Attachment 2

Critical Issues Analysis

Critical Issues Analysis

Rhudes Creek Solar Project
Hardin County, Kentucky

Prepared For:

ibV Energy Partners
777 Brickell Ave. Suite 500
Miami, FL 33131

Prepared By:

5540 Centerview Drive
Raleigh, NC 27606

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

At the request of ibV Energy Partners (ibV), TRC Environmental Corporation (TRC) has prepared this review of environmental constraints that have the potential to be associated with the proposed Rhudes Creek Solar Project (Project), located near the Town of Elizabethtown in Hardin County, Kentucky (Figure 1).

The Project review area consists of 15 individual tax parcels comprising approximately 1,480 acres, most of which is active agricultural land. The Project's energy target is 100MW_{ac}. Alternatives for connections between the Project and existing transmission line infrastructure have not been developed and are not included with this analysis. The proposed Project location is shown in greater detail on Figure 2.

This Critical Issues Analysis (Report) provides a preliminary discussion of sensitive environmental resources, regulatory permits, and clearances to complete environmental studies and permitting from initiation of the Project through Project construction. Environmental resources and permitting requirements were identified from publicly available information, primarily geographic information system (GIS) databases publicly available on the internet and/or literature review. A site visit was also conducted in September of 2019 to assess environmental resources and confirm the map findings.

2.0 METHODOLOGY

This desktop-level environmental constraints analysis relies solely on a review of publicly and readily available desktop resources from GIS datasets, applicable regulatory agencies, TRC's in-house sources, and online resources.

TRC reviewed readily available desktop resources to develop this Report. These resources included, but were not limited to, the following:

- U.S. Geological Survey (USGS) topographic maps and State Geological Survey maps[1]
- Natural Resource Conservation Service (NRCS) Web Soil Surveys[2]
- NRCS Hydric Soils List for the State of Kentucky[3]
- USFWS National Wetland Inventory (NWI)[4]
- USGS National Hydrography Dataset (NHD)[5]
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system[6]
- Kentucky Department of Fish and Wildlife Resources (KDFW) list of state-protected species known to occur within Hardin County
- Publicly available Federal Emergency Management Agency (FEMA) floodplain maps for the presence of identified floodplains[7]
- Recent and historical aerial imagery (for recent imagery, see Figure 3)
- The USGS Gap Analysis Project (GAP) Database[8]
- Kentucky Office of State Archaeology Cultural Resources Map (Figure 8)
- Websites of federal, state, and local parks, wildlife management areas, wildlife preserves, scenic rivers, natural areas, and similar conservation lands.

3.0 ENVIRONMENTAL RESOURCES

Resources evaluated using desktop review methods included soils; water resources; land use; federal and state-protected species; migratory birds; cultural resources, including archaeological sites and tribal lands; and designated public, recreation, or open lands. Results of the desktop review are provided in the sections below.

3.1 Soils

Table 1 summarizes the soil types within the Project Area according to the NRCS Web Soil Survey[2]. Hydric soils typically indicate the increased likelihood of surface level or shallow hydrology. Soil map units are depicted on Figure 4a, and Prime Farmland soils are depicted on Figure 4b.

Table 1. Mapped Soil Types within the Project Area.

Map Symbol	Soil Map Unit Name	Prime Farmland Classification	Drainage Classification	Hydric Rating (%)	Acres within Project Area
BrA	Bedford silt loam, 0 to 2 percent slopes	All areas are prime farmland	Moderately well drained	0	37.9
BrB	Bedford silt loam, 2 to 6 percent slopes	All areas are prime farmland	Moderately well drained	0	242.7
CrB	Crider silt loam, 2 to 6 percent slopes	All areas are prime farmland	Well drained	0	357.2
CrC	Crider silt loam, 6 to 12 percent slopes	Farmland of statewide importance	Well drained	0	117.8
CsC	Cumberland silt loam, 6 to 12 percent slopes	Farmland of statewide importance	Well drained	0	9.7
CsD	Cumberland silt loam, 12 to 20 percent slopes	Not prime farmland	Well drained	0	5.7
CtD3	Cumberland silty clay loam, 12 to 20 percent slopes, severely eroded	Not prime farmland	Well drained	0	7.8

Map Symbol	Soil Map Unit Name	Prime Farmland Classification	Drainage Classification	Hydric Rating (%)	Acres within Project Area
Dn	Dunning silty clay loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	Very poorly drained	95	7.5
FdC	Fredonia-Rock outcrop complex, 6 to 20 percent slopes	Not prime farmland	Well drained	0	27.3
GnB	Gatton silt loam, 2 to 6 percent slopes	All areas are prime farmland	Moderately well drained	1	4.8
Hu	Huntington silt loam	Prime farmland if protected from flooding or not frequently flooded during the growing season	Well drained	0	8.6
Lc	Lawrence silt loam, 0 to 2 percent slopes, rarely flooded	Prime farmland if drained	Somewhat poorly drained	4	20.4
Mv	Melvin silt loam	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	Poorly drained	90	21.5
Nb	Newark silt loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	Somewhat poorly drained	2	112.4
No	Nolin silt loam, 0 to 2 percent slopes, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season	Well drained	2	5.3

Map Symbol	Soil Map Unit Name	Prime Farmland Classification	Drainage Classification	Hydric Rating (%)	Acres within Project Area
OtA	Otwood silt loam, 0 to 2 percetn slopes, rarely flooded	All areas are prime farmland	Moderately well drained	0	217.8
PmB	Pembroke silt loam, 2 to 6 percent slopes	All areas are prime farmland	Well drained	0	12.2
PmC	Pembroke silt loam, 6 to 12 percent slopes	Farmland of statewide importance	Well drained	0	77.3
SnB	Sonora silt loam, 2 to 6 percent slopes	All areas are prime farmland	Well drained	0	65.8
SnC	Sonora silt loam, 6 to 12 percent slopes	Farmland of statewide importance	Well drained	0	42.7
SnC3	Sonora silt loam, 6 to 12 percent slopes, severely eroded	Not prime farmland	Well drained	0	34.4
VtD3	Vertrees silty clay loam, 6 to 20 percent, severely eroded	Not prime farmland	Well drained	0	21.1
W	Water	Not prime farmland	-	0	3.8
WbD	Waynesboro loam, 12 to 20 percent slopes	Not prime farmland	Well drained	0	2.8

The Farmland Protection Policy Act (FPPA) is intended to minimize the effect that federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses, including solar projects. Farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. Most of the mapped soils within the Project Area are designated as prime farmland or farmland of statewide importance (17 out of 23). These soils also account for the large majority of acreage in the Project Area. In the event that ibV may seek to request federal funding for Project construction, consultation with the NRCS under the FPPA may be required.

3.2 Water Resources

3.2.1 Waters of the U.S.

According to the NWI[4] and NHD[5], both streams and wetlands are mapped within the Project Area (see Figure 7). The NWI and NHD mapping generally underestimates the extent of jurisdictional wetland resource areas, also known as Waters of the U.S. (WOTUS). However, a review of current and historical aerial imagery indicates that active agricultural areas of the Project Area, which comprise the majority of the area under review, have been farmed for at least the past several decades. Agricultural tiles were observed during the on-site assessment and appeared to be functioning to drain active agricultural areas. Therefore, the potential for current or relict hydric conditions within actively farmed areas is relatively low.

Based on the September 2019 site visit, the Project Area contains several linear ditches, wetland areas, and streams. The linear ditches function to drain the actively maintained fields. Although these ditches exhibit wetland characteristics (i.e. positive evidence for wetland hydrology, hydrophytic vegetation, and hydric soil), they do not display characteristics of a tributary (i.e. a continuous defined bed and bank system and ordinary high water mark indicators). In addition, the landowner provided information that many of the small waterbodies found on NWI and aerial imagery had been filled in to better accommodate the crops. Flow and standing water were observed in only one of the natural streams at the time of the site visit. For the purposes of this analysis, it should be assumed that these features would not be under the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) until field investigations and/or coordination with the USACE can confirm that these ditches meet their jurisdictional criteria.

Only one of the natural streams was observed holding water at the time of the September 2019 site visit. This is an unnamed tributary that flows through the center of the northern parcels and under Black Branch Road. The other natural streams were dry at the time of the site visit. Features shown on the NWI map as wetland were similarly dry. There are a few areas along the natural streams that showed characteristics of wetland features. Additional wetland areas beyond what is depicted on the NWI, NHD and FEMA Map (Figure 7) will likely be found during a formal delineation effort.

The USACE will likely claim jurisdiction of natural streams and wetland areas. Therefore, fill and dredge activities within these features, including the installation of culverts or other drainage structures, may be subject to USACE permitting requirements under Section 404 of the Clean Water Act (CWA). Many adjacent USACE districts have declined jurisdiction over man-made agricultural ditches that were not prior natural stream courses, even if they exhibit wetland conditions. It is therefore unlikely that the USACE will claim jurisdiction over agricultural ditches on-site, therefore CWA permitting for impacts to these features is not anticipated.

3.2.2 Navigable Waters

Section 10 of the Rivers and Harbors Act (RHA) regulates structures and/or construction activities that have the potential to obstruct or otherwise affect navigable water waters. These activities may include dredging, disposal of dredge material, filling, excavation, other disturbance to sediments, or modification of a navigable waterway. The Project does not intersect any designated navigable water. Therefore, a permit under Section 10 of the RHA is not required/not applicable.

3.2.3 Kentucky Wild Rivers

Under the Kentucky Wild Rivers Act of 1972, Kentucky conserves the visible land on each side of specific sections of nine rivers with "exceptional quality and aesthetic character". These nine river segments are located beyond the Project boundaries, therefore no action under this Act is required for the Project.

3.2.4 Flood Hazard Areas

Based on the FEMA map (Figure 7), no portion of the Project Area is designated to be within a potential flood hazard area.

3.3 Protected Species

3.3.1 Federally and State-Listed Protected Species

TRC reviewed the USFWS IPaC lists for the Project Area (Appendix B) and County lists of state-listed protected species from the Kentucky Department of Fish and Wildlife Resources[10] (Appendix C) for the potential presence of federal or state-listed protected species within the Project Area. Table 2 (below) provides a list of the federally and state-listed species that are known to occur or could potentially occur in the Project Area. Habitat descriptions for the species below were primarily obtained from the ecology and life history information available on the NatureServe Explorer database[9] for all protected species throughout the Project Area.

The classifications of the likelihood of a species occurring in the Project Area are as follows:

- ***Known to occur*** – the species has been documented in the Project Area by a reliable observer or a federal / state resource agency.
- ***May occur*** – the Project Area is located within the currently known range of the species, and suitable habitat conditions (vegetation communities, soils, etc.) are likely present within the region.

- ***Unlikely to occur*** – the Project Area is within the species' currently known range, but suitable habitat conditions (vegetation communities, soils, etc.) are not likely present within the region, or the Project area is clearly outside the species' currently known range.
- ***Does not occur*** – the species does not occur in the Project Area.

Table 2. Federally and State-Listed Species for the Project Area.

Common Name	Scientific Name	Federal Status	State Status	Habitat Type	Potential for Occurrence
Mammals					
Gray myotis[1,2]	*Myotis grisescens*	E	T	Roosts in caves exclusively	Unlikely to occur
Northern long-eared Bat[1,2]	*Myotis septentrionalis*	T	E	Tree cavities under bark (summer), caves and mines (winter)	May occur
Indiana Bat[1,2]	*Myotis sodalis*	E	E	Caves, mines, loose bark of dead or dying trees. Forages in riparian areas, upland forests, ponds, fields	May occur
Mollusks					
Snuffbox[1,2]	*Epioblasma triquetra*	E	E	Riffles of small and medium creeks, shoals in large rivers, wave washed shores of lakes	Unlikely to occur
Clubshell[2]	*Pleurobema clava*	n/a	E	Buried in fine gravel of small to medium streams	Unlikely to occur
Insects					
Rattlesnake-master Borer moth[1]	*Papaipema eryngii*	Candidate	E	Calcareous wet savanna	Unlikely to occur

E-Endangered, T-Threatened
[1]Listed on USFWS IPaC List for the Project Area
[2]Listed on the KDFW Protected Species List for Hardin County

Based on a comparison between habitat preferences and a review of habitats within the Project Area during the site visit in September of 2019, the following federally and state-listed protected species are unlikely to be of issue for the Project:

- **Northern long-eared bat and Indiana bat:** Both of these federally-protected bat species are known to roost in or around forested areas containing trees with cracks, crevices, cavities, and loose bark that are greater than or equal to three inches in diameter at breast height (dbh). The Project includes forested areas with trees in excess of three inches dbh that exhibit one or several of the aforementioned characteristics for roosting. There are also several barns not in use which could provide roosting habitat. No bats were observed during the Site visit; however, it should be noted that surveys for these species are typically conducted at night and require extensive desktop evaluation, acoustic equipment, netting, and a specialized knowledge of the behavior and habitat preferences of these species. Therefore, the presence of these species on the site cannot be excluded without further analysis or surveying. To avoid and/or minimize potential impacts to these species, TRC recommends early coordination with the USFWS Frankfort Field Office.

