

County of Loudoun
Department of Planning
MEMORANDUM

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DATE: February 24, 2010

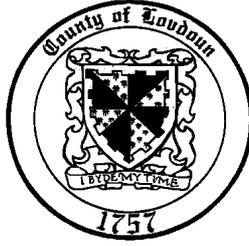
TO: Loudoun County Board of Supervisors

FROM: Judi Birkitt, Project Manager
Department of Planning, Land Use Review

SUBJECT: **March 8, 2010 Board of Supervisors Public Hearing**
ZMAP 2009-0005, SPEX 2009-0009, and CMPT 2009-0001
Green Energy Partners/Stonewall (GEP/S) Hybrid Energy Park

During the February 18, 2010 Planning Commission worksession, a number of issues were resolved, but the Planning Commission did not take formal action. The Commission plans to make a recommendation on March 3, 2010, following review of the applicant's revised Proffer Statement and updated staff recommended Conditions of Approval.

Due to contractual obligations with the property owners, and in consultation with the Chairman of the Board of Supervisors, the item will proceed to the March 8th Board of Supervisors public hearing, and prior to the public hearing (Friday, March 5th), staff will provide the Board a supplemental memo that includes the final Planning Commission recommendation, an updated Proffer Statement, and revised staff recommended Conditions of Approval.



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DEPARTMENT OF PLANNING
STAFF REPORT

BOARD OF SUPERVISORS PUBLIC HEARING

DATE OF HEARING: March 8, 2010
ZMAP 2009-0005, SPEX 2009-0009, and CMPT 2009-0001
Green Energy Partners/Stonewall (GEP/S) Hybrid Energy Park
DECISION DEADLINE: April 3, 2010
ELECTION DISTRICT: Catoctin PROJECT PLANNER: Judi Birkitt

EXECUTIVE SUMMARY

Green Energy Partners/Stonewall LLC of Hamilton, Virginia have submitted an application to rezone approximately 101 acres from the TR-10 (Transitional Residential - 10) and JMLA-20 (Joint Land Management Area - 20) zoning districts to the PD-GI (Planned Development - General Industry) zoning district in order to develop a utility generating plant and transmission facility. The applicant has also submitted applications for a Special Exception and Commission approval to permit a utility generating plant and transmission facility in the proposed PD-GI zoning district. These applications are subject to the Revised 1993 Zoning Ordinance and the proposed use is listed as a Special Exception use under Section 4-604(l).

The subject property is located within the AI (Airport Impact) Overlay District, outside of but within one (1) mile of the Ldn 60 aircraft noise contour, partially within the FOD (Floodplain Overlay District), and within the QN (Quarry Notification) Overlay District. The subject property is located northeastward of the Dulles Greenway (Route 267), east of Sycolin Road (Route 643), south of Cochran Mill Road (Route 653), and west of Gant Lane (Route 652). The area is governed by the policies of the Revised General Plan (Transition Policy Area (Lower Sycolin Community)) and Leesburg Joint Land Management Area (JLMA)), the Revised Countywide Transportation Plan, and the Toll Road Plan, which designate this area for residential uses at a base density of 1 dwelling per 10 acres in a clustered pattern, with the option to rezone to a density of 1 dwelling per 3 acres in a Rural Village, or non-residential uses that provide a transition between the suburban and rural policy areas.

RECOMMENDATIONS

Planning Commission

At a work session on February 18, 2010, the Planning Commission voted 9-0 to forward this application to a subsequent work session during the first week of March for the purpose of reviewing the final Conditions of Approval and Proffer Statement and making a recommendation. Staff will update the Board on the Planning Commission's recommendation at the Board public hearing.

Staff

The proposed utility generating and transmission facility is reasonable on this particular site due to the site's unique conditions and the industrial nature of the surrounding uses. Two existing underground natural gas lines and two existing overhead high-voltage electrical transmission towers with three separate transmission lines (one 500kV and two 230kV) cross the property in a north-south direction. The use is compatible with the intensive surrounding uses to the northwest, east, and southeast, specifically the Leesburg Executive Airport, Luck Stone quarries, and the Fairfax Water Plant. Phillip Bolen Memorial Park and the Luck Stone quarries will provide a visual and spatial transition between the proposed utility generating and transmission facility and the Town of Leesburg to the north and the suburban uses in Eastern Loudoun.

Staff could support the applications upon resolution of the outstanding issues related to erosion and sediment control during construction, trail easements, and provision of a historic narrative of the Lower Sycolin African American settlement. Staff recommends the application be referred to the Transportation and Land Use Committee for further discussion.

SUGGESTED MOTIONS

1. I move that the Board of Supervisors forward ZMAP 2009-0005, SPEX 2009-0009, and CMPT 2009-0001, Green Energy Partners/Stonewall Hybrid Energy Park, to the Transportation and Land Use Committee for discussion. *[A timeline extension will be necessary.]*

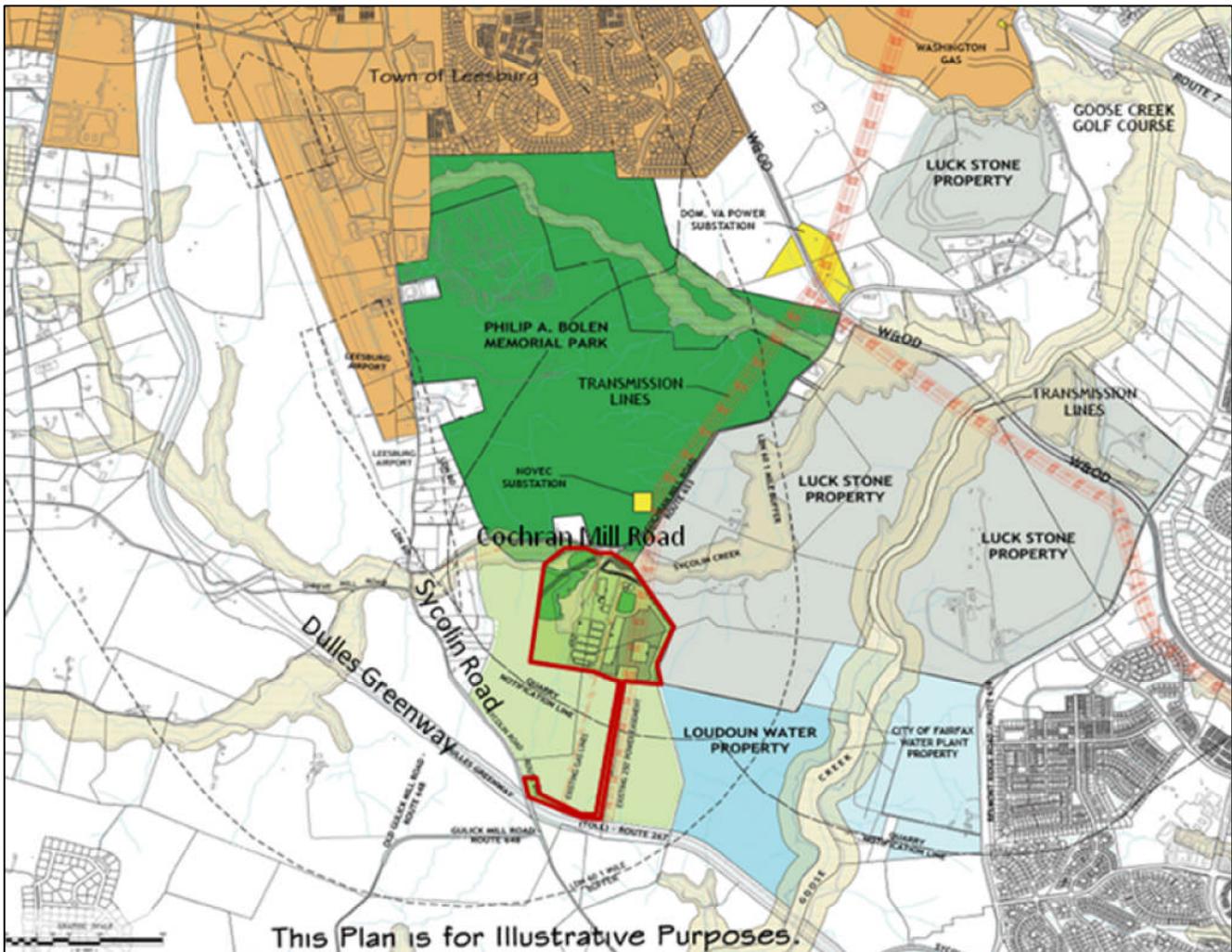
OR,

2. I move that the Board of Supervisors forward ZMAP 2009-0005, SPEX 2009-0009, and CMPT 2009-0001, Green Energy Partners/Stonewall Hybrid Energy Park, to the April 6, 2010 Business Meeting for action. *[A timeline extension will be necessary.]*

OR,

3. I move an alternate motion.

VICINITY MAP



Source: Applicant provided illustration.

Directions: From Leesburg, take Sycolin Road (Route 643) south past Leesburg Executive Airport to Cochran Mill Road (Route 653). Turn left onto Cochran Mill Road, then right onto Gant Lane. Cross under an overhead power line easement and bear right. Park where Gant Lane dead ends at a metal gate; property can be accessed on foot via the gate. Currently, there is no other vehicular access to the site.

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I. APPLICATION INFORMATION

APPLICANT Green Energy Partners/Stonewall Creek LLC
 John A. Andrews, II and Jordan Dimoff
 PO Box 660
 Hamilton, VA 20159
 540-338-9040

REPRESENTATIVE Walsh Colucci Lubeley Emrich & Walsh PC
 Kimberlee Welsh Cummings
 One East Market Street, 3rd Floor
 Leesburg, VA 20176
 703-737-3633

REQUEST (1) Zoning Map Amendment to rezone 101 acres from TR-10 (Transitional Residential-10) and JMLA-20 (Joint Land Management Area-20) to PD-GI (Planned Development–General Industry, (2) a modification of Section 4-606 of the Revised 1993 Zoning Ordinance to allow a maximum building height of 120 feet without additional setbacks, and (3) a Special Exception for a utility generating plant and transmission facility, and (4) a Commission Permit for a utility generating plant and transmission facility. Application accepted on April 3, 2009.

LOCATION Northeast of Dulles Greenway (Route 267), east of Sycolin Road (Route 643), south of Cochran Mill Road (Route 653), and west of Gant Lane (Route 652).

