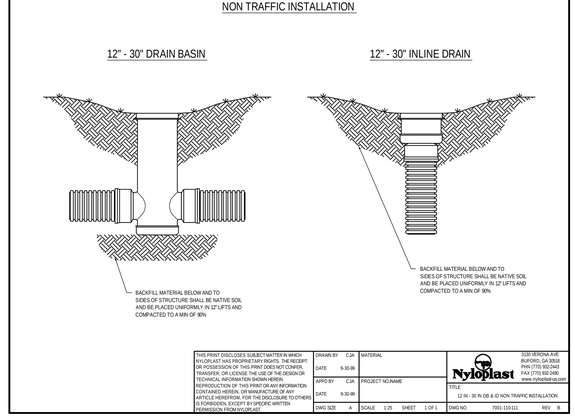
1. PIPE BEDDING, HAUNCHING, AND BACKFILL SHALL CONSIST OF CLASS I, II, OR III MATERIAL (AS DEFINED IN ASTM D-2321).

2. IF THE EXCAVATION TRENCH IS WET, CLASS I AGGREGATE SHALL BE USED AS PIPE BEDDING MATERIAL.

3. SEE ASTM D-2321 FOR ADDITIONAL INSTALLATION DETAILS OF THERMOPLASTIC PIPE.

INSTALLATION DETAIL OF THERMOPLASTIC PIPE





DRAWN BY CJA DATE 9-30-99 APPD BY CJA DATE 9-30-99 DWG SIZE A

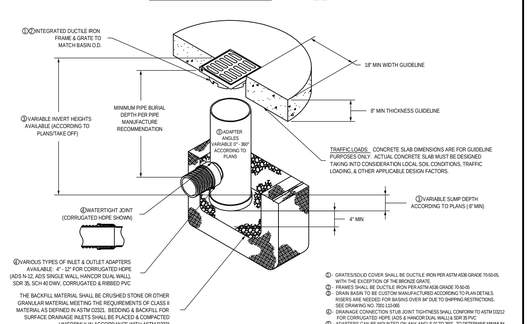
MATERIAL PROJECT NO./NAME SCALE 1:25 SHEET 1 OF 1

Nyloplast 3128 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2446 www.nyloplast-us.com

TITLE: 12 IN - 30 IN DB & ID NON TRAFFIC INSTALLATION

DWG NO. 7001-110-111 REV B

NYLOPLAST DRAIN BASIN: 2812AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-20	12SNCGS	7001-110-003
STANDARD	MEETS H-20	12SNCGS	7001-110-003
SOLID COVER	MEETS H-20	12SNCGC	7001-110-004
PEDESTRIAN BRONZE	LIGHT DUTY	12SNCGPB	7001-110-005
DOME	N/A	12SNCGD	7001-110-006
DROP IN GRATE	LIGHT DUTY	12DGSI	7001-110-021

(X) GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. WITH THE EXCEPTION OF THE BRONZE GRATE.
(1) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
(2) DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 96" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-900.
(3) DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALLS) SDR 35 PVC
(4) ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 30°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

DRAWN BY EBC DATE 3-29-06 APPD BY CJA DATE 3-29-06 DWG SIZE A

MATERIAL PROJECT NO./NAME SCALE 1:20 SHEET 1 OF 1

Nyloplast 3128 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2446 www.nyloplast-us.com

TITLE: DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-189 REV B

No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA
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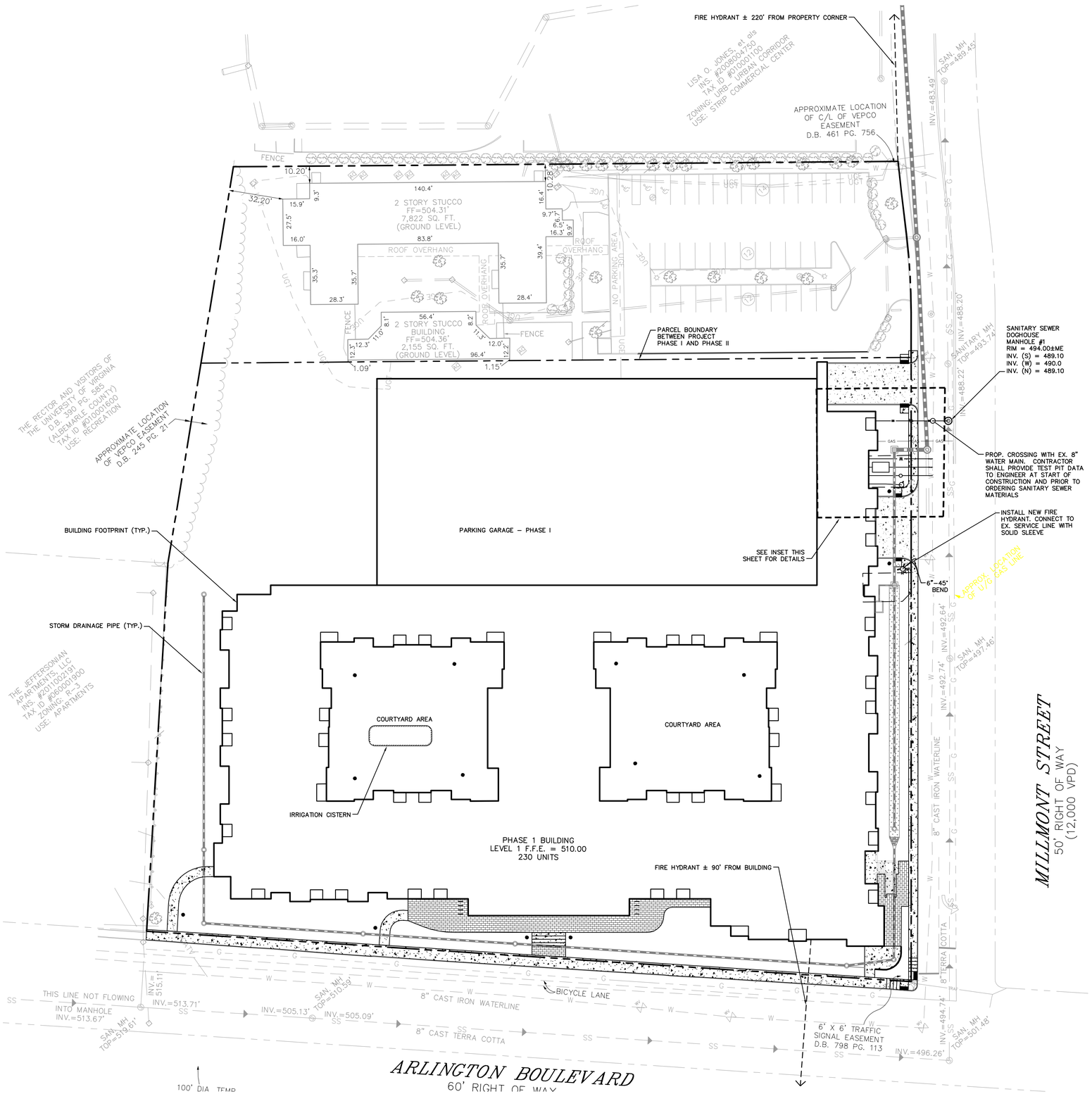
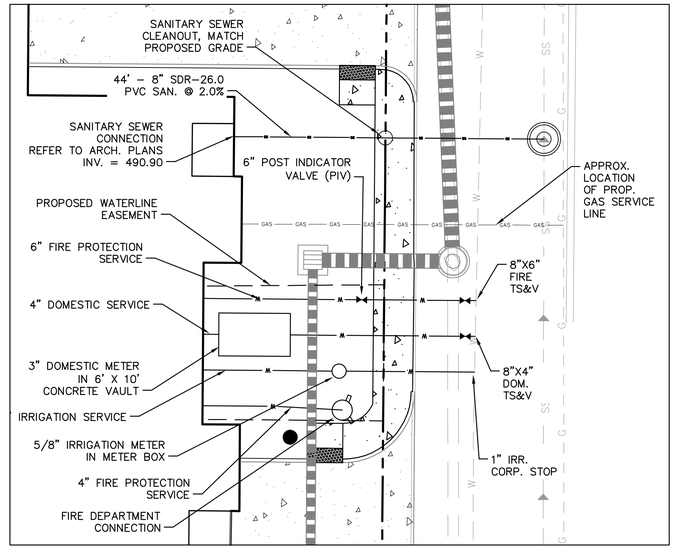
DRAINAGE DETAILS

SHEET NUMBER
CG-501





INSET

GRAPHIC SCALE IN FEET
0 5 10 20

NOTES

1. SEE SHEETS CU-501 AND CU-502 FOR UTILITY NOTES AND DETAILS.
2. DOMESTIC WATER SERVICE PIPE SHALL BE C-900 PVC PIPE ON THE PROPERTY SIDE OF THE METER.
3. FIRE SERVICE LINES AND DOMESTIC SERVICE LINES ON THE CITY SIDE OF THE DOMESTIC METER SHALL BE CLASS 150 DUCTILE IRON.
4. IRRIGATION WATER SERVICE SHALL BE A 1"-TYPE 'K' COPPER.
5. RPZ BACKFLOW PREVENTERS FOR FIRE AND DOMESTIC SERVICE LINES TO BE LOCATED WITHIN BUILDING MECHANICAL ROOM.
6. CONTRACTOR SHALL CONTACT THE CITY OF CHARLOTTESVILLE AT LEAST 48 HOURS PRIOR TO THE ABANDONMENT OF ANY WATER OR FIRE SERVICE LINES. EXISTING WATER METERS ARE TO BE REMOVED BY THE CITY.
7. WHERE TAPPING SLEEVE AND VALVE INSTALLATIONS ARE REQUIRED, CONTRACTOR SHALL PROVIDE A MINIMUM 2" BETWEEN TAPPING SLEEVES AND BELL JOINTS.
8. DOMESTIC WATER AND FIRE SERVICE FOR PHASE 2 SHALL BE PROVIDED FROM PHASE 1 SERVICE CONNECTIONS THROUGH BUILDING.

No.	REVISIONS	DATE	BY

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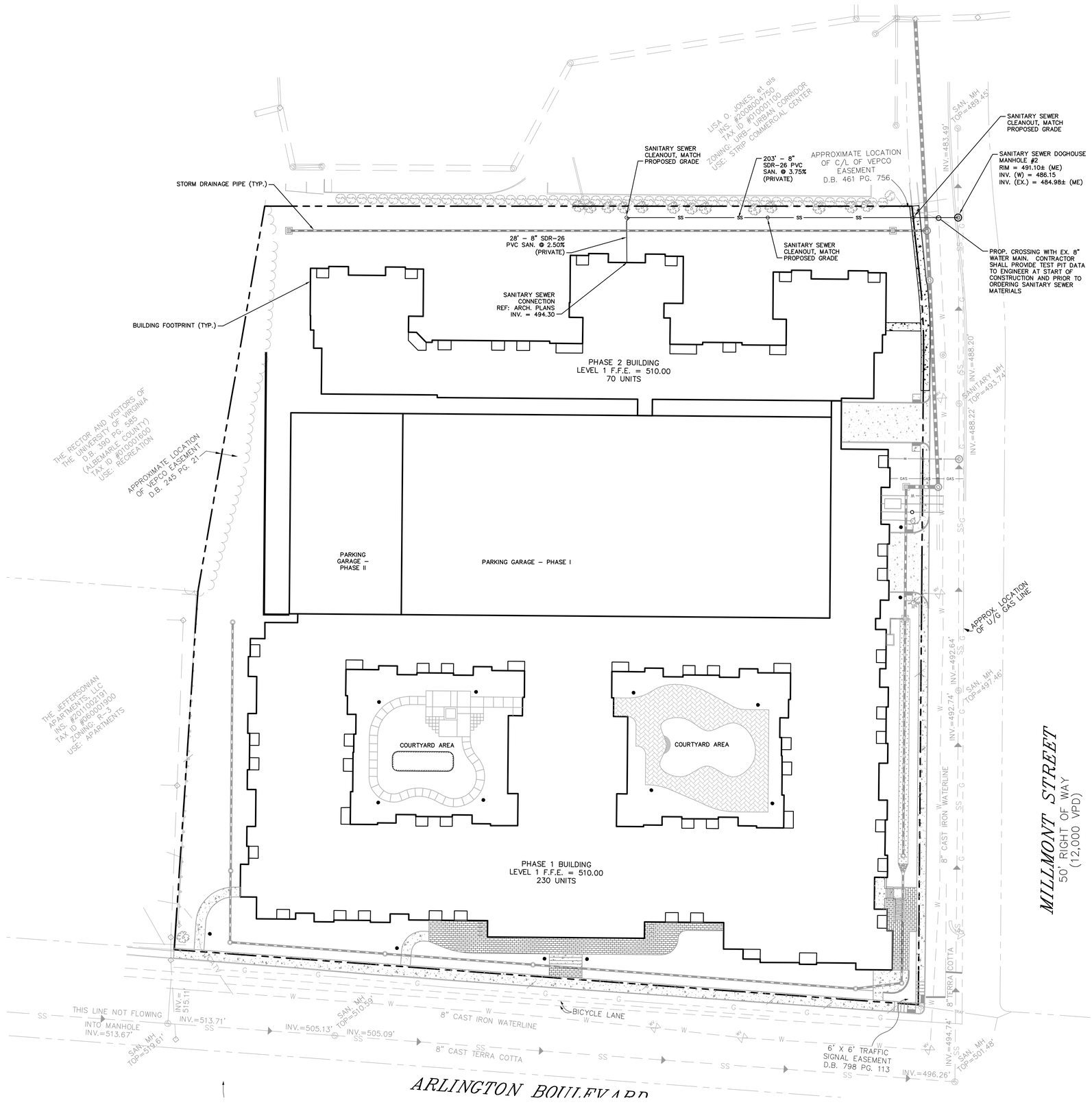
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000			
DATE	02/01/2012		
SCALE	AS SHOWN	DESIGNED BY	AFS
		DRAWN BY	AFS
		CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

UTILITY PLAN - PHASE 1

SHEET NUMBER
CU-101



NOTES

1. SEE SHEETS CU-501 AND CU-502 FOR UTILITY NOTES AND DETAILS

GRAPHIC SCALE IN FEET
0 15 30 60

NORTH

No.	REVISIONS	DATE	BY

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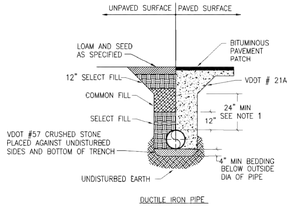
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT	113155000
DATE	02/01/2012
SCALE	AS SHOWN
DESIGNED BY	AFS
DRAWN BY	AFS
CHECKED BY	BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

UTILITY PLAN - PHASE 2

SHEET NUMBER
CU-102



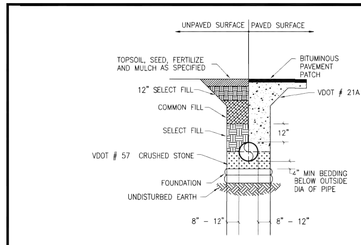
DUCTILE IRON PIPE

NOTES:
1. MAINTAIN VERTICAL TRENCH WALLS FROM BOTTOM OF TRENCH TO 24" ABOVE CROWN OF PIPE. TRENCH WIDTH IN THIS AREA: PIPE O.D. + 24".
2. FOR EXCAVATIONS OVER 5 FT. DEEP, SLOPE TRENCH WALLS AS REQUIRED AND/OR PROVIDE OTHER SAFETY MEASURES IN ACCORDANCE WITH OSHA GUIDELINES.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
PIPE TRENCH UNIVERSAL
STANDARD SUBGRADE – TYPICAL

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 1.0



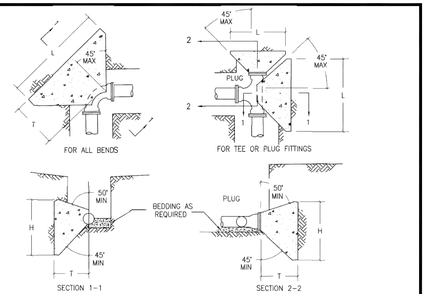
DUCTILE IRON PIPE

NOTES:
1. IN UNSTABLE SOILS, PROVIDE A FOUNDATION MAT FROM THE BOTTOM OF PIPE BEDDING TO UNDISTURBED STABLE SOIL, OR 18" MAX. DEPTH. THE FOUNDATION MAT SHALL CONSIST OF TWO (2) MATS (9" MAX. EACH) OF VDOT #1 CRUSHED STONE WRAPPED IN A HIGH STRENGTH GEOTEXTILE FABRIC; LINQ INDUSTRIAL FABRICS, INC. GTF 375N OR EQUAL. MATS SHALL EXTEND FULL WIDTH OF TRENCH EXCAVATION WITH MINIMUM FABRIC OVERLAP OF 18".
2. FOR ALL EXCAVATIONS, SLOPE TRENCH WALLS AS REQUIRED AND/OR PROVIDE OTHER SAFETY MEASURES IN ACCORDANCE WITH OSHA GUIDELINES.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
PIPE TRENCH
UNIVERSAL – UNSTABLE SOIL

REVISION | DATE | SCALE: N.S.T.S. | STANDARD NUMBER: W 1.1

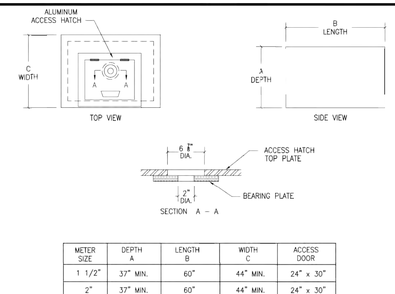


NOTES:
1. MAXIMUM TEST PRESSURE: 225 PSI.
2. MINIMUM ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF.
3. THRUST BLOCKS OR RESTRAINED JOINT FITTINGS ARE REQUIRED WHENEVER PIPELINE CHANGES DIRECTION, SIZE, OR DEAD-ENDS.
4. USE 3000 P.S.I. CONCRETE. NO CONCRETE SHALL BE POURED ON ANY PART OF THE JOINT.
5. SEE DRAWING W 2.1 FOR THRUST BLOCK DIMENSIONS.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
CONCRETE THRUST BLOCKS

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 2.0



METER SIZE	DEPTH A	LENGTH B	WIDTH C	ACCESS DOOR
1 1/2"	37" MIN.	60"	44" MIN.	24" x 30"
2"	37" MIN.	60"	44" MIN.	24" x 30"
3"	60" MIN.	120"	72" MIN.	30" x 30"
4"	60" MIN.	144"	72" MIN.	30" x 30"
> 4"	PROPOSALS WILL BE SUBMITTED			

CITY OF CHARLOTTESVILLE

CITY STANDARDS
METER VAULTS

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 6.1

PIPE SIZE	DEGREE OF BEND	BEND (FT) L	BEND (FT) H	BEND (FT) T	MIN. PIPE COVER (FT)	TEE AND PLUG (FT) L	TEE AND PLUG (FT) H	TEE AND PLUG (FT) T	MIN. PIPE COVER (FT)
4" & 6"	90	3.00	2.50	3.01	3	2.00	2.30	2.50	3
	45	2.00	2.30	2.60					
	22 1/2	1.50	2.00	2.50					
	11 1/4	1.50	2.00	2.50					
8" & 10"	90	4.50	3.50	3.20	3	3.20	3.00	3.00	3
	45	3.00	2.70	2.80					
	22 1/2	2.00	2.00	2.70					
	11 1/4	1.70	2.00	2.70					
12" & 14"	90	7.30	4.00	3.60	4	4.30	4.00	2.80	4
	45	4.50	3.60	3.00					
	22 1/2	3.30	2.60	2.90					
	11 1/4	1.80	2.30	2.90					
16" & 18"	90	10.70	4.50	3.40	5	6.30	4.60	3.80	5
	45	6.50	4.00	3.00					
	22 1/2	4.50	3.30	3.00					
	11 1/4	2.80	2.70	3.00					

