FURNACE ASSOCIATES, INC.
APPLICANT'S STATEMENT
SPECIAL EXCEPTION AMENDMENT SEA 80-L/V-061-2

Pursuant to Sections 3-104 and 9-201 of the Zoning Ordinance, Furnace Associates, Inc. (alternatively, "**Furnace**" or the "**Applicant**") requests Fairfax County Board of Supervisors' (the "**Board**") approval to amend Special Exception Amendment SEA 80-L/V-061 on Fairfax County Tax Map Parcels 113-1-((1))-5(pt.), -7 and -8, and 113-3-((1))-1, -2 and -4 (the "**Property**" or "**Application Property**") to (i) establish green electric generation facilities including wind, solar, geothermal infrastructure and methane gas collection systems to further the County's "Green Energy Triangle" initiative; (ii) extend the useful life of the existing construction debris landfill to continue land filling activities until December 31, 2040; and (iii) remove the previously-approved public park uses and the dedication requirement rescinded by the Fairfax County Park Authority Board (Board and Staff collectively "**FCPA**") in March 2009. No increase in maximum final elevation of the landfill is being requested in this Application.

The approximately 250-acre Property is occupied by a Construction Demolition Debris ("**CDD**") landfill which is zoned R-1 and classified as a "Category 2" Special Exception ("**SE**") use. The Application Property generally is located between Interstate 95 and Furnace Road, south of Lorton Road and east of the County landfill, incinerator, and the Landfill Energy Systems ("**LES**") facility (formerly known as Michigan Co-Generation Systems, Inc.). The Applicant owns two tracts adjacent to the Property which never have been used for landfilling, approximately 9 acres and 17 acres in size, respectively, and located on the west side of Furnace Road outside the boundaries of the Application Property. As described in detail below, Furnace is proposing to construct and dedicate passive public recreation uses on the 17-acre, R-1 zoned tract (Tax Map Parcel 113-1-((1))-5 Part), and to construct an extensive solar panel farm and other green electric generating uses on the 9-acre I-6 zoned tract (Tax Map Parcels 113-1-((1))-12, -13). In addition, after significant outreach with the Lorton Valley Homeowners Association adjacent on the north to the Application Property, Furnace has committed to provide a passive recreation park for use solely by Lorton Valley residents and owned by their HOA. Given the limited open space available within Lorton Valley, this park would provide a desirable, permanent amenity to Association residents within walking distance of their homes.

A debris landfill has been operated on the property at least since the 1970s, and ultimately in accordance with SE 80-L/V-061 which was approved on November 16, 1981 and amended by the Board in SEA 80-L/V-061 on January 8, 2007. The landfill is inspected at least quarterly by the Virginia Department of Environmental Quality ("**DEQ**"). CDD landfills accept inert materials, such as concrete, rock, asphalt, glass, as well as scrap lumber, drywall and other debris from construction sites and land clearing activities, as approved in the Property's DEQ waste permit.

The current SEA permits excavation, grading and filling associated with a debris landfill, subject to 56 Development Conditions. Condition #12 limits the height of the landfill, prior to the installation of final cover, vegetation and structures, to a final elevation of 412 feet above sea level, and requires cessation of landfill operations on or before January 1, 2019 or upon reaching maximum height, whichever occurs first. The 2007 approval allowed quasi-public park uses on the Property and required its dedication to the FCPA after completion of post-closure monitoring by DEQ. Subsequent to imposition of these conditions by both the FCPA and the Board, in

March 2009 the FCPA determined that it would not accept the future dedication of Overlook Ridge. FCPA's reversal negated the underlying understanding of all three parties that the public park use would be owned and operated by the FCPA and that the liability associated with public access for recreational purposes would be the FCPA's.

Site Plan 1883-SP-002-3 was approved May 26, 2009 for landfilling in new operational areas beyond 290 feet. Subsequent to site plan approval, Furnace has planted 1,814 trees, 2,277 shrubs, and 11,492 ground cover plantings which are concentrated along the northern and eastern slopes of the landfill.

In this second amendment ("**SEA-2**"), the Applicant seeks approval to add a vegetated berm in order to develop a near-level platform by filling between the existing slope and that berm, and extend the landfill's useful life to December 31, 2040. The Applicant also is requesting approval to erect three wind turbines within Phase 1, create electric generation facilities using wind, solar and methane produced on-site, and establish the near-level platform for future creation of a larger "Green Energy Park" to include up to 12 wind turbines, solar panels and/or more advanced technologies to be provided by public or other private entities with the Applicant's agreement. This Application complies with the "General Standards" for all SE uses and with the "Additional Standards for Category 2 Uses" set forth in Article 9 of the Zoning Ordinance.