TAX MAP/PARCEL #/ACREAGE/PROPERTY OWNERS

TAX MAP NUMBER	PIN #	ACRES	OWNERSHIP
/60/////////38/	193-38-4362	42.47	Evergreen Loudoun – One Limited Partnership
/60/////////38A	193-49-0539	0.32	Evergreen Loudoun – One Limited Partnership
/60/////////39/	194-48-6020 (portion)	15.38 acre portion of a 59.94 acre parcel	LTI Limited Partnership
/61/////////12/	193-39-3665	30.89	John A. Andrews, Trustee
/61/////////14/	193-29-6778	11.96	LTI Limited Partnership
TOTAL ACREAGE		101 acres	

ZONING (existing) TR-10 (Transitional Residential-10) and JMLA-20 (Joint Land Management Area - 20)

SURROUNDING ZONING/LAND USES

	ZONING	PRESENT LAND USES
NORTH	JLMA-20	Single-family residential & park
SOUTH	TR-10	Vacant
EAST	TR-10	Vacant (proposed Luck Stone quarry expansion)
WEST	TR-10	Vacant

II. SUMMARY OF DISCUSSION

Topic	Issues Reviewed and Status
Comprehensive Plan	<ul style="list-style-type: none"> • Consistency with the <u>Revised General Plan (RGP)</u>: Status: Resolved. <ul style="list-style-type: none"> ○ Transition Policies support non-residential uses that provide a visual and spatial transition between the rural and suburban policy areas. ○ Energy Policies support locating power plants only where they are compatible with surrounding uses and the environment. • Provide adequate open space. Status: Unresolved. Proposal only provides 61% open space and counts solar array area as open space. • Mitigate noise impacts. Status: Resolved with condition. • Mitigate visual impacts of water vapor plume. Status: Resolved with condition.
Emergency Services	<ul style="list-style-type: none"> • Provide fire and rescue contribution. Status: Resolved with proffer for a 1-time \$50,000 contribution. • Proffering to submit an emergency operations plan. Status: No issues.
Zoning	<ul style="list-style-type: none"> • Compliance with PD-GI zoning district. Status: Resolved. • Proffer out more intense PD-GI uses. Status: Resolved. • Consolidate the parcels. Status: Resolved with condition. • Complete staff recommended plat revisions. Status: Resolved.
Parks	<ul style="list-style-type: none"> • Provide 50' wide trail easements on the north and south sides of Sycolin Creek. Status: Unresolved.
Historic/ Archaeology	<ul style="list-style-type: none"> • Provide a public narrative on the history of the Lower Sycolin Community. Status: Unresolved.
Environmental	<ul style="list-style-type: none"> • Address erosion and sediment control during construction. Status: Unresolved. • Provide water quality monitoring. Status: Resolved. • Mitigate wetland and stream impacts. Status: Resolved. • Do not disturb very steep slopes. Status: Resolved. • Address air quality. Status: Resolved. • Establish tree conservation and replanting areas. Status: Resolved. • Protect wood turtle during construction. Status: Resolved.
Transportation	<ul style="list-style-type: none"> • Dedicate right-of-way for Gant Lane and Cochran Mill Road. Status: Resolved. • Address construction traffic. Status: Resolved with proffer.
Proffer Statement and Conditions of Approval (SPEX)	<ul style="list-style-type: none"> • Status: Currently under review.

III. PLANNING COMMISSION REVIEW AND FINDINGS

The Planning Commission held a public hearing on this application on December 17, 2009. At that time, the rezoning request was to rezone the subject property to MR-HI (Mineral Resource - Heavy Industry). Eight members of the public spoke regarding the application. Five spoke in support, noting that the project would provide cleaner local power, water quality benefits, increased tax revenue, and job creation. One residential neighbor expressed concerns that existing nearby residences be protected or relocated. The Fairfax County Water Authority raised issues regarding consumptive use of the Potomac River. The Piedmont Environmental Council spoke against the application, opposing the land use within

the Transition Policy Area and stating concerns with environmental impacts, compatibility with nearby residences, and the need for a Comprehensive Plan Amendment.

A second Planning Commission public hearing was held on this application on January 21, 2010. Another public hearing was necessary because the applicant amended the proposed zoning designation to PD-GI (Planned Development - General Industry) and added a modification of Section 4-606 of the Revised 1993 Zoning Ordinance to allow a maximum building height of 120 feet without the additional one-foot setback for each foot of height over 45 feet. Planning Commission discussion at the public hearing included open space, visual and spatial buffers, nearby residential properties, water quality monitoring, and trail dedication. The Commission concluded discussion by voting 7-0-2 (Maio and Brodrick-absent) to forward the application to a work session.

The Planning Commission met in work session to discuss this application on February 18, 2010. Joe Hoffman, the Executive Director of the Interstate Commission on the Potomac River Basin (ICPRB), discussed the issue of consumptive use (withdrawing water from the Potomac River without discharging it back into the river). The Planning Commission expressed support of counting the solar array area as open space, given the environmental and educational benefits of solar power and the applicant's willingness to plant and maintain indigenous plantings within the solar panel area. The Commission encouraged the applicant to continue working with Staff to resolve the remaining issues related to sediment and erosion control during construction, trail easements, and a historical narrative of the Lower Sycolin African American settlement.

Due to contractual closing requirements that obligate the applicant to obtain necessary zoning approvals 30 days before the closing, the applicant has requested to proceed to the Board of Supervisors for a public hearing. Working within the applicant's time constraints, the Planning Commission voted 9-0 to forward this application to a subsequent work session during the first week of March for the purpose of reviewing the final Conditions of Approval and Proffer Statement and making a recommendation prior to the Board's March 8th public hearing. Staff will update the Board on the Commission's recommendation at the Board public hearing.

FINDINGS

Commission Permit

1. The proposed utility generating and transmission facility is reasonable on this particular site due to the site's unique conditions. Two existing underground natural gas lines (Columbia and Dominion) and two existing overhead high-voltage electrical transmission towers with three separate transmission lines (one 500kV and two 230kV) cross the property in a north-south direction. The subject property is located within the AI (Airport Impact) Overlay District, outside of but within one (1) mile of the Ldn 60 aircraft noise contour, and within the QN (Quarry Notification) Overlay District.
2. The proposed utility generating and transmission facility is reasonable on this particular site due to the industrial nature of the surrounding uses. The use is compatible with the intensive surrounding uses to the northwest, east, and southeast,

specifically the Leesburg Executive Airport, Luck Stone quarries, and the Fairfax Water Plant.

3. The proposed utility generating and transmission facility will protect Luck Stone Quarry from encroaching residential development, consistent with the Transition Policy Area policies of the Revised General Plan.
4. Phillip Bolen Memorial Park and Sycolin Creek will provide a visual and spatial transition between the proposed utility generating and transmission facility and uses to the north, as called for in the Transition Policy Area policies of the Revised General Plan.
5. The Luck Stone quarries will provide a visual and spatial transition between the proposed utility generating and transmission facility and the suburban uses in Eastern Loudoun, as called for in the Transition Policy Area policies of the Revised General Plan.
6. The more intense uses will be clustered on the eastern portion of the site, closer to the Suburban Policy Area, while the western portion of the site closest to the Rural Policy Area will ultimately contain a vegetative buffer of between 550 and 900 feet deep.
7. The site's terrain will help shield views of the power plant from Sycolin Road and the Dulles Greenway.
8. The proposed utility generating and transmission facility will use clean burning and environmentally sound and proven fuel sources, consistent with the Revised General Plan Energy Policies.
9. The proposed utility generating and transmission facility is consistent with the Revised General Plan Energy Policies, which support the timely delivery of electrical service to businesses and households.

Zoning Map Amendment and Special Exception

1. As conditioned and proffered, the respective applications adequately address environmental impacts.
2. As conditioned and proffered, the respective applications adequately mitigate local road impacts during the construction phase and once operational.
3. The application adequately mitigates noise and lighting impacts, as well as visual impacts associated with the vapor plume.
4. The use would have a positive economic impact upon the County during construction and once operational.
5. As conditioned and proffered, the respective applications adequately address emergency services.

IV. **CONDITIONS OF APPROVAL (SPEX) February 17, 2010**

1. Substantial Conformance. The approved Special Exception Use, a utility generating plant and transmission facility, shall be developed in substantial conformance with the Special Exception Plat, consisting of three (3) sheets numbered as 1, 2, 5 and 6 and labeled as "COVER SHEET", "REZONING PLAT/NOTES, TABULATIONS & REQUIREMENTS", "CONCEPT PLAN (ZMAP/SPEX/CMPT PLAT)", and "CONCEPT PLAN OVER EXISTING CONDITIONS", respectively, and dated July 2009, as revised through December 30, 2009, and prepared by William H. Gordon Associates, Inc. (the "SPEX Plat"). Approval of this application for Tax Map #s /60////////38/ (PIN # 193-38-4362), /60////////38A (PIN # 193-49-0539), /61////////12/ (PIN # 193-39-3665), /61////////14/ (PIN # 193-29-6778), and a portion of /60////////39/ (PIN # 194-48-6020) (collectively the "Property") shall not relieve the Applicant or the owners of the Property from the obligation to comply with and conform to any Zoning Ordinance, Codified Ordinance, or applicable requirement. As used in these conditions, "Applicant" includes the owner of the Property subject to this Special Exception approval, its successors, and parties developing, establishing or operating the approved Special Exception Use.
2. Period of Validity. This Special Exception approval shall be valid for ten (10) years from the date on which the Special Exception was granted, unless within such ten (10) year period: (1) a building permit is obtained and the erection or alteration of a structure is started and diligently pursued, and (2) an occupancy permit is obtained and a use commenced. Such period of validity may be extended for good cause shown, provided that an application is submitted to the Board of Supervisors a minimum of thirty (30) days before the expiration date in accord with the Revised 1993 Zoning Ordinance Section 6-1313.
3. Lot Consolidation. Prior to site plan approval, the Property shall be consolidated into one parcel.
4. Property Taxes. The Applicant shall not apply for any exemption from real or personal taxes in association with the Special Exception Use on the Property.
5. Noise. Prior to site plan approval, the Applicant shall submit a noise study to the County for approval. The noise study shall analyze the maximum noise potential of the special exception use, including but not limited to, predicted noise during the construction of the special exception use, baseline noise generated by the day-to-day operations of the special exception use, the cumulative noise of the baseline noise and the noise produced once the single-cycle peaker turbines are in operation, and the cumulative noise once emergency back-up generators or equipment are in operation. The noise study shall include recommendations for specific noise attenuation measures and an assessment of whether installation and operation of the proposed noise attenuation measures can achieve noise attenuation that provides compliance with Section 5-1507 of the Revised 1993 Zoning Ordinance.

The Applicant shall conduct noise testing once the Special Exception Use is operational to ensure that noise levels do not exceed the performance standards set forth in Section 5-1507 of the Revised 1993 Zoning Ordinance. Should the testing

results at any time determine that noise levels exceed the noise limitations set forth in Section 5-1507, the Applicant shall take immediate action to bring the noise levels into compliance through the use of noise attenuation measures.