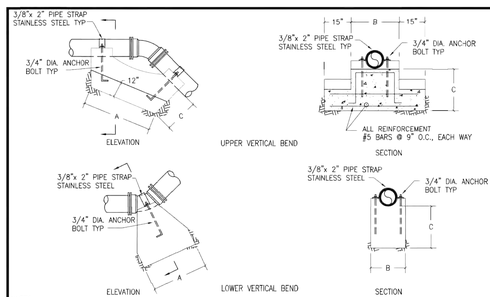
REFERENCE DRAWING 2.0 FOR DIMENSION LOCATIONS

NOTES:
1. MAXIMUM TEST PRESSURE: 225 PSI.
2. MINIMUM ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF.
3. USE MINIMUM 3000 P.S.I. CONCRETE.
4. THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR VERIFICATION OF ADEQUACY OF ALL THRUST BLOCKS.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
CONCRETE THRUST BLOCK DIMENSIONS

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 2.1



NOTES:
1. MAXIMUM TEST PRESSURE: 225 PSI.
2. MINIMUM ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF.
3. THRUST BLOCKS ARE REQUIRED WHENEVER PIPELINE CHANGES DIRECTION, SIZE, OR DEAD-ENDS.
4. USE 3000 P.S.I. CONCRETE. GLANDS AND BOLTS SHALL BE PROTECTED FROM CONCRETE BY PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
5. SEE DRAWING W 2.3 FOR THRUST BLOCK DIMENSIONS.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
VERTICAL CONCRETE THRUST BLOCKS

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 2.2

PIPE SIZE	DEGREE OF BEND	BEND (FT) L	BEND (FT) H	BEND (FT) T	MIN. PIPE COVER (FT)	TEE AND PLUG (FT) L	TEE AND PLUG (FT) H	TEE AND PLUG (FT) T	MIN. PIPE COVER (FT)
4" & 6"	90	3.00	2.50	3.00	3	2.00	2.30	2.50	3
	45	2.00	2.50	2.60					
	22 1/2	1.50	2.00	2.50					
	11 1/4	1.50	2.00	2.50					
8" & 10"	90	4.50	3.50	3.20	3	3.00	2.90	2.70	3
	45	3.00	2.70	2.80					
	22 1/2	2.00	2.00	2.70					
	11 1/4	1.70	2.00	2.70					
12" & 14"	90	7.30	4.00	3.60	4	4.30	4.00	2.80	4
	45	4.50	3.60	3.00					
	22 1/2	3.30	2.60	2.90					
	11 1/4	1.80	2.30	2.80					
16" & 18"	90	10.70	4.50	3.40	5	6.30	4.60	3.75	5
	45	6.50	4.00	3.00					
	22 1/2	4.50	3.30	2.90					
	11 1/4	2.80	2.60	2.80					

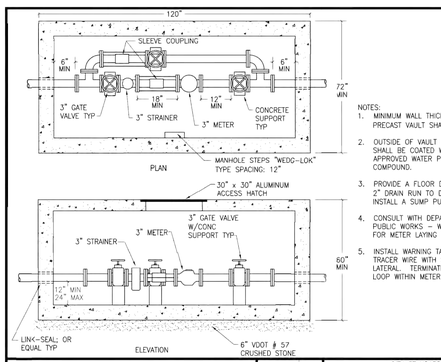
REFERENCE DRAWING 2.0 FOR DIMENSION LOCATIONS

NOTES:
1. MAXIMUM TEST PRESSURE: 225 PSI.
2. MINIMUM ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF.
3. USE MINIMUM 3000 P.S.I. CONCRETE.
4. THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR VERIFICATION OF ADEQUACY OF ALL THRUST BLOCKS.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
VERTICAL CONCRETE THRUST BLOCK DIMENSIONS

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 2.3

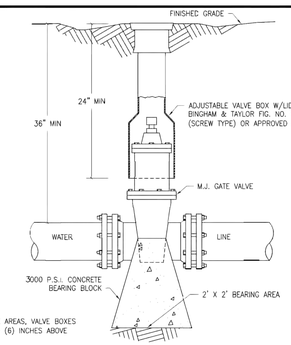


NOTES:
1. MINIMUM WALL THICKNESS FOR PRECAST VAULT SHALL BE 6"
2. OUTSIDE OF VAULT BELOW GRADE SHALL BE COATED WITH AN APPROVED WATER PROOFING COMPOUND.
3. PROVIDE A FLOOR DRAIN WITH A 2" DRAIN RUN TO DAYLIGHT OR INSTALL A SUMP PUMP.
4. CONSULT WITH DEPARTMENT OF PUBLIC WORKS – WATER DIVISION FOR METER LAYING LENGTH.
5. INSTALL WARNING TAPE AND TRACER WIRE WITH SERVICE LATERAL. TERMINATE WIRE IN A LOOP WITHIN METER BOX.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
METER VAULT – 3" METER

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 6.3

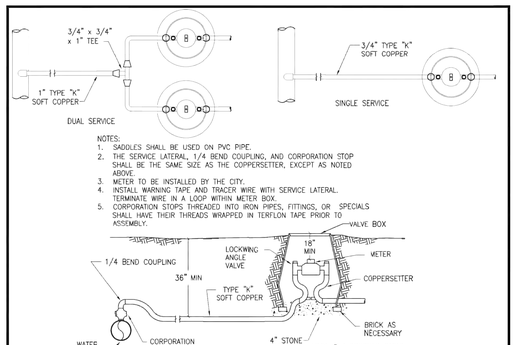


NOTE: IN REMOTE AREAS, VALVE BOXES SHALL EXTEND SIX (6) INCHES ABOVE GRADE.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
GATE VALVE – TYPICAL

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 4.0

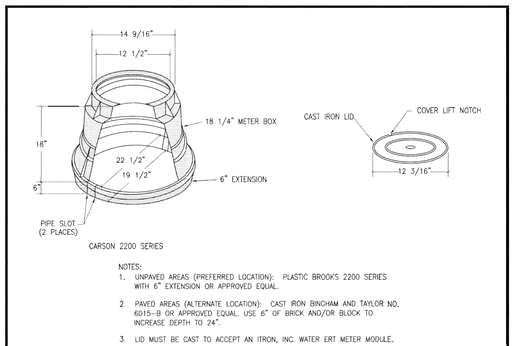


NOTES:
1. SADDLES SHALL BE USED ON PVC PIPE.
2. THE SERVICE LATERAL, 1/4 BEND COUPLING, AND CORPORATION STOP SHALL BE THE SAME SIZE AS THE COPPERSETTER, EXCEPT AS NOTED ABOVE.
3. METER TO BE INSTALLED BY THE CITY.
4. INSTALL WARNING TAPE AND TRACER WIRE WITH SERVICE LATERAL. TERMINATE WIRE IN A LOOP WITHIN METER BOX.
5. CORPORATION STOPS THREADED INTO IRON PIPES, FITTINGS, OR SPECIALS SHALL HAVE THEIR THREADS WRAPPED IN TEFLON TAPE PRIOR TO ASSEMBLY.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
SERVICE LATERAL – TYPICAL

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 5.0

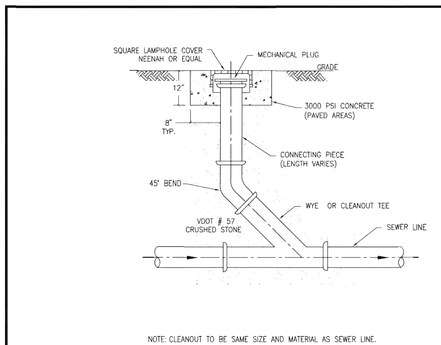


NOTES:
1. UNPAVED AREAS (PREFERRED LOCATION): PLASTIC BROOKS 2200 SERIES WITH 6" EXTENSION OR APPROVED EQUAL.
2. PAVED AREAS (ALTERNATE LOCATION): CAST IRON BINGHAM AND TAYLOR NO. 6015-B OR APPROVED EQUAL. USE 6" OF BRICK AND/OR BLOCK TO INCREASE DEPTH TO 24".
3. LID MUST BE CAST TO ACCEPT AN ITRON, INC. WATER ERT METER MODULE.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
METER BOX – 5/8" AND 1" METERS

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: W 6.0



NOTE: CLEANOUT TO BE SAME SIZE AND MATERIAL AS SEWER LINE.

CITY OF CHARLOTTESVILLE

CITY STANDARDS
CLEANOUT DETAIL

REVISION | DATE | SCALE: N.T.S. | STANDARD NUMBER: WW 5.1

No.	REVISIONS	DATE	BY

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COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000
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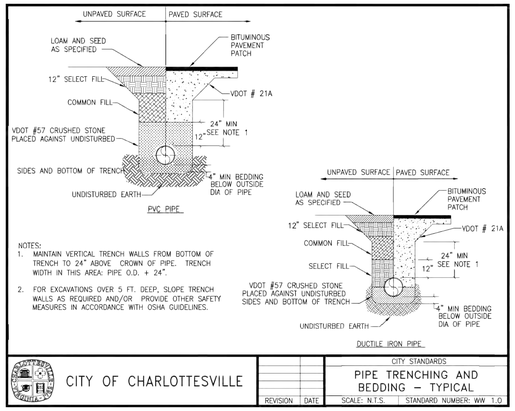
ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

UTILITY DETAILS

SHEET NUMBER
CU-501

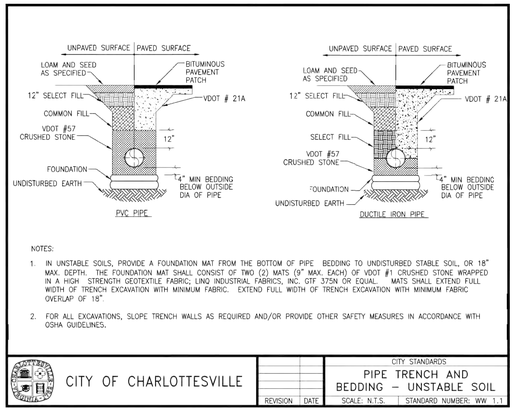


NOTES:
1. MAINTAIN VERTICAL TRENCH WALLS FROM BOTTOM OF TRENCH TO 24" ABOVE CROWN OF PIPE. TRENCH WIDTH IN THIS AREA: PIPE O.D. + 24".
2. FOR EXCAVATIONS OVER 5 FT. DEEP, SLOPE TRENCH WALLS AS REQUIRED AND/OR PROVIDE OTHER SAFETY MEASURES IN ACCORDANCE WITH OSHA GUIDELINES.

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS
PIPE TRENCHING AND BEDDING – TYPICAL
SCALE: N.T.S. | STANDARD NUMBER: WW 1.0

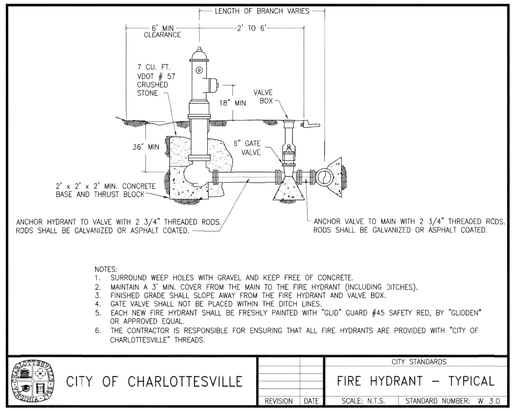


NOTES:
1. IN UNSTABLE SOILS, PROVIDE A FOUNDATION MAT FROM THE BOTTOM OF PIPE BEDDING TO UNDISTURBED STABLE SOIL, OR 18" MAX. DEPTH. THE FOUNDATION MAT SHALL CONSIST OF TWO (2) MATS (9" MAX. EACH) OF VDOT #1 CRUSHED STONE WRAPPED IN A HIGH STRENGTH GEOTEXTILE FABRIC; LINQ INDUSTRIAL FABRICS, INC; GTF 375N OR EQUAL. MATS SHALL EXTEND FULL WIDTH OF TRENCH EXCAVATION WITH MINIMUM FABRIC. EXTEND FULL WIDTH OF TRENCH EXCAVATION WITH MINIMUM FABRIC OVERLAP OF 18".
2. FOR ALL EXCAVATIONS, SLOPE TRENCH WALLS AS REQUIRED AND/OR PROVIDE OTHER SAFETY MEASURES IN ACCORDANCE WITH OSHA GUIDELINES.

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS
PIPE TRENCH AND BEDDING – UNSTABLE SOIL
SCALE: N.T.S. | STANDARD NUMBER: WW 1.1

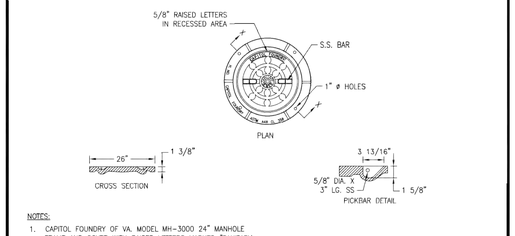


NOTES:
1. SURROUND WEEP HOLES WITH GRAVEL AND KEEP FREE OF CONCRETE.
2. MAINTAIN A 3' MIN. COVER FROM THE MAIN TO THE FIRE HYDRANT (INCLUDING BITCHES).
3. FINISHED GRADE SHALL SLOPE AWAY FROM THE FIRE HYDRANT AND VALVE BOX.
4. GATE VALVE SHALL NOT BE PLACED WITHIN THE DITCH LINES.
5. EACH NEW FIRE HYDRANT SHALL BE FRESHLY PAINTED WITH "GLID" GUARD #45 SAFETY RED, BY "GLIDDEN" OR APPROVED EQUAL.
6. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL FIRE HYDRANTS ARE PROVIDED WITH "CITY OF CHARLOTTESVILLE" THREADS.

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS
FIRE HYDRANT – TYPICAL
SCALE: N.T.S. | STANDARD NUMBER: W .3.0

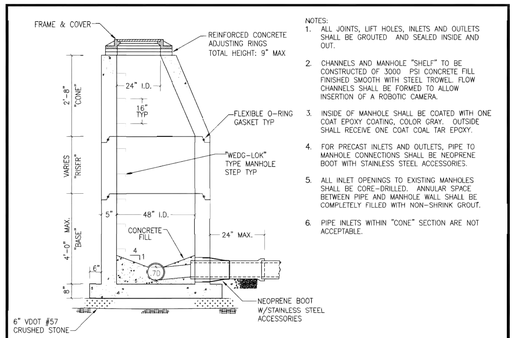


NOTES:
1. CAPITOL FOUNDRY OF VA. MODEL MH-3000 24" MANHOLE FRAME AND COVER WITH RAISED LETTERS MARKED "SANITARY SEWER" OR APPROVED EQUAL.
2. ALL MANHOLES WITHIN THE 100-YEAR FLOODPLAIN OR LOCATED IN AREAS SUBJECT TO LOCALIZED FLOODING ARE TO HAVE WATERTIGHT FRAME AND COVER (SEE DETAIL WW 2.5)

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS
MANHOLE FRAME AND COVER
SCALE: N.T.S. | STANDARD NUMBER: WW 2.4

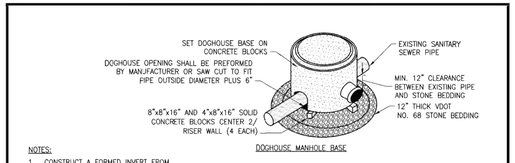


NOTES:
1. ALL JOINTS, LIFT HOLES, INLETS AND OUTLETS SHALL BE GROUTED AND SEALED INSIDE AND OUT.
2. CHANNELS AND MANHOLE "SHELF" TO BE CONSTRUCTED OF 3000 PSI CONCRETE FILL FINISHED SMOOTH WITH STEEL TROWEL. FLOW CHANNELS SHALL BE FORMED TO ALLOW INSERTION OF A ROBOTIC CAMERA.
3. INSIDE OF MANHOLE SHALL BE COATED WITH ONE COAT EPOXY COATING, COLOR GRAY. OUTSIDE SHALL RECEIVE ONE COAT COAL TAR EPOXY.
4. FOR PRECAST INLETS AND OUTLETS, PIPE TO MANHOLE CONNECTIONS SHALL BE NEOPRENE BOOT WITH STAINLESS STEEL ACCESSORIES.
5. ALL INLET OPENINGS TO EXISTING MANHOLES SHALL BE CORE-DRILLED. ANNULAR SPACE BETWEEN PIPE AND MANHOLE WALL SHALL BE COMPLETELY FILLED WITH NON-SHRINK GROUT.
6. PIPE INLETS WITHIN "CONE" SECTION ARE NOT ACCEPTABLE.

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS
CONCRETE MANHOLE – TYPICAL
SCALE: N.T.S. | STANDARD NUMBER: WW 2.0

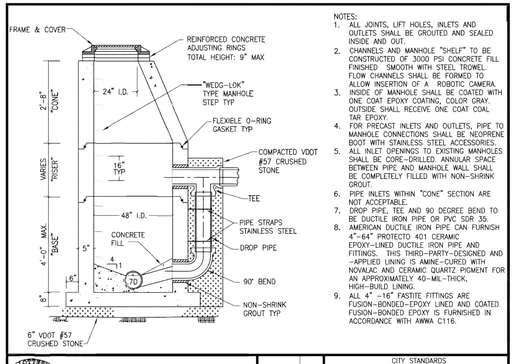


NOTES:
1. CONSTRUCT A FORMED INVERT FROM NEW SEWER LINE TO ALLOW FLOW TO THE EXISTING PIPE.
2. POUR A SHELF TO THE LOWER HALF OF THE EXISTING PIPE.
3. CUT AND REMOVE THE TOP HALF OF THE EXISTING PIPE OF THE MANHOLE WALL AFTER THE INVERT AND SHELF HAVE BEEN FORMED, AND THE MH HAS BEEN FULLY TESTED IN ACCORDANCE WITH THESE SPECIFICATIONS.