A. <u>Type of Operation</u>.

The Applicant proposes continuation of the existing CDD landfill activities over a phased plan of development that includes an extensive landscape planting program to be implemented both during Phases and after cessation of landfill operations.

This proposed extension of the only CDD landfill in the region with a meaningful remaining useful life, to a closure date of December 31, 2040, is consistent with and fulfills the goals set forth in the Fairfax County Solid Waste Management Plan ("**SWMP**"). The SWMP identifies a significant shortfall in landfill capacity for CDD generated in the County; specifically, the SWMP cites a need for 18 to 21 million tons of disposal capacity through 2025 (the end of its study period). The SWMP recommends the projected shortfall be addressed through continued use/expansion of local landfills and/or encouraging a regional approach to CDD disposal. There are two other CDD landfills in the County. One of these will close within months. The other site's capacity is practically exhausted. Long-term CDD disposal capacity is critical to the economic vitality, economic development, and revitalization goals of the County. The continued availability of Applicant's landfill is crucial to solving the County's anticipated near-term exhaustion of CDD capacity.

The Applicant proposes to create a vegetated berm around the perimeter of the landfill and to fill the space between this berm and the existing side slope to develop the landfill's capacity over five, overlapping phases of operation. Reinforcement material, consisting of a geo-synthetic such as a "geo-grid" (commonly high density polyethylene which is the same material used in landfill liners), would be laid horizontally, adding strength and stability to the berm and requiring less earth material within a smaller footprint than a comparable earth-only berm. Facing materials also would include a geo-synthetic and be designed to promote vegetative growth. The vegetated berm and ground-level and upper-level access roads would be

completed over five phases as depicted on Sheets 6 through 13 of SEA-2 Plat. The Applicant also requests approval to add a "Right-In Only" access point, which would improve on-site queuing, filling and circulation patterns. As depicted on the Landscape Plans (Sheets 16 through 22 of SEA-2 Plat), more than 4,500 trees and 18,000 shrubs would be planted on benches, mostly on the northern and eastern slopes of the landfill, with some on the western slope, by the completion of Phase 5.

The Applicant proposes to locate a "Green Energy Park" on the landfill in accordance with the recommendations of the County's Energy Task Force (renamed the "Energy Alliance Task Force") and the broader, long-term sustainable energy goals established by the Board. One recommended goal of the Task Force was to establish a "Green Energy Triangle" as a transformational energy project in Lorton. In addition to installing and operating three wind turbines beginning in Phase 1, as well as geothermal and methane recovery facilities, the SEA-2 Plat provides a platform (enabled by the vegetated berm) for the potential of up to 12 wind turbines and/or a solar panel farm to be provided by the Applicant/Owner or others after Phase 5.

Each of the three wind turbines to be installed on-site by the Applicant will be capable of producing at least one-quarter megawatt peak of electricity on that section of the platform as depicted on Sheet 6 of the Special Exception Plat. The first turbine will be installed no later than 18 months after all necessary County, Virginia, and Federal approvals for the landfill and turbines have been obtained. The second and third turbines will be installed within 36 months after having received all such approvals. Fifty percent of any revenue, in excess of 2.5 cents per Kilowatt-hour, the Applicant receives from the sale of the electricity produced by the wind infrastructure will be given to the County.

The Applicant also will install a methane gas recovery system within the landfill and will deliver to the County methane sufficient to generate the equivalent of two million kilowatt hours annually of electricity, with the intent that it will be used by the County to generate electricity sufficient for the normal operating needs of the County-owned former Occoquan Workhouse site (the Lorton Arts Foundation "**Workhouse Arts Center**"), thereby reducing the financial burdens of the Workhouse Arts Center. Applicant will pay the cost of processing the methane gas so that it is suitable for combustion by industry standard co-generation infrastructure.