6. Lighting. All exterior lighting, including security lighting, shall be designed and installed to minimize light trespass and the visibility of lighting from properties offsite of the Property. Exterior light fixtures shall be full cut-off and fully shielded and shall direct light downwards and into the interior of the Property and away from surrounding public roads and properties. Exhaust stacks, storage tanks, cooling towers, turbines, heat recovery steam generators, ("HRSG's"), and similar tall structures shall not have exterior lighting, unless otherwise required by law, ordinance, regulation, or operative safety norms. In addition, the utility generating plant and transmission facility shall be designed to enable exterior lighting for distinct area(s) of the utility, generating plant and transmission facility to be switched off when not in use.
7. Plume Abatement. Cooling tower plume abatement shall be installed and required to operate during daylight hours when weather conditions exist or at the time the conditions are predicted to occur that would cause a visible plume at a height equal to or greater than 150 feet above the ground elevation of the base of the cooling tower to mitigate the visibility of the cooling tower plume. Additionally, plume abatement shall be required to operate when ambient conditions exist that would cause ground level fog to occur from the cooling tower operation to mitigate the fog conditions.
8. Color of Utility Generating Plant and Transmission Facility. Equipment and structures shall be a light, uniform, neutral color; a color to match the sky; or earth tones, excluding dark gray and black.

ENVIROMENTAL

9. Combined Cycle and Natural Gas Turbine. The production of electrical power shall occur through a combined cycle and natural gas turbine energy facility that does not involve the use of burning coal or nuclear reaction. Alternative non-fossil fuels, such as biogas and other bio-fuels may be utilized on the Property for the production of electrical power and accessory uses when reliable supplies are available, as approved by the County. The Special Exception Use shall not utilize fuel, oil, or diesel fuel in the production of energy.
10. Air Quality. The Applicant shall ensure that the emissions levels shall not exceed the Air Emissions (plus 5%) contained in Table 3.1 on page 10 of the report titled "Revised Air Quality Study of Green Energy Partners/Stonewall Solar and Natural Gas-Fired Power Plant at Leesburg, VA", dated November 20, 2009, and prepared by MACTEC Engineering and Consulting, Inc. attached hereto as Exhibit A.
11. Water Quality. The Applicant shall design, construct, and install a surface water monitoring station on-site on the Property at the singular channelized point of stormwater discharge with specific monitoring details as deemed appropriate by the Virginia Department of Environmental Quality ("DEQ") during site plan review. This on-site point discharge water quality monitoring station shall produce monthly data reports

measuring Toxicity, Flow rate, pH, Temperature, Dissolved Oxygen, Copper, Iron, Chloride, Water Hardness, Oil, Grease and other Petroleum Hydrocarbons and other elements and compounds at an interval as determined to be appropriate by DEQ requirements to be determined during site plan review. In order to maximize the measurement efficiency of this on-site water monitoring station, the Applicant shall, through installation of Low Impact Design ("LID"), microberms, catch basins, and other techniques, ensure that the first inch of stormwater runoff from all impervious areas of the developed site is channelized to the above-referenced on-site water quality monitoring station.

12. Erosion and Sediment Control. The Applicant shall apply erosion and sediment control measures to ensure that runoff leaving the project area does not increase levels of turbidity in Sycolin Creek. If turbidity measurements exceed 280 nephelometric turbidity units (NTU) for discharges that occur in any 24-hour period as a result of a contemporaneous storm event that is less than or equal to a 2-year, 24-hour storm, the Applicant shall, with the County's approval, adjust the erosion and sediment control measures to reduce NTU measurements to a level below 280 NTU.
13. Zero Discharge. The Special Exception Use shall include a "zero discharge" water treatment system to treat any process water utilized in the operation of the steam generator and cooling tower. Process water shall be treated, reused, recycled and not disposed of as surface runoff or into the stormwater management system. Solid wastes resulting from the treatment of the water shall be disposed of offsite in an approved landfill.
14. Stormwater Treatment. The Applicant shall (a) incorporate best management practices ("BMP's") for treatment for all stormwater runoff leaving impervious surfaces; (b) design all BMP's to treat the first inch of stormwater runoff from impervious surfaces; and (c) design all BMP's to remove a high percentage of phosphorous, not lower than 50 percent.
15. Wetlands. Prior to the commencement of any construction activities in identified wetlands areas, all necessary state and federal wetlands permits must be obtained and copies of these permits shall be submitted to Loudoun County Department of Building and Development.
16. Very Steep Slopes. Prior to and during construction, the Applicant shall survey, flag, and install super silt fencing or temporary chain link fencing, in lieu of plastic orange fencing, near the very steep slope areas that are located in proximity to the area to be affected by construction.
17. Best Available Control Technology. The Special Exception Use shall utilize Best Available Control Technology ("BACT") in accordance with the most current DEQ permit standards.
18. Open Space. Prior to site plan approval, the Applicant shall coordinate with the County Urban Forester to develop an open space planting plan and accompanying management plan. Recommendations will be made for indigenous vegetation that

provides sustained growth and optimum viability for all open space areas. The planting plan will include site description, site preparation, specie selection, stocking, establishment method, size, plant material protection and maintenance.

19. Perimeter Buffer. Within the buffer around the entire perimeter of the Property, the Applicant shall plant and maintain indigenous vegetation for the purpose of providing year-around screening of the Special Exception Use and sustaining habitat. Prior to site plan approval, the Applicant shall coordinate with the County Urban Forester to develop a planting plan and accompanying management plan for the perimeter buffer. Recommendations will be made for indigenous vegetation that provides sustained growth and optimum viability. The planting plan will include site description, site preparation, specie selection, stocking, establishment method, size, plant material protection and maintenance.
20. Solar Array Area. If the area labeled on the SPEX Plat as "SOLAR ARRAY OR OPEN SPACE" is not used for solar array, the area shall be used for Open Space as defined in the Revised General Plan. If said area is used for solar array, the Applicant shall plant and maintain indigenous vegetation in accordance with a planting plan and management plan that the Applicant shall submit to the County Urban Forrester for review and approval.
21. Forest Management. Prior to site plan approval, the Applicant shall coordinate with the County Urban Forester to develop a forest management plan and accompanying planting plan for areas identified on the Concept Development Plan as "TREE SAVE AREA" (TSA) and "REPLANTING AREA" (RPA) respectively. Recommendations will be made that provide sustained growth and optimum viability for all TSAs. The planting plan will include site description, site preparation, specie selection, stocking, establishment method, size, plant material protection and maintenance until establishment has been achieved.
22. Tree Save Areas. Within the areas identified on the Concept Development Plan (CDP) as "TREE SAVE AREA" (TSA), the Owner shall preserve healthy trees provided, however, that trees may be removed to the extent necessary for the construction of trails and Stormwater Management Facilities that are required pursuant to the proffers and/or shown on the approved construction plans and profiles as lying within such Tree Conservation Areas and for the construction of utilities necessary for development of the Property. A minimum of eighty (80) percent of the canopy within the cumulative TSA depicted on the CDP will be preserved, exclusive of stands of Virginia Pine over 25 years in age. In the event that the eighty (80) percent canopy threshold cannot be achieved within the designated TSAs, such lost canopy will be recaptured elsewhere onsite in locations to be designated at the discretion of the Owner in consultation with the County. Boundaries of all TSAs shall be delineated on the record plat recorded for each section of the development.

If, during construction on the Property, it is determined by the Owner's certified arborist and/or the County that any healthy tree located within the boundaries of any of the Tree Conservation Areas described in this proffer has been damaged during construction and will not survive, then, prior to any subsequent bond release for the Property, the

Owner shall remove each such tree and replace each such tree with two (2) 2½ - 3 inch caliper native, non-invasive deciduous trees. The placement of the replacement trees shall be proximate to the area of each such damaged tree so removed, or in another area as requested by the County."

23. Wood Turtle. Prior to beginning work in the area of the wood turtle habitat identified in the Applicant's submitted Endangered and Threatened Species Habitat Evaluation and Rare Plant Species/Community Assessment, prepared by Wetland Studies and Solutions, Inc., and dated November 8, 2004, the Applicant shall perform a search for wood turtles in the area to be affected by construction. The Applicant shall provide educational materials about the wood turtle to contractors working on the Property prior to such contractors beginning work on the Property. The Applicant shall use bridge spans or bottomless culverts to prevent barriers of migration.

TRANSPORTATION

24. Sycolin Road Access. The proposed entrance onto Sycolin Road (Route 643) shall be constructed to VDOT standards/requirements including but not limited to locating the proposed entrance relative to future median breaks, the provision of turn lanes and the demonstration of adequate sight distance. The Applicant shall coordinate the site entrance with the planned future grade-separated interchange on the Dulles Greenway at the westernmost crossing of Sycolin Road, south of the proposed site entrance location. The Applicant shall also coordinate the access road location with TRIP II (owners of the Dulles Greenway), and acknowledge that the access road to the site may need to be relocated at some point in the future to accommodate this yet-to-be-designed interchange.
25. Sycolin Road Pottery Site. The Applicant shall delineate the boundaries of the Sycolin Road Pottery Site (44LD1195) on all plans and profiles submitted to the County for review and shall install temporary chain link fencing to delineate the boundaries of the Sycolin Road Pottery Site prior to any clearing and grading related to the construction of the access road to Sycolin Road or the Special Exception Use.
26. Traffic Management. Prior to site plan approval, the Applicant shall submit a Traffic Management Plan to the Office of Transportation Services ("OTS") for review and approval. Such plan shall address temporary construction entrances and access routes, delivery schedules for wide loads during off-peak times, and measures for minimizing conflicts on access routes to and from the site.
27. Cochran Mill Road. The Applicant shall reserve seventy (70) feet of right-of-way and any necessary construction or utility easements for Cochran Mill Road for future dedication to the County at the request of the County or VDOT.
28. Gant Lane. The Applicant shall reserve fifty (50) feet of right-of-way and any construction or utility easements for Gant Lane for future dedication to the County at the request of the County or VDOT.

Until such time that Gant Lane is improved to a minimum of two paved rural lanes, the Applicant shall only use Gant Lane for emergency traffic.

29. Emergency Operations Plan. Prior to site plan approval, the Applicant shall contact the Loudoun County Department of Fire, Rescue and Emergency Services to discuss emergency operations plans to include an evacuation plan and access and circulation of emergency personnel and vehicles throughout the Property. The Applicant shall prepare at its own cost an Emergency Operations Plan and shall submit such plan to the Loudoun County Department of Fire, Rescue and Emergency Services for review and approval implementation within one (1) year of initial operation of the Special Exception Use. The Applicant shall be responsible for providing first response to any emergency in relation to the operation of the Special Exception Use, and on-site employees shall be trained as first responders to any such emergency.