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS
TYPICAL MANHOLE SHOWING "DOGHOUSE" INSTALLATION
SCALE: N.T.S. | STANDARD NUMBER: WW 2.6

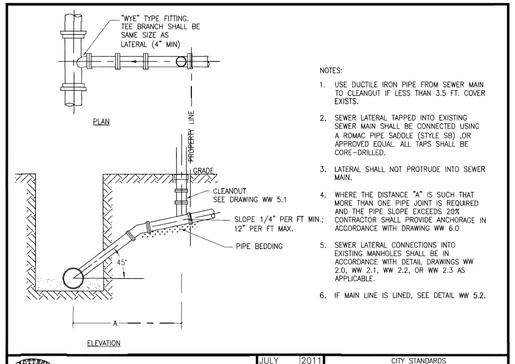


NOTES:
1. ALL JOINTS, LIFT HOLES, INLETS AND OUTLETS SHALL BE GROUTED AND SEALED INSIDE AND OUT.
2. CHANNELS AND MANHOLE "SHELF" TO BE CONSTRUCTED OF 3000 PSI CONCRETE FILL FINISHED SMOOTH WITH STEEL TROWEL. FLOW CHANNELS SHALL BE FORMED TO ALLOW INSERTION OF A ROBOTIC CAMERA.
3. INSIDE OF MANHOLE SHALL BE COATED WITH ONE COAT EPOXY COATING, COLOR GRAY. OUTSIDE SHALL RECEIVE ONE COAT COAL TAR EPOXY.
4. FOR PRECAST INLETS AND OUTLETS, PIPE TO MANHOLE CONNECTIONS SHALL BE NEOPRENE BOOT WITH STAINLESS STEEL ACCESSORIES.
5. ALL INLET OPENINGS TO EXISTING MANHOLES SHALL BE CORE-DRILLED. ANNULAR SPACE BETWEEN PIPE AND MANHOLE WALL SHALL BE COMPLETELY FILLED WITH NON-SHRINK GROUT.
6. PIPE INLETS WITHIN "CONE" SECTION ARE NOT ACCEPTABLE.
7. DROP PIPE, TEE AND 90 DEGREE BEND TO BE DUCTILE IRON PIPE OR PVC SDR 35.
8. AMERICAN DUCTILE IRON PIPE CAN FURNISH 4"-64" PROTECTO 401 CERAMIC EPOXY-LINED DUCTILE IRON PIPE AND FITTINGS. THIS THIRD-PARTY-DESIGNED AND -APPLIED LINING IS AMINE-CURED WITH NOVALAC AND CERAMIC QUARTZ PIGMENT FOR AN APPROXIMATELY 40-MIL-THICK, HIGH-BUILD LINING.
9. ALL 4" -16" FASTITE FITTINGS ARE FUSION-BONDED-EPOXY LINED AND COATED. FUSION-BONDED EPOXY IS FURNISHED IN ACCORDANCE WITH AWWA C116.

CITY OF CHARLOTTESVILLE

REVISION	DATE

CITY STANDARDS
DROP MANHOLE TYPE "B"
SCALE: N.T.S. | STANDARD NUMBER: WW 2.2



NOTES:
1. USE DUCTILE IRON PIPE FROM SEWER MAIN TO CLEANOUT IF LESS THAN 3.5 FT. COVER EXISTS.
2. SEWER LATERAL TAPPED INTO EXISTING SEWER MAIN SHALL BE CONNECTED USING A ROMAC PIPE SADDLE (STYLE SB) ,OR APPROVED EQUAL. ALL TAPS SHALL BE CORE-DRILLED.
3. LATERAL SHALL NOT PROTRUDE INTO SEWER MAIN.
4. WHERE THE DISTANCE "A" IS SUCH THAT MORE THAN ONE PIPE JOINT IS REQUIRED AND THE PIPE SLOPE EXCEEDS 20% CONTRACTOR SHALL PROVIDE ANCHORAGE IN ACCORDANCE WITH DRAWING WW 6.0.
5. SEWER LATERAL CONNECTIONS INTO EXISTING MANHOLES SHALL BE IN ACCORDANCE WITH DETAIL DRAWINGS WW 2.0, WW 2.1, WW 2.2, OR WW 2.3 AS APPLICABLE.
6. IF MAIN LINE IS LINED, SEE DETAIL WW 5.2.

CITY OF CHARLOTTESVILLE

JULY	2011
REVISION	DATE

CITY STANDARDS
SEWER LATERAL CONNECTION – TYPICAL
SCALE: N.T.S. | STANDARD NUMBER: WW 5.0

UTILITY NOTES

1. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE, SIZE, TYPE, LOCATION, LOCATION, ALIGNMENT OR DEPTH OF ANY OR ALL UNDERGROUND UTILITIES OR OTHER FACILITIES. WHERE SURFACE FEATURES (MANHOLES, CATCH BASINS, VALVES, ETC.) ARE UNAVAILABLE OR INCONCLUSIVE, INFORMATION SHOWN MAY BE FROM UTILITY OWNERS OWNERS RECORDS AND/OR ELECTRONIC LINE TRACING, THE RELIABILITY OF WHICH IS UNCERTAIN. THE CONTRACTOR SHALL PERFORM WHATEVER TEST EXCAVATION OR OTHER INVESTIGATION IS NECESSARY TO VERIFY TIE-IN INVERTS, LOCATIONS AND CLEARANCES, AND SHALL REPORT IMMEDIATELY ANY DISCREPANCIES TO KIMLEY-HORN AND ASSOCIATES, INC. AT 804-673-3882. UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY EXCAVATION IN THE PROXIMITY OF THEIR UTILITIES. THE CONTRACTOR CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AT HIS EXPENSE ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
2. CONTRACTOR SHALL CONFORM TO THE "OVERHEAD HIGH VOLTAGE ACT" (EFFECTIVE JULY 1, 1989) AND SHALL CONTACT THE NECESSARY AUTHORITIES PRIOR TO START OF CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
4. ALL CONSTRUCTION METHODS & MATERIALS SHALL CONFORM WITH THE CURRENT POTABLE WATER AND SANITARY SEWER SPECIFICATIONS AND STANDARDS OF THE NEIGHBORHOOD DEVELOPMENT SERVICES, CITY OF CHARLOTTESVILLE, VIRGINIA.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, DRIVEWAYS, WALKS, CURBS, ETC., THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE BELOW PLAN GRADE ANY MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUB GRADES, PIPE TRENCH BOTTOMS OR OTHER PURPOSES AND BACKFILL THESE AREAS WITH AN APPROVED MATERIAL. THE EXTENT OF UNDERCUTTING AND BACKFILLING SHALL BE DETERMINED BY NDS AS TO AREAS WITHIN STREET RIGHT-OF-WAY AND THE ENGINEER IN OTHER AREAS. COMPENSATION SHALL BE AS SET FORTH IN THE CONTRACT DOCUMENTS.
7. SUB-SURFACE UTILITY WARNING TAPE AS MANUFACTURED BY THE GRIFFOLYN COMPANY, OR EQUAL, SHALL BE PLACED AT AN ELEVATION NOT LESS THAN 6-INCHES NOR MORE THAN 12-INCHES BELOW THE PROPOSED FINISHED GRADE ABOVE NON-CONDUCTIVE SEWER, WATER AND SEWER FORCE MAINS IN PUBLIC RIGHTS-OF-WAY OR EASEMENTS. THE TAPE SHALL BE OF A DURABLE, METALIZED, PLASTIC FILM SIMILAR TO "TERRA-TAPE D" FOR IDENTIFICATION BY ELECTRONIC PIPE LOCATING DEVICE AS WELL AS VISUAL IDENTIFICATION. THE TAPE FOR SEWER FORCE MAIN LINE SHALL BE BRIGHT GREEN WITH THE FOLLOWING IMPRINTED LEGEND "CAUTION-SEWER LINE BELOW". THE TAPE FOR WATERLINES SHALL BE BRIGHT BLUE WITH THE FOLLOWING IMPRINTED LEGEND "CAUTION-WATER LINE BELOW." IN ADDITION TO THE DETECTABLE TAPE, 12 GAGE COPPER WIRE SHALL BE INSTALLED ALONG THE PIPE FOR PURPOSES OR POSITIVE IDENTIFICATION AND LOCATION, AS REQUIRED BY THE DEPARTMENT OF PUBLIC UTILITIES.
8. WATER MAIN SERVICE PIPE.
   A. DUCTILE IRON PIPE. DUCTILE IRON PIPE SHALL BE CENTRIFUGAL CAST PIPE MANUFACTURED IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.51. DUCTILE IRON PIPE SHALL BE CEMENT-MORTAR LINED INSIDE IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.4-74. CEMENT FOR THE MORTAR SHALL BE TYPE II PORTLAND CEMENT. THE STANDARD SEAL COAT OF BITUMINOUS MATERIAL SHALL BE APPLIED TO THE EXTERIOR OF THE PIPE. DUCTILE IRON PIPE SHALL BE CLASS 50.
   B. JOINTS FOR DUCTILE IRON PIPE SHALL BE ONE OF THE FOLLOWING:
      (1) RUBBER GASKET (PUSH-ON) TYPE JOINT. RUBBER GASKET TYPE JOINTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.11-72 AND DESIGNED TO LOCK AGAINST DISPLACEMENT WITHOUT CAULKING. THE GASKET SHALL BE A RESILIENT RUBBER OF HEAVY SECTION, HIGH DUROMETER, AND SINGLE MOLDED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS. THE GASKET LUBRICANT SHALL BE A NON-TOXIC, TASTELESS, ODORLESS GREASE THAT WILL NOT SUPPORT BACTERIA. EACH GASKET LUBRICANT CONTAINER SHALL BE LABELED WITH THE TRADE NAME AND THE PIPE MANUFACTURER'S NAME.
      (2) MECHANICAL JOINT. STANDARD MECHANICAL JOINTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.11-72 (AWWA SPECIFICATIONS C111-72). THE MECHANICAL JOINT BOLTS SHALL BE A U.S. STANDARD SIZE, HIGH STRENGTH, CORROSION RESISTANT STEEL ALLOY WITH HEXAGON NUTS.
      MECHANICAL JOINTS SHALL BE USED FOR THE CONNECTION OF ALL FITTINGS, VALVES, AND HYDRANTS.
      FITTINGS SHALL BE MANUFACTURED DUCTILE IRON AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ANSI SPECIFICATIONS A21.10-71 (AWWA SPECIFICATIONS C110-71). FITTINGS SHALL BE COMPATIBLE WITH THE PIPE AND SHALL PROVIDE AT LEAST EQUAL RESISTANCE TO INTERNAL AND EXTERNAL LOADS ON THE PIPE, FITTINGS SHALL BE BITUMINOUS COATED ON THE OUTSIDE AND CEMENT MORTAR LINED ON THE INSIDE ACCORDING TO AWWA SPECIFICATIONS A21.4-74 (ANSI SPECIFICATIONS C104-74).
      IN LIEU OF THE FITTINGS SPECIFIED ABOVE, AWWA C-153 CLASS 350 DUCTILE IRON COMPACT FITTINGS MAY BE SUBSTITUTED.
   C. AWWA POLYVINYL-CHLORIDE PIPE. PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA SPECIFICATIONS C900-81 TO DUCTILE IRON PIPE OUTSIDE DIAMETER DIMENSIONS AND BE APPROVED BY UNDERWRITERS LABORATORIES. CLASS 150 PIPE SHALL MEET THE REQUIREMENTS OF DR 18. JOINTS SHALL CONSIST OF AN INTEGRAL WALL SECTION WITH SOLID CROSS SECTION RUBBER GASKET CONFORMING TO ASTM DESIGNATION D-1869. PIPE SHALL BE CLEARLY MARKED TO SHOW CLASS, SIZE, MANUFACTURER'S NAME. FITTINGS FOR POLYVINYL-CHLORIDE PIPE SHALL BE MANUFACTURED OF CAST OR DUCTILE IRON.
9. GATE VALVES TWO INCHES AND SMALLER SHALL BE INSIDE SCREW, SOLID BRONZE, TAPERED SEAT, AND DOUBLE DISC CONSTRUCTION FOR 250 PSI WORKING PRESSURE. THE VALVES SHALL BE SUITABLE FOR THE SERVICE REQUIRED. LARGER GATE VALVES SHALL CONFORM TO AWWA SPECIFICATIONS C500 OR C509 AND SHALL BE IRON BODY, BRONZE MOUNTED, NON-RISING STEM WITH AN OIL RESERVOIR ENCLOSED BETWEEN TWO "O" RINGS, ONE BELOW AND ONE ABOVE THE THRUST COLLAR ON THE OPERATING STEM. DOUBLE DISC VALVES SHALL HAVE A FOUR-POINT WEDGING MECHANISM IN THE DISC TO ASSURE A POSITIVE SHUTOFF AND SHALL BE MODEL NO. A-2380-20, AS MANUFACTURED BY MUELLER COMPANY, SIMILAR MODEL BY M&H VALVE & FITTINGS COMPANY, OR APPROVED EQUAL. GATE VALVES SHALL BE FOR USE WITH DUCTILE IRON OR PVC PIPE OR ON FIRE HYDRANT SETTINGS. GATE VALVES SHALL BE NUT OPERATED AND SHALL OPEN LEFT.
10. FIRE HYDRANTS SHALL BE KENNEDY K81A, MUELLER A421 OR APPROVED EQUAL. PAINTED WITH "GLID" GUARD #45 SAFETY RED, BY "GLIDDEN" OR APPROVED EQUAL. HYDRANTS MUST HAVE CITY OF CHARLOTTESVILLE STANDARD THREADS.
11. WATER MAINS SHALL HAVE A MINIMUM COVER OF 36", UNLESS OTHERWISE NOTED ON THE PLANS.
12. THE METHOD OF THRUST RESTRAINT REQUIRED FOR ALL BENDS, TEES, OFFSETS, OR PLUGGED ENDS FOR WATER LINES OR FORCE MAINS ARE THE USE OF MEGA-LUG RETAINER GLANDS OR APPROVED EQUAL.
13. A MINIMUM VERTICAL SEPARATION OF 12" SHALL BE MAINTAINED WHERE WATER LINE CROSSES UNDER STORM SEWER LINE, UNLESS OTHERWISE NOTED ON PLANS.
14. FOR LINES LAID ON CURVES, DEFLECTIONS AT JOINTS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS.
15. CONTRACTOR SHALL NOTIFY THE CITY OF CHARLOTTESVILLE DEPARTMENT OF UTILITIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK ANY SEWER OR WATER MAIN INSTALLATION.
16. HYDRANTS SHALL BE PRECEDED IN LINE BY AN APPROVED VALVE AND VALVE BOX. THE HYDRANTS SHALL HAVE AN EIGHT INCH MECHANICAL JOINT INLET AND MAIN VALVE OPENING OF 5-½INCHES MINIMUM. HYDRANTS SHALL BE EQUIPPED WITH TWO 2-½INCH HOSE CONNECTIONS AND ONE 4-½INCH PUMPER CONNECTION WITH NATIONAL STANDARD THREADS. HOSE NIPPLES SHALL BE BRONZE OR NON-CORROSIVE METAL AND THE NIPPLE CAPS SHALL BE SECURELY CHAINED TO THE BARREL. THE DIRECTION OF OPENING SHALL BE LEFT AND BE CAST ON THE HEAD OF THE HYDRANT.
17. ALL SERVICES SHALL BE METERED FOR THE INDICATION OF WATER CONSUMPTION IN CUBIC FEET. EACH WATER METER INSTALLATION SHALL INCLUDE TAP, CORPORATION STOP, METER BOX, COPPER SETTER AND METER. THE REGISTER SHALL HAVE STRAIGHT READING DIALS AND SHALL BE COMPLETELY ENCASED, HERMETICALLY SEALED, AND OF A FROST-PROTECTIVE DESIGN. EACH METER SHALL HAVE AN ARROW ON IT TO INDICATE THE DIRECTION OF FLOW AND SHALL HAVE THE MANUFACTURER'S SERIAL NUMBER STAMPED ON THE REGISTER LID. METERS SHALL BE SENSUS TECHNOLOGIES, INC. WITH TOUCHREAD PIT LID REGISTER AND REMOTE MODULE. METERS SHALL CONFORM TO AWWA C-700 AND C-707, LATEST EDITION. INDIVIDUAL METERS SHALL BE PROVIDED TO THE DEPARTMENT OF PUBLIC UTILITIES AT THE DEVELOPER'S EXPENSE.
18. THE DEVELOPER WILL BE RESPONSIBLE FOR GRADE AND CONDITION OF THE WATER AND SEWER SETTINGS UNTIL ISSUANCE OF OCCUPANCY PERMITS.
19. BACKFILL MATERIAL SHALL BE PLACED EVENLY AND CAREFULLY AROUND THE PIPE AND SHALL BE SOLIDLY HAND TAMPED IN 6 INCH LAYERS UP TO A LEVEL OF AT LEAST ONE FOOT ABOVE THE TOP OF THE PIPE. THE REMAINDER OF THE TRENCH SHALL BE BACKFILLED AND COMPACTED BY MECHANICAL TAMPERS AND SHALL ACHIEVE A DENSITY OF AT LEAST 95 PERCENT OF THE MAXIMUM DENSITY OR AS SPECIFIED IN SECTION 303 OF THE 2007 VDOT ROAD AND BRIDGE SPECIFICATIONS.
20. LOCKING FIRE DEPARTMENT CONNECTION CAPS SHALL BE REQUIRED ON WATER BASED FIRE PROTECTION SYSTEMS.