3.3.2 Migratory Birds

The Migratory Bird Treaty Act (MBTA), originally passed in 1918, implements the U.S. commitment to four (4) bilateral treaties, or conventions, for the protection of a shared migratory bird resource, protecting more than 800 species of birds. The protection of migratory birds is regulated by the MBTA and Bald and Golden Eagle Protection Act (BGEPA). Based on recent interpretation (Opinion M-37050) of the MBTA by the U.S. Department of the Interior, the take provision for migratory birds is restricted to intentional actions. The USFWS Frankfort Field Office is now applying this interpretation with respect to project-related activities such as clearing of vegetation within the breeding season. Since these activities are not designed to specifically take migratory birds, the USFWS has not imposed seasonal timing restrictions or required compensatory mitigation. This interpretation may be applied on a project-specific basis; therefore, TRC recommends early consultation with USFWS with respect to migratory birds.

The species listed by IPaC within the Project Area are detailed in Table 3, below. There are seven species listed within the Project Area.

Table 3. IPaC List of Migratory Bird Species and Species of Concern.

Common Name (Scientific Name)	Probability of Presence in Project Area	Breeding Season
Bald Eagle (*Haliaeetus leucocephalus*)	Feb-May	Breeds Sep – Jul 31

Table 3. IPaC List of Migratory Bird Species and Species of Concern.

Common Name (Scientific Name)	Probability of Presence in Project Area	Breeding Season
Henslow's Sparrow (*Ammodramus henslowii*)	June	Breeds May 1 – Aug 31
Kentucky Warbler (*Oporornis formosus*)	June	Breeds April 15 – Aug 25
Prairie Warbler (*Dendroica discolor*)	June	Breeds May 1 – Jul 31
Red-headed woodpecker (*Melanerpes erythrocephalus*)	June	Breeds May 10 – Sep 15
Rusty Blackbird (*Euphagus carolinus*)	Feb-Jun	Does not breed in project area
Wood Thrush (*Hylocichla mustelina*)	June	Breeds May 10 - Aug 31

3.4 Cultural Resources

3.4.1 Archaeological Sites

A review by the Kentucky Office of State Archaeology was completed to identify previously recorded cultural resources within and adjacent to the Project Area. The results of the background study found that there are no known archaeological sites or previous cultural studies conducted within the project area (Figure 8).

Other archaeological sites in the vicinity of the Project Area are included in Table 4 (below) and shown on Figure 8.

Table 4. Previously Recorded Archaeological Sites and Historic Structures Within the Vicinity of the Project Area

Site Label	National Register of Historic Places (NRHP) Status	Nearest distance from Project Area
15Hd1015	Inventory site (does not presently meet NRHP status)	~1.5 KM west of westernmost project area boundary
15Hd1020	Not assessed	~0.3 KM east of southernmost project area boundary
15Hd44	Not assessed	~1.0 KM east of southernmost project area boundary

Table 4. Previously Recorded Archaeological Sites and Historic Structures Within the Vicinity of the Project Area

Site Label	National Register of Historic Places (NRHP) Status	Nearest distance from Project Area
15Hd1021	Not assessed	~1.3 KM ESE from southernmost project area boundary
588610	Unknown	~0.5 KM north of northernmost project area boundary
NOTE: These locations are confidential and not for public release.		

3.5 Designated State and Federal Lands

A review of federal, state, or local governments; state-designated scenic byways; and protection easements based on the USGS GAP database[8] was conducted (Figure 5). The Project Area does not intersect any federal, state or local designated lands.

3.5.1 Airports

The Project does not propose a structure with a height in excess of 200 feet above ground level. Therefore, a Determination of No Hazard to Air Navigation from the Federal Aviation Administration (FAA) is not required. The nearest commercial airport, Addington Field, is located approximately 2.7 miles southwest of the Project Area near Elizabethtown, KY.

3.5.2 Landmarks and Parks

There are no landmarks, cultural boundaries, state parks, or local parks located in the vicinity of the Project Area. Further coordination for potential impacts to these resources is not likely required.

3.6 Local Regulations and Ordinances

3.6.1 Zoning Regulations and Re-zoning

The entirety of the Project Area is located within the Agricultural Zone (Zone A-1). Procedures for an application to rezone the property are outlined in detail in Section 4 of the 2009 Hardin County Development Guidance System Zoning Ordinance (henceforth "Zoning Ordinance") (http://www.hcpdc.com/pdf/ZONINGORDINANCE.pdf). An application to rezone the project location as Heavy Industrial (Zone I-2) will be required. The Application can be found on the Hardin County Planning and Development Commission Website (http://www.hcpdc.com/formpdf/Application%20for%20Map%20Amendment.pdf).

Following the submittal of a complete application, which includes submission of a rezoning application, a public hearing will need to be held at which time parties of interest can submit their input on the re-zoning application. A full description of the application review process is outlined in Section 4.1 of the Zoning Ordinance referenced above.

A Building and Electrical Permit, detailed in Section 13 of the Zoning Ordinance, will be required prior to the start of construction activities (application available at http://www.hcpdc.com/formpdf/Electrical%20Permit%20Application.pdf). Depending on the layout and technical specifications of the Project design, additional standards related to signage, landscaping, and lighting may be required. Particularly, Hardin County mandates landscape planting strips along the frontage of public street rights-of-ways. Several options regarding the composition of landscape strips are permittable, the details of which are provided in Section 10 of the Zoning Ordinance referenced above.

3.6.2 Hardin County Code of Ordinances

TRC conducted a review of the Hardin County Code of Ordinances[10] for ordinances potentially applicable to the construction and operation of the Project. Ordinance 239 and Ordinance 304 (Appendix D) mandate that a Best Management Practices (BMP) plan be developed for activities during and following Project construction. The construction and post-construction BMP plans must be submitted to the County prior to Project construction.

4.0 ENVIRONMENTAL PERMITS / CLEARANCES

There are multiple federal, state, and local permits and clearances that may be required for the Project. The key agencies involved in the review / oversight of the Project and their associated jurisdictions are summarized below. Appendix A includes a complete list of permits, authorizations, and consultations likely required for the Project.

4.1 Federal Agencies

- **USACE** – Permits under Section 404 of the Clean Water Act may be required. The Project is located within the USACE Louisville District. Provided that the ditch, stream, and wetland features present in the Project Area qualify for USACE jurisdiction, permitting may be required for culvert installation or other crossing activities. These impacts can most likely be authorized through one or more Nationwide Permits (NWPs), depending on the nature and location of the activity. Potential nationwide permit types include NWP 12 for Utility Line Activities (maximum loss of ½ acres of WOTUS) and NWP 51 for Land-Based Renewable Energy Generation Facilities (maximum loss of ½ acre of WOTUS and/or 300 linear feet of stream). If these crossing impacts cannot be reduced through site layout modification or bridges, an Individual Permit (IP), which does not establish a maximum impact threshold, would

be required from USACE which can take up to one (1) year to acquire based on current staff workload within the USACE District Office.

- **USFWS** – Review and clearance for federally-listed species and migratory birds would be coordinated through the USFWS Frankfort Ecological Services Field Office. If a Section 404 is required, the USACE will coordinate with the USFWS as part of their permit application review; therefore, the client should resolve any potential protected species issues early in the process to avoid potential permitting delays. The USACE authorization(s) cannot be issued until the USFWS review process has been completed.
- **Environmental Protection Agency (EPA)** – If the Project stores and/or uses oil above threshold quantities, a Spill Prevention, Control and Countermeasures (SPCC) Plan would be required to be prepared in accordance with 40 CFR 112 and maintained on-site during construction.

  Additionally, authorization under the National Pollutant Discharge Elimination System (NPDES) Permit must be obtained and a Storm Water Pollution Prevention Plan (SWP3) prepared prior to construction activities.

4.2 Kentucky State Agencies

- **KDFW** - Early coordination with the KDFW is advised in the event that impacts to species listed by the KDFW are anticipated.

- **Kentucky Department for Environmental Protection (KDEP)** - The KDEP administers the EPA's NPDES program within the state (otherwise known as the Kentucky Pollutant Discharge Elimination System). Any required water quality permits will be applied for and obtained through the KDEP.

- **Kentucky Division of Water (DOW)** - The Project will require an individual CWA Section 401 Water Quality Certification (WQC). A 401 WQC is required before the USACE can issue a Section 404 permit.

- **Kentucky SHPO –** The results of the background study found that there are no known archaeological sites or previous cultural studies conducted within the project area.

- **Kentucky Public Service Commission (PSC)** – A Notice of Intent (NOI) and an Application for Certificate from the PSC's State Board on Electric Generation and Transmission Siting approval is required for merchant plants with a generating capacity of 10 megawatts or more and for non-regulated transmission lines capable of carrying 69,000 volts or more.

- **PSC** – A Certificate of Convenience and Necessity is required for construction of any plant, equipment, property, or facility for providing a utility service or utility to the public. A 'utility' is defined as *the generation, production, transmission, or distribution of electricity to or for the public, for compensation, for lights, heat, power, or other uses.*

- **Kentucky Transportation Cabinet (KTC)** - Access to State Highways 86 and 1764 and U.S. Highway 62 will require a State Roadway Access permit which is obtained through the Regional KTC Department of Highways District 4 office.

4.3 Local Agencies and Authorities

- **Hardin County Planning and Development Commission** – A request to have property that is currently zoned agricultural rezoned as heavy industrial must first approved by the County. Once rezoning has been approved, a Building and Electrical Permit must be obtained from the County. Landscape planting strips along the frontage of public street rights-of-ways must also be incorporated into the Project design.
- **Hardin County Engineering Department** - Two BMP plans, one during construction and one to address post-construction erosion and sedimentation, must be submitted to and approved by the County Engineer.

5.0 SUMMARY OF CONSTRAINTS / ISSUES

The following is a list of potential constraints and / or issues that may be encountered during execution of the Project:

- **Wetland/Stream Surveys –** Impacts to waters under USACE Louisville District jurisdiction may trigger permitting actions under Section 404 of the CWA, particularly impacts to streams and wetlands. TRC recommends utilizing separate permit actions for the utility line crossings and culvert installations, as needed, to avoid an IP and minimize the permitting schedule.

- **Federal and State Protected Species –** Impacts to federally and state-listed protected species are not anticipated as a result of the Project. However, impacts to suitable protected species habitat should be avoided where possible. Consultation with the USFWS and KDFW may be required depending on the amount and severity of protected species habitat loss. If avoidance is not possible, additional consultation, species-specific surveys, and impact mitigation will likely be required.

- **Local Authorizations/Permits –** Rezoning Approval, Building and Electrical Permit, and landscape planting strips will be required through Hardin County.

- **Hardin County Engineer –** Two BMP plans, one during construction and one to address post-construction erosion and sedimentation, must be submitted and approved by the County Engineer.

- **Coordinated Regulatory Review –** Coordinated reviews at both the federal and state levels will be important to maintain Project schedule and ensure a consistent application of regulations.

- **USACE –** The Louisville District is currently handling heavy workloads. TRC strongly recommends participating in a pre-application meeting with the USACE before submitting a permit application to present and discuss the project. Also, TRC recommends submitting a complete wetland delineation report and permit application as early as possible due to the long processing times.

