

MINUTES FOR APPROVAL

Attached for County Board consideration for approval are the minutes of the meeting date listed below:

November 27, 2012

**Recessed Meeting
(item will be distributed in supplemental)**

A Recessed Meeting of the County Board of Arlington County, Virginia, held in Room 307 of 2100 Clarendon Boulevard thereof on Tuesday, November 27, 2012 at 3:02 p.m.

PRESENT: MARY HYNES, Chair
J. WALTER TEJADA, Vice Chairman
LIBBY GARVEY, Member
JAY FISETTE, Member
CHRISTOPHER ZIMMERMAN, Member

ALSO PRESENT: BARBARA M. DONNELLAN, County Manager
STEPHEN MacISAAC, County Attorney
HOPE L. HALLECK, Clerk

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COUNTY BOARD RECESSED MEETING

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COUNTY BOARD BUSINESS AND REPORTS

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I. COUNTY BOARD REPORTS

The Chair spoke of the recent loss of three prominent Arlingtonians, Hank Lampe, Kit Whitely, and Cathy Schnittker. The Chair noted that all three will be missed.

The Chair, with Cara O'Donnell of Arlington Economic Development, announced the winners of the 2012 People's Choice ABBIES, Arlington's Best Business Awards. For a complete list, please visit www.shoparlington.org.

Chair Hynes introduced Jim Pebley, of the USS Arlington Commissioning Committee who provided an update on the USS Arlington and the community's efforts to support its commissioning. Mr. Pebley was joined by Frank O'Leary and Kevin Reardon. For more information, please visit www.ussarlington.lpd24.

The Chair announced a proclamation recognizing World AIDS Day, December 1. Free testing is available at Department of Human Services at 2100 Washington Boulevard.

Chair Hynes announced that nominations for the Bill Thomas Outstanding Park Service Volunteer Award are now being accepted through February 15, 2013 for Arlingtonians who have demonstrated a dedication and support for recreation programs, natural resources and public open spaces. Nomination forms online at www.arlingtonva.us/dpr

The Chair provided an update on the PLACE initiative, Participation, Leadership, and Civic Engagement. The Chair showed a short PSA from Arlington TV about PLACE Space, arlingtonplacespace.us.

Chair Hynes shared an excerpt from an informational video from Arlington TV about bringing streetcars to Arlington. The Chair announced that the Board convened a panel of representatives from transit agencies across the US and Canada for a November 15, 2012 Work Session on alternative project delivery methods.

The Chair announced that the County continues to work to obtain Federal Transit Administration (FTA) approval to enter Project Development phase of FTA Small Starts Program for Columbia Pike Streetcar.

Chair Hynes announced that the County initiated the Environmental Assessment study in conjunction with FTA for Crystal City Streetcar, which is proposed to extend between the Potomac Avenue and South Glebe Road south of

Crystal City to Pentagon City Metrorail station. A project website has been launched at www.CrystalCityStreetcar.com.

The Chair announced the Yarn Bombing program at Artisphere, which is being held every Wednesday from 6 to 9 pm through February 27, 2012.

Chair Hynes provided an update on the annual Harambee celebration, which honors and recognizes elders from Arlington neighborhoods for their contributions to their local African-American community. The program will be held on December 8 at 11 a.m. at Central Library.

The Chair provided information on several holiday lights programs including "Shirley Lights Up the Village" at Shirlington on November 27 and Light Up Rosslyn, December 6.

Chair Hynes announced Food Drive by the Arlington County Fire Department to Benefit AFAC from December 1 through 21. Individuals may bring non-perishable food for the Arlington Food Assistance Center (AFAC) to any fire station in Arlington or Falls Church City or the lobby of 2100 Clarendon Boulevard.

The Chair also announced the Secret Santa program. Individuals may donate gift cards from area stores that Department of Human Services distributes to more than 1,000 needy individuals in the community during the holiday season. To donate or learn more, go to www.arlingtonva.us, search "Santa."

Board Member Zimmerman provided an update on the opening of Penrose Square and the Ribbon Cutting held on November 8, 2012. The project has a community space with tables, chairs, and water feature.

Board Member Zimmerman announced two recently published books about Arlington history. The First Century and Not Ready for the Rocking Chair Yet, by Arlingtonian Martha Ann Miller and Shotgun Justice: One Prosecutors Crusade Against Crime and Corruption in Alexandria and Arlington, by local journalist Michael Lee Pope.

Vice-Chairman Tejada provided an update on the Lecke Forum, where he was a speaker on housing displacement. He gave an overview about how the changing demographics, median household income and the regional economy impact housing in the County.

Board Member Fiset announced the kick-off event for the community process to update to the Rosslyn Sector Plan, Realize Rosslyn. The event will be held December 3, 2012 at 7-9 pm at the Artisphere. For more information, please contact County staff Anthony Fusarelli at (703) 228-3548.

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II. APPOINTMENTS

A motion was made by MARY HYNES, Chair to:

Commission for the Arts

Appoint Lola Lombard for a term ending November 30, 2015

Commission on the Status on Woman

Appoint Nora Hoffman-White for a term ending November 30, 2015

Solid Waste Authority

Appoint Jeff Harn as an alternate for Libby Garvey

The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair

- Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

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III. REGIONAL REPORTS

The Chair announced that Metro has completed work on the first level of their strategic plan. Chair Hynes shared the vision, mission and strategic goals of the plan. Metro has launched an on-line system for people to respond to questions posted by staff every 7-10 days to assist with the planning.

Chair Hynes shared information from the Census that show transit has increased in the region. The good news is that transit's share of commuters rose from 14.6% of commuters in 2000 to 19.4% in 2011. In Arlington that share grew from 23.3% to 28.4%. For details, please visit: <http://planitmetro.com/2012/11/07/census-figures-show-transit-use-up-in-washington-region/>

The Chair also announced that she has been participating in a group of Managers and Chairs from the region which met recently to discuss statewide transportation problems in Virginia. They have developed six principals which will be used to evaluate any proposals that are made.

Board Member Jay Fisetete provided an update on the Northern Virginia Transportation Commission, which he Chairs. The Commission recently sent a letter to the Department of Rail and Public Transportation regarding the Department's study and recommendations in SJR297. Nearly all stakeholders are opposed to the major tenants of the recommendations. Mr. Fisetete will continue to update the Board on this issue.

Member Fisetete announced that the Northern Virginia Efficiency and Consolidation Task Force, comprised of the four transportation focused regional bodies was asked by the legislature to complete an analysis on increasing efficiency in transportation planning in the Northern Virginia region. The Task Force completed an executive summary and full report with five major findings, which was sent along with a letter to the Northern Virginia delegation earlier in November.

Vice-Chair Tejada Metropolitan Washington Council of Governments reported that Mr. Chuck Bean has been named the Director of the Washington Metropolitan Council of Governments. Mr. Bean has significant experience in economic preparedness and Region Forward efforts.

Vice-Chair Tejada announced the Metropolitan Washington Council of Governments Street Smart Campaign Kickoff was held on November 14. The regional effort, now in its 11th year, urges drivers, pedestrians and cyclists to pay more attention to one another on the roads, especially in the winter months. The goal is to increase pedestrian and cyclist safety during November and December, when fatalities generally increase.

Vice-Chair Tejada announced that at the Virginia Association of Counties annual conference, Arlington received the Green County Award. The award will be formally presented at next month's Board meeting.

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IV. COUNTY MANAGER REPORT

The County Manager provided a summary on the preparation for and recovery efforts from Hurricane Sandy. The Manager thanked everyone involved, both staff and residents.

The Manager introduced Deputy County Manager Marsha Allgeier, who presented the Draft Community Energy Plan. The Manager and Deputy County Manager thanked all staff, residents and business representatives involved in the development of the Plan. All Community Energy Plan related documents are available on the County website, along with a question and answer forum. [Clerk's note: as set forth in the document entitled "Addendum-11-27-12-A-Community Energy Plan" attached for the public record to these minutes.]

A motion was made by MARY HYNES, Chair, seconded by J. WALTER TEJADA, Vice Chairman to:

1. Approve the Interjurisdictional Joint Action Agreement Regarding the Arlington / Alexandria Waste-to-Energy Facility ("Agreement") [Clerk's note: as set forth in the document entitled "Addendum-11-27-12-A1-WTE Agreement" attached for the public record to these minutes.]
2. Authorize the County Manager to execute the Agreement subject to review and approval of it as to form by the County Attorney.
3. Terminate the Trust Fund created by the Amended and Restated Waste Disposal Trust Fund Cooperative Agreement dated as of October 1, 1985, as amended in 1990 and 1998.

The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

Addendum-11-27-12-A-Community Energy Plan

Addendum-11-27-12-A1-WTE Agreement

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V. SOLID WASTE AUTHORITY MEETING

Without objection, the Board recessed at 4:55 p.m. for the Annual Meeting of the Arlington Solid Waste Authority. The Solid Waste Authority met from 4:55 p.m. to 5:02 p.m. The Board reconvened the meeting at 5:02 p.m.

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CLOSED MEETING; CERTIFICATION OF CLOSED MEETING DISCUSSIONS

A motion was made by MARY HYNES, Chairman, seconded by J. WALTER TEJADA, Vice Chairman, to convene a closed meeting as authorized by Virginia Code sections 2.2-3711.A.1 and 7 for the following purposes:

discussion concerning one personnel matter concerning County Board appointments, and

consultation with the County Attorney and relevant staff concerning:

the statutes and other laws applicable to the County's issuance of certificates for, and the regulation of, taxicabs and the companies and drivers that operate them;

the workers compensation claim of Bernard Mangroo;

the statutes and other laws applicable to the County's investment of general funds and its authority to establish an investment trust with other localities for such purposes; and

the terms and conditions of agreements with the City of Falls Church for courthouse operations and the jailing of prisoners.

The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

The Board met in a closed meeting from 5:03 p.m. to 7:00 p.m.

A motion was made by MARY HYNES, Chairman, seconded by WALTER TEJADA, Vice Chairman to certify that to the best of each member's knowledge that only public business matters lawfully exempted from open meeting requirements under Chapter 37, Title 2.2 of the Code of Virginia and only such public business matters as were identified in the motion by which the closed meeting was convened were heard, discussed, or considered by the Board. The motion was adopted by a vote of 5 to 0 by roll call as follows:

Member & Vote

- Ms. Hynes - Aye
- Mr. Tejada - Aye
- Mr. Fisette – Aye
- Ms. Garvey – Aye
- Mr. Zimmerman – Aye

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THE FOLLOWING ITEMS TO BE HEARD BEGINNING AT 6:30 P.M.

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CONSENT ITEMS (ITEMS REMOVED FROM THE CONSENT AGENDA SATURDAY, NOVEMBER 17, 2012)

Board Member Jay Fisette thanked John Seal for his long-time service to Arlington County as a member of the Commission for the Arts from 2006 to 2012, as the Chairman from 2007 to 2011, the Artisphere Advisory Board from 2010 to 2012 and on the Rosslyn Business Improvement Corporation Board from 2003 to 2005.

Board Member Christopher Zimmerman thanked Larry Finch for his contributions to Arlington County as a member of the Urban Forestry Commission from 2003 to 2012 and Chairman from 2007 to 2011, and for his work on numerous other projects throughout the County.

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USE PERMITS REQUEST/REVIEWS/AMENDMENTS

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5. U-2873-95-2 USE PERMIT REVIEW FOR LIVE ENTERTAINMENT; LOCATED AT CLARENDON GRILL, 1101 N. HIGHLAND STREET (RPC# 18-013-010)

Following a duly advertised public hearing at which there were speakers, a motion was made by JAY FISETTE, Member, seconded by LIBBY GARVEY, Member, to adopt the following ordinance:

BE IT ORDAINED that, pursuant to application U-2873-95-2 on file in the Office of the Zoning Administrator for a use permit for live entertainment and dancing for the parcel of real property located at Clarendon Grill, 1101 N. Highland Street (RPC# 18-013-010), approval is granted and the parcel so described shall be used according to the approval requested by the application, subject to all previous conditions with an administrative review in one (1) year (November 2013) and a County Board review in two (2) years (November 2014), and with an amendment to previously approved condition #4. [Clerk's note: text to be added is shown in underline]:

- 4. The applicant shall designate a neighborhood liaison to communicate with nearby residents and neighbors to address concerns which may be related to the live entertainment. The name and telephone number of the liaison shall be submitted by the applicant to the presidents of

the Lyon Village Civic Association, the Courtlands Civic Association, the Executive Director of the Clarendon Alliance, Lyon Place Apartments, and the Zoning Administrator prior to starting live entertainment.

The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

Board Report #5

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6. U-2823-94-4 USE PERMIT AMENDMENT FOR A TELECOMMUNICATIONS FACILITY AND TO AMEND CONDITION #1 OF THE EXISTING USE PERMIT TO INCREASE THE MAXIMUM SIZE OF PERMITTED ANTENNAS FOR SPRINT PCS (AT THE LEE PUMPING STATION SITE); LOCATED AT 2400 N WAKEFIELD ST (RPC #05-005-072).

Following a duly advertised public hearing at which there were speakers, a motion was made by JAY FISETTE, Member, seconded by LIBBY GARVEY, Member, to adopt the following ordinance:

BE IT ORDAINED that, pursuant to application U-2823-94-4 on file in the Office of the Zoning Administrator for a use permit for a telecommunications facility and to amend Condition #1 of the existing use permit to increase the maximum size of permitted antennas for Sprint (at the Lee Pumping Station site) for the parcel of real property located at 2400 N. Wakefield St. (RPC #05-005-072), approval is granted and the parcel so described shall be used according to the approval requested by the application, subject to all previously approved conditions, with revised Conditions #1, #2, and #8 as set forth below, and with an administrative review in one (1) year (November 2013), and with a review by the County Board in three (3) years (November 2015). [Clerk's note: as set forth in the document entitled "Addendum-11-27-12-B-Sprint PCS Lee Pumping Station" attached for the public record to these minutes.]

The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

Revised Conditions #1, #2, and #8:

1. The applicant agrees to limit the number of antennae to six (6) panel antennae (not to exceed 54 inches in length by 9 inches in width) install all new antennas and related equipment as shown on the application package dated August 6, 2012 (for Sprint) and to maintain any other existing telecommunications antennas and related equipment on-site intact. New antennas shall be mounted at a radial center (RAD) height no greater than 148' above ground level and shall not be larger than 80 inches in length and 16 inches in width. All antennae shall be mounted on the catwalk railing of the water tower and shall be painted to match the color of the tank. No antennae are to be installed on the top of the tank or on the tank's legs or support structure. The applicant agrees that any future installation of antennas on this property that are in keeping with the intent of the use permit conditions and all Federal, State, and Local regulations shall be subject to review, and approval, by the Zoning Administrator. The Zoning Administrator shall approve the installation of such antennas and related equipment if he or she finds that such antennas and related equipment will (1) achieve satisfactory radio frequency ranges as specified by the Federal Communications Commission (FCC) standards for general population/uncontrolled exposure which are not injurious or detrimental to the public welfare, via a radio frequency/electromagnetic emissions report upon

submission of the administrative change request (2) the proposed antennas are mounted at a RAD height no greater than 148' above ground level on the same or similar mounts located on the catwalk railing, and (3) that the first emissions test for any new antennas shall be submitted one (1) month after their installation to the Zoning Administrator, the Presidents of the Donaldson Run and Old Dominion Civic Associations, President of the Analoatan Home Owners' Association, and the Director of the Emergency Communications Center for their records. If at any time the applicant's operations cause it to exceed the standards specified by the FCC, then the applicant agrees to immediately cease operations until the violation can be corrected.

2. The electromagnetic emissions from the applicant's antennae shall at all times comply with the ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 KHz to 300 GHz, as adopted by the Federal Communications Commission in its Second Order and Report on Personal Communications Systems (Adopted: September 23, 1993 in Docket 90-314). The applicant agrees to have an independent engineering firm conduct, at its sole costs and expense, field measurements of its electromagnetic emissions. The first test shall be conducted within 30 days after the applicant's equipment is installed and becomes operational. Thereafter, the test shall be conducted annually from the approval date of the special exception use permit (January 7, 1995). True and correct copies of the field measurement, certified by an engineer licensed to practice in the Commonwealth of Virginia, shall be submitted to the Zoning Administrator, the Presidents of the Donaldson Run and Old Dominion Civic Associations, the President of the Analoatan Home Owners' Association, and the Director of the Emergency Communications Center within 30 days of the test completion no later than June 1st of each year. If at any time the applicant's operations cause it to exceed the standards set forth in the above ANSI standard, then the applicant agrees to immediately cease operations until the violation can be corrected. The applicant agrees not to continue operations until such time as the system is operating within the applicable standard.

8. The applicant shall establish and identify a liaison who shall be available to address any concerns regarding its operations at the Lee Pumping Station. The name and telephone number of the liaison shall be sent to the Donaldson Run Civic Association, ~~and~~ the Old Dominion Civic Association, the Analoatan Home Owners' Association, and to the Zoning Administrator.

[Board Report #6](#)

[Board Report #6-Supplemental Report](#)

Addendum-11-27-12-B-Sprint PCS Lee Pumping Station

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9. [WESTOVER FARMERS MARKET](#)

- A. U-3327-12-1 Use Permit Amendment to amend the permitted months of operation and to revise the layout of the market to include Reed School property for Westover Farmers' Market, located at 1671 McKinley Rd (RPC# 10-022-030), and parts of the McKinley Road right-of-way.

- B. Approval by the County Board of the joinder and consent to an open-air market license agreement between Arlington Public Schools, as Licensor, and Field to Table, Inc., as Licensee, on property known as the Westover Library/Reed School, in which the County has a leasehold interest in a portion of the property (RPC No. 10-022-030), 1644 N. McKinley Road, Arlington

County, Virginia.

Following a duly advertised public hearing at which there were speakers, a motion was made by J. WALTER TEJADA, Vice Chairman, seconded by CHRISTOPHER ZIMMERMAN, Member, to:

A. Adopt the following ordinance :

BE IT ORDAINED that, pursuant to application U-3327-12-1 on file in the Office of the Zoning Administrator for a use permit amendment for the parcel of real property located at 1671 McKinley Rd (RPC# 10-022-030), and parts of the McKinley Road right-of-way, approval is granted and the parcel so described shall be used according to the approval requested by the application, subject to all previous conditions and amended Conditions #1, 6, and 7, with a County Board review in one (1) year (November 2013). [Clerk's note: as set forth in the document entitled "Addendum-11-27-12-C-Westover Farmer's Market Use Permit" attached for the public record to these minutes.]

Proposed Amended Conditions:

1. The applicant agrees that the hours of operation for the Summer open-air market will be limited to Sundays from 8 a.m. to 12 p.m., ~~April~~ For purposes of this approval, the summer market will be the operations during the months of May through November. For the summer market, the applicant agrees that vendors will be permitted to begin set-up on Sunday no earlier than 7 a.m., and vendors must complete clean-up and depart from the site no later than 12:30 p.m. Vendor spaces for the summer market shall be laid out generally in accordance with the applicant's exhibit attached to this report entitled "Westover Farmers Market—Summer" and dated February 2012. The applicant further agrees that the hours of operation for the winter market will be limited to Sundays from 9 a.m. to 1 p.m. The winter market shall be all open-air market operations during the months of December through April. The applicant agrees that vendors will not be permitted to begin set-up on Sunday earlier than 8 a.m., and vendors must clean up and depart from the site no later than 1:30 p.m. Vendor spaces for the winter market shall be laid out generally in accordance with the applicant's exhibit attached to this report entitled "Westover Farmers Market—Winter" and dated February 2012.
6. The applicant agrees to comply with the requirements of all applicable laws, ordinances and regulations, including by way of illustration and not limitation, the County's Noise Ordinance ~~and~~ the Zoning Ordinance regulations for signs. The applicant specifically agrees, by way of illustration and not limitation, that it will not place A-frame signs in the public rights of way, or on or adjacent to sidewalks.
7. ~~The applicant agrees to lay out the vendor spaces generally in accordance with the attached Westover Market Vendor and Parking Plan. The applicant agrees that~~ At least two (2) driveways to the Westover Shopping Center parking lot and one (1) exit from the bank ATM drive-through shall be maintained at all times from McKinley Road.

B. Take the following actions:

1. Approve the Joinder and Consent of the County Board to the attached Open-Air Market License Agreement between Arlington Public Schools ("APS"), as Licensor, and Field to Table, Inc. ("FTT") as Licensee, on property known as the Westover Library/ Reed School, in which the County has a leasehold interest in apportion of the property (RPC No. 10-022-030), 1644 N. McKinley Road, Arlington County, Virginia. [Clerk's note: as set forth in the document entitled "Addendum-11-27-12-D-Westover Farmer's Market Agreement" attached for the public record to these minutes.]
2. Authorize the Real Estate Bureau Chief, or his designee, to execute on behalf of the County Board, the Joinder and Consent to the attached Open-Air Market License Agreement between APS and FTT, subject to approval of such Agreement as to form by the County Attorney.

The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES,

Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

[Board Report # 9 A](#)

Addendum-11-27-12-C-Westover Farmer’s Market Use Permit

[Board Report #9 B](#)

Addendum-11-27-12-D-Westover Farmer’s Market Agreement

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CAPITAL PROJECTS

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18. ROCKY RUN PARK

- A. Enactment of an ordinance to vacate a portion of Fairfax Drive, running in a southeasterly direction, from a point on Fairfax Drive near its intersection with North Barton Street to the Southeasterly Corner of Rocky Run Park (RPC# 18-084-007).
- B. Award of contract for the construction of Rocky Run Park located at 1109 N. Barton St., Invitation to Bid Number 508-13.

Following a duly advertised public hearing at which there were speakers, a motion was made by CHRISTOPHER ZIMMERMAN, Member, seconded by JAY FISETTE, Member, to:

- A.
 - 1. Enact the attached Ordinance to Vacate a Portion of Fairfax Drive, Running in a Southeasterly Direction, from a Point on Fairfax Drive Near its Intersection with North Barton Street to the Southeasterly Corner of Rocky Run Park (RPC# 18-084-007);
 - 2. Authorize the Real Estate Bureau Chief, Department of Environmental Services, or his designee, to execute and accept, on behalf of the County Board, the Deed of Vacation and Dedication, and to execute all other documents necessary to effectuate the Ordinance of Vacation, subject to approval as to form by the County Attorney.

ORDINANCE TO VACATE A PORTION OF FAIRFAX DRIVE RUNNING IN A SOUTHEASTERLY DIRECTION, FROM A POINT ON FAIRFAX DRIVE NEAR ITS INTERSECTION WITH NORTH BARTON STREET TO THE SOUTHEASTERLY CORNER OF ROCKY RUN PARK, RPC NO. 18-084-007.

BE IT ORDAINED that, upon a motion by the County Board, a portion of Fairfax Drive running in a Southeasterly direction, from a point on Fairfax Drive near its intersection with North Barton Street and abutting Rocky Run Park, Arlington County, Virginia, RPC No. 18-084-007 (“Property”), and created by a Deed recorded in Deed Book S-4 at Page 395 among the land records of Arlington County, Virginia (“Fairfax Drive”), and which portion of Fairfax Drive is shown on a plat entitled, “Plat Showing Vacation of a Portion of Fairfax Drive, Liber S-4, Page 395, and Area Dedicated to Public Street Purposes, Arlington County, Virginia” dated June 1, 2012, prepared by

the Arlington, Virginia Department of Environmental Services Engineering Bureau – Survey Section ("Plat"), attached to the County Manager's Report dated September 25, 2012, as Exhibit A, is hereby vacated subject to the following conditions:

1. The County shall dedicate to public street purposes, that portion of Rocky Run Park that is shown on the Plat as "Area Hereby Dedicated to Public Street Purposes, Area = 2,409 Sq. Ft."
 2. The County shall prepare the Deed of Vacation and Dedication, all required plats, subject to approval thereof by the County Manager, or her designee, and approval of the Deed of Vacation and Dedication as to form by the County Attorney.
 3. The County shall record all plats, and the Deed of Vacation and Dedication, required by this Ordinance of Vacation.
 4. The County shall pay all fees for the recording of the required documents, associated with this Ordinance of Vacation.
- B.
1. Approve the Award of Contract Number 508-13 in the amount of \$2,561,000 to Meridian Construction Co., Inc. and approve an allocation of \$384,150 as a contingency for change orders, for a total contract authorization of \$2,945,150.
 2. Authorize the Purchasing Agent to execute the contract documents and all other documents to implement the above actions, after the review and approval of such documents by the County Attorney.

The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

[Board Report #18 A](#)

[Board Report #18 B](#)

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REQUESTS TO ADVERTISE

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21. REQUEST TO ADVERTISE PUBLIC HEARINGS TO CONSIDER THE LOCAL HISTORIC DISTRICT DESIGNATION AND DESIGN GUIDELINES FOR THE GREEN VALLEY PHARMACY, LOCATED AT 2415 SHIRLINGTON ROAD (RPC # 31-025-008)

Following a duly advertised public hearing at which there were speakers, a motion was made by MARY HYNES, Chair, seconded by J. WALTER TEJADA, Vice Chairman, to adopt the resolution to authorize the advertisement (Attachment A of the staff report) of public hearings by the Planning Commission on January 14, 2013, and the County Board on January 26, 2013, to consider adoption of an ordinance designating the Green Valley Pharmacy, located at 2415 Shirlington Rd. (RPC # 31-025-008) as a local historic district and to consider the adoption of historic district design guidelines. The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

RESOLUTION TO AUTHORIZE ADVERTISEMENT OF PUBLIC HEARINGS TO CONSIDER AN ORDINANCE TO DESIGNATE THE GREEN VALLEY PHARMACY, LOCATED AT 2415 SHIRLINGTON RD. (RPC # 31-025-008), AS AN ARLINGTON HISTORIC DISTRICT , AND TO CONSIDER THE ADOPTION OF HISTORIC DISTRICT DESIGN GUIDELINES, AT THE January 14, 2013, PLANNING COMMISSION AND THE January 26, 2013, COUNTY BOARD MEETINGS. THIS PROPOSED ORDINANCE WILL PRESERVE BUILDINGS WITHIN ARLINGTON COUNTY HAVING IMPORTANT HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL OR CULTURAL INTEREST AND WILL FACILITATE THE CREATION OF A CONVENIENT, ATTRACTIVE AND HARMONIOUS COMMUNITY AND PROTECT AGAINST THE DESTRUCTION OF OR ENCROACHMENT UPON HISTORIC AREAS.

The County Board of Arlington County hereby resolves to authorize the advertisement of public hearings to consider an ordinance to designate the Green Valley Pharmacy, located at 2415 Shirlington Rd. (RPC # 31-025-008), as an Arlington Historic District, and to consider the adoption of historic district design guidelines, at the January 14, 2013, Planning Commission and the January 26, 2013, County Board meetings. This proposed ordinance will preserve buildings within Arlington County having important historic, architectural, archaeological or cultural interest and will facilitate the creation of a convenient, attractive and harmonious community and protect against the destruction of or encroachment upon historic areas.

* * *

Z – 2561 – 12-1 HISTORIC DISTRICT
Proposed Historic District designation of the Green Valley Pharmacy
located at 2415 Shirlington Rd.

AN ORDINANCE PURSUANT TO CHAPTER 31A OF THE ARLINGTON COUNTY ZONING ORDINANCE AND THE HISTORICAL AFFAIRS AND LANDMARK REVIEW BOARD SUBMITTAL Z-2561-12-1, TO DESIGNATE THE GREEN VALLEY PHARMACY, LOCATED AT 2415 SHIRLINGTON RD. (RPC # 31-025-008) , AS AN ARLINGTON HISTORIC DISTRICT IN ORDER TO PRESERVE BUILDINGS WITHIN ARLINGTON COUNTY HAVING IMPORTANT HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL OR CULTURAL INTEREST AND TO FACILITATE THE CREATION OF A CONVENIENT, ATTRACTIVE AND HARMONIOUS COMMUNITY AND PROTECT AGAINST THE DESTRUCTION OF OR ENCROACHMENT UPON HISTORIC AREAS.

BE IT ORDAINED that,

WHEREAS, the Historical Affairs and Landmark Review Board (HALRB), based upon research, analysis, and study contained in the County's Historic District Designation Form and other information considered by it, recommends that the Green Valley Pharmacy be designated as an Historic District; and

WHEREAS, based on that form and other information presented to the County Board, the Board finds that the property meets at least three of the eleven designation criteria listed in Section 31A, Part C.1.d of the Arlington Zoning Ordinance; and

WHEREAS, the HALRB has collaborated with the property owner on proposed historic district design guidelines and has approved said design guidelines (see Attachment D of the Board Report dated October 31, 2012); and

WHEREAS, the County Board finds that the historic and cultural significance of the property qualifies it for designation as an Historic District and that such designation will protect against destruction of or encroachment upon historic areas.

THEREFORE, the property in Arlington County known as the Green Valley Pharmacy, located at 2415 Shirlington Rd. (Real Property Code 31-025-008) and which is shown on the map that is included as Attachment F of the Board Report dated October 31, 2012 and includes the entire parcel shown on that attachment, is hereby designated as an Arlington Historic District pursuant to Section 31A of the Arlington County Zoning Ordinance, and Historical Affairs and Landmark Review

Board submittal Z-2561-12-1 on file in the Office of the Zoning Administrator, and the zoning map is hereby amended to record this designation as an Historic District . All buildings and land comprising 2415 Shirlington Rd. are included within the boundary of the Green Valley Pharmacy Historic District.

[Board Report #21](#)

[Board Report #21-Supplmental Report](#)

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THE FOLLOWING ITEMS TO BE HEARD NO EARLIER THAN 6:45 P.M.

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REGULAR HEARING ITEMS

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- 32. SP# 91 SITE PLAN AMENDMENT TO ALLOW DECKS AND A SUNROOM TO ENCROACH ON REAR YARD SETBACKS; LOCATED AT 1923, 1941, AND 1947 N. WOODLEY ST. MODIFICATIONS OF ZONING ORDINANCE REQUIREMENTS INCLUDE: REAR-YARD SETBACK REQUIREMENTS AND ENCROACHMENTS OF GREATER THAN 4 FEET INTO REAR-YARD SETBACKS FOR DECKS AND ENCROACHMENT INTO REAR YARD SETBACK FOR A SUNROOM, AND OTHER MODIFICATIONS AS NECESSARY TO ACHIEVE THE PROPOSED DEVELOPMENT PLAN (RPC# 07-008-037, -046, -044)**

Following a duly advertised public hearing at which there were speakers, a motion was made by JAY FISETTE, Member, seconded by J. WALTER TEJADA, Vice Chairman to:

Adopt the ordinance to approve an amendment to Site Plan #91, for a second-story deck at 1923 N. Woodley St. as shown on attachment #2 ("1923 plan") entitled "1923 N. Woodley Street," prepared by Susan Hurd, and dated October 31, 2012, and extending no more than 10 feet into the rear yard and no more than 12 feet in width, and a 10 feet deep by 14 feet wide sunroom addition at 1947 N. Woodley St. as shown in attachment #5 ("1947 plans") attached to this report prepared for the November 17, 2012, County Board meeting and including modifications of use regulations to permit decks to encroach more than four (4) feet into rear yard setbacks, and to permit the addition to encroach into rear yard setbacks, and other modifications as necessary to permit the improvements as described in the ordinance and shown on the referenced plans; and accept withdrawal of the proposal for a deck at 1941 N. Woodley Street. [Clerk's note: as set forth in the document entitled "Addendum-11-27-12-E-SP #91" attached for the public record to these minutes.]

The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

Site Plan Amendment Ordinance

WHEREAS, an application for a Site Plan Amendment dated June 28, 2012, for Site Plan # 91, was filed with the Office of the Zoning Administrator; and

WHEREAS, as indicated in Staff Report[s] prepared for the November 17, 2012, County Board meeting and through comments made at the public hearing before the County Board, the County Manager recommends that the County Board approve the Site Plan Amendment with some modifications to allow only

(1) a deck at 1923 North Woodley Street and (2) a sunroom at 1947 North Woodley Street as shown on the plans referenced in Condition 11 below and subject to numerous conditions as set forth in the Staff Report[s]; and

WHEREAS, the County Board held a duly-advertised public hearing on that Site Plan Amendment on November 17, 2012, and finds, based on thorough consideration of the public testimony and all materials presented to it and/or on file in the Office of the Zoning Administrator, that the improvements and/or development proposed by the Site Plan as amended:

- Substantially complies with the character of master plans, officially approved neighborhood or area development plans, and with the uses permitted and use regulations of the district as set forth in the Zoning Ordinance and modified as follows:

Rear yard setbacks; and

- Functionally relates to other structures permitted in the district and will not be injurious or detrimental to the property or improvements in the neighborhood; and
- Is so designed and located that the public health, safety and welfare will be promoted and protected.

NOW THEREFORE, BE IT ORDAINED that, as originally requested by an application dated June 28, 2012 for Site Plan # 91, and as such application has been modified, revised, or amended to include the drawings, documents, conditions and other elements designated in Condition 11 (which drawings, etc... are hereafter collectively referred to as "Revised Site Plan Application"), for a Site Plan Amendment for one (1) second-story, rear yard deck and a rear yard sunroom addition, with modifications of use regulations for decks to encroach more than four (4) feet into rear-yard setbacks, and for the sunroom to encroach into rear yard setbacks, for the parcels of real property known as RPC# 07-008-037 and -046 approval is granted and the parcels so described shall be used according to the Site plan as originally approved on December 13, 1972 and amended from time to time as shown in the records of the Office of Zoning administration, and as amended by the Revised Site Plan Application, subject to all previous conditions and the following new condition 11:

11. The applicants agree that the decks and sunroom as approved by the Arlington County Board on November 17, 2012, for the properties referenced below shall be of the following dimensions:

- 1923 N. Woodley Street: 10' deep by 12' wide, as shown on the plan entitled "1923 N. Woodley St" prepared by Susan Hurd, and dated October 31, 2012.
- 1947 N. Woodley Street: 10' deep by 14' wide as shown on the renderings attached to this report prepared for the November 17, 2012 County Board meeting.

[Board Report #32](#)

Addendum-11-27-12-E-SP #91

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33. AWARD OF NEW CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY TO EXISTING AND/OR PROPOSED NEW TAXICAB COMPANIES TO PERMIT OPERATION IN ARLINGTON.

Following a duly advertised public hearing at which there were speakers, a motion was made by MARY HYNES, Chair, seconded by J. WALTER TEJADA, Vice Chairman to close the public hearing and carry-over consideration of authorizing the award of new Certificates of Public Convenience and Necessity to existing and/or proposed new taxicab companies to permit operation within Arlington to the December Board meeting. The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

[Board Report #33](#)

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34. ADOPTION OF GUIDELINES FOR THE USE OF THE PUBLIC-PRIVATE TRANSPORTATION ACT OF 1995 (PPTA), TO CREATE PUBLIC-PRIVATE PARTNERSHIPS FOR THE

DEVELOPMENT OF TRANSPORTATION FACILITIES.

Following a duly advertised public hearing at which there were speakers, a motion was made by MARY HYNES, Chair, seconded by LIBBY GARVEY, Member to close the public hearing and carry-over consideration of adopting the proposed attached Public-Private Transportation Act of 1995, as Amended Arlington County Guidelines, and the corresponding proposed attached amendments to the Arlington County Purchasing Resolution, to be effective April 1, 2013. to the December Board meeting. The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye. [Clerk’s note: as set forth in the document entitled “Addendum-11-27-12-F-PPTA” attached for the public record to these minutes.]

Board Report #34

Addendum-11-27-12-F-PPTA

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ADDITIONAL ITEMS

CLAIM OF BERNARD MANGROO

A motion was made by MARY HYNES, Chairman, seconded by J. WALTER TEJADA, Vice Chairman, to approve the settlement agreement resolving the Workers’ Compensation Claim of Bernard Mangroo, and authorize the filing of the necessary pleadings with the Virginia Workers’ Compensation Commission and execution of any related paperwork on behalf of the County Board. The motion was adopted and carried by a vote of 5 to 0. The voting recorded as follows: MARY HYNES, Chair - Aye, J. WALTER TEJADA, Vice Chairman - Aye, JAY FISETTE, Member - Aye, LIBBY GARVEY, Member - Aye and CHRISTOPHER ZIMMERMAN, Member – Aye.

ADJOURNMENT

Without objection, at 1:45 a.m. on November 28, 2012, the Board adjourned the meeting.

MARY HYNES, Chair

ATTEST:

HOPE L. HALLECK, Clerk

Community Energy Plan





Table of Contents

Chapter 1: Context for the Plan.....2	Chapter 3: Approach.....9
<ul style="list-style-type: none"> ● Vision Statement.....2 ● Purpose of the Plan.....3 ● Background on the Plan’s Development.....4 <ul style="list-style-type: none"> ○ Arlington’s History of Energy and Environmental Leadership ○ The Community Energy Plan Project 	<ul style="list-style-type: none"> ● Buildings.....10 ● District Energy.....12 ● Renewable Energy.....13 ● Transportation.....14 ● County Government Activities.....15 ● Education and Human Behavior.....16
Chapter 2: Current Conditions.....6	
<ul style="list-style-type: none"> ● Sources of Arlington’s Energy.....6 ● Arlington’s Energy and Emissions Profile.....7 ● The Benefits of a Community Energy Plan.....7 	Glossary.....17

Chapter 1: Context for the Plan

Vision Statement

To become a sustainable community, Arlington must rethink the way it uses, generates, and distributes energy.

Energy is fundamental to our lives and livelihoods. Energy use keeps us warm in winter and cool in summer. Energy powers technologies that preserve food, provide health care, and entertain us. Energy powers many of our transportation options, and energy is essential to economic transactions. Without energy, our modern economic system would collapse.

Still, our present use of energy leaves us vulnerable to multiple risks:

- The burning of fossil fuels is a major contributor to global climate change, which threatens to alter our economy and way of life.
- Severe weather is causing more frequent electric power outages.
- Rising demand for electricity is straining our regional power grid.
- International affairs cause significant fluctuations in the price of electricity, oil, and other fossil fuels.
- Rising global demand and shrinking availability of fossil fuels dictate long-term energy price increases.

This Community Energy Plan seeks to mitigate those risks by (a) improving the reliability of

energy sources by localizing energy generation, (b) reducing price volatility and the long-term cost of energy through efficiency and diversification, and (c) reducing the environmental impact of energy use through efficiency and cleaner sources of energy.

This CEP can be a catalyst for new economic development and sustainable growth in Arlington. A growing number of businesses are focused on the energy sector, on both the supply and demand sides of the equation. Clean energy and innovations in efficiency are among the fastest growing economic sectors today; this sector can be an important element of a diversifying and sustainable economic base for Arlington.

The Arlington Community Energy Plan (CEP) is a roadmap for transforming how we obtain and use energy in all respects. The CEP envisions an Arlington in which our residents and businesses save money by owning and operating more energy efficient buildings; in which we breathe healthier air by using cleaner sources of energy and wider alternatives to driving; in which electricity is more reliable and energy prices are less volatile; and in which new businesses and residents are attracted to a higher quality of life supplied by cleaner and more reliable energy.

Purpose of the Plan

The purpose of this Community Energy Plan is to define the energy goals and describe the energy policies that will help Arlington remain economically competitive, environmentally committed, and have secure energy sources. Arlington County has set a carbon emissions target of 3.0 metric tons (mt) of carbon dioxide equivalent (CO₂e) emissions per capita per year by 2050, to match current emissions world benchmark cities such as Copenhagen. The Plan establishes the framework for reducing greenhouse gas (GHG) emissions in the County from 2007 carbon emissions level of 13.4 mt CO₂e/capita/year, a reduction of 70%.

The CEP serves as the Energy element of Arlington's Comprehensive Plan, which sets forth the broad goals and policies of a sustainable community over the next thirty to forty years. Accompanying the CEP is the Community Energy Implementation Framework (CEIF). The CEIF lays out the strategies that the County will deploy as well as the tools – both existing and potential – that could be used to advance the goals and policies of the CEP.

This Comprehensive Plan element will be updated as conditions warrant. At a minimum, the element will be reviewed and revised as necessary once every five years.

The CEP and CEIF employ the following terms:

Goals are the six primary areas around which the County will implement the Community Energy Plan and form the basis of the CEP and CEIF;

Policies are the statements of intent or commitments made by County leadership governing the implementation of the CEP-related projects. Policies are explained in detail in the CEP, whereas in the CEIF the policies are provided in summary format for context;

Strategies, explained in the CEIF, represent an implementation of policy and should evolve over time as new tools emerge, new processes are designed, and the benefits and risks associated with a concept change in response to changes internal or external to the County; and

Tools provide the mechanisms to carry out the strategies. Examples of existing and potential tools are explained in the text of the CEIF and a longer list of tools is summarized in Appendix B of the CEIF. However, neither list of tools is intended to be exhaustive or prescriptive; they are an illustrative set of examples of how the strategies could be accomplished. The tools described herein will require the application of resources—whether human or capital—to realize the CEP's goals.

Background on the Plan's Development

Arlington's History of Energy and Environmental Leadership

Arlington County has been at the forefront in responding to the challenges and opportunities that energy presents. It is a national leader in innovative local government planning, sustainability, and climate action.

Transit-oriented development around Metro corridors and high quality transit service have been a foundational policy for the County for more than 50 years. This foundation led to the County's current General Land Use Plan and the birth of urban villages around each Metro node, followed by a strong focus on pedestrian-friendly streetscapes, and implementation of a green building incentive program for the private sector. Arlington maintains a rich variety of vibrant businesses, stable neighborhoods, and quality schools, and received the Environmental Protection Agency's highest award for "smart growth" in 2002.

"Green buildings," which incorporate land use, building design, and construction strategies that reduce the environmental impacts buildings have on their surroundings, has been a growing trend since the 1990s. Arlington County government and Arlington developers are leaders when it comes to incorporating green building features into building and site design.

In October 1999, Arlington's County Board adopted a Pilot Green Building Incentive Program to evaluate special exception site plan requests for bonus density and/or height. Numerous builders have taken

advantage of the incentives offered, providing Arlington residents and tenants with high quality, sustainable buildings. The program has been updated over time as green buildings have become more the norm than the exception.

In 2007, the County launched the Arlington Initiative to Reduce Emissions (AIRE) program. AIRE was created to reduce the carbon footprint of County government operations and to educate businesses and residents about improving energy performance while reducing GHG emissions. AIRE set an ambitious target to reduce Arlington County government's carbon emissions by 10% by 2012, compared to 2000 levels.

The program achieved this target by improving energy efficiency in the County government's buildings, vehicles, and infrastructure; using alternative fuels and green power; and conserving water. The success of the AIRE program has set the stage for expanding ambitious energy targets to other sectors of the community.

The Community Energy Plan Project

Building upon the successful implementation of land use and transportation planning efforts, green building programs and the AIRE program, and in response to the challenge of current and forecasted energy issues, the Arlington County Board launched the Community Energy Plan project on January 1, 2010.

The Community Energy and Sustainability (CES) Task Force, composed of a wide range of noted community leaders, worked from January 2010 through March 2011 to

develop a report that recommended a transformative approach to energy use in the community. A comprehensive civic engagement process included two Energy Town Hall Meetings and multiple targeted meetings with stakeholder groups.

The CES Task Force report compared Arlington's 2007 GHG emissions of 13.4 mt CO₂e/capita/year to neighboring and international jurisdictions emissions in 2008 (see Figure 1). Arlington's per capita carbon emissions were comparable to similar

American localities, but substantially higher than several economically productive jurisdictions around the world.

At its May 2011 meeting the County Board accepted the Task Force Report, including a 2050 target of 3.0 mt CO₂e/capita/year, and adopted a set of Policy Determinations. This Plan, along with a companion Community Energy Implementation Framework, builds directly upon the County Board Policy Determinations.

Country or Locality	GHG Emissions (mt CO ₂ e/capita/year)
USA	22.2
Canada	22.1
Iowa City, IA	20.5
Washington, DC	19.7
Denver, CO	19.4 (2005)
Loudoun County, VA	14.2
Frankfurt, Germany	13.7 (2005)
Arlington County, VA	13.4
Los Angeles, CA	13.0 (2005)
Portland, OR	12.4 (2005)
Germany	11.7
Toronto, Canada	11.6 (2005)
New York City, NY	10.5 (2005)
Beijing, China	10.1 (2006)
Hamburg, Germany	9.7 (2005)
London, United Kingdom	9.6 (2005)
Paris, France	5.2 (2005)
Tokyo, Japan	4.9 (2006)
Copenhagen, Denmark	3.0

Figure 1: 2008 Greenhouse Gas Emissions (metric tons CO₂e)

Chapter 2: Current Conditions

Sources of Arlington's Energy

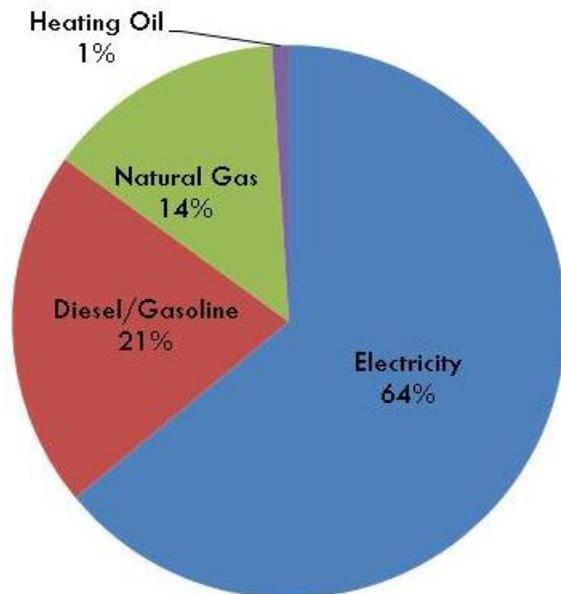


Figure 2: 2007 Arlington Energy Sources

Nearly two-thirds of the energy used in Arlington is in the form of electricity, the vast majority of which is produced outside the County and transmitted via the electric grid (see Figure 2). 21% of the energy used in the County is supplied by gasoline and diesel which power the cars, trucks, and buses used within County borders. The remaining 15% is from natural gas and heating oil, primarily used for space and water heating in homes, businesses, and other building types.