No.	REVISIONS	DATE	BY

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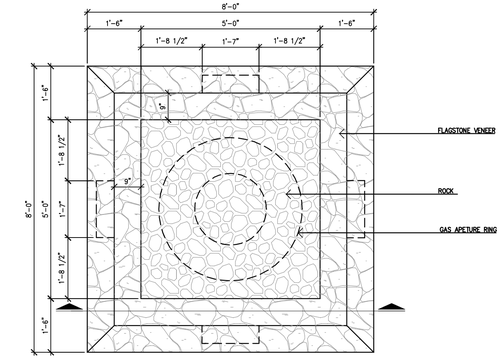
COMMONWEALTH OF VIRGINIA
BRIAN J. BREWER
Lic. No. 039045
02-01-12
PROFESSIONAL ENGINEER

KHA PROJECT 113155000
DATE 02/01/2012
SCALE AS SHOWN
DESIGNED BY AFS
DRAWN BY AFS
CHECKED BY BJB

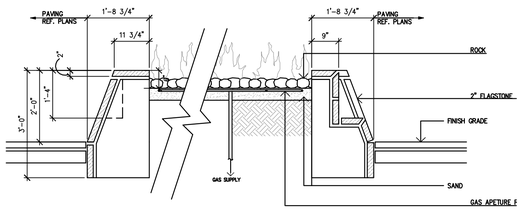
ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

UTILITY DETAILS

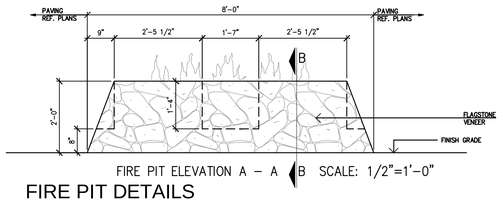
SHEET NUMBER
CU-502



FIRE PIT PLAN SCALE: 1/2"=1'-0"

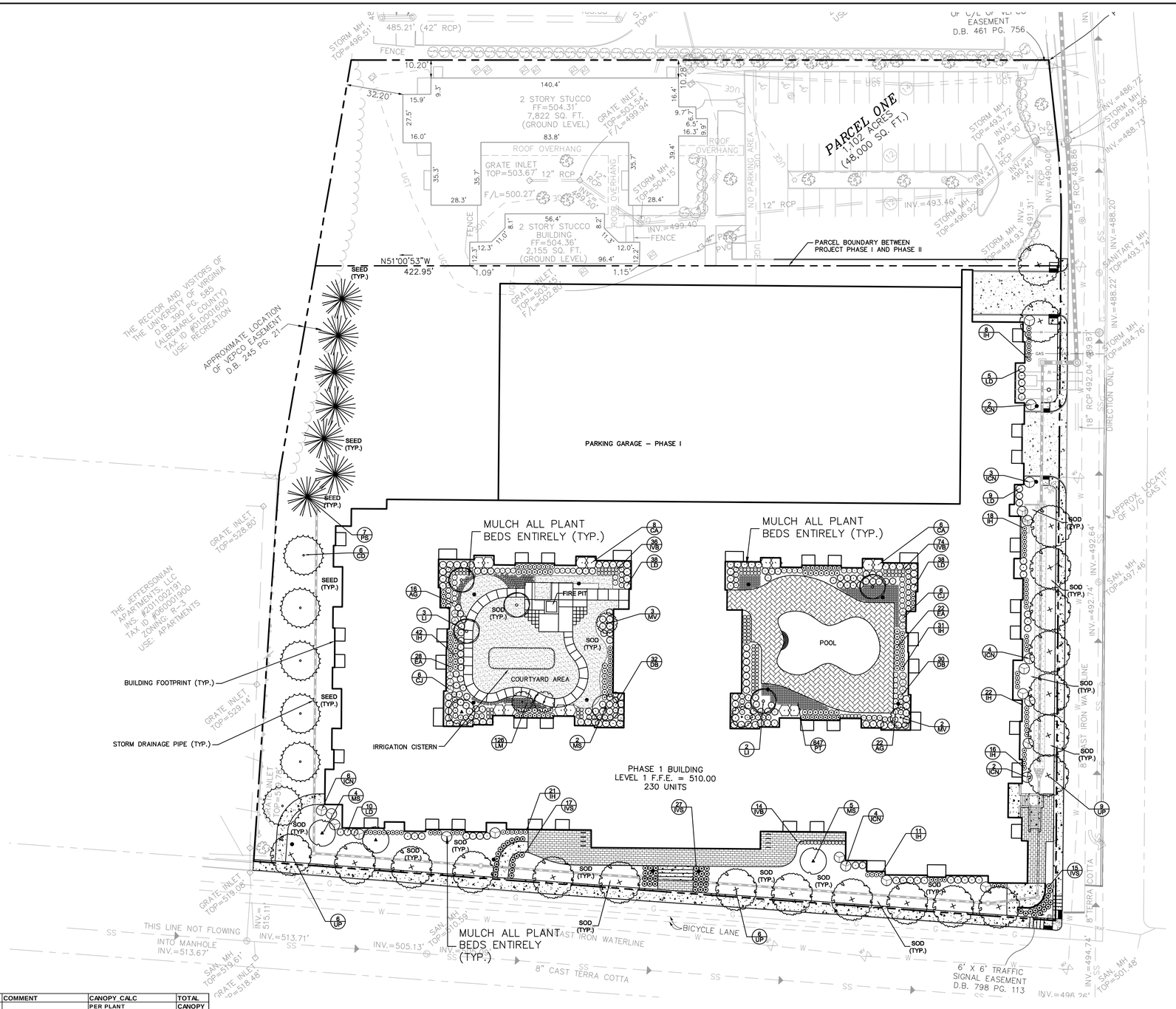


FIRE PIT SECTION B – B SCALE: 1/2"=1'-0"



FIRE PIT ELEVATION A – A B SCALE: 1/2"=1'-0"

FIRE PIT DETAILS



PLANT SCHEDULE

KEY	Count	BOTANICAL_NAME	COMMON_NAME	SIZE	ROOT	SPACING	COMMENT	CANOPY_CALC PER PLANT	TOTAL CANOPY
TREES									
CD	6	CEDRUS DEODARA	DEODAR CEDAR	2" CAL. 4'-5' HT.	B&B			143	858
UP	21	ULMUS PARVIFOLIA "ALLEE"	ALLEE ELM	3"-4" CAL.	B&B	40' O.C. OR AS SHOWN		366	7686
LI	5	LAGERSTROEMIA X "NATCHEZ"	NATCHEZ CRAPE MYRTLE	2" CAL. 6'-7' HT	B&B			77	385
MS	5	MAGNOLIA X SOULANGIANA	SAUCER MAGNOLIA	2" CAL. 6'-8' HT.	B&B			145	725
MV	5	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	6'-8'	B&B			70	350
PS	7	PINUS STROBUS	EASTERN WHITE PINE	2" CAL. 4'-5' HT.	B&B			118	826
SHRUBS									
AG	38	ABELIA X 'ROSE CREEK'	'ROSE CREEK ' ABELIA	18"-24" SP.	3 GAL.	3' O.C.		14	532
CA	14	CORNUS ALBA "SIBIRICA"	ARTIC FIRE DOGWOOD	24"-30"	CONT.			72	1008
CDQ	72	COTONEASTER PROCUMBENS "QUEEN OF CAR	QUEEN OF CARPETS COTONEASTER	18"-24" SP.	CONT.	4' O.C.	MULCH BED ENTIRELY, FUL	10	720
CJ	12	CAMELIA JAPONICA	CAMELIA	24"-30"	CONT.	SHOWN	MULCH ENTIRE BED, FULL	10	120
DB	64	DAPHNE X BURKWOODII	DAPHNE	24"-30"	CONT.	36" O.C.		10	640
EA	50	EUONYMUS ALATUS "LITTLE MOSES"	LITTLE MOSES DWARF BURNING BUSH	18"	CONT.			10	500
ICN	21	ILEX CORNUTA 'NEEDLEPOINT"	NEEDLEPOINT HOLLY	5'-6'	CONT.	AS SHOWN		10	210
IH	147	ILEX CRENATA"HOOGENDORN"	HOOGENDORN HOLLY"	24"-30"	CONT.	30" O.C.	MULCH ENTIRE BED, FULL	10	1470
IVB	124	ILEX VOMITOREA "BORDEAUX"	BORDEAUX HOLLY	18"	CONT.	2' O.C.	MULCH ENTIRE BED, FULL	10	1240
IVS	44	ILEX VOMITORIA "SCHILLINGS"	SCHILLINGS HOLLY	18"	CONT.	3' O.C.		10	440
LD	122	LOROPETALUM CHINENSIS "DARUMA"	DARUMA FRING FLOWER	24"	CONT.	4' O.C.	MULCH ENTIRE BED, FULL	10	1220
GROUND COVER									
LM	126	LIRIOPE MUSCARII "BIG BLUE"	BIG BLUE LIRIOPE	1 GAL	CONT.	18" O.C.			
PT	727	PACHYSANDRA TERMINALIS	PACHYSANDRA	4"	4" CONT	12" O.C.	MULCH ENTIRE BED, FULL		
								TOTAL CANOPY PHASE I	18930

CANOPY CALCULATIONS

Phase I Units	230	
Phase II Units	70	
Total Units	300	
site area =	4.7	acres
Density	63.8298	D.U. ACRE
tree canopy required =	10	percent
site area	204732	sf
canopy required	20473.2	sf
Canopy Provided PH I	18,930	sf
Canopy Provided PH II	12,115	sf
TOTAL CANOPY Phase I and II	**31,045**	

NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

No.	REVISIONS	DATE	BY

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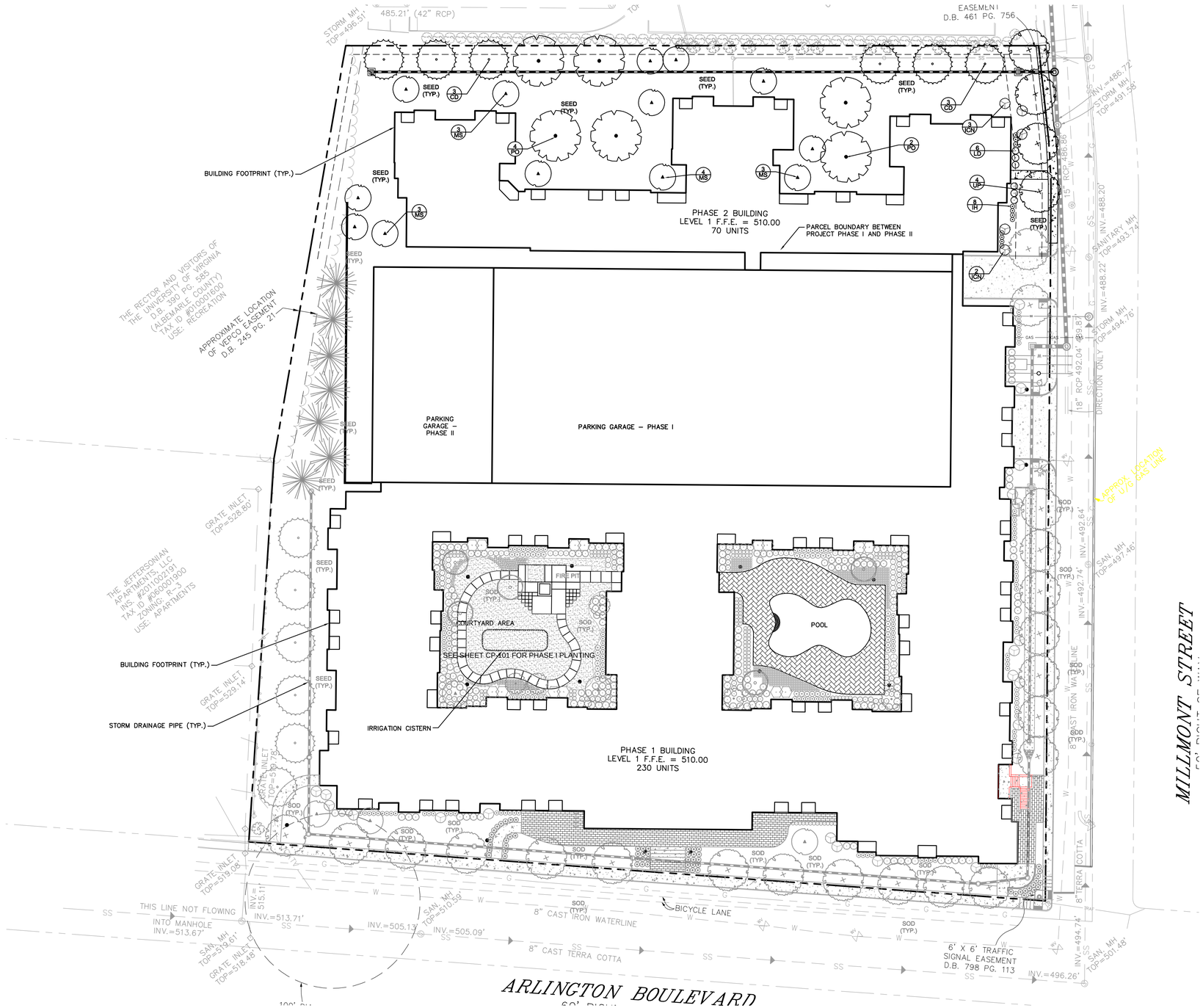
COMMONWEALTH OF VIRGINIA
JOSEPH A. MATHEWS
Lic. No. 000490
02-01-12
LANDSCAPE ARCHITECT

KHA PROJECT 113155000
DATE 02/01/2012
SCALE AS SHOWN
DESIGNED BY AFS
DRAWN BY AFS
CHECKED BY BJB

ARLINGTON AND MILLMONT APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

LANDSCAPING PLAN - PHASE 1

SHEET NUMBER
CP-101



PLANT SCHEDULE

KEY	Count	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	COMMENT	CANOPY CALC PER PLANT	TOTAL CANOPY
TREES									
CD	6	CEDRUS DEODARA	DEODAR CEDAR	2" CAL. 4'-5' HT.	B&B			143	858
UP	4	ULMUS PARVIFOLIA "ALLEE"	ALLEE ELM	3"-4" CAL.	B&B	40' O.C. OR AS SHOWN		366	1464
ICN	5	ILEX CORNUTA "NEEDLEPOINT"	NEEDLEPOINT HOLLY	5'-6'	B&B	AS SHOWN		44	220
MS	13	MAGNOLIA X SOULANGIANA	SAUCER MAGNOLIA	2" CAL. 6'-8' HT.	B&B			145	1885
PO	6	PLATANUS OCCIDENTALIS	AMERICAN PLANE TREE	2" CAL.	B&B			1253	7518
SHRUBS									
IH	11	ILEX CRENATA "HOOGENDORN"	HOOGENDORN HOLLY"	24"-30"	CONT.	30" O.C.	MULCH ENTIRE BED, FULL	10	110
LD	6	LOROPETALUM CHINENSIS "DARUMA"	DARUMA FRINGE FLOWER	24"	CONT.	4' O.C.	MULCH ENTIRE BED, FULL	10	60
								TOTAL CANOPY PHASE II	12115

GRAPHIC SCALE IN FEET
0 15 30 60

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PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

LANDSCAPING PLAN - PHASE 2

SHEET NUMBER
CP-102

GENERAL PLANTING NOTES:

THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, ETC. NECESSARY TO COMPLETE ALL PLANTING AS SHOWN ON THE PLANTING PLANS, AS SPECIFIED HEREIN OR IN SUPPLEMENTAL SPECIFICATIONS, AND/OR AS REQUIRED BY JOB CONDITIONS. THE WORK IN GENERAL INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

(1) SOIL PREPARATION;
(2) PROVIDING TOPSOIL AND ALL SOIL AMENDMENTS;
(3) EXCAVATION OF PLANT PITS;
(4) PROVIDING ALL PLANT MATERIAL AND MULCH AS INDICATED ON PLANS;
(5) FERTILIZING;
(6) STAKING;
(7) CHEMICAL APPLICATION;
(8) MAINTENANCE AND GUARANTEE;
(9) ALL OTHER ITEMS NECESSARY TO MAKE WORK COMPLETE.

THE PLANTING CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH THE OTHER CONTRACTORS. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE OR NON-EXISTENCE OF ANY UTILITIES. PRIOR TO ANY CONSTRUCTION, EXCAVATION, OR ROTO-TILLING THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF VERIFYING THE LOCATIONS OF ALL UTILITIES, ABOVE AND/OR BELOW GROUND, PUBLIC AND/OR PRIVATE THAT MAY EXIST AND CROSS THROUGH THE AREAS OF CONSTRUCTION.

(1) SOIL PREPARATION

(1.1) BECAUSE OF SOIL COMPACTION DURING CONSTRUCTION, ALL PLANTING AREAS SHALL BE ROTOTILLED TO A DEPTH AS SHOWN IN DETAILS OR AS SPECIFIED IN WRITTEN SPECIFICATIONS . A PLANTING AREA IS ANY AREA IN WHICH NEW PLANTING OCCURS. EXCAVATE THE ENTIRE AREA BOUNDED BY WALKS, WALLS, FENCES, ETC. REMOVE SPOIL MATERIAL AS DIRECTED BY OWNER OR THE OWNER'S REPRESENTATIVE.

(1.2) EXCAVATED SOIL SHOULD BE USED AS BACKFILL MATERIAL IN ORDER TO ELIMINATE OR MINIMIZE THE OCCURRENCE OF HYDROLOGIC DISCONTINUITIES, AND/OR SOIL INTERFACE PROBLEMS COMMON TO PLANTING BEDS CONTAINING SOILS OF DIFFERENT TEXTURE. WHERE THE TEXTURE OF THE EXISTING SOIL IS UNDESIRABLE FOR THE PLANT SPECIES BEING PLANTED (i.e. HEAVY CLAY, PURE SAND) AND WHERE THE pH OF THE EXISTING SOIL IS SUITABLE FOR THE SPECIES BEING PLANTED, THE SOIL SHALL BE BLENDED 66% EXISTING SOIL WITH 33% AMENDED SOIL .

(1.3) WHERE IT IS DETERMINED THAT THE EXISTING SOIL EXCAVATED IS TOTALLY UNSUITABLE FOR USE AS BACKFILL MATERIAL BECAUSE OF IMPROPER pH OR THE PRESENCE OF DEBRIS OR OTHER DELETERIOUS MATTER, THE BACKFILL MATERIAL SHALL BE 100% AMENDED SOIL MIXTURE AS DESCRIBED BELOW WITH THE ADDITION OF 1/2 PART SAND.

AMENDED SOIL: PLANTING SOIL FOR AMENDING BACKFILL SHALL BE 100 % TOPSOIL WITH AMENDMENTS ADDED ACCORDING TO THE RECOMMENDATIONS OF THE SOILS TEST REPORT TO BRING THE pH VALUE OF THE PLANTING BACKFILL MIXTURE WITHIN THE RANGES DESCRIBED BELOW. THE TOPSOIL AND AMENDMENTS SHALL BE MIXED AT AN ON-SITE LOCATION. PLANTING SOIL SHALL NOT BE MIXED AT INDIVIDUAL PLANT LOCATIONS.

(2) TOPSOIL AND ALL SOIL AMENDMENTS

(2.1) NECESSARY QUANTITIES OF TOPSOIL SHALL BE SUPPLIED BY THE CONTRACTOR AND APPROVED BY THE OWNER OR HIS REPRESENTATIVE. THE CONTRACTOR SHALL APPLY TOPSOIL ONLY AFTER SECURING SOIL TEST (V.P.I.), APPLYING RECOMMENDED TREATMENT THEREOF, AND SUBMITTING FOR APPROVAL.

(2.2) ON-SITE TOPSOIL MEETING THE CONDITIONS FOR THESE NOTES MAY BE USED, OR IF INSUFFICIENT QUANTITIES ARE AVAILABLE, OUTSIDE TOPSOIL MEETING THE FOLLOWING CRITERIA SHALL BE PROVIDED.

(2.3) ON-SITE TOPSOIL SHALL BE STOCKPILED TOPSOIL THAT HAS BEEN SALVAGED IN ACCORDANCE WITH SECTION 303.04(A) OF THE V.D.O.T. SPECIFICATIONS. IT SHALL BE FREE FROM REFUSE, OR ANY MATERIAL TOXIC TO PLANT GROWTH, AND REASONABLY FREE FROM SUBSOIL, STUMPS, ROOTS, BRUSH, STONES, CLAY, LUMPS, OR SIMILAR OBJECTS LARGER THAN 3" IN THEIR GREATEST DIMENSION.

(2.4) OFF-SITE TOPSOIL, IF NEEDED, SHALL BE TOPSOIL FURNISHED FROM SOURCES OUTSIDE THE PROJECT LIMITS AND SHALL BE THE ORIGINAL TOP LAYER OF A SOIL PROFILE FORMED UNDER NATURAL CONDITIONS, TECHNICALLY DEFINED AS THE "A" HORIZON BY THE SOIL SOCIETY OF AMERICA. IT SHALL CONSIST OF NATURAL, FRIABLE, LOAMY SOIL WITHOUT ADMIXTURES OF SUBSOIL. OR OTHER FOREIGN MATERIALS, AND SHALL BE REASONABLY FREE FROM STUMPS, ROOTS, HARD LUMPS, STIFF CLAY, STONE, NOXIOUS WEEDS, BRUSH, OR OTHER LITTER. IT SHALL HAVE DEMONSTRATED BY EVIDENCE OF HEALTHY VEGETATION GROWING, OR HAVING GROWN ON IT PRIOR TO STRIPPING, THAT IT IS REASONABLY WELL DRAINED AND DOES NOT CONTAIN SUBSTANCES TOXIC TO PLANTS.

(2.4.1) "A" HORIZON: "A" HORIZONS SHALL BE MINERAL HORIZONS CONSISTING OF (1) HORIZONS OR ORGANIC MATTER ACCUMULATION FORMED OR FORMING AT OR ADJACENT TO THE SURFACE; (2) HORIZONS THAT HAVE LOST CLAY, IRON, OR ALUMINUM, WITH RESULTANT CONCENTRATIONS OF QUARTZ OR OTHER RESISTANT MINERALS OF SAND OR SILT SIZE; OR (3) HORIZONS DOMINATED BY 1 OR 2 ABOVE BUT TRANSITIONAL TO AN UNDERLYING B OR C.