In conjunction with the initial submittal of each site plan for the Property, the Applicant shall submit such site plan to the Department of Fire, Rescue and Emergency Services for review and approval to ensure that the site layout provides emergency vehicles and personnel adequate access and circulation throughout the Property.

UTILITIES

30. Collocation of Effluent and Utility Lines. The Applicant shall minimize land disturbance by coordinating with the Town of Leesburg and Loudoun Water, to the extent permitted by law, to collocate the effluent line with other existing or planned Town of Leesburg and/or Loudoun Water utility lines prior to site plan approval for the Property.
31. Utility Lines. The Applicant shall group and bury sewer and water utility lines and facilities to the extent permitted by law.

ACCOUNTABILITY

32. Compliance with Special Exception. The Applicant shall provide an annual certification to the Zoning Administrator annually that the Special Exception Use is in compliance with all conditions of this Special Exception.
33. Response to Complaints and Inquiries. The Applicant shall respond promptly to any complaints or inquiries to the Board of Supervisors, County Administrator, or Zoning Administrator. In the event the Applicant is notified of any violation of applicable federal, state, or local laws, regulations, or permit conditions, the Applicant shall notify the Zoning Administrator in writing within two (2) business days of receiving such notice and within a reasonable period of time to fully inform the Zoning Administrator of the steps being taken to correct and or remediate the violation.
34. Contact Information. Once the Special Exception Use is fully operational, the Applicant shall prepare and provide to the Zoning Administrator a report showing operational factors associated with the special exception use. Such report shall include the name(s) and contact information for on-site supervisors, and verification of current valid state

and federal licenses and permits. The Applicant shall promptly notify the Zoning Administrator of any changes, normally within five (5) business days.

35. Federal, State, and Local Approvals. The special exception use shall not commence normal operation until all necessary approvals from applicable regulatory bodies of the state, federal, and local government have been obtained. The Applicant shall operate the special exception use in conformance with all permits, laws, rules and regulations of federal, state and local laws. The Applicant shall maintain periodic reports and copies of such approvals and permits on site, and upon request shall provide copies of these reports and permits to the Zoning Administrator.
36. Federal and State Permits. If violations of any state or federal permits are reported to Loudoun County by the applicable regulatory agency, the Board of Supervisors, and/or the County Administrator, may request the Applicant to provide, at the Applicant's sole expense, the services of an appropriate firm to review the nature of the violation, if any, and the remedy, if any. This firm shall be jointly selected by the Applicant and Loudoun County and will report solely to Loudoun County.
37. Inspections. The County reserves the right to inspect the site at any reasonable time during normal hours of operation without prior notice to insure that the operation of the Special Exception Use meets the requirements of the Revised 1993 Zoning Ordinance, these conditions, the codified ordinance or other regulatory requirement.
38. Discontinuance of Use. At such time as the Property shall not be used for power production and transmission, the Applicant shall restore the site substantially to its prior condition, or such other condition as may be approved by the Board of Supervisors.

Exhibit A. Air Quality

Pollutant/Unit	One Combined Cycle (CC) Unit	One Simple Cycle (SC) Unit	Four Units (2 CC + 2 SC)	Cooling Tower	Support Units	Annual Total
CO						
Lbs/hour	11.0	34.6	91.2		27.5	
Tons/year	45.1	33.0	156.2		32.4	198.0
PM/PM-10						
Lbs/hour	14.4	10.0	48.8	1.7	0.7	
Tons/year	63.1	10.0	146.1	7.4	2.5	163.8
NOx						
Lbs/hour	18.0	72.2	180.4		14.3	
Tons/year	74.5	68.5	285.9		18.8	319.9
SO₂						
Lbs/hour	1.5	1.4	5.8		0.1	
Tons/year	5.4	1.1	13.0		0.2	13.8
VOC						
Lbs/hour	6.2	3.3	19.0		5.7	
Tons/year	25.4	3.2	57.2		3.1	63.3
Ammonia						
Lbs/hour	14.8	-	29.6			
Tons/year	64.7	-	129.5			136.0

NOTES:

1) For turbines, maximum hourly emissions based on vendor data for worst-case winter conditions (i.e., 20°F); annual estimates based on vendor data for ISO conditions (representative of annual average conditions, i.e., 59°F versus Dulles historical data annual average of 54°F) and

2) Annual potential emission estimates include a 5% safety factor to allow for potential adjustments to data during finalization of plant design.

CONDITIONS OF APPROVAL (ZMOD) February 13, 2010

1. The height modification of Section 4-606 of the Revised 1993 Zoning Ordinance increasing the maximum building height to 120 feet without providing additional setbacks shall only apply to the steam turbine enclosure. All other structures that are not exempt under Section 1-103(D)(2) shall comply with the maximum building height of forty-five (45) feet.

V. PROJECT REVIEW

A. CONTEXT

This application includes four requests: (1) a zoning map amendment to rezone four parcels and a portion of a fifth, totaling approximately 101 acres, from TR-10 (Transitional Residential - 10) and JMLA-20 (Joint Land Management Area - 20) to PD-GI (Planned Development - General Industry), (2) a Commission Permit for a “utility generating plant and transmission facility”, (3) a special exception for a “utility generating plant and transmission facility” and (4) a modification of Section 4-606 of the Revised 1993 Zoning Ordinance to allow a maximum building height of 120 feet without additional setbacks.

The proposal is to develop a hybrid energy plant that uses natural gas, steam, and a solar array to generate up to 981 Megawatts (MW) of electricity. Two existing underground natural gas lines (Columbia and Dominion) and two existing overhead high-voltage electrical transmission towers with three separate transmission lines (one 500kV and two 230kV) cross the property in a north-south direction. The existing natural gas transmission lines would be the source of the power plant’s natural gas. As a water source for the steam turbine, the Applicant is in discussions with the Town of Leesburg to purchase up to 5 million gallons of treated wastewater effluent per day from the Leesburg Wastewater Treatment Plant; the effluent is currently discharged into the Potomac River. To date, there is no memorandum of agreement or understanding between the Applicant and the Town of Leesburg. The applicant plans to sell the generated power to a distributor such as Dominion Virginia Power, sending the power to the grid using the existing overhead electrical transmission lines.

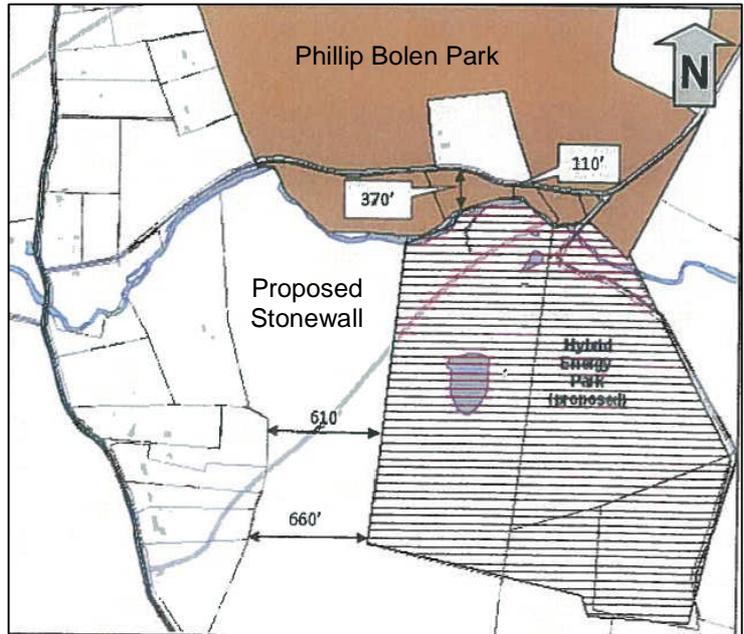


Staff photo. Existing overhead electrical transmission lines and underground natural gas lines.

Surrounding properties include the proposed Luck Stone Quarry expansion (ZMAP 2009-0003) to the east. To the southeast is the proposed Loudoun Water Treatment Facility. Planning Commission public hearings are anticipated for both applications in spring or early summer

2010. Philip A. Bolen Memorial Park lies to the north. To the west, property that is subject to the active Stonewall Secure Business Park rezoning application separates the subject property from residences with frontage on Sycolin Road. The closest residential property is located on the north side of Cochran Mill Road, approximately 110 feet from the subject property (measuring from property line to property line).

A note-worthy feature of the application is that according to the applicant, if approved, the hybrid energy park would have a positive economic impact upon the County both during construction and once operational. Construction of the applicant's projected \$829 million hybrid energy park is expected to take 30 months from January 2012 to June 2014 with an opening date of summer 2014. The applicant expects the construction of the project to create 844 jobs, primarily in the construction field, and to generate an average of \$127.8 million



Staff illustration. Nearby Residential Properties.

per year in positive economic impacts to the County. The applicant estimates that once operational, the hybrid energy park would employ 25 permanent employees and would generate an average of \$18.4 million per year in direct economic impacts to the County.

These applications are the first steps in the approval process. If approved, the applicant can proceed with submitting the various required state and federal permit applications, a process expected to take up to two years. For example, an air permit is required from Virginia Department of Environmental Quality (DEQ) that would limit the hybrid energy park to specific maximum emissions and would require monitoring to assure adherence to those limits. Other permits would regulate water supply, wastewater discharge, storm water, wetlands and streams, endangered species, wildlife, forest resources, cultural/archeological resources, erosion and sediment control, and geology and mineral resources.

B. SUMMARY OF OUTSTANDING ISSUES

1. Open Space - Within the Lower Sycolin subarea of the Transition Policy Area, 70% open space is anticipated. Open space is intended to be the dominant visual feature of the landscape in order to provide a visual and spatial transition between the suburban and rural policy areas and to create a contiguous network of green spaces to protect on-site environmental resources and habitat. The applicant proposes approximately 61% open space, including a solar array area that does not meet the definition of open space as defined in the RGP.