Unfortunately, approximately 65% of the United States' electricity source is wasted in the generation and transmission of the electricity before it even enters a house, apartment, or office (see Figure 3). This means that Arlington residents and businesses may be only getting around 35 cents' worth of energy for every dollar they spend on it when they use electricity.

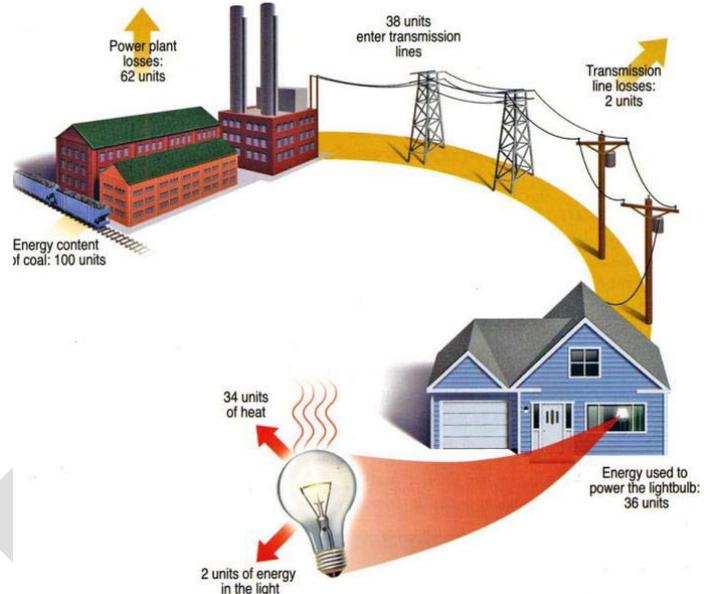


Figure 3: (Source: Northeast Clean Heat and Power Initiative)

Reliance upon electricity makes businesses and homes vulnerable to price volatility due to factors beyond the County's control because the electricity is distantly generated. In addition, dependence upon energy supplies from distant sources carries the risk of supply interruptions from storms and other natural and man-made disasters, with potentially disastrous effects on businesses and the County's most vulnerable residents. Electricity is vital for public health and safety. And with information technology now at the core of business and security practices around the world, interruptions in electric power supply can be catastrophic for businesses and residents alike.

Arlington's Energy Use Profile

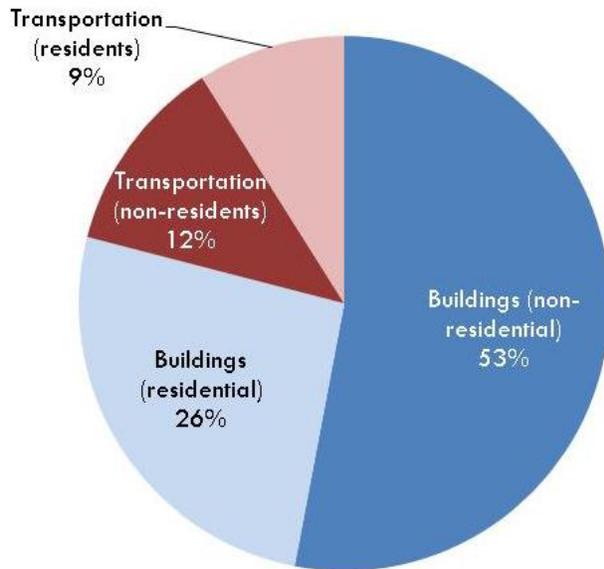


Figure 4: 2007 Arlington Energy Use

The majority of energy in Arlington – over three-quarters of Arlington’s energy – is consumed in buildings, including homes, workplaces, and shopping areas (see Figure 4).

Arlington’s built environment includes a rich variety of housing types and commercial spaces. These differing building styles and uses will require different approaches to achieve improved energy performance.

Arlington is an urban county with award-winning transit-oriented development and innovative transportation demand management programs. As a result, only 21% of its energy is used for transportation including personal and commercial vehicles, buses, and rail. A negligible amount is used for transportation infrastructure such as streetlights and traffic signals. These figures do not include Federal installations in

Arlington such as the Pentagon or Ronald Reagan Washington National Airport.

Energy use in transportation is as varied as in buildings, with substantial contributions from personal vehicles, commercial fleets, rail, and bus transit. Of the energy use related to transportation, over half is from non-residents who commute to jobs in Arlington, travel through the County, or travel to one of the County’s numerous retail options. Arlington’s “smart growth” planning with its compact, transit-oriented development has resulted in lower vehicle ownership by residents than in many other jurisdictions, with a substantial portion of trips made by transit, walking and/or bicycling.

Nonetheless, Arlington’s energy density per capita is about twice as high as modern European cities, revealing inefficiencies in the use of energy resources. This energy costs Arlington residents and businesses about \$560 million each year.

The Benefits of a Community Energy Plan

Economic Competitiveness

The Community Energy Plan can improve economic competitiveness at the local level in several ways. Improved energy efficiency results in lower utility bills and other benefits to building owners and homeowners.

Communities that can show they have lower costs of doing business and have a healthy workplace may be able to attract new businesses, residents, and motivated employees.

Second, energy efficiency creates net new jobs. Every \$1 million invested in building energy efficiency improvements supports approximately 20 jobs. This is a better “bang for the buck” than if that money had been invested into the economy as a whole.

Third, energy efficiency supports economic growth by generating savings. Businesses and citizens that spend less on energy have more to invest in other activities that boost local economies.

Environmental Commitment

Energy efficiency is cheapest, fastest, and cleanest way to reduce greenhouse gas pollution in the near term. In 2008, Americans avoided greenhouse gas emissions equivalent to those of 29 million cars through choices they made with energy-saving measures and energy-efficient homes.

Additionally, reducing energy usage means in cleaner local air, which will make Arlington a healthier, more pleasant place to live and work.

Energy Security

Energy efficiency measures can improve the reliability of a local electric system by lowering peak demand and reducing the need for additional generation and transmission assets. Energy efficiency also diversifies utility resource portfolios and can be a hedge against uncertainty associated with fluctuating fuel prices and other risk factors.

District energy (DE) and combined heat and power (CHP) improve energy security by generating electricity, heating, and cooling locally, thus taxing the electric grid less. Additionally, local decision makers can choose from a variety of fuel sources such as natural gas, biomass, and solar thermal for CHP generation. This fuel flexibility means more stable prices, since decision makers can react to price shocks by choosing other fuel options.

Renewable energy, especially solar photovoltaics (PV), helps flatten the demand on the electric grid because the sun tends to shine brightest when electricity demand is the highest. This results in increased capacity for local power plants. Photovoltaics also reduce stress on the grid by generating electricity locally.

Chapter 3: Approach

The goal of 3.0 mt CO₂e/capita/year by 2050 is ambitious, and to achieve it Arlington will need a comprehensive approach. Improvements must be made in all areas of energy use, in how County government addresses energy issues, and in the broadening of energy literacy across all segments of the community.

To better understand and address Arlington’s energy use, four primary goal areas are carved out – buildings, district energy (defined in Chapter 4), renewables, and transportation – with supporting goal areas in County government activities, and education and human behavior. Arlington County conducted a greenhouse gas inventory to quantify the community’s carbon footprint. Then, modeling was done to come up with a roadmap to achieve the 2050 CO₂e goal based on the four primary goal areas. The result is the “wedge graph” (Figure 5.)

All elements of the plan must be addressed in order to achieve the transformational goal

recommended by the CES Task Force and adopted by the County Board:

- If the planned energy efficiency goals for buildings are achieved, GHG emissions would be reduced by 3.9 mt CO₂e/capita/year, achieving 42% of the carbon reduction goal
- Installing district energy in high energy intensity areas of the County would eliminate approximately 1.8 mt CO₂e/capita/year, further reducing emissions by 19%
- Transportation improvements, an additional 3.1 mt CO₂e/capita/year would be eliminated, achieving an additional 33% carbon reduction
- Implementing renewable technologies wherever feasible and cost effective would eliminate 0.7 mt CO₂e/capita/year (7% reduction).

The remainder of this document details the goals and policies within each goal area needed to reach 3.0 mt CO₂e/capita/year by 2050.

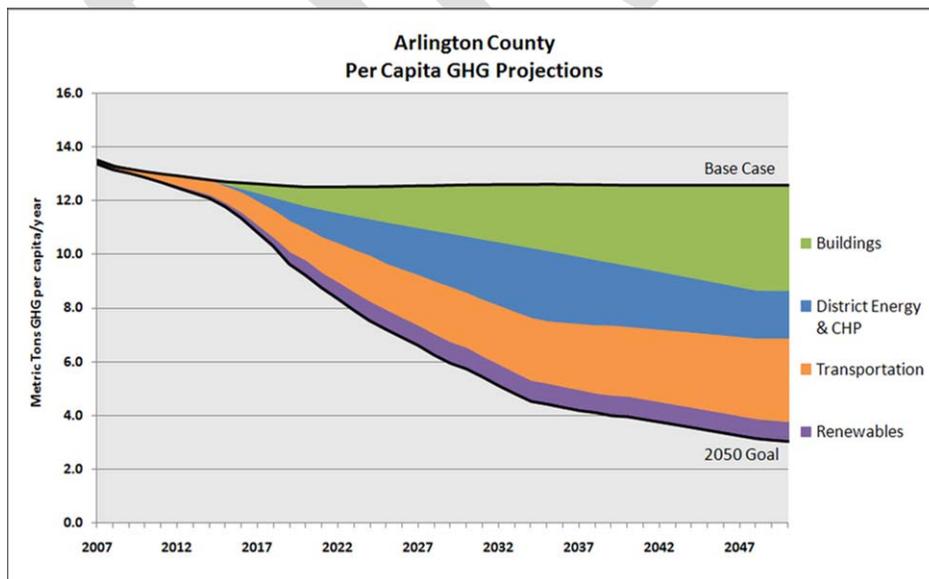


Figure 5: Arlington County Per Capita GHG Projections

Chapter 4: Goals and Policies

Buildings

Goal 1 (G1): Increase the energy and operational efficiency of all buildings

Residential and non-residential buildings currently use about three quarters of all energy in Arlington. 26% is consumed by residential homes and 53% is used by commercial buildings. The single largest improvement that can be made to ensure the County meets its greenhouse gas emission reduction goals will be improving the overall energy efficiency of the construction and operation of buildings. Reducing energy use will also reduce utility costs for businesses and residents.

***Policy 1 (P1.1):** By 2050, residential buildings should use 55% less energy on average (per square foot) as compared to 2007 levels of energy use (63 kBTU per square foot). Milestones include:*

- **2020:** 5% less on average than 2007 levels
- **2030:** 25% less on average than 2007 levels
- **2040:** 40% less on average than 2007 levels

***Policy 2 (P1.2):** By 2050, the non-residential building stock should use 60% less energy on average (per square foot) as compared to 2007 levels of energy use (98 kBTU per square foot). Milestones include:*

- **2020:** 5% less on average than 2007 levels
- **2030:** 25% less on average than 2007 levels
- **2040:** 45% less on average than 2007 levels

By 2015, the applicable building code for residential and non-residential buildings is likely to be the International Energy Conservation Code (IECC) 2012, which will ensure that new buildings and major renovations, in the aggregate, are approximately 30% more efficient than the 2004 Virginia building code. Future building codes are likely to continue improving energy efficiency requirements. Typically, 2-3% of the nation's building stock is renovated each year. On that basis, by 2050 all or most of Arlington's existing residential and non-residential buildings will be expected to have been either renovated or demolished. Coupled with innovations in technology, building code upgrades will play a significant role in achieving the CEP goals.

Energy efficiency improvements are achieved through careful design and selection of building envelopes, windows, insulation, lighting, and heating, ventilation, and air conditioning (HVAC) systems. Because it is generally easier to optimize these efficient technologies into commercial office buildings (due to centralized HVAC systems and overall control of building operations and management), the efficiency targets for non-residential buildings are slightly more ambitious than for residential construction (multi-family and single-family buildings).

***Policy 3 (P1.3):** Reduce the amount of carbon produced from energy use from buildings, using source energy as the standard measure*

There are two ways to measure total energy use in buildings. "Site" energy is defined as

the amount of energy (electricity, natural gas, and fuel oil) consumed by a building as reflected in the property's utility bills.

"Source" energy represents the total amount of raw fuel that is required to operate the building (i.e., fuel used to generate electricity at the power plant, as well as natural gas and fuel oil burned on site). Thus, the source energy calculation incorporates all the transmission, delivery, and production losses involved in generating and delivering the electricity to the building. Source energy calculations provide a more complete assessment of a building's energy costs and carbon emissions. Throughout this Plan it is source energy, not site energy, that is the reference point.

The amount of greenhouse gas attributable to a building is directly related to the types of fuel used to heat, cool, and power the building. The factors that contribute to a building's carbon generation due to energy use include: 1) The type of fuel(s) used to provide the building's electricity, e.g., coal, natural gas, nuclear, and/or renewable energy; and 2) How much of a fuel source's total energy potential is actually used by the building for heating, cooling, and electricity.

Reducing the carbon emissions associated with buildings can be achieved in several ways. First, using lower carbon fuels at the

power plant, e.g., switching from coal to natural gas, reduces the overall carbon generated by electricity production across the grid.

Second, selecting building equipment (furnaces, boilers, etc.) based on energy efficiency and fuel source impacts carbon emissions from building operations. For example, buildings that heat and/or cool using natural gas generate fewer carbon emissions than buildings heating and cooling with electricity. Also, renewable systems, such as solar photovoltaic arrays and solar hot water systems generate carbon-free electricity and hot water onsite.

Finally, generating power specifically for a building onsite with a combined heat and power (CHP) system nearly eliminates transmission losses and allows the use of residual heat for building heating and cooling. This can be established on an individual building basis or on a broader community basis by developing a local district energy system. CHP and district energy systems can operate using lower carbon fuels, e.g., use of biomass and solar thermal energy in the St. Paul (MN) district energy system, thus reducing carbon emissions further.

District Energy

Goal 2 (G2): Increase local energy supply and distribution efficiency in Arlington using district energy

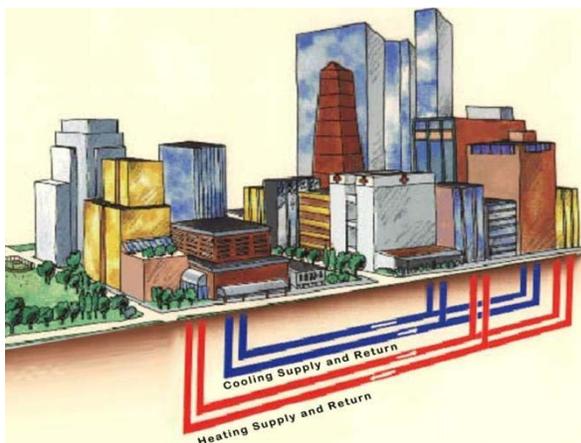


Figure 6: Conceptual Layout of a District Energy System

Policy 1 (P2.1): Facilitate the installation and use of district energy in areas with the highest probability for district energy (DE). Have at least 450 megawatts¹ (MW) of District Energy and 104 MW of Combined Heat and Power² (CHP) by 2050.

Policy 2 (P2.2): Plan and build infrastructure in appropriate locations to facilitate district energy distribution and future connections

District energy systems allow for the efficient use of the heat from local CHP generation, greatly reducing the fuel waste normally associated with making electricity. As shown previously in Figure 3, approximately 65% of the energy involved in electric generation

¹ Peak connected load of buildings measured over a given calendar year

² Design electrical capacity of cogeneration equipment. This could also include the development of combined cooling heat and power (CCHP).

and distribution is lost before it arrives at a home or commercial building.

By using district energy to share hot and cold water created as a by-product of locally-created electricity, Arlington County strives to increase its energy system efficiency in areas with DE from 30% to 80% or better. By using district energy, Arlington not only gets more energy per dollar, it would also benefit from redundant, reliable sources of energy. CHP has the potential to provide a net global and regional reduction in GHG emissions by increasing the local production of electricity. (It should be noted, however, that local energy production has some local emissions associated with it).

There are a few buildings in Arlington County that are connected in order to share heating and cooling resources. However, Arlington County's goal is to build district energy at a broad scale, connecting a large number of buildings in a district energy system. To facilitate this, many things need to occur. For instance, a local district energy entity (DEE) is needed to operate and maintain local district energy systems (DES). There are many possible forms of DEE ownership in the Commonwealth of Virginia including 100% public, 100% private, or a public-private arrangement, and it remains to be seen what the Arlington DEE ownership structure would look like.

District energy systems require pipes to be installed underground to convey hot and cold water to customer buildings. The County is in a unique position to plan and coordinate pipe installation with other county projects. This plan, and the installation of pipes underground, will help facilitate the creation and installation of district energy systems in Arlington.

Renewable Energy

Goal 3 (G3): Increase locally generated energy supply through the use of renewable energy options

Policy 1 (P3.1): Become a solar leader with installation and use of 160 megawatts (MW) of solar electricity by 2050.

Policy 2 (P3.2): Increase the use of renewable energy technologies in the public, private, and non-profit sectors.

The use of renewable energy, particularly solar photovoltaics (solar electricity) and solar water heating (solar thermal) can reduce operating costs for businesses and homes. Solar energy contributes zero greenhouse gas emissions. In addition, since solar photovoltaics (PV) generate electricity largely coincident with summer cooling demands, the use of solar PV helps reduce the summer peak demand for electricity.

Many technology options could lead to shaving peak electric demand, such as thermal energy storage and solar PV. In addition to horizontal rooftop systems, solar PV can also reduce peak electric demand when mounted on vertical south- and west-facing facades. At today's PV panel efficiencies, generating 160 MW would require about 14 million square feet of surface area; however, solar panel efficiencies are improving rapidly and the surface area needed for this target will likely be smaller. Arlington's buildings

provide ample opportunities for mounting solar PV in a variety of configurations, both horizontal and vertical.

For sense of scale of power output, according to Dominion Virginia Power, the 'average' residential customer has a peak demand of about 4 kW. Therefore, 160 MW is equivalent to the peak power needs of about 40,000 households. However, much of the solar PV installations are likely to be on larger, multistory buildings, where large roof and wall surfaces are available and unobstructed by trees and other shading.

In addition, the County provides density bonuses to support the use of various renewable energy technologies, including solar thermal water and space heating systems, and increased use of daylighting in architecture. Small-scale wind power generation is generally not effective in Arlington, but advances in technology may make that more feasible, and the County will help remove barriers that may exist to its use.

Transportation

Goal 4 (G4): Refine and expand transportation infrastructure and operations enhancements

Policy 1 (P4.1): Reduce the amount of carbon produced from transportation to 1.0 mt CO₂e/capita/year by 2050. Milestones include (vs. 3.7 mt in 2007):

- **2020:** 2.7 mt CO₂e/capita/year
- **2030:** 2.0 mt CO₂e/capita/year
- **2040:** 1.7 mt CO₂e/capita/year

Reducing Arlington's transportation-related carbon emissions from 3.7 to 1.0 mt CO₂e/capita/year by 2050 represents a 73% decrease in CO₂ emissions from transportation sources. This may seem like an ambitious target, but if vehicles drove 20% less, were 75% more fuel efficient, and used fuels that produced 30% less carbon by 2050 it could be achieved.

Arlington County has been and continues to be a national leader in transit oriented

development and increasing transportation efficiency. Many of the CEP transportation sector strategies and tools track closely with the County's Master Transportation Plan (MTP). For instance, Goal #2 of the MTP, *Move More People Without More Traffic*, seeks to reduce the number of single-occupant-vehicle trips by providing residents and workers with more travel choices, such as transit, walking, bicycling, carpooling, and telecommuting.

In addition, transportation fuels (e.g., gasoline, diesel, natural gas) contain differing amounts of carbon, sometimes referred to as the fuel's carbon content. Each fuel type has different carbon content. When fuel is burned, the carbon turns into CO₂, which is a greenhouse gas. The lower the carbon content of a fuel, the fewer greenhouse gas emissions it produces. The new Corporate Average Fuel Economy (CAFE) standards will nearly double vehicle fuel economy by 2025 to 54.5 miles per gallon. All else being equal, the new standard will reduce oil consumption and greenhouse gas emissions.

County Government Activities

Goal 5 (G5): Integrate CEP goals into all County Government activities

Policy 1 (P5.1): Reduce County government CO₂ emissions by 76% by 2050, compared to 2007 levels, and improve energy security throughout County operations. Milestones include:

- **2020:** 25% below 2007 CO_{2e} level
- **2030:** 42% below 2007 CO_{2e} level
- **2040:** 59% below 2007 CO_{2e} level

Policy 2 (P5.2): Integrate Community Energy Plan policies into County planning, policy development, and other activities

Policy 3 (P5.3): Take advantage of CEP implementation to ensure Arlington's long term economic competitiveness

Arlington County recognizes the need to institutionalize the changes recommended in the CEP. In fact, the County believes that County government should lead the way in CEP implementation. Doing so will require work across all County departments and with numerous partners throughout the community.

To ensure that County government is adequately implementing the energy plan, all County departments will need to incorporate energy considerations into policy development, project planning, and other processes. For instance, the annual budgeting process and the biennial Capital Improvement Program process should indicate how they relate to CEP implementation. In addition, the annual legislative agenda will need to reflect the priorities of the County in implementing the CEP. The County will also need to partner with other jurisdictions and regional organizations to proactively address energy issues affecting the region.

Implementation of the CEP will result in more reliable energy supplies at more stable prices, which will position Arlington well for businesses in the future. In addition, a number of innovative companies are already working in the clean energy sector in Arlington. Implementation of the CEP will help define Arlington as a center of excellence in energy issues, and attract firms consistent with Arlington's vision for a healthy business environment for 'smart jobs.'

Education and Human Behavior

Goal 6 (G6): Advocate and support personal action through behavior changes and effective education

Policy 1 (P6.1): Engage and empower individuals to reduce energy use

Policy 2 (P6.2): Enhance level of professional expertise and work force in the community related to energy

Policy 3 (P6.3): Ensure recognition of extraordinary efforts made to help the community reach the CEP goals

To achieve the CEP's ambitious energy and carbon emissions targets, Arlington County must engage, educate, and empower the community to take personal action to reduce energy usage. New technologies, more efficient buildings, cleaner sources of energy, and more efficient and cleaner sources of transportation continue to be made available, but individuals must embrace these new opportunities for Arlington to realize its full energy potential. To reach Arlington's diverse population, education and outreach efforts will be needed using a number of different methods involving person-to-person contact, social and print media, and a variety of effective messaging.

Because the vast majority of buildings in the County are privately owned, education plays a crucial role in encouraging building owners and managers to make energy upgrades and improve behavior. Similarly, while the County continues to improve its

transportation options, residents must increasingly take advantage of these options. Finally, in addition to the short-term energy savings, educational efforts will help yield longer-term benefits by helping build support for future energy policies and the CEP.

Residential buildings account for over one-quarter of building energy demand in Arlington. The County must ensure its residents are aware of the energy savings opportunities that are available to meet its ambitious targets and to help residents save on their energy bills. Education efforts are especially important because behavioral changes and no- and low-cost improvements can have a sizable impact on residential energy usage.

Arlington's business community and workforce must be prepared to meet a growing demand for energy improvements, and to do so our skilled workforce must be equipped to facilitate energy improvements. As such, the County must ensure that workers receive adequate energy training.

While Arlington's energy and carbon dioxide goals are achievable with existing technologies, there is always opportunity for innovation. The County must continue to recognize those who are innovative and make outstanding efforts to address energy issues. Providing appropriate recognition for successful innovation and implementation will help to ensure that energy generation, transmission, storage, and use continue to be in the forefront of public understanding.

GLOSSARY OF TERMS

The following is a summary of selected terms and abbreviations used in the Community Energy Plan; the list is not exhaustive. In some cases, terms are defined in the body of the text and may not be repeated here

Term	Definition
Air Pollutants	In addition to greenhouse gases, these include sulfur dioxide (SO ₂), nitrogen oxide (NO _x), hydrogen chloride (HCl), hydrogen fluoride (HF), carbon monoxide (CC), and non-methane volatile organic compounds (NMVOC).
Btu	British thermal unit (BTU or Btu) is a unit of energy defined as the amount needed to heat one pound of water one degree Fahrenheit. For the purposes of the Community Energy Plan, 1,000 Btus are labeled kBtu, while 1,000,000 Btus are labeled MM Btu.
Building Code	Legally required construction practices.
Carbon Dioxide	(CO ₂) The most common greenhouse gas, carbon dioxide is produced in large amounts when fossil fuels are burned. Worldwide, over 70% of man-made greenhouse gas emissions are from the use of energy; in Arlington, over 98% of our GHG emissions are from the use of energy..
Carbon Dioxide Equivalent	Where the “e” in CO ₂ e is used to denote the term “equivalent”: Greenhouse effect of the other five greenhouse gases identified in the Kyoto Treaty expressed in equivalents of carbon dioxide. This unit of measure is used to allow the addition of or the comparison between gases that have different global warming potentials (GWPs). Since many greenhouse gases (GHGs) exist and their GWPs vary, the emissions are added in a common unit, CO ₂ e. To express GHG emissions in units of CO ₂ e, the quantity of a given GHG (expressed in units of mass) is multiplied by its GWP.
CHP	See “Cogeneration.”
Clean and Renewable Energy	This phrase is used to indicate some combination of renewable energy and cogeneration (CHP) energy sources.
CO₂	See “Carbon dioxide”
CO₂e	See “Carbon dioxide equivalent”
Cogeneration	Generating electricity in such a way that most of the heat produced is also used purposely, such as space heating or generating chilled water . A common definition is that an average minimum overall fuel efficiency of 70% is expected. Peak efficiency would typically exceed 90%. Also known as “CHP.”

Combined Heat and Power	See “Cogeneration.”
Commercial Buildings	Non-residential buildings; often owned or operated by for-profit entities, including offices, retail stores, restaurants, and warehouses..
Community Energy Project	Project that led to the CES Task Force Report and now this Community Energy Plan that provides high-level goals and policies for energy generation, distribution, storage, and use in the greater Arlington community from now to the year 2050.
Daylighting	Designing buildings to maximize the use of natural daylight to reduce the need for electricity.
DEE	See “District Energy Entity”
District Cooling	Cooling services delivered via district energy systems.
District Energy	Networks that deliver heating or cooling to energy consumers carried through the medium of chilled or hot water, or (in older systems) steam. Heating and cooling is transferred to the home or buildings via a heat exchanger.
District Energy Entity	While individual buildings that are customers in a district energy network are owned by property owners and developers, a District Energy Entity (DEE) would operate and maintain the district energy network, i.e., the horizontal infrastructure of district energy piping and equipment. The DEE can also wholly or partially own the district energy network and can be publicly owned, privately owned, or a public-private partnership.
District Heating	Heat services delivered via district energy systems.
ENERGY STAR®	Joint U.S. Environmental Protection Agency and U.S. Department of Energy programs http://www.energystar.gov/ supporting energy efficiency as a cost-effective way to reduce greenhouse gas emissions in home, buildings, industry and equipment.
EU	European Union
EV	Electric Vehicle
Fossil Fuels	Combustible material obtained from below ground and formed during a geological event. For purposes of the Community Energy Plan, examples of such fuels include coal, oil and natural gas.
GHG	See “Greenhouse Gases”

Greenhouse Gases	A greenhouse gas absorbs and re-radiates heat in the lower atmosphere, trapping heat on Earth that would otherwise be radiated to outer space. The main greenhouse gases are carbon dioxide (CO ₂), methane (CH ₄), chlorofluorocarbons (CFCs) and nitrous oxide (N ₂ O), sulphur hexafluoride (SF ₆), hydrofluorocarbons (HFC) and perfluorinated carbons (PFC). The most abundant greenhouse gas is carbon dioxide (CO ₂).
IECC	International Energy Conservation Code - a model energy building code produced by the International Code Council (ICC). The code contains minimum energy efficiency provisions for residential and commercial buildings, offering both prescriptive- and performance-based approaches. The code also contains building envelope requirements for thermal performance and air leakage. Primarily influences US and Latin American markets.
Institutional Buildings	Nonresidential buildings generally owned by public administration, education, public or private healthcare facilities and other not-for-profit entities.
kBtu	See “Btu”
Kilowatt	A unit of power equal to 1,000 watts.
kW	See “Kilowatt”
Megawatt	A unit of power equal to one million watts.
Metric Ton	Unit of weight equal to 1,000 kilograms. Often used in the Community Energy Plan as a measure of greenhouse gas emissions. 1 mt = 1.102 US ton.
mt	See “Metric Ton”
MW	See “Megawatt”
Per Capita	For each person in the total population being considered; generally referred to as a resident.
PV	See “Solar Photovoltaic Systems”
Renewable energy	Energy generated from sources that are naturally occurring and replenishable through natural forces over a short period of time, most commonly sun, wind, water and various animal and plant derived fuels.
Site Energy	See “Source Energy”
Solar Photovoltaic Systems	Systems that directly convert sunlight into electricity either for use locally or for delivery to the electric grid.
Solar Thermal (water heating) Systems	Systems that directly convert sunlight into heat, generally for domestic hot water though they can also be used to produce space heating.

Source Energy	The total amount of raw fuel that is required to operate an energy-using device or facility. Source energy includes all transmission, delivery, and production losses, thereby enabling a complete assessment of energy efficiency in a building. On the other hand, "Site Energy" is the amount of heat and electricity consumed by a building as reflected in utility bills.
Sustainability	Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.
TOD	See "Transit-Oriented Development"
Transit-Oriented Development	Land development that takes into account transportation choices as a means of reducing oil and other energy use. Typically it would combine public transit with walkable, mixed-use communities, and approaches to minimize the impact of individual vehicles and commuting.

DRAFT



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Arlington County Community Energy Implementation Framework (DRAFT)



Arlington County

Community Energy Implementation Framework

TABLE OF CONTENTS

Introduction	1
Goal: Increase the energy and operational efficiency of all buildings	3
Goal: Increase local energy supply and distribution efficiency in Arlington using District Energy (DE)	9
Goal: Increase locally generated energy supply through the use of renewable energy options	13
Goal: Refine and expand transportation infrastructure and operations enhancements	16
Goal: Integrate CEP goals into all County Government activities	20
Goal: Advocate and support personal action through behavior change and effective education	23
Glossary of Terms	26
Appendix A: Arlington Energy Density Map	30
Appendix B: Tools Matrix	31
Appendix C: Leading Local Efforts To Reduce Greenhouse Gas Emissions	46

Introduction

The Community Energy Implementation Framework (CEIF) establishes the framework by which the County intends to implement the comprehensive, long-term Community Energy Plan (CEP). The CEP, which is the Energy element of the County's Comprehensive Plan, describes the County's broad energy goals and policies of a sustainable community over the next thirty to forty years. The CEIF complements the CEP by describing the strategies the County intends to execute to implement the CEP and tools that the County will consider utilizing to do so.

Many stakeholders were involved in creating the CEIF, as they were in developing the County's Community Energy and Sustainability Task Force Report and CEP. These points of view ensured the CEP and CEIF are guided by the principles of economic competitiveness, energy security, and environmental commitment. In several cases, the CEP and CEIF reflect these principles in ways that are complementary and mutually reinforcing.

Since the CEIF strategies and tools span across private, public, and non-profit sectors and touches on the CEP goal areas, CEP implementation will take coordination and partnerships among stakeholders.

This document is best understood when read with the CEP document. The Implementation Framework has been organized into the same six goal areas as the CEP document to help the reader connect the dots between

the County's energy Goals, Policies, Strategies and Tools.

This document defines those four terms as follows:

Goals are the six primary areas around which the County will implement the Community Energy Plan and form the basis of the CEP and CEIF;

Policies are the statements of intent or commitments made by County leadership governing the implementation of the CEP-related projects. Policies are explained in detail in the CEP, whereas in the CEIF the policies are provided in summary format for context;

Strategies, explained in the CEIF, represent an implementation of policy and should evolve over time as new tools emerge, new processes are designed, and the benefits and risks associated with a concept change in response to changes internal or external to the County; and

Tools provide the mechanisms to carry out the strategies. Examples of existing and potential tools are explained in the text of the CEIF and a longer list of tools is summarized in Appendix B of the CEIF. However, neither list of tools is intended to be exhaustive or prescriptive; they are an illustrative set of examples of how the strategies could be accomplished. The tools described herein will require the application of resources—whether human or capital—to realize the CEP's goals.

In some cases, new legislative or regulatory authority will be required. As a “Dillon’s Rule” state, Virginia must grant enabling authority before local legislation is allowed. Virginia may not have expressly given the authority to Arlington and other local jurisdictions to implement some of the CEIF recommendations. Staff will identify regulatory and/or legislative authority needed to enable the County to implement the CEIF.

This document contains two types of tools: existing, which are currently available but in some cases could be expanded or updated, and potential, which are included as an illustrative set of examples of what could be used to help achieve the Community Energy Plan’s goals. Implementing each potential tool (or expanding or updating existing tools) will require further project planning by County staff in coordination with other stakeholders; these project plans will be developed as necessary as tools are judged to be viable and desirable.

Broadly, the County will follow a prioritization framework (see Figure 1) for the development and deployment of specific tools. This framework will help in funding and other decision-making related to strategies and tools.

Appendix C of this document provides detailed examples of how cities around the U.S. and internationally have developed and implemented the strategies and tools that Arlington may consider.

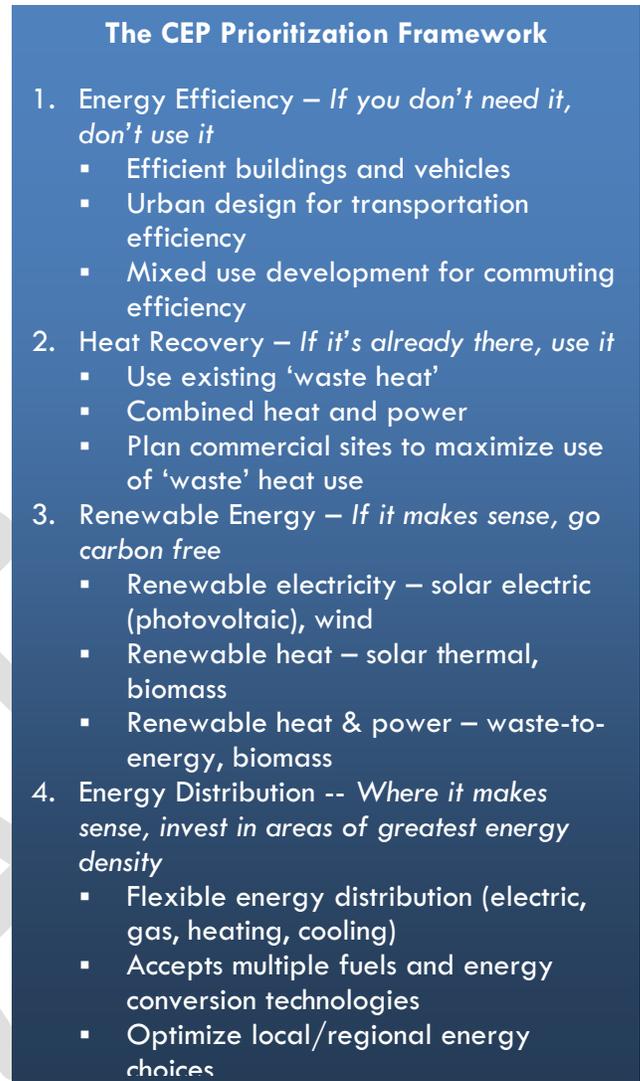


Figure 1: Arlington’s Energy Planning Priorities

Goal 1 (G1): Increase the energy and operational efficiency of all buildings

Policy 1 (P1.1): By 2050, the residential building stock should use 55% less energy on average (per square foot) as compared to 2007 levels of energy use (63 kBtu per square foot). Milestones include:

- **2020:** 5% less on average than 2007 levels
- **2030:** 25% less on average than 2007 levels
- **2040:** 40% less on average than 2007 levels

Policy 2 (P1.2): By 2050, the non-residential building stock should use 60% less energy on average (per square foot) as compared to 2007 levels of energy use (98 kBtu per square foot). Milestones include:

- **2020:** 5% less on average than 2007 levels
- **2030:** 25% less on average than 2007 levels
- **2040:** 45% less on average than 2007 levels

Policy 3 (P1.3): Reduce the amount of carbon produced from energy use from buildings, using source energy as the standard measure

Residential and non-residential buildings currently use about three quarters of all energy in Arlington. 26% is consumed by residential homes and 53% is used by commercial buildings. The single largest improvement that can be made to ensure the County meets its greenhouse gas emission reduction goals will be to increase the overall energy efficiency in the construction and operation of buildings. Reducing energy use can also reduce utility costs for businesses and residents. Strategies to reduce energy use in buildings must address both the new and existing building stock to achieve the CEP's goals of economic competitiveness, energy security, and reducing GHG emissions from this critical sector.

Strategies

Strategy 1 (S1.1): Take advantage of the renovation process to encourage buildings to reduce energy use by 30-40% on average compared to 2007 levels of energy use

The majority of buildings in place today will still exist in 2050. It is critical that the

existing building stock be made more efficient through energy specific retrofits or as part of planned renovations. Given current rates of renovation (generally, about 2-3% of buildings and homes are renovated each year) all of Arlington's building stock will be expected to be either renovated or replaced by 2050.

Efficiency after renovation will come from a combination of efficient reconstruction, improved operation, and more efficient equipment including furnaces, chillers, water heaters, controls, appliances, computers, office equipment and lighting. In many cases, improved operations through controls, combined with equipment changes, can achieve the recommended targets without the need to significantly alter the envelope of the home or buildings. Occupant and contractor awareness and training should be key factors in renovation efficiencies.

Strategy 2 (S1.2): Encourage new buildings to be designed, constructed, and operated more energy efficiently

Strategy 3 (S1.3): Ensure compliance with energy efficiency code provisions

New buildings must meet increasingly stringent energy efficiency standards. Incorporating high performance construction practices and energy efficiency equipment and materials into new construction within evolving building codes will help ensure that existing and new buildings meet stringent energy efficiency standards.

Although not yet adopted in Virginia, it is anticipated that by 2015, the state building code will incorporate the International Energy Construction Code 2012 (IECC), which significantly increases the energy efficiency requirements for construction. The 2012 IECC is a critical tool that will help ensure that new and renovated buildings achieve Arlington's energy efficiency goals. The 2012 IECC will require more insulation, a tighter building envelope, tighter air ducts, better windows, and more efficient lighting than the 2009 code in both new and renovated homes and buildings.

Enforcement of the new code is critical to achieving building energy efficiency. Adequate enforcement will require comprehensive training of County building code officials. Developers, builders, architects, engineers, and other building industry professionals will need to be trained on the new requirements outlined in the code as well. The building permit and inspection process provides multiple opportunities for checking compliance with energy codes, but as energy technologies evolve, the technical complexity of efficiency codes can make compliance checks more difficult unless plan reviewers and field inspectors have the relevant training. Ensuring staff have the advanced knowledge to effectively ensure energy compliance is critical for achievement of the CEP goals.

In addition to an updated building code, other efforts are underway to support high performing buildings with ever greater emphasis on energy efficiency. The International Green Construction Code (IgCC) has been developed as an overlay to

the existing building code, including the IECC. The IgCC is a holistic approach to construction and includes comprehensive sustainable components for high performing buildings. The IgCC can be used for existing and new construction. Many government agencies and private organizations provide standards and guidelines to help building owners achieve better-than-code energy performance. Arlington's Green Home Choice program, Energy Star for Homes, Passive House, and net-zero standards and the National Association of Homebuilders National Green Building Program, all focus on making residential buildings 30% more efficient than current code. For commercial buildings, ASHRAE has developed the Advanced Energy Design Guides, which set targets of 30-50% better than ASHRAE 90.1, while the US Green Building Council's LEED green building program includes standards that would exceed code efficiency by 30% or more.

Strategy 4 (S1.4): Take advantage of incentives to reduce new and existing building energy usage

Although many energy efficient components and construction methods are low- to no-cost, builders and owners seek resources to cover any additional up-front costs of more efficient equipment and materials. The County continues to analyze the market needs and provides access to incentives wherever possible. Some financial assistance is readily available through Energy Star's tax rebates for energy efficient appliances, rebates for solar installations, and the County's green building density incentive program. Other programs need to be developed. For example, a local Property-Assessed Clean Energy (PACE) financial incentive program would provide for financing of energy efficiency upgrades. This PACE loan would be repaid as a line item on the property tax bill over a number of years. Another potential incentive program could be developed to spur the building of numerous super-efficient

residential housing units using Passive House or net-zero standards.

Strategy 5 (S1.5): Ensure equitable access to and use of energy efficiency and incentives programs for all income levels

It is vital that incentive programs for energy efficiency and clean energy are available to people at all income levels in the County. Incentives to encourage affordable housing developers to adopt energy efficiency technology are available through the Virginia Housing Development Authority (VHDA). New incentive programs will be continually evaluated and promoted for use in the County.

Strategy 6 (S1.6): Use the special exception development process to create more energy-efficient buildings

The County's special exception development process provides a valuable opportunity to create more efficient buildings. The Site Plan negotiation process is used to advance public goals for transportation, green buildings, and other public benefits. Voluntary agreements with developers can be used to gain improvements in the energy performance of new buildings that might not otherwise be pursued.

Strategy 7 (S1.7): Promote widespread use and display of EPLs

The County has already begun to install energy performance labels (EPLs) in public buildings. EPLs provide a means of rating individual buildings of any type on how efficient or inefficient they are in relation to the amount of energy needed to provide users with expected degrees of comfort and functionality. For existing buildings, EPLs attest to the energy performance of a building, and provide information that may increase demand for more efficient buildings, thereby helping to improve the energy efficiency of the building stock in the County. While the County has led by example in the public building sector, the

next steps include working together with private sector building owners to get voluntary adoption of a private sector EPL.

Strategy 8 (S1.8): Encourage the use of lower carbon fuels, both onsite and for electricity generation

The amount of GHG attributable to a building is directly related to the types of fuel used to heat, cool, and power the building. The factors that contribute to a building's carbon generation due to energy use include:

- The type of fuel(s) used to provide the building's electricity, e.g., coal, natural gas, nuclear, and/or renewable energy; and
- How much of a fuel source's total energy potential is actually used by the building for heating, cooling, and electricity.

In buildings, "site" energy is defined as the amount of heat and electricity consumed by a building as reflected in utility bills. "Source" energy represents the total amount of raw fuel that is required to operate the building and incorporates all transmission, delivery, and production losses involved in the process of generating and delivering the electricity to the building. Thus, source energy calculations provide a more complete assessment of a building's energy costs and carbon emissions.

Reducing the carbon emissions associated with buildings can be achieved in several ways. Using lower carbon fuels at the power plant (switching from coal to natural gas, for example) reduces the overall carbon generated by electricity production across the grid. Generating power specifically for a building onsite with a combined heat and power (CHP) system nearly eliminates transmission losses and allows the use of residual heat for building heating and cooling. This can be established

on an individual building basis or on a broader community basis by developing local DE systems. CHP and DE systems can operate using lower carbon fuels (e.g., natural gas, biofuels) thus reducing carbon emissions further.

Selecting building equipment (furnaces, boilers, etc.) based on energy efficiency and fuel source impacts carbon emissions from building operations. For example, buildings that heat and/or cool using natural gas generate fewer carbon emissions than buildings heating and cooling with electricity. Finally, renewable systems, such as solar photovoltaic arrays and solar thermal systems can generate carbon-free electricity and hot water onsite.

Strategy 9 (S1.9): Steadily reduce energy intensity (i.e., increase energy efficiency) in County and Arlington Public Schools (APS) buildings and operations

To fully realize the goals of the CEP, sharp reductions in GHG emissions from County operations will be required. It is essential for the County to methodically improve energy efficiency throughout its buildings and operations. This involves planning, data gathering, and investments in more efficient technologies and processes in building envelopes, building equipment, automatic control technologies, and continued improvements at water pumping and wastewater treatment facilities.

Existing Tools

Better Buildings Challenge – The Better Buildings Challenge, a U.S. Department of Energy (DOE) Presidential leadership initiative,¹ aims to boost job creation through investments in energy efficiency to improve the energy performance of commercial and institutional buildings by 20% by 2020. The program will catalyze private sector investment through a series of incentives to

¹<http://www4.eere.energy.gov/challenge/>

upgrade offices, retail establishments, schools, municipal buildings, universities, hospitals, and other commercial buildings. Technical assistance and peer-to-peer collaboration and problem solving are key components of the program. Arlington County joined as a Partner in October 2012, to focus energy efficiency efforts on its own buildings and to encourage private building owners in the County to join as well.

Community planning guidance – Arlington involves the community in the development of various types of community planning guidance. Sector, Area, and Revitalization Plans are guidance documents that provide a refined vision for future development in specific areas of the County. These plans include details for street improvements and public spaces, urban design guidelines, and direction regarding private sector development in various levels of detail. Revitalization Plans typically emphasize the economic revitalization needs of an area and provide specific recommendations on economic and incentive tools for implementation. Neighborhood Conservation Plans are prepared and developed by organized citizen groups. These plans generally address issues of neighborhood land use and zoning, traffic management, capital improvements, parks, and community facilities, etc. These various community planning documents could be used to guide energy efficient development and infrastructure.

Site plan development process – Arlington's special exception site plan process allows negotiation with developers to ensure projects meet CEP goals. In conjunction with the green building density incentive program, an enhanced site plan review process allows integration of CEP strategies into proposed projects. For example, the site plan condition "LEED Credits and Sustainable Design Elements" rewards builders who incorporate sustainable design principles and improved energy efficiency into their buildings. In

addition to improving building energy efficiency, the site plan process provides an opportunity to discuss the benefits of and opportunities for installation of energy efficient 4-pipe hydronic heating and cooling systems that will be ready to connect to future district energy systems.