(2.4.2) "A" HORIZON SUBDIVISIONS: A1 HORIZONS SHALL BE MINERAL HORIZONS, FORMED OR FORMING AT OR ADJACENT TO THE SURFACE, IN WHICH THE FEATURE EMPHASIZED IS AN ACCUMULATION OF HUMIDIFIED ORGANIC MATTER INTIMATELY ASSOCIATED WITH THE MINERAL FRACTION. THE SOIL IS A DARK OR DARKER THAN UNDERLYING HORIZONS BECAUSE OF THE PRESENCE OF ORGANIC MATTER. THE ORGANIC MATERIAL IS ASSUMED TO BE DERIVED FROM PLANT AND ANIMAL REMAINS DEPOSITED ON THE SURFACE OF THE SOIL OR DEPOSITED WITHIN THE HORIZON WITHOUT APPRECIABLE TRANSLOCATION.

A2 HORIZONS SHALL BE MINERAL HORIZONS IN WHICH THE FEATURE EMPHASIZED IS LOSS OF CLAY, IRON OR ALUMINUM, WITH RESULTANT CONCENTRATION OF QUARTZ OR OTHER RESISTANT MINERALS IN SAND AND SILT SIZES.

(2.4.3) "A" HORIZON TOPSOIL CONTENT: "A" HORIZON TOPSOIL SHALL BE IN ACCORDANCE WITH THE FOLLOWING MATERIALS BY PERCENTAGE OF VOLUME:

SILT 42-58%
SAND 15-20%
CLAY 15-20%
ORGANIC MATERIAL 12-18%

(2.5) TOPSOIL SHALL HAVE A pH IN THE RANGE OF 6.0 TO 7.0 PRIOR TO MIXING WITH AMENDMENTS. IF THE pH IS NOT WITHIN THIS RANGE, THE pH SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE OR A DIFFERENT SOURCE OF SUPPLY SHALL BE SELECTED. TOPSOIL SHALL BE SUBJECT TO INSPECTION BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE SOURCE OF SUPPLY AND IMMEDIATELY PRIOR TO USE IN THE PLANTING OPERATIONS.

(2.6) PLANTING SOIL AFTER AMENDING FOR DECIDUOUS PLANTS SHALL HAVE A pH VALUE BETWEEN 6.0 AND 7.0, AND FOR EVERGREEN OR SEMI-EVERGREEN PLANTS SHALL HAVE A pH VALUE BETWEEN 5.0 AND 6.0. A REPRESENTATIVE SAMPLE FROM THE EXCAVATED SOIL SHALL BE FIELD TESTED FOR pH UTILIZING A RELIABLE SOIL pH METER OR SOIL pH TEST KIT. THE pH VALUE OF THE NATURAL SOIL BACKFILL MIXTURE MAY BE AMENDED BY ADDING LIMESTONE OR ALUMINUM SULFATE AS NEEDED.

(3) EXCAVATION OF PLANT PITS

(3.1) PRIOR TO EXCAVATION OF TREE PITS, AN AREA EQUAL TO TWO TIMES THE DIAMETER OF THE ROOT BALL SHALL BE ROTO-TILLED TO A DEPTH EQUAL TO THE DEPTH OF THE ROOT BALL.

(3.2) IN CONTINUOUS SHRUB AND GROUND COVER BEDS, THE ROTO-TILLED PERIMETER SHOULD EXTEND TO A DISTANCE OF ONE FOOT BEYOND THE DIAMETER OF A SINGLE ROOTBALL. THE BED SHALL BE TILLED TO A DEPTH EQUAL TO THE ROOT BALL DEPTH PLUS 6".

(3.3) TREE PITS FOR WELL DRAINED SOILS SHALL BE DUG SO THAT THE BOTTOM OF THE ROOT BALL WILL REST ON UNDISTURBED SOIL AND THE TOP OF THE ROOT BALL WILL BE FLUSH WITH FINISH GRADE. IN POORLY DRAINED SOILS THE TREE PIT SHALL BE DUG SO THAT THE ROOT BALL RESTS ON UNDISTURBED SOIL AND THE TOP OF THE ROOT BALL IS 1" ABOVE FINISH GRADE. PLANT PIT WALLS SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.

(3.4)SHRUB BEDS SHALL BE EXCAVATED TO 6" BELOW THE ROOT BALL OF THE SHRUB.

(3.5) ALL AIR POCKETS SHALL BE REMOVED FROM PLANT PIT UPON BACK FILLING WITH PLANTING SOIL BY FILLING APPROXIMATELY 1/2 TO 2/3 OF THE PIT WITH PLANTING BACKFILL MATERIAL, TAMPING BACKFILL MATERIAL AND THEN WATERING TO ENSURE SETTLEMENT OF THE MATERIAL. BACKFILL MATERIAL SHALL THEN BE PLACED WITHIN THE REMAINING CAVITIES OF THE PLANT PIT, TAMPING AND WATERED AGAIN TO ENSURE SETTLEMENT OF THE BACKFILL MATERIAL. UNDER NO CIRCUMSTANCES SHALL ANY SOIL OR BACKFILL MATERIAL BE APPLIED ABOVE THE ROOT BALL OF THE PLANTS.

(3.6) GROUND COVERS SHALL BE PLANTED IN BEDS HAVING A MINIMUM DEPTH OF 4" BELOW THE PROPOSED ROOT DEPTH. PLANTS SHALL BE EVENLY SPACED AND SET TO MAINTAIN THE ORIGINAL GROWING DEPTH WHILE ALLOWING FOR A 2" TOP DRESSING OF MULCH.

(4) PLANT MATERIAL AND MULCH

(4.1) THE NAMES OF PLANTS REQUIRED UNDER THIS CONTRACT CONFORM TO THOSE GIVEN IN L.H. BAILEY'S HORTUS THIRD, 1976 EDITION. NAMES OF VARIETIES NOT INCLUDED THEREIN CONFORM GENERALLY WITH NAMES ACCEPTED IN THE NURSERY TRADE. ALL PLANTS SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL FOR THEIR SPECIES AND THEY SHALL BE SOUND, HEALTHY AND VIGOROUS, WITH WELL DEVELOPED ROOT SYSTEMS. ALL PLANT MATERIAL SHALL BE FREE FROM INSECT PESTS, PLANT DISEASES, AND INJURIES. ALL PLANTS SHALL EQUAL OR EXCEED THE MEASUREMENTS SPECIFIED IN THE PLANT LIST, WHICH ARE MINIMUM ACCEPTABLE SIZES. TREES SHALL HAVE SINGLE TRUNKS EXCEPT AS NOTED. ALL SHRUBS SHALL BE HEALTHY, VIGOROUS, AND OF GOOD COLOR. ONLY DAMAGED OR BROKEN BRANCHES OF PLANT MATERIAL MAY BE PRUNED AND ANY NECESSARY PRUNING SHALL BE DONE AT THE TIME OF PLANTING. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THE CENTRAL LEADER OF A PLANT BE PRUNED.

(4.2) ALL TAGS, STRINGS OR ANY OTHER MATERIAL ATTACHED TO THE PLANTS SHALL BE REMOVED AT THE TIME OF THE PLANTING. BALLING AND BURLAPPING OF PLANTS SHALL FOLLOW THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE AMERICAN STANDARD FOR NURSERY STOCK.

(4.3) SUBSTITUTIONS WILL BE PERMITTED ONLY UPON SUBMISSION OF PROOF THAT ANY PLANT IS NOT OBTAINABLE. ALL SUBSTITUTIONS MUST BE AUTHORIZED BY THE OWNER OR THE OWNER'S REPRESENTATIVE IN WRITING PROVIDING FOR USE OF THE NEAREST EQUIVALENT OBTAINABLE SIZE OR VARIETY OF PLANT HAVING THE SAME ESSENTIAL CHARACTERISTICS AS THE ORIGINAL VARIETY WITH AN EQUITABLE ADJUSTMENT OF CONTRACT PRICE.

(4.4) BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. BALLS SHALL BE FIRMLY WRAPPED WITH BURLAP OR SIMILAR MATERIAL AND BOUND WITH TWINE OR CORD. BURLAP SHALL NOT BE PULLED OUT FROM UNDER BALLS DURING PLANTING OPERATIONS. B&B PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY ON DELIVERY SHALL BE COVERED WITH MOIST SOIL, MULCH, OR OTHER MATERIAL TO PROVIDE PROTECTION FROM DRYING WINDS AND SUN.

(4.5) PLANTS NOTED "CONTAINER" ON THE PLANT LIST MUST BE CONTAINER GROWN WITH WELL ESTABLISHED ROOT SYSTEMS. LOOSE CONTAINERIZED PLANT MATERIAL WILL NOT BE ACCEPTED. ALL PLANTS INJURED AND PLANTS WITH ROOT BALLS BROKEN DURING TRANSPORT OR PLANTING OPERATIONS WILL BE REJECTED. BARE-ROOTED PLANTS (BR) SHALL BE PLANTED OR HEELED-IN IMMEDIATELY UPON DELIVERY. ALL PLANTS SHALL BE WATERED AS NECESSARY UNTIL PLANTED.

(4.6) NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON THE PLAN EXCEPT WHERE OBSTRUCTIONS BELOW GROUND ARE ENCOUNTERED OR WHERE CHANGES HAVE BEEN MADE IN THE PROPOSED CONSTRUCTION. NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE. REASONABLE CARE SHALL BE EXERCISED TO HAVE PLANTING PITS DUG AND SOIL PREPARED PRIOR TO MOVING PLANTS TO THEIR RESPECTIVE LOCATIONS TO ENSURE THAT THEY WILL NOT BE UNNECESSARILY EXPOSED TO DRYING OR PHYSICAL DAMAGE.

(4.7) A LIST OF PLANTS, INCLUDING SIZES, QUANTITIES AND OTHER REQUIREMENTS, IS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE QUANTITIES AS SHOWN ON THE DRAWINGS. IF DISCREPANCIES OCCUR IN THE QUANTITIES SHOWN, THE PLANTING PLANS SHALL GOVERN.

(4.8) THE PLANTING CONTRACTOR WILL BE NOTIFIED BY THE GENERAL CONTRACTOR WHEN OTHER DIVISIONS OF THE WORK HAVE PROGRESSED SUFFICIENTLY TO COMMENCE WORK ON THE PLANTING OPERATION. THEREAFTER, PLANTING OPERATIONS SHALL BE CONDUCTED UNDER FAVORABLE WEATHER CONDITIONS DURING THE NEXT SEASON OR SEASONS WHICH ARE NORMAL FOR SUCH WORK. REMOVAL OF ROCK OR OTHER UNDERGROUND OBSTRUCTIONS, RELOCATIONS TO AVOID OBSTRUCTIONS, AND PROVISION OF DRAINAGE FOR PLANTING AREAS SHALL BE DONE ONLY AS APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

(4.9) ALL PLANTS SHALL BE PLANTED UPRIGHT AND FACED TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO ADJACENT STRUCTURES. ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY. PLANTS WITH CIRCLING ROOTS SHALL NOT BE ACCEPTED. BURLAP TWINE AND OTHER FASTENING MATERIAL SHALL BE CUT AND PUSHED TO THE BOTTOM OF THE PLANT PIT PRIOR TO BACKFILL MATERIAL BEING PLACED. THE PLANT SHALL NOT BE ROCKED BACK AND FOURTH TO ENTIRELY REMOVE THE WRAPPING MATERIAL NOR SHALL ANY OTHER PRACTICE BE PERFORMED WHICH COULD CAUSE THE ROOT BALL TO BREAK APART. WHEN WIRE BASKETS ARE USED ON THE ROOT BALL OF PLANTS THE WIRE SHALL BE REMOVED TO AT LEAST 12" BELOW THE TOP OF THE ROOT BALL.

(4.10) AT THE TIME OF PLANTING, AND AS MANY TIMES LATER AS SEASONAL CONDITIONS REQUIRE, EACH PLANT AND THE SOIL AROUND IT SHALL BE THOROUGHLY WATERED. CARE SHOULD BE EXERCISED WHEN WATERING TO AVOID FLOODING OF PLANTS AND BEDS, DISPLACEMENT OF MULCH MATERIAL AND EROSION OF SOIL. AVOID USE OF HIGH PRESSURE HOSES. THE CONTRACTOR SHALL MAKE, AT HIS EXPENSE, WHATEVER ARRANGEMENTS MAY BE NECESSARY TO ENSURE AN ADEQUATE SUPPLY OF WATER TO MEET THE NEEDS OF THIS CONTRACT DURING INSTALLATION. THE CONTRACTOR SHALL ALSO FURNISH ALL NECESSARY HOSE, EQUIPMENT ATTACHMENTS AND ACCESSORIES FOR THE ADEQUATE WATERING OF PLANTED AREAS AS MAY BE REQUIRED UNTIL ACCEPTANCE BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

(4.11) MULCH SHALL BE CLEAN, GROUND OR SHREDDED BARK OR HARDWOOD MULCH. IN PLANTING AREAS WHERE SLOPES EXCEED 3:1 AND AT DRAINAGE DISPERSION POINTS OR ALONG NATURAL WATER WAYS WHERE CONCENTRATIONS OF SURFACE WATER EMPTY FROM CULVERTS OR PAVED DITCHES, HEAVY JUTE MESH SHALL BE INSTALLED. SHREDDED HARDWOOD OR BARK MULCH SHALL HAVE BEEN COMPOSTED FOR AT LEAST TWO MONTHS PRIOR TO APPLICATION. FRESHLY GROUND MULCH WILL NOT BE ACCEPTED. FINELY GROUND MULCH WHICH INHIBITS DRAINAGE, ENCOURAGES WEED GROWTH OR BECOMES WATERLOGGED WILL NOT BE ACCEPTED. MULCH SHALL BE COMPOSED OF SIMILAR SIZED FRAGMENTS AND SHALL NOT CONTAIN STICKS, CONES, LEAVES, UNSHREDDED PIECES, OR OTHER DELETERIOUS MATTER. ALL AZALEA AND CAMELLIA PLANTING BEDS SHALL HAVE 1" OF PINE STRAW MULCH UNDER 2" OF BARK OR SHREDDED HARDWOOD MULCH.

(4.12) ALL PLANTS SHALL BE MULCHED IMMEDIATELY AFTER PLANTING. GROUND COVERS SHALL BE MULCHED WITH A 2" LAYER OF SHREDDED HARDWOOD OR BARK MULCH. ALL OTHER PLANTING BEDS, SHRUBS AND TREE PLANTINGS SHALL BE MULCHED WITH A 3" MINIMUM LAYER OF MULCH. THIS MULCH SHALL ENTIRELY COVER THE AREA OF THE PLANTING PIT, BED, OR EARTH BERM AROUND EACH PLANT WITH THE EXCEPTION OF THE AREA IMMEDIATELY ADJACENT TO THE PLANT TRUNK OR TRUNKS. THE AREA IMMEDIATELY ADJACENT TO THE PLANT TRUNK OR TRUNKS SHALL BE LEFT FREE OF ANY MULCH. WEED FABRIC SHALL BE INSTALLED IN ALL PLANTING BEDS.

(5) FERTILIZING

(5.1) THE FERTILIZER SHOULD BE A DRY SLOW RELEASE FORM OF FERTILIZER. IT SHOULD CONTAIN AT LEAST 25-50% WATER INSOLUBLE NITROGEN. THE FERTILIZER SELECTED SHOULD ALSO HAVE A LOW ADJUSTED SALT INDEX TO PREVENT BURNING. THE N-P-K RATIO SHOULD NOT EXCEED 3-1-2 UNLESS THE SOIL TEST REVEALS THAT ADDITIONAL LEVELS OF P AND K ARE NECESSARY.

(5.2) FOR DECIDUOUS TREES, USE OSMOCOTE (18-6-12) AT THE RATE EQUIVALENT TO 4 LBS ACTUAL N/1000 SQ FT OF ROOT ZONE AREA/YEAR. FOR EVERGREEN TREES USE 2 LBS ACTUAL N/1000 SQ FT OF ROOT ZONE AREA/YEAR.

(5.3) MIX THE FERTILIZER INTO THE BACKFILL SOIL OF THE TREE PITS. FOR SHRUB BEDS, MIX THE FERTILIZER INTO THE AREA THAT HAS BEEN ROTO-TILLED FOR THE PLANTS.

(5.4) THE FERTILIZER RATE FOR CONTINUOUS GROUND COVER AND SHRUB BEDS SHOULD BE DERIVED BY CALCULATING THE ENTIRE ROOT ZONE AREA. THE ROOT ZONE AREA IS FOUND BY MEASURING THE AREA CONTAINING THE MULTIPLE PLANT ROOTS. USE OSMOCOTE (18-6-12) AT A RATE EQUIVALENT TO 2 LBS OF N /1000 SQ FT OF ROOT ZONE AREA. THE FERTILIZER SHOULD BE EVENLY DISTRIBUTED WITHIN THE SHRUB BED SOIL.

(5.5) ALWAYS BE SURE THAT ADEQUATE MOISTURE IS AVAILABLE WHEN FERTILIZING SO THAT THE FERTILIZER WILL BE DISSOLVED INTO THE SOIL SOLUTION FOR ROOT UPTAKE AND TO AVOID BURNING THE ROOTS.

(6) STAKING

(6.1) ALL TREES SHALL BE STAKED ACCORDING TO THE TYPICAL DETAILS PROVIDED.

(6.2) THREE STAKES SHALL BE REQUIRED PER TREE. THE STAKES SHALL BE DRIVEN IN A RADIAL PATTERN,VERTICALLY INTO THE GROUND OUTSIDE THE EDGE OF THE ROOTBALL TO A DEPTH OF 2 1/2 ' TO 3', ON OPPOSITE SIDES OF THE TREE IN SUCH A MANNER AS NOT TO INJURE THE ROOT BALL OR ROOTS. STAKES FOR SUPPORTING TREES SHALL BE 1.5" X 1.5" SQUARE OR 1.5" ROUND, BY 8'. THE STAKES SHALL BE SOUND WOOD TREATED WITH A SUITABLE WOOD PRESERVATIVE.

WIRE OR CABLE SIZES FOR TREES UP TO 3" CAL. SHALL BE #10 WIRE:

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE. TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED. ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

(6.3) WOODEN STAKES AND WIRE TIES SHOULD BE REMOVED AFTER ONE YEAR.

(7) CHEMICAL APPLICATION

(7.1) ALL PESTICIDES SHALL BE PRODUCTS OF RECOGNIZED COMMERCIAL MANUFACTURERS, AND SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL PESTICIDE LAWS. PESTICIDES SHALL BE APPLIED WITH CALIBRATED EQUIPMENT ACCORDING TO EPA LABEL RESTRICTIONS AND REGULATIONS BY A CERTIFIED APPLICATOR. ANY DAMAGE INCURRED TO THE SITE, ADJACENT PROPERTIES, OR APPLICATOR DURING PESTICIDE APPLICATIONS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

(7.2) PESTICIDES SHOULD BE USED ONLY WHEN NECESSARY TO TREAT AN OUTBREAK OF A HARMFUL PEST OR DISEASE PROBLEM. THE OWNER OR THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS PRIOR TO THE APPLICATION OF ANY PESTICIDE.