6.0 LITERATURE CITED

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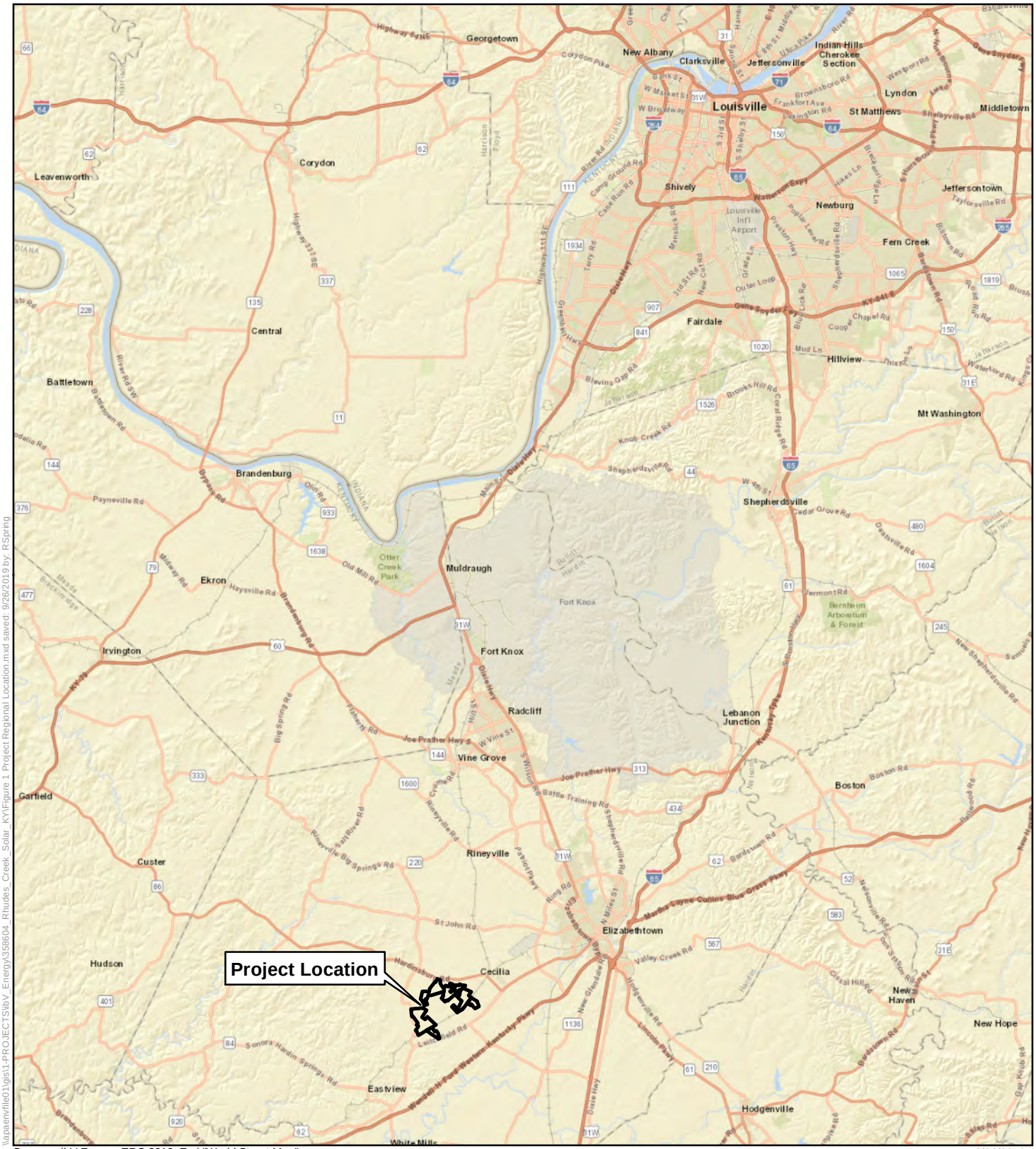
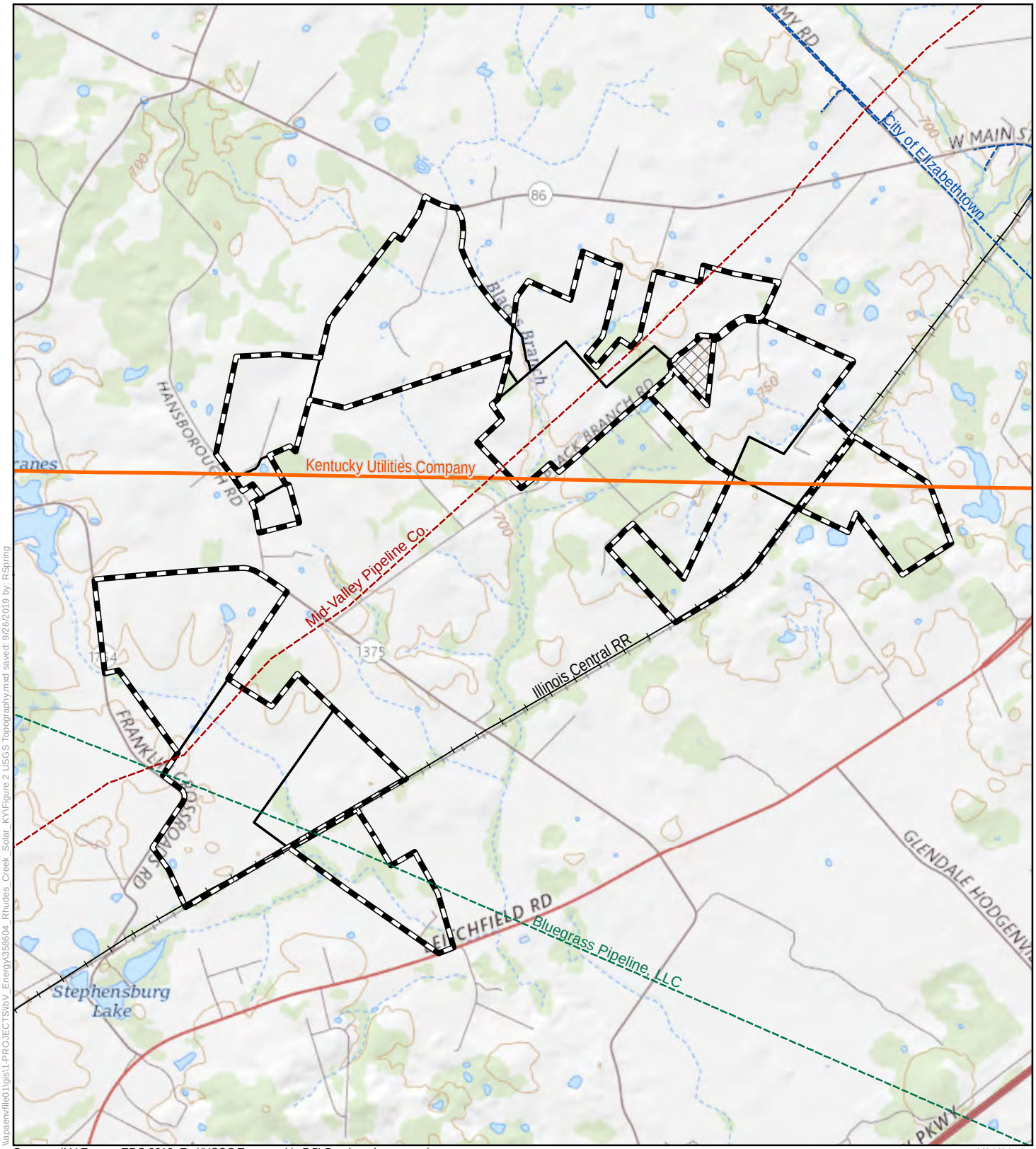
FIGURES


Project Location
Georgetown
New Albany
Clarksville
Jeffersonville
Indian Hills Cherokee Section
Louisville
Lyndon
St Matthews
Middletown
Corydon
Leavenworth
Shively
Jeffersontown
Newburg
Fern Creek
Central
Fairdale
Hillview
Battletown
Mt Washington
Brandenburg
Shepherdsville
Ekron
Muldraugh
Fort Knox
Irvington
Radcliff
Lebanon Junction
Vine Grove
Boston
Garfield
Custer
Rineyville
Elizabethtown
Hudson
Cecilia
New Haven
New Hope
Eastview
Hodgenville
Sources: ibV Energy, TRC 2019, Esri "World Street Map"
9/26/2019
Project Location
N
1:400,000
0
5
10
Miles
TRC
ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky
Project Regional Location
Figure 1



Sources: ibV Energy, TRC 2019, Esri/USGS Topographic 7.5' Quadrangle map series.

9/26/2019

- Project Area
- Parcel Boundary
- Outparcel (Not part of Project Area)
- Crude Oil Pipeline
- Natural Gas Pipeline
- Other Liquid Pipeline
- Existing 345 kV Electrical Transmission Line
- Existing Railroad

N

1:31,680
1 inch = 2,640 feet
1 inch = 0.5 miles
(when printed 8.5x11)

0 ¼ ½ Miles

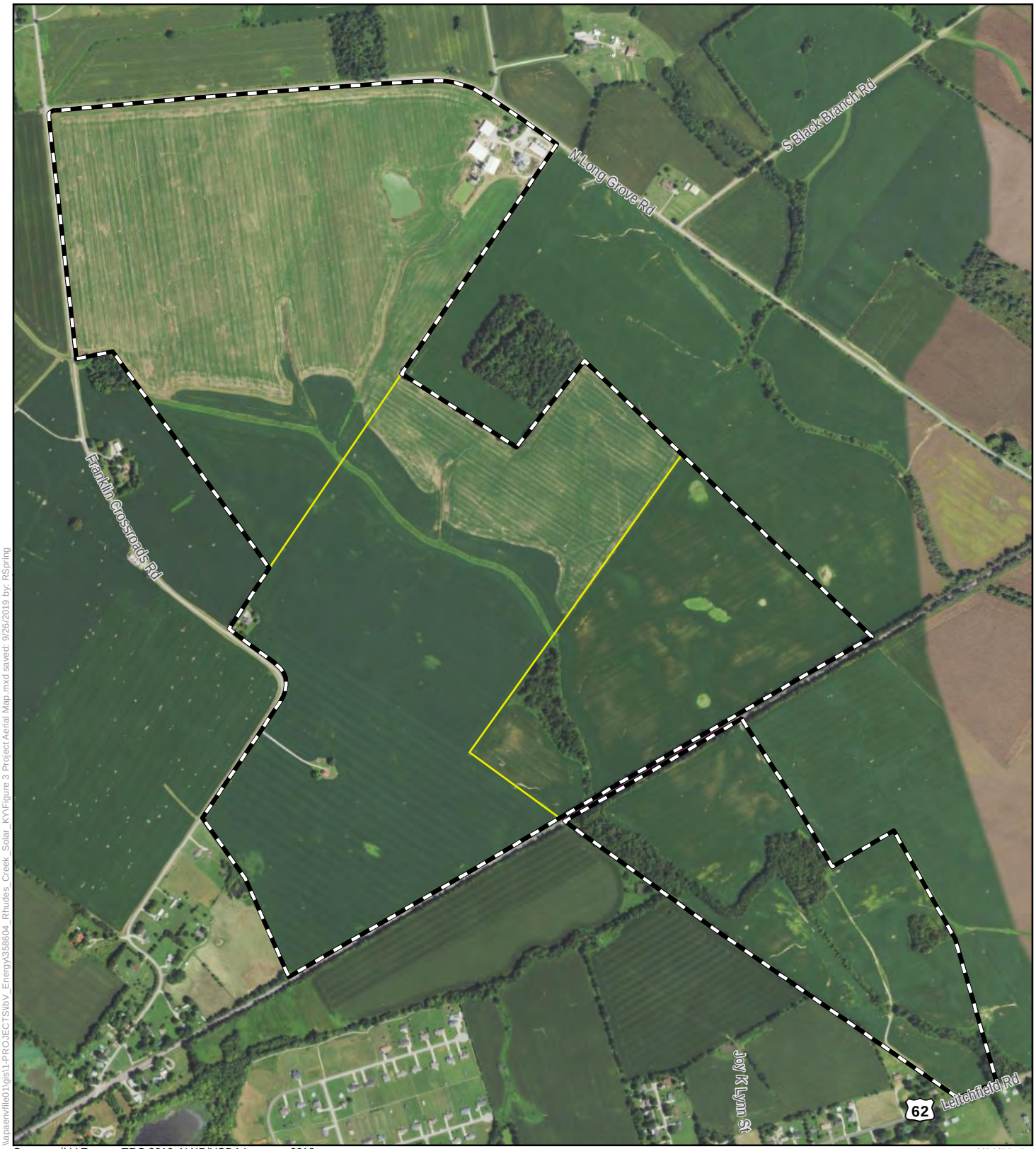
TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

USGS Topography

Figure 2

\\apanmfile01\gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 2 USGS Topography.mxd saved: 9/26/2019 by: RSpring



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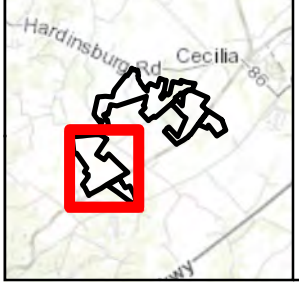
Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

1:12,000
1 inch = 1,000 feet
(when printed 8.5x11)

0 500 1,000
Feet

TRC

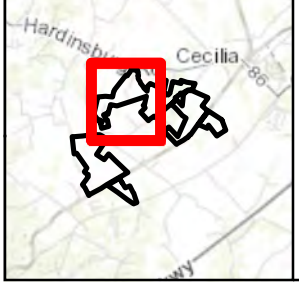
ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Aerial
Figure 3
Sheet 1 of 3

\\apaenvfile01\gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 3 Project Aerial Map.mxd saved: 9/26/2019 by: RSpring

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

1:12,000
1 inch = 1,000 feet
(when printed 8.5x11)

0 500 1,000
Feet

TRC

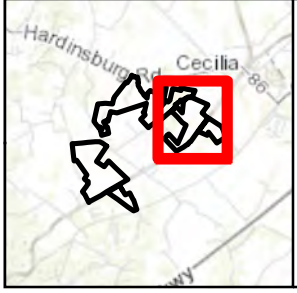
ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Aerial
Figure 3
Sheet 2 of 3

\\apanvfile01\gis\1.PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 3 Project Aerial Map.mxd saved: 9/26/2019 by: RSpring