LEED green building bonus density incentive – Arlington County's green building bonus density incentive program offers site plan developers the opportunity to incorporate additional density in a building in exchange for proven environmental improvements, including energy and water efficiency, site and landscape management, materials selection, solid waste management, and indoor air quality. The program uses the US Green Building Council's LEED® (Leadership in Energy and Environmental Design™) Green Building Rating System to measure compliance. The program was recently updated to align with the greenhouse gas reduction goals outlined in the Community Energy Plan and now requires higher LEED scores and minimum energy efficiency modeling in order to receive the bonus density. Projects may also request a small amount of additional density in exchange for a commitment to achieve LEED for Existing Buildings Operations and Maintenance or ENERGY STAR building certification after occupancy.

Energy Star – EPA's Energy Star program is a broad based program offering guidance on appliances, electronics, home construction and commercial construction to ensure energy efficiency. Energy Star also offers Portfolio Manager software to help building owners track energy use. Arlington uses Portfolio Manager to track its own buildings, and encourages the private sector to do the same. Buildings that achieve a specific level of energy efficiency as compared to other similar buildings earn the Energy Star label. In addition to recognizing high performing buildings, Energy Star's program encourages continuous energy improvements in buildings.

Lighting retrofit rebate for commercial properties – Arlington County Government, in partnership with the Virginia Sustainable Buildings Network, offers rebates to commercial customers for specific energy efficient lighting installations and retrofits. This rebate program provides an opportunity for customers to replace outdated and inefficient fixtures with new lighting technology and bulbs to save energy and money. The rebate program is available to those served by a commercial electricity rate.

The Local Energy Alliance Program (LEAP) – LEAP provides technical assistance, a financial incentive, and unique financing options to homeowners who improve the energy efficiency of their existing single family homes by at least 20%. LEAP coordinates the completion of an energy audit and works with property owners and residents to make specific energy improvements (insulation, weatherization, HVAC equipment, windows, air sealing, etc) to create more comfortable homes and affordable living.

Energy Performance Labels (EPLs) in County Buildings – EPLs are posted in 38 County buildings including offices, community centers, libraries, and fire stations. Each label reports the amount of energy the building uses and the building's carbon footprint (lbs CO2 per sq. ft.) in comparison to averages for similar building types. The labels serve to educate the public about energy use in buildings and help motivate the building occupants to reduce energy use.

Training – Training can be useful in all sectors of the community, and should begin with K-12 curriculum and working through college and university courses, as well as advanced continuing education for professionals. Training will help expand knowledge on new techniques, technologies, and programs to ensure high performance

construction and improved energy efficiency. County plan reviewers and building inspectors should be trained as well to ensure expected energy performance.

Potential Tools

Updated State Building Code – The International Code Council has proposed an updated national model energy code known as the International Energy Conservation Code (IECC 2012). The proposed IECC 2012 raises energy efficiency standards by approximately 30% over the IECC 2006. The code achieves this goal by setting minimum requirements for energy efficiency in new buildings and additions/renovations in existing buildings. The code addresses improvements in building thermal envelope, lighting systems, air sealing, and heating and cooling systems. Arlington supports the adoption of the IECC 2012 by Virginia's Board of Housing and Community Development.

Building Energy Asset Rating – In contrast to operational energy performance ratings, which are based on actual energy use, building energy asset ratings evaluate the energy efficiency of a building's envelope and mechanical and electrical systems. This way, a building asset rating is independent of tenant behavior, building operating characteristics, and building management. The goal of asset ratings is to educate stakeholders and enable the real estate market to value energy performance in a manner that increases investments in energy efficiency. The U.S. Department of Energy is currently leading a national building energy asset rating process.²

Financial incentive programs – A variety of financial incentives are potential tools to increase investments in energy efficiency in buildings. These could include: tax incentives

from local government for demonstrated energy efficient performance; rebates from utilities, state, and local government for purchase and use of energy-efficient technologies in buildings; use of Property-Assessed Clean Energy (PACE) financing, whereby private loans for investments in energy efficiency upgrades or renewable energy are repaid through a lien placed on the real property and collected with real property tax collections; and the use of a local multi-sector cooperative (one-stop shop) that might package financing, efficiency upgrades, and local workers to implement measures to improve building performance.

Energy Performance Labels (EPLs) in private sector and Arlington Public Schools buildings – As noted, 38 County buildings have EPLs. The use of EPLs in privately-owned properties has the potential to raise awareness and adds an element of healthy competition for management.

Information Technology and 'Smart' Building Energy Management – Building automation and related IT control systems continue to improve in their ability to manage energy use. Real-time feedback, submetering, and dashboards for both building operators and occupants provide exciting new opportunities for substantial reductions in building energy use by turning off systems when they are not needed. Improvements in IT have made these systems more cost-effective than ever before, and are scalable from individual sites to enterprise-wide applications. The County plans to increase the use of these technologies in its own facilities, and can share lessons learned and best practices with the private sector.

See additional tools in Appendix B.

²http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-21310.pdf

Goal 2 (G2): Increase local energy supply and distribution efficiency in Arlington using District Energy (DE)

Policy 1 (P2.1): Facilitate the installation and use of district energy in areas with the highest probability for district energy (DE). Have at least 450 megawatts (MW) connected load of District Energy and 104 MW of Combined Heat and Power (CHP) by 2050.

Policy 2 (P2.2): Plan and build infrastructure in appropriate locations to facilitate district energy distribution and future connections

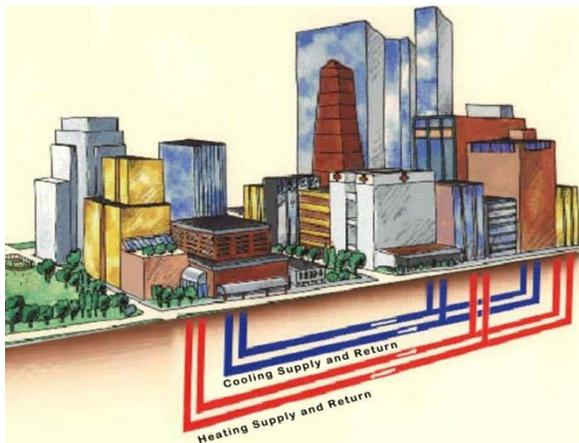


Figure 2: Conceptual Layout of a District Energy System

DE systems facilitate the efficient use of the heat from local CHP generation, greatly reducing the fuel waste normally associated with making electricity. Approximately 65% of the energy involved in electric generation and distribution is lost before it arrives at a home or commercial building. This contrasts with a 10% energy loss that occurs in the natural gas extraction and delivery system. Thus, valuable natural resources and fuel that has been paid for by the consumer is simply wasted in today's energy marketplace.

As noted in Appendix C, DE systems support energy efficiency and GHG emissions reduction goals in two fundamental and interrelated ways. First, by aggregating heating and cooling supply to multiple buildings, they optimize thermal energy efficiency, by as much as 20% in some settings. (Efficiency can be further increased

if the buildings connected to a DE system have diverse loads.) Second, the aggregation of buildings allows those that could otherwise not access lower-emission energy sources to do so on a more affordable basis.

By using pipes to carry a shared hot water resource that is created as a by-product of locally-created electricity, Arlington County strives to increase its overall energy system efficiency from 30% to 80% or better. District energy supports the vision of the CEP by reducing energy costs to customers, providing a more reliable, secure, and less volatile source of energy, and by reducing GHG emissions.

Strategies

Strategy 1 (S2.1): Create a District Energy Entity (DEE) to own a DE System

A DE system, like any other utility, requires a dedicated, reliable owner and operator. Before signing up for long term district energy contracts, potential customers want to know that they will be able to rely on the service promised by the DE system. The first step toward that end is to create the actual DE Entity (DEE).

DEE ownership structures vary worldwide. The four primary ownership options include:

1. 100% Publicly-owned, where the DEE would be owned and operated by the County as a Public Corporation delivering services on a commercial

basis, with any profits flowing to the County government.

2. *Public-private partnership*, where the DEE would be jointly owned by the County and private investors. Investments and profit sharing would be in proportion to the ownership shares.
3. *Investor-owned*, whereby the DEE would be owned entirely by private investors, effectively operating under license from the County to deliver DE services.
4. *Site-specific company-owned*, where a special purpose company would provide DE services specifically for a single site or campus.

Strategy 2 (S2.2): Build, operate and maintain DE systems as opportunities arise, and CHP systems as appropriate, in areas having the highest probability for DE

In parallel to considering the best ownership structure for a DEE, Arlington County will also consider the feasibility of DE systems in priority areas. This will include thermal only systems which provide heating and/or cooling, as well as CHP systems that also generate electricity. Systems that include power generation are able to achieve much higher efficiencies, provide a more stable source of on-site energy generation, and generate greater CO₂ savings.

Priority areas are those with highest energy density- the more energy dense an area is, the more likely that DE is economically feasible. See Appendix A for a map of energy density of neighborhoods in Arlington.

Arlington defines “as opportunities arise” and “as appropriate” through the three lenses of the CEP. For a project to be an “opportunity” or “appropriate”, it should be an improvement over status quo in economics, CO₂ emissions, and/or energy security.

Strategy 3 (S2.3): Encourage new and renovated buildings to have DE compatible systems in areas where DE has a high probability of success

Arlington will encourage developers of new and renovated buildings in energy dense areas to install DE-compatible heating and cooling systems. To be district heating- and cooling-compatible, a building must have both hydronic heating and cooling systems. This has two benefits. First, it ensures that developers will be able to enjoy the benefits of tying into future DE systems: lower costs, reduced energy usage and CO₂ emissions, and more secure and reliable energy. Second, DE-compatible heating and cooling systems help buildings improve their energy efficiency.

Strategy 4 (S2.4): Establish a process and guidelines for buildings to connect to DE Systems in areas where DE has a high probability of success.

Once a DEE and DE system(s) are in place, Arlington and/or the DE system should work to create a process and technical guidelines for buildings to connect to the DE system. Connection to a DE system can be difficult, time-consuming, or impossible for buildings that aren’t designed with DE in mind. Technical guidelines will help ensure that future buildings are able to tie into the system, allowing the DEE to bring in new customers more easily.

Strategy 5 (S2.5): Develop a DE infrastructure plan to facilitate DE distribution and future connections

Strategy 6 (S2.6): Coordinate the installation of DE distribution pipes and related infrastructure as appropriate

Implementation of DE is a logistically complicated process, and will require planning and coordination by the County. One particular challenge is the installation of

pipes to carry hot and cold water to customers. To this end, Arlington will develop a DE infrastructure plan. Additionally, the county may facilitate installation of DE pipes and related infrastructure as opportunities for coordination with other construction projects arise. Coordination can result in significant savings, since around 50% of the costs related to DE piping are associated with installation.

Strategy 7 (S2.7): Link DE/CHP to streetcar lines and other transportation infrastructure as appropriate

Arlington currently plans to install two streetcar segments, one in the Route 1 corridor and one running down Columbia Pike. Arlington will look into the feasibility and economic appeal of CHP systems providing power to these streetcars and other transportation infrastructure. Additionally, it may be possible to co-locate CHP plants and streetcar substations.

Strategy 8 (S2.8): Revise the Arlington County Code to reflect CEP goals

Certain policy directions pursued through the CEP may suggest revisions to the Arlington County Code for implementation. Such policies could include establishing an Energy Use Ordinance, or creation of Energy Overlay Districts in the zoning ordinance, as examples.

Existing Tools

Community planning guidance – Arlington’s Community Planning documents, detailed in the buildings section, are guidance documents that provide a vision for future development in specific areas of the County. These plans include details for street improvements and public spaces, include urban design guidelines, and offer direction regarding private sector development. As Arlington looks at district energy implementation, these documents can provide vision, detail, and data to help better understand DE feasibility.

Crystal City Integrated Energy Master Plan (CC IEMP) – An IEMP is a comprehensive plan defining the energy efficiency of construction, energy distribution and energy supply to achieve economic, environmental and other goals. Typically an IEMP would cover at least 15 years into the future and would apply to a neighborhood within Arlington County.

The County has conducted an IEMP in Crystal City. A presentation summarizing the findings of the Crystal City IEMP can be found [here](#). These results will help inform decision-makers on the viability of district energy in the study area, through the lenses of economic competitiveness, GHG reductions, and energy reliability and security. The study also discusses the next steps for creating a business plan and eventually establishing a district energy system in Crystal City.

EPA’s Combined Heat & Power Partnership – Arlington is a member of the EPA’s CHP partnership, which is a voluntary program that works with energy users, the CHP industry, state and local governments, and other clean energy stakeholders to facilitate the development of new CHP projects and to promote their environmental and economic benefits. It provides a number of resources, including information on funding, federal incentives, and best practices.

Potential Tools

County’s Horizontal Design Guidelines, district energy best practices, interoperability standards, and operations and maintenance plan – A host of guidelines and plans must be created to send a signal to the private sector that a DE system will in fact become a reality. These resources will also provide certainty to developers and landowners regarding where the system will be installed. These documents and others related to the system will provide the underpinnings for the system’s creation and

its operations and maintenance. Having these plans in place and being able to refer to them as other projects get underway in areas earmarked for DE can help optimize the process for DE infrastructure implementation.

Integrated Energy Master Plans (IEMPs) for Rosslyn, Columbia Pike, Courthouse, etc. – In addition to the Crystal City IEMP which was completed in 2012, the county will embark on IEMPs to understand the viability of district energy in other areas of interest. While Crystal City is the most energy dense

neighborhood in Arlington (energy density is a good indicator of DE viability, see Appendix A), Rosslyn is a close second and therefore a logical choice for the next IEMP. Columbia Pike is an attractive option because the planned streetcar is projected to bring redevelopment and growth along the corridor. The Courthouse area is home to a number of county buildings, so it may provide an opportunities for the county to “practice what it preaches” when it comes to district energy.

See additional tools in Appendix B.

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Goal 3 (G3): Increase locally generated energy supply through the use of renewable energy options

Policy 1 (P3.1): Become a solar leader with installation and use of 160 MW of solar electricity by 2050.

Policy 2 (P3.2): Increase the use of renewable energy technologies in the public, private, and non-profit sectors.

The use of renewable energy, particularly solar photovoltaics (solar electricity) and solar water heating (solar thermal) can reduce operating costs for businesses and homes. Solar energy contributes zero GHG emissions. In addition, since solar photovoltaics generate electricity largely coincident with summer cooling demands, the use of solar PV helps reduce the summer peak demand for electricity. To eliminate the summer peak demand for power and reduce overall GHG emissions, the County aims to have 160 MW of solar PV installed in the County by 2050.

In addition, the County supports the use of various renewable energy technologies in residential settings, including solar thermal water and space heating systems, and increased use of daylighting in architecture. Small-scale wind power generation is generally not effective in Arlington, but advances in technology may make that more feasible, and the County will help remove barriers that may exist to its use.

Strategies

Strategy 1 (S3.1): Increase renewable energy generation through incentives

Although the price of solar and other renewable energy technologies continues to fall, the deployment of solar is often hampered by relatively long returns on investment. Federal and State tax credits and rebates have been available for solar installations, but these programs and incentives are intermittent. In other states, well-established state and/or local incentives

have played an important role in the financial packaging of new renewable installations by reducing the risk of investment.

Arlington will promote existing Federal and state incentives, and join with others to advocate continuation or enhancement of these programs. In addition, Arlington will evaluate the costs and benefits of providing local grants or rebate funding for eligible renewable projects, to better leverage other programs. Furthermore, access to capital is often a restriction inhibiting investments in renewables. Arlington will pursue enabling means to increase access to capital through emerging programs like Property-Assessed Clean Energy Financing.

Strategy 2 (S3.2): Eliminate regulatory and legislative barriers to increase renewable energy production

In many states, Power Purchase Agreements (PPAs) have been essential to allow third-party investors to install and own large-scale solar photovoltaic systems on commercial, institutional, and government property. These 3rd party investors take advantage of Federal tax credits and accelerated depreciation to profit from these installations, while the host (property owner) benefits from stable electricity prices and lower-carbon energy. In addition, mandatory Renewable Portfolio Standards (RPS) in many states have been effective catalysts for cost-effective deployment of renewable energy projects, since the RPS creates a market for the environmental

attributes of the projects as well as the energy they generate.

PPAs are not permitted in Virginia under current law, as the PPA concept is contrary to the regulated monopoly structure in place in this state. Also, Virginia does not have a mandatory RPS. These two political realities have discouraged significant investments in renewables here. A key strategy for the Arlington CEP is to work with others to remove these barriers to private investments.

Strategy 3 (S3.3): Encourage the development industry to integrate renewable energy technologies and best practices into the development design process

Renewable technologies, especially solar photovoltaics, should be integrated into the project design process early on as opposed to adding the use of such technologies as an afterthought. Examples of building-integrated photovoltaics (BIPV) include vertical windows with photovoltaic substrates, and electricity-generating solar shingles for rooftops. Arlington will help build awareness of BIPV and related advanced technology options within the building design community through educational events and collaboration with other organizations.

Strategy 4 (S3.4): Partner with utilities to increase and optimize the use of renewable energy to create a more secure and reliable power grid

The proper installation and operation of individual solar PV systems do not interfere with electric utility service to others. There may be questions about the long-term effect on electric grid system performance with widespread use of PV, since extensive solar PV in this region is untried. Dominion Virginia Power has introduced plans for substantial installations of solar PV on a variety of electric circuits to test system performance. Partnering with the utility on

such projects is an important opportunity to advance the use of solar PV in Virginia.

Strategy 5 (S3.5): Encourage solar hot water and other renewable technologies

There is not general understanding of the benefits of solar and other renewable technologies, particularly concerning the weather-dependence of these energy sources. Arlington will promote understanding of the uses and limitations of solar and other renewables, so that users' results match reasonable expectations. There are many practical lessons to be learned from existing solar hot water, solar PV, and small-scale wind projects in Arlington and other nearby locations. In addition, the County will stay abreast of emerging technologies and applications for solar and other renewable technologies, and share these insights with the public on a routine basis, along with information on any and all financial incentives that may be available.

Existing Tools

Financial incentives – Federal tax credits equal to 30% of the installed cost of solar, wind, and fuel cell technologies are available for residential and commercial properties until December 31, 2016. These tax credits are a substantial incentive for the use of solar and other renewable technologies, including solar thermal for water heating. Promotion of this financial incentive, and advocacy for its extension beyond 2016, are important tools for the County toward its renewable energy goals.

Potential Tools

New regulatory language or enabling state legislation – Solar Power Purchase Agreements (SPPAs) are not currently allowed in Virginia. An SPPA is “a financial arrangement in which a third-party developer owns, operates, and maintains the photovoltaic (PV) system, and a host

customer agrees to site the system on its roof or elsewhere on its property and purchases the system's electric output from the solar services provider for a predetermined period. This financial arrangement allows the host customer to receive stable, and sometimes lower cost electricity, while the solar services provider or another party acquires valuable financial benefits such as tax credits and income generated from the sale of electricity to the host customer.”³

Allowing for SPPAs in VA could greatly increase the number of solar PV system installations.

Local financial incentives – State law gives localities the authority to exempt solar energy equipment from real property taxes. In practice, this exemption has provided no economic incentive because solar equipment is not assessed for tax purposes in the first place. However a new approach, modeled on a recent ordinance in Harrisonburg VA, could provide a meaningful local tax incentive for qualifying solar projects. Staff will examine local incentive options carefully during implementation of the Community Energy Plan.

See additional tools in Appendix B.

³<http://www.epa.gov/greenpower/buygp/solarpower.htm>

Goal 4 (G4): Refine and expand transportation infrastructure and operations enhancements

Policy 1 (P4.1): Reduce the amount of carbon produced from transportation to 1.0 mt CO₂e/capita/year by 2050. Milestones include (vs. 3.7 mt in 2007):

- **2020:** 2.7 mt CO₂e/capita/year
 - **2030:** 2.0 mt CO₂e/capita/year
 - **2040:** 1.7 mt CO₂e/capita/year
-

Although Arlington County has been and continues to be a national leader in transit oriented development and increasing transportation efficiency, the County plans to further decrease energy use in its transportation sector to help reach its 2050 CEP goals. Many of the CEP transportation sector strategies and tools track closely to the approved County's Master Transportation Plan (MTP). For instance, Goal #2 in the MTP, *Move More People Without More Traffic*, seeks to reduce the number of single-occupant-vehicle trips by providing residents and workers with more travel choices, such as transit, carpooling, walking, and bicycling.

Strategies

Strategy 1 (S4.1): Support MTP General Policies implementation: Reduce vehicle miles traveled by integrating transportation with land use, developing Complete Streets, and managing travel demand and transportation systems

The Arlington Master Transportation Plan (MTP) promotes effective travel and accessibility for the County's residents, workers, and visitors through the year 2030. It provides a policy framework to guide the development of projects and programs, advance the County's goals and objectives, and help direct investment. The MTP policies will affect how people travel, regardless of their mode of travel. As Arlington continues to grow, the MTP will play an important part

in determining how the County will accommodate that growth.

The CEP embraces and supports the MTP's General Policies. Implementing those MTP General Policies will help the County reach its CEP goals of strengthening the local economy, increasing energy supply security, and improving the County's long-term environmental commitment.

Strategy 2 (S4.2): Continue to support alternatives to car ownership and use

In alliance with the Center for Clean Air Policy recommendations, the County plans to use a multi-pronged approach to reduce transportation-related GHG emissions. This approach includes supporting alternatives to car ownership and use. Arlington will continue to manage the modal share distribution by focusing on denser development in the Metro corridors, and as has been the case for the past twenty years, the County will implement strategies that support transit, bicycle and pedestrian activity. The County will also continue to develop Complete Streets, high-capacity transit corridors, and transit-oriented development.

Strategy 3 (S4.3): Support Federal and State efforts to increase vehicle fuel efficiency

In late August 2012, the federal government finalized critical standards that will increase fuel economy to the equivalent of 54.5 miles per gallon (mpg) for cars and light-duty

trucks by Model Year 2025. The historic standards issued by the U.S. Department of Transportation and the U.S. Environmental Protection Agency build on the success of the standards for cars and light trucks for Model Years 2011-2016. Those standards raised average fuel efficiency by 2016 to the equivalent of 35.5 mpg. Such changes help reduce GHG emissions, reduce vehicle owners' vehicle fuel bills, and strengthen our national energy security. Arlington will continue to support these and other efforts at other levels of government to reduce the transportation sector's impact on energy use.

Strategy 4 (S4.4): Increase the fuel efficiency of County and Arlington Public Schools fleets

Arlington will continue to exert its direct influence over the fuel efficiency of County vehicles, school buses, ART buses and taxicabs. Arlington was the first local government on the East Coast to purchase energy-efficient hybrid-electric vehicles. These vehicles are widely used by County staff for various work functions, and combine high-efficiency gasoline engines with an electric motor and rechargeable batteries to achieve high gas mileage. The County will continue to look for ways to increase the use of hybrid-electric and all-electric vehicles to help further increase its fleet's overall vehicle fuel efficiency. Arlington will also identify and implement policies and programs to facilitate the community's use of electric vehicles.

Strategy 5 (S4.5): Reduce the carbon produced by County and Arlington Public Schools fleets

The carbon emissions from fleet vehicles will be reduced through strategic decisions influencing (a) the purchase of fuel-efficient County and Arlington Public Schools vehicles, (b) the fuels used by these vehicles, (c) smart driver behavior using the vehicles, and (d) programs and policies that enable fewer vehicular trips, such as telecommuting for

meetings and co-location of complementary activities.

Strategy 6 (S4.6): Operate and maintain traffic infrastructure with an eye toward energy efficiency and vehicle fuel efficiency

The evolution of technology for streetlighting, traffic signals, and automatic controls for these systems is making deep reductions in energy use possible. LED technology is now in use for streetlights and traffic signals, sharply reducing energy consumption per unit. In addition, LEDs can be dimmed for portions of the night (e.g., midnight to 5 am) to further reduce energy use. Modern traffic signal control technology also helps optimize vehicular traffic flow for safety and vehicle fuel economy (e.g., reduced idling.)

Strategy 7 (S4.7): Encourage the purchase and use of lower-carbon producing vehicles

Through the development of incentives and by making it easier for citizens to identify lower-carbon producing vehicles, Arlington County will facilitate the purchase and use of vehicles that have a lower impact on carbon production. Examples of lower-carbon producing vehicles include hybrids, plug-in hybrids, electric vehicles, and those that run on compressed natural gas.

Strategy 8 (S4.8): Increase the availability of reduced-carbon content vehicle fuels

As part of a comprehensive Implementation Framework, the County recognizes that it must address transformation on numerous fronts. It is not enough to provide incentives so that people purchase low-carbon producing vehicles. To enable people to actually use those vehicles, the County must help ensure that the fuels are available to power the vehicles. For instance, the County can work with entrepreneurs to ensure that vehicle owners have easy access to fixed or mobile alternative vehicle fueling options.

Strategy 9 (S4.9): Work with regional organizations and individual jurisdictions in the DC Metro region to proactively address transportation issues

The Task Force Report recommended two GHG emission goals for 2050 – one goal set 3.0 metric tons per capita per year as a target. The Task Force added a secondary goal of 2.2 metric tons contingent upon the creation and successful implementation of a regional energy plan, particularly when it comes to creating synergy in the transportation sector. This further highlights the importance of addressing the transportation sector in order to achieve successful CEP implementation. Since a high percentage of single-occupancy vehicle traffic during peak periods comes from outside Arlington, the County should work with other jurisdictions to create regional demand-side management strategies.

Existing Tools

Bikeshare Transit Development Plan – The nation’s largest bikesharing system, Capital Bikeshare, launched in September 2010 with stations located in the District of Columbia, and in Arlington, Virginia. The system has over 1,670 bicycles that people can access and use 24 hours a day, 365 days a year. Capital Bikeshare adds another option to the transportation mix and thus helps to reduce transportation sector greenhouse gas emissions.

The Bikeshare Transit Development Plan explains how the system is slated to expand from FY13-FY18. Expansion will focus on building out the system in South Arlington, especially along Columbia Pike and in Shirlington.

Master Transportation Plan (MTP) Implementation Plans for adopted elements – Arlington’s comprehensive Master Transportation Plan (MTP) provides general guidance for Arlington’s transportation system. The MTP includes a Goals and

Policies document, a map which illustrates key existing transportation facilities and planned system improvements, and Implementation Plans providing detailed information for additional Modal Elements in the following areas: Transportation Demand and System Management, Transit, Streets, Parking and Curb Space Management, Pedestrians, and Bicycles.

Implementing the MTP will help the County reach its CEP greenhouse gas emissions goals. Instead of relying on relatively inefficient single occupancy vehicle transportation, the MTP encourages the use of environmentally sustainable modes, including bicycling, walking, transit, carpooling, and telecommuting.

Site plan conditions, e.g., Transportation Management Plan, Bicycle Storage Facilities – Arlington’s special exception process, detailed in the Buildings sections of this document, allows negotiation with developers to ensure projects meet CEP goals. The final approval of a site plan includes a series of detailed conditions that a developer must follow in order to receive a building permit and to continue to be in compliance with the existing zoning on the property. Numerous site plan conditions address transportation issues, including the standard *Transportation Management Plan* and *Bicycle Storage Facilities* conditions. These two conditions explain what the developer will do to ensure that the project helps implement the MTP Goals and Policies.

Telecommuting and Hoteling – Telecommuting is working from a remote location, often from home rather than commuting to and from an employer’s work site. Office hoteling is a system for assigning temporary office space to employees, instead of assigning permanent office space to each employee. Implementing these concepts may help reduce vehicle miles traveled and thus reduce transportation sector GHG emissions.

Taxi Ordinance requiring improving fuel economy – In June 2009 the County Board enacted an Arlington County Taxicab Ordinance. The Ordinance set a minimum Average Fuel-Efficiency Rating (mpg) for New Taxicabs, with that minimum increasing over time. Also, by including in the County Manager’s review of taxicab certificate applications variables such as the Average Fuel-Efficiency Rating and an Applicant’s overall intended fleet sustainability, the County continues to make the entire taxicab fleet more fuel efficient.

Transit Development Plan – The Arlington Transit Development Plan (TDP) will guide the growth of transit and paratransit services provided by the County through Arlington Transit (ART), Specialized Transit for Arlington Residents (STAR), and by the Washington Metropolitan Area Transit Authority (WMATA) through Metrorail, Metrobus and MetroAccess. Transit minimizes growth in single occupant vehicle trips, promotes the use of all other modes of travel, and reduces GHG emissions from the transportation sector. Many measures are proposed to achieve a shift away from use of personal motor vehicles towards greater use of transit, carpooling, bicycling, and walking. Taxis and car-sharing also offer opportunities to reduce auto ownership and dependence.

Potential Tools

Promotion of transit options – Part of the Arlington Transit Development Plan’s (TDP) Six-Year Transit Service and Facility Plan provides a list of suggested improvements which, when implemented, will help promote greater use of transit. For example, the TDP recommends improving transit service levels,

including service frequency, new service hours or service periods (e.g., midday service), days of service, and service productivity related changes. Also, recognizing that riders want transit service to be on time for arrivals and departures, the TDP recommends improving route running times to ensure high levels of on-time performance. In addition, ART’s RealTime Tools tell riders in real-time through their Smartphone or on-line when an ART bus will arrive. Expanding upon measures throughout the entire transit system will help improve service and encourage more people to use transit, reducing GHG emissions.

Regional coordination – Arlington is situated next to Washington, DC, enabling Arlington residents to travel relatively short distances for many of their trips. Despite Arlington’s attempts to improve its transit services, continued reductions in single-occupancy vehicle use during peak periods are needed to further reduce vehicle miles traveled (VMT) in Arlington. Since a high percentage of single occupancy vehicles traveling during peak periods originate outside Arlington, the County should continue to work with neighboring jurisdictions to create regional transportation strategies.

Arlington could play an integral role in collaborating with other jurisdictions to ensure common methodologies are used in transportation planning and GHG emissions inventory updates and regional demand-side management strategies are used.

See additional tools in Appendix B.

Goal 5 (G5): Integrate CEP goals into all County Government activities

Policy 1 (P5.1): Reduce County government CO₂ emissions by 76% by 2050, compared to 2007 levels, and improve energy security throughout County operations. Milestones include:

- **2020:** 25% below 2007 CO₂e level
- **2030:** 42% below 2007 CO₂e level
- **2040:** 59% below 2007 CO₂e level

Policy 2 (P5.2): Integrate Community Energy Plan policies into County planning, policy development, and other activities

Policy 3 (P5.3): Take advantage of CEP implementation to ensure Arlington's long term economic competitiveness

For an effort as broad in scope as the CEP, it is essential for the entire Arlington County Government to be involved and committed to its execution. This involvement and commitment will be demonstrated by *leading by example*, that is, achieving energy efficiency, energy assurance, and GHG emission reduction targets for its own operations that are at least as rigorous as those set for the broader community. This requires the County to have a pool of suitably-qualified civic leaders, managers and workers with the skills to implement the CEP. In addition, CEP implementation will need cooperation and coordination across multiple County departments. The County will also continue to work closely with community leaders to ensure that CEP goals, strategies and tools align with stakeholders' needs.

Strategies

Strategy 1 (S5.1): Propose state and federal regulatory and legislative remedies to achieve CEP goals

The CEP cannot be implemented or achieved in a vacuum. Energy systems have local, regional, and national dimensions, and some state and federal laws and policies present barriers to achieving this Plan's goals. For example, as noted, present utility regulations do not allow Power Purchase Agreements in Virginia, yet PPAs are powerful catalysts for

large-scale private investments in solar photovoltaic installations in many other states. Amending the utility regulations could unleash these market forces.

Strategy 2 (S5.2): Fund CEP Implementation

Implementing the CEP will require resources of staff, operating funds, and capital funds. Funding for implementation will be pursued through the General Fund for staff and operating costs, and through the Capital Improvement Program for long-term infrastructure investments. Additional funding sources may include federal and state grants, and capital funding through the Virginia Resource Authority. In every case, expenditures should be made on a sound economic cost-effectiveness basis for prudent stewardship of taxpayer funds.

Strategy 3 (S5.3): Work with regional organizations and individual jurisdictions in our metro region to proactively address energy issues

Many energy-related systems and infrastructure are regional in scale and operation, including: transportation networks of roadways, railways, other transit systems like buses; the electric grid; the natural gas distribution network; and, architects, engineers, and building construction trades typically operate in multiple jurisdictions

across political boundaries. Transportation, land use, and other planning decisions in one location can affect conditions in neighboring locations. Therefore, cooperation and coordination with regional bodies and individual jurisdictions is essential to maximize local results, avoid unnecessary duplication of effort, and avoid conflicts in efforts or policies. In addition, cooperation with others allows for added scale and influence, such as cooperative purchasing leading to economies of scale for products and services as diverse as fuels, solar installations, or vehicles.

Strategy 4 (S5.4): Develop and coordinate financial incentive programs

The County realizes that financial incentives and programs are central to this transformative CEP. There are many potential financial incentives and programs targeting a wide variety of technologies and energy sectors. It is imperative that an organized clearinghouse exist for clarity on available funds, programs, their purpose, and applicability.

In addition to federal, state, utility, and private-sector funding opportunities, some of these financial programs may be County-funded. One likely purpose of County-funded programming would be to leverage other, larger sources of funding. Alternatively, programs to fill gaps in other financial tools could be met with County resources.

Strategy 5 (S5.5): Establish and track metrics to measure CEP progress

The CEP consists of an overarching ‘headline goal’ – GHG emissions per capita – that is viewed through lenses of economic competitiveness, energy security, and environmental protection. In addition, the Plan includes several more specific goals for different energy sectors that contribute to achievement of the headline goal. It is

essential that the Plan establish metrics to track progress toward these goals.

Strategy 6 (S5.6): Retain existing and attract new businesses and jobs through CEP implementation

There are a number of energy-related businesses in Arlington today. The implementation of the CEP represents an opportunity to expand energy-related business opportunities in Arlington, and make Arlington a noted clean energy industry location. Energy-related businesses include (but are not limited to): architectural design; mechanical, electrical, and plumbing consulting engineering firms; mechanical, electrical, and information technology services; home energy retrofit businesses; energy analysis and consulting; banking and finance; and solar and energy efficiency installation and services. These businesses include workers ranging from professionals with advanced degrees, to skilled field technicians and trades workers. Growth as an employment center in the clean energy field is consistent with Arlington’s emphasis on ‘brainpower’ as our economic engine.

Strategy 7 (S5.7): Strengthen partnerships with colleges and universities to identify opportunities to reach CEP goals

Work in the clean energy field requires strong secondary and higher education, as well as continuous training. The County will build upon its existing relationships with institutions of higher education in and around Arlington to help build expertise in a broad range of energy topics, including community energy planning. In addition, the County will strengthen its partnerships with secondary schools and technical institutes that prepare students for work, as well as local and regional employers to ensure that the workforce will be available to meet the needs of Arlington and the CEP.

Potential Tools

County operations energy plan – Staff will create a broad County Government Operations Energy Plan to improve energy security and reliability in County operations while decreasing energy consumption through efficiency and renewables in buildings, infrastructure, and vehicles. In addition, Arlington will create and implement County Government-wide policy guidance regarding the fuel efficiency of vehicle purchases and vehicle fuel choices, which will help transform the County and APS vehicle fleet. Implementation of this energy plan will continue Arlington’s history of *leading by example* while informing efforts for the broader community.

CEP budget – Implementing the CEP will require resources beyond what the County presently has for on-going programs. The AIRE program already supports the CEP with staff and programmatic activities, but the scope of the CEP will necessarily expand this effort to be successful. General Fund and/or utility tax monies are two options for this support.

Capital Improvement Plans (CIPs) – Implementing some CEP tools and strategies will require capital funding, particularly for

district energy. Additional line items to the Capital Improvement Program will be identified as needed. The County will also identify existing sources of funds or will work to create other incentive programs to help defray additional project costs attributed to CEP tool implementation.

Financial incentive programs – As available, County funds may be used for incentives for efficiency gains and deployment of renewable in the private sector. These could be in the form of rebates, tax exemptions, or grants. These funds are not readily available today, but consideration of these resource streams is an option for the future.

Regional energy planning – Establishing and improving local, regional, statewide and national relationships and partnerships can help the County implement the CEP and accelerate its success. The County should continue work with regional organizations and neighboring jurisdictions to advance coordination on energy and transportation planning. There are valuable economies of scale in coordination, and essential synergies from coordinated transportation planning.

See additional tools in Appendix B.

Goal 6 (G6): Advocate and support personal action through behavior changes and effective education

Policy 1 (P6.1): Engage and empower individuals to reduce energy use

Policy 2 (P6.2): Enhance level of professional expertise and work force in the community related to energy

Policy 3 (P6.3): Ensure recognition of extraordinary efforts made to help the community reach the CEP goals

One of the primary challenges for CEP implementation is that people generally do not pay attention to how much energy they use each day. Thus, the overarching goal for effective energy education and engagement is to increase the general public's energy awareness. Once people learn the basics of energy literacy, then education and outreach can begin to focus on more complex concepts to enable more sophisticated decision making about energy use.

Teaching and training all segments of the population is critical to the success of CEP implementation. While it is important to educate the general public, a successful education and engagement program will include outreach to energy and building industry professionals.

Strategies

Strategy 1 (S6.1): Raise personal energy literacy among all populations

To the average American, energy is usually something that is taken for granted. While many people can tell you approximately their vehicle's MPG rating, they cannot tell you how many kilowatt-hours of electricity or therms of natural gas their homes used during the past month. Energy matters generally take a back seat to other issues that are on people's minds.

Energy is inextricably linked to personal decisions regarding many long-term and day-to-day decisions involving home

location, transportation choices, and appliance and equipment purchases and use. The County will use a variety of methods to help people recognize that how they use energy is something over which each person has control. Explaining technical matters in an understandable manner and answering questions frequently asked by the general public will go a long way toward getting people to notice that each person has the ability to make intelligent energy use decisions.

Strategy 2 (S6.2): Be a trusted and leading source of energy information

There are many ways by which people can be empowered to affect change, improve their finances, and help the community reach its CEP goals. The County can be a trusted and leading source of energy information and provide people with valuable details through print and electronic media. There can be a lot of confusion and misinformation in the world today. At a minimum, the County can facilitate the use of best practices and help people make the right decisions about energy by providing important, accurate, easily accessible energy-related information.

Strategy 3 (S6.3): Maintain and build partnerships

Similar to the County itself being a tested source for energy information, the County can effectively disseminate CEP messages and related information through

organizations already trusted by many stakeholder groups.

Arlington is a relatively diverse community. For instance, as of 2009, Arlington Public School's student body of over 20,000 students came from 127 countries and spoke 105 different languages. With these different cultures come varied experiences and lenses through which people view and trust government. The County will build and maintain long-term partnerships with the numerous organizations and support groups that are known to Arlington's diverse population to help educate and inform the community on energy topics. Plus, the County will use these relationships with other organizations to inform the County on peoples' needs, e.g., what information do people need and want, what resources do they need to help the community reach its CEP goals.

Strategy 4 (S6.4): Engage the public through electronic and print media

The general public gets its information through many different means. Social media, which was barely discussed ten years ago, has become a primary source of information for some people in Arlington. The County will adapt and package its CEP information so that it is most accessible to the general public.

In January 2012, County Board Chair Mary Hynes launched Arlington County's Participation, Leadership, and Civic Engagement (PLACE), which was a County government initiative to update the "Arlington Way" by expanding the ways in which our residents engage with each other and our government to enrich Arlington. Lessons learned from the PLACE initiative will help inform County staff on the most effective ways to package and distribute CEP information in order to effect change.

Strategy 5 (S6.5): Collaborate with Arlington Public Schools and local colleges

and universities to provide education to reduce energy use

Arlington County government staff will continue to work closely with staff from the Arlington Public Schools system to effectively implement the CEP within the school system. For example, County staff have shared information and resources with APS staff on the creation of energy performance labels, and have assisted to help benchmark school facilities against the Energy Star™ program.

In addition to working with APS staff on a variety of matters related to facilities improvements and curriculum enhancements, County staff will continue to work with the Superintendent's Advisory Committee on Sustainability as a way to spread CEP messages. That committee addresses issues relating to energy and environmental conservation within school operations and educational curriculum. County staff will work with the committee of parents, community members, students and staff to address issues and provide recommendations in energy and environment curriculum

Strategy 6 (S6.6): Partner with stakeholders to develop and provide energy training and courses.

With a transformative, long-term community energy plan, Arlington will work with other organizations to help ensure there are professionals available to implement the program. Building effective partnerships with educational institutions and other stakeholders can lead to the creation of valuable courses, degree programs, and workforce development initiatives. For example, given the lack of local DE expertise, the County could work with any number of stakeholders to create a degree program that educates degree holders on how to design, building, maintain and operate a DE system.

Strategy 7 (S6.7): Partner with stakeholders to map workforce development

Arlington will work with stakeholders to develop a comprehensive approach to achieve broad community understanding and workforce restructuring related to the energy field. The effort should be sustained by a network of voluntary, academic and public and private professional resources, including non-governmental organizations, and trade and business associations. For example, the County will work closely with the Alexandria/Arlington Workforce Investment Board to advance energy-related workforce development programs and initiatives that achieve sustainable economic growth in the region.

Strategy 8 (S6.8): Encourage energy conservation and efficiency through recognition of success

The County will highlight energy efficiency and conservation success stories through thoughtful recognition programs. It is important to tell stories of successful projects and how people have effectively implemented the CEP. These lessons learned will provide proof of concept and can help kick-start others into beginning their own projects that improve their economic situation, reduce their environmental impact, and improve the community's energy security.

Existing Tools

Recognition programs – Arlington's AIRE team currently runs "Green Games", a series of friendly competitions and trainings for businesses and residents to reduce their energy use and costs. Such programs raise energy awareness and result in energy savings, at minimal cost to the County.

Community Energy Plan and AIRE public websites – The CEP and AIRE programs run public websites, which are inexpensive and

easy tools to disseminate information on energy savings tips, new programs, etc.

Social and print media – The CEP actively operates a blog, a Twitter account, and a Facebook account, all of which are used to interact with the public on energy matters. The CEP team will also make use of other media outlets, such as the County's PLACE Space and local print media.

Community Events – Community groups in Arlington run a number of public events throughout the year. These gatherings provide opportunities for the CEP program to interact face-to-face with the public. In addition to taking advantage of existing options, the CEP team anticipates putting on its own events, such as energy workshops.

Potential Tools

Partnerships with workforce investment board, colleges and universities, and APS's Career Center – Arlington County could partner together with workforce development groups, colleges and universities, and APS's Career Center will help create a restructured workforce of qualified and trained professionals in multiple sectors, including construction, building operations, finance, planning, energy services, and law, to facilitate CEP implementation.

School curriculum and extracurricular activities – The County has the opportunity to leverage interest in the CEP to create in-depth, tailored energy courses and programs for a variety of audiences. Partnering with Arlington Public Schools (APS) could yield valuable curriculum to educate students in all grades on energy matters.

GLOSSARY OF TERMS

The following is a summary of selected terms and abbreviations used in the Community Energy Plan; the list is not exhaustive. In some cases, terms are defined in the body of the text and may not be repeated here.

Term	Definition
Air Pollutants	In addition to greenhouse gases, these include sulfur dioxide (SO ₂), nitrogen oxide (NO _x), hydrogen chloride (HCl), hydrogen fluoride (HF), carbon monoxide (CC), and non-methane volatile organic compounds (NMVOC).
Btu	British thermal unit (BTU or Btu) is a unit of energy defined as the amount needed to heat one pound of water one degree Fahrenheit. For the purposes of the Community Energy Plan, 1,000 Btus are labeled kBtu, while 1,000,000 Btus are labeled MM Btu.
Building Code	Legally required construction practices.
Carbon Dioxide	(CO ₂) The most common greenhouse gas, carbon dioxide is produced in large amounts when fossil fuels are burned. Worldwide, over 70% of man-made greenhouse gas emissions are from the use of energy; in Arlington, over 98% of our GHG emissions are from the use of energy..
Carbon Dioxide Equivalent	Where the “e” in CO ₂ e is used to denote the term “equivalent”: Greenhouse effect of the other five greenhouse gases identified in the Kyoto Treaty expressed in equivalents of carbon dioxide. This unit of measure is used to allow the addition of or the comparison between gases that have different global warming potentials (GWPs). Since many greenhouse gases (GHGs) exist and their GWPs vary, the emissions are added in a common unit, CO ₂ e. To express GHG emissions in units of CO ₂ e, the quantity of a given GHG (expressed in units of mass) is multiplied by its GWP.
CHP	See “Cogeneration.”
Clean and Renewable Energy	This phrase is used to indicate some combination of renewable energy and cogeneration (CHP) energy sources.
CO₂	See “Carbon dioxide”
CO₂e	See “Carbon dioxide equivalent”
Cogeneration	Generating electricity in such a way that most of the heat produced is also used purposely, such as space heating or generating chilled water . A common definition is that an average minimum overall fuel efficiency of 70% is expected. Peak efficiency would typically exceed 90%. Also known as “CHP.”