(8) MAINTENANCE AND GUARANTEE

(8.1) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HIS WORK FOR THE PERIOD OF ONE YEAR AFTER ACCEPTANCE BY THE OWNER OR THE OWNER'S REPRESENTATIVE. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RESETTING OF PLANTS TO PROPER GRADES OR UPRIGHT POSITIONS, RESTORATION OF EARTH BERMS, AND OTHER NECESSARY OPERATIONS. ADEQUATE PROTECTION FOR LAWN AREAS AGAINST TRESPASSING DURING PLANTING OPERATIONS AND AGAINST DAMAGE OF ANY KIND SHALL BE PROVIDED. NOTHING IN THESE NOTES IS INTENDED TO RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO REPAIR EXISTING LAWN AREAS DAMAGED BY WORKMEN ENGAGED IN THE COMPLETION OF THIS PROJECT.

(8.2) INSPECTION OF THE WORK TO DETERMINE COMPLETION OF THE CONTRACT EXCLUSIVE OF THE POSSIBLE REPLACEMENT OF PLANTINGS, WILL BE MADE BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE CONCLUSION OF THE INSTALLATION PERIOD UPON WRITTEN NOTICE REQUESTING SUCH INSPECTION. REQUEST SHALL BE SUBMITTED BY CONTRACTOR AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED DATE FOR INSPECTION. AFTER INSPECTION, THE CONTRACTOR WILL BE NOTIFIED IN WRITING BY THE OWNER OR THE OWNER'S REPRESENTATIVE OF ACCEPTANCE OF THE WORK, EXCLUSIVE OF THE POSSIBLE REPLACEMENT OF PLANTS SUBJECT TO GUARANTEE; OR, IF THERE ARE ANY DEFICIENCIES, THE CONTRACTOR WILL BE NOTIFIED OF THE REQUIREMENTS NECESSARY FOR COMPLETION OF THE WORK. PLANTINGS SHALL NOT BE CONSIDERED ACCEPTED UNTIL ALL DEFICIENCIES HAVE BEEN CORRECTED AND APPROVED IN WRITING.

(8.3) NURSERY STOCK SHALL BE FULLY GUARANTEED FOR ONE FULL YEAR. ALL PLANTS THAT FAIL TO MAKE NEW GROWTH FROM A DORMANT CONDITION OR THAT DIE DURING THE FIRST YEAR AFTER PLANTING SHALL BE REPLACED. ALL REPLACEMENTS SHALL CONFORM WITH THE ORIGINAL SPECIFICATIONS AS TO SIZE AND TYPE. ALL COSTS OF REPLACEMENTS SHALL BE BORNE BY THE CONTRACTOR.

(9) ALL OTHER ITEMS NECESSARY TO MAKE WORK COMPLETE

(9.1) ANY PLANT MATERIAL NOT PLANTED SHALL BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNUSED RUBBISH AND DEBRIS FROM THE SITE UPON COMPLETION OF HIS WORK.

(10) PERMANENT SEEDING (SHALL ONLY APPLY TO DISTURBED AREAS NOT INDICATED TO RECEIVE SOD).

(10.1) TOPSOILING: WHERE TOPSOIL IS REQUIRED ON ADVERSE SOIL CONDITIONS, A MINIMUM OF FOUR INCHES OF TOPSOIL SHOULD BE USED. THE TOPSOIL SHOULD CONTAIN A MINIMUM OF 35% FINE GRAINED MATERIAL (SILT AND CLAY AND 1.5% + ORGANIC MATTER).

(10.2) LIME AND FERTILIZER:
A. LIME - APPLY GROUND LIMESTONE OR
B. LIME - APPLY PULVERIZED AGRICULTURAL LIMESTONE OR EQUIVALENT AT THE RATE OF 2 TONS PRE ACRE.
C. FERTILIZER - 500 POUNDS PER ACRE OF 10-20-10 FERTILIZER OR EQUIVALENT.

IF SOILS ARE UNIFORM, IT IS DESIRABLE TO HAVE LIME AND FERTILIZER RECOMMENDATIONS BASED ON SOIL TESTS. THE LIME AND FERTILIZER SHOULD BE DISKED OR WORKED INTO A GOOD SEEDBED TO A DEPTH OF THREE TO FOUR INCHES.

(10.3) SPRING AND FALL SEEDING: SEED ONE OF THE FOLLOWING VARIETIES AT THE SPECIFIED RATES PER ACRE FOR TURF AREAS SEEDED IN THE SPRING OR FALL (SEE SPECIFIED SEEDING DATES BELOW):

TYPE OF GRASS	SEEDING RATE		SEEDING DATE
TALL FESCUE (1)	5 - 7 LBS./1000 SQ. FT.	SPRING SEEDING:	FEBRUARY 28, TO MAY 15.
		FALL SEEDING:	AUGUST 1 TO NOVEMBER 1

NOTE: PREFERRED FESCUE SEEDING DATES ARE FROM AUGUST 1 TO NOVEMBER 1.

SPRING SEEDING DATES WOULD BE FROM FEBRUARY 28, TO MAY 15.

(1) FESCUE SHALL BE SELECTED FROM ONE OF THE FOLLOWING VARIETIES:
2ND MILLENNIUM, AVENGER, BILTMORE, BINGO, BLACKWATCH, BRAVO, COCHISE II(3), COCHISE III, CONSTITUTION, COYOTE II, CROSSFIRE II(3,4), DAVINCI(3), DAYTONA(3), ENDEAVOR(3), FALCON IV, FIDELITY, FORTE, GOOD-EN(3,4), GRANDE(4), GRANDE II, GREENKEEPER WAF, GUARDIAN 21, HOUNDOG 5, HUNTER, INFERNO, JUSTICE, MAGELLAN, MASTERPIECE, MATADOR(3), MATADOR GT(3), ONYX(3,4), PADRE, PICASSO(3), PENN 1901, RAPTOR, REBEL EXEDA, REGIMENT II, REMBRANDT(3), SOUTHERN CHOICE II(3), SR 8250(3), TAOS, TARHEEL, TARHEEL II, TEMPEST, TITANIUM, TOMBSTONE, TURBO, ULTIMATE(3), WATCHDOG, AND WOLFPACK.

(10.4) SEED WITH THE FOLLOWING MIXTURE(S) FOR SPECIFIED DATES OUTSIDE THOSE LISTED ABOVE:

TYPE OF GRASS	SEEDING RATE		SEEDING DATE
BERMUDA (1)	2 LBS./1000 SQ. FT.(HULLED SEED)	SPRING SEEDING:	MAY 15 - JUNE
	7 LBS./1000 SQ. FT. (UNHULLED BERMUDA SEED AND 5 LBS./1000 SQ. FT. WINTER RYE (LOLLIUM MULTIFLORUM)	FALL SEEDING:	ALL OTHERS

(2) ONLY THE FOLLOWING VARIETIES OF BERMUDA SHALL BE ACCEPTABLE:
BLACKJACK, CONTINENTAL, PRINCESS 77, RIVIERA, YUKON OR SAVANNAH. SEED SHALL HAVE A MINIMUM PURITY OF 95% AND AN 85% GERMINATION RATE.

(10.5) MULCH
A. MULCH WITH ANY OF THE MATERIALS LISTED BELOW AND AT THE RATE INDICATED. SPREADING SHOULD BE UNIFORM AND AT A RATE THAT PERMITS NO MORE THAN 25-50% OF THE GROUND SHOWING THROUGH THE MULCH.

B. MULCHING IS SPECIFICALLY REQUIRED ON ALL SOILS EXCEEDING 25% SLOPE.
1. STRAW - 1 TO 2 TONS/ACRE DEPENDING ON SEASON AND METHOD OF APPLICATION.
2. WOOD FIBER MATERIALS - 1,000 LBS. PER ACRE.

(10.6) MAINTENANCE
A. IRRIGATION - IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS AND PLANTINGS WITH ADEQUATE WATER FOR PLANT GROWTH UNTIL THEY ARE FIRMLY ESTABLISHED.
B. REPAIR - INSPECT ALL AREAS FOR PLANTING FAILURES AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDING WITH THE PLANTING SEASON IF POSSIBLE.
C. LIME AND FERTILIZER - SHALL BE APPLIED UNDER A REGULAR PROGRAM THAT IS BASED ON SOIL FERTILITY TESTS AND ON THE USE AND GENERAL APPEARANCE OF THE VEGETATIVE COVER DURING SUBSEQUENT GROWING SEASONS.

SEEDING NOTES:

ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION THAT ARE NOT OTHERWISE COVERED BY BUILDINGS, PAVEMENT, SIDEWALKS, WOODED AREAS AND PLANTING / MULCHED BEDS OR OTHERWISE CALLED OUT AS SOD LAWN AREAS SHALL BE SEEDED PER THE PERMANENT SEEDING SPECIFICATIONS IN THE PRECEDING PARAGRAPH.

SEEDED AREAS WILL ONLY BE ACCEPTED AFTER DISTURBED AREAS ARE COMPLETELY COVERED IN A DENSE LAWN CONSISTING OF THE SPECIFIED PERMANENT GRASS.

SODDING NOTES:

(1) FESCUE GRASS SOD IS THE PREFERRED LAWN GRASS AND SHALL BE SELECTED FROM ONE OF THE FOLLOWING VARIETIES: 2ND MILLENNIUM, AVENGER, BILTMORE, BINGO, BLACKWATCH, BRAVO, COCHISE II, COCHISE III, CONSTITUTION, COYOTE II, CROSSFIRE II, DAVINCI, DAYTONA, ENDEAVOR, FALCON IV, FIDELITY, FORTE, GOOD-EN, GRANDE, GRANDE II, GREENKEEPER WAF, GUARDIAN 21, HOUNDOG 5, HUNTER, INFERNO, JUSTICE, MAGELLAN, MASTERPIECE, MATADOR, MATADOR GT, ONYX, PADRE, PICASSO, PENN 1901, RAPTOR, REBEL EXEDA, REGIMENT II, REMBRANDT, SOUTHERN CHOICE II, SR 8250, TAOS, TARHEEL, TARHEEL II, TEMPEST, TITANIUM, TOMBSTONE, TURBO, ULTIMATE, WATCHDOG, AND WOLFPACK.

(2) THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

(3) THE SOD SHALL BE CERTIFIED TO MEET LOCAL STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

(4) SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.

(5) DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

(6) LAWN MAINTENANCE

(7) WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

(8) CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

GENERAL LANDSCAPE NOTES:

A. CONTRACTOR SHALL REVIEW ALL DRAWINGS, SPECIFICATIONS, PERMITS, AND REGULATORY REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED LANDSCAPING AND IRRIGATION PERMITS.

C. CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED SITE ELEMENTS AND NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES. SURVEY DATA OF EXISTING CONDITIONS WAS PROVIDED BY OTHERS.

D. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" OF VIRGINIA @ 1-800-552-7001 FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE.

E. FINAL LOCATION OF ALL PLANTINGS SHALL BE DETERMINED IN THE FIELD BY THE OWNER'S CHOSEN REPRESENTATIVE.

F. SUBSTITUTIONS AND/OR MODIFICATIONS TO PLANTING LAYOUT, PLANT MATERIALS, ETC. SHALL NOT BE MADE WITHOUT THE WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT.

G. CONTRACTOR SHALL INSTALL ALL PLANT MATERIALS AS SHOWN IN THE DETAILS, AND AS INDICATED IN THE LANDSCAPE SPECIFICATIONS.

H. THE PLANTING OF TREES SHALL BE DONE IN ACCORDANCE WITH THE STANDARDIZED LANDSCAPE SPECIFICATIONS JOINTLY ADOPTED BY THE VIRGINIA NURSERYMEN'S ASSOCIATION, THE VIRGINIA SOCIETY OF LANDSCAPE DESIGNERS AND THE VIRGINIA CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.

I. SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST ADDITION OF ANSI Z60.1, AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.

J. ALL PLANT MATERIALS SHALL BE NURSERY GROWN STOCK AND SHALL BE FREE OF ANY DEFORMITIES, DISEASES, OR INSECT DAMAGE. ANY MATERIALS WITH DAMAGED OR DISFIGURED/ CROOKED LEADERS, BARK ABRASIONS, SUNSCALD, INSECT DAMAGE, ETC., ARE NOT ACCEPTABLE AND WILL BE REJECTED.

K. TREES NOT EXHIBITING A CENTRAL LEADER WILL BE REJECTED UNLESS CALLED OUT IN THE PLANT LIST AS MULTI-STEM.

L. ALL PLANTING BEDS AND LAWN AREAS SHALL BE SEPARATED BY SHOVEL EDGING. NO EDGE SHALL BE INSTALLED ADJACENT TO SIDEWALKS OR CURBS.

M. PLANTING BEDS SHALL RECEIVE 3" OF DARK, SHREDDED HARDWOOD MULCH THROUGHOUT. ORANGE AND/ OR RED MULCH IS NOT ACCEPTABLE.

N. ALL AREAS ON PLANS NOT INDICATED TO RECEIVE SOD PLANTING, PAVEMENT, OR HARDSCAPE WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEEDED WITH FESCUE, UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. SEE SEEDING NOTES THIS SHEET.

O. PLANT MATERIALS SHOWN ON PLANS ARE A GRAPHIC REPRESENTATION ONLY. CONTRACTOR SHALL PERFORM ALL LANDSCAPE INSTALLATION ON THE SUBJECT PROPERTY, AND NOT ON ADJACENT PROPERTIES, UNLESS OTHERWISE DIRECTED BY THE OWNER OR THE OWNER'S REPRESENTATIVE. ROOTBALLS OF SHRUBS AND TREES SHALL BE PLANTED, IN THEIR ENTIRETY, WITHIN THE BOUNDARIES OF THE SUBJECT PROPERTY.

P. CONTRACTOR SHALL PROVIDE A MINIMUM 2% SLOPE AWAY FROM ALL STRUCTURES, UNLESS OTHERWISE DIRECTED BY THE CIVIL ENGINEER.

Q. QUANTITY TAKE-OFFS INDICATED ON THE PLANTING SCHEDULE ARE FOR CONVENIENCE ONLY. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLANS AND THE SCHEDULE, THE GRAPHIC REPRESENTATION IN THE PLANS SHALL DICTATE.

R. ALL LANDSCAPED AND LAWN AREAS ARE TO BE IRRIGATED.

S. ALL MULCHED BEDS SHALL HAVE AN APPROVED GEO-TEXTILE WEED BARRIER INSTALLED PER THE PLANTING DETAILS . PRODUCT SPECIFICATION SHEETS SHALL BE SUBMITTED TO THE OWNER OR OWNERS REPRESENTATIVE PRIOR TO ORDERING MATERIAL.

1. PROTECT TREE TRUNK WITH BLACK RUBBER HOSE.
2. #10 GAUGE WIRE (NOTE FOR MULTI–TRUNK TREES, USE SEPARATE GUYS TO STRONGEST TRUNKS AT CENTER OF EACH).
3. THREE 1.5" X 8' MIN. SQUARE OR ROUND STAKES SPACED EVENLY AROUND TREE IN A RADIAL PATTERN.
4. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES SHALL EXTEND APPROX. 6" BEYOND EARTH SAUCER/BERM UNLESS INDICATED OTHERWISE BY OWNERS REPRESENTATIVE. AN APPROVED WEED BARRIER FABRIC SHALL BE INSTALLED IN ALL PLANTING BEDS.
5. SOIL BERM TO HOLD WATER.
6. FINISHED GRADE (SEE GRADING PLAN)
7. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE
8. B & B OR CONTAINERIZED (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
9. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES)
10. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING ROOTBALLS SMALLER THAN 24" IN DIA. MAY SIT ON COMPACTED EARTH.
11. APPROVED WEED BARRIER.

NOTES:
A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
C. "TREE SAVER" ANCHORING SYSTEM MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE.

- ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

Small Tree Planting

SECTION (TREES UNDER 3" CAL. OR 14' IN HEIGHT) NTS

NOTES:
1. TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" – 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
2. PRUNE ALL SHRUBS TO ACHIEVE A UNIFORM MASS/HEIGHT.
3. 3" MINIMUM MULCH AS SPECIFIED. AN APPROVED WEED BARRIER FABRIC SHALL BE INSTALLED IN ALL PLANTING BEDS.
4. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
5. FINISHED GRADE (SEE GRADING PLAN).
6. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES) NOTE: WHEN GROUND– COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
7. SCARIFY ROOTBALL SIDES AND BOTTOM.
8. APPROVED WEED BARRIER

- ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

Shrub/Groundcover Planting

PLAN/SECTION NTS

1. PROTECT TREE TRUNK WITH BLACK RUBBER HOSE.
2. #10 GAUGE WIRE (NOTE FOR MULTI–TRUNK TREES, USE SEPARATE GUYS TO STRONGEST TRUNKS AT CENTER OF EACH).
3. THREE 1.5" X 8' MIN. SQUARE OR ROUND STAKES SPACED EVENLY AROUND TREE IN A RADIAL PATTERN.
4. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES PLANTED ON SLOPE SHALL BE LIMITED TO MULCH WITHIN THE PLANT PIT, OR AS DIRECTED BY OWNER'S REPRESENTATIVE. AN APPROVED WEED BARRIER FABRIC SHALL BE INSTALLED IN ALL PLANTING BEDS.
5. SOIL BERM TO HOLD WATER. TOP OF PLANTING PIT 'BERM' TO BE LEVEL ACROSS PIT. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE. SOD EXPOSED TOPSOIL SLOPE.
6. FINISHED GRADE (SEE GRADING PLAN)
7. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE
8. B & B OR CONTAINERIZED (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
9. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES)
10. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING ROOTBALLS SMALLER THAN 24" IN DIA. MAY SIT ON COMPACTED EARTH.
11. APPROVED WEED BARRIER

NOTES:
A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.
C. "TREE SAVER" ANCHORING SYSTEM MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE.

- ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

Tree Planting on a Slope

SECTION NTS

NOTES:
1. TOP OF SHRUB ROOTBALLS TO BE PLANTED 1" – 2" HIGH WITH SOIL MOUNDING UP TO THE TOP OF ROOTBALL.
2. PRUNE SHRUBS AS DIRECTED BY OWNER'S REPRESENTATIVE.
3. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE SHRUBS ARE PLACED IN MASSES, MULCH SHALL BE SPREAD IN A CONTINUOUS BED. AN APPROVED WEED BARRIER FABRIC SHALL BE INSTALLED IN ALL PLANTING BEDS.
4. SOIL BERM TO HOLD WATER. TOP OF PLANTING PIT 'BERM' TO BE LEVEL ACROSS PIT. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE. MULCH OVER EXPOSED TOPSOIL.
5. FINISHED GRADE (SEE GRADING PLAN)
6. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES).
7. SCARIFY ROOTBALL SIDES AND BOTTOM.
8. APPROVED WEED BARRIER.

NOTES:
A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

- ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

Shrub/Groundcover Planting on a Slope

SECTION NTS

GENERAL NOTES
A. PROVIDE SMOOTH CONTINUOUS EDGE AS SHOWN. DIG EDGE WITH COMMON SPADE OR STRAIGHT BLADE SHOVEL.