2. Erosion and Sediment Control During Construction – Using the existing pond as a sediment basin during the 30-month construction period, as proposed, could increase the turbidity (suspended solids) of Sycolin Creek. Further discussion is needed to ensure the protection of Sycolin Creek during the construction phase. The applicant does not agree with Staff’s recommended erosion and sediment control condition.
3. Historic and Archaeological Resources – The applicant proffers to avoid two archaeological sites on the subject property that are attributed to the Lower Sycolin African American settlement, but the sites are in poor condition and do not warrant preservation. Staff suggests that the applicant produce a historical narrative of the settlement. The applicant is willing to provide a fair share contribution and proffers to donate \$10,000 to the County towards the production of the narrative, although staff believes this amount is not sufficient to produce a complete narrative.
4. Trail Easement – Staff has requested a 50-foot wide trail easement on both sides of the Sycolin Creek. The applicant proffers an easement on the north side of the creek, but for security reasons, is not agreeable to allowing public access on the south side of Sycolin Creek.
5. Proffers and Special Exception Conditions of Approval – The Proffer Statement and Conditions of Approval are currently under review. The applicant’s revised application requesting a PD-GI zoning designation is currently under review by Zoning Administration.

C. OVERALL ANALYSIS

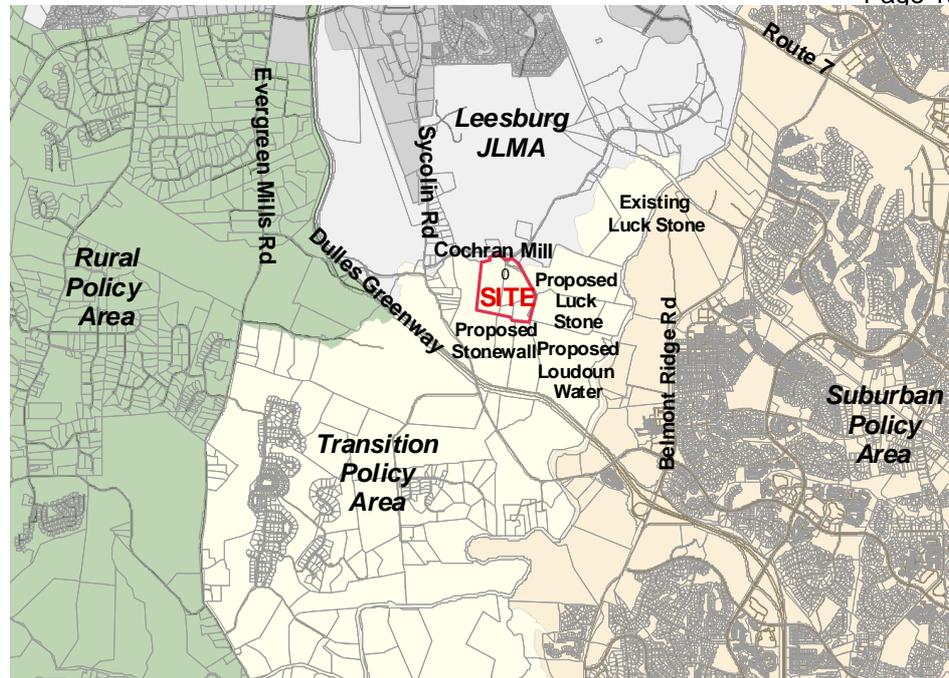
COMPREHENSIVE PLAN

Land Use

Energy and Communication Facilities – The Revised General Plan provides relevant policy guidance in the Energy and Communication Facilities policies, which apply Countywide. The County views electrical service as an essential component of daily life and supports the timely delivery of electrical service to households and businesses. The County also seeks to minimize the potential negative impacts that power plants can have upon the environment and the surrounding uses. The Energy Policies state that electric generation facilities that use clean burning and environmentally sound and proven fuel sources for power generation can be located only where their impact on the surrounding land uses and the environment is compatible. Compatibility considerations include air quality, water quality, noise, lighting, and visual impacts.

Staff finds that the proposed hybrid energy plant will use clean burning and environmentally sound and proven fuel sources. Further, with the exception of erosion and sediment control during the 30-month construction phase, the application, as conditioned and proffered, mitigates its environmental impacts and address compatibility issues.

Transition Policy Area
– With the exception of approximately 2.3 acres within the Leesburg Joint Land Management Area (JLMA), the property lies within the Lower Sycolin Community of the Transition Policy Area, which is planned for residential uses at a base density of 1 dwelling per 10 acres in a clustered pattern, with the option to rezone to a density of 1 dwelling per 3 acres in a Rural Village.



Revised General Plan Policy Area Map

According to the Revised General Plan, development within the Transition Policy Area should provide a visual and spatial transition between the Rural Policy area and the Suburban Policy Area, with natural open space as the predominant visual element. The Lower Sycolin subarea is intended to be more rural and less dense than the other Transition Policy Area subareas with open space forming the predominant feature.

While the primary use anticipated in the Lower Sycolin Subarea is residential, the Transition Policy Area policies also call for the protection of Luck Stone Quarry from encroaching residential development and allow for a range of uses that are at intensities not permissible within the Rural Policy Area, if they promote a rural character while serving both rural and suburban populations. The County envisions that the Transition Policy Area will incorporate an innovative blend of rural and suburban development features and will serve as a visual and spatial transition between the Suburban and Rural Policy Areas.

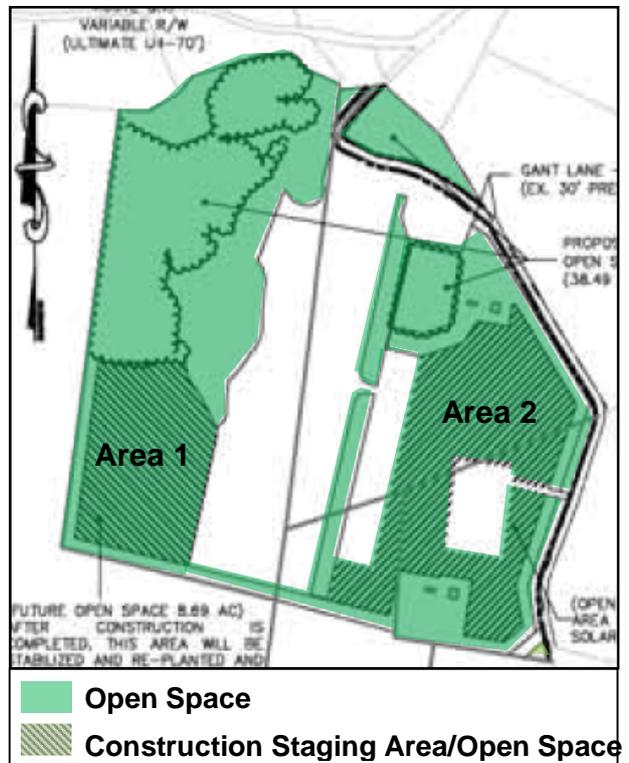
There are unique conditions on and surrounding the subject property that will help affect the desired transition. Phil Bolen Park and Sycolin Creek would provide a transition to the north. Luck Stone Quarry would separate the power plant from the suburban uses in Eastern Loudoun. Regarding views from the west, the site's terrain would help shield the power plant from Sycolin Road and the Dulles Greenway. The topographical elevation is 412 feet at Sycolin Road, and decreases to approximately 360 feet on the southern end of the site (refer to sheet 6 of the Concept Plan). Currently, there is a 600-foot forested area between the subject property and the residences to the west (on the abutting proposed Stonewall Secure Business Park property to the west) that would help screen the power plant during construction. During and after construction, the treed area in the northwest portion of the site would be preserved and would help screen the cooling tower and water tanks. During construction, the trees in the southwestern portion of the site would be cleared and used as a

construction staging area, then replanted upon completion of construction. As proposed, the more intense uses would be clustered on the eastern portion of the site, closer to the Suburban Policy Area, while the western portion of the site closest to the Rural Policy Area would ultimately contain a vegetative buffer of between 550 and 900 feet deep.

Staff questions, however, whether the subject property can provide an adequate visual and spatial transition between the rural and suburban areas without 70% open space as anticipated in the Revised General Plan. Staff recommends providing 70% open space that meets the intent of open space as defined in the RGP.

Open Space

There are two discrepancies between the applicant's proposal and the County's open space policies. (1) The proposal does not appear to include enough open space to affect a visual and spatial transition between the rural and suburban policy areas. (2) The proposed open space includes areas that do not meet the definition of open space as defined in the Revised General Plan (RGP), specifically the solar array area. Within the Transition Policy Area, 50 to 70% open space is planned, with 70% anticipated in the Lower Sycolin subarea. Open space is intended to be the dominant visual feature of the landscape. In addition to providing a transition between the suburban and rural policy areas, open space should create a contiguous network of green spaces to protect on-site environmental resources and habitat. According to the applicant's Endangered and Threatened Species Habitat Evaluation, the wood turtle, a state-threatened species, is present on the site along Sycolin Creek, and the property contains suitable foraging habitat for two state-threatened bird species (loggerhead, shrike and Henslow's sparrow).



Staff illustration. Proposed open space.

The applicant's Concept Plan shows approximately 61% open space. However, this open space includes 14.32 acres for a solar array (Area 2), which does not meet the definition of open space as defined in the RGP. While Staff supports solar power in general, Staff does not support counting the solar panel area as open space, because the area would not meet the intent of open space as defined in the RGP.

As defined in the RGP, open space is "Any parcel or area of land or water essentially unimproved and designated for public or private use or enjoyment or for the use and enjoyment of owners, occupants, and their guests of land adjoining or neighboring such open space."

The RGP further categorizes open space into the following three types:

Table 1. Three Types of Open Space

Type	Active Recreation	Passive Recreation	Natural
Definition	Areas dedicated to leisure-time activities, usually of a formal nature and often performed with others, requiring equipment and taking place at prescribed sites or fields.	Areas for activities that involve less energetic activities such as walking, sitting, picnicking, card games or table games.	Land left in a mostly undeveloped state.
Examples	<ul style="list-style-type: none"> • ball fields • tennis or basketball courts • swimming pools • tot lots • golf courses • dog parks • other areas for recreational sports/games 	<ul style="list-style-type: none"> • trails (hiking, biking, walking, or equestrian) • picnic areas • camping areas • hunting areas • fishing areas 	<ul style="list-style-type: none"> • forests • meadows • hedgerows • wetlands

Source: definitions and examples from the Revised General Plan glossary.

If the Board wishes to consider the solar panel area as open space, Staff recommends that within that area, the applicant plant indigenous vegetation that will coexist with the solar array and that will support the existing habitat. The applicant is agreeable to such a condition. Even accounting for the solar array area, the proposal only provides for 61% open space and, as such, does not meet the level of open space anticipated in the Revised General Plan.