Combined Heat and Power	See “Cogeneration.”
Commercial Buildings	Non-residential buildings; often owned or operated by for-profit entities, including offices, retail stores, restaurants, and warehouses..
Community Energy Project	Project that led to the CES Task Force Report and now this Community Energy Plan that provides high-level goals and policies for energy generation, distribution, storage, and use in the greater Arlington community from now to the year 2050.
Daylighting	Designing buildings to maximize the use of natural daylight to reduce the need for electricity.
DEE	See “District Energy Entity”
District Cooling	Cooling services delivered via district energy systems.
District Energy	Networks that deliver heating or cooling to energy consumers carried through the medium of chilled or hot water, or (in older systems) steam. Heating and cooling is transferred to the home or buildings via a heat exchanger.
District Energy Entity	While individual buildings that are customers in a district energy network are owned by property owners and developers, a District Energy Entity (DEE) would operate and maintain the district energy network, i.e., the horizontal infrastructure of district energy piping and equipment. The DEE can also wholly or partially own the district energy network and can be publicly owned, privately owned, or a public-private partnership.
District Heating	Heat services delivered via district energy systems.
ENERGY STAR®	Joint U.S. Environmental Protection Agency and U.S. Department of Energy programs http://www.energystar.gov/ supporting energy efficiency as a cost-effective way to reduce greenhouse gas emissions in home, buildings, industry and equipment.
EU	European Union
EV	Electric Vehicle
Fossil Fuels	Combustible material obtained from below ground and formed during a geological event. For purposes of the Community Energy Plan, examples of such fuels include coal, oil and natural gas.
GHG	See “Greenhouse Gases”

Greenhouse Gases	A greenhouse gas absorbs and re-radiates heat in the lower atmosphere, trapping heat on Earth that would otherwise be radiated to outer space. The main greenhouse gases are carbon dioxide (CO ₂), methane (CH ₄), chlorofluorocarbons (CFCs) and nitrous oxide (N ₂ O), sulphur hexafluoride (SF ₆), hydrofluorocarbons (HFC) and perfluorinated carbons (PFC). The most abundant greenhouse gas is carbon dioxide (CO ₂).
IECC	International Energy Conservation Code - a model energy building code produced by the International Code Council (ICC). The code contains minimum energy efficiency provisions for residential and commercial buildings, offering both prescriptive- and performance-based approaches. The code also contains building envelope requirements for thermal performance and air leakage. Primarily influences US and Latin American markets.
Institutional Buildings	Nonresidential buildings generally owned by public administration, education, public or private healthcare facilities and other not-for-profit entities.
kBtu	See “Btu”
Kilowatt	A unit of power equal to 1,000 watts.
kW	See “Kilowatt”
Megawatt	A unit of power equal to one million watts.
Metric Ton	Unit of weight equal to 1,000 kilograms. Often used in the Community Energy Plan as a measure of greenhouse gas emissions. 1 mt = 1.102 US ton.
mt	See “Metric Ton”
MW	See “Megawatt”
Per Capita	For each person in the total population being considered; generally referred to as a resident.
PV	See “Solar Photovoltaic Systems”
Renewable energy	Energy generated from sources that are naturally occurring and replenishable through natural forces over a short period of time, most commonly sun, wind, water and various animal and plant derived fuels.
Site Energy	See “Source Energy”
Solar Photovoltaic Systems	Systems that directly convert sunlight into electricity either for use locally or for delivery to the electric grid.
Solar Thermal (water heating) Systems	Systems that directly convert sunlight into heat, generally for domestic hot water though they can also be used to produce space heating.

Source Energy	The total amount of raw fuel that is required to operate an energy-using device or facility. Source energy includes all transmission, delivery, and production losses, thereby enabling a complete assessment of energy efficiency in a building. On the other hand, "Site Energy" is the amount of heat and electricity consumed by a building as reflected in utility bills.
Sustainability	Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.
TOD	See "Transit-Oriented Development"
Transit-Oriented Development	Land development that takes into account transportation choices as a means of reducing oil and other energy use. Typically it would combine public transit with walkable, mixed-use communities, and approaches to minimize the impact of individual vehicles and commuting.

DRAFT

Appendix A: Arlington Energy Density Map

Figure 3 below shows the energy density of select planning areas in Arlington, with darker colors representing more energy dense neighborhoods. Energy density is the amount of energy consumed, per acre, by buildings in the area in question.

Energy density is particularly helpful for understanding which neighborhoods may be good candidates for district energy; generally, district energy is more economical the more energy dense an area is.

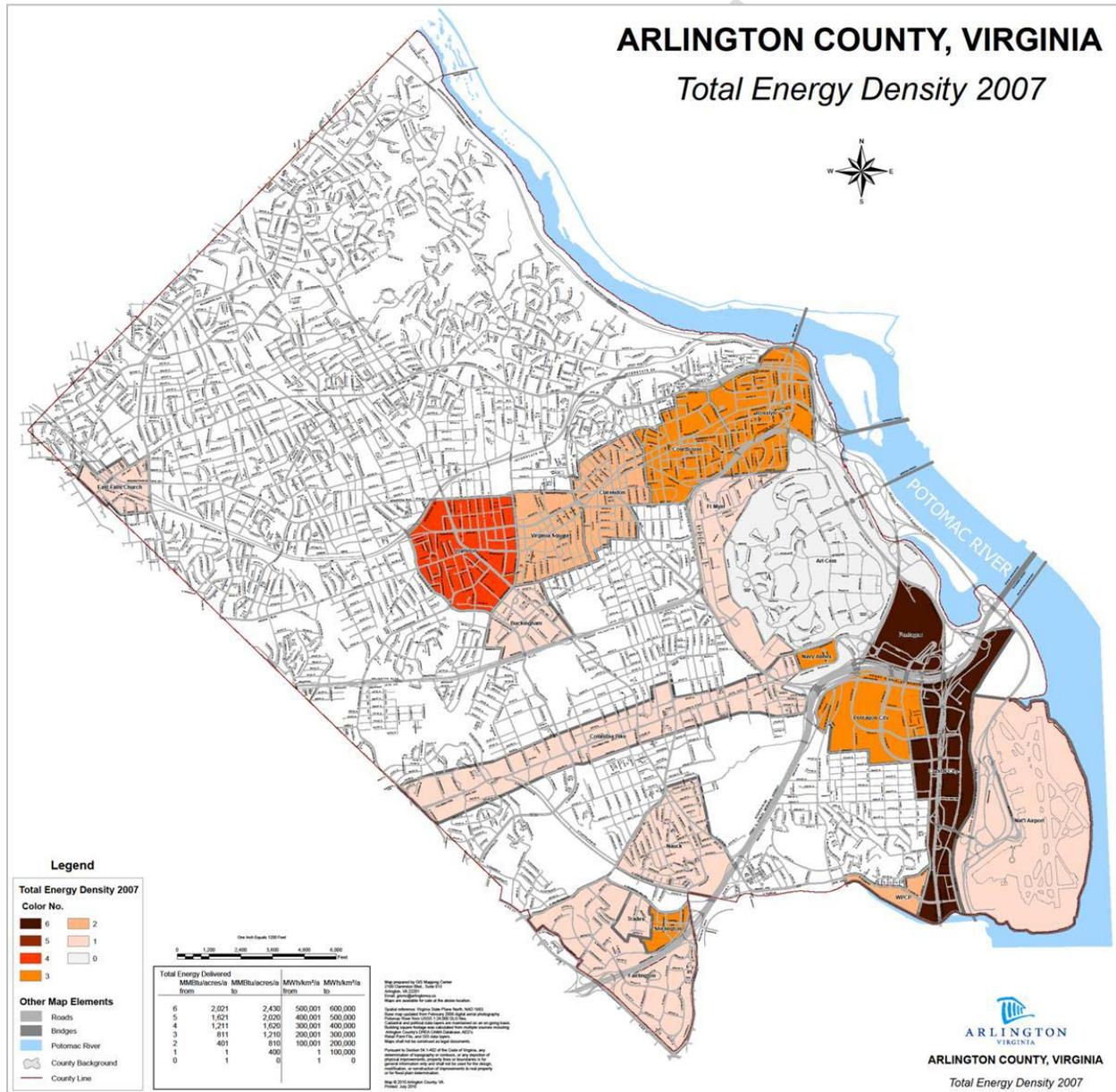


Figure 3: Arlington County Energy Density, 2007

Appendix B: Tools Matrix

Guide to this appendix:

STRATEGY 1:	text	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Goal 1: Goal Statement</div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Goal statement</div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">List of strategies</div>	
STRATEGY 2:	text				
STRATEGY 3:	text				
STRATEGY 4:	text				
STRATEGY 5:	text				
STRATEGY 6:	text				
STRATEGY 7:	text				
Start date	Existing	<div style="border: 1px solid black; padding: 5px; display: inline-block;">List of tools</div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Relationship between tools and strategies</div>		
Short Term (Years 1-5)					
Tool #1 – explanatory text	X			Strategy 1	X
Tool #2 – explanatory text	X			Strategy 2	X
Tool #3 – explanatory text	X			Strategy 3	X
Tool #4 – explanatory text	X			Strategy 4	X
Tool #5 – explanatory text	X			Strategy 5	X
Tool #6 – explanatory text	X			Strategy 6	X
Tool #7 – explanatory text	X			Strategy 7	X
Tool #8 – explanatory text	X			Strategy 1	X
Tool #9 – explanatory text	X			Strategy 2	X
Tool #10 – explanatory text	X	Strategy 3	X		
Tool #11 – explanatory text	X	Strategy 4	X		

Goal 1: Increase the energy and operational efficiency of all buildings

- STRATEGY 1: Take advantage of the renovation process to encourage buildings to reduce energy use by 30-40% on average compared to 2007 levels of energy use
- STRATEGY 2: Encourage new buildings to be designed, constructed, and operated more energy efficiently
- STRATEGY 3: Ensure compliance with energy efficiency code provisions
- STRATEGY 4: Take advantage of incentives to reduce new and existing building energy usage
- STRATEGY 5: Ensure equitable access to and use of energy efficiency and incentives programs for all income levels
- STRATEGY 6: Use land use development process to create more energy-efficient buildings
- STRATEGY 7: Promote widespread use and display of EPLs
- STRATEGY 8: Encourage the use of lower carbon fuels, both on site and for electricity generation
- STRATEGY 9: Steadily reduce energy intensity (i.e., increase energy efficiency) in County and APS buildings and operations

		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8	Strategy 9
Existing	Tools									
	Community planning guidance – provides information on the neighborhood level and guide future development.									
	Energy Performance Labels (EPLs) in County Buildings – EPLs are posted in most County Government buildings.							X	X	X
	Site plan development process – Arlington’s special exception process allows negotiation with developers to ensure projects meet CEP goals.	X	X	X	X	X	X	X	X	X
	Energy Star – a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping to save money and protect the environment through energy efficient products and practices.	X	X							
	LEED green building bonus density incentive – a County incentive program for site plan projects incentivizing high performance buildings through energy efficiency requirements and LEED Silver certification (or higher).	X				X				
	Lighting retrofit rebate for commercial properties – offers a rebate for specific energy efficient lighting retrofits in commercial buildings	X				X				
	Local Energy Alliance Program (LEAP) – a nonprofit that provides financing and advice for home energy renovation, seeking improvements comparable	X								X

Tools		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8	Strategy 9	
Short Term (Years 1-5)	to the Home Performance with Energy Star programs.										
	Energy Performance Labels (EPLs) in County Buildings – EPLs are posted in 38 County buildings. Each label reports the amount of energy the building uses and the building's carbon footprint in comparison to averages for similar building types. The labels serve to educate the public about energy use in buildings and help motivate the building occupants to reduce energy use.								X	X	
	Training – educate owners, developers, architects, engineers, construction industry, etc. about energy efficient construction, equipment, etc. (including Passive House standard).	X	X	X							
	Updated State Building Code – support the adoption of the ICC 2012 Code.	X	X	X							
	Building Energy Asset Rating – in contrast to operational ratings, which are based on actual energy use, asset ratings evaluate the energy performance of the building based on the envelope and mechanical and electrical systems, irrespective of tenant behavior. The goal of asset ratings is to educate stakeholders and enable the real estate market to value energy performance, thereby increasing investments in energy efficiency. ⁴	X	X								
	Financial incentive programs – take advantage of appropriate federal, state, and private financial incentive tools and mechanisms and develop new financial incentive programs (PACE, QECBs, etc.) to encourage energy efficiency.	X	X		X						
Energy Performance Labels (EPLs) in private sector and APS buildings – Arlington displays EPLs on most of its buildings. Promote the expansion of EPL displays to APS and the private sector.								X	X		
Information Technology and ‘Smart’ Building Energy Management – Use of advanced building automation, submetering, and real-time data collection to more efficiently operate building energy technologies.	X	X		X				X	X	X	

⁴ <http://www.mass.gov/eea/docs/doer/energy-efficiency/asset-rating-white-paper.pdf>

Tools

	Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8	Strategy 9
Energy Plan Reviewer and Inspector(s) – advanced technologies and building codes will only be effective if construction practices meet evolving codes. Development plan review with attention to energy aspects, and field inspection of energy efficiency practices are needed to ensure the realization of code objectives.	X	X	X			X			
Updated VHDA process – the Virginia Housing Development Authority (VHDA) offers developers of affordable multifamily housing more points in the competitive scoring process under the Qualified Application Plan (QAP) if they meet specific green building and energy standards.	X	X		X					
Form Based Code (FBC) enhancements – the FBC in place for development along Columbia Pike can be updated to incorporate energy targets and other sustainability measures, to ensure that new development achieves above-average energy performance.	X	X	X			X			
Transformative energy efficient construction – various standards and guidelines (such as Passive House, net zero, etc.) represent today's highest energy standards to dramatically reduce energy consumption in buildings.	X	X							
Energy help desk – a “one stop shop” for energy information for residents and builders	X	X			X				
New/revised site plan condition(s) – the site plan negotiation process is a useful and important opportunity to gain improvements in the energy performance of new developments that might not otherwise be pursued.		X	X	X	X	X	X	X	
Energy upgrade money set aside for affordable housing – subsidize energy efficiency in affordable housing.	X	X			X				
Leasing requirements for federal tenants – federal tenants have energy efficiency, energy security, and other CEP-related requirements for buildings in which they lease space. The CEP helps Arlington’s buildings meet those requirements.									
Permit fees – adjustable permit fees for energy efficient construction.	X	X		X				X	
Energy/green building store – retail establishment offering energy efficient	X	X			X			X	

Tools		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8	Strategy 9
	and green building supplies, appliances, finishes, etc.									
Long Term (Years 5+)	Lot-based energy targets* – allows establishment of energy targets for specific zoning categories or areas of the County.	X	X		X					
	Energy disclosure at the time of sale – disclose buildings' energy use at time of sale, to empower the buyer and encourage energy improvements.	X								

Goal 2: Increase local energy supply and distribution efficiency in Arlington using District Energy (DE)

- STRATEGY 1: Create a DE Corporation (DEC) to own a DE System
- STRATEGY 2: Build, operate and maintain DE systems as opportunities arise, and CHP systems as appropriate, in areas having the highest probability for DE
- STRATEGY 3: Encourage new and renovated buildings to have DE compatible systems in areas where DE has a high probability of success
- STRATEGY 4: Establish a process and guidelines for buildings to connect to DE Systems in areas where DE has a high probability of success
- STRATEGY 5: Develop a DE infrastructure plan, in coordination with other County departments, to facilitate DE distribution and future connections
- STRATEGY 6: Coordinate the installation of DE distribution pipes and related infrastructure as appropriate
- STRATEGY 7: Link DE/CHP to streetcar lines and other transportation infrastructure as appropriate
- STRATEGY 8: Revise the Arlington County Code to reflect CEP goals

		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8
Existing	Tools			X	X				
	Community planning guidance – provide information on the neighborhood level and guide future development.			X	X				
	Crystal City Integrated Energy Master Plan (CC IEMP) – examined the feasibility of District Energy in Crystal City. The study took an integrated approach to energy generation and usage- it also looked at building energy efficiency measures and renewable energy options.								
	EPA's Combined Heat & Power Partnership – a voluntary program that works with energy users, the CHP industry, state and local governments, and other clean energy stakeholders to facilitate the development of new projects and to promote their environmental and economic benefits.	X	X	X					
	Site plan development process – Arlington's special exception process allows negotiation with developers to ensure projects meet CEP goals. Provides an opportunity to encourage or incentivize buildings			X					X

Tools		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8
Short Term (Years 1-5)	<i>in targeted areas to build district-energy compatible buildings, or for buildings in areas with district energy to tie into the district energy system. The site plan process is regularly reviewed to better align with CEP Implementation.</i>								
	County's Horizontal Design Guidelines – guidelines for buildings to tie into a district energy system (DES) which would facilitate DES creation and expansion.					X		X	
	District energy best practices, interoperability standards, and operations and maintenance plan – compiling best practices from the industry will help facilitate a district energy system and allow it operate more economically.		X	X	X				
	District Energy Company (DEC) – a third party (private, public, co-op, or combination) entity to help set up and operate a district energy system. It would also coordinate interoperability standards, infrastructure plans, seek out capital, etc.		X						
	Integrated Energy Master Plans (IEMPs) for Rosslyn, Columbia Pike, Courthouse, etc. – analysis on the economic and technical feasibility of district energy in the most promising neighborhoods in Arlington. They would inform future work and investment.								X
	DE infrastructure plan, including maps showing probable location of DE infrastructure – district energy systems require large pipes to run under streets, and their installation could be strategically coordinated with other street work for cost savings.			X			X	X	
	Crystal City and Columbia Pike Streetcar Plans – Arlington’s proposed streetcars in Crystal City and along Columbia Pike will require power, which are opportunities for crossover with prospective combined heat and power (CHP) systems in the area.							X	X
	Energy Overlay Districts* – overlay districts are amendments to zoning that expressly permit or require certain activities. Energy overlay								

Tools		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8
	districts can be used to facilitate use of renewable energy and/or district energy.								
	Energy Use Ordinance* – an energy use ordinance can set targets, or require properties within the specified area to achieve certain minimum energy performance levels.								X

Goal 3: Increase locally generated energy supply through the use of renewable energy options

- STRATEGY 1: Increase renewable energy generation through incentives
- STRATEGY 2: Eliminate regulatory and legislative barriers to increase renewable energy production
- STRATEGY 3: Encourage the development industry to integrate renewable energy technologies and best practices into the development design process
- STRATEGY 4: Partner with utilities to increase and optimize the use of renewable energy to create a more secure and reliable power grid
- STRATEGY 5: Encourage solar hot water and other renewable technologies

Tools					
	Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5
Existing	X				
Short Term (Years 1-5)	Financial incentives – federal tax credits make renewable energy projects more attractive investments.				
	New regulatory language or enabling state legislation – Virginia law today does not allow Power Purchase Agreements (PPAs) involving 3 rd parties, nor is there a mandatory Renewable Portfolio Standard in Virginia. These mechanisms have proven essential to attract private capital for investment in solar in many other states.	X	X		
Long Term (Years 5+)	Local financial incentives – Arlington could provide additional incentives for renewables in addition to existing federal incentives.	X			
	Dominion Virginia Power (DVP) solar leasing – DVP’s pilot program for deploying 3 MW of solar PV across the state by leasing space on local government buildings.				X
Long Term (Years 5+)	Case studies of solar thermal installations – people gain confidence to adopt new technologies by learning from the experiences of others. These case studies will describe use of solar thermal energy in a variety of settings.				X
	White papers / research reports – cost-benefit analyses of renewable deployments in a variety of settings, and studies of the achievable potential for renewable energy in Arlington.			X	

Goal 4: Refine and expand transportation infrastructure and operations enhancements

- STRATEGY 1: Support MTP General Policies implementation: Reduce vehicle miles traveled by integrating transportation with land use, developing Complete Streets, and managing travel demand and transportation systems
- STRATEGY 2: Continue to support alternatives to car ownership and use
- STRATEGY 3: Support Federal and State efforts to increase vehicle fuel efficiency
- STRATEGY 4: Increase the fuel efficiency of County and APS fleets
- STRATEGY 5: Reduce the carbon produced by County and APS fleets
- STRATEGY 6: Operate and maintain traffic infrastructure with an eye toward energy efficiency and vehicle fuel efficiency
- STRATEGY 7: Encourage the purchase and use of lower-carbon producing vehicles
- STRATEGY 8: Increase the availability of reduced-carbon content vehicle fuels
- STRATEGY 9: Work with regional organizations and individual jurisdictions in the DC Metro region to proactively address transportation issues

		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8	Strategy 9
Existing	Bikeshare Transit Development Plan – provides a strategic blueprint for expanding the Capital Bikeshare system between FY13-18.	X								
	Master Transportation Plan (MTP) Implementation Plans for adopted elements – provide detailed guidance on how the County plans to implement the MTP’s six elements (Streets, Transit, Pedestrian, Bicycle, Parking and Curbspace Management, and Transportation Demand & System Management).	X	X	X	X	X	X			
	Site plan conditions, e.g., Transportation Management Plan, Bicycle Storage Facilities – provide site plan review input on active plans.	X	X							
	Telecommuting and Hoteling – allowing employees to work from home to reduce transportation associated with commuting.	X								
	Taxi Ordinance requiring improving fuel economy – provides detailed guidance on Average Fuel-Efficiency Rating for New Taxicabs on an annual basis.								X	
	Transit Development Plan – provides a strategic blueprint for the Arlington Transit system.		X							

		Tools								
		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8	Strategy 9
Short Term (Years 1-5)	<p>Promotion of transit options – provides travelers with real-time information and current transit options.</p>	X	X							
	<p>Regional coordination – working with other localities and with regional entities such as the Northern Virginia Regional Commission and the Metropolitan Washington Council of Governments to coordinate efforts.</p>								X	
	<p>County Government-wide policy regarding vehicle purchases – clear policy guidance on the fuel efficiency of vehicle purchases, and vehicle fuel choices, will help transform the County and APS vehicle fleet.</p>				X	X				
	<p>Alternative vehicle fueling options – provides linkage to alternative fueling location web sites, with particular attention to electric vehicle charging in near term and assisting development of biodiesel and compressed natural gas refueling options in the mid-term ..</p>								X	
Long Term (Years 5+)	<p>Links to Federal efforts on the CEP/County website – provides linkage to Federal web sites.</p>		X							
	<p>Clearinghouse website for low-carbon producing vehicles – provides linkage to low-carbon producing vehicle web sites.</p>			X				X		

Goal 5: Integrate CEP goals into all County Government activities

- STRATEGY 1: Propose state and federal regulatory and legislative remedies to achieve CEP goals
- STRATEGY 2: Fund CEP Implementation
- STRATEGY 3: Work with regional organizations and individual jurisdictions in our metro region to proactively address energy issues
- STRATEGY 4: Develop and coordinate financial incentive programs
- STRATEGY 5: Establish and track metrics to measure CEP progress
- STRATEGY 6: Retain existing and attract new businesses and jobs through CEP implementation
- STRATEGY 7: Strengthen partnerships with colleges and universities to identify opportunities to reach CEP goals

		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	
Short Term (Years 1-5)		Tools							
		County Government Operations Energy Plan – a comprehensive plan for improving energy security and reliability in County operations, while decreasing energy consumption through efficiency and renewables in buildings, infrastructure, and vehicles as well as staff training. This plan will help inform all aspects of the community energy plan while leading by example.					X		
		CEP budget – implementation of the community energy plan requires resources for staffing and program activities.	X						
		Future County Capital Improvement Plans (CIPs) – capital investments in energy technologies and infrastructure will be needed in County and APS facilities and for County and community operations, e.g. district energy.	X						
		Financial incentive programs – County funds may be used for incentives for efficiency gains and deployment of renewables in the private sector.				X			
		Regional energy planning – establishing and improving local, regional, statewide and national relationships and partnerships can help the County implement the CEP and accelerate its success. The County should continue work with regional organizations and neighboring jurisdictions to advance coordination on energy and transportation planning.							

Tools		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7
Long Term (Years 5+)	<p>Marketing CEP benefits – the value of community energy planning and implementation – energy security, economic competitiveness, and environmental protection – should be understood by a broad array of constituents.</p>						X	
	<p>IT Improvements – Upgrade Connect Arlington and supervisory control and data acquisition (SCADA) capabilities.</p>		X					
	<p>Agreement w/ Workforce Investment Board – a well-trained workforce in energy-related careers is needed for long-term achievement of many CEP goals. Consistent engagement with local and regional employers and educational institutions on the energy workforce is one way to ensure the workforce will meet our needs.</p>						X	
	<p>VEPGA and contract with DVP – the County’s electric rates – and Terms & Conditions – with Dominion Virginia Power are set through a contract negotiated by the Virginia Energy Purchasing Governmental Association, of which Arlington is a member. This contract is a vehicle through which local governments procure power and related energy services.</p>	X		X				

Goal 6: Advocate and support personal action through behavior changes and effective education

- STRATEGY 1: Raise personal energy literacy among all populations
- STRATEGY 2: Be a trusted and leading source of energy information
- STRATEGY 3: Maintain and build partnerships
- STRATEGY 4: Engage the public through electronic and print media
- STRATEGY 5: Collaborate with Arlington Public Schools and local colleges and universities to provide education to reduce energy use
- STRATEGY 6: Partner with stakeholders to develop and provide energy training and courses
- STRATEGY 7: Partner with stakeholders to map workforce development
- STRATEGY 8: Encourage energy conservation and efficiency through recognition of success

		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8
Tools									
Existing	Recognition programs – Arlington’s AIRE team currently runs “Green Games”, a series of friendly competitions and trainings for businesses and residents to reduce their energy use and costs. Such programs raise energy awareness and result in energy savings, at minimal cost to the County.	X	X	X	X	X			X
	Community Energy Plan (CEP) and AIRE public websites – inexpensive and easy tools to disseminate information on energy savings tips, new programs, etc.	X	X		X				
	Social and print media – the CEP actively operates a blog, a Twitter account, and a Facebook account, all of which are used to interact with the public on energy matters. The CEP team will also make use of other media outlets, such as the County’s PLACE Space and local print media.	X	X		X				
	Community Events – provide opportunities to interact face-to-face with the public. In addition to taking advantage of existing options, the CEP team anticipates putting on its own events, such as energy workshops	X	X	X					

Tools		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8
		Strategy 1	Strategy 2	Strategy 3	Strategy 4	Strategy 5	Strategy 6	Strategy 7	Strategy 8
Short Terms (Years 1-5)	Partnerships with workforce investment board, colleges and universities, and APS's Career Center – working with local institutions will help prepare our workforce for the new opportunities that the energy field presents.		X				X	X	
	Home utility bill benchmarking, programs – allows homeowners to compare their energy usage against similar homes.	X							
	Workshops for the trades on transformative energy efficient construction standards – there are several building standards and practices like the Passive House concept which represent transformative energy efficiency gains over conventional building design. A significant barrier to more widespread acceptance of these building practices in the US is a lack of familiarity among tradespeople.						X		
Long Term (Years 5+)	Motivating Community Prime Movers – actively engage certain subgroups within the community whose capabilities could accelerate this plan, including but not limited to: the financial community, the defense and national security community, and regional and community foundations.			X					
	School curriculum and extracurricular activities – Arlington Public Schools offer a valuable opportunity to educate students on energy matters.					X			
	Energy help desk – a “one stop shop” for energy information for residents and builders.		X						

Appendix C: Leading Local Efforts To Reduce Greenhouse Gas Emissions

About This Report

In June 2012, HR&A Advisors, Inc. (HR&A) was retained by Arlington County, VA to assist it in developing a Community Energy Plan (CEP). The purpose of the Plan is “to establish energy goals and strategies for the entire County.”⁵ The primary goal of the Plan is for the County to reduce its greenhouse gas (GHG) emissions from 13.4 metric tons carbon dioxide equivalent per capita per year (as of 2007) to 3.0 metric tons per capita per year by 2050, as recommended by the Arlington County Community Energy Strategy Task Force in 2011.⁶

The Task Force recommended that the County frame the Plan primarily in terms of four areas of intervention: Buildings, District Energy, Renewable Energy, and Transportation. Staff at the County’s Department of Environmental Services (DES) generally adopted this framework in developing ideas for potential policies, strategies, and tools to implement the Plan. The Staff’s preliminary work in these areas was made available to HR&A as “DRAFT CEP Policies for the Comprehensive Plan Energy Element and draft Strategies for the CEP Implementation Framework” (draft dated July 5, 2012).

At the DES staff’s request, HR&A analyzed the efforts of other jurisdictions in the U.S. and overseas that have attempted to achieve significant reductions in GHG emissions and improvements in energy

efficiency through interventions in Buildings, District Energy, Renewable Energy, and Transportation. DES requested such an analysis to “baseline” Arlington’s emerging CEP policy framework against other similarly ambitious, and perhaps more experienced jurisdictions in each area. DES’ goal in requesting the analysis was to identify common approaches among leading cities that may be relevant for Arlington County in finalizing its CEP.

In identifying other jurisdictions as leaders in reducing GHG emissions in Buildings, District Energy, Renewable Energy, and Transportation, HR&A performed an extensive literature review, interviewed local officials and national experts, and called on the firm’s direct experience in working with cities across the country for three decades. HR&A also sought some geographic diversity in the group as a whole. Overall, HR&A looked closely at the activities of 18 cities.

HR&A’s analysis did not attempt to evaluate or compare cities’ efforts. DES did not request such a comparison, and, as discussed below, it may not be possible due to the early status of most cities’ activities. HR&A also did not make recommendations on whether Arlington County should or should not adopt specific policies in place elsewhere or assess the feasibility of doing so. DES did not request such recommendations or feasibility assessment from HR&A.

Introduction

Hundreds of local jurisdictions in the U.S. and around the world have adopted plans to reduce their GHG emissions and improve their environmental sustainability. In many cases these plans seek to achieve other objectives as well, such as fostering economic development, accommodating future growth,

⁵ <http://freshaireva.us/2012/04/energyplan/>

⁶ <http://freshaireva.us/wp-content/uploads/2012/04/Task-Force-Full-Report.pdf>

and preparing for potential adverse effects of extreme weather.⁷

The majority of these plans were developed in the last five years and many were developed since 2009. As a result, it is too early in most cases to evaluate the impact or effectiveness of the plans in terms of their stated goals. Comparative analysis among plans is also challenging; while many plans share similar overall aims, their specific baselines, goals, strategies, tactics, metrics and, perhaps most critically, their economic, environmental, and public policy contexts vary widely.⁸

It is possible, however, to identify common themes and approaches across a set of leading localities, especially with respect to specific areas of intervention, such as Buildings, District Energy, Renewable Energy, and Transportation. The most fundamental commonality is that cities and counties in the U.S. and overseas that have made the boldest commitments and, in many cases, made the most promising progress, were driven by strong public sector leadership.

This leadership manifests itself in many forms in localities at the forefront of climate and energy innovation; indeed, it seems necessary for local leaders to have access to as many tools, especially public policy tools, as possible. The types of tools most often employed are:

- Mandates, e.g., building energy codes, zoning requirements, disclosure ordinances;

- Incentives, e.g., zoning bonuses, tax breaks, rebates; and
- Direct Action, e.g., public investment, technical assistance, marketing/education.

In addition to deploying a range of policy tools, leading localities have developed innovative ways of working with the private sector, community-based organizations, and local residents. These Public-Private Engagements often involve the use of one or more of the aforementioned types of policy tools, in combination with commitments from nongovernmental partners.

Within each of these categories there is of course substantial variation by jurisdiction. The specific Mandates, Incentives, Direct Actions and Public-Private Engagements deployed in a given community by necessity reflect local (as well as state and regional) political, fiscal, and energy market realities.

That said, certain tools and broader approaches are commonly utilized by leading localities to advance energy and climate progress in their communities. This is especially apparent when examining local leadership in the specific areas of Buildings, District Energy, Renewable Energy, and Transportation. The following sections of this report describe innovative local efforts in each area.

⁷ American Council for an Energy Efficient Economy, “Local Energy Planning in Practice: A Review of Recent Experience,” March 2012.

⁸ National Renewable Energy Laboratory, “Energy Efficiency Policy in the United States: Overview of Trends at Different Levels of Government,” December 2009.

Buildings

Draft Arlington CEP Goal: Increase the energy and operational efficiency of all buildings.

The primary tool at the disposal of local governments for increasing energy efficiency in buildings is the application and enforcement of building energy codes and standards. According to the U.S. Department of Energy (DOE), building energy codes and standards are adopted by state and local jurisdictions to “establish *minimum* requirements for energy efficient design and construction for new and renovated buildings that impact energy use and greenhouse gas emissions for the life of the building” (emphasis supplied).⁹ The DOE has determined that contemporary energy codes could reduce total current residential energy consumption in the U.S. by 2%.

The two major baseline building energy codes and standards are the International Energy Conservation Code (IECC), and the ANSI/ASHRAE/IESNA Standard 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings (ASHRAE 90.1). Generally, IECC applies to low-rise residential buildings and ASHRAE to larger residential and commercial buildings. Each is typically revised and made more rigorous every three years.

In the U.S., local governments are required to apply building energy code determined by their states. Some cities have the authority to adopt stronger codes and a few have done so. Most states, and by implication most cities, are at least one iteration of IECC/ASHRAE behind the most current versions, according to the U.S. DOE.¹⁰

⁹ http://www.energycodes.gov/why_codes/

¹⁰ <http://www.energycodes.gov/adoption/states>

“Benchmarking” is a process of comparing similar buildings in terms of their energy use. According to the DOE, “When applied to building energy use, benchmarking can provide a mechanism for measuring how efficiently a building uses energy relative to the same building over time, other similar buildings, or modeled simulations of a building built to code or a desired standard.”¹¹ A recent report by the Institute for Market Transformation found that more than 50 jurisdictions worldwide have implemented benchmarking and related disclosure policies.¹² While these policies are relatively new in the U.S., evidence suggests they are growing.¹³

HR&A analyzed the buildings-focused energy efforts of the following cities: 1) Boulder, CO; 2) New York, NY; 3) San Francisco, CA; 4) Seattle, WA, and 5) Washington, DC. Common approaches among these and other leading cities in this area are:

- Strong Energy Codes and Standards for New and Existing Buildings;
- Requirements to Audit, Benchmark, and/or Disclose Building Energy Data; and
- Local Public Incentives to Fund Building Improvements.

¹¹http://www1.eere.energy.gov/seeaction/pdfs/commercialbuildings_factsheet_benchmarking_s tategovt.pdf

¹² Institute for Market Transformation, “Building Energy Transparency: A Framework for Implementing U.S. Commercial Energy Rating and Disclosure Policy,” July 2011.

¹³ http://www.energycodes.gov/status/policy/energy_audits.stm

Strong Energy Codes and Standards for New and Existing Buildings

Boulder requires new residential construction to be 30-75% more efficient than the 2006 IECC, depending on square footage. Major home renovations must be 15-50% more efficient than the 2006 IECC, depending on square footage.¹⁴ New commercial construction must exceed ASHRAE 90.1-2007 by at least 30%. Renovations of existing commercial buildings must exceed the 2006 IECC by 30%.¹⁵

New York City recently closed a loophole in the State's energy code that exempted renovations impacting less than 50% of a building's total square footage from code requirements. Now, all alterations or renovations of residential and commercial buildings (with exceptions for historic and landmarked buildings) must meet the State's energy code, which is currently ASHRAE 90.1-2007. In addition, by 2025 all commercial and residential buildings larger than 50,000 square feet (SF) must upgrade lighting systems at the time of renovation to meet the current energy code requirements.¹⁶

Seattle. In 2013, Seattle's new City energy code for residential and commercial buildings will be based on an amended version of the Washington State 2012 IECC, which references ASHRAE 90.1-2010. This will result in Seattle's energy code being 20% more efficient than ASHRAE 90.1-2010. By law, Seattle's code will update in

¹⁴

http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=208&Itemid=489

¹⁵ Ibid.

¹⁶

<http://www.nyc.gov/html/gbee/html/plan/1185.shtml>

accordance with future revisions of the IECC.¹⁷

San Francisco requires new commercial buildings 25,000 SF and larger to exceed ASHRAE 90.1-2007 by at least 15%, and meet a set of additional environmental requirements through compliance with the Gold level of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system. Commercial buildings smaller than 25,000 SF must follow the California Green Code, which has similar energy requirements.¹⁸ Existing commercial buildings that are undergoing alterations must meet LEED Gold, which requires at least 10% greater energy efficiency than ASHRAE 90.1.¹⁹

Washington, DC requires that all new construction and major renovation of public buildings greater than 50,000 SF meet LEED New Construction requirements. New construction and major renovation of privately owned buildings greater than 50,000 SF must meet similar requirements. Privately owned buildings that meet the more rigorous LEED Gold criteria are eligible for expedited permitting.²⁰ Failure to comply with the requirements may result in fines assessed by the City.²¹

Requirements to Audit, Benchmark, and/or Disclose Building Energy Data

¹⁷ Interview with Duane Jonlin- Seattle Energy Codes and Energy Conservation Advisor, June 2012.

¹⁸ San Francisco ordinance AB-093, January 2011.

¹⁹

<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220>

²⁰ <http://ddoe.dc.gov/service/green-buildings>

²¹ <http://www.dcseu.com/for-your-business/benchmarking> and http://dcseu.com/docs/press/DCSEU_PressRelease_YearOne_12_15_11.pdf

Boulder requires that residential building permit applicants for new construction or renovations must also obtain an energy audit and comply with the Boulder Green Points Building Program, a mandatory residential green building program that requires a builder or homeowner to include a variety of sustainable building components based on size.²²

New York City requires that all buildings over 50,000 SF annually benchmark their energy use utilizing the EPA Portfolio Manager online benchmarking tool and publicly disclose the results via the New York City Department of Finance website.²³ Those buildings also must perform an energy audit and retro-commissioning study every 10 years, with exceptions for Energy Star and LEED certified buildings.²⁴

San Francisco requires all non-residential buildings over 10,000 SF to annually benchmark using the EPA Portfolio Manager. Benchmarking scores must be reported to the San Francisco Department of the Environment. The City in 2011 adopted legislation requiring energy audits in non-residential buildings greater than 10,000 SF. Owners are required to report compliance to the City and include a list of retro-commissioning and retrofit measures that have a simple payback of three years or less.²⁵

²²http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=208&Itemid=489

²³

<http://www.nyc.gov/html/gbee/html/plan/1184.shtml>

²⁴

<http://www.nyc.gov/html/gbee/html/plan/plan.shtml>

²⁵

<http://www.imt.org/resources/detail/building-energy-transparency-a-framework-for-implementing...energy-rating-d>

Seattle requires all commercial buildings over 10,000 SF and all multi-family buildings larger than five units to annually perform energy audits. Buildings must report their benchmarking results to the Department of Planning and Development utilizing the EPA Portfolio Manager. Building owners must provide results upon request of tenants, lenders, and buyers.²⁶

Washington, DC requires all public buildings greater than 10,000 SF to annually benchmark using the EPA Portfolio Manager starting in 2010. Private buildings larger than 50,000 SF must annually benchmark on a staggered schedule starting this year. Public disclosure is required via the District Department of the Environment website.²⁷

Local Public Incentives to Fund Building Energy Improvements

Boulder's residents in 2006 voted to impose a "carbon tax" based on their electricity usage to fund energy audits and technical assistance for homes and businesses.²⁸ The tax expires on March 31, 2013.²⁹ The City and County also sponsor the Energy Smart Program, which provides low cost energy assessments plus incentives, such as low interest financing, rebates and grants to homeowners and businesses to help facilitate energy reductions.³⁰

New York City established the New York City Energy Efficiency Corporation to provide financing products for energy efficiency and clean heat improvements in

²⁶ Institute for Market Transformation, Ibid.

²⁷ <http://ddoe.dc.gov/energybenchmarking>

²⁸ Home Performance Resource Center, "Best Practices for Energy Retrofit Design: Case Study, Boulder, Colorado," March 2010.

²⁹http://www.bouldercolorado.gov/index.php?option=com_content&view=article&id=15356&Itemid=2150

³⁰ <http://www.energysmartyes.com/>

private buildings throughout the City. NYCEEC is an independent, non-profit financial corporation that is utilizing federal stimulus funding and partnering with banks, community development financial institutions, and energy services companies to help catalyze energy efficiency improvements for private business owners.³¹

San Francisco recently launched a “Property Assessed Clean Energy” low-interest financing program for commercial building retrofits.³² Additionally, San Francisco Environment, an office of the City and County, has teamed with Pacific Gas and Electric to offer commercial buildings free on-site energy surveys and recommendations for low-cost improvements.³³ San Francisco also gives priority permit review for all new and renovated buildings that achieve a LEED Gold certification.³⁴

Washington, DC's Sustainable Energy Utility (SEU), which operates under contract to the District Department of the Environment, provides a \$500 incentive to homes that successfully complete qualifying energy upgrades. Both owner-occupied homes and rental properties with the property owners' authorization are eligible to participate. In addition, the DC SEU's Business Energy Rebates program provides DC businesses and institutions with financial rebates for installing energy-efficient equipment. This is a prescriptive program.³⁵

³¹ <http://www.nyceec.com/mission/>

³² https://commercial-pace.energyupgradeca.org/county/san_francisco/overview

³³

<http://sfenvironment.org/commercial/overview/sf-energy-watch-commercial-program>

³⁴ San Francisco Planning Department, Planning Director Bulletin #2, May 2006.

³⁵

[http://www.dcseu.com/for_your_home_performance/incentives_and](http://www.dcseu.com/for_your_home/dc_home_performance/incentives_and)

<http://www.dcseu.com/for-your-business/business-rebates>

Seattle's Community Power Works offers rebates and customer services for the residential sector that complement programs offered by Seattle City Light and Puget Sound Energy. In addition, single family homes that are not served by utilities for heating fuel are eligible for energy rebates. The program also provides free energy assessments, financing, and rebates for restaurants, corner stores, and small to medium grocers. Large commercial buildings served by Seattle Steam can upgrade their facilities using competitive financing and new rebates for energy upgrade programs.³⁶

³⁶ <http://www.communitypowerworks.org/>

District Energy

Draft Arlington CEP Goal: Increase local energy supply and distribution efficiency in Arlington using district energy.

While cities generally do not determine the supply of energy to their citizens, they have a variety of tools and authorities for creating economic opportunities to make the supply and distribution more efficient and “cleaner” from a GHG emissions perspective. Enabling district energy (DE) is one strategy for doing so.

“DE” is a somewhat general term that according to the International District Energy Association (IDEA) involves connecting “multiple heating and cooling energy users (buildings) through an underground piping network to environmentally responsible energy sources (central plants), such as combined heat and power (CHP), industrial waste heat and renewable energy sources such as biomass, geothermal and natural sources of heating and cooling.”³⁷

DE systems support energy efficiency and GHG emissions reduction goals in two fundamental, interrelated ways. First, by aggregating heating and cooling supply to multiple buildings they optimize thermal energy efficiency, by as much as 20% in some settings. (Efficiency can be further increased if the buildings connected to a DE system have diverse loads.) Second, the aggregation of buildings allows those that could otherwise not access lower-emission energy sources to do so on a more affordable basis.

DE systems are common in U.S. cities, on college and hospital campuses, and at

airports and military bases. They provide energy to about 10% of non-residential spaces in the U.S., according to the IDEA.³⁸ Urban systems in downtown business districts generally serve between 50 and several hundred buildings – often a substantial share of Class A office buildings in a city. In urban systems, buildings usually have multiple owners, are located near each other, and are interconnected individually to the distribution piping network.

One way cities can support development of DE systems is through their regulatory jurisdiction over buildings, such as zoning authority and codes adoption and enforcement. Benchmarking and disclosure polices can also be supportive of DE planning and implementation. Localities also can play a wide range of roles in creating, owning, and/or managing a DE system.³⁹

HR&A analyzed the efforts in developing DE systems of the following cities: 1) Montpelier, VT; 2) Nashville, TN; 3) St. Paul, MN; and 4) Toronto, Canada. Common approaches among these and other leading cities in this area are:

- An Active Role by the Locality in Establishing the System;
- Strategic Targeting of Locations to be Served by the System; and
- Linking the System’s Creation to Other Top Local Priorities.

³⁷ International District Energy Association, “IDEA Report: The District Energy Industry,” 2005.

³⁸ Ibid.

³⁹ See Portland Sustainability Institute, “District Energy for Portland: Laying the Groundwork for Implementation,” March 31, 2011.

An Active Role by the Locality in Establishing the System

Montpelier, in collaboration with the Chittenden County Regional Planning Commission and the Central Vermont Regional Planning Commission, completed a Capital District Master Plan in the late 1990s that included DE as one of its key components. In 2002-2004, the City passed a bond referendum to fund further study, also in collaboration with the Commissions. In 2010, Montpelier was awarded an \$8 million DOE Community Renewable Energy grant to begin construction of its system, which it anticipates will begin operations in fall 2012.⁴⁰

Nashville in the 1970s built a plant that would burn solid waste and convert the energy into heating a cooling for downtown buildings. By the early 2000s, the plant had reached its maximum lifespan and the City initiated a study that recommended a new DE source for the City. In 2004, the new Nashville District Energy Plant began operations, and today provides steam and chilled water for nearly 40 downtown buildings. It is operated by Constellation Energy.⁴¹

St. Paul established its DE system as a pilot project in 1983. The City was responsible for securing much of the early funding.⁴² St. Paul's DE system was first formed as a public-private partnership, with the public and private sectors each owning and operating different elements of the total system. Since then, it has grown into the largest DE system in North America, supplying heat to 187 buildings and 300 single family homes, and is operated by a

⁴⁰ <http://www.montpelier-vt.org/group/99.html>

⁴¹

http://www.nashville.gov/des/history_of_metro.asp

⁴² Ibid.

not-for-profit organization, District Energy St. Paul.⁴³

Toronto began supplying district heating in 1964. In 1976, five independently operated systems consolidated. In 1982, the Toronto District Heating Company was founded, to be owned and operated by the City of Toronto. In 1993 it restructured itself as a private entity, now known as Enwave Energy Corporation.⁴⁴ The City continues to support the system, recently allocating \$1 million for a study of the costs and benefits of extending the system to other parts of the city.⁴⁵

Strategic Targeting of Locations to be Served by the System

Montpelier's system will link various municipal buildings in the City: City Hall, the fire station, the police station, Montpelier High School, and Union Elementary school. These buildings were identified as heavy consumers of fuel oil: Montpelier intends to use the new system in part to hedge against a projected increase in the cost of fuel oil through 2035.⁴⁶

Nashville's first system consisted of a plant that burned solid waste and converted the energy into heating and cooling for downtown buildings. The plant, operated by the not-for-profit Nashville Thermal Transfer Corporation, was the first of its kind in the world to use solid waste as an energy source for both heating and cooling. The current system, which replaced the original solid-

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<http://www.portlandoregon.gov/bps/article/349828>

⁴⁴ <http://www.enwave.com/history.html>

⁴⁵ Metropolitan Washington Council of Governments. "Integrating Energy into Local Regulations and Programs: Final Report." December 2011.

⁴⁶ <http://www.montpelier-vt.org/group/99.html>

waste burning plant, provides steam and chilled water for nearly 40 downtown buildings.⁴⁷

St. Paul's system has grown into the largest district energy system in North America, supplying heat to 187 buildings totaling 32 million square feet—nearly 80% of downtown buildings⁴⁸—and 300 single family homes.⁴⁹ District Energy St. Paul's cooling system supplies chilled water to 19 million square feet of downtown building space, via 36,000 feet of piping.⁵⁰

Toronto's system has its roots in what were previously five distinct district energy systems: University of Toronto, Hospitals Steam Corporation, Toronto Hydro, Queen's Park, and the Toronto Terminal Railways Corporation. These five systems had provided downtown buildings with heating in piecemeal.⁵¹ It was not until their consolidation in 1982, referenced above, that the systems were integrated and significant portions of downtown began to share a single distributed system.