Shovel Edge Detail

SECTION NTS

No.	REVISIONS	DATE	BY

Kimley-Horn and Associates, Inc.
1700 WILLOW LAWN DR, SUITE 200, RICHMOND, VA 23230
PHONE: 804-673-3882 FAX: 804-673-3980
WWW.KIMLEY-HORN.COM

JOSEPH A. MATHEWS
Lic. No. 000490
02-01-12

KHA PROJECT	113155000
DATE	02/01/2012
SCALE	AS SHOWN
DESIGNED BY	AFS
DRAWN BY	AFS
CHECKED BY	BJB

ARLINGTON AND MILLMONT
APARTMENTS
PREPARED FOR
PEAK CAMPUS DEVELOPMENT, LLC
CHARLOTTESVILLE VIRGINIA

LANDSCAPING DETAILS

SHEET NUMBER
CP-501

Kimley-Horn
and Associates, Inc.

Suite 200
1700 Willow Lawn Drive
Richmond, Virginia
23230

February 1, 2012

Ms. Ebony Walden, AICP
Neighborhood Planner
City of Charlottesville - Neighborhood Development Services
610 East Market Street
Charlottesville, VA 22902

Re: ***Arlington and Millmont Apartments***
Preliminary and Final Site Plan Re-Submittal

Dear Ms. Walden:

Thank you for your consideration and review of the preliminary and final site plan application and documents. We have revised the site plan documents based on Staff comments received on January 17, 2012. We have attached the following documents for your continued review:

1. Revised Site Plans for Arlington and Millmont Apartments – 8 full size (24"x36") copies and 1 half size (12"x18") copy.
2. Revised Design Report – 3 copies
3. Revised Traffic Impact Analysis – 2 copies

The following summary is a written response to each of the comments received from Staff:

Zoning Comments
Neighborhood Planner - Ebony Walden

Site Plan
General Comments

1. I cannot see the lot lines or boundary dimensions on the existing conditions page clearly, please clarify. That existing conditions page is a bit cluttered.
   Response: Parcel boundaries have been clarified on CV-100.

2. The sidewalk at the corner of Arlington and Millmont should have a CG-12.
   Response: CG-12 sidewalk ramps have been identified at the corner of Arlington and Millmont on sheet CS-101.

3. Remove engineering signature panel

TEL 804 673 3882
FAX 804 673 3980

Response: This block has been removed from the cover sheet on CA-001.

4. Indicate the traffic generation calculations and vehicles per day for this use from the ITE manual. Show these numbers on the cover sheet.
   Response: Trip generation data has been added to the cover sheet on CA-001.

5. Indicate the location and size of any signage. Signage needs to be approved by the zoning administrator Read Brodhead in our office. Brodhead@charlottesville.org or 434-970-3995.
   Response: Monument signage indicating a maximum sign area of 24 square feet has been shown on sheet CS-101. Additional signage is proposed on the building and will be shown on the architectural documents for the project. Upon completion, final signage documents will be submitted to the zoning administrator for approval.

6. Include elevations in your site plan that show the building height and confirm that you are meeting the building height definition: Building height means the vertical distance measured from the level of the grade of the building footprint to the level of the highest point of the structure's roof surface. This distance is calculated by measuring separately the average height of each building wall, then averaging them together. The height is measured to the level of a flat roof, to the deck line of a mansard roof, and to the average height level between the eaves and ridge for gable, hip, or gambrel roofs.
   Response: Elevations are included as part of SUP submittal package that show the building height. Building height is calculated as the average of the vertical distance of each major building wall to the average roof height from the average grade along each major building wall – as suggested by the Planning Department. Below is a summary of the calculated building heights:

   Arlington façade – 68'-1"
   Millmont Phase 1 façade = 77'-7 ½"
   Millmont Phase 2 façade – 69'-4"
   East façade (Psychology Offices side) – 77'-1"
   North façade (The Jeffersonian Apartments)- 69'-9"
   Pool Courtyard façades - 67'-5"
   Green Space Courtyard facades – 67'-5"

   Average calculated building height all sides= 70.96' above average grade.
   The worst case condition is the Millmont Phase 1 façade at 77'-7 ½" above average grade.

Indicate on plan

1. Property addresses on the title sheet
   Response: This has been added to the cover sheet on CA-001.

2. The caliper and type of all trees over 6" in caliper on the existing conditions page. (if this is already indicated it is not clear)
   Response: Tree caliper and type are provided on sheet CV-100. All trees greater than 6" in caliper were assigned a number and listed in the table provided in the upper right corner of the sheet.

3. The source of survey and topography
   Response: This has been added to the cover sheet on CA-001.

4. The present use of adjacent properties
   Response: Existing uses have been labeled on the existing conditions on CV-100.

5. Parking calculations. Calculate required parking (based on 34-984) and indicate proposed parking spaces.
   Response: This has been added to the cover sheet on CA-001.

6. Pavement widths and centerline radii
   Response: Pavement widths and radii are now provided on sheets CS-101 and CS-201.

7. Indicate units by type – i.e. number of 1, 2, 3 & 4 br apartments
   Response: This has been added to the cover sheet on CA-001.

8. Required (max and min) and proposed setbacks on the title sheet. And indicate actual building setback on site plan sheet CS-10. You need to bring your building up closer to the street; the maximum setback on millmont is 20 feet and most of your building lies outside of 20 feet
   Response: The building has been moved approximately 5' south to bring more of the building face within 20' of the Millmont Street property line. Some areas of the building face and the back of the balconies still lie outside of 20' of the Millmont Street property line to accommodate other planning department requests along Millmont Street to provide a pedestrian plaza and an additional entrance to the building along Millmont Street. The Special Use Permit application includes a request to modify yard regulations per section 34-162 of the code to allow for portions of the building face to exceed 20' from the Millmont Street property line.

9. The location of your dumpster/refuse area. Please see Sec. 34-932 and 34-872(b) 2 for regulations related to refuse area.
   Response: The proposed dumpster /refuse area is located within the parking garage as noted on sheet CS-101. Service vehicles will access

the dumpster from a roll-up door located in the back corner of the service drive. Dumpsters will not be visible from Millmont Street.

10. The location of mechanical equipment. Mechanical equipment must be screened. Mechanical equipment—Mechanical equipment located on the roof of a building or structure shall be hidden behind a wall or other solid enclosure, extending no more than twelve (12) inches above the height of such equipment, such wall to be constructed of a material harmonious with the facade of the building or structure. Mechanical equipment located on the ground shall be screened from view from all public rights-of-way and from adjacent residential districts; an S-3 screen shall be provided, extending no more than twelve (12) inches above the height of such equipment. The screening materials shall be located in such a manner as will most effectively reflect noise away from adjacent residential districts.
Response: All mechanical equipment will be screened. Most of the apartment units will have split condensing units located in mechanical closets on each balcony. The condensing unit coil in this arrangement will be covered with an architectural louvered grill and thus screened from view. The few apartment units that do not have balconies and common areas will have split condensing units located on the building roof and screened with material harmonious with the facade.

Lighting

1. I would recommend some pole lighting along both Arlington and Millmont along the front of your property.
Response: Preliminary light pole locations have been indicated on the plan. Final lighting and photometric plan details have not been completed. Additional information will be forthcoming prior to final Site Plan Approval.

2. You need to include a full lighting plan with photometrics and cut sheets. Please see 34-1003 and adhere to the following lighting standards:
Response: Final lighting and photometric plan details have not been completed. Additional information will be forthcoming prior to final Site Plan Approval.

(1)No outdoor luminaire situated outside of a public right-of-way and within or immediately adjacent to any low density residential district shall be mounted or placed at a location more than twelve (12) feet in height.
(2)No outdoor luminaire shall be mounted or placed at a location that is more than twenty (20) feet in height.
(d)The spillover light from luminaires onto public roads and onto property within any low-density residential district shall not exceed one-half (½) foot candle. A spillover shall be measured horizontally and vertically at the property line or edge of right-of-way or easement, whichever is closer to the light source.

(e)All outdoor luminaires, regardless of the number of lumens, shall be arranged or shielded to reflect light away from adjoining low density residential districts.

Parking

1. Please show the parking space dimensions. Standard spaces should be 8.5X18. Also indicate the location and number of accessible spaces and accessible routes.
   Response: Parking space dimensions, location and number of accessible spaces, and accessible routes are now shown on sheet CS-201.

2. Indicate the direction of travel for the parking garage entrance/exit.
   Response: Arrows have been added on CS-101 and CS-102 to indicate the direction of travel for the parking deck entrance and exit.

3. Please confirm that you are meeting the following parking garage regulations:

Sec. 34-934. - Parking garages.

(a)The standards set out in this section shall be followed in developing site plans for parking garages which contain more than ten (10) contiguous spaces.

(b)Entrances and exits shall be as far as practicable from street intersections and shall be located so as to result in the least possible interference with traffic movement on abutting streets.
Response: Entrance/exits are located on Millmont Street near an existing curb-cut and are over 250' from the nearest intersection at Arlington Boulevard and Millmont Street. An east-bound turn lane will also be added to Millmont Street so as to not interfere with traffic movement.

(c) Not less than one (1) exit lane shall be provided for each two hundred (200) parking spaces, or major fraction thereof.
Response: Per our conversation with the City Traffic Engineer, Jeanie Alexander, 2 exits and 1 entrance with a 36' wide driveway will be provided. The 1 entrance will be reversible as an exit in the event of emergency.

(d) Driveway widths at the street line shall be not less than twenty (20) feet for driveways accommodating one (1) lane of traffic and twenty-four (24) feet for driveways accommodating two (2) lanes of traffic. In no case shall any driveway width at the street line be greater than thirty-six (36) feet.
Response: The driveway at the street will be 36'.

(e) All portions of the structure used for parking of vehicles shall be illuminated during the hours of use by natural or artificial lighting with an intensity of not less than four (4) footcandles measured at floor level.
Response: The deck will comply.

(f) The parking garage shall be constructed in such a manner as to screen from outside street level view any vehicles parked therein; provided, however, that entrances and exits shall be exempt from this requirement.
Response: The deck will comply.

Landscaping

1. You need one more street tree on Arlington. The code requires 1 tree per 40 feet of frontage of portion thereof. Thus, 12 street trees are needed.
   Response: 12 street trees are now provided on Arlington Street.

2. You need three more street trees in Phase 2 on Millmont. Street trees must be large canopy trees. I suggest you use the same trees that you proposed on Millmont in Phase 1.
   Response: There is approximately 120 feet of frontage on Millmont Street within the Phase 2 area and 4 large street trees, Allee Elm, have been provided.

Slope Waiver

No slope waiver is needed. I will be processing a refund.

Special Use Permit

1. Include information on the height of surrounding buildings, maybe a diagram or elevations of sorts that shows the height of this building in relation to other buildings.
   Response: The architect has provided an exhibit (under separate cover) to illustrate the scale and height of the proposed structure compared to the adjacent uses.

2. In regards to the massing and scale of the building, it is problematic that the Milmont side of this project is a blank wall for over 200 feet and does not engage the street or the pedestrian environment. I mentioned this is our pre meetings and see that is has not been addressed. This will be the major concern in my staff report.
   Response: An entrance, staircase, and plaza have been added to the Millmont Street side of the building to better engage the street and pedestrian environment.

3. Include the number and location of bicycle racks
   Response: A secure bicycle storage room is located in the parking deck as depicted on the Phase 1 Level T plan with capacity for 86 bikes. Additional bike rakes are provided at the Arlington Boulevard building entrance as shown on the site plan.

4. Include a pedestrian circulation plan (internal/external), it is unclear by looking at the plan.
   Response: Circulation plan has been provided on each building floor plan.

5. You need to confirm with utilities that there is adequate sewer capacity before I write my staff report. Which I need to have completed by February 3rd.
   Response: On January 25, 2012, Trip Stakem confirmed that adequate sewer capacity exists for the project.

6. The planning commission mentioned addressing the bicycle connections, please discuss with Jeanie Alexander.
   Response: We have clarified bike storage capacity and location with Jeanie Alexander and she agrees with the proposed plan.

Utility Comments
Utilities Engineer –Trip Stakem

Water:

1. Label the size and material of all existing waterlines where known on existing conditions sheet. The water mains in Arlington and Millmont are believed to be 8" Cast Iron.
   Response: Existing water line size and material has been labeled on sheet CD-101 and CD-102.

2. The existing water main on Arlington is not shown.
   Response: The existing water main on Arlington has been added to the site plans.

3. Show water and sewer lines to be removed with hatching.
   Response: Existing water and sewer lines scheduled for demolition are now hatched on sheets CD-101 and CD-102.

4. The existing water vault on Arlington is to be removed. Please label as such.
   Response: A note specifying removal of the water meter vault has been added to sheet CD-101.

5. Add a note requiring that the City be contacted prior to abandonment of any water or fire service lines at least 48 hours in advance. Existing water meters are to be removed by the City.
   Response: Note #5 has been added to sheet CD-101 with the specified removal requirements.

6. Tapping sleeve and valve installations on the main line should be spaced 5' apart. Also, include a note requiring a minimum of 2" between tapping sleeves and bell joints.
   Response: 5' of separation has been provided at tapping locations and the requested note has been added to sheet CU-101.

7. Label the size of the water meter vault.
   Response: Water meter vault size has been labeled on sheet CU-101.

8. Label the pipe size and material for the irrigation line. This should be 1" type-K copper.
   Response: The size and material of the irrigation line has been labeled in the notes section of sheet CU-101.

9. I would recommend installing an RPZ on the domestic service as well. This may be a requirement in the next few years and a retrofit would be costly.
   Response: An RPZ backflow preventer has been specified on the domestic service line and will be located within the building mechanical room. See note #5 on sheet CU-101.

10. The hydrant on Millmont should be replaced with a new hydrant instead of simply relocated. A solid sleeve will be required to tie into the old piping.
    Response: A new hydrant has been specified along with a solid sleeve on sheet CU-101.

11. The City will maintain domestic waterlines and irrigation lines to the meter. C-900 PVC is not an acceptable material for City maintained lines. Please revise Note #2 to read "Domestic Water service pipe shall be C-900 pipe on the property side of the meter.
    Response: Note #2 has been revised as requested.

12. Results from the fire flow test were provided for this project. Please include the available flow calculations.
    Response: Available fire flow calculations have been provided in the Design Report.

Sewer:

13. Label the size and material of all existing sewer lines where known. The sewer mains in Arlington and Millmont are believed to be 8" Terra Cotta.
    Response: The size and material of the existing sewer lines has been provided on sheets CU-101 and CU-102.

14. The existing sanitary manhole and downstream lateral piping near the southern corner of the property is to be removed. Please label it accordingly.

Response: The existing sanitary sewer manhole and lateral piping have been noted for removal on sheet CD-101.

15. The new sanitary sewer for Phase 1 is unnecessary. If a sewer only serves a single customer it must be private. I recommend the following:
    a. Extend the southern-most lateral to tie directly into the main in Millmont Street. A new dog-house manhole will be required to tie new 8" laterals to existing 8" mains.
    b. Extend the next lateral to the northeast directly to the existing manhole in Millmont Street.
    c. Cleanouts should be included at the property line. Show the locations of all cleanouts on the plan.

    Response: After review of the comment above, and further consultation with the project architect, the proposed sewer system and main connection for Phase 1 has been revised to outfall in one location. There is sufficient elevation difference across the building to accommodate one connection and this will simplify the proposed sewer system for the building. The revised layout is shown on sheet CU-101.

16. The new sewer mains as shown for Phase 2 will have to be private as they only serve one customer. Please label as such. Manholes may not be required as these lines are technically service laterals. Cleanouts should be installed at all bends and at the property line.
    Response: The sewer system for Phase 2 has been labeled as a private system and cleanouts have been utilized in lieu of manholes.

17. Include the latest detail for connection sanitary laterals to existing main lines.
    Response: There are two proposed sanitary sewer connections to the sewer main in Millmont Street. Both connections will be made at a new doghouse manhole structure. A detail of the doghouse manhole has been provided on sheet CU-502.

18. Per previous conversations, please provide a technical report demonstrating that adequate sewer capacity is available in the existing system.
    Response: Technical calculations were provided and accepted on January 25, 2012 demonstrating adequate sewer capacity in the existing sanitary system.

Engineering Comments
Civil Engineer – Martin Silman

Sheet CA-001

1. Under the project contact list, stormwater is reviewed by Neighborhood Development Services, not Public Works.
   Response: This has been corrected on CA-001.

2. The Phase 1 existing and proposed impervious areas to not match those indicated on Sheet CS-101.
   Response: This discrepancy has been corrected. All tables should now match on CA-001, CS-101, and CS-102.

Sheet CA-001

1. Construction note #13 references a 2' pavement patch. The City standard is 3'.
   Response: This not has been changed to reference 3' per City standards on CA-002.

2. Please note that a copy of the VSMP permit will be required prior to issuance of a Land Disturbing Permit.
   Response: This note has been added under construction note #1. The developer is aware of this requirement and a copy of the VSMP permit will be provided prior to issuance of the Land Disturbance Permit.

Sheet CD-101

1. Demolition note #2 references sheet CS-502 for pavement repair detail. Please distinguish between permanent and temporary pavement repair on the plans.
   Response: All pavement repair shown on the plans will ultimately be a permanent repair, however during the course of construction there may be times when a temporary repair is necessary (i.e. work stoppage at end of day, temporary patch for pedestrian access, etc.). A note has been added to sheet CD-102 noting that all pavement repairs shall ultimately follow the permanent pavement repair detail on sheet CS-502 but to coordinate with City inspectors if a temporary repair is needed during construction.

2. How is the existing underground electric crossing the northern property line to be terminated? Will this be terminated at the property line or removed completely?
   Response: Dominion Virginia Power will make the final determination on how this line is removed during Phase 1. The line is within an easement.

3. Please note that removal of the existing 12" RCP that connects to the manhole in Millmont will require a City inspection as it is in the ROW. The new pipe connection/installation will also require a City inspection if this does not occur at the same time.
   Response: A note stating this has been added to the demolition plan notes on CD-101.

4. Please indicate what environmental coordination and/or permits will be required when removing the underground propane tank and provide documentation of such coordination/permitting.
   Response: Developer will work with the propane tank owner to recover any remaining gas and remove the two propane tanks. ECS Mid-Atlantic, the project's environmental consultant, does not consider these propane tanks an environmental concern. Any necessary documentation and permitting will be provided prior to removal.

5. Please show on the plans how pedestrian access will be maintained, to include locations of sidewalk closure signs and the temporary pedestrian route. Reference the attached "Pedestrian Accessibility in the Public Way During Construction" for more details on requirements.
   Response: Contractor shall be responsible for maintaining pedestrian access and, if necessary, will submit plan on means and methods prior to demolition of existing sidewalk.

6. The graphic scale numbers are not showing up properly.
   Response: Graphic scale numbers have been corrected on this sheet.

Sheet CD-102

1. Demolition note #2 references sheet CS-502 for pavement repair detail. Please distinguish between permanent and temporary pavement repair on the plans.
   Response: All pavement repair shown on the plans will ultimately be a permanent repair, however during the course of construction there may be times when a temporary repair is necessary (i.e. work stoppage at end of day, temporary patch for pedestrian access, etc.). A note has been added to sheet CD-102 noting that all pavement repairs shall ultimately follow the permanent pavement repair detail on sheet CS-502 but to coordinate with City inspectors if a temporary repair is needed during construction.