Additional, off-site proposals have been made by the Applicant in conjunction with this Application. The Applicant's I-6 zoned land located adjacent to the west of Furnace Road on Tax Map Parcels 113-1-((1))-12, -13 is approved for sorting and separation of CDD for recycling. The Applicant's current business plan is to accept the CDD currently accepted by the landfill, should the landfill cease operation on January 1, 2019 as required by SEA Condition 12, and recycle that CDD. Truck traffic currently entering the Applicant's landfill site is prohibited from approaching the site from Lorton Road, which is a major transportation artery for local residents. The recycling site has no such restriction and has no required closure date. Cessation of landfill activity and redirection of related truck traffic to the recycling center would result in a significant increase in truck traffic on Lorton Road and adjoining feeder roads. The recycling site would require, by its nature, that all material delivered to the site be transported out to end users or CDD landfills. This would increase the volume of truck traffic on neighboring roads (as opposed to the landfill use which does not require the transportation of CDD away from the site), and would require long distance transportation which would consume approximately 21,268,170 million gallons of diesel fuel over a 22 year period and produce approximately 236,076 tons of

carbon dioxide equivalent. This benefit directly supports the County's objective to meet Clean Air Act National Ambient Air Quality Standards.

The Applicant is prepared to abandon this by-right "mixed waste reclamation" use and to erect a solar electric generating facility, complementary to green energy uses on the landfill Property. Within 24 months after having received all necessary County, Virginia and Federal approvals for implementation of this SEA-2, the Applicant will install and operate at least a one-half megawatt peak solar infrastructure on its I-6 parcels for distribution and sale on the electrical grid. All costs associated with the purchase, installation, operation, and electricity distribution of the solar infrastructure will be the responsibility of the Applicant. The infrastructure will be operated for its useful life. Fifty percent of any revenue, in excess of 2.5 cents per Kilowatt-hour, the Applicant receives from the sale of the electricity produced by the solar infrastructure will be given to the County.

Remaining surface area on the I-6 site will allow for additional solar infrastructure, or other renewable energy operations, should the Applicant, or others with the Applicant's permission, elect to build out additional renewable energy capacity.

"Overlook Ridge," which was requested by the Applicant and the FCPA, and approved by the Board in January 2007, is proposed to be eliminated in this SEA-2 Application to reflect the FCPA's decision in March 2009 to reject dedication of the landfill site by ESI to the FCPA. This SEA Application continues to provide for open space and passive recreation facilities, but to be constructed in the north side buffer zone (which would be accessed from a trail connection to Lorton Valley) and on its 17 acres of R-1 land on the west side of Furnace Road, which the Applicant proposes to dedicate to the FCPA.

The SEA also contemplates that funding will be provided for an educational feature at the Workhouse Arts Center that relates to the renewable energy activities both on the Applicant's sites as well as on the neighboring County property.

This CDD landfill currently accepts select volumes of dredged soils from lakes, ponds, and stormwater management facilities in the County that are either publicly or privately maintained. (Certain of these dredged soils are accepted by the landfill for free, which saves the County significant costs.) Over time, such facilities accumulate sediment which, if not removed, will severely reduce their ability to function effectively, resulting in a serious threat to County and regional water quality and stormwater capacity. Extending the closure date to 2040 will provide a long-term outlet for dredged soils produced in the County, a critical environmental need since there are no dredged soil treatment facilities in the County or region.

The interim and ultimate landscape planting design will establish an attractive buffer with a forested appearance. Instead of becoming a "closed landfill," this proposal creates a unique opportunity for renewable, green energy-producing facilities that functionally relate to the surrounding utility system and provide environmental sustainability and economic benefits to the County in the 21st century.

This Application has evolved over the course of 18 months of extensive discussion and negotiation with the South County Federation Land Use Committee ("**LUC**") pursuing an alternative to the pre-empted Overlook Ridge, and simultaneous outreach with other community

and countywide stakeholders, the Applicant committed to development of a Green Energy Park ("**GEP**") with four robust re-usable energy components – wind, solar, methane, and geo-thermal – plus certain additional revenue-generated contribution commitments. The LUC discussions came to a halt in late May 2012 despite leadership representations of support up to that time. At the Countywide level, a recommendation by a County Energy Task Force resulted in Board adoption of a Green Energy Triangle concept for the immediate landfill area and commitments to establishment of a national model for the location of substantial green energy infrastructure components on public and private land in that area.

ESI's commitment has been to the provision of the GEP infrastructure and other proposed amenities, some of it up front and the remainder through 2040, the proposed operational life of its landfill needed to support such an enormous expenditure. In late November 2012, the LUC requested that ESI instead fund a Recreation Center. The Applicant responded with a proposal to provide a significant but revised GEP infrastructure "up front," with a payment of $15M over time towards a specified community need. The LUC continues to demand a Recreation Center to be funded at the outset of the "new" landfill operations at a cost, according to FCPA, of $50M (including debt service through 2040).