Noise

The proposed use includes safety relief valves, exhaust stacks, and combustion turbines that have the potential to generate continuous and impact (sudden burst) noise. To address potential noise impacts, the applicant is agreeable to a condition requiring a noise study, noise monitoring once the plant is operational, and immediate remediation of noise levels that exceed ordinance limits. Also, Section 5-1507 of the Revised 1993 Zoning Ordinance limits continuous noise to 55 decibels (dBa) at the property line adjacent to residential or park property and limits impact noise to 60 dBa at the property line adjoining a residential or park zoning district. The use would also be subject to Section 654.02 of the Codified Ordinance, which prohibits the operation of machinery in such a manner as to disturb the peace of neighboring inhabitants between 11:00 p.m. and 6:00 a.m.

Lighting

Lighting has been addressed with a proffer, and Staff recommends a condition that would require exterior lighting to be downward-directed and fully shielded and that would prohibit lighting the tall structures unless required by the FAA or other governmental regulation. The Federal Aviation Administration (FAA) has made a determination that the proposed tall structures and equipment, which are up to a maximum of 140 feet tall, would not be a hazard to air navigation and therefore, would not be required to be illuminated for aviation safety. (Refer to the applicant’s Aeronautical Study in Attachment 5d.)

Visual Impacts of Vapor Plume

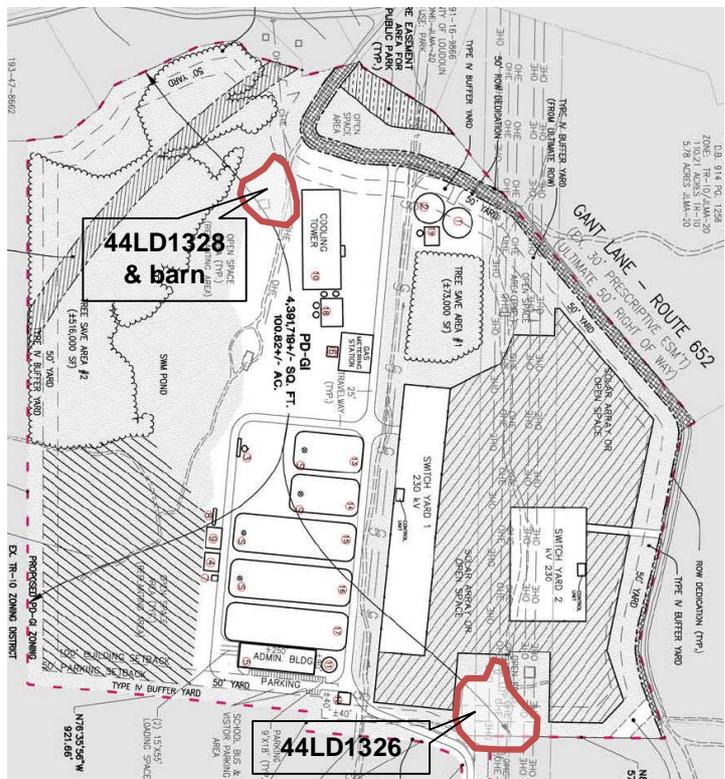
The proposed cooling tower would emit a water vapor plume, a mist that would evaporate and that would not deposit water droplets on or off the plant property. Staff has no issues with the content of the plume. Previously, Staff had concerns regarding the visual impacts of the plume, because the applicant’s air quality study indicates that the typical height of the plume would be approximately 150 feet from ground level to the top of the plume, but it could rise to 500 feet, depending on the weather (temperature and humidity), with the plume being most visible during the coldest, wettest weather. Refer to Attachments 4a and 5a. To address visual impacts associated with the water vapor plume, the applicant agrees to a condition that would require plume abatement measures to prevent visible plumes above 150 feet, which is the height of the existing electrical lines.

HISTORIC AND ARCHAEOLOGICAL RESOURCES

There is one outstanding issue related to archaeological resources. The subject property contains two archaeological sites. Site 44LD1326 represents the remains of a residence (circa 1925-1952). Site 44LD1328 represents the remains of a residence and agricultural property (circa 1925-1952) and includes a circa 1950 barn. These two sites are believed to be the vestiges of the Lower Sycolin African American settlement. The applicant proffers to avoid and preserve the sites, but individually, the sites do not warrant preservation because they have been disturbed and are in poor condition.

Collectively, the history of the Lower Sycolin settlement, which extends beyond the boundaries of the subject property, is worthy of recordation. While the Town of Sycolin, comprised of Upper Sycolin and Lower Sycolin, first appeared on maps in 1925, evidence of the community dates to the mid to late 1800s. Other than Union Church (now First Baptist), which was established in 1894, there are very few remaining buildings that mark the Lower Sycolin community, and the history of Lower Sycolin has not been well researched.

Consistent with the Heritage Preservation Plan, in this instance, Staff recommends mitigation through documentation and suggests that the applicant proffer to contract with a professional consultant to produce a detailed public narrative on the history of Lower Sycolin based on a Scope of Work approved by Department of Planning staff. Both Staff and the applicant have been in discussions with a consultant, History Matters, regarding the preparation of an historical



Staff Illustration. Two Archaeological Sites on Subject Property

narrative. History Matters estimates the cost of the report together with a web pamphlet and a historical marker at \$50,000 (The marker is estimated at \$10,000). It generally takes between 6 months and 1 year to complete such a project.

The applicant is agreeable to a fair-share contribution and proffers a \$10,000 donation to the County for the production of a narrative. Staff suggests that the applicant proffer to produce the complete document. Since \$10,000 represents only a portion of the cost of a study, should the Board find that a \$10,000 donation adequately mitigates for development of the property that collectively contributes to the history of the African American Lower Sycolin settlement, Staff recommends that the donation be made to the Black History Committee of Friends of the Thomas Balch Library, Inc.

PARKS AND RECREATION

There is one outstanding Parks and Recreation issue related to public trail access. Through the referral process, staff requested a 50-foot wide trail dedication or easement on both sides of the Sycolin Creek. This trail would connect Phillip A. Bolen Memorial Park to Keep Loudoun Beautiful Park, which connects to the Potomac Heritage National Scenic Trail (PHNST) along the Goose Creek. Parks and Recreation is working towards establishing a linear stream valley park system along Sycolin Creek that will provide buffer protection, recreational access, and educational opportunities, and that would connect the County's stream valley trail system to the PHNST. The PHNST is a partnership to develop a network of locally-managed trails in a 425-mile corridor between the Chesapeake Bay and the Allegheny Highlands of Pennsylvania. The trail is intended as a hiking and walking natural surface trail with some limited equestrian accommodation. Within Loudoun County, the PHNST is anticipated to stretch from the Fairfax County line to Harper's Ferry along the southern bank of the Potomac River. Trailheads can be found at Algonkian Regional Park, Bles Park, Elizabeth Mills Riverfront Park, Kephart Bridge Landing, and the Keep Loudoun Beautiful Park.

The applicant's Proffer Statement generally provides for and the revised Concept Plan depicts an area north of the creek that is labeled as "future easement area for public park". Staff understands the applicant's security concerns regarding public access to the south side of the creek and desire for Sycolin Creek to serve as a natural barrier between the public and the power plant. Staff recommends that the applicant proffer to dedicate a 50-foot wide strip of land on both the north and south sides of Sycolin Creek for a trail. As a second alternative, Staff would support a proffered 50-foot wide trail easement on both sides of the creek.

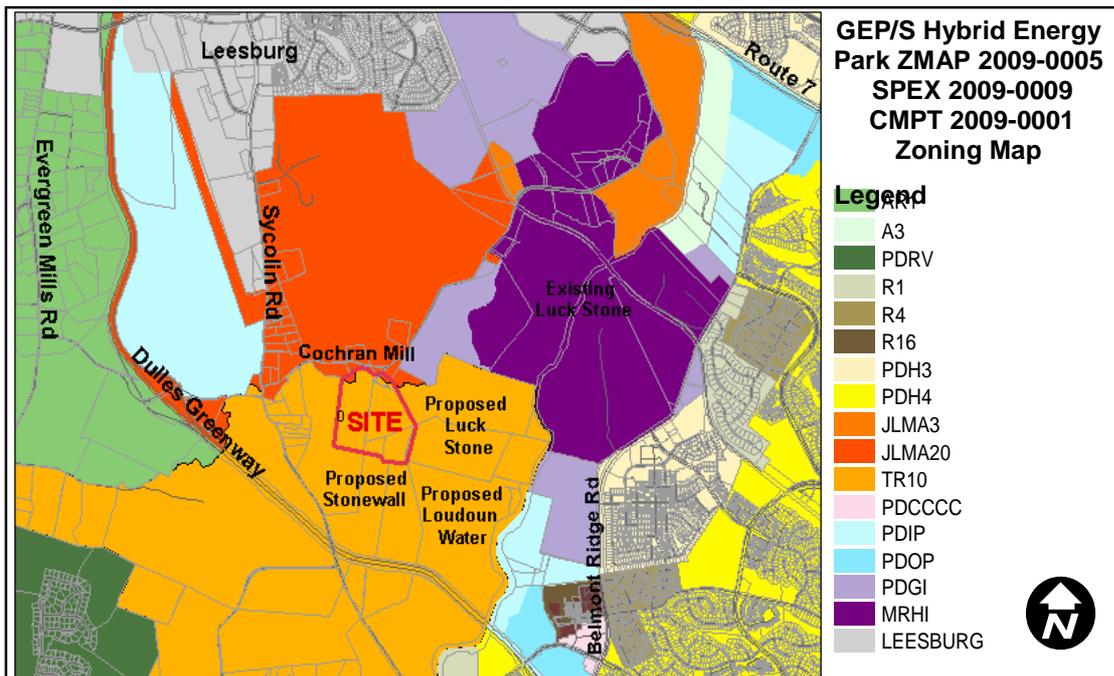
EMERGENCY SERVICES

There are no outstanding fire and rescue issues. The County normally supports fire and rescue contributions of \$0.10 per square foot of proposed gross building area. In this case, since the project will only include two buildings—a guard house and an administration building—the applicant has proffered a one-time fire and rescue contribution of \$50,000 to be divided equally between the servicing fire and rescue companies. Fire and Rescue planning staff find the contribution to be adequate.

The applicant has also proffered to submit an emergency operations and evacuation plan to Fire and Rescue staff for approval prior to occupancy. A proffer indicates that Hybrid Energy Park employees will provide first response to emergencies on the property. The Leesburg Volunteer Fire and Rescue Company will provide fire and rescue services to the site with estimated response times of 9 minutes, 47 seconds for fire and 10 minutes, 45 seconds for rescue.

ZONING

As shown on the Zoning map below, the five subject parcels are currently zoned TR-10 (Transitional Residential-10) with the exception of the two northernmost parcels, which are split-zoned TR-10 and JLMA-20 (Joint Land Management Area-20). A condition of approval has been included that would require the consolidation of the five parcels. Under the current TR-10 zoning designation, residential uses could develop at a density of 1 dwelling unit per 10 acres, as well as agricultural, public and institutional, commercial, and industrial uses. The current application is a request to rezone the subject property to PD-GI (Planned Development – General Industry) and to allow a utility generating and transmitting facility, which is a special exception use within the PD-GI district.