Linking the System's Creation to Other Top Priorities

Montpelier's system will act as a hedge against rising fuel oil prices: prices of West Texas Intermediate, a proxy for benchmarking oil prices, are projected to continue rising through 2035, from what is currently just over \$80/barrel to \$125-

⁴⁷

http://www.nashville.gov/des/history_of_metro.asp

⁴⁸ Metropolitan Washington Council of Governments, *Ibid.*

⁴⁹

<http://www.portlandoregon.gov/bps/article/349828>

⁵⁰ Metropolitan Washington Council of Governments. *Ibid.*

⁵¹ <http://www.enwave.com/history.html>

\$150/barrel. Further, as both a more cost-effective alternative to oil and as a way to support the local economic, Montpelier's system will use locally-harvested wood fuel.⁵²

Nashville frames the benefits of its system in terms economic and environmental benefits. Economic benefits result from a reduction in upfront capital costs for buildings systems, lower operating expenses, and economies of scale when purchasing fuel. Environmental benefits result from reduced overall energy consumption, stringent emissions controls leading to better quality air, and reduced peak power demand for air conditioning.⁵³

St. Paul has long been tied to environmental and local economic development goals. First, in 2003, the company began operating a biomass-processing CHP facility, which produces 70% of the heat generated for the system. Because it utilizes biomass, it consumes waste wood from downed trees, trimmings and branches. Further, the City estimates that its conversion of this waste into a useable product, that about \$12 million dollars have been kept in the local economy.⁵⁴

⁵² <http://www.montpelier-vt.org/group/99.html>

⁵³ http://www.nashville.gov/des/benefits_of.asp

⁵⁴ Metropolitan Washington Council of Governments. *Integrating Energy into Local Regulations and Programs, Final Report.* December 2011.

Toronto's system is integrated with its water supply system, using a Deep Lake Water Cooling system in Lake Ontario as its main source of chilled water.⁵⁵ The City has determined that the lower operating costs, economies of scale when purchasing fuel, and reduced upfront capital building costs have increased property values in the downtown core and facilitated further development.⁵⁶

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http://www.enwave.com/environmental_benefits.html

⁵⁶ Metropolitan Washington Council of Governments, "Integrating Energy into Local Regulations and Programs, Final Report." December 2011.

Renewable Energy

Draft Arlington CEP Goal: Increase locally generated energy supply through the use of renewable energy options.

Dozens of cities in the U.S. and hundreds around the world have made commitments to increase the use of renewable energy. Local governments have commonly set specific goals in this area. A global study of local renewable energy policies found: “Almost all cities working to promote renewable energy at the local level have established some type of renewable energy or CO₂ reduction target.”⁵⁷

In the U.S. the strongest interest in most communities to date has been in expanding the deployment of solar photovoltaic (PV) panels to generate electricity for buildings.⁵⁸ The Interstate Renewable Energy Council reported that installed PV capacity in the residential and non-residential sector in the U.S. increased 60 % in 2010 from 2009.⁵⁹ Bloomberg New Energy Finance projects residential and commercial PV capacity will grow at a 22% compounded annual growth rate from 2010 to 2020.⁶⁰

⁵⁷ REN21 Renewable Energy Policy Network for the 21st Century, Institute for Sustainable Energy Policies, and ICLEI—Local Governments for Sustainability, “Global Status Report on Local Renewable Energy Policies,” Working Draft, June 12, 2009.

⁵⁸ Cities worldwide may be able to generate 10 – 30 % of their electricity through rooftop PV systems, according to the International Energy Agency:

<http://www.iea.org/w/bookshop/add.aspx?id=380>

⁵⁹ Interstate Renewable Energy Council, “U.S. Solar Market Trends 2010,” June 2011.

⁶⁰ Bloomberg New Energy Finance, “Re-imagining U.S. solar financing,” June 4, 2012.

The two most widely cited reasons for “distributed” (i.e. rooftop) PV’s current and projected growth in the U.S. are the development of new forms of “third party” financing for PV installations and the availability of public-sector and utility incentives. On the first, “power purchase agreements,” leases, and the like, enable building owners to pay a fixed price for 10-20 years for solar power, without having to buy or maintain the panels themselves. On the second, state, local, and utility rebates, tax breaks, and other incentives are still seen as essential for driving demand for PV, even when low-cost third-party financing is available.

Local governments usually have a significant say in design, permitting, installation, and/or operations of a distributed solar system in their communities. The most common requirements for distributed PV involve building electrical codes and fire codes. Zoning authority may also be relevant, to the extent it determines building locations, orientations, and allowable external features. Cities also may have a role in ensuring compliance with interconnection codes via a local utility.

HR&A analyzed the efforts in renewables of the following cities: 1) Austin, TX; 2) Boston, MA 3) Denver, CO; 4) Orlando, FL; 5) San Diego, CA. Common approaches among these and other leading cities in this area are:

- Extensive Use of Analysis and Data to Inform Policy and Drive Adoption;
- Robust Incentives and Access to Third Party Financing; and
- Commitment to Marketing, Outreach and Education.

Extensive Use of Analysis and Data to Inform Policy and Drive Adoption

Austin utilized publicly available data held by City and County agencies and the

municipal utility, Austin Energy, to assess potential PV generating capacity and annual energy generation based on rooftop area in the City. The analysis considered several deployment scenarios in which available square footage yielded a range of potentially available solar power. The results were ultimately incorporated into Austin Energy's Generation Plan.⁶¹

Boston pursued a similar approach. After assessing "rooftop PV potential," the City determined that there was sufficient rooftop space to set an aggressive deployment target. To establish a specific target, the City considered current installed capacity and developed a projected growth rate based on experience in other jurisdictions in Massachusetts, around the U.S, and in other countries.⁶²

Denver developed a solar "master plan" that described the deployment potential and the costs of solar PV, as well as solar hot water, in public buildings. The modeling was verified and revised as necessary through rooftop inspections. The City conducted additional analysis to ensure the local zoning code does not impede and where possible supports PV installations.⁶³

Orlando created a region-wide geographic information system (GIS)-based solar mapping website. The website enables users to calculate the solar potential on their roof and understand the potential benefits of a solar system. It also provides detailed information on individual solar projects in the Orlando area.⁶⁴

⁶¹<http://www.austinenergy.com/about%20us/Environmental%20Initiatives/climateProtectionPlan/index.htm>

⁶² <http://gis.cityofboston.gov/solarboston/#>

⁶³ <http://www.greenprintdenver.org/>

⁶⁴ <http://gis.ouc.com/solarmap/index.html>

San Diego conducted an analysis aimed at maximizing the economic benefits of its support for solar PV, including the systems' impacts on electric utility bills. The study found that, "rate structures, particularly those with time-of-use energy charges, have an impact on the overall economics of a PV system, and that the impact may be large. Demand charges can also vary widely depending on when the peak time is set."⁶⁵

Robust Incentives and Access to Third Party Financing

Austin's municipal utility, Austin Energy, offers rebates up to \$15,000 per home for solar PV. Austin Energy also offers its residential, commercial, and municipal customers up-front rebates or low interest loans for the purchase and installation of solar hot water heaters. In addition, Austin Energy provides direct payments to its commercial and multi-family residential customers for electricity generated by PV systems.⁶⁶

Boston, until July 2012, provided rebates for solar PV and solar hot water. The rebate has been folded into a statewide program, which encourages the adoption of rooftop solar via education, marketing, and tiered pricing. Boston also passed an ordinance reducing permitting fees by 60% for solar projects by removing the cost of PV panels and other hardware from the calculation of project costs.⁶⁷

Denver has made substantial investments in the Denver International Airport, which the City and County of Denver owns. The City

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<http://www.nrel.gov/docs/fy08osti/42923.pdf>

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http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=TX105F&re=0&ee=0

⁶⁷

<http://www.cityofboston.gov/environmentalenergy/conservation/solar.asp>

and County provided part of the financing through a loan to the project developer that was collateralized by the PV system and “renewable energy certificates.” This power purchase agreement structure lowered the financial risk in the transaction and resulted in lower cost electricity than the airport pays the local utility for conventional power from the grid.⁶⁸

Orlando’s Utilities Commission has partnered with Orlando Federal Credit Union to provide low-interest loans for rooftop PV and solar water heating systems. Customers may borrow up to \$7,500 for a water heating system or up to \$20,000 for a PV system. Loans are repaid over time as fixed payments on customers’ monthly utility bills. Interest rates range from zero to 5.5% and terms range from 3-10 years. Borrowers do not have to be members of the credit union to participate.⁶⁹

The County of San Diego’s Green Building Incentive Program expedites building plan approvals by 7-10 days and reduces permitting fees by 7.5% for projects containing eligible environmentally sustainable elements, which can include PV systems. (San Diego also benefits from generous incentives provided by the State of California.)⁷⁰

⁶⁸ U.S. Department of Energy, “Solar in Action: Denver, Colorado, October 2011.

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http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=FL63F&re=0&ee=0

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⁷⁰<http://www.sdcounty.ca.gov/dplu/greenbuildings.html>

Commitment to Marketing and Education

Austin’s City Council in 2010 entered into a two-year agreement with the Austin Independent School District to install solar panels and “solar outdoor learning centers” at up to 21 schools. The goal of the centers is to give children an opportunity to participate in interactive lessons on solar energy. This effort is part of a program in which Austin Energy worked with school district science teachers to develop a solar energy curriculum.⁷¹

Boston produced a comprehensive guidebook to assist residents, businesses, and solar installers in all aspects of solar systems. The guide provides background information on solar technologies, describes how property owners can evaluate solar options, and details state and federal financial incentives that may be available. The guide also advises on finding a qualified solar installer and the area’s permitting and interconnection process.⁷²

Denver commissioned a “Solar Market Analysis” report to assess and increase the participation of existing Denver area businesses in the solar industry supply chain, and identify challenges and barriers to expanding participation. The report was developed from a survey of local installers, manufacturers, installers, integrators, and service providers, and provided recommendations for City support.⁷³

⁷¹<http://www.austinenergy.com/about%20us/newsroom/Press%20Releases/Press%20Release%20Archive/2011/solarLearningCenter.html>

⁷²http://www.cityofboston.gov/Images_Documents/Solar%20Boston%20Permitting%20Guide%20NEW%20Sept%202011_tcm3-27989.pdf

⁷³ U.S. Department of Energy, *Ibid.*

Orlando conducted a series of seven solar roundtables (interactive workshops) to develop a list of solar policies and priorities to help the City meet its deployment goals. A report summarized recommended approaches to solar implementation in all key market segments and identified policy, financial, and marketing ideas collected during each of the roundtables. The report also contained detailed conclusions and recommendations based on participant feedback.⁷⁴

San Diego conducted a citywide survey and series of focus groups with real estate professionals, City agency staff and current solar homeowners aimed at identifying specific barriers to PV systems for homes and apartments. The results, including specific actions the City has taken in response, were compiled in a publicly available report.⁷⁵

⁷⁴ <http://orlandorunsonsun.com/solar-by-sector>.

⁷⁵ <http://www.sandiego.gov/environmental-services/sustainable/pdf/100330solarcityreport.pdf>

Transportation

DRAFT Arlington CEP Goal: Refine and expand transportation infrastructure and operations enhancements.

It is generally the case that the largest near term opportunities to reduce GHG emissions in transportation are through increasing the efficiency of existing gasoline, diesel, and hybrid-electric engines in privately owned vehicles – areas that local governments have little ability to affect. (Localities can of course have direct and sometimes substantial influence on fuel type and fuel efficiency with respect to municipal fleets.)⁷⁶

There are however a wide range of actions that cities and counties can take to reduce “vehicle miles travelled” (VMT) that could over time significantly contribute to emissions reductions and a more energy efficient transportation system. Primary categories of public-sector led VMT-reduction strategies include: 1) pricing (tolls, fees, taxes, etc. on private modes of transport); 2) alternative public transit options (bus, rail, ferry, etc.); 3) ride-sharing and the like (park-and-ride facilities, van pools, HOV lanes); 4) smarter growth development (e.g., denser development closer to transit and existing infrastructure); 5) walking and biking initiatives; and 6) parking management programs.⁷⁷

A report by the U.S. Department of Transportation concluded that broad application of select pricing, public transit, smart growth development – policies well within the authority of most local

⁷⁶In addition, some cities own and operate airports, marine ports, public transit systems, and intermodal freight and passenger facilities, creating other opportunities for interventions.

⁷⁷ There are also private sector-led strategies for reducing VMT that local governments could support, such as teleworking.

governments in the U.S. – could reduce U.S. GHG emissions by 4-13% by 2030.⁷⁸

In addition, local governments - through their land use, building code, and zoning authorities - can encourage the creation of viable markets for lower “cleaner” vehicles such as electric cars. The extent to which such strategies may reduce GHG emissions is complex and depends substantially on which primary energy source supplies the electricity for the vehicles. According to the DOE, “Electrification [of the light duty vehicle fleet] centralizes emissions from many individual mobile sources, *potentially easing environmental impacts* because pollution controls on a single power plant are more economical and effective than controls on individual cars” (emphasis supplied).⁷⁹

HR&A analyzed the efforts in buildings of the following cities: 1) Chicago, IL; 2) London, United Kingdom; 3) Los Angeles, CA; 4) Research Triangle Area (Raleigh-Durham-Chapel Hill), NC; Common approaches among these and other leading cities in this area are:

- Substantial New Commitments to Transit;
- Other Creative Approaches to Reducing VMT; and
- Significant Investment to Create Markets for Cleaner Vehicles.

⁷⁸ U.S. Department of Transportation, “Transportation’s Role in Reducing Greenhouse Gas Emissions, Report to Congress, Volume I: Synthesis Report,” April 2010.

⁷⁹ U.S. Department of Energy, “Report on the First Quadrennial Technology Review,” September 2011.

Substantial New Commitments to Transit

Chicago recently announced a Building a New Chicago initiative, which aims to invest \$7 billion in a wide range of infrastructure, including transit. Among the transit related planned investments are improvements to 100 Chicago Transit Authority stations and the creation of the first 16 miles of a bus rapid transit route. According to the City, the initiative will not be funded by tax increases, but through various administrative cost reductions, efficiency improvements, user fees, and private investment.⁸⁰

London is rebuilding its Underground system and replacing its municipal bus fleet with cleaner vehicles, financed in part by Central London's congestion pricing system (see below). The City is also creating a 13-mile, \$22 billion, 37-station transit link that will run across the entire urban core, partially funded by a special tax assessment on properties within zones that are expected to benefit from the new line. When completed, this project will bring an estimated 1.5 million additional workers within 45 minutes of central London.⁸¹

Los Angeles County in 2008 passed a half-cent sales tax to help fund \$40 billion in transit and related infrastructure investments over 30 years. The City has subsequently committed to complete all the major projects within 10 years. The effort is estimated to create more than 210,000 new construction jobs and infuse an estimated \$32 billion back into the local economy.⁸²

Research Triangle. Raleigh is creating a new multi-modal transit hub downtown with a

⁸⁰http://www.cityofchicago.org/city/en/depts/mayor/press_room/press_releases/2012/march_2012/mayor_emanuel_announces7billionbuildinganewchicagoprogram.html

⁸¹ <http://www.crossrail.co.uk/>

⁸² <http://www.metro.net/projects/measurer/>

combination of local, state, and federal funds.⁸³ Durham County has approved a half-cent sales tax to expand commuter rail and bus service. Wake County and Orange County have not yet approved it but are taking other steps to improve existing transit infrastructure.⁸⁴

Other Creative Approaches to Reducing VMT

Chicago. The Chicago Metropolitan Agency for Planning's "GO TO 2040" plan, Chicago's first comprehensive regional plan in more than 100 years, contemplates several innovative mechanisms to reduce VMT. The plan considers options for replacing federal and state gasoline taxes with "pay as you drive fees," including a potential "VMT fee." Such an approach could be more efficient and effective than gas taxes through the utilization of GPS and other technologies.⁸⁵

London Since February 2003 the City of London has imposed a fixed daily charge to drive or park on public roads in its central area during weekdays as a way to reduce traffic congestion and raise revenues to fund transit investments. Individuals who live within the charging zone are entitled to much lower charges. A wide range of payment plans and mechanisms are available.⁸⁶

Los Angeles' Department of City Planning, with funding from the Metropolitan Transit

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<http://www.raleighnc.gov/business/content/PlanUrbanDesign/Articles/UnionStation.html>

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<http://www.raleighpublicrecord.org/news/transit/2012/07/24/with-tax-off-the-table-city-transit-planners-look-to-short-term/>

⁸⁵ <http://www.cmap.illinois.gov/2040/regional-mobility>

⁸⁶

<http://www.tfl.gov.uk/roadusers/congestioncharging/>

Authority, is actively supporting “transit oriented development” (TOD). The funding is enabling the Department to launch a comprehensive program to complete and adopt 10 TOD station area plans within the next two years. Transit-oriented planning is also a key feature of three specific plans that are starting the approval process and has been touted by the Mayor of the City as a top priority.⁸⁷

Research Triangle. The City of Durham and City of Chapel Hill developed a joint blueprint for regional mobility and growth that includes a major focus on park-and-ride facilities as an important component of travel demand management. The plan describes potential partnerships with retail locations, creating joint-use of existing parking facilities that may be underutilized and well positioned along key corridors. It also recommends potential new locations for park-and-ride facilities.⁸⁸

Significant Investment to Create Markets for Cleaner Vehicles

Chicago raised \$9 million in private and public funds to create 280 EV charging stations in the city and surrounding region by the end of 2011. The effort included the first large scale EV car sharing program by Zipcar. Recent reports have suggested that implementation has been slower than expected but the project is more than 60% complete.⁸⁹

London. Source London is a program to

install 1,300 publicly accessible points across the city by 2013 (double the number of gas stations in the City). The program will begin as a membership program.⁹⁰ (EVs are exempt from London’s congestion charges described above.) In addition, London’s newest buses are diesel-electric hybrids.

Los Angeles provides rebates, expedited permitting and customer service support to EV buyers. The City has also revised the building code to be “EV ready” and has been investing in the existing grid infrastructure – upgrading thousands of distribution transformers for example – in order to ensure reliability as expected demand for EVs grows.⁹¹

Research Triangle communities developed a community-wide “readiness plan” for large scale adoption plug-in EVs. The City of Raleigh has worked to remove local barriers to EV adoption in its building code, electrical code, and other local policies, while streamlining permitting and inspections for EVs. The City installed nearly 60 EV charging stations in 2010 and 2011 is also exploring the feasibility of solar-powered charging stations.

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<http://www.planningreport.com/2012/01/31/reinventing-los-angeles-seizing-transit-opportunity>

⁸⁸ <http://www.nc54->

[i40corridorstudy.com/index.html](http://www.nc54-i40corridorstudy.com/index.html)

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<http://theexpiredmeter.com/2012/06/possible-investigation-short-circuits-chicagos-electric-vehicle-charging-station-program/>

⁹⁰ <https://www.sourcelondon.net/>

⁹¹ <http://www.socalev.org/index.htm>

**INTERJURISDICTIONAL JOINT ACTION AGREEMENT
REGARDING THE ARLINGTON / ALEXANDRIA WASTE-TO-ENERGY FACILITY**

This Interjurisdictional Joint Action Agreement Regarding the Arlington / Alexandria Waste-to-Energy Facility (hereinafter “Agreement”) is made as of the date on which it is last signed by one of the parties hereto, by and between the City of Alexandria, Virginia (hereinafter “City”), and the County Board of Arlington County, Virginia (hereinafter “County”). The City and the County may be referred to individually herein as “Jurisdiction” or collectively herein as the “Jurisdictions”.

W I T N E S S E T H :

WHEREAS, the City and the County together own in equal shares two parcels of real property in Alexandria, Virginia, identified by Alexandria tax Account Numbers 50631180 (“Parcel A”, 3.2644 acres) and 50686420 (“Parcel B”, 4,036 square feet); and

WHEREAS, pursuant to an Amended and Restated Site Lease dated October 1, 1985, as amended, and an Operating Lease Agreement dated November 1, 1998, as amended, the City and the County lease the real estate referenced above to Covanta Alexandria/Arlington, Inc. (hereinafter it or its successors or assigns may be referred to as “Contractor”); and

WHEREAS, the City and the County entered into a Waste Disposal and Service Agreement dated January 24, 2012 (hereinafter “WDSA”), with the Contractor, which provides for the Contractor’s use of the facility on the above-referenced property to incinerate solid waste provided by the Jurisdictions to the Contractor and to convert it into thermal energy; and

WHEREAS, the WDSA addresses the Jurisdictions’ relationship with the Contractor but does not address the relationship between the Jurisdictions stemming from the WDSA, and the Jurisdictions agree that a formal relationship between them is necessary regarding these matters,

further to the Amended and Restated Interlocal Joint Enterprise Agreement dated as of October 1, 1985, between the Alexandria Sanitation Authority and the Arlington Solid Waste Authority and the Amended and Restated Waste Disposal Trust Fund Cooperative Agreement dated as of October 1, 1985, between the Jurisdictions; and

WHEREAS, the Code of Virginia (Title 15.2, Chapter 13) allows for joint actions by localities,

NOW, THEREFORE, the City and the County covenant and agree as follows:

1. Duration. The duration of this Agreement (hereinafter “Term”) shall be the same as the duration of the WDSA stated in section 2.3 of the WDSA, unless otherwise agreed by the Jurisdictions in writing. If the WDSA concludes on September 30, 2025, as provided for in the WDSA, then the Jurisdictions will revisit this Agreement and negotiate any amendments or supplements to it that they deem necessary at that time. The Jurisdictions agree to commence any such negotiations not later than two years from the date on which the WDSA is scheduled to expire, insofar as the Jurisdictions are aware of that date two years before it occurs.

2. Purpose. The purpose of this Agreement is to establish a formal relationship between the Jurisdictions regarding their rights and duties under the WDSA and to describe the details of that relationship and how it will function.

3. Waste-To-Energy Facility Monitoring Group. The Jurisdictions hereby establish a Waste-To-Energy (“WTE”) Facility-Monitoring Group (hereinafter “FMG”) and agree to liaise with each other through the FMG regarding the matters discussed in this Agreement.

A. Each Jurisdiction’s chief administrative officer (the City Manager for the City and the County Manager for the County) shall appoint two (2) members to the FMG. Each chief administrative officer may remove, replace, or otherwise change their

appointees to the FMG at any time in their sole discretion. One appointee from each Jurisdiction shall have a financial-management background and the other appointee from each Jurisdiction should have a solid-waste or environmental program background. The appointees shall be department heads or senior members of the Jurisdiction's staff.

B. Each Jurisdiction's chief administrative officer may, in his or her discretion, appoint one alternate FMG member for each of the Jurisdiction's two appointees. In the event that an alternate's respective FMG member is unable to attend a FMG meeting, the alternate FMG member may attend FMG meetings and participate in the activities of the FMG as if he or she was a full-fledged member of the FMG.

C. The four members of the FMG shall elect a chairman from among them. A quorum of the FMG shall consist of four members, including alternates. The FMG shall meet at least quarterly in order to review the operations of the WTE facility. The Jurisdictions may have other staff employed by them attend meetings of the FMG, regardless of whether the staff are FMG members or alternates for members.

D. Duties & Responsibilities of the Facility-Monitoring Group.

1. The FMG shall be the single point of contact for the Contractor to deal with the Jurisdictions regarding routine operational monitoring, financial management, and facility maintenance issues.

2. The FMG shall be a forum for the Jurisdictions' staffs' discussion and evaluation of major environmental and/or capital repairs and improvements, changes in law, and other major issues that may arise.

3. Routine issues that shall be within the FMG's bailiwick include:

a. monitoring the operations of the WTE facility;

- b. monitoring the upkeep and maintenance of the facility and its compliance with environmental and other governmental regulations;
- c. maintaining records of the WTE facility's operations;
- d. maintaining and reporting tonnage records;
- e. performing any necessary financial management revenue- and cost-sharing calculations based on the WDSA and this Agreement; and
- f. responding to questions or interpreting issues related to the WDSA.

4. Other issues that may be discussed or evaluated by the FMG include:

- a. capital repairs and improvements to the WTE facility that are designed to protect the environment;
- b. capital repairs and improvements to the WTE facility that are necessary for the WTE facility's continuing operation but are not the responsibility of the Contractor under the terms of the WDSA;
- c. effects of changes in law on the WTE facility and its operations;
- d. responding to questions or interpreting issues related to the WDSA; and
- e. other issues of significance to the future operation of the WTE facility.

4. Trust Fund. The Jurisdictions hereby establish and declare a joint trust fund (“Fund”) for use by them in administering their financial obligations set forth in the WDSA and this Agreement. The Fund’s formal name shall be the Alexandria & Arlington Waste Disposal Trust Fund. Moneys held in the Fund may be paid from the Fund for one or more of the following purposes: capital costs related to the WTE facility; costs related to increases in tipping fees resulting from uncontrollable circumstances (as those terms are defined in the WDSA); fees and expenses of accountants and other professionals providing services to the Jurisdictions and the FMG related to the WTE facility or the Fund; fees and expenses related to management or administration of the Fund and the WTE facility; and other expenditures for waste disposal, including costs related to the WTE facility.

A. One of the Jurisdictions will manage the Fund for both of them. The Jurisdiction that manages the Fund shall receive an allowance from the other Jurisdiction in exchange for the Jurisdiction’s management of the Fund. The annual allowance initially will be \$7,000.00 plus reimbursement of out-of-pocket audit and other costs. The annual allowance will be reviewed annually by the FMG and adjusted if deemed necessary by the FMG based on the managing Jurisdiction’s estimates of the costs it will incur for managing the Fund. The management allowance shall be budgeted by the Jurisdictions as a routine cost of the FMG. The Fund-managing Jurisdiction shall include the Fund’s transactions and assets in the Jurisdiction’s financial statements to the extent and in the form or forms required by generally accepted accounting principles.

B. The Jurisdiction that manages the Fund shall perform the following tasks:

1. provide (in consultation with the FMG) payments to the Contractor and other vendors providing goods and services to the Jurisdictions at or for the WTE facility according to the terms of the WDSA and this Agreement;

2. provide to the other Jurisdiction, within 30 days of the end of a given quarter, a monthly statement of payments made from the Fund during that quarter;

3. provide annual audited financial statements to the other Jurisdiction within 150 days after the end of the fiscal year, showing payments made from the Fund during the prior fiscal year and allocating those payments between the Jurisdictions according to the terms of the WDSA and this Agreement;

4. ensure that proper financial management and internal controls are in place and respond to questions of any auditor(s) engaged by either Jurisdiction; and

5. apportion any surplus money in the Fund between the Jurisdictions according to the terms of this Agreement, taking into account future anticipated expenses and the Jurisdictions' plans for paying those expenses from the Fund.

C. The Jurisdictions expect that procurement functions will be led and facilitated by the Jurisdiction that is not the Fund-managing Jurisdiction.

D. The annual contribution by each Jurisdiction to the Fund shall be in accordance with the Jurisdiction's adopted budget and based on the calculations of the FMG. Subject to appropriations, each Jurisdiction shall make payment to the Fund for

that Jurisdiction's respective share of WTE facility costs at the beginning of every fiscal year of the Jurisdiction.

E. In the event that the Fund has a positive balance remaining at the end of the then-current fiscal year and the audited financial statements are complete, then the Jurisdictions may divide the Fund between themselves in the following proportions: sixty percent (60%) to the County Board of Arlington County and forty percent (40%) to the City of Alexandria, commensurate with their respective percentages of contributions to the Fund. The Jurisdictions may elect to retain the funds in the Fund for future financial obligation of the FMG.

5. Budget.

A. This Agreement shall in no way affect the Jurisdictions' legal obligations to adopt and implement annual budgets or to fulfill their obligations in the WDSA.

B. The FMG each year shall develop a proposed operating and capital budget for the Fund for the upcoming fiscal year.

C. The FMG's proposed budget shall be submitted by the FMG to the chief administrative officers of the Jurisdictions. The chief administrative officers shall review the proposed budget and ensure that it is reviewed and submitted for approval by their respective Jurisdiction's governing body as part of its annual budget process. The FMG operating and capital budget shall not be considered approved and final until it is approved by each Jurisdiction's governing body.

D. The annual budget developed by the FMG shall address the following:

1. Costs of routine operational monitoring, financial management, and facility maintenance to be borne by the Jurisdictions. These costs may include:

a. a consultant with appropriate professional expertise who is approved by the FMG and qualified to assist in monitoring the operations of the WTE facility to ensure its proper upkeep and maintenance and compliance with environmental and other governmental regulations;

b. any professional association fees and activities necessary to maintain key knowledge of developments in the waste-to-energy industry regionally or generally, or among clients of the Contractor;

c. assistance in studying the desirability or feasibility of minor facility maintenance or repair projects, or implementing such projects. A project may be considered “minor” if the project is estimated to cost less than or equal to \$150,000 in the upcoming fiscal year; and

d. financial-management services.

2. Proposed costs for studies of the feasibility, desirability or impact of major facility repairs and improvements, or responses to changes in law, and the costs of implementing such projects. A project may be considered “major” if the project is estimated to cost more than \$150,000 in the next upcoming fiscal year;

3. The costs of major projects shall be shared by the Jurisdictions in proportions other than 60%/40% if approved by the Jurisdictions’ governing

bodies, taking into account the extent to which a project benefits each of them.

For example:

- a. aesthetic improvements (e.g., landscaping or noise-abatement actions) may be borne entirely or primarily by Alexandria; and
- b. environmental improvements of regional significance such as Low NOx, wastewater reuse, bag house particulate emission controls, excess steam usage, and responses to future Federal or Virginia environmental requirements may be shared equally or otherwise.

E. In the event of a discrepancy between the FMG budget approved by one Jurisdiction and that approved by another, the lower approved budget amount shall control unless the Jurisdictions mutually resolve the discrepancy in writing.

6. Allocation of Expenses. Any and all expenses incurred by the Jurisdictions in the course of their fulfillment of this Agreement shall be allocated sixty percent (60%) to the County and forty percent (40%) to the City, in approximate recognition of their respective utilization of the WTE facility. In no way shall this section affect the Jurisdictions' obligations in the WDSA. The allocations set forth herein may be revised by an amendment to this Agreement.

7. Decisions Regarding Renewal or Extension of WDSA Term. The Jurisdictions acknowledge that the WDSA provides for the automatic renewal of the WDSA's Term (as that term is defined in the WDSA) on July 1, 2019, for a Renewal Term (as that term is defined in the WDSA) to September 30, 2025, and additionally provides for an optional extension of the WDSA's Term to December 31, 2038, if the Jurisdictions jointly exercise that extension right before December 31, 2024. The Jurisdictions agree to reach any decision regarding any such extension by mutual agreement between them.

8. Adjustments in Excess or Shortfall Tonnage Thresholds. The Jurisdictions acknowledge that the WDSA provides for adjustment to waste tonnage amounts - both minimum annual amounts and the threshold at which tonnage is deemed “excess” in a given year. Such adjustments must be made by the Jurisdictions no later than April 1 of a given calendar year, that being the 90th day before July 1, the first day of a new Contract Year as that term is defined in the WDSA. The Jurisdictions agree that they will, through the FMG, project their combined waste-disposal needs for the upcoming Contract Year and allocate each Jurisdiction’s share of the tonnage “band” for the upcoming year. The FMG will adjust the minimum annual amounts and the “excess” tonnage threshold accordingly and will inform the Contractor of same.

9. Allocation and Payment of Shortfall and Excess Tonnage Fees. The Jurisdictions acknowledge that the WDSA provides for the payment of fees to the Contractor if the Jurisdictions 1) do not provide the minimum tonnage amount to the Facility or 2) provide in excess of the excess annual tonnage threshold. The Jurisdictions agree that when their combined waste tonnage provided to the Contractor’s Facility fall short of the minimum amount or in excess of the excess tonnage threshold (after adjustments are made as provided by the WDSA), then the allocation of fees incurred for such shortfall or excess will be made based on each Jurisdiction’s actual tonnage compared with its projection for that Contract Year of the WDSA. Any fees for shortfall or excess paid by the Jurisdictions, through the FMG, to the Contractor shall be adjusted in the FMG’s annual close-out process and allocated to each Jurisdiction based on the portion of the shortfall or excess attributable to each Jurisdiction for that year.

10. Allocation and Use of Revenues. All taxes (including real and personal property and gross receipts) paid by the Contractor to the City will be shared by the City twice each year with the County in the following percentages: 60% to the County and 40% to the City, after

deduction of a host community fee for Alexandria based upon a formula that is to be mutually agreed upon by the Jurisdictions based on an estimate of the costs of providing City services to support the WTE facility (e.g., public safety, transportation and other public services). All other (non-tax) revenue that results from the Contractor or the operation of the WTE facility will be shared between the City and the County in the following percentages: 60% to the County and 40% to the City, regardless of which Jurisdiction receives the revenue or how it is received.

11. Allocation of the Proceeds from Sale of the Jurisdictions' WTE Property. In the event of any sale of Parcel A or Parcel B or any interest therein or sale of personal property owned by the Jurisdictions in or on Parcel A or Parcel B (including, but not limited to, pollution-control systems and equipment), the net proceeds from such sale shall be divided between the Jurisdictions in the following percentages:

A. For the sale of any such personal property, 60% to the County and 40% to the City;

B. For the sale of any such real property, 50% to the County and 50% to the City.

12. Miscellaneous.

A. This Agreement is between the County Board of Arlington County, Virginia, and the City of Alexandria, Virginia, and no other persons or entities. The City and County covenant and agree that they, and no one else, may or shall be beneficiaries of this Agreement or the rights and obligations hereunder.

B. This Agreement may be amended at any time by the Jurisdictions in writing, so long as any amendment is made with the same formality with which this Agreement was first approved and executed.

C. All funds for payments to be made by the Jurisdictions pursuant to this Agreement or the WDSA are subject to the availability of an annual appropriation for such purpose by the governing bodies of the Jurisdictions. In the event of non-appropriation of funds for such purpose by either Jurisdiction's governing body, then the Jurisdictions will collaborate, through the FMG, to wrap-up the FMG and the Fund and to terminate this Agreement.

D. This Agreement will conclude at the end of the Term as it is defined hereinabove, or sooner by mutual written agreement of the Jurisdictions.

E. This Agreement may not be assigned by either Jurisdiction to any person or entity that not a party to this Agreement unless the other Jurisdiction has agreed to such assignment in advance and in writing.

F. This Agreement and the Jurisdictions' actions performed hereunder shall be governed in all respects by the laws of the Commonwealth of Virginia, and the jurisdiction, forum, and venue for any litigation with respect hereto shall be in the Circuit Courts of Arlington County or the City of Alexandria, Virginia, and in no other court.

G. The failure of either Jurisdiction to exercise in any respect a right provided for in this Agreement shall not be deemed to be a subsequent waiver of the same right or any other right.

H. The sections, paragraphs, sentences, clauses and phrases of this Agreement are severable, and if any phrase, clause, sentence, paragraph or section of this Agreement is declared invalid by a court of competent jurisdiction, such invalidity shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this Agreement.

I. Notwithstanding any other provision of this Agreement, nothing herein or any action taken by either Jurisdiction pursuant to this Agreement shall constitute or be construed as a waiver of either the sovereign or governmental immunity of the Jurisdictions. The Jurisdictions intend for this provision to be read as broadly as possible.

13. Dispute Resolution. Disputes between the Jurisdictions shall be resolved as follows:

A. In the event of a dispute between them, the Jurisdictions will engage a qualified mediator to assist them in resolving the dispute. The costs of mediation will be shared equally by the Jurisdictions.

B. In the event that mediation is not successful in resolving a given dispute, then the Jurisdictions will exchange “best and final” offers with each other and will enter into non-binding arbitration. The arbitrator will be asked to choose between the two “best and final” offers and resolve the dispute. The costs of binding arbitration shall be borne by the Jurisdiction whose offer is not chosen. Notwithstanding this subsection’s terms, the Jurisdictions acknowledge that their obligations hereunder are subject to appropriations by them for the purposes stated herein.

14. Termination. This Agreement will be terminated on the sooner of 1) the termination of this Agreement by action of the Jurisdictions, confirmed by them in writing, or 2) the conclusion of the Term of this Agreement or the conclusion of the WDSA.

THE REMAINDER OF THIS PAGE IS INTENTIONALLY BLANK.

IN WITNESS WHEREOF, the County and the City have caused this Agreement to be executed and delivered as their respective acts, intending to be legally bound by its terms.

THE COUNTY BOARD OF ARLINGTON COUNTY, VIRGINIA

By: _____

Printed Name: _____

Title: _____

Date: _____

THE CITY OF ALEXANDRIA, VIRGINIA

By: _____

Printed Name: _____

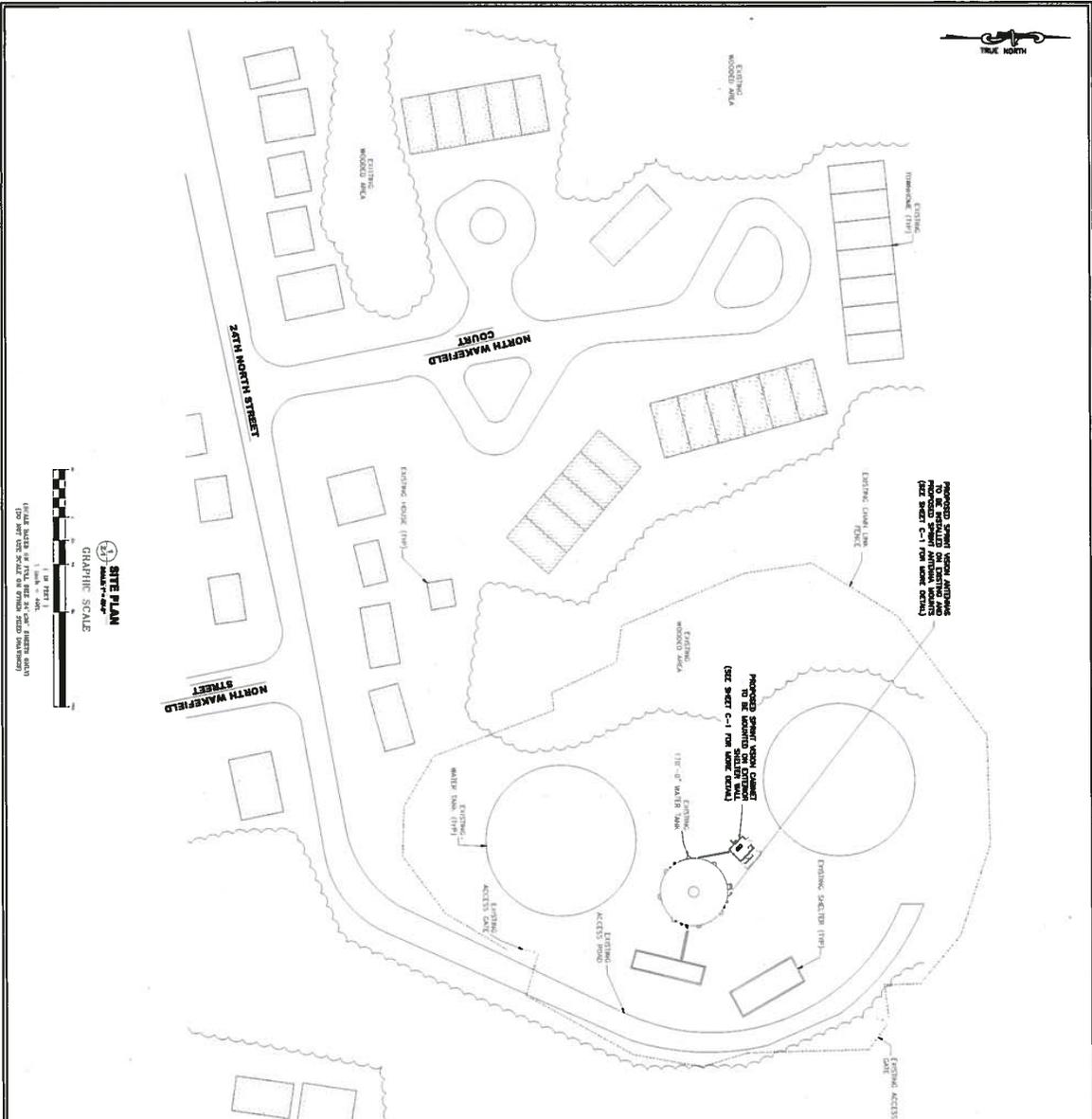
Title: _____

Date: _____

APPROVED AS TO FORM:

Arlington County Attorney

Alexandria City Attorney



- GENERAL NOTES:**
1. THIS PLAN HAS BEEN PREPARED USING AN APPROVED PLAN DIVISION SET PLAN BY A LICENSED PROFESSIONAL ENGINEER AND SHOULD NOT BE CONSIDERED AS AN ASSURE CONTRACT.
 2. THE PROPOSED FACILITY WILL OBTAIN THE "LIMITS" IN THE EXISTING MAPS. HOWEVER, NO PROPOSED STRUCTURES WILL BE PERMITTED.
 3. NO OTHER SPACING, DISTANCE OR OTHER LIMITS SHALL BE PERMITTED.
 4. THE FACILITY IS LAYED OUT AND NOT FOR FUTURE EXPANSION. THERE IS NO PROVISION FOR FUTURE EXPANSION.
 5. THE FACILITY IS LAYED OUT AND DOES NOT INCLUDE FUTURE WATER OR SANITARY SERVICE.
 6. DISTURBANCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 SHALL BE MAINTAINED THROUGHOUT THE PROJECT.
 7. THE PROPOSED FACILITY DOES NOT INCLUDE OUTSIDE STORAGE OF ANY KIND.
 8. ACCORDING TO THE FLEET CHIEF, THE FACILITY SHALL BE OPERATED ON A 24-HOUR BASIS. THE PROPOSED SITE IS NOT A 24-HOUR FACILITY. OPERATIONS SHALL BE LIMITED TO 24 HOURS PER WEEK.
 9. THE PROPOSED FACILITY SHALL BE OPERATED ON A 24-HOUR BASIS. OPERATIONS SHALL BE LIMITED TO 24 HOURS PER WEEK.
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 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE, AND FEDERAL AUTHORITIES.
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 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE, AND FEDERAL AUTHORITIES.
 22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL, STATE, AND FEDERAL AUTHORITIES.