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

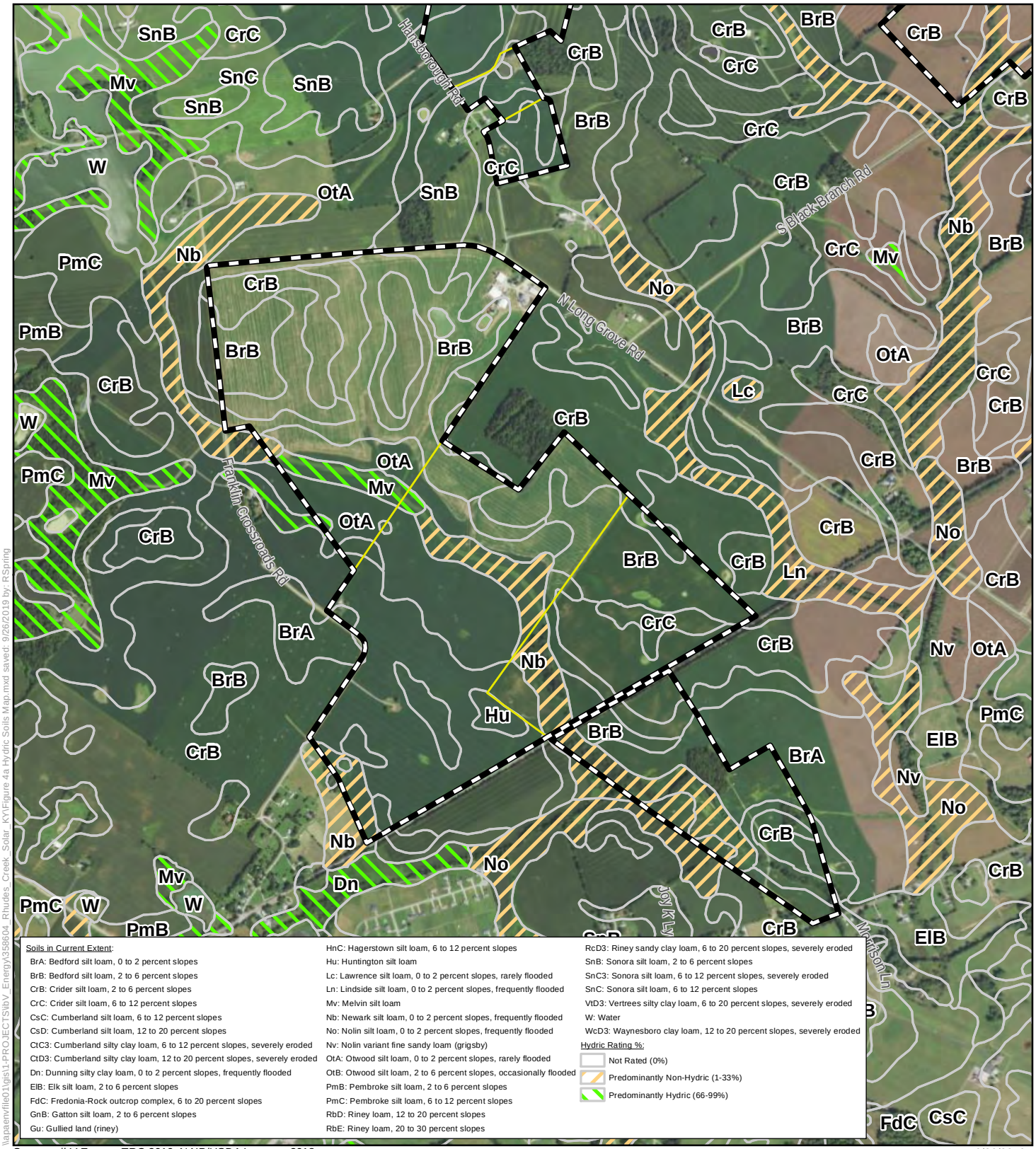
1:12,000
1 inch = 1,000 feet
(when printed 8.5x11)

0 500 1,000
Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Aerial
Figure 3
Sheet 3 of 3



Soils in Current Extent:

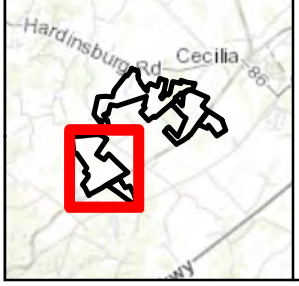
- BrA: Bedford silt loam, 0 to 2 percent slopes
- BrB: Bedford silt loam, 2 to 6 percent slopes
- CrB: Crider silt loam, 2 to 6 percent slopes
- CrC: Crider silt loam, 6 to 12 percent slopes
- CsC: Cumberland silt loam, 6 to 12 percent slopes
- CsD: Cumberland silt loam, 12 to 20 percent slopes
- CtC3: Cumberland silty clay loam, 6 to 12 percent slopes, severely eroded
- CtD3: Cumberland silty clay loam, 12 to 20 percent slopes, severely eroded
- Dn: Dunning silty clay loam, 0 to 2 percent slopes, frequently flooded
- ElB: Elk silt loam, 2 to 6 percent slopes
- FdC: Fredonia-Rock outcrop complex, 6 to 20 percent slopes
- GnB: Gatton silt loam, 2 to 6 percent slopes
- Gu: Gullied land (riney)
- HnC: Hagerstown silt loam, 6 to 12 percent slopes
- Hu: Huntington silt loam
- Lc: Lawrence silt loam, 0 to 2 percent slopes, rarely flooded
- Ln: Lindside silt loam, 0 to 2 percent slopes, frequently flooded
- Mv: Melvin silt loam
- Nb: Newark silt loam, 0 to 2 percent slopes, frequently flooded
- No: Nolin silt loam, 0 to 2 percent slopes, frequently flooded
- Nv: Nolin variant fine sandy loam (grigsby)
- OtA: Otwood silt loam, 0 to 2 percent slopes, rarely flooded
- OtB: Otwood silt loam, 2 to 6 percent slopes, occasionally flooded
- PmB: Pembroke silt loam, 2 to 6 percent slopes
- PmC: Pembroke silt loam, 6 to 12 percent slopes
- RbD: Riney loam, 12 to 20 percent slopes
- RbE: Riney loam, 20 to 30 percent slopes
- RcD3: Riney sandy clay loam, 6 to 20 percent slopes, severely eroded
- SnB: Sonora silt loam, 2 to 6 percent slopes
- SnC3: Sonora silt loam, 6 to 12 percent slopes, severely eroded
- SnC: Sonora silt loam, 6 to 12 percent slopes
- VtD3: Vertrees silty clay loam, 6 to 20 percent slopes, severely eroded
- W: Water
- WcD3: Waynesboro clay loam, 12 to 20 percent slopes, severely eroded

Hydric Rating %:

- Not Rated (0%)
- Predominantly Non-Hydric (1-33%)
- Predominantly Hydric (66-99%)

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

1:18,000
1 inch = 1,500 feet
(when printed 8.5x11)

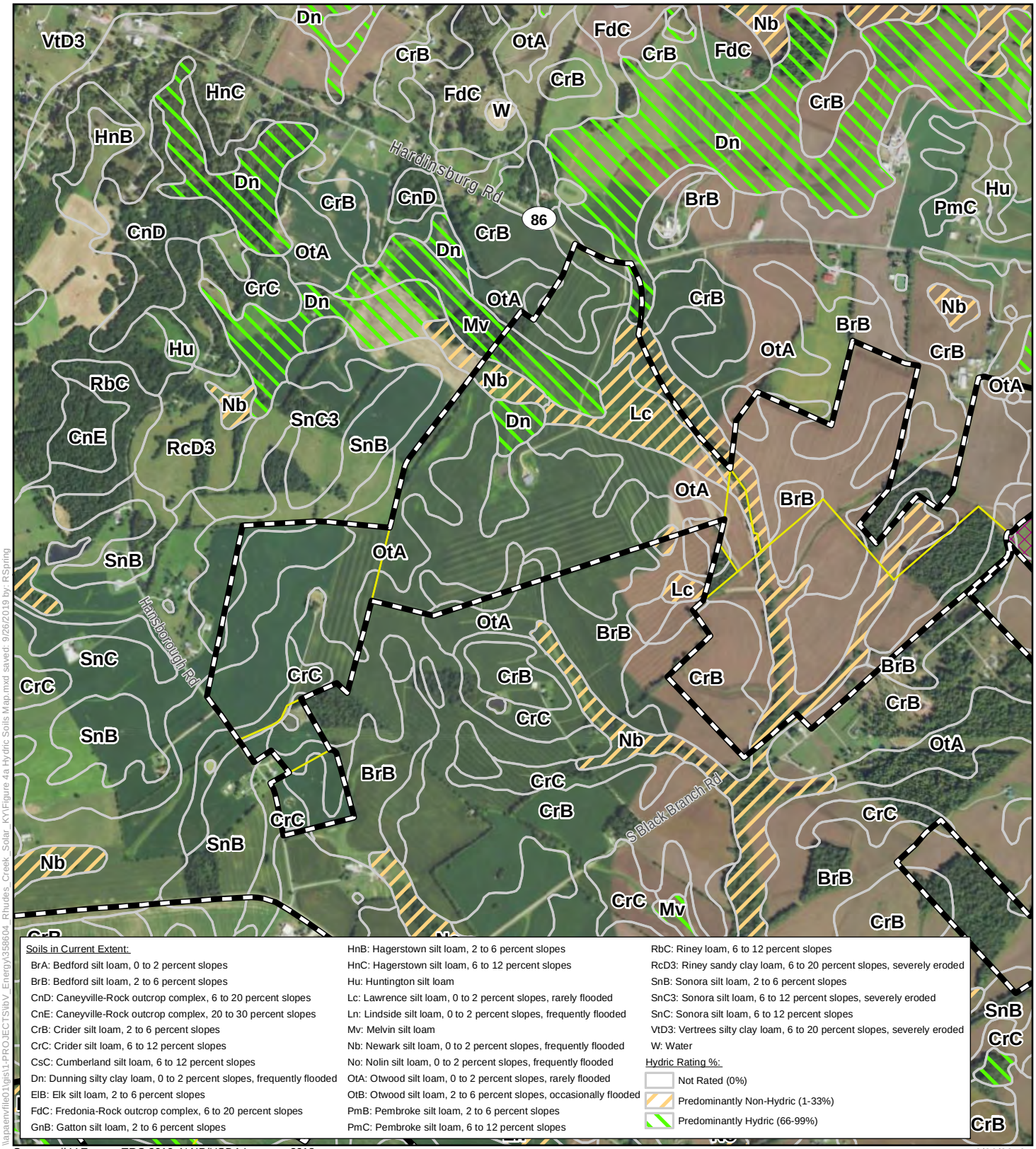
0 750 1,500
Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

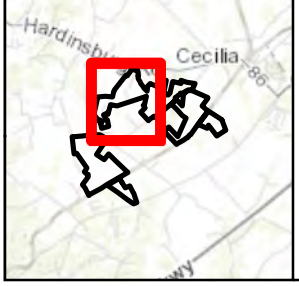
Hydric Soils
Figure 4a
Sheet 1 of 3

\\apanenvfile01\gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 4a Hydric Soils Map.mxd saved: 9/26/2019 by: RSpring



Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

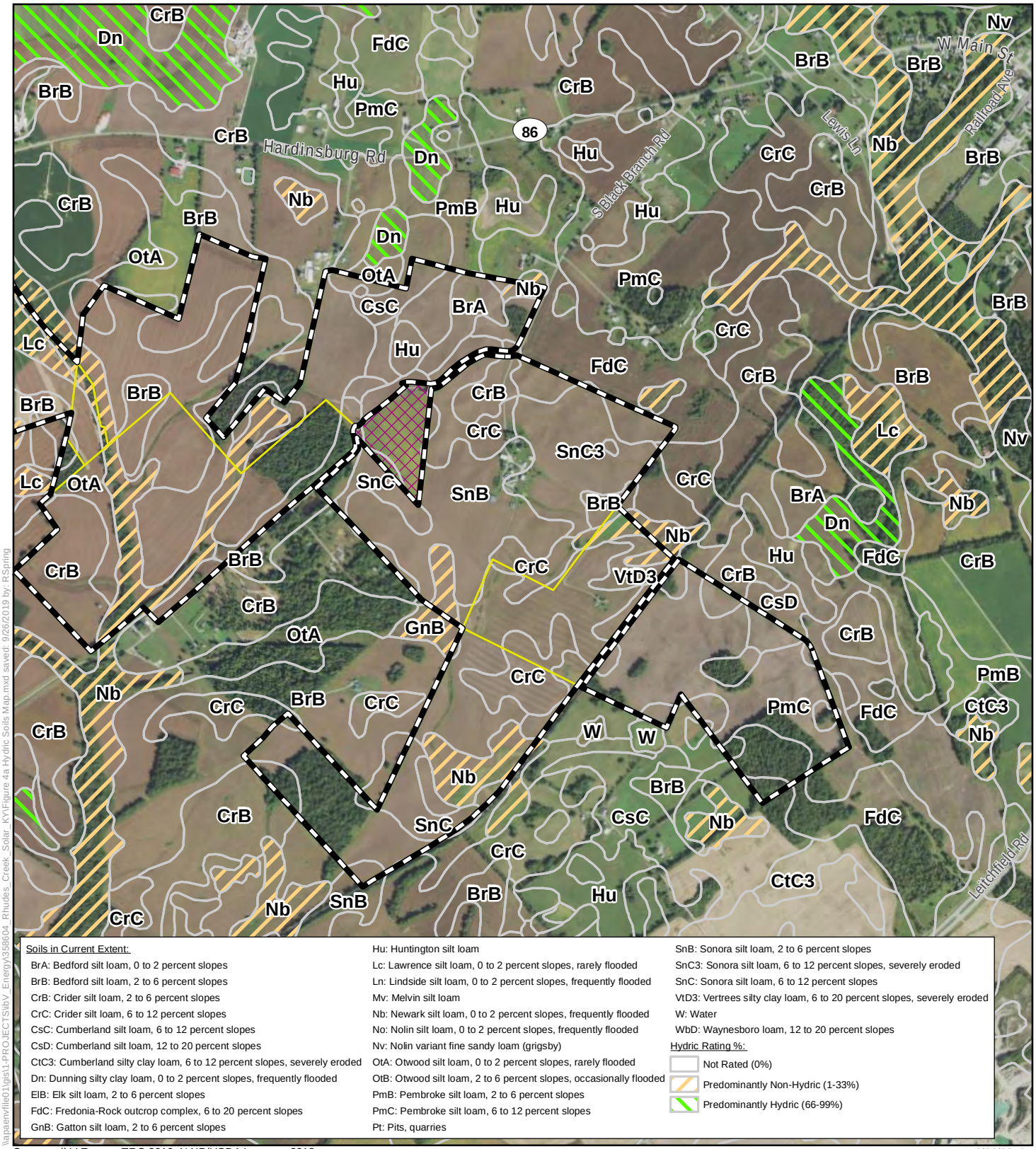
1:18,000
1 inch = 1,500 feet
(when printed 8.5x11)