This Application proposes to construct, during Phase I, wind, methane and geothermal infrastructure on the landfill, and solar on an adjacent I-6 tract of the Applicant (on which it will relinquish its entitled recycling facility); to provide methane fuel to the County for the Workhouse Arts Center and/or other local County facility, over the operational life of the landfill, enabling to the County an avoided energy cost of $5M to $6.25M; to share the revenue, in excess of 2.5 cents per Kilowatt-hour, resulting from sale of electricity generated by the proposed wind and solar infrastructure; to provide educational features related to renewable energy at the Workhouse Arts Center; to dedicate a 17 acre parcel to the County and provide recreational amenities on that parcel; and to contribute $15M towards a specified local County/community need, in installments of $750,000 per year beginning in 2019 and ending in 2038.

As referenced above, the total cash and energy value being contributed to the County and community exceeds $20M, plus revenue sharing in electricity sales. The cost to the Applicant of the amenities and GEP infrastructure to be constructed exceeds $15M, and the value of the 17-acre parcel to be dedicated to the County exceeds $3M. These numbers do not include (i) the value of the I-6 land and entitled, unlimited recyclery use Applicant is willing to forego, and (ii) the long-term benefit that the Applicant's green energy park as a cornerstone provides in the rebranding of the Lorton area as one of the most progressive communities in the region, if not nationally.

B. <u>Hours of Operation</u>.

Proposed hours of operation are Monday through Friday 7:00 a.m. to 5:30 p.m. and Saturday 7:00 a.m. to 3:00 p.m., with continuation of certain limited exceptions as permitted under the current Development Condition #27.

C. Estimated Number of Patrons.

No change from current and prior experience. The number of patrons varies with weather conditions, time of year and the prevailing economy, which directly impacts regional development activity and the amount of construction debris to be disposed.

D. Proposed Number of Employees.

It is anticipated that there will be approximately 15 full-time equivalent employees working at the landfill during the operations time period.

E. Estimate of Traffic Impact of the Proposed Use.

No change to landfill operations is proposed, so there will be no change in related trip generation. As prepared by Wells + Associates, Inc., trip generation estimates associated with the proposed SEA use are based on the 2011 load counts taken at the landfill truck scales and are as follows:

	Acres	Annual Loads	Average Daily Loads	Average Daily Trips
Existing Use	250	112,698	394	788
Proposed Use (estimated)	250	112,698	394	788
Net New Loads and Trips		0	0	0

Attached is a copy of the FCDOT determination dated July 31, 2012 that no Chapter 870 (formerly 527) study is required because no material increase in trip generation is projected.

F. Vicinity or General Area to be Served.

This is a regional CDD landfill which serves the entirety of Fairfax County.

G. Description of Building Façade and Architecture.

After creating the southern portion of the platform during Phase 1, the Applicant proposes to erect three (3) wind turbines (see SEA-2 Plat Sheet 6). Other minor "structures" consist of construction trailers, with all but one to be demolished or removed during the course of development. One permanent operations trailer with an associated parking lot will be located in the northwest corner of the property and remain subsequent to Phase 5 closure. Other facilities are leachate pump houses, gate houses and gates, portable scale houses, scales, and tire wash facilities which will be relocated on-site during phases as necessary when landfilling operations are adjusted over the five phases. These facility locations are identified by Phase on the SEA Plat.

H. Listing, If Known, of All Hazardous or Toxic Substances.

Hazardous and/or toxic substances currently stored and contained on-site are limited to products which are used for the general operation of the landfill, its equipment and vehicles. Methods for use and disposal shall adhere to County, State and/or Federal law.

I. Statement of Conformance with Applicable Ordinances, Regulations and Standards.

This Application shall comply with the "Additional Standards" for all Category 2 Special Exception Uses and with "Additional Standards" for Landfills, as set forth in Sections 9-204 and 9-205 of the Zoning Ordinance, respectively. This Application complies with all other applicable ordinances, regulations and standards, except that the Applicant seeks a waiver of the dustless surface requirement, a waiver of the Countywide Trails Plan requirement for an eight-foot (8') wide trail along the east side of Furnace Road, a modification of tree preservation requirements and a modification of the transitional screening requirement and waiver of the barrier requirements in favor of those shown on the Special Exception Amendment Plat in accordance with Article 13, Section 13-305, subparagraphs -3, -5, -7, -11, -12 and -14, of the Zoning Ordinance.

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