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 FAX: (704) 582-7400

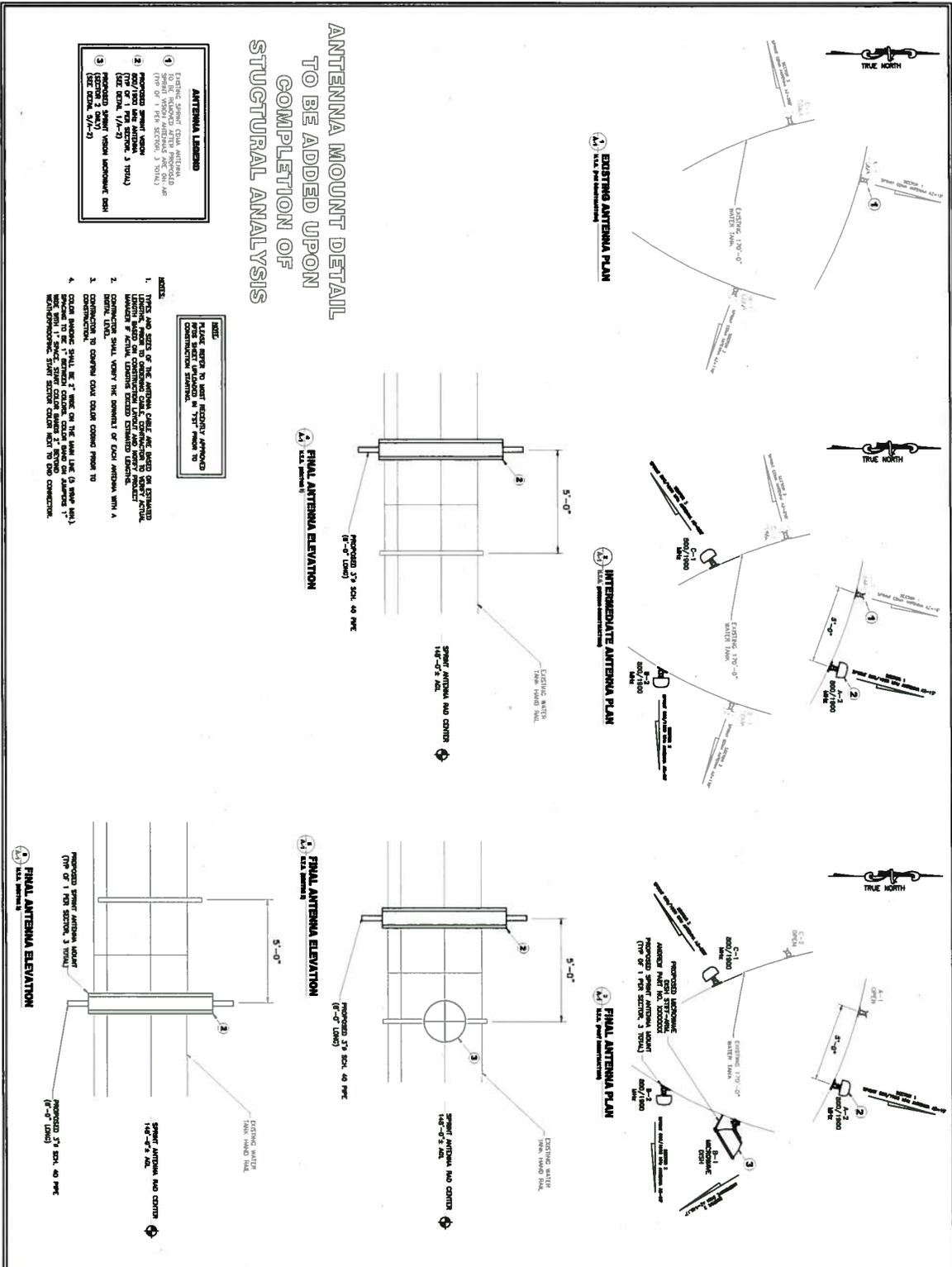
Alcatel-Lucent
 5305 UNIVERSITY AVENUE, SUITE 2100
 CHARLOTTE, NORTH CAROLINA 28217
 PHONE: (704) 582-7400
 FAX: (704) 582-7400

PHOTO SURVEYING, S.C.
 1000 W. WILSON AVENUE, SUITE 100
 CHARLOTTE, NORTH CAROLINA 28202
 PHONE: (704) 582-7400
 FAX: (704) 582-7400

PHOTO SURVEYING, S.C.
 1000 W. WILSON AVENUE, SUITE 100
 CHARLOTTE, NORTH CAROLINA 28202
 PHONE: (704) 582-7400
 FAX: (704) 582-7400

PHOTO SURVEYING, S.C.
 1000 W. WILSON AVENUE, SUITE 100
 CHARLOTTE, NORTH CAROLINA 28202
 PHONE: (704) 582-7400
 FAX: (704) 582-7400

<p>DATE: 11/27/12</p> <p>SCALE: AS SHOWN</p> <p>PROJECT: 20120004</p> <p>DRAWING TITLE: SITE PLAN</p>	<p>DATE: 11/27/12</p> <p>SCALE: AS SHOWN</p> <p>PROJECT: 20120004</p> <p>DRAWING TITLE: SITE PLAN</p>	<p>DATE: 11/27/12</p> <p>SCALE: AS SHOWN</p> <p>PROJECT: 20120004</p> <p>DRAWING TITLE: SITE PLAN</p>	<p>DATE: 11/27/12</p> <p>SCALE: AS SHOWN</p> <p>PROJECT: 20120004</p> <p>DRAWING TITLE: SITE PLAN</p>	<p>DATE: 11/27/12</p> <p>SCALE: AS SHOWN</p> <p>PROJECT: 20120004</p> <p>DRAWING TITLE: SITE PLAN</p>
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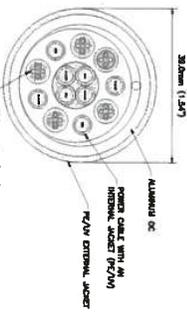


<p>SPRINT WIRELESS</p>	<p>7848 SATELLITE AVENUE, SUITE 100 CHARLOTTE, NC 28217 PHONE: (704) 262-4000 FAX: (704) 262-3300</p>																																	
	<p>536 SERRINA LANE, SUITE 10 CHARLOTTE, NORTH CAROLINA 28244 PHONE: (704) 262-3300 FAX: (704) 262-3300</p>																																	
	<p>3000 NORTH WALKER BLVD SUITE 100 CHARLOTTE, NC 28217 PHONE: (704) 262-3300 FAX: (704) 262-3300</p>																																	
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<p>PROJECT TITLE ANTENNA PLAN & ELEVATION</p>																																		
<p>PROJECT NO. 2400 NORTH WALKER BLVD SUITE 100 CHARLOTTE, NC 28217</p>																																		
<p>SHEET NO. 8 OF 13</p>																																		

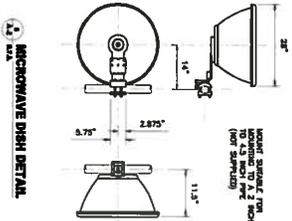
ANTENNA AND CABLE SCHEDULE

LOCATION	ANTENNA CENTER	TYPE	STATION	TECHNOLOGY	ANTENNA MODEL #	HEIGHT	DIAMETER	COAX LENGTH	COAX CODE
ALPHA	A-1	148'-0"	PROPOSED	CDMA	DP9410000Q-D-4	3'	N/A	1'-6 1/2"	1 BROWN
	A-2	148'-0"	PROPOSED	CDMA	DP9410000Q-D-4	3'	N/A	1'-6 1/2"	1 BROWN
BETA	B-1	148'-0"	PROPOSED	CDMA	DP9410000Q-D-4	3'	N/A	1'-6 1/2"	1 BROWN
	B-2	148'-0"	PROPOSED	CDMA	DP9410000Q-D-4	3'	N/A	1'-6 1/2"	1 BROWN
GAMMA	G-1	148'-0"	PROPOSED	CDMA	DP9410000Q-D-4	3'	N/A	1'-6 1/2"	1 BROWN
	G-2	148'-0"	PROPOSED	CDMA	DP9410000Q-D-4	3'	N/A	1'-6 1/2"	1 BROWN
TOTAL 1-1/4" HYBRID CABLE 200'-0"									

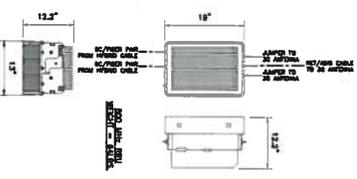
NOTE:
PLEASE REFER TO MOST RECENTLY APPROVED CONSTRUCTION SCHEDULE FOR ANTENNA CENTER ELEVATION.



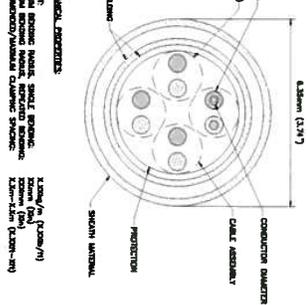
1-1/4" HYBRID CABLE DETAIL



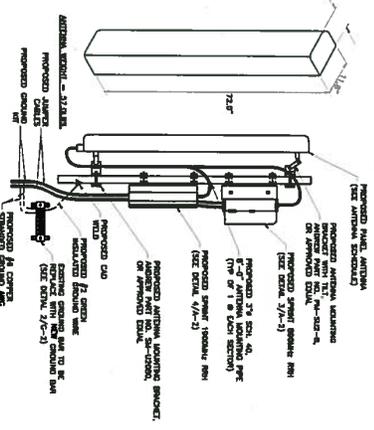
MICROWAVE DISH DETAIL



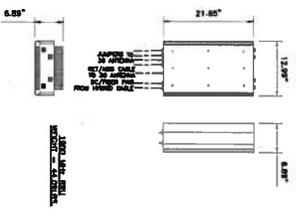
800 MHz RHN DETAIL



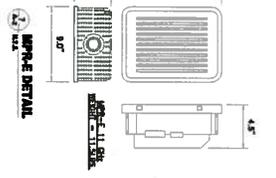
CAT 5 CABLE DETAIL



APXVSP18-C-A20 ANTENNA MOUNTING DETAIL



1800 MHz RHN DETAIL



WIFI-E DETAIL

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 FAX: (704) 522-2222

Alcatel-Lucent
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 CHARLOTTE, NORTH CAROLINA 28202
 PHONE: (704) 285-2222
 FAX: (704) 285-2222

ADVANTAGE ENGINEERS
 4000 SHILOH LANE, SUITE 100
 CHARLOTTE, NORTH CAROLINA 28202
 PHONE: (704) 285-2222
 FAX: (704) 285-2222

REVISIONS

NO.	DATE	DESCRIPTION
1	07-16-12	ISSUED FOR PERMITS
2	11-16-12	ISSUED FOR PERMITS
3	12-06-12	ISSUED FOR PERMITS
4	01-16-13	ISSUED FOR PERMITS

DESIGNER: [Name]

CHECKER: [Name]

DATE: [Date]

SCALE: [Scale]

PROJECT: [Project Name]

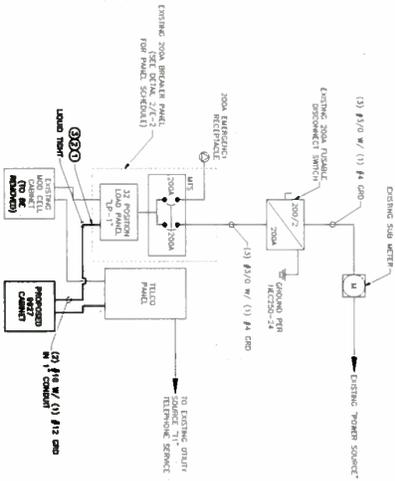
A-2

LEE PUMPING STATION
 WATER TANKS

PROJECT LOCATION: [Address]
 SHEET NO. 7 OF 13

- NOTES:**
1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL, ELECTRIC CODES AND ALL LOCAL AND STATE CODES, LAWS, AND ORDINANCES.
 2. UNDERGROUND PIPING AND UTILITY SERVICES SHALL BE INSTALLED IN A COMMON TRENCH, ALL UNDERGROUND CONDUITS SHALL BE PVC, UNLESS OTHERWISE SPECIFIED.
 3. CONDUIT SHALL BE 1/2" ABOVE GROUND UNLESS OTHERWISE SPECIFIED. CONDUIT SHALL BE INSTALLED IN A COMMON TRENCH, ALL UNDERGROUND CONDUITS SHALL BE PVC, UNLESS OTHERWISE SPECIFIED.
 4. CONDUIT SHALL BE 1/2" ABOVE GROUND UNLESS OTHERWISE SPECIFIED. CONDUIT SHALL BE INSTALLED IN A COMMON TRENCH, ALL UNDERGROUND CONDUITS SHALL BE PVC, UNLESS OTHERWISE SPECIFIED.

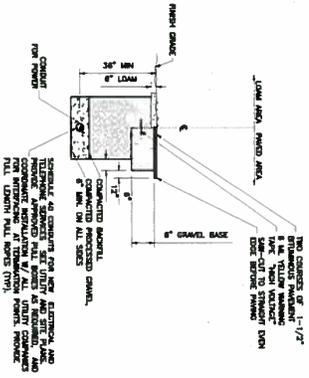
POWER ONE-LINE DIAGRAM



PANEL CIRCUIT LOAD SCHEDULE

NO.	DESCRIPTION	TYPE	AMPS	VOLTS	WATTS	VA	PHASE	WIRING	CONDUIT	TERMINALS	REMARKS
1
2
3
4
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100

ELECTRICAL PANEL SCHEDULE



UTILITY TRENCH DETAIL

Sprint

7815 S BLANKEN AVENUE, SUITE 100
 CHARLOTTE, NORTH CAROLINA 28217
 PHONE: (704) 261-2000
 FAX: (704) 261-2000

Alcatel-Lucent

5305 CENTRAL EXPRESS AVENUE, SUITE 100
 CHARLOTTE, NORTH CAROLINA 28217
 PHONE: (704) 261-2000
 FAX: (704) 261-2000

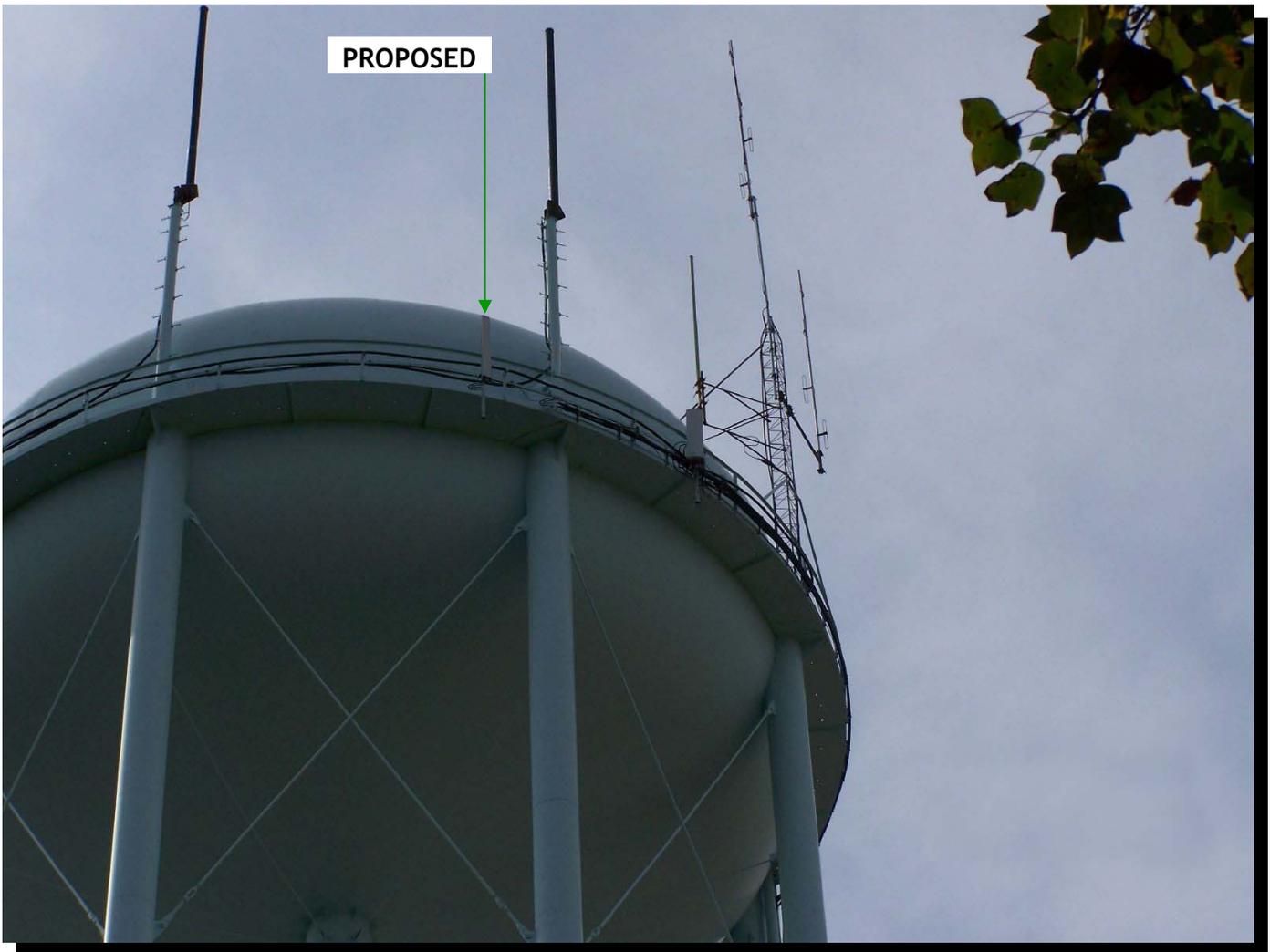
ADVANTAGE ENERGY

1000 W. WILSON AVENUE, SUITE 100
 CHARLOTTE, NORTH CAROLINA 28217
 PHONE: (704) 261-2000
 FAX: (704) 261-2000

LEE PLUMBING STATION

2400 NORTH WALKERFIELD COURT
 ARLINGTON, VIRGINIA 22207

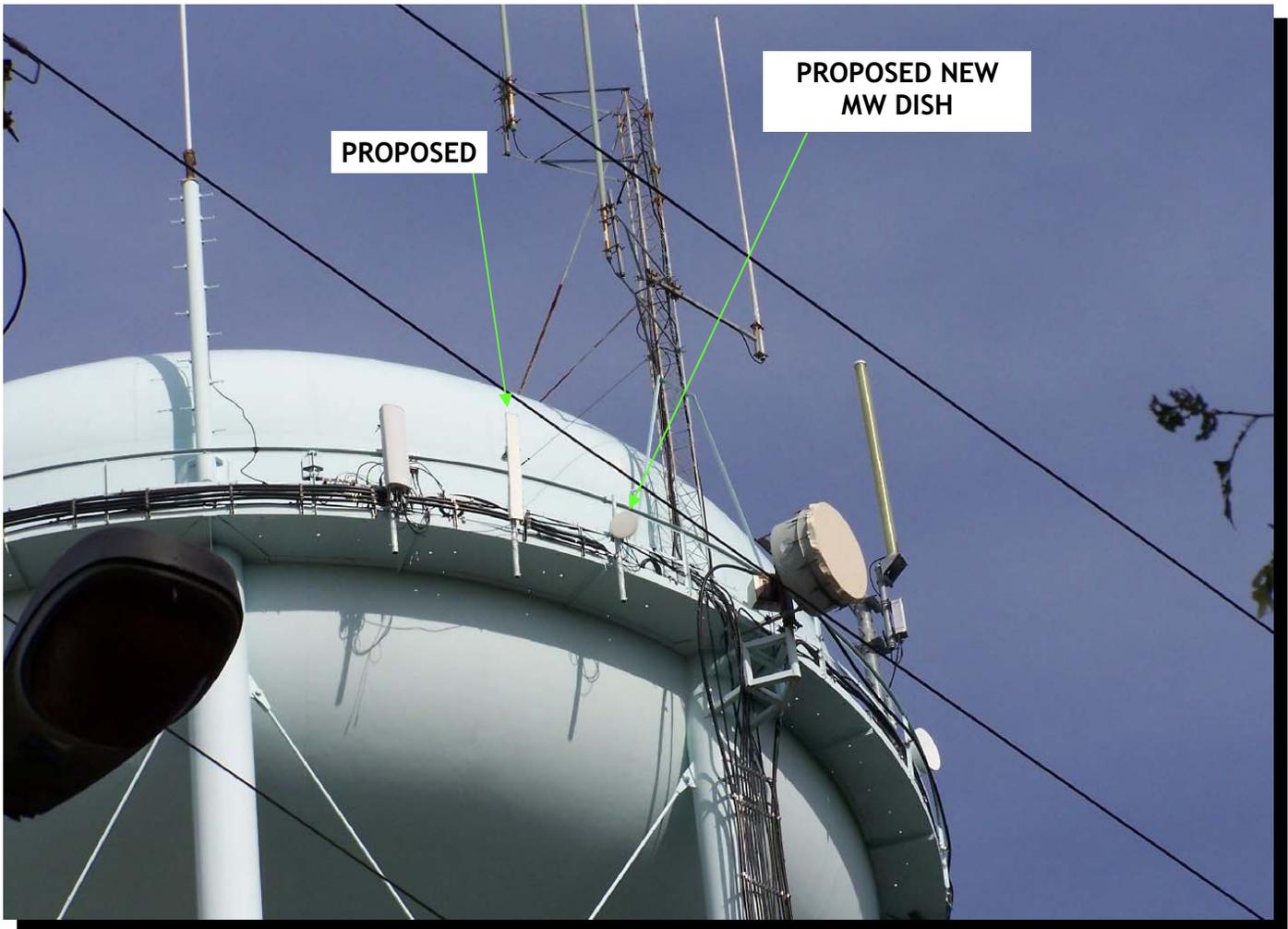
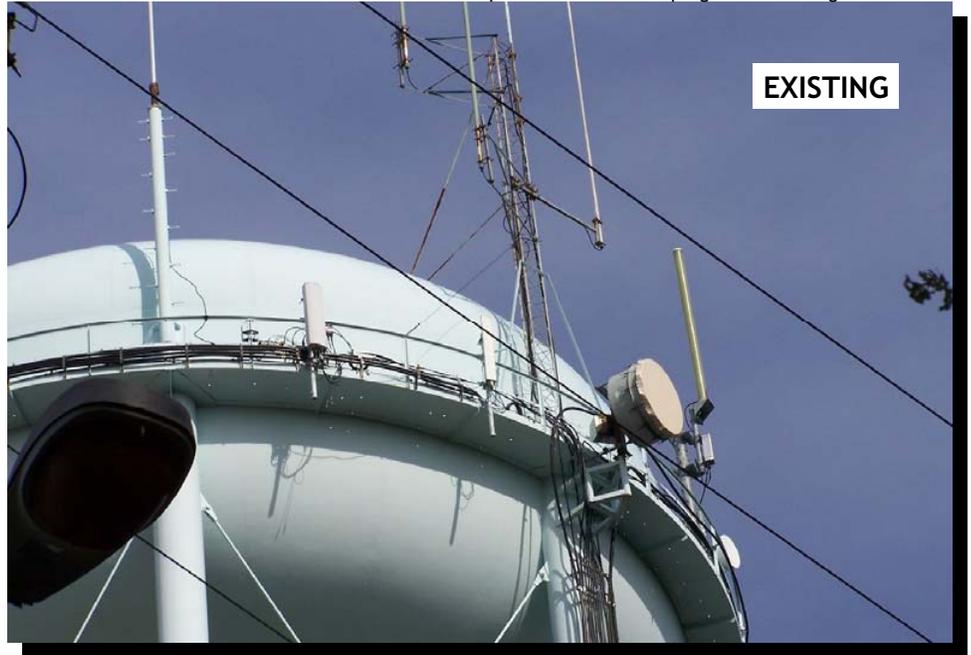
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		Cascade ID: DC03XC179		
		SECTOR 1	SECTOR 2	SECTOR 3
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1900	1900 MHz No. of Antennas	1	1	1
1900	1900MHz_RISCenter (ft)	148.4	148.4	148.4
1900	1900MHz_Antenna Make	RFS	RFS	RFS
1900	1900MHz_Antenna Model	APXVSP18-C-A20	APXVSP18-C-A20	APXVSP18-C-A20
1900	1900MHz_Horizontal_Beamwidth	65	65	65
1900	1900MHz_Vertical_Beamwidth	5.5	5.5	5.5
1900	1900MHz_AntennaHeight (ft)	6	6	6
1900	1900MHz_AntennaGain(dBd)	15.9	15.9	15.9
1900	1900MHz_E_Tilt	-4	-4	-4
1900	1900MHz_M_Tilt	0	0	0
1900	1900 Carrier Forecast Year 2013	5	5	5
1900	1900_RIS Manufacturer	ALLU	ALLU	ALLU
1900	1900_RIS Model	TBD	TBD	TBD
1900	1900_RIS Count	2	2	2
1900	1900_RIS Location	Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
1900	1900_Combiner Model	IBC1900HA-2	IBC1900HA-2	IBC1900HA-2
1900	1900_Top_Jumper #1 Length (RRH or Combiner-to-Antenna, ft)	10	10	10
1900	1900_Top_Jumper #2 Length (RRH or Combiner-to-Antenna)	LCF12-50J	LCF12-50J	LCF12-50J
1900	1900_Top_Jumper #3 Length (RRH-to-Combiner, ft)	6	6	6
1900	1900_Top_Jumper #4 Cable Length (ft)	LCF12-50J	LCF12-50J	LCF12-50J
1900	1900_Top_Jumper #5 Cable Length (ft)	N/A	N/A	N/A
1900	1900_Main_Coax_Cable Model	N/A	N/A	N/A
1900	1900_Main_Coax_Cable Length (ft)	N/A	N/A	N/A
1900	1900_Bottom_Jumper #1 Length (Ground-based-RRH-OR_Combiner-to-Main-Coax, ft)	N/A	N/A	N/A
1900	1900_Bottom_Jumper #2 Cable Model (Ground-based-RRH-OR_Combiner-to-Main-Coax)	N/A	N/A	N/A
1900	1900_Bottom_Jumper #3 Length (Ground-based-Combiner-to-Main-Coax, ft)	N/A	N/A	N/A
1900	1900_Bottom_Jumper #4 Cable Model (Ground-based-Combiner-to-Main-Coax)	N/A	N/A	N/A
1900	1900MHz_Azimuth	15	90	235
800	800 MHz No. of Antennas	0	0	0
800	800MHz_RISCenter (ft)	148.4	148.4	148.4
800	800MHz_Antenna Make	RFS	RFS	RFS
800	800MHz_Antenna Model	APXVSP18-C-A20 (Shared w/1900)	APXVSP18-C-A20 (Shared w/1900)	APXVSP18-C-A20 (Shared w/1900)
800	800MHz_Horizontal_Beamwidth	65	65	65
800	800MHz_Vertical_Beamwidth	11.5	11.5	11.5
800	800MHz_AntennaHeight (ft)	6	6	6
800	800MHz_AntennaGain (dBd)	13.4	13.4	13.4
800	800MHz_E_Tilt	-8	-8	-8
800	800MHz_M_Tilt	0	0	0
800	800_RIS Manufacturer	ALLU	ALLU	ALLU
800	800_RIS Model	TBD	TBD	TBD
800	800_RIS Count	1	1	1
800	800_RIS Location	Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower
800	800_Top_Jumper #1 Length (RRH or Combiner-to-Antenna, ft)	10	10	10
800	800_Top_Jumper #2 Cable Model (RRH or Combiner-to-Antenna)	LCF12-50J	LCF12-50J	LCF12-50J
800	800_Main_Coax_Cable Length (ft)	N/A	N/A	N/A
800	800_Main_Coax_Cable Model	N/A	N/A	N/A
800	800_Bottom_Jumper #1 Length (Ground-based-RRH-Main-Coax, ft)	N/A	N/A	N/A
800	800_Bottom_Jumper #2 Cable Model (Ground-based-RRH-OR_Combiner-to-Main-Coax)	N/A	N/A	N/A
Comment		1/16/2012		
0		RFS regenerated due to change in RIS count based on 11.3 Capacity Forecast.		



SITE ID: DC03XC179
WIRELESS COMMUNICATION FACILITY
2400 NORTH WAKEFIELD COURT
ARLINGTON, VA 22207

SECTOR 1 VIEW
SHOWING THE PROPOSED SITE





SITE ID: DC03XC179
WIRELESS COMMUNICATION FACILITY
2400 NORTH WAKEFIELD COURT
ARLINGTON, VA 22207

SECTOR 2 VIEW
SHOWING THE PROPOSED SITE





SITE ID: DC03XC179
WIRELESS COMMUNICATION FACILITY
2400 NORTH WAKEFIELD COURT
ARLINGTON, VA 22207

SECTOR 3 VIEW
SHOWING THE PROPOSED SITE





**Sprint/Nextel
Property Services**
6391 Sprint Parkway
Mailstop: KSOPHT0101-Z2650
Overland Park, KS 66251-2650
Landlord Solutions: (800) 367-7641
Fax: (913)523-9735

**Denise Scott
Ericsson Contractor for Sprint
Facilities Engineer II**
Zoning & Permitting
Direct line: 704-287-0448
Direct Fax: 704-424-1852
denise.2.scott@sprint.com



July 19, 2012

VIA - UPS 2ND DAY AIR
Tracking # IZ 21A 059 02 9388 1007

Arlington County Zoning Division
2100 Clarendon Blvd, 10th Floor
Arlington, VA 22201
Attn: Peter K. Schulz, AICP

RE: 2012 Annual RFE Compliance Assessment

Sprint Nextel Site Reference: DC03XC179-Z / LEE PUMPING STATION
Property Address: 2400 NORTH WAKEFIELD ST, ARLINGTON VA 22207
Installation Type: Tower / Antennas

Dear Mr. Schulz:

Pursuant to the Arlington County Board's requirement regarding the conditions of approval for Permit #U-2823-94-4. Please find enclosed a copy of the required Annual RFE Compliance Assessment. This report was submitted by EBI Consulting, Inc.

Respond in writing that you have received the document and whether the information submitted has been reviewed and found to be in compliance with all applicable statues, local laws, ordinance, codes, rules and regulations.

Send all future notices, correspondence, and inquiries regarding this Site to the following address:

Property Services / Zoning Compliance
Sprint Site ID: DC03XC179-Z
Mailstop KSOPHT0101-Z2650
6391 Sprint Parkway
Overland Park, Kansas 66251-2650

If you have any questions do not hesitate to contact us via our toll free Hotline at (800) 357-7641.

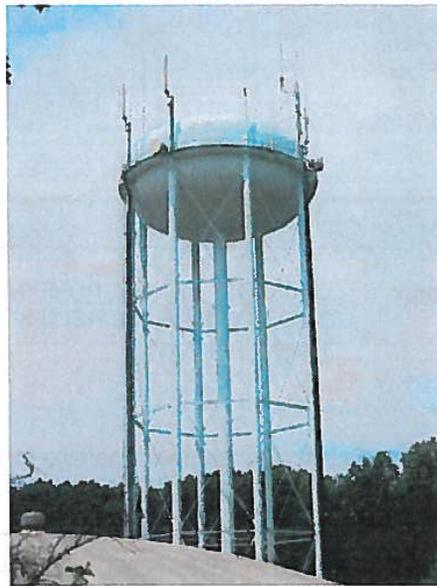
Sincerely,

Denise Scott
Facilities Engineer – Sprint Nextel/Ericsson Network Advantage | Zoning & Permitting

Cc: DONALDSON RUN CIVIC ASSOCIATION
OLD DOMINION CITIZENS ASSOCIATION



Radio Frequency Emission Survey



Sprint Nextel Site ID:	DC03XC179
Address:	2400 Wakefield Court Arlington, Virginia 22207
Site Survey Date:	July 12, 2012
Report Date:	July 18, 2012

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CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION**

1. Introduction

The electromagnetic spectrum includes various forms of electromagnetic energy from extremely low frequency energy, with very long wavelengths, to x-rays and gamma rays, which have very high frequencies and short wavelengths. In between are radio waves, microwaves, infrared, visible light and ultraviolet, for example.

As depicted in Figure 1-1, the frequencies from Sprint Nextel's equipment emit non-ionizing energy. The effects of non-ionizing energy are non-cumulative. Non-ionizing energy can turn into heat, if absorbed. (By comparison, ionizing energy is generally cumulative and can cause chemical and biological changes).

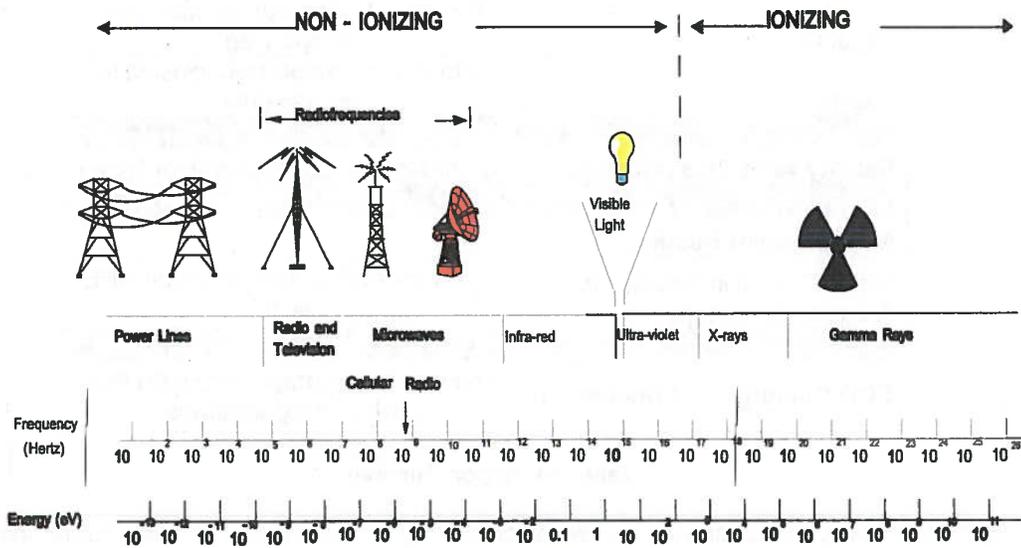


Figure 1-1
(FCC OET Bulletin 56, Fourth Ed.)

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Sprint Nextel has installed RF transmitting antennas at the following location (the "wireless telecommunications facility"):

2400 Wakefield Court, Arlington, Virginia 22207

Sprint Nextel SITE ID: DC03XC179

Facility Type:	Water Tank
Access Restriction(s):	Locked access gate to municipal compound
RF Signage	
Type(s):	Yes; blue Notice sign on water tank support leg
Location:	Water tank support leg, closest to access drive
Facility Area Classification:	Controlled (Occupational Population)
Measurement Results	
Max RF Level in Accessible Areas within Compound:	0.1071% of FCC Occupational MPE limit
FCC Compliance Conclusion:	The site is in compliance with FCC limits and guidelines.

Table 1-1. Report Summary

EBI Consulting performed an RF emission survey of the RF environment surrounding the facilities installed by Sprint Nextel at this location. The facility is located on a water tank within a municipal compound. Access to the facility is restricted to authorized personnel and facility management.

Sprint Nextel is licensed by the Federal Communications Commission ("FCC") to provide wireless communications services. As required by the FCC, wireless system operators perform an assessment of the potential human exposure to radio frequency emissions from transmitting antennas at the site.

The physical survey verified antenna placement and technical specifications for accurate recommendations to determine compliance with FCC guidelines. Antenna specifications presented herein are based on direct evidence from an antenna or transmitter cabinet, information from the site manager or building manager, information from the licensees, educated estimates by the field technician or a combination of some or all of these sources.

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A survey was performed on July 12, 2012 to determine the RF emission levels present at the site. Measurements were performed on the areas considered accessible to the occupational population.

To measure the RF emissions within the vicinity, EBI Consulting utilized a NARDA E Field Probe Model EA5091 Standard Shaped probe S/N 01110, Frequency Range 300 KHz-50 GHz with NARDA Electromagnetic Survey Meter Model NBM-520 S/N D-0065. Calibration was performed on February 11, 2011.

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2. Technical Specifications

Below in Table 2-1 are the technical specifications of the antennas located at the site. Physical verification was made to ensure technical specification accuracy. Antenna specifications presented herein are based on direct evidence from an antenna or transmitter cabinet, information from the site manager or building manager, information from the licensees, educated estimates by the field technician or a combination of some or all of these sources. "N/A" (not available) is used if any of the following information was not obtainable or verifiable to an acceptable certainty.

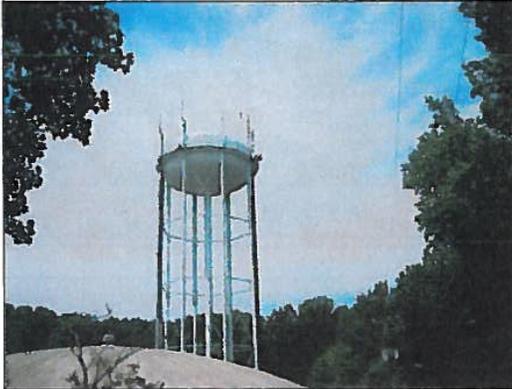
Ant #	Type	Mfr/Model	Freq (MHz)	Azimuth°	Mech. Down Tilt°	Height (AGL/ft.)	Carrier
1	Panel	Decibel DB961DD90(E)-M	N/A	15	3	Approx. 145	Sprint Nextel
2	Panel	Decibel DB961DD90(E)-M	N/A	135	2	Approx. 145	Sprint Nextel
3	Panel	Decibel DB961DD90(E)-M	N/A	255	0	Approx. 145	Sprint Nextel
4	Panel	N/A	N/A	0	N/A	Approx. 145	T-Mobile
5	Panel	N/A	N/A	120	N/A	Approx. 145	T-Mobile
6	Panel	N/A	N/A	240	N/A	Approx. 145	T-Mobile

Table 2-1. Technical Specifications

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3. Photos

The following photos show the Sprint Nextel wireless telecommunications facility.



1. Water tank overview



3. Sector B antennas (Sprint on right)



2. Sector A antennas (Sprint on right)



4. Sector C antennas (Sprint on right)

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5. Sprint equipment shelter



7. Main access gate to municipal compound



6. Secondary access gate to municipal compound

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4. RF Survey

RF emission levels were assessed through direct measurements at the transmitter site using properly calibrated field probes. Due to the possibility that Electromagnetic Energy ("EME") fields may exist over a wide frequency range within which the exposure limits vary, field measurements were performed with a meter equipped with a frequency shaped probe that can automatically weigh each field contribution according to its frequency.

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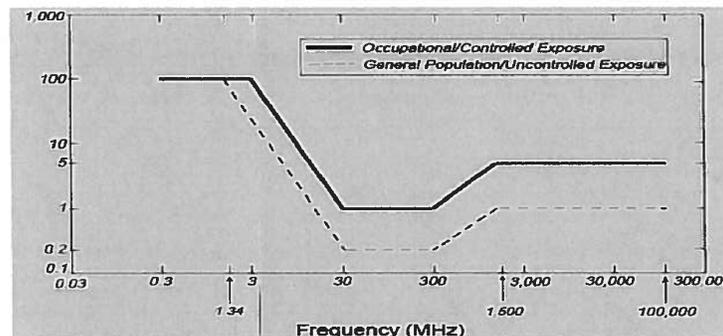
5. FCC Policy on Human Exposure to RF Emissions

The FCC guidelines for human exposure to RF emissions were derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurements (“NCRP”) and the Institute of Electrical and Electronics Engineers (“IEEE”). The exposure guidelines are based on thresholds for known adverse effects and they incorporate an appropriate margin of safety. The federal health and safety agencies such as the Environmental Protection Agency (“EPA”), the Food and Drug Administration (“FDA”), the National Institute on Occupational Safety and Health (“NIOSH”) and the Occupational Safety and Health Administration (“OSHA”) have also been actively involved in monitoring and investigating issues related to RF exposure.

The FCC’s Maximum Permissible Exposure (“MPE”) limits are based on exposure limits (over a wide range of frequencies) recommended by the NCRP and the exposure limits developed by the IEEE and adopted by the American National Standards Institute (“ANSI”). The limits for localized absorption are based on the recommendations of both the ANSI/IEEE and the NCRP. The potential hazard associated with the RF electromagnetic fields is discussed in OET Bulletin No. 56 “Questions and Answers about the Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields”. This document can be obtained on the FCC website at www.fcc.gov. The table and the graph below represent the FCC limits for both occupational and general population exposures to different radio frequencies:

Frequency Range (f) (MHz)	Occupational Exposure ² (mW/cm ²)	General Public Exposure ² (mW/cm ²)
0.3 – 1.34	100	100
1.34 - 3.0	100	180 / f ²
3.0 - 30	900 / f ²	180 / f ²
30 – 300	1.0	0.2
300 – 1,500	f / 300	f / 1500
1,500 – 100,000	5.0	1.0

Table 5-1. FCC Limits for Maximum Permissible Exposure



Graph 6-1. FCC Limits for Maximum Permissible Exposure

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6. Discussion of Safety Criteria

Energy levels associated with the RF radiations are not great enough to cause the ionization of atoms and molecules. "Ionization" is a process by which electrons are stripped from atoms and molecules. This process can produce molecular changes that can lead to damage in biological tissue including effects on DNA, the genetic material. This process requires interaction with high levels of electromagnetic energy. Those types of electromagnetic radiation with enough energy to ionize biological material include x-radiation and gamma radiation. Therefore, x-rays and gamma rays are examples of ionizing radiation (see Section 1 for additional information).

RF energy is a type of non-ionizing radiation. Other types of non-ionizing radiation include visible light, infrared radiation and other forms of electromagnetic radiation with relatively low frequencies. Often the term "radiation" is used to apply to ionizing radiation associated with nuclear power plants. Ionizing radiation should not be confused with the lower-energy, non-ionizing radiation with respect to possible biological effects.

The RF emissions from antennas used for wireless telecommunications typically result in exposure levels at the site that are well below the limits recommended by the FCC. These limits were adopted by the FCC based on the recommendations of expert organizations and endorsed by agencies of the Federal Government responsible for health and safety.

Other antennas, such as those used for radio and television broadcast transmissions, use power levels that are generally higher than those used for wireless antennas. Therefore, in some cases, there could be a potential for higher levels of exposure on the site. However, all broadcast stations are also required to demonstrate compliance with the FCC guidelines.

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7. Field Measurements

7.1 Ground-Level Measurements

A RF emissions survey was performed at the wireless telecommunications facility. This survey included walking around the water tank compound and noting the maximum average spatial readings encountered. The maximum value of the average spatial readings of RF emissions encountered on the ground was 0.1071% of the occupational population standard exposure limit at ground level surrounding the water tank.

Below is the layout depicting the actual readings (% of the FCC MPE occupational population standard limits) at various locations at the site. Various measurements were taken to indicate the RF emissions levels that can be encountered by an individual who gains access to the water tank compound.

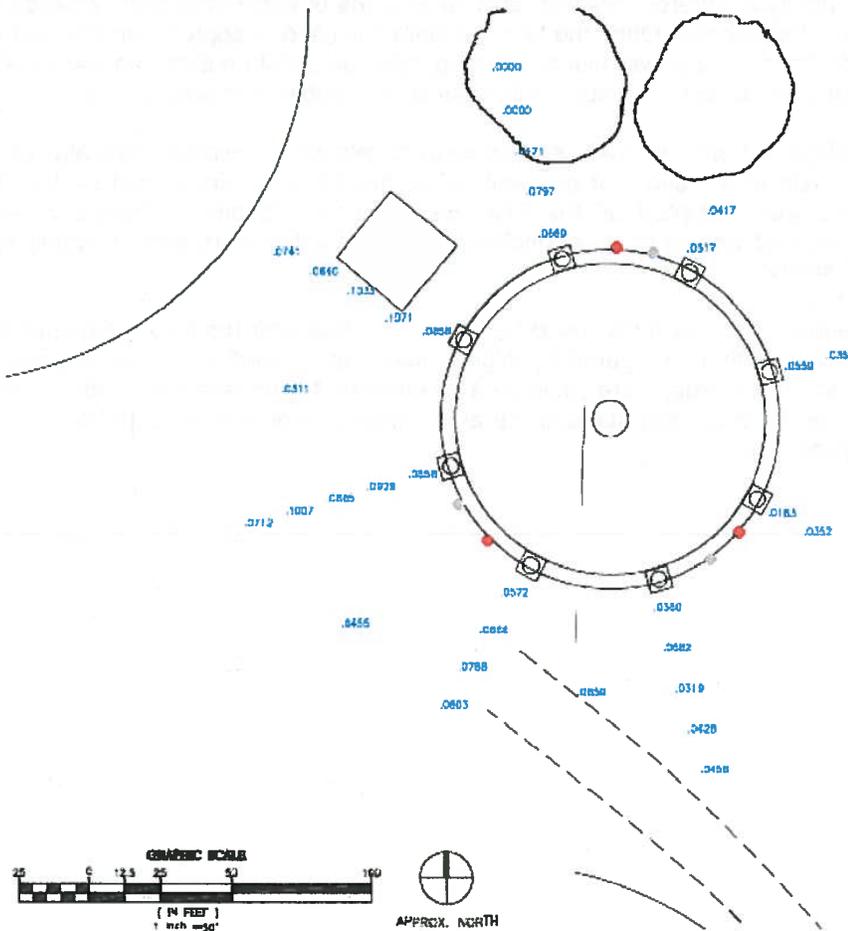


Figure 7-1. Ground Layout
 Red symbols are Sprint Nextel antennas
 Blue numbers are the percentages of FCC MPE Limits based on Occupational Standards

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8. Conclusion

Compliance with the FCC's rules on human exposure to RF emissions at wireless telecommunications facilities generally is determined by comparing actual measurements taken at the facility to the FCC's MPE limits.

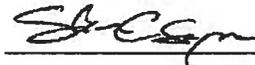
The results of the instant survey indicate the levels of RF emissions exposure do not exceed or exceeds applicable FCC MPE limits.

The highest level of RF emissions measured was 0.1071% of the FCC's MPE limits based on the occupational population standard. A controlled/occupational environment assumes that access to the facility is generally restricted to authorized personnel and facility management and members of the general public will not be able to access the site.

9. Certification

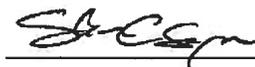
This report was prepared for Sprint Nextel and serves as certification for compliance of the existing Sprint Nextel wireless telecommunications facility. The analysis and information provided herein is based on applicable FCC regulations concerning RF safety and the control of human exposure to RF emissions. The information and analysis contained in this report are accurate and complete to the best knowledge and belief of the undersigned.

Survey Completed by:

 July 12, 2012

for Mark Fisher
EBI Consulting

Report Prepared by:

 July 18, 2012

Shaun Sagan
Staff Scientist
EBI Consulting

**PREPARED BY EBI CONSULTING FOR SPRINT NEXTEL
CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION**

Appendix A

References

- FCC OET Bulletin 65 "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," (Edition 97-01, dated August 1997).
- FCC OET Bulletin 56 "Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields," (Fourth Edition, dated August 1999).
- FCC "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation", ET Docket 93-62, Report and Order, FCC 96-326, adopted August 1, 1996. 61 Federal Register 41006 (1996).
- Federal Communications Commission (FCC), Telecommunication Act of 1996, Title VII, Section 704, Facilities Siting; Radio Frequency Emissions Standards.
- National Council on Radiation Protection and Measurements (NCRP), "Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields", NCRP Report No. 119, 1993.
- American National Standards Institute (ANSI), "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992 (previously issued as IEEE C95.1-1991).
- American National Standard Institute (ANSI), "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, (300 kHz to 100 GHz), ANSI C95.1-1982.

**PREPARED BY EBI CONSULTING FOR SPRINT NEXTEL
CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION**

RF-EME Compliance Report
EBI Project No. 62122809

Site No. DC03XC179
2400 Wakefield Ct, Arlington, Virginia

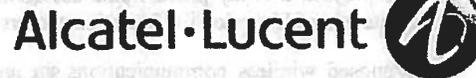
Reviewed and Approved by:



sealed 18july2012

Michael McGuire
Electrical Engineer

Note that EBI's scope of work is limited to an evaluation of the Radio Frequency – Electromagnetic Energy (RF-EME) field generated by the antennas and broadcast equipment noted in this report. The engineering and design of the building and related structures, as well as the impact of the antennas and broadcast equipment on the structural integrity of the building, are specifically excluded from EBI's scope of work.



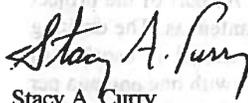
RF ENGINEERING Supplemental Statement in Support of Proposed Amendment to Use Permit # U-2823

The undersigned hereby states the following in support of the application by Sprint to replace each of the three (3) existing antennas and install one (1) addition dish antenna at approximately one hundred forty eight (148) feet above ground level (AGL), and replace related equipment at the property located at 2400 North Wakefield St. in Arlington (hereinafter referred as the "Site").