0 750 1,500
Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

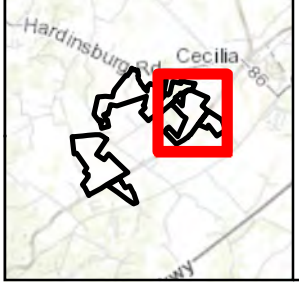
Hydric Soils
Figure 4a
Sheet 2 of 3



Soils in Current Extent:		
BrA: Bedford silt loam, 0 to 2 percent slopes	Hu: Huntington silt loam	SnB: Sonora silt loam, 2 to 6 percent slopes
BrB: Bedford silt loam, 2 to 6 percent slopes	Lc: Lawrence silt loam, 0 to 2 percent slopes, rarely flooded	SnC3: Sonora silt loam, 6 to 12 percent slopes, severely eroded
CrB: Crider silt loam, 2 to 6 percent slopes	Ln: Lindside silt loam, 0 to 2 percent slopes, frequently flooded	SnC: Sonora silt loam, 6 to 12 percent slopes
CrC: Crider silt loam, 6 to 12 percent slopes	Mv: Melvin silt loam	VtD3: Vertrees silty clay loam, 6 to 20 percent slopes, severely eroded
CsC: Cumberland silt loam, 6 to 12 percent slopes	Nb: Newark silt loam, 0 to 2 percent slopes, frequently flooded	W: Water
CsD: Cumberland silt loam, 12 to 20 percent slopes	No: Nolin silt loam, 0 to 2 percent slopes, frequently flooded	WbD: Waynesboro loam, 12 to 20 percent slopes
CtC3: Cumberland silty clay loam, 6 to 12 percent slopes, severely eroded	Nv: Nolin variant fine sandy loam (grigsby)	Hydric Rating %:
Dn: Dunning silty clay loam, 0 to 2 percent slopes, frequently flooded	OtA: Otwood silt loam, 0 to 2 percent slopes, rarely flooded	Not Rated (0%)
ElB: Elk silt loam, 2 to 6 percent slopes	OtB: Otwood silt loam, 2 to 6 percent slopes, occasionally flooded	Predominantly Non-Hydric (1-33%)
FdC: Fredonia-Rock outcrop complex, 6 to 20 percent slopes	PmB: Pembroke silt loam, 2 to 6 percent slopes	Predominantly Hydric (66-99%)
GnB: Gatton silt loam, 2 to 6 percent slopes	PmC: Pembroke silt loam, 6 to 12 percent slopes	
	Pt: Pits, quarries	

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

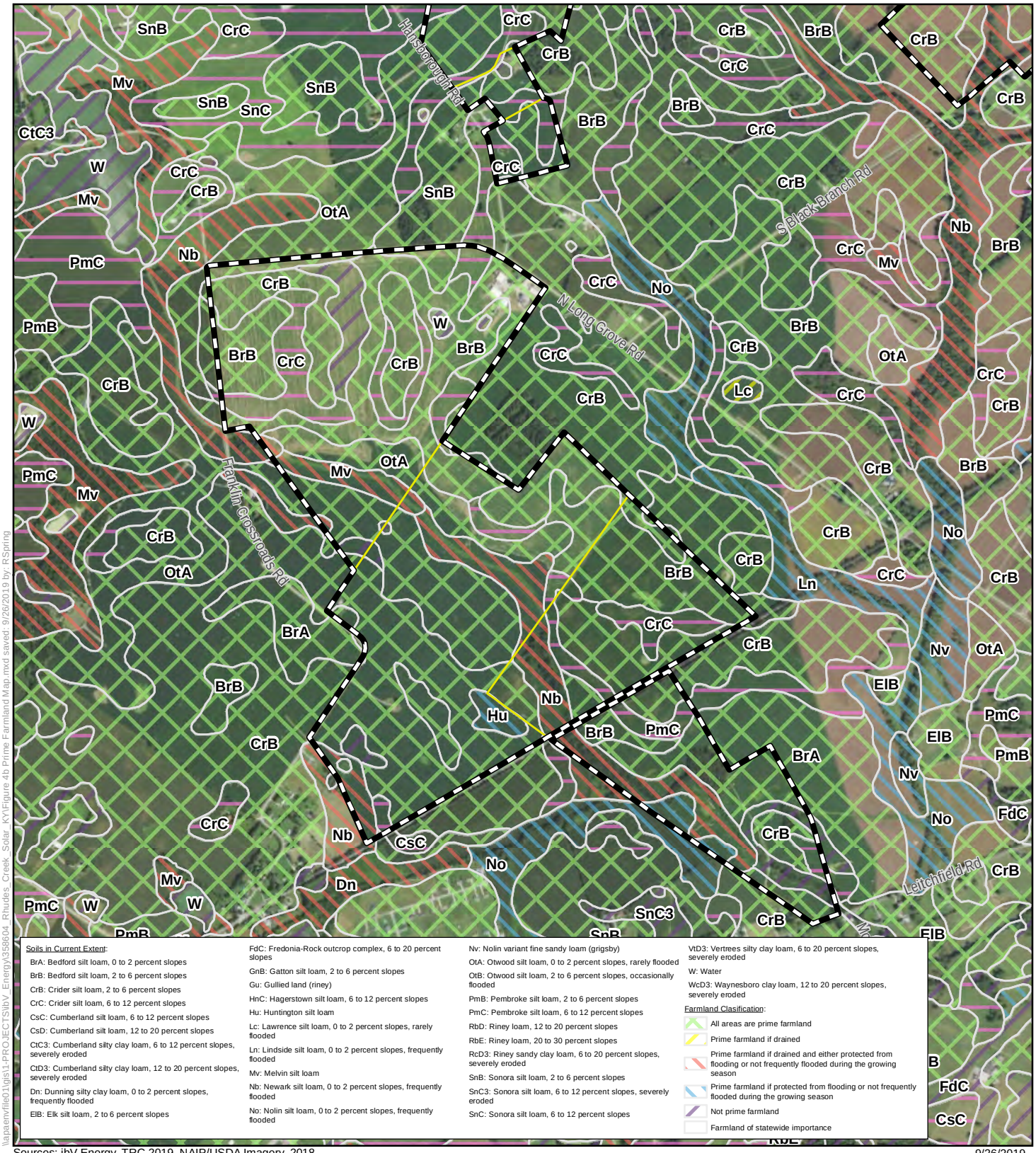
1:18,000
1 inch = 1,500 feet
(when printed 8.5x11)

0 750 1,500
Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Hydric Soils
Figure 4a
Sheet 3 of 3



Soils in Current Extent:

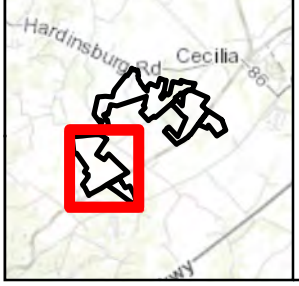
- BrA: Bedford silt loam, 0 to 2 percent slopes
- BrB: Bedford silt loam, 2 to 6 percent slopes
- CrB: Crider silt loam, 2 to 6 percent slopes
- CrC: Crider silt loam, 6 to 12 percent slopes
- CsC: Cumberland silt loam, 6 to 12 percent slopes
- CsD: Cumberland silt loam, 12 to 20 percent slopes
- CtC3: Cumberland silty clay loam, 6 to 12 percent slopes, severely eroded
- CtD3: Cumberland silty clay loam, 12 to 20 percent slopes, severely eroded
- Dn: Dunning silty clay loam, 0 to 2 percent slopes, frequently flooded
- EIB: Elk silt loam, 2 to 6 percent slopes
- FdC: Fredonia-Rock outcrop complex, 6 to 20 percent slopes
- GnB: Gatton silt loam, 2 to 6 percent slopes
- Gu: Gullied land (riney)
- HnC: Hagerstown silt loam, 6 to 12 percent slopes
- Hu: Huntington silt loam
- Lc: Lawrence silt loam, 0 to 2 percent slopes, rarely flooded
- Ln: Lindside silt loam, 0 to 2 percent slopes, frequently flooded
- Mv: Melvin silt loam
- Nb: Newark silt loam, 0 to 2 percent slopes, frequently flooded
- No: Nolin silt loam, 0 to 2 percent slopes, frequently flooded
- Nv: Nolin variant fine sandy loam (grigsby)
- OtA: Otwood silt loam, 0 to 2 percent slopes, rarely flooded
- OtB: Otwood silt loam, 2 to 6 percent slopes, occasionally flooded
- PmB: Pembroke silt loam, 2 to 6 percent slopes
- PmC: Pembroke silt loam, 6 to 12 percent slopes
- RbD: Riney loam, 12 to 20 percent slopes
- RbE: Riney loam, 20 to 30 percent slopes
- RcD3: Riney sandy clay loam, 6 to 20 percent slopes, severely eroded
- SnB: Sonora silt loam, 2 to 6 percent slopes
- SnC3: Sonora silt loam, 6 to 12 percent slopes, severely eroded
- SnC: Sonora silt loam, 6 to 12 percent slopes
- VtD3: Vertrees silty clay loam, 6 to 20 percent slopes, severely eroded
- W: Water
- WcD3: Waynesboro clay loam, 12 to 20 percent slopes, severely eroded

Farmland Clasification:

- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Not prime farmland
- Farmland of statewide importance

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

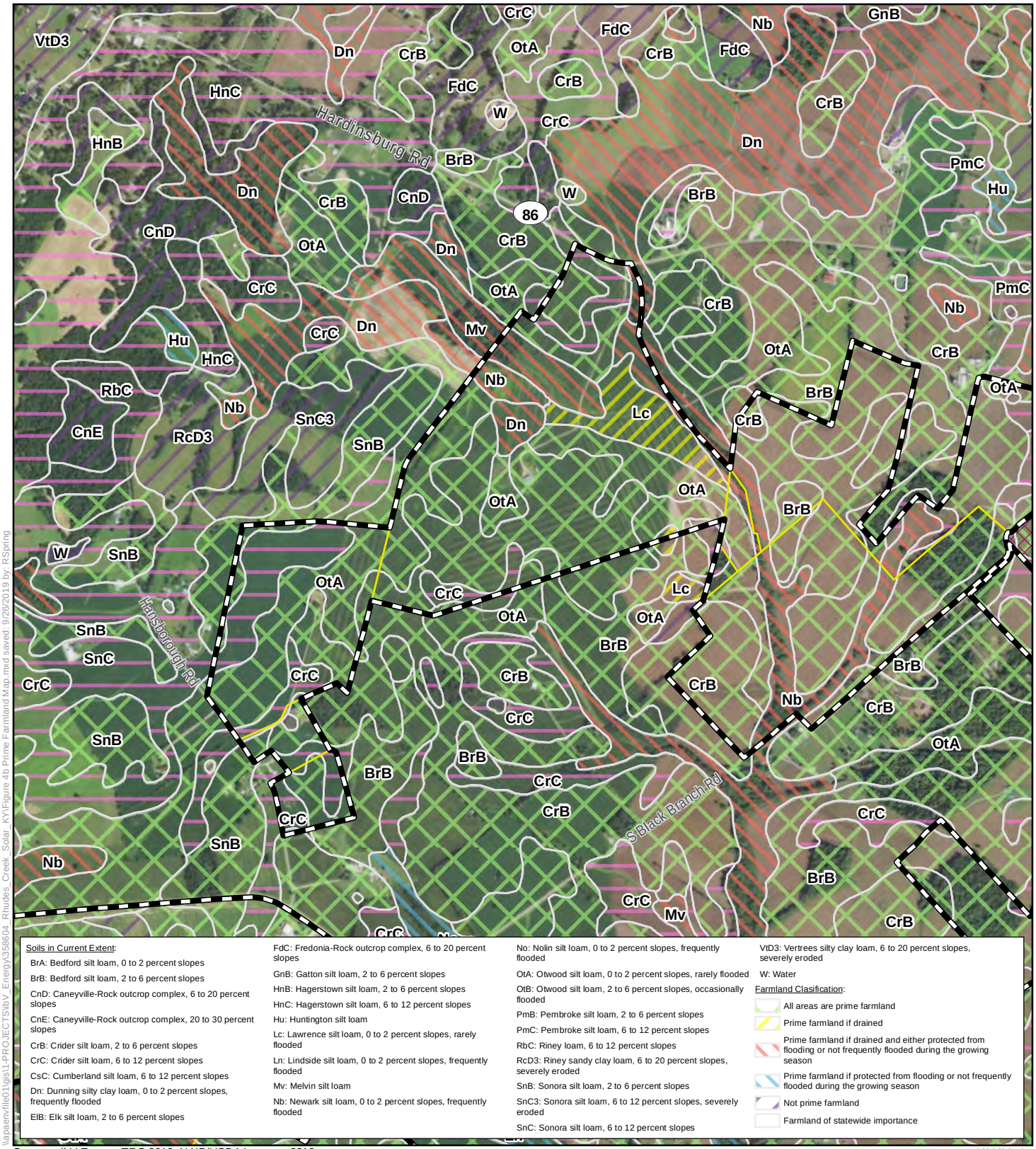
1:18,000
1 inch = 1,500 feet
(when printed 8.5x11)