2. Please show on the plans how pedestrian access will be maintained, to include locations of sidewalk closure signs and the temporary pedestrian route. Reference the attached "Pedestrian Accessibility in the Public Way During Construction" for more details on requirements.
   Response: Contractor shall be responsible for maintaining pedestrian access and, if necessary, will submit plan on means and methods prior to demolition of existing sidewalk.

3. Please label removal of the existing 12" RCP at structure EX-2 and note that a City inspection will be required.
   Response: This label has been added, and a note stating a City inspection is required has been added to the demolition plan notes on CD-102.

4. The graphic scale numbers are not showing up properly.
   Response: Graphic scale numbers have been corrected on this sheet.

Sheet CS-101

1. Handrail will be required with the concrete steps off of the Arlington Boulevard sidewalk leading to the building.
   Response: Handrail has been specified on the site plan with the concrete steps. The handrail detail will be provided by the project architect and submitted with the Building Permit documents.

2. In the note for new sidewalk along Millmont, please reference City Std. SW-2 for 5.5' sidewalk (includes curb).
   Response: Note has been revised to reference City Std. SW-2.

3. Please show and label locations of all proposed CG-12's.
   Response: Proposed CG-12 ramps have been labeled on Sheet CS-101.

4. Please label RW-1 for all entrances.
   Response: RW-1 entrances have been labeled on Sheet CS-101.

Sheet CS-102

1. In the note for new sidewalk along Millmont, please reference City Std. SW-2 for 5.5' sidewalk.
   Response: Note has been revised to reference City Std. SW-2.

2. Is there no pedestrian access to the building except through the parking garage?
   Response: A new exterior staircase has been added near Millmont Street for the phase 2 building. Three additional fire staircases are provided for the phase 2 building. These access locations have been labeled on CS-102. However, the only accessible route to the phase 2 building is through the parking garage.

Sheet CS-501

1. The RE-2 detail for the standard entrance is for uses with gutter. Please use the RE-1 detail for just curb and sidewalk.
   Response: The RE-1 detail has been added to the plan.

Sheet CS-502

1. Please include detail for SW-2 (sidewalk w/ curb).
   Response: The SW-2 detail has been added to the plan.

Sheet CE-101

1. Turn on existing and proposed contour labels.
   Response: Labels have been added to existing and proposed contours.

2. Please extend silt fence across the entire frontage of Millmont.
   Response: Silt fence has been extended.

3. Shift diversion dike closure to the property line to account for as much area as possible.
   Response: Diversion dike is located as close to property line as possible while still being able to provide positive drainage to the sediment trap.

4. Please add to construction sequence #7 and #9 that approval from the City's E&S inspector will be required prior to removing any E&S measures.
   Response: This is provided on the general notes sheet on CA-002.

5. Provide outlet protection at the outfall of structure 4.
   Response: Outlet protection is now specified at this location on CE-101.

Sheet CE-102

1. Turn on existing and proposed contour labels.
   Response: Labels have been added to existing and proposed contours.

2. It appears that the silt fence near the garage addition will interfere with grading operations. Consider an excavated drop inlet sediment trap at structure 17 during immediately following building demolition. Structure 18 could then be similarly used as a drop inlet sediment trap.
   Response: Structures 17 and 18 have been eliminated.

General

1. It appears that the majority of Phase 1 work will be export and the majority of Phase 2 will be import. Will any of the material be retained on site between phases?
   Response: No excess fill material will be retained on site between phases. This would be impractical, and there is expected to be a net export during both phases. Exported material will be transported to an approved disposal site as selected by the Contractor.

2. Hose bibs should be installed at the construction entrances for washing tires.
   Response: This will be addressed on future submittal. We are working with Utilities and Fire Departments to determine how water shall be provided during construction for washing of vehicle tires.

3. Add a note to both phases that the contractor is to insure that the construction entrance drains to an approved E&S measure and not into the street.
   Response: This is provided on the general notes sheet on CA-002.

4. Provide soils information.
   Response: A summary of soils information has been provided. ECS Mid-Atlantic, LLC is in the process of completing the site specific geotechnical report. The complete report will be provided once available.

Sheet CE-103

6. Please show points on the Tc paths where analysis changes from overland flow, to shallow concentrated, etc.
   Response: Sheets CE-103 and CE-104 have been updated to show more detail on how the concentration flow paths and times have been generated.

7. There are multiple Tc paths for both pre and post development. Please label the pre and post Tc paths which are used for the Rational Method Outfall Summary. The design report states that "the grading transformation increases the post-development time of concentration such that the post-development flow is reduced", however this is not clear in the Tc calculations. The fact that a 36" detention pipe is being removed and there is no decrease in impervious area makes this unlikely. The steep slopes that occupy the existing site are not so extensive that removing them would change the time of concentration enough to warrant removing existing storage without providing additional storage elsewhere on the site. In addition, use of the runoff reduction method, as outlined in the new regulations, has not been adopted into the City's design guidelines. While we do not want to discourage the use of the new regulations, the City will need additional time to review the stormwater analysis to become familiar with and to ensure proper use of the new regulations.
   Response: To account for removal of the detention system, the expanded parking area has been analyzed as undeveloped (pervious). This has been clarified on this submittal in the plans and calculations. Note that the existing 36" detention system to be removed currently only provides approximately 500 cubic feet of storage volume. However, the proposed Dry Swale will provide nearly 1200 cubic feet of storage in the stone and media void space alone. This storage provided could again be doubled by including additional ponding volume above the swale bottom. Since this is a type of low impact development BMP, traditional detention system design and routing calculations do not apply as acknowledged in the recently adopted Virginia Stormwater Management Regulations. However, two sets of calculations have been submitted to demonstrate that post-development flows are decreased compared to the pre-development flows. The rational method calculations confirm this under the "old regulations" while the SCS method/runoff reduction calculations confirm this under the "new regulations". Additionally, two scenarios have been provided for the rational method calculations as discussed

in the Design Report to verify that different selections of Tc's will not create increased flows for either condition or scenario.

8. There are several of the post developed drainage areas where it would seem appropriate to use channel flow conditions for determining the Tc.
   Response: Channel flow conditions have been used for the flow time within the Dry Swale as shown in the revised Design Report.

Sheet CG-101

1. Please turn on existing contour labels.
   Response: Existing contour labels are now shown.

2. Please add note to indicate that slopes shall not exceed 2:1, although 3:1 is preferred where achievable.
   Response: Requested note has been provided as Note #3.

3. Please add a note that construction of all work in the ROW, including but not limited to sidewalks, street paving, utilities and storm infrastructure will require inspection and approval by the City.
   Response: Requested note has been provided as Note #4.

4. Please grade in a berm around structure 15 to protect the adjacent property should the inlet become clogged. Please also provide calculations for this DI.
   Response: Structure 15 has been eliminated.

5. Please replace X1 with a standard DI-3C instead of a DI-1.
   Response: Structure X1 is now specified to be replaced with a DI-3C as requested.

6. Please provide channel calculations for the dry swale.
   Response: Channel calculations (Hydraflow) are now provided in the Design Report.

7. Please provide profiles of the main trunk lines of the storm system, to include utility crossings.
   Response: Storm drainage profiles are provided on sheets CG-201 and CG-202.

8. Please include the BMP maintenance table as required in the checklist on the plan sheet.
   Response: This has been added to sheet CG-501.

Sheet CG-102

1. Can the Filterra be located on the side of the building closer to Millmont? This will allow for adequate maintenance access.

Response: Filterra unit has been relocated adjacent to the building and Millmont street and will be installed during phase 1 as shown on CG-101.

2. Please turn on the existing contour labels.
   Response: Existing contour labels are now shown.

3. Please add note to indicate that slopes shall not exceed 2:1, although 3:1 is preferred where achievable.
   Response: Requested note has been provided as Note #3.

4. Please provide profiles of the main trunk lines of the storm system, to include utility crossings.
   Response: Storm drainage profiles are provided on sheets CG-201 and CG-202.

5. Please include the BMP maintenance table as required in the checklist on the plan sheet.
   Response: This has been added to sheet CG-501. Note that all BMPs are now to be installed during Phase 1 only.

Traffic Comments
Traffic Engineer – Jeanie Alexander

1. No detail for the parking garage was included. Roadway widths, driveway widths, parking space, parking aisle, curb radii and right-of-way dimensions shall be indicated for each level of the garage.
   Response: This information is now provided on plan sheet CS-201.

2. Confirm that adequate sight distance is provided at the intersection and that sight lines are not impacted by landscaping.
   Response: Per City standards, since Millmont Street is classified as a collector roadway, sight distance should be in accordance with the provisions of the VDOT Road Design Manual. Therefore, the required left and right sight distances for a two-lane, 35 MPH posted speed limit roadway is 390 feet. This sight distance has been field verified, and sight distances labeled on sheet CS-101.

3. Add note: A Temporary Street Closure Permit is required for closure of sidewalks, parking spaces and roadways and is subject to approval by the City Traffic Engineer.
   Response: The note has been added as Note #6 on sheet CD-101 and CD-102.

Gas Department
Phil Garber – Gas Engineer

1. The gas main on Millmont St. is not shown on the plans and is in close proximity to the water line (see attachment). The gas main is to be field verified and shown on the plans to avoid possible conflicts with the water and wastewater connections.
   Response: The gas main markings were located in the field and are now shown on sheet CD-101 and CD-102.

2. The existing gas services to 2101 Arlington and 1021 Millmont is not identified to be cut and capped on sheet CD-101 before demolition. Please correct.
   Response: Sheet CD-101 has been revised to callout the proposed cut and cap of existing gas service lines to the buildings scheduled for demolition.

3. Gas utility is not shown on the plans for the proposed buildings. If gas is required, contact Ms. Irene Peterson at 434-970-3812.
   Response: The proposed development intends to use natural gas service. Ms. Irene Peterson's contact information has been provided to the developer and an approximate location of the gas line connection has been added to sheet CU-101.

Fire Department
Steve Walton – Fire Marshall

- IFC 505-The building street number to be plainly visible from the street for emergency responders.
  Response: The building street number will be located in a plainly visible location on the building. The location of the street number will be shown on the architectural drawings submitted with the building permit application.

- IFC 506.1-An approved key box shall be mounted to the side of the front or main entrance of each building. The Charlottesville Fire Department carries the Knox Box master key. A Knox Box key box can be ordered by going on-line to www.KnoxBox.com.
  Response: A Knox Box will be provided on the building. The location of the Knox Box will be shown on the architectural drawings submitted with the building permit application.

- The submitted plan shall show the location and the distance to nearest fire hydrants to the project for both Arlington Blvd. and Millmont.
  Response: Distances to the closest fire hydrants have been shown on sheet CU-101.

- Calculation of the fire flow required for the site shall be shown on the site plan. Also, verification that the needed fire flow (NFF) is available on site. The minimum required fire flow for all buildings, with the exception of

one and two-family dwellings, is 1500 gpm (sprinkler protected or non-sprinkler protected in accordance with the International Fire Code – Section B105.2 and Table B105.1.
Response: Based on the latest fire flow test results of the existing fire hydrants in the vicinity of the project, there is approximately 1,800 gpm of available fire flow in the system (see Design Report for calculations). Needed fire flow calculations are being completed at this time and will be provided once completed by the fire protection engineer for the project.

- Actual fire flow data shall not be more than one (1) year old.
  Response: Initial fire flow data was collected in November 2011 and a second flow test again in January 2012.

- Fire hydrants, fire pump test header, fire department connections or fire suppression system control valves **shall remain clear and unobstructed by landscaping, parking, other objects or barriers.** The Fire Marshal's office no longer allows any type of landscaping to be placed in front of and within 5 feet of fire hydrants, fire pump test headers, fire department connections or fire suppression system control valves.
  Response: Proposed landscaping has been located outside of the 5-foot radius of the fire protection items listed above.

- Landscaping in the area of fire department connections shall be of the type that will not encroach on the required five (5) foot radius on maturity of the landscaping.
  Response: Proposed landscaping has been located outside the 5-foot radius of the proposed fire department connection.

- Show location of the Fire Department Connection for Phase 2.
  Response: There is only one proposed fire department connection for the project. The fire department connection shown on Millmont Street in the Phase 1 area will also serve Phase 2 of the project.

- Overhead wiring or other obstructions shall be higher than 13 feet 6 inches.
  Response: Noted. This requirement will be provided to the Contractor once a Contractor has been selected for the project.

- An approved water supply for fire protection shall be made available as soon as combustible material arrives on the site.
  Response: Noted. This requirement will be provided to the Contractor once a Contractor has been selected for the project.

- All pavement shall be capable of supporting fire apparatus weighing 75, 000 lbs.
  Response: Fire equipment will utilize the existing right-of-way for access to the site which is capable of supporting the proposed fire

apparatus. In addition, all on-site pavement is 6-inch reinforced concrete which will also support the proposed loading.

- If the floor level of the highest story is more than 30 feet above the lowest level of fire department vehicle access, then a Class I standpipe system **must** be installed in addition to the sprinkler system.
  Response: A Class I standpipe will be installed.

- Fire Lanes: The location and method of marking fire lanes shall be clearly indicated on the submitted site plan. Fire lanes shall be a minimum of 20 feet in width. Signs and markings to delineate fire lanes as designated by the fire official shall be provided and installed by the owner or his/her agent of the property involved.
  Response: No fire lanes are necessary or proposed for this project. Vehicular access for firefighting equipment can be provided within the existing right-of-way.

- **If Applicable:** Buildings four or more stories in height shall be provided with not less than one standpipe for use during construction. Such standpipes shall be installed when the progress of construction is not more than 40 feet in height above the lowest level of fire department access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairs. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.
  Response: Standpipe will be provided as necessary.

Construction & Demolition Comments:

- **VSFP 1404.1** – Smoking to be allowed in only designated spaces with proper receptacles.
- **VSFP 1404.2** – Waste disposal of combustible debris shall be removed from the building at the end of each workday.
- **VSFP 1410.1**-Access to the building during demolition and construction shall be maintained.
- **VSFP 1404.6** – Cutting and welding. Operations involving the use of cutting and welding shall be done in accordance with Chapter 26, of the International Fire Code, addressing welding and hotwork operations.
- **VSFP 1414.1**-Fire extinguishers shall be provided with not less than one approved portable fire extinguisher at each stairway on all floor levels where combustible materials have accumulated.
- Required vehicle access for firefighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access

shall be maintained until permanent fire apparatus access roads are available.

- **VSFP 1408.1 Program superintendent.** The *owner* shall designate a *person* to be the fire prevention program superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project. The fire prevention program superintendent shall have the authority to the provisions of this chapter and other provisions as necessary to secure the intent of this chapter. Where guard service is provided, the superintendent shall be responsible for the guard service.
- **VSFP 1408.2 Prefire plans.** The fire prevention program superintendent shall develop and maintain an *approved* prefire plan in cooperation with the fire chief. The fire chief and the *fire code official* shall be notified of changes affecting the utilization of information contained in such prefire plans.
- A site specific fire prevention plan shall be submitted to the Fire Marshal's office prior to commencement of any demolition/construction.
- **Buildings being demolished.** Where a building is being demolished and a standpipe is existing within such a building, such standpipe shall be maintained in an operable condition so as to be available for use by the fire department. Such standpipe shall be demolished with the building but shall not be demolished more than one floor below the floor being demolished.
  Response: The listed construction and demolition items will be provided by the selected Contractor or Owner. The notes provided above have been listed on sheet CA-002.

ADA Comments
ADA Coordinator Jim Herndon

1. Please show the correct number, location, and configuration of Handicapped Spaces serving the structure. Indicate the accessible route from the spaces to the building entrance. Please show method of signage and details of any needed curbcuts.
   Response: CS-101, CS-102, and CS-201 now show the number/location of handicapped spaces, accessible routes, signage, and curb cuts.

Police Comments
Harvey Finkel

1. This project includes a total of 300 units and 600 parking spaces. This size project presents a unique set of concerns. The building outline shows a number of setbacks in which perpetrators of crimes might hide. There is, as presented, no indication of lighting on these plans, although they are usually presented with the final site plan, this is a concern for a project of this scope.

Response: Final lighting and photometric plan details have not been completed. Additional information will be forthcoming prior to final Site Plan Approval.

2. No on site security plans are presented, due to the scope of this project the garage area and the hallways of this project should include CCTV for the documentation of the occurrence of crime within the area of the project and the ability to look back on time.
   Response: CCTV cameras will be provided at all entry points to the building and parking garage, amenity areas, pool and landscaped courtyards.

3. The entries for the buildings must be protected; this would include the garages and the doorways. What methods are being proposed?
   Response: Electronic card access will be provided at all access points.

Trails Comments
Trail Planner – Chris Gensic

1. This is exactly where we had hoped to put an urban trail connection from Millmont/Arlington to the UVA housing at Copeley Road. Not sure if it will fit, but I will be at the site plan meeting to see if it's at all possible while the site is being redeveloped.
   Response: Per staff conference on January 18, 2012, the project, Trails Planner Chris Gensic misidentified the project location. Therefore, this comment does not apply to this development.

Rivanna Water & Sewer Authority Comments
Civil Engineer – Victoria Fort

1. While there are no apparent utility conflicts at this location, the anticipated sewage flows will exceed 40,000 GPD, which will require the City to submit a request for capacity certification before site plan approval may be issued.
   Response: Trip Stakem has submitted this request on behalf of the developer.

Traffic Impact Analysis Comments
City Traffic Engineer – Jeanie Alexander

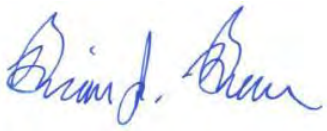
1. Figure 23 identifies a number of turn lanes that require an increase in storage length. However, the report does not indicate who will make these improvements.
   Response: Figure 23 shows existing and proposed turn lane storage and taper lengths. Section 8.6 identifies a number of turn lanes that become blocked during the AM and/or PM peak hours due to the 95th percentile queue exceeding available storage or the adjacent through

lane queue extending past the existing turn lane prohibiting vehicles from entering the turn lane. At full build out of the proposed development, the southbound left-turn lane on Millmont Street is the only turn lane that exceeds capacity as a result of the proposed development. The other turn lanes exceeding capacity in the build condition also exceed capacity in the no-build condition. The southbound left-turn lane on Millmont Street is a back-to-back turn lane with the northbound left-turn lane into the proposed development (these two turn lanes share a taper). Extending the southbound storage length would result in a decrease of storage for the northbound left-turn lane into the proposed development.

2. Confirm that the queues reported in Table 10 are based on an unsignalized analysis. The table indicates "existing signal timings."
   Response: The queues in Table 10 are based on an unsignalized analysis. Table 10 has been corrected to state "unsignalized."

If you should have any questions or require additional information, please feel free to contact me at 804-673-3882.

Sincerely,
KIMLEY-HORN AND ASSOCIATES, INC.



Brian J. Brewer, P.E.
Project Manager

cc: Jeff Githens, Peak Campus Development

City Council Action on Items with
Planning Commission Recommendation
January 2012

January 3, 2012

Consent Agenda
k. RESOLUTION – Special Use Permit for 98 Midmont Lane (1st of 1 reading)

This item was approved

Regular Agenda
8. ORDINANCE* Amendments to Critical Slopes Regulations (1st of 2 readings)

This item was moved to second reading.

January 17, 2012

Consent Agenda
i. ORDINANCE - Amendments to Critical Slopes Regulations (2nd of 2 readings)

This item was approved.