1. I am a Radio Frequency Engineer employed by Alcatel-Lucent representing Sprint with an office located at 9305 Gerwig Lane, Suite H, Columbia, MD. 21046-2907
2. My primary responsibilities include radio frequency design and planning in the State of Maryland and Washington D.C.
3. I have thoroughly reviewed the radio frequency engineering studies, reports and computer models prepared by Sprint with respect to the Site.
4. Sprint is licensed by the Federal Communications Commission ("FCC") to provide wireless communication services by building a network of communication sites.
5. In order to build out its network and meet customer demand for Wireless Services, Sprint must have in place a system of wireless sites to serve portable wireless communication data devices.
6. Alcatel-Lucent, on behalf of Sprint, is currently in the process of enhancing the services by overlaying new LTE technology over the existing CDMA network. The new LTE technology will provide faster throughput speeds and add data capacity to the area. As part of the project the new 1900/800 (RET) remote electrical antenna will replace existing antennas. The existing antennas cannot support multiple technologies. The new 6ft antenna model is capable of providing LTE, CDMA and EvDO services in 1900MHz & 800MHz band with one antenna per sector. **The use of this antenna will reduce the need for installing multiple smaller antennas per sector to provide LTE, CDMA & EvDO services in 1900MHz & 800MHz.**
7. To maintain effective, reliable and uninterrupted service, there must be a continuous series of sites located within close proximity to each other so as to overlap in a system comparable to a honeycomb pattern. If there is no site available to accept/receive the signal, network service to the mobile service will terminate involuntarily. Accordingly, the overlap of coverage is necessary for the signal to transfer from one site to another site seamlessly and without involuntary termination.
8. A number of factors determine the distance between cell sites, including, but not limited to, topography, physical obstructions, foliage, antenna height and line-of-sight.

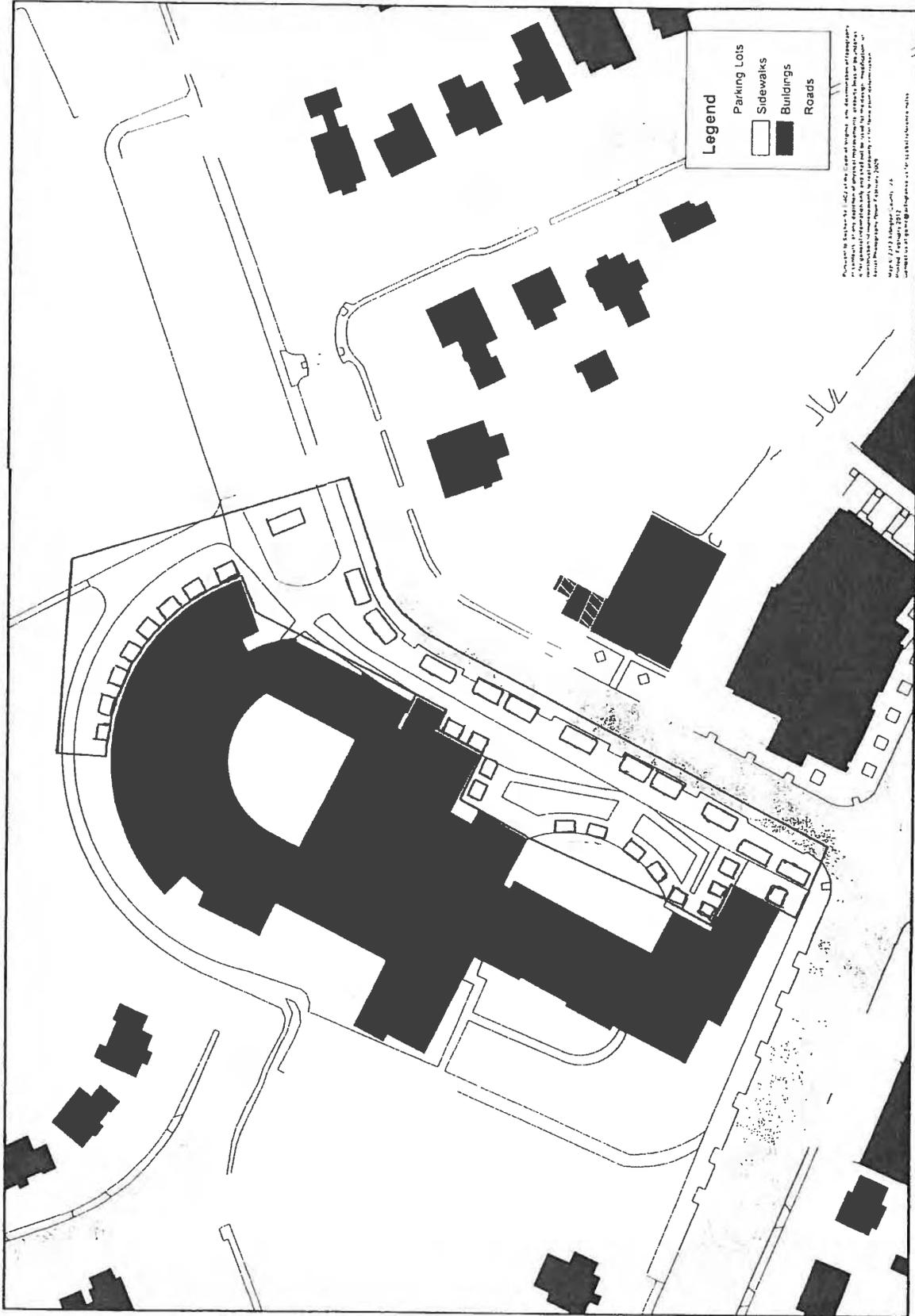
9. Based on the radio frequency studies, reports and computer models prepared in connection with this project, it is my professional assertion that without the proposed site there would be inadequate network service for Sprint customers due to a coverage gap.
10. The proposed wireless communications site and equipment shall be in compliance with the FCC Guidelines for Evaluating the Environmental Effects of Radio Frequency Radiation. It is the responsibility of Sprint to make sure that it will be in service and in compliance with FCC guidelines.
11. The proposed wireless communications equipment will be installed, erected, maintained and used in compliance with all applicable Federal, State and local regulations, including, but not limited to: the radio frequency emissions regulations set forth in the 1996 Federal Communications Act, applicable regulations administered by the Federal Aviation Administration (FAA) and Federal Communications Commission (FCC).
12. The RF emission from these proposed antennas shall not exceed the State and Federal standards when combined with all other existing facilities on the site and in addition, the new antennas would not interfere with the other existing wireless structures from other carriers at the site location.
13. There are currently three panel antennas on the site and Sprint is merely requesting approval to replace all three; the use of the site will not be intensified. The proposed dish antenna shall provide point to point communications and thereby enable higher bandwidth where traditional telephone providers cannot provide sufficient fiber connections because of high cost, lack of facilities or some other technical consideration. The microwave dish provides point to point backhaul within a very narrow beam (0.5 to 5 degrees) between 2 dishes on separate structures. This point to point communications requires a clear line of sight ("LOS") between the dishes that face each other; a clear pathway without obstructions throughout the year is crucial to achieve effective service.
14. Based upon the best radio frequency technology available at this time, it is my professional opinion that the proposed site is at the minimum height that is needed to ensure adequate service to area residents and businesses.

Sincerely,



Stacy A. Curry
RF ENGINEER
Alcatel-Lucent on behalf of Sprint
October 23, 2012

Westover Farmers Market -- *winter*



Legend

- Parking Lots
- Sidewalks
- Buildings
- Roads

Proposed Farmers Market Use Permit for the Westover Farmers Market, located at the intersection of Westover Lane and Westover Road, Arlington, Virginia. The proposed market use permit is for the winter season, from November 1, 2012, to February 28, 2013. The market use permit is for the use of the market for the sale of fresh produce, meat, and other food items. The market use permit is for the use of the market for the sale of fresh produce, meat, and other food items. The market use permit is for the use of the market for the sale of fresh produce, meat, and other food items.



ARLINGTON COUNTY, VA

OPEN AIR MARKET LICENSE AGREEMENT

This OPEN AIR MARKET LICENSE AGREEMENT ("License") is entered into this 1st day of November, 2012, by and between the ARLINGTON COUNTY SCHOOL BOARD, a body corporate and politic ("Licensor") and FIELD TO TABLE, INC., a Virginia non-stock corporation with its principal place of operation at 6101 22nd Street North, Arlington, Virginia, 22205-2103 ("Licensee"). Hereinafter, the Licensor and Licensee are sometimes referred to collectively as the "Parties" or individually as the "Party".

RECITALS:

WHEREAS, the property, located at 1644 McKinley Road, Arlington, Virginia, 22205, identified by RPC # 10-022-030 ("Property") is owned by the Licensor; and

WHEREAS, the Arlington County School Board, as Lessor, and the County Board of Arlington County, Virginia, as Lessee, entered into a Deed of Lease dated May 22, 2008, with a commencement effective October 23, 2009 ("Lease"); and

WHEREAS, the Property is the site of the Reed School and Westover Library, the school operated by Licensor and the library by Lessee; and

WHEREAS, the Licensee desires to use a portion of the property owned by Licensor for the purpose of operating an open-air outdoor farmers market for the benefit of the community and the public at large; and

WHEREAS, the Licensor and Lessee have consented to the use of the Property by the Licensee, consistent with this License, for operation of an open-air market, provided Licensee's Special Use Permit Application No. U-3327-12-1, which has been submitted to the Arlington County Department of Community Planning, Housing and Development, Zoning Administration Office ("Special Use Permit") is granted; and

WHEREAS, the Licensor desires to permit the Licensee to use an area suitable for the open-air market, under the terms and conditions set forth in this License,

NOW THEREFORE, in consideration of the sum of Ten Dollars (\$10.00), the mutual covenants and agreements set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Licensed Premises. Licensor hereby grants to Licensee, subject to the Lease, the right and license to use, upon the terms hereinafter provided, the area more particularly described in Exhibit A attached hereto ("Licensed Premises"), which Licensed Premises is located upon and within the Property. The Licensed Premises does not include a playground or play lot. This License is non-exclusive and does not permit restriction of the rights of the public for pedestrian passage to and through the Licensed Premises. The Licensee accepts use of the Licensed Premises in its "AS IS" condition.

2. Permitted Uses.

A. Licensee is permitted by this License to use the Licensed Premises solely for the operation of an open-air market ("Market"), as defined in Section 4.A.5.g. of the Arlington County Zoning Ordinance ("Zoning Ordinance"), for the benefit and use of the community and public at large on Sundays year round, during the Market operating hours of 9 a.m. to 1- p.m. for

the months of December through April, and the hours of 8 a.m. to 12 p.m. for the months of May through November, plus one hour before and after the respective times for Licensee, its sellers and exhibitors, to set up and depart the Licensed Premises (collectively, "Market Time Period"). Licensor further grants to Licensee the non-exclusive right of pedestrian ingress and egress over and across the Property and Licensed Premises, and vehicular ingress and egress only at the locations indicated on Exhibit A, in order to place, set up, secure, operate and maintain the Market and associated displays, during the Term (as hereinafter defined) of this License. The Market is an event at which groups of individual sellers offer food products and related items for sale to the public and may include the sale of food and non-alcoholic beverages for casual consumption on site during the Market Time Period ("Permitted Uses").

B. The Licensee may place, or permit the placement of, goods and products, including furniture, on benches and tables, inside small tents, inside portable kiosks, inside or beside small trucks or panel trucks (all having a registered gross weight of 7,500 lbs. or less) ("Market Displays") in the Licensed Premises. The Licensee may place up to forty (40) sellers and exhibitors in the Licensed Premises for operation of their Market Displays. The Licensee shall require that all sellers and exhibitors placing Market Displays in the Licensed Premises shall comply with all applicable provisions of this License, which requirements shall not relieve the Licensee of its independent obligation to comply with this License.

C. Licensee shall, in its performance of the Permitted Uses, comply with all applicable federal, state and local laws, rules, orders, ordinances and regulations and the Special Use Permit, including, but not limited to, requiring all sellers to obtain the applicable and required permits for sellers' use and sale of food and non-alcoholic beverages. The Licensee and all individual sellers, at all times, shall comply, without limitation, with the applicable provisions of Chapter 9.2 of the Arlington County Code, the Arlington County Food and Food Handling Code. The Licensee also agrees to comply with the rules and regulations listed on the attached document, entitled "Exhibit B - Rules of Operation and Compliance" ("Rules"), which Rules are a part of this License and incorporated herein by reference. The Rules are subject to change at the discretion of the Licensor.

D. The Licensor affirms that the Licensee shall have full control over selection of the sellers to offer food products and related items to the public, so long as the selected vendors have obtained and maintain all licenses, permits and inspections required by the Licensor or any other governmental authority.

E. Any use of the Licensed Premises other than the use specifically permitted herein by the Licensor shall not be permitted, except by prior written agreement between the Licensor and Licensee, which agreement must be in writing and approved in advance by the Licensor.

3. Term and Payments. This License shall take effect on the Effective Date, as defined in Section 26 below. Licensee's right to use the Licensed Premises shall begin on December 2, 2012, provided the Special Use Permit has been granted, and shall extend for one year thereafter ("Initial Term"), unless sooner terminated or extended hereunder or by law. On or before the first day of the Initial Term and of any Renewal Term, as hereinafter defined, Licensee shall pay to the Licensor the sum of Two Hundred Dollars (\$200.00) for the use of the Licensed Premises ("License Fee"). The License Fee shall be paid annually in advance by check. Payment should be delivered to: Arlington Public Schools, Attn: Finance Department, 1426 N. Quincy St.,

Arlington, VA, 22207. The manner and address of such payment may from time to time be modified by written notice from the Licensor to Licensee, without demand, deduction, setoff or counterclaim, except as hereinafter specifically provided. If Licensor shall at any time or times accept payment after such payment becomes due and payable, such acceptance shall not excuse delay upon subsequent occasions, or constitute, or be construed as a waiver of any or all of the Licensor's rights hereunder. If payment is not timely made, then Licensor may immediately terminate this License by giving notice of such termination to Licensee. Licensee, for itself, its sellers and exhibitors, agrees to immediately cease use of the Licensed Premises upon receipt of such notice.

4. Right to Renew. So long as this License has not terminated, or the Licensee is not in default under the terms of the License beyond any applicable notice and cure period and, subject to the termination provisions in Section 6 herein, this License shall be automatically renewed for successive one (1) year terms. Each renewal period shall hereinafter be referred to as a "Renewal Term". The Initial Term and any Renewal Term are collectively referred to hereafter as the "Term".

5. Prohibited Uses. Licensee shall neither itself, nor permit others to: (i) include as part of the Market any outdoor displays associated with motor vehicle dealerships; (ii) sell alcohol within the Licensed Premises; (iii) store, or allow others to store, overnight any equipment, goods, products, storage containers, furniture or tents, on the Property or Licensed Premises; (iv) install within the Licensed Premises any permanent improvements or fixtures, or construct any permanent structure including, but not limited to, buildings or fences; (v) park, or permit others to park, within the Property or Licensed Premises, the following types of vehicles as defined in Virginia Code § 46.2-100: automobile or water craft transporters, camping trailers, mobile homes, motor homes, school buses, semi-trailers, tractor trucks and trailers; (vi) park, or permit others to park, buses within the Property or Licensed Premises; (vii) park or permit others to park motor vehicles on the Property or Licensed Premises which vehicles are leaking gas, oil, refrigerants or any hazardous materials; or (viii) perform any motor vehicle maintenance or repair work in the Property or Licensed Premises.

6. Termination.

A. Notwithstanding anything herein to the contrary, the Licensor and Licensee each have the right to terminate this License at any time, without cause and without penalty, by providing forty-five (45) days, prior written notice of such termination to the non-terminating Party. If Licensee fails to terminate its use of the Licensed Premises and to vacate all areas of the Licensed Premises on the termination of this License, then Licensee shall be deemed a trespasser. Thereafter, Licensor may immediately remove Licensee and Licensee's (and others) property from the Licensed Premises, at Licensee's sole risk and expense. Notwithstanding any provision in this License to the contrary, the Licensor has the unilateral right to temporarily or permanently close the Licensed Premises in the interest of public health, safety and welfare, without liability of the Licensor to the Licensee or to others.

B. Licensor may immediately terminate this License by giving notice to Licensee of: (i) the failure of Licensee to timely pay the License Fee or all applicable taxes; (ii) the expiration or non-renewal of the Special Use Permit, any applicable zoning, special use or special event permit; (iii) the violation of any applicable federal, state or local health, safety and welfare laws, rules, orders, ordinances and regulations or the Special Use Permit; or (iv) the

failure of Licensee to comply with the requirement in Subparagraph C to remove Market Displays and return the Licensed Premises to prior condition or the requirement in Section 8 to remove trash and debris.

C. Promptly upon the termination of this License for any reason, at the end of any required notice period, and promptly at the end of the Market Time Period on each Sunday, as the case may be, Licensee, at its sole expense, shall remove all Market Displays from the Licensed Premises and restore the Licensed Premises to a condition equal to that which existed immediately prior to the commencement of each Market day. If Licensee has not removed all Market Displays from the Licensed Premises at the end of the Market Time Period each Sunday, or upon the expiration of this License, or at the end of any notice period, then the Licensor, in addition to exercising any other legal or equitable remedies available to Licensor, may remove the Market Displays and restore the Licensed Premises to a condition acceptable to Licensor. Licensee agrees to promptly pay to the Licensor the cost to remove the Market Displays and Licensor's cost to restore the Licensed Premises.

D. The Superintendent is authorized by the Licensor to execute this License and the Superintendent or his/her designee is authorized to exercise the Licensor's rights to terminate this License and to take other actions to enforce the Licensor's rights hereunder.

7. Emergency - Risk or Hazard to the Public Health, Safety or Welfare. Notwithstanding any provision herein to the contrary, if, at any time, Licensor or police, fire, building or health officials determine, in their sole discretion, that the existence of the Market on the Licensed Premises poses a risk or hazard to the public health, safety or welfare, or is immediately needed for parking, then the Licensee shall, upon receipt of written notice from Licensor, or in the event of a weather or other type of emergency, upon verbal notice by police, fire or other emergency officials, immediately remove the Market Displays, at Licensee's sole expense. If Licensee has not removed the Market Displays within one (1) hour after receipt of Licensor's written notice, or within one (1) hour after receipt of verbal notice, in case of an emergency, then Licensor may terminate this License without any liability whatsoever to Licensor. Thereafter, Licensor, in addition to exercising any other legal or equitable remedies available to Licensor, may remove the Market Displays and restore the Licensed Premises to a condition acceptable to Licensor. Licensee agrees to promptly pay to the Licensor the cost to remove the Market Displays and Licensor's cost to restore the Licensed Premises.

8. Removal of Trash and Debris from the Licensed Premises. Licensee shall continuously remove all trash and debris, and shall clean up all spills of all substances from the Licensed Premises during each Market Time Period. Licensee, at all times, shall maintain the Licensed Premises in a clean, safe and sanitary condition, and shall not cause any waste or injury thereto. At the end of each Market Time Period, the Licensee shall remove all trash, debris and recycle materials from the Licensed Premises and Property or place trash, debris or recycle materials in containers designated by Licensor, as required in Exhibit B – Rules of Operation and Compliance, so that at the end of the Market Time Period the Licensed Premises and Property are returned to the same condition that they were in at 7 a.m. on the day of the Market.

9. Damage or Loss. Licensee, and not the Licensor, shall be solely responsible for any damage to, or loss of, any and all personal property in the Market and in the Market Displays within the Licensed Premises.

10. No Liability, Indemnification.

A. All personal property of Licensee, its employees, agents, contractors, business invitees, licensees, customers, clients, and guests in and on the Licensed Premises, shall be and remain therein under any and all circumstances at the sole risk of the above-described persons and entities. The Licensor shall not be liable to any such person or entity for any loss, damage, stolen or destroyed personal property. In addition, the Licensor shall not be liable for any personal injury or bodily injury to the above-described persons and entities. The Licensee hereby agrees to defend, indemnify and hold harmless the Licensor and its elected and appointed officials, officers, employees, contractors and agents from any liability, cost and expenses for personal injury and for property damage including, without limitation, lost, stolen, damaged or destroyed personal property.

B. Licensee acknowledges that Licensor, its elected and appointed officials, officers, employees, contractors and agents shall not be liable for any damages, whether special, consequential or punitive damages, as a result of any claim relating to this License or Licensee's use of the Licensed Premises.

C. Licensee hereby agrees to defend, indemnify and hold harmless Licensor, and its elected and appointed officials, officers, employees, contractors, agents, successors and assigns, from and against all claims, causes of action, liabilities, losses, costs and expenses arising from or in connection with any injury or other damage to any person or property; which occurs in any part of the Licensed Premises and is caused by negligence or willful misconduct of Licensee, its agents, contractors, employees, customers, and invitees. The indemnification in this section shall survive the expiration or termination of this License.

11. Insurance.

A. Licensee, at its sole cost and expense, shall obtain and maintain a policy of commercial general liability insurance from an insurance carrier satisfactory to the Licensor, providing coverage for claims arising from, or in connection with, the exercise of the use and permissions granted hereunder to Licensee, for personal injury, death, property damage or loss suffered by any person or entity, with a minimum coverage of not less than Two Million Dollars (\$2,000,000) per occurrence. Such insurance coverage shall protect the persons and entities indemnified under Section 10 of this License from liability. Licensee shall maintain such insurance coverage in full force and effect continuously at all times throughout the Term and for one (1) year thereafter. The insurance policy and policy limits shall neither operate as a limit of Licensee's liability to the Licensor under this License, nor as a limit of Licensee's duty of indemnification hereunder.

B. Prior to the Effective Date of this License, and at the beginning of each year thereafter throughout the Term and for one (1) year thereafter, Licensee shall furnish the Licensor with certificates of insurance indicating that the insurance is prepaid for a one year policy period, that it insures all activities contemplated under this License, and that it contains a thirty (30) day notice provision prior to termination, cancellation, non-renewal, material change, or reduction of coverage except in the event of nonpayment of premium in which case such notice provision shall be ten (10) days. The policy shall provide, among other things, that the actions or omissions of any insured party shall not invalidate the policy as against any other insured party or otherwise adversely affect the rights of any insured party under the policy. No provision contained in this License shall act as a waiver of any rights of subrogation of the

insurance company which is the primary insurer for the Licensor.

C. The insurance hereby required to be carried by Licensee shall be with an insurance company licensed to do business in the Commonwealth of Virginia and rated not lower than A-VII in the A.M. Best Rating Guide. Such insurance shall (i) contain an endorsement that such policy shall remain in full force and effect notwithstanding that the insured has released its right of action against any party before the occurrence of a loss; (ii) name the Licensor and others listed herein as additional insureds and loss payees; and (iii) provide that the policy shall not be canceled, failed to be renewed or materially amended without at least thirty (30) days' prior written notice to the Licensor except in the event of nonpayment of a premium, in which case such notice provision shall be ten (10) days. On or before the Effective Date and, thereafter, not less than thirty (30) days before the expiration date of the insurance policy, a certificate of insurance, together with evidence satisfactory to the Licensor of the payment of all premiums for such policy, shall be delivered to the Licensor. The Licensor, its elected and appointed officials, officers, employees, contractors and agents shall be named as additional insureds under all coverage maintained by Licensee hereunder and the certificate of insurance must so state. Coverage afforded under this section shall be primary as respects the Licensor, its elected and appointed officials, officers, employees, contractors and agents.

D. The following definition of the term "Licensor" applies to all insurance policies issued in fulfillment of Licensee's obligations contained in this License:

"The Arlington County School Board, its officers, elected and appointed officials, employees, agents and contractors, and any affiliated or subsidiary Board, Authority, Committee, or Independent Agency (including those newly or hereinafter constituted), provided that such affiliated or subsidiary Board, Authority, Committee, or Independent Agency is either a Body Politic created by the Arlington County School Board, or one in which controlling interest is vested in the Arlington County School Board or Arlington County School Board Constitutional Officers."

E. All insurance policies and certificates of insurance hereby required of Licensee shall be endorsed to include the following provision:

"It is agreed that this policy is not subject to cancellation, non-renewal, material change, or reduction in coverage until thirty (30) days prior written notice has been given to the Arlington County School Board."

12. No Permanent Rights. The Parties acknowledge that the intention of this License is for Licensor to grant a mere license to Licensee for Licensee's use and benefit, and that there is no intention whatsoever to grant to Licensee, its successors or assigns, or to any other person or entity, any permanent rights of any kind in Licensor's real or personal property.

13. No Assignment or Transfer. Licensee shall not assign, transfer, convey, or otherwise dispose of any or all of its rights, obligations, permissions, or interests under this License. All of Licensee's obligations and liabilities set forth in this License shall survive the expiration or termination of this License.

14. No Waiver of Sovereign Immunity by Licensor. Notwithstanding any other provisions of this License to the contrary, nothing in this License nor any action taken by Licensor pursuant to this License nor any document which arises out of this License shall constitute or be construed as a waiver of either the sovereign immunity or governmental immunity of the Licensor, or of its elected and appointed officials, officers and employees.

15. Notices. All notices or other communications hereunder, with the exception of emergency notices that may be provided verbally as set forth in Section 7 herein, shall be in writing and shall be given to the other Party by hand delivery, by certified mail, return receipt requested, or by nationally-recognized commercial delivery service, next business day delivery, at the following addresses or such other addresses hereafter provided by notice to the other Party:

If to Licensor:	Arlington County School Board 1426 North Quincy Street Arlington, Virginia 22207 Attention: Director of Finance
with a required copy to:	Superintendent Arlington Public Schools 1426 North Quincy Street, 4 th Floor Arlington, Virginia 22207
with required copies to:	Arlington County Attorney 2100 Clarendon Boulevard, Suite 403 Arlington, Virginia 22201 Real Estate Bureau Chief Arlington County, Virginia 2100 Clarendon Boulevard, Suite 800 Arlington, Virginia 22201
If to Licensee:	Field to Table, Inc. P.O. Box 5948 Arlington, Virginia 22205-0948
with a required copy to:	Robert Swennes 6101 N. 22 nd Street Arlington, Virginia 22205-2103

16. No Partnership or Lease. The Parties agree that nothing contained in this License shall be deemed or construed as creating: (i) a partnership or joint venture between the Parties; (ii) a leasehold interest in the Licensed Premises; or (iii) the relationship of landlord and tenant between the Parties.

17. Taxes. Licensee, its exhibitors and sellers, shall each pay all applicable state and local taxes, including but not limited to, business, professional and occupational license ("BPOL") taxes regarding the sale of goods and products. BPOL taxes, and all other County taxes, shall be paid directly to the Treasurer of Arlington County, Virginia.

18. Appropriation of Funds. Notwithstanding any provision of this License, all of Licensors' duties and obligations under this License are subject to appropriation of funds by the County Board of Arlington County, Virginia for the specific purpose of satisfying the payment and performance of such obligations.

19. No Rights in Third Parties. The Parties hereto mutually agree that no provision of this License shall create in the public, or in any person or entity other than those signing this License as Parties hereto, rights as a third party beneficiary hereunder, or authorize any person or entity, not a party hereto, to maintain any action for personal injury, property damage, or breach of contract pursuant to the terms of this License or otherwise.

20. No Indemnification or Hold Harmless. Notwithstanding any other term or provision of this License to the contrary, Licensor shall have no obligation to explicitly or implicitly indemnify or hold harmless the Licensee or any third party or parties from any liability whatsoever.

21. [Intentionally deleted]

22. Survival. Expiration or termination of this License for any cause shall not release either Party from any liability that, at the time of termination, has already accrued to it or that may thereafter accrue with respect to acts or omission made prior to such termination, and shall not affect in any way the survival of any right or obligation of either Party which is expressly or implicitly stated in this License to survive termination hereof.

23. Compliance with Laws. In performing its obligations under this License, Licensee shall comply with applicable federal, state, and local laws, ordinances, regulations, policies and procedures and the Special Use Permit.

24. Entire Agreement/Applicable Law. This License contains the entire agreement of the Parties hereto with respect to the subject matter hereof. All representations, inducements, or agreements, oral or otherwise, between the Parties not contained in this License shall be of no force and effect. This License shall not be modified, changed or terminated, in whole or in part, in any manner other than by an agreement in writing signed by duly authorized representatives of the Licensor and Licensee. This License shall be construed and enforced in accordance with the laws of the Commonwealth of Virginia, without regard to choice of law principles. All legal actions and suits arising out of this License shall be brought in the Circuit Court or the General District Court of Arlington County, Virginia, and in no other court.

25. Recitals. The Recitals set forth above are incorporated into this License.

26. Effective Date. This License shall not become effective unless and until the attached Joinder and Consent has been executed on behalf of the County Board and the License has been signed on behalf of the Licensor, after this License is first signed on behalf of the Licensee. This License shall be effective on the date when it is last signed by all of the Parties and the Joinder and Consent has been executed on behalf of the County Board (the "Effective Date").

WHEREFORE, this License is executed by persons duly authorized to bind the Parties.

WITNESS:

LICENSEE:

FIELD TO TABLE, Inc.,
a Virginia non-stock corporation

BY: _____

TITLE: _____

DATE: _____

WITNESS:

LICENSOR: ARLINGTON COUNTY SCHOOL
BOARD

BY: _____

TITLE: _____

DATE: _____

Exhibit A
Vicinity Map
The plat depicts the Licensed Premises

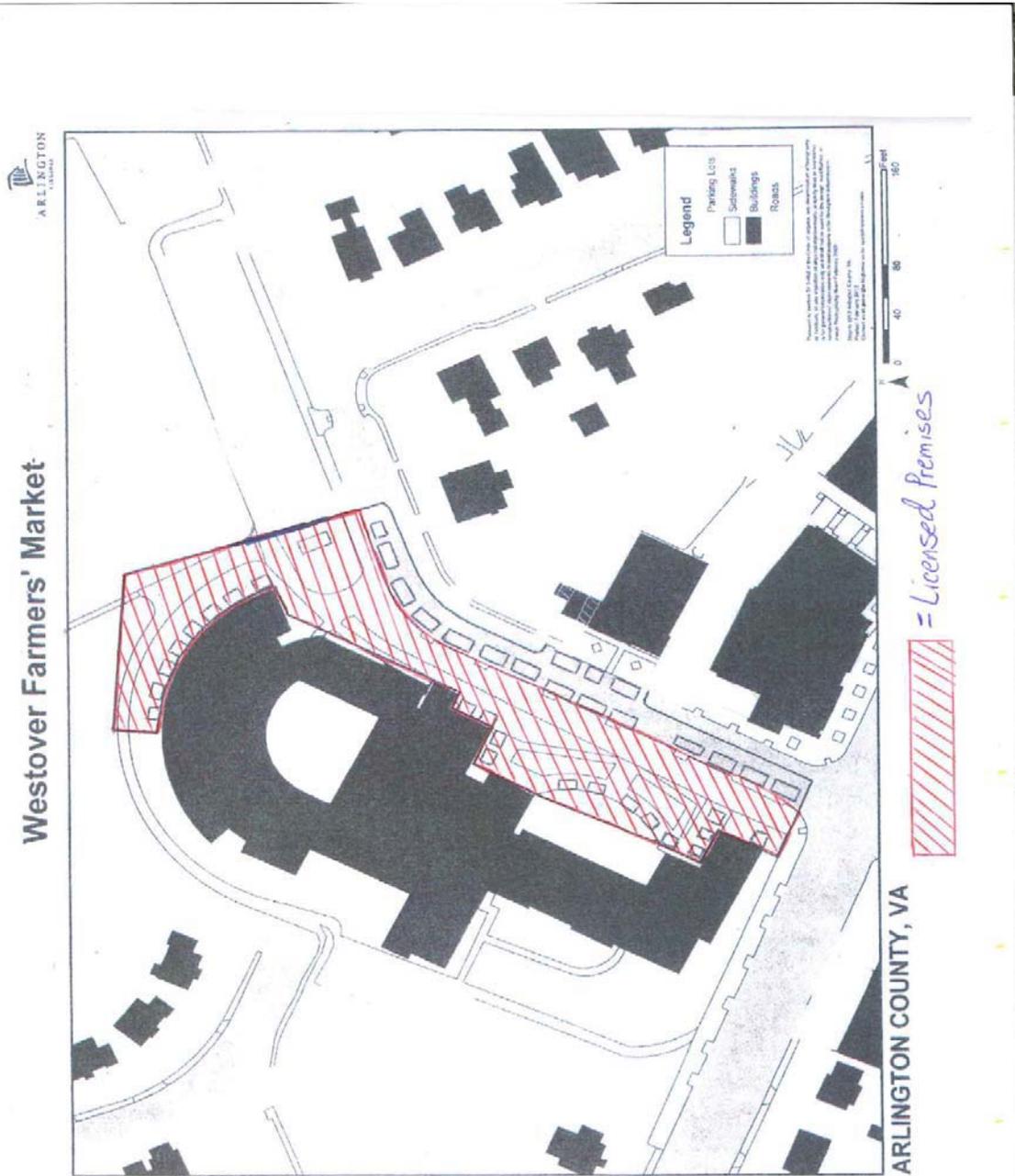


Exhibit B
Rules of Operation and Compliance

1. The Licensee agrees that the hours of operation for the Market shall be limited to Sundays only, between the hours of 9 a.m. to 1 p.m. Eastern Time for the months of December through April and between the hours of 8 a.m. to 12 p.m. Eastern Time for the months of May through November, plus one hour before and after the respective times for Licensee, its sellers and exhibitors, to setup, clean up and depart the Licensed Premises. During the one hour clean up period on Sundays, Licensee agrees to inspect and ensure that all trash, debris and spills of all substances are removed from the Licensed Premises or placed in trash/recycle receptacles designated by Licensor.
2. The Licensee shall work with the surrounding neighborhoods, and the County, to provide adequate signs, but only as permitted by local laws, ordinances and regulations, including, but not limited to, the Arlington County Zoning Ordinance, at appropriate locations identifying the location of the Market and directing sellers and patrons into appropriate legally permissible parking areas. Such signage shall be approved by the Superintendent or his designee as consistent with the sign ordinance prior to issuance of the Special Use Permit. Such signage shall include one or more temporary signs to be displayed on the Licensed Premises during the Market Time Period.
3. Upon the commencement of the Initial Term, the Licensee shall identify a person who will serve as liaison to the community throughout the operation of the Market. The liaison's name shall be submitted to APS Facilities and Operations, Arlington County Zoning Administrator, the Leeway Overlee, Highland Park-Overlee Knolls, Westover Village and Tara-Leeway Heights Civic Associations, and the Westover Business Alliance (collectively, the "Associations"), prior to Licensee's use of the Licensed Premises.
4. The Licensee agrees to meet all applicable County requirements and work cooperatively in doing so with the Police Department, the Fire Department, the Community Code Enforcement Office, the Department of Environmental Services and APS-Facilities Maintenance.
5. The Licensee agrees to provide all sellers, including all sellers who have not previously participated in the Market at this location, with a document that lays out the preferred approach routes for vehicles and identifying major arterial roadways to avoid the use of neighborhood residential streets. This document shall be provided to the Zoning Administrator for approval at least two (2) weeks prior to the issuance of the initial Special Use Permit, and any renewals thereof, and shall then be provided to the Associations prior to the issuance of the Special Use Permit.
6. The Licensee agrees to take all practical measures to encourage the use of public transportation and to encourage customer parking in adjacent parking facilities as designated in the parking plan. The Licensee agrees that such measures will include, but

will not be limited to verbal and written documents (including maps) directing patrons to the Metro access points, public transportation and public parking garages in the area.

7. The Licensee agrees to comply with, among other ordinances, the requirements of the County's Noise Ordinance. The Licensee shall ensure that no amplified sound that can be heard beyond the perimeter of the Market site occurs at any time. In any case, no amplified sound of any kind, including music or announcements shall occur on the day of operation of the Market prior to 7 a.m. Eastern Time, if the Market operates on weekdays, or 10 a.m. Eastern Time, if the Market operates on a Saturday, Sunday or County holiday.
8. In the event of a conflict or inconsistency between these Rules and any provisions, requirements or conditions of the Special Use Permit authorizing the use of the Licensed Premises for a Market, the provisions, requirements and conditions of the Special Use Permit shall prevail.

JOINDER AND CONSENT

The County Board of Arlington County, Virginia, hereby joins in the annexed Open Air Market License Agreement solely for the purpose of consenting to the license rights and interests therein granted. The Lease shall otherwise remain in full force and effect.

GIVEN under my hand and seal this _____ day of _____ 2012.

THE COUNTY BOARD OF ARLINGTON
COUNTY, VIRGINIA, a body corporate and
politic

By: _____
Name: _____
Title: _____

APPROVED AS TO FORM:

County Attorney

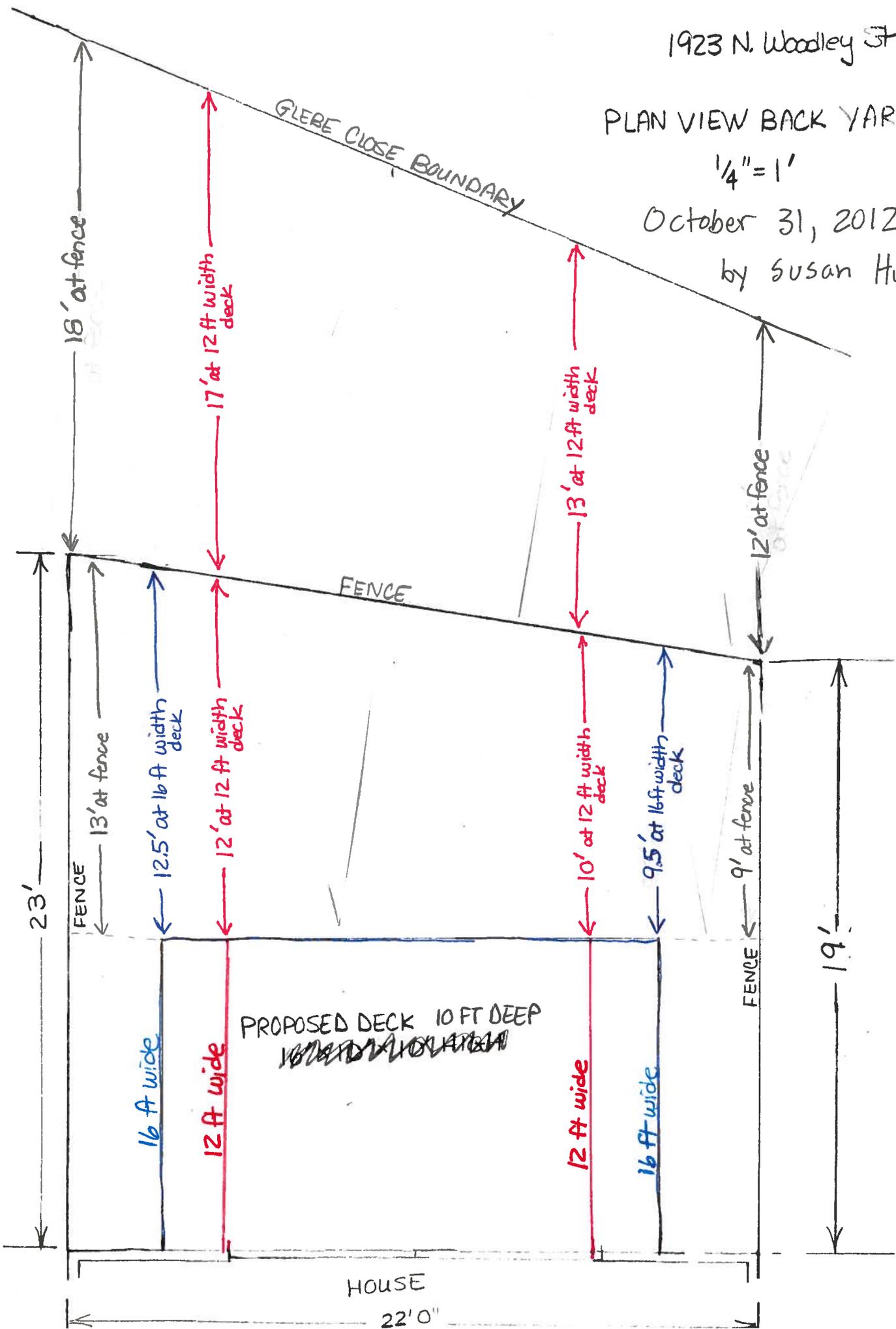
1923 N. Woodley St

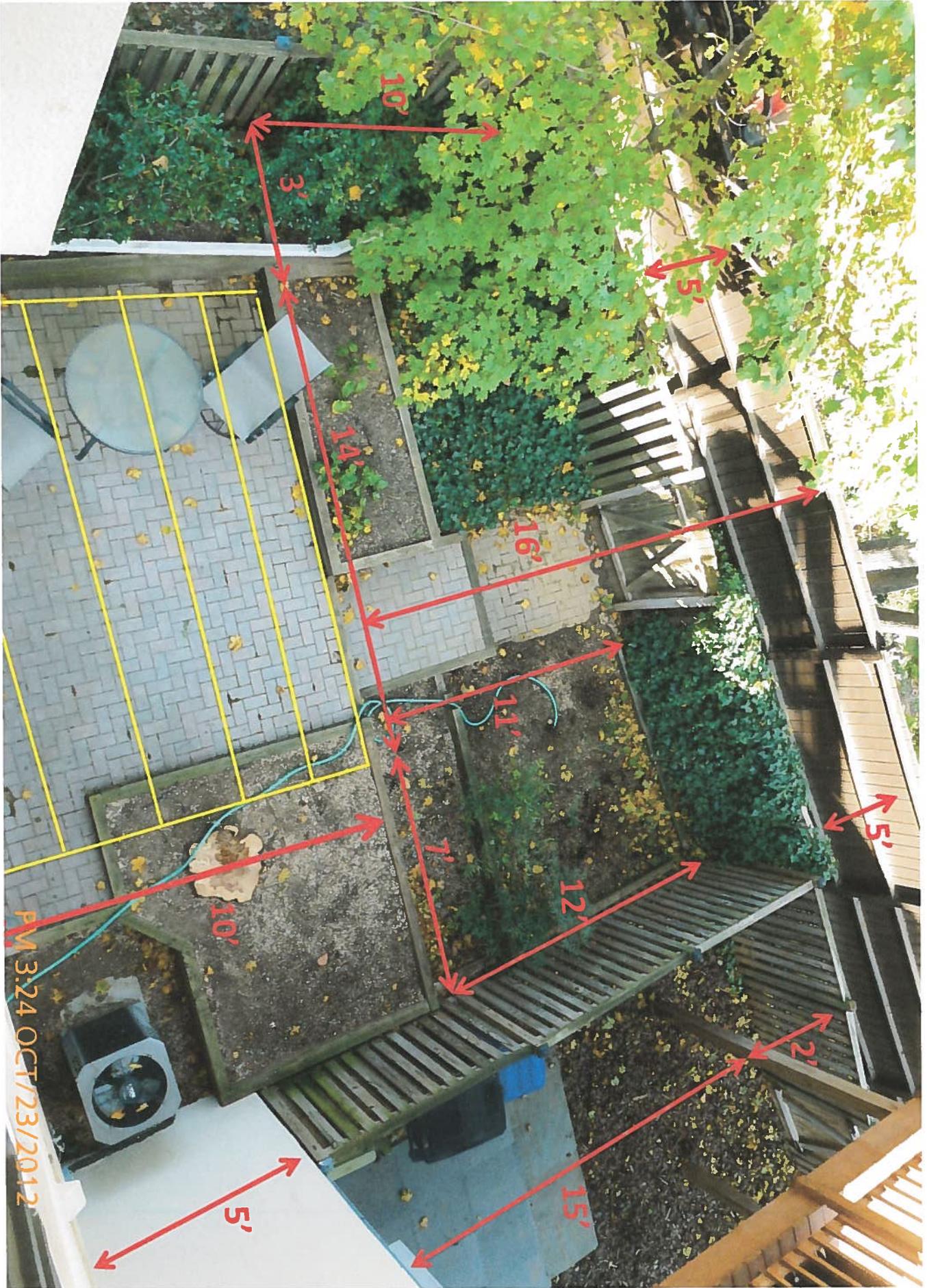
PLAN VIEW BACK YARD

1/4" = 1'

October 31, 2012

by Susan Hurd





PM 3:24 OCT/23/2012



Appendix A of the Arlington County Purchasing Resolution

**Public-Private Transportation Act of 1995,
as Amended**

Arlington County

Guidelines

Table of Contents

I.	INTRODUCTIONS	3
II.	GENERAL PROVISIONS	3
	A. Proposal Submission	3
	B. Reservation of Rights.....	5
	C. Affected Local Jurisdictions	6
	D. Virginia Freedom of Information Act.....	7
	E. Use of Public Funds	8
	F. Applicability of Other Laws	8
III.	SOLICITED PROPOSALS.....	8
IV.	UNSOLICITED PROPOSALS	9
	A. Decision to Accept and Consider Unsolicited Proposal; Notice	9
	B. Posting Requirements	11
	C. Proposal Review Fees.....	11
	D. Initial Review at the Conceptual Stage	13
V.	PROPOSAL PREPARATION AND SUBMISSION	13
	A. Format for Submissions at the Conceptual Stage (Part 1)	13
	B. Format for Submissions at the Detailed Stage (Part 2)	21
VI.	PROPOSAL EVALUATION AND SELECTION CRITERIA	23
	A. Project Characteristics	23
	B. Project Benefit and Compatibility.....	23
	C. Qualifications and Experience.....	24
	D. Project Financing.....	25
	E. Other Factors	25
	F. Timelines	26
VII.	INTERIM AND COMPREHENSIVE AGREEMENTS.....	26
	A. Interim Agreement Terms	27
	B. Comprehensive Agreement Terms.....	27
	C. Notice and Posting Requirements	29
VIII.	INDEPENDENT AUDIT.....	30
IX.	GOVERNING PROVISIONS.....	30

I. INTRODUCTION

The Public-Private Transportation Act of 1995, Va. Code Ann. §§ 56-556, et seq. (the “PPTA”) as amended, grants responsible public entities the authority to create public-private partnerships for the development of transportation facilities for public use (“qualifying transportation facilities”) if the public entity determines that it serves the public purposes of the PPTA.

The PPTA defines “responsible public entity” to include local governments that have the power to develop and/or operate the qualifying transportation facility. Arlington County (“County”) is a local government with the authority to develop and/or operate qualifying transportation facilities in Arlington County, and therefore is a “responsible public entity” as that term is used in the PPTA. The PPTA provides that a responsible public entity shall not proceed to consider any proposal by a public entity or approval of a qualifying transportation facility until the responsible public entity has adopted and made publicly available guidelines that are sufficient to establish the process for acceptance and review of proposals. Accordingly, these Guidelines are established by the Arlington County Board.