Regarding the industrial uses permitted within the PD-GI zoning district, the applicant has agreed to “proffer out” all PD-GI uses except for the proposed use. A ZCPA (zoning concept plan amendment) would be required for any other use proposed on the property in the future.

Due to the extensive state and federal permitting processes associated with the proposed use, Staff has recommended a condition that would extend the validity period of the special exception to ten (10) years. The Revised 1993 Zoning Ordinance allows a validity period of five (5) years unless otherwise specified in the special exception conditions.

Applicant Requested Zoning Modification

This application includes a request for a modification of the following section of the Revised 1993 Zoning Ordinance:

Section 4-606 Building Requirements. (B) Building Height.

“Forty five (45) feet maximum, provided that a building may be erected to a maximum height of one hundred feet if it is set back from streets or from lot lines that do not constitute boundaries of districts with lower maximum height restrictions, in addition to each of the required minimum yard dimensions, a distance of not less than one (1) foot for each one (1) foot of height that it exceeds the forty five (45) foot limit.”

Section 5-600 of the Ordinance states, “Modifications may be approved by the Board of Supervisors upon a finding that such modification to the regulations will achieve an innovative design, improve upon the existing regulations, preserve the County’s historic or archeological heritage, or otherwise exceed the public purpose of the existing regulation.”

Applicant Request

The request is to increase the maximum building height from 45 feet to 120 feet without requiring additional setbacks from streets or lot lines.

Applicant Justification

The applicant states that the height modification is needed to allow the steam turbine to be enclosed to protect it from weather and to minimize noise.

Staff Review and Recommendation

Staff generally supports the modification, but as currently proposed, the modification would apply to every structure on the property that met the definition of a building. Staff has added a condition that would limit the modification to the steam turbine enclosure. A modification is necessary because if enclosed, the steam turbine would technically meet the definition of a “building” and would be limited to 45 feet.¹ The justification for the



Example of an enclosed steam turbine.

¹Building: A structure having one or more stories and roof, designed primarily for the shelter, support or closure of persons, animals or property of any kind. (Revised 1993 Zoning Ordinance, Article 8, Definitions.)

height increase is that enclosing the steam turbine would minimize noise impacts upon surrounding uses. Also, the visual impact of the enclosed steam turbine would be no greater than that of the other tall structures within the plant, including two 65-foot tall water tanks, a 75-foot tall cooling tower, two 70-foot tall and two 110-foot tall combustion turbines, and four exhaust stacks that could be up to 140 feet tall. However, those structures do not meet the definition of a building and are exempt from the maximum building height requirements under Section 1-103(D)(2) of the Revised 1993 Zoning Ordinance.

ENVIRONMENTAL

Environmental issues are critical for this application because the property is environmentally sensitive. The property is located within the Goose Creek Watershed, lies approximately 1,500 feet west of the Goose Creek Reservoir, and contains significant river and stream resources associated with Sycolin Creek, including major and minor floodplain, wetlands, perennial and intermittent streams, and natural drainageways. The property is also characterized by forest resources (Northern Hardpan Basic Oak-Hickory community), steep slopes, diabase and hydric soils, and habitat (wood turtle, loggerhead shrike, Henslow's sparrow, and hairy beardtongue).



Sycolin Creek at northern portion of property

The applicant has worked very closely with staff to address potential environmental impacts. The applicant has provided proffers and agreed to conditions to address air quality, water quality monitoring, stormwater treatment, tree save areas, steep slopes, and habitat protection.

There is one outstanding environmental condition that the applicant does not agree with. Staff has concerns that using existing ponds as sediment basins during the 30-month construction phase, as proposed, will increase levels of turbidity in runoff leaving the project area and entering Sycolin Creek. Staff has included a draft condition of approval that the applicant is not in agreement with. Staff is continuing discussions with the applicant and will provide the Board an update at the public hearing.

Discussion of how the applicant proposes to address other resolved environmental issues is provided below.

Water Quality Monitoring

The applicant has agreed to a water quality monitoring condition and has proffered a \$7,500 contribution for a regional water quality monitoring device. A water quality monitoring condition is important, because the proposed use would create a higher risk of hazardous contaminants

entering Sycolin Creek than a residential or commercial development would, even when accounting for required containment and control measures, and would produce more polluted storm runoff from impervious surfaces. Aqueous ammonia tanks and propane tanks would be located on the property near the pond, perennial stream, and wetlands.

To adequately address stormwater management, the applicant proposes improving and using the existing pond for stormwater treatment and proffers to incorporate best management practices (BMP) and low impact development techniques. Staff has added a condition that would require designing all BMP's to treat the first inch of storm runoff from impervious surfaces, and to remove a high percentage of phosphorous, not lower than 50 percent. The Applicant is in agreement.

Air Quality

The proposed use will emit pollutants, primarily nitrogen oxides, which are precursors for the formation of ozone, into the air when natural gas is combusted. Other pollutants emitted, but in lesser amounts, include carbon monoxide, particulate matter, volatile organic compounds, and sulfur dioxide. The applicant has provided charts comparing the emissions of the proposed hybrid energy plant with Dickerson Power Station, Potomac River Power Station, and a typical "clean coal" facility. Refer to Attachment 4 d.

The applicant's air quality study indicates that the level of these pollutants falls well below the levels that the United States Environmental Protection Agency (US EPA) has set as health standards and far below the levels that the US EPA deems to be significant. Under the guidance of the US EPA, the Virginia Department of Environmental Quality (DEQ) will regulate the hybrid energy park's air emissions by issuing and ensuring compliance with permits that set limits on air pollutants based on the federal Clean Air Act (1970 as amended in 1977 and 1990). The Applicant has provided an example of the Local Governing Body Certification Form that the Board of Supervisors would sign if the application is approved. The signed form is required to be submitted to the Virginia Department of Environmental Quality (DEQ) before DEQ will deem the applicant's air pollution control permit as complete. Refer to Attachment 4 e. In addition to the stringent state requirements, the applicant agrees to a condition that would limit air emissions to no more than 5 percent above the emissions evaluated in the applicant's air study (5% allows for a margin of error due to final selection of the equipment and design of the plant).

Tree Conservation and Reforestation

The subject property is heavily forested and consists of a mixture of various forest types including an Oak-Hickory Forest community and Virginia Pine. Staff notes that forest resources will be lost to create a flat building pad for the hybrid energy park. Lesser quality tree cover will be cleared for use as staging areas during the 30-month construction phase, specifically 8.69 acres in the southwest portion of the site and 14.32 acres in the east portion of the site.

Energy policies state that areas disturbed by public utilities should be replanted and/or reforested and screened from adjacent uses. As shown on the Concept Plan, the applicant has agreed to replant the 8.69 acres once construction is complete. Additionally, the Concept Plan shows two tree save areas—11.85 acres in the northwest portion of the site and 1.68 acres in the northeast portion of the site. The applicant has proffered to coordinate with the County

Urban Forester to develop a tree conservation, replanting, and management plan prior to site plan approval. Staff has included a recommended condition that would strengthen this commitment.

Steep Slopes/Geotechnical

Staff recognizes that it is the applicant's intent to not impact very steep slopes per RGP policy. The applicant has included a proffer to use chain link or super silt fencing to protect moderately steep and very steep slopes that are located in several areas on the property. Given the soil mapping units on the property, blasting may be required to create the power plant building pad. To address gas pipeline safety during construction, Staff has included a condition that would require the applicant to survey, flag, and install super silt fence near the steep slope areas prior to construction.

TRANSPORTATION

There are no outstanding transportation issues. Once the use is operational, the plant will employ 25 people split between two shifts. The applicant's traffic study estimates that the use would generate 24 a.m. peak hour, 26 p.m. peak hour, and 89 daily vehicle trips. As such, traffic generated by the use, once operational, will not negatively impact the surrounding road network. To address construction traffic, the applicant has proffered to coordinate with VDOT and the County to develop a delivery and construction traffic plan for access from Sycolin Road.

Access to the site is proposed from Sycolin Road on a 10.5-acre, 100-foot wide strip of land extending from the site, along the west side of the existing overhead electrical lines, and to Sycolin Road. Since the strip of land is proposed to be private, it must also be rezoned from TR-10 to PD-GI in order to be used for a private access to a PD-GI use, according to the Revised 1993 Zoning Ordinance.

The applicant has proffered to reserve a 50-foot right-of-way for Gant Lane and a 70-foot right-of-way for Cochran Mill Road for future dedication at the request of the County or VDOT.

D. ZONING ORDINANCE CRITERIA FOR APPROVAL

Zoning Map Amendment

Section 6-1211(E) of the Revised 1993 Zoning Ordinance states, "...if the application is for reclassification of property to a different zoning district classification on the Zoning Map, the Planning Commission shall give a reasonable consideration to the following matters..."

(1) *Whether the proposed zoning district classification is consistent with the Comprehensive Plan.*

Given the presence of the natural gas and electrical transmission lines and the proximity to Luck Stone Quarry, the Leesburg Executive Airport, the City of Fairfax Water Plant, and proposed Loudoun Water treatment plant, the proposed use would be consistent with the RGP Energy and Communications Facilities policies if the applicant addresses its environmental issues and potential negative impacts upon surrounding land uses and provides adequate open space to provide a visual and spatial transition between the suburban and rural areas.

(2) Whether there are any changed or changing conditions in the area affected that make the proposed rezoning appropriate.

The applicant contends that there are changing conditions in the area. Staff notes that currently conditions in the area have not changed. However, approval of the active Luck Stone Quarry and Loudoun Water Treatment Plant rezoning applications would result in changing conditions that would extend the industrial uses westward to abut the subject property.

(3) Whether the range of uses in the proposed zoning district classification are compatible with the uses permitted on other property in the immediate vicinity.

The range of permitted industrial uses within the PD-GI zoning district is not compatible with the park to the north or the residential uses to the west. The applicant's Proffer Statement limits uses on the property to only the proposed use.

(4) Whether adequate utility, sewer, and water, transportation, school and other facilities exist or can be provided to serve the uses that would be permitted on the property if it were rezoned.

Water, sewer, natural gas, electricity, and other utilities are available to the site. The applicant would provide for access to the site from Sycolin Road. School facilities would not serve the proposed use.

(5) The effect of the proposed rezoning on the county's ground water supply.

The property will be served by public water and sanitary sewer, and as such, no ground water impacts are anticipated from water or sewage disposal.