0 750 1,500
Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Prime Farmland
Figure 4b
Sheet 1 of 3



Soils in Current Extent:

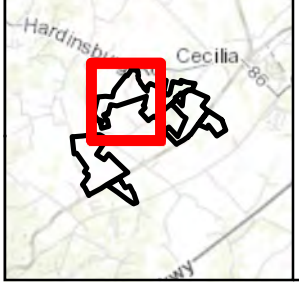
- BrA: Bedford silt loam, 0 to 2 percent slopes
- BrB: Bedford silt loam, 2 to 6 percent slopes
- CnD: Caneyville-Rock outcrop complex, 6 to 20 percent slopes
- CnE: Caneyville-Rock outcrop complex, 20 to 30 percent slopes
- CrB: Crider silt loam, 2 to 6 percent slopes
- CrC: Crider silt loam, 6 to 12 percent slopes
- CsC: Cumberland silt loam, 6 to 12 percent slopes
- Dn: Dunning silty clay loam, 0 to 2 percent slopes, frequently flooded
- ElB: Elk silt loam, 2 to 6 percent slopes
- FdC: Fredonia-Rock outcrop complex, 6 to 20 percent slopes
- GnB: Gatton silt loam, 2 to 6 percent slopes
- HnB: Hagerstown silt loam, 2 to 6 percent slopes
- HnC: Hagerstown silt loam, 6 to 12 percent slopes
- Hu: Huntington silt loam
- Lc: Lawrence silt loam, 0 to 2 percent slopes, rarely flooded
- Ln: Lindside silt loam, 0 to 2 percent slopes, frequently flooded
- Mv: Melvin silt loam
- Nb: Newark silt loam, 0 to 2 percent slopes, frequently flooded
- No: Nolin silt loam, 0 to 2 percent slopes, frequently flooded
- OtA: Otwood silt loam, 0 to 2 percent slopes, rarely flooded
- OtB: Otwood silt loam, 2 to 6 percent slopes, occasionally flooded
- PmB: Pembroke silt loam, 2 to 6 percent slopes
- PmC: Pembroke silt loam, 6 to 12 percent slopes
- RbC: Riney loam, 6 to 12 percent slopes
- RcD3: Riney sandy clay loam, 6 to 20 percent slopes, severely eroded
- SnB: Sonora silt loam, 2 to 6 percent slopes
- SnC3: Sonora silt loam, 6 to 12 percent slopes, severely eroded
- SnC: Sonora silt loam, 6 to 12 percent slopes
- VtD3: Vertrees silty clay loam, 6 to 20 percent slopes, severely eroded
- W: Water

Farmland Clasification:

- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Not prime farmland
- Farmland of statewide importance

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

1:18,000
1 inch = 1,500 feet
(when printed 8.5x11)

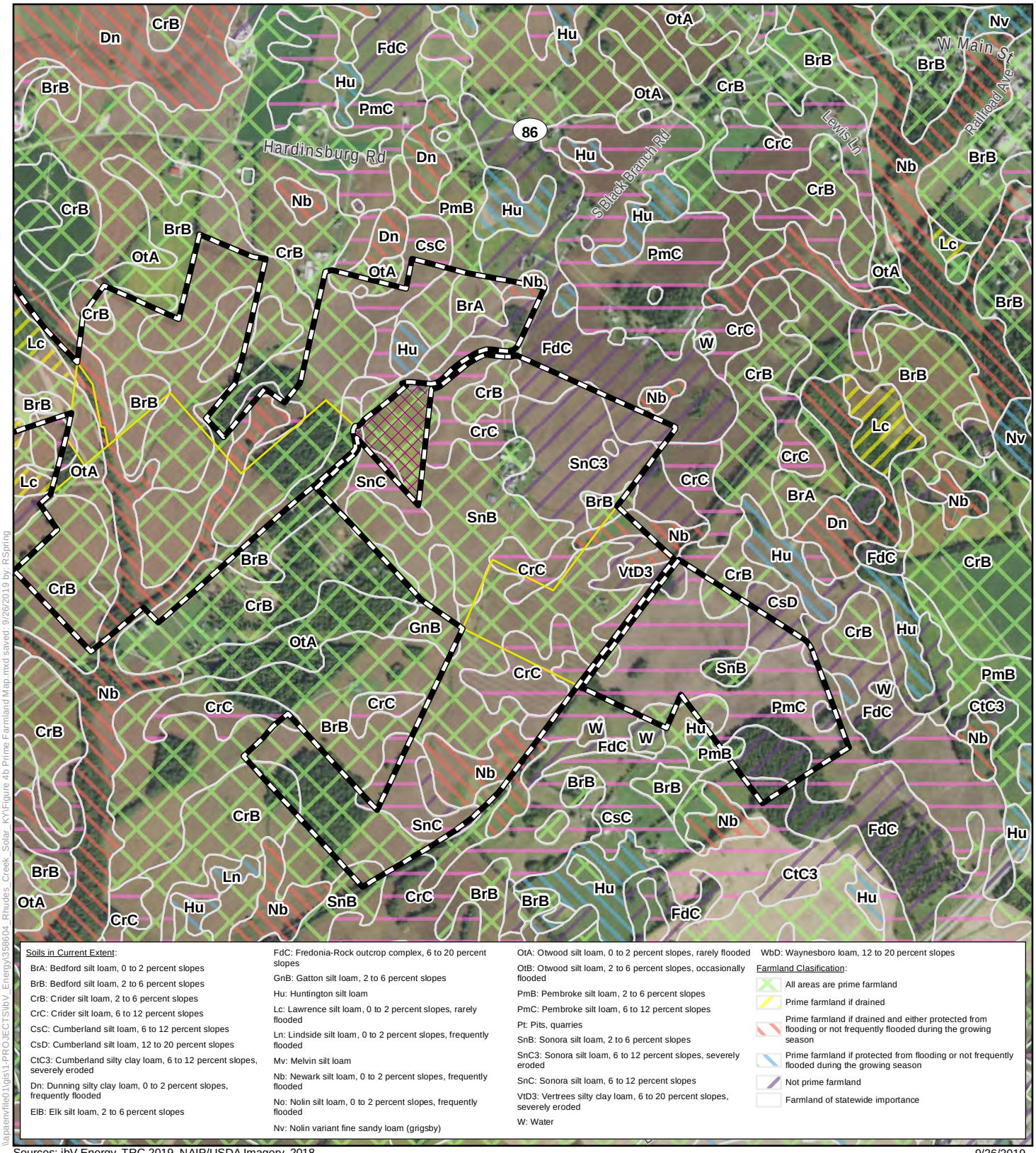
0 750 1,500 Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Prime Farmland
Figure 4b
Sheet 2 of 3

\\apanenville01gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 4b Prime Farmland Map.mxd saved: 9/26/2019 by: RSpring



Soils in Current Extent:

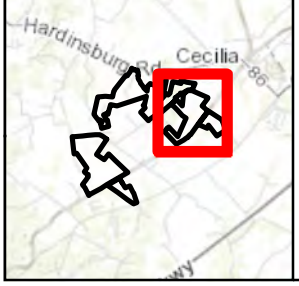
- BrA: Bedford silt loam, 0 to 2 percent slopes
- BrB: Bedford silt loam, 2 to 6 percent slopes
- CrB: Crider silt loam, 2 to 6 percent slopes
- CrC: Crider silt loam, 6 to 12 percent slopes
- CsC: Cumberland silt loam, 6 to 12 percent slopes
- CsD: Cumberland silt loam, 12 to 20 percent slopes
- CtC3: Cumberland silty clay loam, 6 to 12 percent slopes, severely eroded
- Dn: Dunning silty clay loam, 0 to 2 percent slopes, frequently flooded
- ElB: Elk silt loam, 2 to 6 percent slopes
- FdC: Fredonia-Rock outcrop complex, 6 to 20 percent slopes
- GnB: Gatton silt loam, 2 to 6 percent slopes
- Hu: Huntington silt loam
- Lc: Lawrence silt loam, 0 to 2 percent slopes, rarely flooded
- Ln: Lindside silt loam, 0 to 2 percent slopes, frequently flooded
- Mv: Melvin silt loam
- Nb: Newark silt loam, 0 to 2 percent slopes, frequently flooded
- No: Nolin silt loam, 0 to 2 percent slopes, frequently flooded
- Nv: Nolin variant fine sandy loam (grigsby)
- OtA: Otwood silt loam, 0 to 2 percent slopes, rarely flooded
- OtB: Otwood silt loam, 2 to 6 percent slopes, occasionally flooded
- PmB: Pembroke silt loam, 2 to 6 percent slopes
- PmC: Pembroke silt loam, 6 to 12 percent slopes
- Pt: Pits, quarries
- SnB: Sonora silt loam, 2 to 6 percent slopes
- SnC3: Sonora silt loam, 6 to 12 percent slopes, severely eroded
- SnC: Sonora silt loam, 6 to 12 percent slopes
- VtD3: Vertrees silty clay loam, 6 to 20 percent slopes, severely eroded
- W: Water
- WbD: Waynesboro loam, 12 to 20 percent slopes

Farmland Clasification:

- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Not prime farmland
- Farmland of statewide importance

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/26/2019



Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

1:18,000
1 inch = 1,500 feet
(when printed 8.5x11)

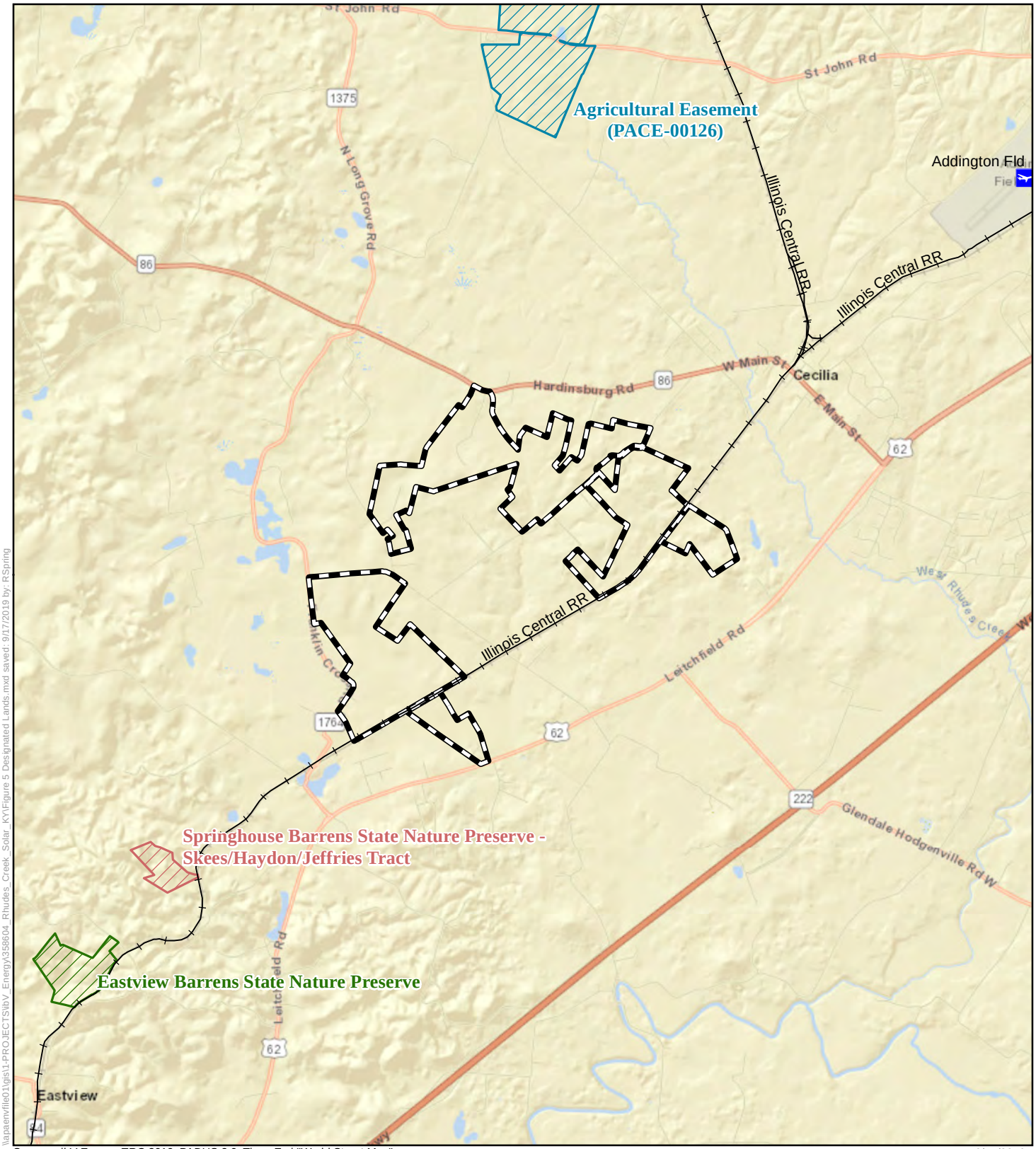
0 750 1,500 Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Prime Farmland
Figure 4b
Sheet 3 of 3