The PPTA authorizes public-private partnerships to develop "qualifying transportation facilities." The term "qualifying transportation facility" is defined in the PPTA as follows:

"Qualifying transportation facility" means one or more transportation facilities acquired, constructed, improved, maintained and/or operated by a private entity pursuant to this chapter.

The PPTA further defines a "transportation facility" as follows:

"Transportation facility" means any road, bridge, tunnel, overpass, ferry, airport, mass transit facility, vehicle parking facility, port facility or similar commercial facility used for the transportation of persons or goods, together with any buildings, structures, parking areas, appurtenances, and other property needed to operate such facility; however, a commercial or retail use or enterprise not essential to the transportation of persons or goods shall not be a transportation facility. "

When the term “County” is used in these guidelines, decisions to be made by the County are at the direction of the County Manager, or designee, unless otherwise specified herein.

II. GENERAL PROVISIONS

A. Proposal Submission

1. Pursuant to Section 56-560 of the PPTA, a proposal to provide a qualifying transportation facility to a responsible public entity may be either solicited from private entities by the public entity (a “Solicited Proposal”) or delivered to the public entity by a private entity on an unsolicited basis (an “Unsolicited Proposal”). Offerors must follow a two-part proposal submission process consisting of an initial conceptual phase and a detailed phase. The initial

phase of the proposal should contain specified information on proposer qualifications and experience, project characteristics, project financing, anticipated public support or opposition, or both, and project benefit and compatibility. The detailed proposal should contain specified deliverables. In either case, any such proposal shall be clearly identified as a “PPTA Proposal.”

2. The requirements for any particular Solicited Bid/Proposal shall be as specified in the solicitation by the County for that particular proposal and shall be consistent with all applicable provisions of the PPTA.
3. Any Unsolicited Proposal shall be submitted to the County by delivering one (1) original and six (6) complete copies and one electronic copy on CD, together with the required initial review fee as provided below in § IV(C), to the Arlington County Purchasing Agent, 2100 Clarendon Blvd., Suite 511, Arlington, VA 22201. The proposal shall be in the format as set forth in Section V.A. of these Guidelines. The County reserves the right to request additional copies from the private entity. Other requirements for an Unsolicited Proposal are as set forth below in § IV. A working group may be designated by the County Manager or designee to review and evaluate all unsolicited proposals. The County may also employ outside advisors and consultants to assist in the review of proposals.
4. The County may require that any proposal be clarified. Such clarification may include but is not limited to submission of additional documentation, responses to specific questions, and interviews with potential project participants.
5. Proposals should be prepared simply and economically, providing a concise description of the proposer’s capabilities to complete the qualifying transportation facility and the benefits to be derived from the project by Arlington County. Project benefits to be considered are those occurring during the construction, renovation, expansion or improvement phase and during the life cycle of the project. Proposals also should include a scope of work and a financial plan for the project, containing enough detail to allow an analysis by the County of the financial feasibility of the proposed project. The cost analysis of a proposal should not be linked solely to the financing plan, as the County may determine to finance the project through other available means.
6. Private entities may propose innovative financing methods, including the imposition of user fees or service payments under the provision of the PPTA. Financing arrangement may include the issuance of debt, equity, or other securities or obligations. A private entity may enter into sale and lease back transactions and secure any financing with a pledge of security interest

in, or lien on, any or all of its property, including all of its property interests in the qualifying transportation facility.

B. Reservation of Rights

In connection with any proposal, the County shall have all rights available to it by law in administering these procedures, including without limitation, the right in its sole and unfettered discretion to:

1. Reject any or all proposals at any time, for any reason, solely within the discretion of the County. Private entities shall have no recourse against the County for such rejection. A private entity will be notified in writing of such rejection in accordance with these procedures.
2. Terminate evaluation of any and all proposals at any time.
3. Suspend, discontinue and/or terminate the Interim Agreement or Comprehensive Agreement negotiations.
4. Negotiate with a private entity without being bound by any provision in its proposal.
5. Request or obtain additional information about any proposal.
6. Issue addenda to and/or cancel any request for proposals ("RFP") or invitation to bids ("ITB").
7. Revise, supplement or withdraw all or any part of these procedures at any time.
8. Modify any standard fee schedule as stated herein for a specific proposal or for all future proposals.
9. Decline to return any and all fees required to be paid by a private entity hereunder, except for initial fees paid by proposers with an unsolicited conceptual proposal where the County declines to accept the proposal for consideration.
10. Request revisions to Conceptual or Detailed Proposals.
11. Treat any proposal which may have certain characteristics in common yet differ in meaningful ways from a previously received proposal as either a competing proposal or a noncompeting unsolicited proposal and proceed accordingly.
12. Submit a proposal for review by outside consultants or advisors selected by

the County without notice to the proposer. Such consultants or advisors shall be advised of and contractually required to agree to maintain the confidentiality of information that has been designated as confidential pursuant to an agreement between the County and the proposer, and to refer all requests for such information to the County.

13. Modify the stated timeline for consideration, review or negotiation of proposals when deemed necessary by the County in its sole discretion. Written notice will be provided to any affected proposers when such departures from a stated timeline are deemed significant.

Under no circumstances shall the County be liable for, or reimburse, the costs incurred by private entities, whether or not selected for negotiations, in developing proposals or in negotiating agreements. Any and all information the County makes available to proposers shall be as a convenience to the proposer and without representation or warranty of any kind. Proposers may not rely upon any oral responses to inquiries. If a proposer has a question regarding application of these procedures, the proposer must submit the question in writing to the County Purchasing Agent and the County will respond in writing as it determines appropriate.

C. Affected Local Jurisdictions

1. The term “affected local jurisdiction” includes any county, city or town in which all or a portion of a qualifying transportation facility is located.
2. Any private entity requesting approval from or submitting a conceptual or detailed proposal to the County as the responsible public entity for a qualifying transportation facility must provide any other affected local jurisdiction with a copy of the proposal by certified mail, express delivery, or hand delivery within five (5) business days of submission of the proposal to the County. The private entity is responsible for documenting delivery of the request or proposal. Any such other affected local jurisdiction shall have sixty (60) days from the date it receives its copy of the proposal to submit written comments to the County and to indicate whether the proposed qualifying transportation facility is compatible with the (i) local comprehensive plan, (ii) local infrastructure development plans, or (iii) capital improvements budget, or other government spending plan. The County will consider comments received within the 60-day period in evaluating the request or proposal; however, no negative inference shall be drawn from the absence of comment by an affected jurisdiction. The County may begin or continue its evaluation of any such proposal during the 60-day period for the receipt of comments from affected local jurisdictions.
3. In addition, in the case where the qualifying transportation facility is a highway or bridge, a copy of the proposal should be delivered to the

Commonwealth Transportation Commission on the same day it delivers the proposal to the County. The Commissioner will be asked to provide written comments to the County within sixty (60) days or receipt of such proposal.

D. Virginia Freedom of Information Act

All proposals submitted to the County become the property of the County and are subject to the Virginia Freedom of Information Act ("FOIA") (§ 2.2-3700 et seq.). Proposers are advised to familiarize themselves with FOIA to ensure that documents identified as confidential or proprietary will not be subject to disclosure under FOIA.

In accordance with § 2.2-3705.6(11) of the FOIA, proposals and records voluntarily submitted to the County under the PPTA are subject to disclosure except to the extent that they relate to (i) confidential proprietary records submitted to the County under a promise of confidentiality, or (ii) memoranda, working papers, or other records related to proposals if making public such records would adversely affect the financial interest of the County or private entity or the bargaining position of either party.

Subsection 56-560(G) of the PPTA requires the County to take appropriate action to protect confidential proprietary information submitted by a private entity. In order for confidential proprietary information to be excluded from disclosure under FOIA, the private entity must (i) invoke the exclusion when the data or materials for which protection from disclosure is sought are submitted to the County, (ii) identify the data or other materials for which protection from disclosure is sought, and (iii) state the reasons why exclusion from disclosure is necessary. The County is authorized and obligated to protect only confidential proprietary information, and thus will not protect any portion of a proposal from disclosure if the entire proposal has been designated confidential by the proposer without reasonably differentiating between proprietary and non-proprietary information contained herein.

Upon timely receipt of a request that designated portions of a proposal be protected from disclosure as confidential and proprietary, the County shall determine whether such protection is appropriate under applicable law and, if appropriate, the scope of such appropriate protection, and shall communicate its determination to the proposer. Upon a final determination by the County to accord less protection than requested by the proposer, the proposer will be accorded an opportunity to withdraw its proposal. A proposal so withdrawn will be treated in the same manner as a proposal not accepted for publication and conceptual-phase consideration as provided below.

Once a comprehensive agreement has been entered into, and the process of bargaining of all phases or aspects of the comprehensive agreement is complete, the County shall make the procurement records available upon request in accordance with § 2.2-4342 of the Code of Virginia. Procurement records shall not be interpreted to include (1) proprietary, commercial or financial information, balance sheets, financial statements, or trade secrets that may be provided by the private entity as evidence of its qualifications; and (2) certain confidential and proprietary information, and related records may remain confidential if the financial interest of the County or the private entity would be adversely affected.

However, to the extent that access to any procurement record or other document or information is compelled or protected by a court order, then the County must comply with such order.

E. Use of Public Funds

Virginia constitutional and statutory requirements as they apply to appropriation and expenditure of public funds apply to any interim or comprehensive agreement entered into under the PPTA. Accordingly, the processes and procedural requirements associated with the expenditure or obligation of public funds shall be incorporated into planning for any PPTA project or projects.

F. Applicability of Other Laws

Nothing in the PPTA shall affect the duty of the County to comply with all other applicable law not in conflict with the PPTA. The applicability of the Virginia Public Procurement Act (the "VPPA") is as set forth in the PPTA. Likewise, in submitting proposals and in developing, executing or operating facilities under the PPTA, private entities shall comply with all applicable federal, state, and local laws.

While procedures incorporated in these guidelines are consistent with those of Virginia Code §§2.2-4301, under §56-573.1 the selection process for solicited or unsolicited project proposals is not subject to the Virginia Public Procurement Act (§2.2-4300 et seq.).

III. SOLICITED PROPOSALS

The procedures applicable to any particular Solicited Proposal shall be specified in the solicitation for that proposal and shall be consistent with the requirements of the PPTA and any other applicable law. All such solicitations shall be by issuance of a written Request for Proposal ("RFP") within the meaning of that term as used in the Arlington County Purchasing Resolution. The County may use a two-part proposal process consisting of an initial conceptual stage (part 1) and a detailed stage (part 2). In such case, the County shall set forth in the RFP the format and supporting information that is required to be submitted, consistent with the provisions of the PPTA.

The RFP must specify any information and documents required by the County and the factors that will be used in evaluating proposals. Pre-proposal conferences may be held as deemed appropriate by the County.

Any proposal submitted pursuant to the PPTA that is not received in response to an RFP shall be an Unsolicited Proposal under these guidelines, including but not limited to (i) proposals received in response to a notice of the prior receipt of another Unsolicited Proposal as required by the PPTA and provided for below in § IV(A)(2) and (ii) proposals received in response to publicity by the County concerning particular needs when the

County has not issued a corresponding IFB or RFP, even if the County otherwise has encouraged the submission of proposals pursuant to the PPTA that address those needs.

The County may also issue a Request for Information (RFI) inviting private entities to express a potential interest in developing and/or operating one or more qualifying transportation facilities. The issuance of a RFI does not require the County to issue a Solicited Proposal for the same project. The County will not accept unsolicited proposals for a project that is the subject of some, or all of a RFI, until the County makes a determination to accept unsolicited proposals. No fees shall be charged for the processing, reviewing, or evaluating an expression of interest.

IV. UNSOLICITED PROPOSALS

The County may receive unsolicited proposals at any time pursuant to these Guidelines. Additionally, the County may publicize its needs and encourage interested parties to submit unsolicited proposals subject to the terms and conditions of the PPTA. When such proposals are received without issuance of an RFP, the proposal shall be treated as an unsolicited proposal under the Act. Unsolicited proposals shall be submitted to the County Purchasing Agent.

The process for evaluating an Unsolicited Proposal, which is described in detail below, consists of four steps. Briefly summarized, upon receipt of an Unsolicited Proposal the County's first step will be to determine whether to accept it for consideration at the conceptual stage. If so, then in step two the County will give public notice of the Unsolicited Proposal. In step three the County will proceed with a review at the conceptual stage of the original Unsolicited Proposal and/or any proposal received in response to the public notice and accepted for consideration at the conceptual stage. Step four is an in-depth review at the detailed stage of the original Unsolicited Proposal and/or any proposal received in response to the public notice and accepted for consideration at the detailed stage. However, the County may discontinue its evaluation of any proposal at any time. Furthermore, if the County determines that it is in the County's interest to do so with respect to any Unsolicited Proposal, the County may eliminate review at the conceptual stage and proceed directly to a review at the detailed stage.

The County shall engage the services of qualified consultants, which may include an architect, engineer, certified public accountant, or other consultant(s) not otherwise employed by the County, to provide independent analysis regarding the specifics, advantages, disadvantages, and the long- and short-term costs of any request by a private entity for approval of a qualifying transportation facility unless the County determines that such analysis of a request by the County for approval of a qualifying transportation facility shall be performed by an employee of the County.

A. Decision to Accept and Consider Unsolicited Proposal; Notice

1. The County reserves the right to reject any and all proposals at any time.
2. Upon receipt from a private entity of any Unsolicited Proposal accompanied by payment of any required fees, the County will determine whether to accept the Unsolicited Proposal for publication and conceptual-phase consideration,

as described below. The County may only accept an Unsolicited Proposal if the proposal meets the format required, the review fee is submitted, and the proposed qualifying transportation facility serves the public purpose of the PPTA. A qualifying transportation facility serves the public purpose if there is a need for the transportation facility the private entity proposes, if the proposed transportation facility is reasonable and will address the needs of the regional or local transportation plan by improving safety, reducing congestion, increasing capacity, and/or enhancing economic efficiency, if the estimated cost of the transportation facility is reasonable in relation to similar facilities, and if the private entity's plans will result in the timely development and/or operation or more efficient operation. The County Manager shall reject any proposal not meeting the above requirements and return the review fee to the private entity.

3. If the County chooses to accept an Unsolicited Proposal for conceptual-phase consideration, it shall give public notice of the proposal in accordance with the PPTA and shall specify a period of time not less than forty-five (45) days during which it will receive competing Unsolicited Proposals. During the 45-day period for receiving competing Unsolicited Proposals, the County may continue to evaluate the original Unsolicited Proposal. The County shall provide for more than 45 days in situations where the County deems that scope or complexity of the original proposal warrants additional time for potential competitors to prepare proposals.

The notice shall state that the County (i) has received an unsolicited proposal under the PPTA, (ii) intends to evaluate the proposal, (iii) may negotiate an interim or comprehensive agreement with the proposer based on the proposal, and (iv) will accept for simultaneous consideration any competing proposals that comply with Arlington County's adopted PPTA procedures. The notice will summarize the proposed qualifying transportation facility project or projects, and identify their proposed location(s). Copies of unsolicited proposals shall be available upon request, subject to the provisions of FOIA and §56-560G of the PPTA.

Prior to posting of the notices provided for in this subsection, the County shall receive from the initial proposer the balance due, if any, of the required project proposal review fee.

The County recognizes that it may receive proposals which have certain characteristics in common yet differ in meaningful ways. In such case, the County reserves the right, in its sole discretion, to treat such a proposal or any portion of such proposal received after the original proposal, as either a competing proposal or a non-competing unsolicited proposal, and to proceed accordingly under these procedures.

Because of the consequences to a proposer for failing to submit within the

designated period a proposal which the County could later deem a competing proposal, prospective proposers are strongly urged to monitor the County notices of proposals received, and to be prepared to submit within such designated period if they perceive that a proposal they are considering or are preparing bears certain similarities to, or has characteristics in common with, a proposal which is the subject of a notice.

In the event a proposer is unsure whether its planned proposal will be sufficiently similar to the proposal which was the subject of a notice to be deemed a competing proposal, such proposer may submit to the County a written request for a preliminary determination of whether its project would be deemed a competing proposal in whole or in part. The County will endeavor, no later than twenty-one (21) days thereafter, to respond to such request with a preliminary determination as to whether or not the proposal would be a competing proposal or that it has received insufficient information to make a determination. In the event the County elects to treat a proposal, or part of a proposal, received within the designated period as a non-competing proposal, the County will follow the above notice procedure to permit competing proposals to be submitted, including from the proposer whose proposal triggered the original notice.

If state or federal funds are anticipated in any proposal, the County may also notify the appropriate state or federal agencies and will require that the proposer provide additional copies of the proposal to be given to those agencies.

B. Posting Requirements

1. Conceptual proposals, whether solicited or unsolicited, shall be posted by the County on its website within ten (10) working days after acceptance of such proposals.
2. In addition to the posting requirements, at least one copy of the proposals shall be made available for public inspection. Trade secrets, financial records, or other records of the private entity excluded from disclosure under the provisions of subdivision 11 of §2.2-3705.6 shall not be required to be posted, except as otherwise agreed to by the County and the private entity. Any inspection of procurement transaction records shall be subject to reasonable restrictions to ensure the security and integrity of the records.

C. Proposal Review Fees

1. No fee will be charged to process, review or evaluate any solicited proposal submitted under the PPTA.

2. A review fee will be charged to a private entity submitting an Unsolicited Proposal to the County, to cover the County's costs of processing, reviewing, and evaluating any proposal or competing unsolicited proposal. Such costs include but are not limited to County staff time, the cost of any materials or supplies expended, and the cost of any outside advisors or consultants, including but not limited to attorneys, consultants, financial and technical advisors, used by the County in its sole discretion to assist in processing, reviewing, or evaluating the proposal. Such fees generally shall be in the amount necessary to completely cover all of the County's costs.
3. For unsolicited proposals and competing proposals, review fees shall be imposed based on the reasonably anticipated costs to the County in accordance with the following schedule:
 - a. Initial fee. Payment of an initial fee must accompany the submission of the Unsolicited Proposal to the County in order for the County to proceed with its review. The initial fee shall be two and one-half percent (2.5%) of the reasonably anticipated total cost of the implementing the proposal, but shall be no less than \$5,000 nor more than \$50,000, regardless of the anticipated total cost. For purposes of initial processing of the proposal, the County may accept the \$5,000 minimum fee with the balance to be due and payable prior to proceeding beyond the initial review stage. If the County chooses to proceed with evaluation of the proposal(s) under the PPTA, it shall not do so until the entire, non-refundable proposal fee has been paid in full.
 - b. Additional fees. Additional fees shall be imposed on and paid by the private entity throughout the processing, review, and evaluation of the Unsolicited Proposal if and as the County reasonably anticipates incurring costs in excess of the initial fee paid by the private entity. The County will notify the private entity of the amount of such additional fees as and when it anticipates incurring such costs. Prompt payment of such additional fees is required before the County will continue to process, review, and evaluate the proposal.
 - c. Reimbursement of excess fees paid. In the event the total fees paid by the private entity exceed the County's total costs incurred in processing, reviewing, and evaluating the proposal, the County shall reimburse the difference. Otherwise, the County shall retain all fees paid. If during the initial review, the County decides not to proceed to conceptual-stage review of an unsolicited proposal, the proposal fee, less any direct costs of the initial review, shall be refunded.

D. Initial Review at the Conceptual Stage

1. Only proposals complying with the requirements of the PPTA and these Guidelines that contain sufficient information for a meaningful evaluation and that are provided in an appropriate format, as described below, will be considered by the County for further review at the conceptual stage.
2. The County will determine at this initial stage of review whether it will proceed by:
 - a. procurement through competitive sealed bidding, as defined in Virginia Code § 2.2-4301; or
 - b. procedures for other than professional services by competitive negotiation as defined under Virginia Code § 2.2-4301. The County may only use competitive negotiation upon a written determination that doing so would likely be advantageous to the County and the public based upon either (1) the scope, complexity, or priority of need; (2) risk sharing including guaranteed cost or completion guarantees, added value or debt or equity investments proposed by the private entity; or (3) an increase in funding, dedicated revenue or economic benefit from the project that would not otherwise be available.
3. After reviewing an Unsolicited Proposal and any competing Unsolicited Proposals submitted during the notice period, the County may determine (a) not to proceed further with any proposal, (b) to proceed to the detailed phase of review with the original proposal, (c) to proceed to the detailed phase with a competing proposal, or (d) to proceed to the detailed phase with multiple proposals. The County at all times retains the right to reject any proposal at any time for any reason whatsoever.

V. PROPOSAL PREPARATION AND SUBMISSION**A. Format for Submissions at the Conceptual Stage (Part 1)**

Unsolicited Proposals at the conceptual stage shall contain the following information in the following format, plus such additional information as the County may request subsequent to receipt of the unsolicited proposal:

One (1) original (marked "ORIGINAL" and six (6) copies, and one electronic copy on CD of the proposal must be submitted. Each copy shall be bound in a single volume where practical, except that information for which a claim of confidential or proprietary information is made should be submitted in a separately bound document or volume for convenience of review by the County. Any such volume containing confidential or proprietary information shall be clearly marked on its cover. The proposal should contain a table of contents, which cross references the requirements

by category. Each proposal shall be structured so that it contains individual tabs/sections detailing proposed services. Proposals should be prepared as simply as possible, with straightforward, concise descriptions of the proposer's capabilities to satisfy the requirements of the proposed offering. Offerors shall submit their proposals with the required information in the order listed below.

Proposal submitted shall meet standards of professional writing established for the type of report or written material provided, shall be thoroughly researched for accuracy of content, shall be grammatically correct and not contain spelling errors and shall be submitted in a format outlined herein. Whenever possible, proposals submitted shall comply with the following guidelines:

- The proposal shall be limited to a page size of 8 ½" x 11", single space and type size shall not be less than 10 point font for each response item;
- All copies shall be printed on at least thirty percent (30%) recycled-content and/or tree-free paper;
- All copies shall be double-sided;
- Covers or binders shall be recyclable, made from recycled materials, and/or easily removable to allow for recycling of pages (proposals with glued bindings that meet all other requirements are acceptable);
- The use of plastic covers or dividers should be avoided;
- Numbered tabs and dividers are required for each of the sections listed and in the order below:

- I. INTRODUCTION OF ENTITY/FIRM
- II. PROJECT CHARACTERISTICS
- III. PROJECT BENEFIT AND COMPATIBILITY
- IV. QUALIFICATIONS AND EXPERIENCE
- V. PROJECT FINANCING
- VI. REFERENCES
- VII. CONFLICT OF INTEREST STATEMENT

- I. INTRODUCTION OF ENTITY (FIRM)
 - a. Legal Name of Entity
 - b. Address
 - c. Tax ID Number (EIN)
 - d. Type of Business Entity (i.e. Corporation, General Partnership, Limited Partnership, Unincorporated Association, Limited Liability Company, Sole Proprietorship). Identification number issued to the entity by the SCC.
 - e. Indication whether or not the Firm or any of its principals are currently debarred from submitting bids to Arlington County, Virginia, or any other state or political subdivision.
 - f. Minority/DBE Status.

- g. Contact Person, and contact information (i.e. telephone number, e-mail address)

II. PROJECT CHARACTERISTICS

- a. Provide a description of the project, including the conceptual design and all proposed interconnections with other transportation facilities. Describe the proposed project in sufficient detail so that type and intent of the project, the location, and the communities that may be affected are clearly identified. Include a description of any components, planned initially or for the future, that are expected to generate revenue for the project or the proposer.
- b. Identify and fully describe any work to be performed by the County or any other public entity.
- c. Identify the plans to secure all necessary property, including the names and addresses, if known, of the current owners of the subject property as well as a list of any property the proposer intends to request the County to acquire.
- d. Include a list of all federal, state and local permits and approvals required for the project and a schedule for obtaining such permits and approvals.
- e. Identify any anticipated adverse social, economic and environmental impacts of the project. Specify the strategies or actions to mitigate known impacts of the project. Indicate if environmental and archaeological assessments have been completed. Such social and economic impacts should include but are not limited to community benefits, including the economic impact the project will have on the local community in terms of the amount of additional tax revenue to be generated for the County, the number of jobs generated for County residents and level of pay and fringe benefits of such jobs, the training opportunities for apprenticeships and other training programs for County residents generated by the project, and the number and value of subcontracts generated for County subcontractors.
- f. Identify the projected positive social, economic and environmental impacts of the project.
- g. Identify the proposed schedule for the work on the project, including the estimated time for completion.

- h. Identify contingency plans for addressing public needs in the event that all or some of the project is not completed according to projected schedule.
- i. Propose allocation of risk and liability for work completed beyond the agreement's completion date, and assurances for timely completion of the project.
- j. State assumptions related to ownership, legal liability, law enforcement and operation of the project and the existence of any restrictions on the public entity's use of the project.
- k. Provide information relative to phased or partial openings of the proposed project prior to completion of the entire work.
- l. Describe any architectural, building, engineering, or other applicable standards that the proposed project will meet.
- m. List any other assumptions relied on for the project to be successful.
- n. List any contingencies that must occur for the project to be successful.

III. PROJECT BENEFIT AND COMPATIBILITY

- a. Describe the anticipated benefits to the community, region or state, including anticipated benefits to the economic condition of the County, and identify who will benefit from the project and how they will benefit. Such social and economic impacts should include but are not limited to community benefits, including the economic impact the project will have on the local community in terms of the amount of additional tax revenue to be generated for the County, the number of jobs generated for County residents and level of pay and fringe benefits of such jobs, the training opportunities for apprenticeships and other training programs for County residents generated by the project, and the number and value of subcontracts generated for County subcontractors.
- b. Describe the compatibility with the existing and planned transportation system.
- c. Describe how the project will enhance a community-wide transportation system.
- d. Describe how the project addresses the needs of local, regional, and state transportation plans.

- e. Identify how the project will achieve performance, safety, mobility, or transportation demand management.
- f. Identify any anticipated public support or opposition, as well as any anticipated government support or opposition, for the project.
- g. Explain the strategy and plans that will be carried out to involve and inform the general public, business community, and governmental agencies in areas affected by the project.
- h. Describe the compatibility of the project with local, regional, and state economic development efforts.
- i. Explain the compatibility with the County's comprehensive plan, infrastructure development plans, capital improvements budget, or other government spending plan.

IV. QUALIFICATION AND EXPERIENCE

- a. Identify the legal structure of the firm or consortium of firms making the proposal. Identify the organizational structure for the project, the management approach and how each partner and major subcontractor in the structure fits into the overall team. All members of the proposer's team, including major subcontractors known to the proposer must be identified at the time a proposal is submitted for the Conceptual stage. Identified team members, including major subcontractors (over \$5 million), may not be substituted or replaced once a project is approved and comprehensive agreement executed without the written approval of the County.
- b. Describe the experience of the firm or consortium of firms making the proposal and the key principals involved in the proposed project including experience with projects of comparable size and complexity. Describe the length of time in business, business experience, public sector experience and other engagements of the firm or consortium of firms. Describe the past safety performance record and current safety capabilities of the firm. Describe the past technical performance history on recent projects of comparable size and complexity, including disclosure of any legal claims of the firm. Include the identity of any firms that will provide design, construction and completion guarantees and warranties and a description of such guarantees and warranties. Provide resumes of the key individuals who will be involved in the project.
- c. For each firm or major contractor (\$1 million or more) that will be utilized in the project, provide a statement listing all of the firm's

prior projects and clients for the past three (3) years with contact information for such clients (names/addresses/ telephone numbers/email). If a firm has worked on more than ten (10) projects during this period, it may limit prior project list to 10, but shall first include all projects similar in scope and size to the proposed project, and second, it shall include as many of its most recent projects as possible. Each firm or major subcontractor shall be required to submit all performance evaluation reports or other documents in its possession evaluating the firm's performance during the preceding three (3) years in terms of cost, quality, schedule, safety and other matters relevant to the successful project development, operation, and completion.

- d. Provide the names, addresses, email, and telephone numbers of persons within the firm or consortium of firms who may be contacted for further information.
- e. Provide a current or most recently audited financial statement of the firm or firms and each partner with an equity interest of twenty percent (20%) or greater. Submit the most recent Securities and Exchange Commission 10-K and 10-Q reports if applicable.
- f. Identify any persons known to the private entity who would be obligated to disqualify themselves from participation in any transaction arising from or in connection to the project pursuant to The Virginia State and Local Government Conflict of Interest Act, Chapter 31 (§ 2.2-3100 et seq.) of Title 2.2.
- g. Identify proposed plan for obtaining sufficient numbers of qualified workers in all trades or crafts required for the project.
- h. Provide information on any training programs, including but not limited to apprenticeship programs registered with the U.S. Department of Labor or a State Apprenticeship Council, in place for employees of the firm and employees of any member of a consortium of firms.
- i. Provide information on the level of commitment by the firm to using small, women-owned, or minority businesses in developing and implementing the project.
- j. For each firm or major subcontractor that will perform construction and/or design activities, provide a sworn certification by an authorized representative of the firm attesting to the fact that the firm is not currently debarred or suspended by any federal, state or local government entity.

- k. Describe worker safety training programs, job-site safety programs, accident prevention programs, written safety and health plans, including incident investigation and reporting procedures.
- l. A completed qualification statement in a form acceptable to the County that reviews all relevant information regarding technical qualifications and capabilities, firm resources and business integrity of the firm or major subcontractors, including but not limited to, bonding capacities, insurance coverage and firm equipment. This statement shall also include a mandatory disclosure by the firm for the past three (3) years, except as indicated, any of the following conduct:
 - 1. bankruptcy filings
 - 2. liquidated damages
 - 3. fines, assessments, or penalties
 - 4. judgments or awards in contract disputes
 - 5. contract defaults, contract terminations
 - 6. license revocations, suspensions, other disciplinary actions
 - 7. prior debarments or suspensions by a governmental entity
 - 8. denials of prequalification, findings of non-responsibility
 - 9. maximum five years safety performance data
 - 10. "Experience Modification Rating" and issuing insurance company
 - 11. "Recordable Incidence Rates" "Lost Time Incidence Rates"
 - 12. OSHA 200 Summary and OSHA 300A Forms
 - 13. OSHA violations, dates, and disposition
 - 14. violations of any federal, state or local criminal or civil law by the firm or its principals
 - 15. criminal indictments or investigations of the firm or its principals
 - 16. legal claims filed by or against firm

V. PROJECT FINANCING

- a. Provide a preliminary estimate and estimating methodology of the cost of the work by phase, segment, or both.
- b. Submit a plan for the development, financing and operation of the project showing the anticipated schedule on which funds will be required. Describe the anticipated costs of and proposed sources and uses for such funds, including any anticipated debt service costs. The operational plan should include appropriate staffing levels and associated costs. Include any supporting due diligence studies, analyses, or reports.

- c. Include a list and discussion of assumptions underlying all major elements of the plan. Assumptions should include all fees associated with financing given the recommended financing approach. In addition, complete disclosure of interest rate assumptions should be included. Any ongoing operational fees, if applicable, should also be disclosed as well as any assumptions with regard to increases in such fees.
- d. Identify all anticipated risk factors and methods for dealing with these factors. Describe the methods and remedies associated with any financial default.
- e. Identify any local, state or federal resources that the private entity contemplates requesting for the project. Describe the total commitment, if any, expected from governmental sources (and identify each such source) and the timing of any anticipated commitment. Such disclosure should include any direct or indirect guarantees or pledges of the County's credit or revenue.
- f. Identify any proposed user fees.
- g. Provide financial information which indices the private entity's financial stability and ability to finance the project.
- h. Include a description and analysis (cost/benefit, tax, etc.) to demonstrate the project's financial feasibility.
- i. Identify the amounts and the terms and conditions for any revenue sources.
- j. Identify any aspect of the project that could disqualify the project from obtaining tax-exempt financing.
- k. Identify any third parties that the private entity contemplates will provide financing for the project and describe the nature and timing of each such commitment.

VI. REFERENCES

Provide the address, telephone number, and the name of a specific contact person for an entity, or entities, for which the firm or consortium of firms, or primary members of the consortium, have completed a similar project or projects. These references should include:

- Name and address of project owner/sponsor
- Name, telephone number, fax number, and email address of the

- owner's project manager
- A summary of the project including budget and final cost
- Project schedule (proposed and actual)

VII. CONFLICT OF INTEREST STATEMENT

Firms must submit an executed copy of the County's approved Conflict of Interest Statement which is available online at www.arlingtonva.us/purchasing.

B. Format for Submissions at the Detailed Stage (Part 2)

If the County decides to proceed to the detailed phase (part 2) of review with one or more proposals, then proposers will be required to provide additional detailed information as a follow-up to the initial submission. The following are illustrative examples of the additional information which may be required by the County:

1. A topographical map (1:2,000 or other appropriate scale) depicting the location of the proposed project.
2. A conceptual site plan indicated proposed location and configuration of the project on the proposed site;
3. Conceptual (single line) plans and elevations depicting the general scope, appearance and configuration of the project.
4. A detailed description of the proposed participation, use and financial involvement of the County in the project. Include the proposed terms and conditions for the project if they differ from the County's Standard Form contract for this type of project.
5. A list of public utility facilities, if any, that will be crossed by or run parallel to the qualifying transportation facility and a statement of the plans of the private entity to accommodate such crossings.
6. A statement and strategy setting out the plans for securing all necessary property. The statement must include the names and addresses, if known, of the current owners of the subject property as well as a list of any property the private entity intends to request the County to acquire.
7. A detailed listing of all firms that will provide specific design, construction and completion guarantees and warranties, and a brief description of such guarantees and warranties.
8. A total life-cycle cost specifying methodology and assumptions of the project or projects and the proposed project start date. Include anticipated commitment of all parties; equity, debt, and other financing mechanisms; and

a schedule of project revenues and project costs. The life-cycle cost analysis should include, but not be limited to, a detailed analysis of the projected return, rate of return, or both, expected useful life of facility and estimated annual operating expenses.

9. A detailed discussion of assumptions about user fees or rates, lease payments and other service payments, and the methodology and circumstances for changes and usage of the project over the useful life of the project..
10. Identification and discussion of any known government support or opposition, or general public support or opposition for the project. Government or public support should be demonstrated through resolution of official bodies, minutes of meetings, letters, or other official communications.
11. Demonstration of consistency with appropriate local comprehensive or infrastructure development plans, transportation plans, the capital improvement plan and capital budget, or indication of the steps required for acceptance into such plans.
12. Explanation of how the proposed project would impact local development plans of each affected local jurisdiction.
13. Description of an ongoing performance evaluation system or database to track key performance criteria, including but not limited to schedule, cash management, quality, worker safety, change orders, and legal compliance.
14. Identification of any known conflicts of interest or other limitations that may impact the County's consideration of the proposal, including the identification of any persons known to the private entity who would be obligated to disqualify themselves from participation in any transaction arising from or in connection to the project pursuant to The Virginia State and Local Government Conflict of Interest Act, Chapter 31 (§ 2.2-3100 et seq.) of Title 2.2.
15. Detailed analysis of the financial feasibility of the proposed project, including its impact on similar facilities operated or planned by the County. Include a detailed description of any financing plan proposed for the project, a comparison of that plan with financing alternatives that may be available to the County, and all underlying data supporting any conclusions reached in the analysis or the selection by the private entity of the financing plan proposed for the project.
16. Additional material and information as the County may request.

VI. PROPOSAL EVALUATION AND SELECTION CRITERIA

Some or all of the following matters may be considered in the evaluation and selection of PPTA proposals. However, the County retains the right at all times to reject any proposal at any time for any reason whatsoever.

A. Project Characteristics

Factors to be considered in determining the project characteristics may include but are not necessarily limited to:

1. Project definition;
2. Proposed project schedule;
3. Operation of the project;
4. Technology; technical feasibility;
5. Conformity to laws, regulations, codes, guidelines and standards;
6. Environmental impacts;
7. Property impacts;
8. Utility impacts;
9. State and local permits; and
10. Maintenance of the project.
11. Ongoing Operations.

B. Project Benefit and Compatibility

Factors to be considered in determining the proposed project's compatibility with the appropriate local or regional comprehensive or development plans may include but are not necessarily limited to:

1. Community benefits, such social and economic impacts should include but are not limited to community benefits, including the economic impact the project will have on the local community in terms of the amount of additional tax revenue to be generated for the County, the number of jobs generated for the greater Washington DC area, and level of pay and fringe benefits of such jobs, the training opportunities for apprenticeships and other training programs for the greater Washington DC area residents generated by the

project, and the number and value of subcontracts generated for the greater Washington DC area subcontractors.

2. Compatibility with existing transportation system and enhancement of community transportation system;
3. Community support or opposition, or both;
4. Public involvement strategy;
5. Compatibility with existing and planned facilities; and
6. Compatibility with local, regional, and state economic development efforts.
7. Compatibility with the County's land use plan, transportation plan, and capital improvement plan.

C. Qualifications and Experience

Factors to be considered in either phase of the County's review to determine whether the private entity possesses the requisite qualifications and experience may include but are not necessarily limited to:

1. Experience, training and preparation with similar projects;
2. Demonstration of ability to perform work;
3. Demonstrated record of successful past performance, including timeliness of project delivery, compliance with plans and specifications, quality of workmanship, cost-control and project safety;
4. Demonstrated conformance with applicable laws, codes, standards, regulations, and agreements on past projects;
5. Leadership structure;
6. Project manager's experience;
7. Management approach;
8. Organizational chart, including project staffing plans, the skill levels of the proposed task leaders, workforce, apprenticeship and other training programs offered for the project, and the proposed safety plans for the project;
9. Financial condition including the ability to obtain required sureties and insurance coverages; and

10. Project ownership.

D. Project Financing

Factors to be considered in determining whether the proposed project financing allows adequate access to the necessary capital to finance the project may include but are not necessarily limited to:

1. Cost and cost benefit to the County;
2. Financing and the impact on the debt or debt burden of the County;
3. Financial plan, including overall feasibility and reliability of the plan; operator's past performance with similar plans and similar projects; degree to which the operator has conducted due diligence investigation of proposed financial plan and results of any such inquiries or studies
4. Estimated cost;
5. Life-cycle cost analysis; and
6. The identity, credit history, and past performance of any third party that will provide financing for the project and the nature and timing of their commitment;
7. Such other items as the County deems appropriate.

The County may elect to accept the private entity's financing proposal or may select its own finance team, source, and financing vehicle.

E. Other Factors

Other factors that may be considered in the evaluation and selection of PPTA proposals include, but are not limited to the following:

1. The proposed cost of the qualifying transportation facility;
2. The general reputation, industry experience, and financial capacity of the private entity;
3. The proposed design, operation, and feasibility of the of the qualifying transportation facility;
4. The eligibility of the facility for accelerated selection, review, and documentation;

5. Local citizen and government comments;
6. Benefits to the public; including whether the project will lead to productivity or efficiency improvements in the County's processes or delivery of services to the public;
7. The private entity's minority business plan or good faith effort to comply with the goals of such plan;
8. The private entity's plan to employ local contractors and residents;
9. The safety record of the private entity;
10. The ability of the facility to address the needs identified in the appropriate state, regional or local transportation plan by improving safety, reducing congestion, increasing capacity, and/or enhancing economic efficient; and
11. Other criteria that the County deems appropriate.

F. Timelines

Guidelines for determining applicable timelines are as follows:

1. For solicited proposals, the timeline for selecting proposals and negotiating an agreement will be consistent with the terms and conditions set forth in the Request for Proposals.
2. For unsolicited proposals, an estimated timeline will be developed and distributed within sixty (60) days of receipt of the proposal. The timeline will be subject to revision(s), as required.
3. Accelerated selection, review, and documentation timelines shall be permitted for proposals involving a qualifying facility that the County deems a priority, such as qualifying transportation facilities that have approved or pending state and federal environmental clearances, secured significant right of way, have previously allocated significant state or federal funding, or exhibit other circumstances that could reasonably reduce the amount of time to develop and/or operate the qualifying transportation facility.

VII. INTERIM AND COMPREHENSIVE AGREEMENTS

The County shall not accept liability for any part or phase of a project prior to entering into a properly executed interim or comprehensive agreement. Any interim or comprehensive agreement executed pursuant to the PPTA requires prior approval by the County Board. Any changes in the

terms of an executed interim or comprehensive agreement shall be in the form of a written amendment.

A. Interim Agreement Terms

Interim agreements may be used when it is necessary or advisable to segment a project to produce distinct and clear deliverables necessary to keep the project moving towards development of a comprehensive agreement. An interim agreement may not be used to have the County assume risks that should be assumed by the proposer or to pay costs attributable to the private entity's efforts in making the proposal. Interim agreements require the same level of approval as Comprehensive Agreements.

Development of an interim agreement is in the sole discretion of the County and in no way limits the rights reserved by the County to terminate the evaluation of any or all proposals at any time.

Prior to or in connection with the negotiation of the comprehensive agreement, the County may enter into an interim agreement with the private entity proposing the development or operation of the qualifying transportation facility. Such interim agreement may:

1. Permit the private entity to commence activities for which it may be compensated relating to the proposed qualifying transportation facility, including, but not limited to, project planning and development, design and engineering, environmental analysis and mitigation, survey, and ascertaining the availability of financing for the proposed facility or facilities;
2. Establish the process and timing of the negotiation of the comprehensive agreement; and
3. Contain any other provisions related to any aspect of the development or operation of a qualifying transportation facility that the parties may deem appropriate.

B. Comprehensive Agreement Terms

Prior to developing or operating any qualifying transportation facility, a selected private entity shall enter into a comprehensive agreement with the County as provided by the PPTA. Any such comprehensive agreement and any amendment thereto, must be approved by the County Board before it is entered into on behalf of the County.

As provided by the PPTA, the terms of the comprehensive agreement shall include but not be limited to:

1. Delivery of maintenance, performance and payment bonds or letters of credit in connection with any development or operation of the qualifying transportation project, in the forms and amounts satisfactory to the County;

2. Review and approval of plans and specifications for the qualifying transportation project by the County;
3. The right of the County to inspect the qualifying transportation project to ensure compliance with the comprehensive agreement and any development plans and specifications;
4. Maintenance of a policy or policies of liability insurance or self-insurance, each in form and amount satisfactory to the County and reasonably sufficient to insure coverage of tort liability to the public and employees and to enable the continued operation of the qualifying transportation facility;
5. Monitoring of the practices of the private entity by the County to ensure proper maintenance;
6. Reimbursement to be paid to the County for services provided by the County;
7. Filing by the private entity of appropriate financial statements on a periodic basis;
8. Policies and guidelines governing the rights and responsibilities of the County and the private entity in the event that the comprehensive agreement is terminated or there is a material default by the private entity, including the conditions governing assumption of the duties and responsibilities of the private entity by the County and the transfer or purchase of property or other interests of the private entity by the County;
9. Providing for such user fees, lease payments, or service payments, if any, as may be established from time to time by agreement of the parties, which shall be the same for persons using the facilities under like conditions and shall not materially discourage use of the qualifying transportation facility. Classifications according to reasonable categories for assessment of user fees may be made;
10. Requiring a copy of any service contract to be filed with the County and providing that a schedule of the current user fees or lease payments shall be made available by the private entity to any member of the public upon request;
11. Guaranteed cost and completion guarantees related to the development and/or operation of the qualified transportation facility and payment of damages for failure to meet the completion guarantee;
12. The date of termination of the private entity's authority and duties and dedication to the County;

13. The terms and conditions under which the responsible public entity may contribute financial resources, if any, for the qualifying transportation facility; and
14. Any other terms and conditions the County determines serve the public purpose of the PPTA; and
15. Any other provisions required by applicable law.

Any changes in the terms of the comprehensive agreement as may be agreed upon by the parties from time to time shall be added to the comprehensive agreement only by written amendment.

Parties submitting proposals understand that representations, information and data supplied in support of or in connection with proposals play a critical role in the competitive evaluation process and in the ultimate selection of a proposal by the County. Accordingly, as part of the comprehensive agreement, the prospective operator and its team members shall certify that all material representations, information and data provided in support of, or in connection with, a proposal is true and correct. Such certifications shall be made by authorized individuals who have knowledge of the information provided in the proposal. In the event that material changes occur with respect to any representations, information or data provided for a proposal, the prospective operator shall immediately notify the County of same. Any violation of this section of the comprehensive agreement shall give the County the right to terminate the agreement, withhold payment or other consideration due, and seek any other remedy available under the law.

C. Notice and Posting Requirements

In addition to the posting requirements of Section IV, the County shall hold a public hearing on the proposals during the proposal review process, but not later than thirty (30) days prior to entering into an interim or comprehensive agreement.

1. Once the negotiation phase for the development of an interim or a comprehensive agreement is complete and a decision to award has been made by the County, the County shall publicly post the proposed agreement.
2. Once an interim agreement or a comprehensive agreement has been executed, the County shall make procurement records available for public inspection, in accordance with the Virginia Freedom of Information Act (§2.2-3700 et seq.).
 - a. Such procurement records shall include documents initially protected from disclosure on the basis that the release of such documents would adversely affect the financial interest or bargaining position of the County.

- b. Such procurement records shall not include (i) trade secrets of the private entity or (ii) financial records, including balance sheets or financial statements of the private entity that are not generally available to the public through regulatory disclosure or otherwise.

VIII. INDEPENDENT AUDIT

If the construction costs of the proposed qualifying transportation facility exceed \$50 million and prior to entering into an agreement with the private entity, the County must comply with Section 56-560(E) of the Code and engage a consultant of its choosing to perform an independent audit of the traffic, ridership and revenue and cost estimates provided as part of the Proposer's proposal. The County also must review all the public costs and other liabilities which may require the expenditure of public funds. Such liabilities include improvements to other transportation facilities required as a result of the proposal, the Proposer's failure to reimburse the County for services rendered, and other risks to which the County may be exposed should the Proposer default on the interim agreement, the comprehensive agreement or bonds issued as part of the financing for the project. The Proposer shall reimburse the County for the costs for the independent audit and the results of the audit must be disclosed in accordance with FOIA.

IX. GOVERNING PROVISIONS

In the event of any conflict between these guidelines and procedures and the PPTA, the terms of the PPTA shall control.