(6) The effect of uses allowed by the proposed rezoning on the structural capacity of the soils.

The applicant will be required to complete geotechnical studies during the site plan process. Mitigation of any impacts to the structural capacity of the soils will be mitigated by appropriate engineering methods consistent with the Facilities Standards Manual (FSM) and the results of that geotechnical study. Further evaluation of such measures will be completed at the time of administrative site plan review for each respective building and/or zoning permit request.

(7) The impact that the uses that would be permitted if the property were rezoned will have upon the volume of vehicular and pedestrian traffic and traffic safety in the vicinity and whether the proposed rezoning uses sufficient measures to mitigate the impact of through construction traffic on existing neighborhoods and school areas.

Intersections in the vicinity of the property are currently operating at an acceptable Level of Service (LOS) and will continue to do so once the traffic generated by the use is added. Transportation is not an outstanding issue.

(8) Whether a reasonably viable economic use of the subject property exists under the current zoning.

A reasonably viable economic use of the property could be achieved under the current TR-10 zoning, which allows for residential uses at a density of 1 dwelling unit per 10 acres, as well as agricultural, public and institutional, commercial, and industrial uses.

(9) The effect of the proposed rezoning on environmentally sensitive land or natural features, wildlife habitat, vegetation, water quality and air quality.

The project will impact a significant amount of forest cover and habitat and has the potential to impact air quality, water quality, very steep slopes, wetlands, and habitat.

(10) Whether the proposed rezoning encourages economic development activities in areas designated by the Comprehensive Plan and provides desirable employment and enlarges the tax base.

According to the applicant's economic study, the proposed rezoning would allow the development of a hybrid energy plant that would have positive economic impacts upon the County during and after construction.

(11) Whether the proposed rezoning considers the needs of agriculture, industry, and business in future growth.

The proposed rezoning does consider the needs of industry and business, as it would allow for an electricity generating plant that would provide power to serve such uses.

(12) Whether the proposed rezoning considers the current and future requirements of the community as to land for various purposes as determined by population and economic studies.

The proposed rezoning considered the current and future energy needs of the County, as demonstrated in the submitted studies and background information.

(13) Whether the proposed rezoning encourages the conservation of properties and their values and the encouragement of the most appropriate use of land throughout the County.

The proposed rezoning could have a detrimental impact upon the residential property values to the west.

(14) Whether the proposed rezoning considers trends of growth or changes, employment, and economic factors, the need for housing, probable future economic and population growth of the County and the capacity of existing and/or planned public facilities and infrastructure.

Studies provided by the applicant consider the capacity of existing utilities and trends towards providing more "green" energy. The application also considers the positive impacts upon the County's employment and economic factors by proposing to generate power locally to support the County's employment and population growth.

(15) The effect of the proposed rezoning to provide moderate housing by enhancing opportunities for all qualified residents of Loudoun County.

This rezoning does not propose residential uses.

(16) *The effect of the rezoning on natural, scenic, archaeological, or historic features of significant importance.*

The rezoning would negatively impact natural resources, specifically forest and habitat resources, and would negatively impact archaeological and historic resources attributed to the African American Lower Sycolin Community.

Special Exception

Section 6-1310 of the Loudoun County Zoning Ordinance states "In considering a special exception application, the following factors shall be given reasonable consideration. The applicant shall address all the following in its statement of justification or SPEX Plat unless not applicable, in addition to any other standards imposed by this Ordinance":

Standard *Whether the proposed special exception is consistent with the Comprehensive Plan.*

Analysis The proposed hybrid energy park use is not currently consistent with the Revised General Plan, due to outstanding environmental and open space issues. Upon resolution of those issues, as long as the project provides a transition between the suburban and rural areas, the use would be consistent with the Energy and Communications Facility policies and the Transition Policy Area policies.

Standard *Whether the proposed special exception will adequately provide for safety from fire hazards and have effective measures of fire control.*

Analysis The applicant has proffered that employees will be trained in emergency first response. The application also includes a proffer to submit an Emergency Operations Plan to Fire and Rescue for review and approval before occupancy.

Standard *Whether the level and impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area.*

Analysis Noise from combustion engines, release valves, and smoke stacks are a concern. The applicant agrees to conduct a noise study prior to construction and to monitor noise once the plant is operational to ensure compliance with the noise maximums specified in the zoning ordinance.

Standard *Whether the glare or light that may be generated by the proposed use negatively impacts uses in the immediate area.*

Analysis Lighting is not required or proposed on the tall structures that comprise the hybrid energy plant. The applicant has proffered to minimize lighting and glare. A Staff recommended condition also requires full cut off and shielded lighting.

Standard *Whether the proposed use is compatible with other existing or proposed uses in the neighborhood, and adjacent parcels.*

Analysis Without additional environmental and community impact commitments, the proposed use will not be compatible with the park to the north and the residential uses to the west.

Standard *Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.*

- Analysis The proposed 61 acres of open space will provide adequate buffering on the site. The two tree preservation areas and one replanting area will also help maintain existing tree cover and restore lost tree cover. If the 14+ acres are used for a solar array rather than open space, sufficient buffering may not be provided
- Standard *Whether the proposed special exception will result in the preservation of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.*
- Analysis The applicant is agreeable to preserving the physical remains of an archaeological and historic resource, the Lower Sycolin settlement. However, individually the resources have lost their integrity and do no warrant preservation. Collectively, the resource remains and needs to be documented for the public.
- Standard *Whether the proposed special exception will damage existing animal habitat, vegetation, water quality (including groundwater) or air quality.*
- Analysis Habitat could be compromised by the proposed use. Air quality and water quality could also be at risk. Adherence to Staff recommended conditions would help minimize such impacts.
- Standard *Whether the proposed special exception at the specified location will contribute to or promote the welfare or convenience of the public.*
- Analysis The proposed use will promote the welfare and convenience of the public by producing electricity locally.
- Standard *Whether the traffic expected to be generated by the proposed use will be adequately and safely served by roads, pedestrian connections and other transportation services.*
- Analysis Existing Gant Lane cannot adequately and safely serve the construction traffic that will be generated during the 1½ year construction of the use. The proposed Sycolin Road access will accommodate construction traffic and ongoing traffic.
- Standard *Whether, in the case of existing structures proposed to be converted to uses requiring a special exception, the structures meet all code requirements of Loudoun County.*
- Analysis The only existing structure on the site is a barn, and it will not be used in the operations of the hybrid energy plant.
- Standard *Whether the proposed special exception will be served adequately by essential public facilities and services.*
- Analysis The proposed use will be adequately served by Sycolin Road and public utilities.
- Standard *The effect of the proposed special exception on groundwater supply.*
- Analysis Staff has recommended conditions to avoid adverse impacts upon the groundwater supply.
- Standard *Whether the proposed use will affect the structural capacity of the soils.*

- Analysis The site contains hydric and diabase soils as well as very steep slopes. The applicant will be required to conduct a geotechnical study during the site plan process to ensure no adverse affects on the structural capacity of the soils.
- Standard *Whether the proposed use will negatively impact orderly and safe road development and transportation.*
- Analysis Since the applicant now proposes an access point from Sycolin Road rather than Gant Lane, negative transportation impacts are not an issue. The applicant has agreed to submit a traffic management plan to the County.
- Standard *Whether the proposed special exception use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.*
- Analysis The proposed use will provide over 800 primarily construction jobs during the construction phase and 25 jobs once the plant is operational. The proposed use will enlarge the tax base and have a positive impact upon the County.
- Standard *Whether the proposed special exception considers the needs of agriculture, industry, and businesses in future growth.*
- Analysis The proposed special exception considers the needs of the industry and business by proposing to provide a local source of electricity.
- Standard *Whether adequate on and off-site infrastructure is available.*
- Analysis Off-site transportation infrastructure will be available to the site. The Concept Plan provides private road access between the site and Sycolin Road.
- Standard *Any anticipated odors which may be generated by the uses on site, and which may negatively impact adjacent uses.*
- Analysis Odors are not anticipated to extend beyond the property boundaries.
- Standard *Whether the proposed special exception uses sufficient measure to mitigate the impact of construction traffic on existing neighborhoods and school areas.*
- Analysis The applicant proffers to coordinate with VDOT and the County to develop a traffic management plan to minimize impacts associated with construction traffic.

VI. ATTACHMENTS <i>(Attachments are available electronically on the County website or may be viewed at the Planning Department Front Counter or in Building & Development.)</i>	PAGE NUMBER
1. Review Agency Comments	
a. Planning Department, Community Planning (07-02-09, 10-26-09, 02-19-10 (noise))	A-1
b. Building and Development, ERT (05-21-09, 10-23-09)	A-43
c. Office of Transportation Services (OTS) (02-09-10)	A-50
d. Fire, Rescue, & Emergency Management (05-05-09, 10-21-09)	A-57
e. Loudoun Water (05-18-09, 11-02-09)	A-59
f. Loudoun County Health Department (04-09-09)	A-60
g. Parks, Recreation and Community Services (PRCS) (02-16-10)	A-61
h. Community Information and Outreach (CIO) (10-26-09, 01-11-10)	A-71
i. General Services (04-22-09)	A-77
j. Goose Creek Scenic River Advisory Committee (04-23-09)	A-78
k. VA Department of Conservation and Recreation (04-15-09)	A-79
l. Town of Leesburg (11-02-09)	A-82
m. Fairfax County Water Authority (12-08-09)	A-97
n. Interstate Commission on the Potomac River Basin (12-17-09)	A-105
2. Disclosure of Real Parties in Interest (02-03-10)	A-107
3. Applicant's Statement of Justification (12-30-09)	A-145
4. Applicant's Response to Referral Comments (11-20-09)	A-173
a. Vapor Plume Photographs (12-09-09)	A-224
b. Solar Array Photograph (09-07-09)	A-229
c. Photo-simulations	A-230
d. Emissions Comparison Charts	A-233
e. Local Governing Body Certification Form, Virginia Department of Environmental Quality (DEQ) – Air Permits	A-236
5. Applicant's Studies	A-239
a. Air Quality Study of Green Energy Partners/Stonewall Power Plant prepared by MACTEC Engineering and Consulting, Inc. (11-20-09)	
b. Leesburg Generation Study (07-07-09)	
c. The Economic and Fiscal Benefit of a Proposed Energy Generating Plan in Loudoun County, VA by Chmura Economics & Analytics (11-12-09)	
d. FAA Aeronautical Study (Determination of No Hazard to Air Navigation) (10-05-09)	
6. Applicant's Proffer Statement (08-20-09 as revised through 01-06-09)	A-311
7. Rezoning Plat/SPEX Plat/Concept Plan & Illustrative Exhibit (12-30-09)	Attached