\\apanenvfile01\gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 4b Prime Farmland Map.mxd saved: 9/26/2019 by: RSpring



\\apanemville01gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 5 Designated Lands.mxd saved: 9/17/2019 by: RSpring

Sources: ibV Energy, TRC 2019, PADUS 2.0, Tiger, Esri "World Street Map"

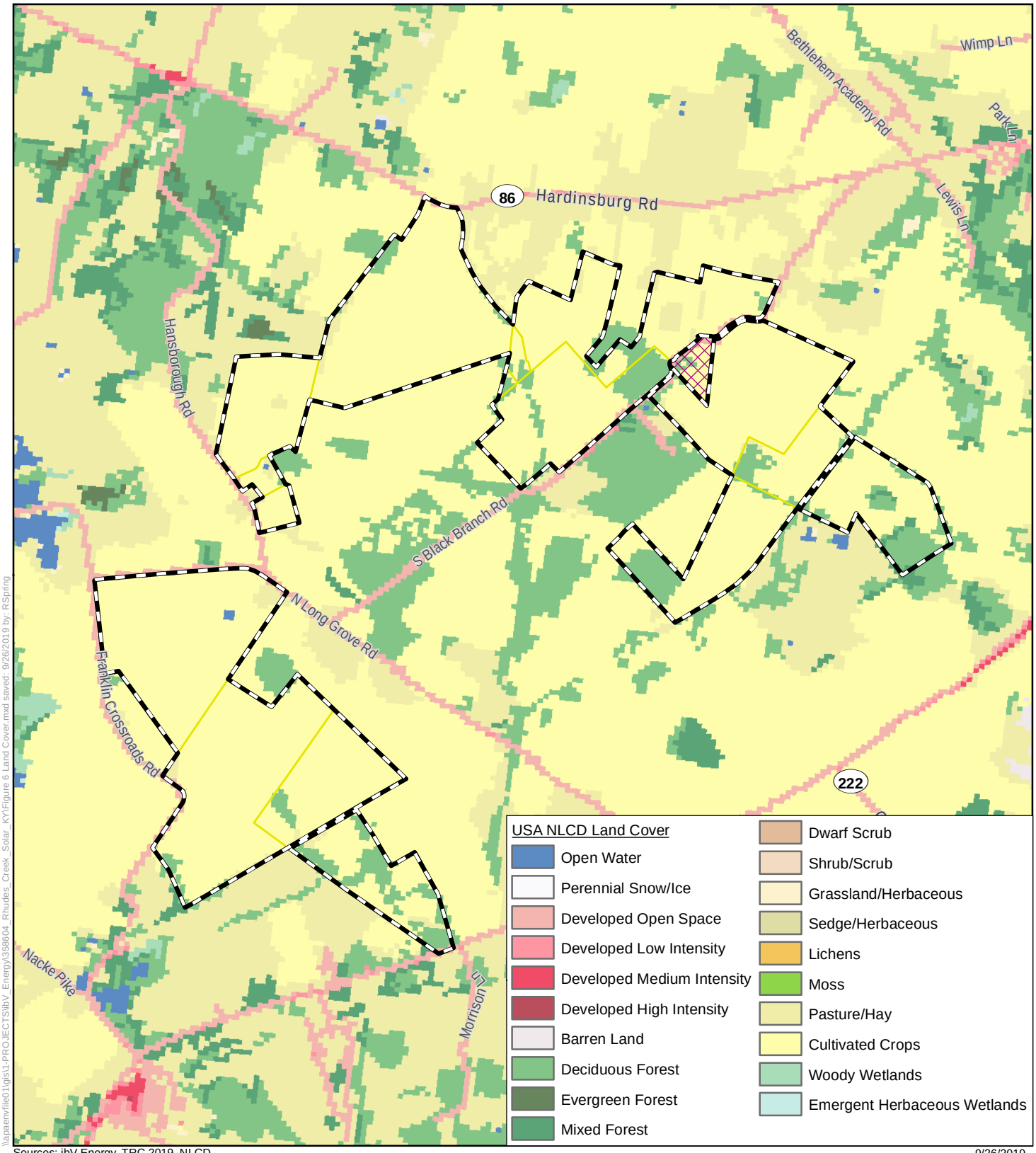
9/17/2019

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Designated Lands

Figure 5



\\apanevfile01\gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 6 Land Cover.mxd saved: 9/26/2019 by: RSpring

Sources: ibV Energy, TRC 2019, NLCD

9/26/2019

Project Area

Parcel Boundary

Outparcel (Not part of Project Area)

N

1:31,680
1 inch = 2,640 feet
(when printed 8.5x11)

0 ¼ ½ Miles

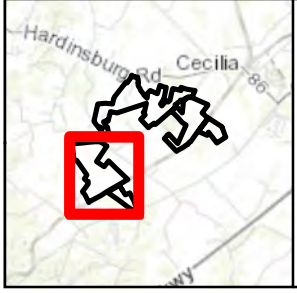
TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

Figure 6
Land Cover

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/18/2019



- Project Area
- Parcel Boundary
- Outparcel (Not part of Project Area)
- NHD Flowline
- NHD Waterbody

NWI Type:

- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Riverine

N

1:12,000
1 inch = 1,000 feet
(when printed 8.5x11)

0 500 1,000 Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

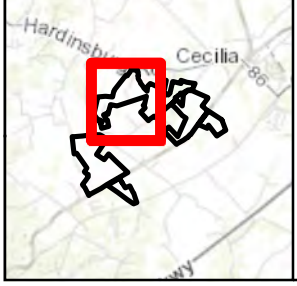
NWI, NHD, FEMA
Figure 7
Sheet 1 of 3

\\apaenvfile01\gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 7 NWI, NHD, FEMA.mxd saved: 9/18/2019 by: RSpring

\\apaenvfile01\gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 7 NWI, NHD, FEMA.mxd saved: 9/18/2019 by: RSpring

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/18/2019



- Project Area
- Parcel Boundary
- NHD Flowline
- NHD Waterbody

NWI Type:

- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Riverine

N

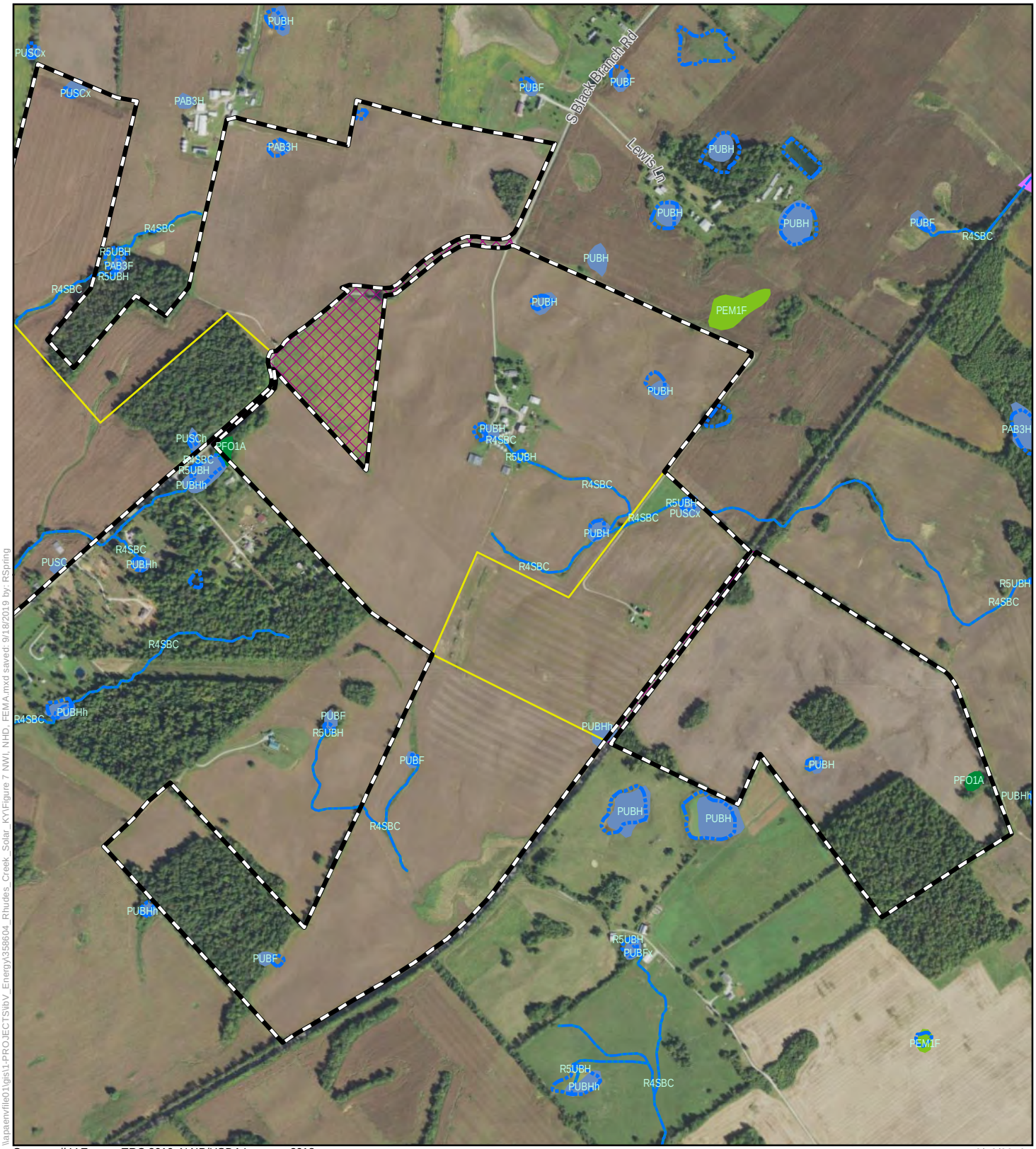
1:12,000
1 inch = 1,000 feet
(when printed 8.5x11)

0 500 1,000 Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

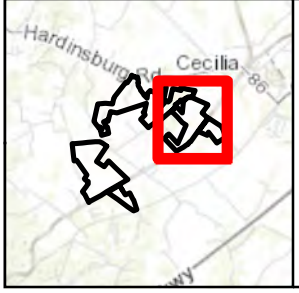
NWI, NHD, FEMA
Figure 7
Sheet 2 of 3



\\apanevfile01\gis1\PROJECTS\ibV_Energy\359604_Rhudes_Creek_Solar_KY\Figure 7 NWI, NHD, FEMA.mxd saved: 9/18/2019 by: RSpring

Sources: ibV Energy, TRC 2019, NAIP/USDA Imagery, 2018.

9/18/2019



- Project Area
- Parcel Boundary
- Outparcel (Not part of Project Area)
- NHD Flowline
- NHD Waterbody
- 1% Chance/100-Year Floodplain

NWI Type:

- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Riverine

N

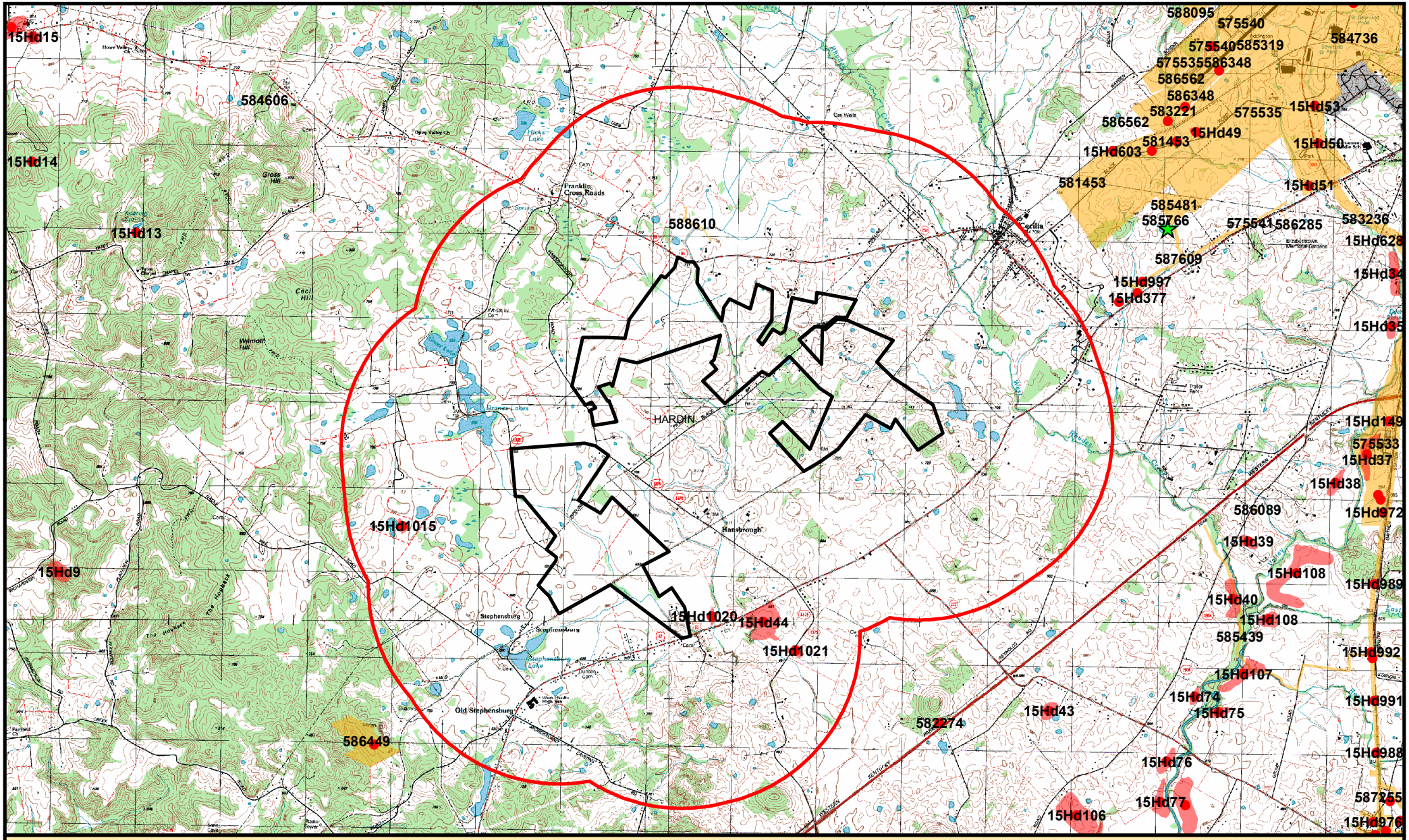
1:12,000
1 inch = 1,000 feet
(when printed 8.5x11)

0 500 1,000 Feet

TRC

ibV Energy Partners
Rhudes Creek Solar Project
Hardin County, Kentucky

NWI, NHD, FEMA
Figure 7
Sheet 3 of 3



Preliminary Sites

Archaeological Site Boundaries

Unconfirmed Archaeological Site Boundaries

Archaeological Project Areas

Phase II/III Project Areas

Project Area Submitted to OSA

2KM Buffer of Project Area

0 0.5 1 2 3 4 Kilometers

N

Figure 8: Cultural Resource Review
FY20-10405
Proposed Solar Farm, Hardin County, Kentucky

Kentucky Office of State Archaeology
University of Kentucky, 1020A Export Street, Lexington, KY 40506
phone: 859-257-8207 email: ky-osa@uky.edu

Confidential Information: Not for Public Release

APPENDIX A

Environmental Permit Matrix

Rhudes Creek Solar, Hardin County, Kentucky
Environmental Permit Matrix

Potential Permits/Clearances That Could be Required for the Project				
Federal				
Permit/Clearance	**Regulatory Agency**	**When Required**	**Potential Studies & Application Requirements**	**Estimated Agency Review***
Section 404 of the Clean Water Act (CWA)	U.S. Army Corps of Engineers (USACE), Louisville District	Individual Permit: A Section 404 permit is needed when activities involving dredging, excavation or filling occur within jurisdictional wetlands or waters of the U.S. When activities impact greater than one-half acre of wetlands an individual permit is required. Nationwide or General Permit: If the impacts are one-half acre or less, authorization under a Nationwide permit may be possible. For basic culvert installations or other crossing activities, impacts can most likely be authorized through one or more Nationwide Permits (NWPs), depending on the nature and location of the activity. Potential nationwide permit types include NWP 12 for Utility Line Activities (maximum loss of ½ acres of WOTUS) and NWP 51 for Land-Based Renewable Energy Generation Facilities (maximum loss of ½ acre of WOTUS and/or 300 linear feet of stream).	A Jurisdictional Determination (JD) is required to identify wetlands and waters of the United States. A wetlands delineation must be performed to request a JD from the Corps of Engineers. Pre-construction notification (PCN) Mitigation is required for the unavoidable impacts to jurisdictional wetlands. Under mitigation sequencing, impacts should first be avoided or minimized to the maximum extent practicable.	Individual Permit – 12 to 18 months Nationwide Permit – 5 to 6 months
No Hazard to Air Navigation/ Obstruction Evaluation	Federal Aviation Administration (FAA) & Kentucky Airport Zoning Commission (KAZC)	For any construction or alterations which may affect navigable airspace, the applicant must file a Notice of Proposed Construction or Alteration (FAA Form 7460-1) with the FAA. The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference 14 CFR Part 77.9.	Additional studies are not likely. The nearest commercial airport, Addington Field, is located approximately 2.7 miles southwest of the project area near Elizabethtown, KY. It is recommended to contact KAZC to confirm no studies required during the site design process.	30 to 90 days

Potential Permits/Clearances That Could be Required for the Project				
Federal				
Permit/Clearance	**Regulatory Agency**	**When Required**	**Potential Studies & Application Requirements**	**Estimated Agency Review***
Endangered Species Act (ESA) - Federal Rare, Threatened & Endangered (T&E) Species Consultation	U.S. Fish and Wildlife Service (USFWS)	When an activity may affect federally listed threatened and endangered species and critical habitats. Preliminary screening of the Study Area on the USFWS Information, Planning and Conservation (IPaC) system will indicate potential T&E species in the vicinity of the Project Area.	USFWS IPaC Screening Habitat assessment Consultation with USFWS Biological assessment of potential impacts Species-specific surveys Note: The USACE 404 authorization(s) cannot be issued until the USFWS review process has been completed.	60 to 90 days
Migratory Bird Treaty Act (MBTA) & Bald and Golden Eagle Protection Act (BGEPA)	USFWS	The MBTA "makes it illegal to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid Federal permit." <u>Note:</u> An April 11, 2018 U.S. Dept of Interior Fish & Wildlife Service Guidance Memorandum clarifies the recent M-Opinion. It concludes that the take of birds resulting from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not to take birds. MBTA's prohibitions on take apply when the purpose of an action is to take migratory birds, their eggs, or their nests. Conversely, the take of birds, eggs or nests occurring as the result of an activity, the purpose of which is not to take birds, eggs or nests, is not prohibited by the MBTA.	Habitat assessment Consultation with USFWS Avian nest surveys (if agencies request) Note: The USACE 404 authorization(s) cannot be issued until the USFWS review process has been completed.	60 to 90 days

Potential Permits/Clearances That Could be Required for the Project				
State				
Permit/Clearance	**Regulatory Agency**	**When Required**	**Potential Studies & Application Requirements**	**Estimated Agency Review***
Kentucky Pollutant Discharge Elimination System Permit (KPDES)	Kentucky Energy and Environment Cabinet	Required for discharges of storm water from construction activities (including clearing, grading, excavation operations, and/or adding fill material) that that disturb 5 acres or more of total land area	Permit requires submittal of a Notice of Intent (NOI) as well as preparation of a Storm Water Pollution Prevention Plan (SWPPP). Note that the SWPPP must be prepared prior to submittal of the NOI.	60 to 90 days for preparation of SWPPP and NOI Typically 30 days for authorization from Agency.
Kentucky Threatened and Endangered (T&E) Species Consultation	Kentucky Department of Fish and Wildlife (KDFW)	Review and clearance for state-listed threatened and endangered species would be coordinated through the KDFW.	Preliminary review of Kentucky's Natural Heritage Program database of threatened and endangered species of plants and animals and natural communities. Consultation with KDFW.	30 to 90 days
Clean Water Act (CWA) Section 401 Water Quality Certification (WQC)	Kentucky Division of Water (DOW) USACE, Louisville District	For projects that will result in the discharge of dredged or fill material into Waters of the U.S. Section 404 of the Clean Water Act requires a state water quality certification stating federal permit activities comply with all applicable water quality standards, limitations, and restrictions.	All individual permits require a Water Quality Certification. For Nationwide Permits, regional conditions will specify if a blanket WQC has been granted or whether a WQC is required.	12 to 18 months (concurrent with USACE permit)
Section 106 - National Historic Preservation Act of 1966 (NHPA) Compliance	Kentucky Office of Cultural Development State Historic Preservation Office (SHPO)	Review and clearance for the proposed Project as it relates to known cultural resources, would be coordinated through the KY SHPO (and other federal agencies, such as USACE, if applicable).	Preliminary review (desktop review) of the Kentucky Division of Historic Preservation's National Register Database, referred to as a "Preliminary Site Check". Consultation letter with proposed project description and desktop findings sent to KY SHPO for project review. Phase I Cultural Resources Survey (CRS) may be required to	30 to 90 days

Potential Permits/Clearances That Could be Required for the Project				
State				
Permit/Clearance	**Regulatory Agency**	**When Required**	**Potential Studies & Application Requirements**	**Estimated Agency Review***
			identify historic properties [sites listed or eligible for listing on the National Register of Historic Places (NRHP)] in the area of potential effects (APE). If the CRS finds that no historic properties are present or affected, the report and support documentation is provided to the SHPO and, barring any objection in 30 days, proceeds with its undertaking. If the historic properties are present, proceed to assess possible adverse effects.	
State Roadway Access permit	Kentucky Transportation Cabinet (KTC) – Department of Highways, District 4	Access to State Highways 86 and 1764 as well as US Highway 62 will require a State Roadway Access permit.	KTC Highway Encroachment Application, consisting of completed Permit Application Form and all designs/drawings following the KTC application Permit manual.	6 to 9 months
Notice of Intent (NOI) and Application for Certification from the State Board on Electric Generation and Transmission Siting	Kentucky Public Service Commission (PSC)	Required for merchant plants with a generating capacity of 10 megawatts or more and for non-regulated transmission lines capable of carrying 69,000 volts or more	Permit requires submittal of a Notice of Intent (NOI) as well as a permit application. A Public Hearing will be required if requested by any interested city or county entity or by at least three local residents.	NOI – Submitted 30 days prior to submittal of application. Decision made within 120 days of receipt of Application
Certificate of Convenience and Necessity		Required for construction of any plant, equipment, property, or facility for providing a utility service or utility to the public. A 'utility' is defined as the generation, production, transmission, or distribution of electricity to or for the public, for compensation, for lights, heat, power, or other uses.	Similar to above, Certificate requires submittal of a Notice of Intent (NOI) as well as a application. Application process includes an optional Public Hearing if an interested party request one.	NOI – Submitted 30 days prior to submittal of application. Final decision issued within 90 days of receipt of Application

Potential Permits/Clearances Required for the Project				
Local / County				
Permit/Clearance	**Regulatory Agency**	**When Required**	**Potential Studies & Application Requirements**	**Estimated Agency Review***
Re-Zone and Construction BMP Plan	Hardin County Planning and Development Commission	Rezoning is required when the current property is not authorized for the proposed new land use. The project area is located within the Agricultural Zone (Zone A-1). According to Section 4 of the 2009, an application to rezone the project area as Heavy Industrial (Zone I-2) will be required. Once the zoning change is approved and during the site design phase, a construction Best Management Practices (BMP) plan will need to be submitted to the County for approval.	Re-Zone application: (http://www.hcpdc.com/formpdf/Application%20for%20Map%20Amendment.pdf) Construction BMP Plan following Ordinance 239 and 304 of the Hardin County Code of Ordinances.	3 to 6 months

*Estimated timelines for the permits are based on permit processing guidelines provided by the agencies, where available, following receipt of a complete application.

APPENDIX B

IPaC List for Project Area

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
Phone: (502) 695-0468 Fax: (502) 695-1024
http://www.fws.gov/frankfort/

In Reply Refer To:
Consultation Code: 04EK1000-2019-SLI-1551
Event Code: 04EK1000-2019-E-04503
Project Name: Rhudes Creek Solar

September 03, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Your concern for the protection of endangered and threatened species is greatly appreciated. The purpose of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.) (ESA) is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. The species list attached to this letter fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the ESA to provide information as to whether any proposed or listed species may be present in the area of a proposed action. This is not a concurrence letter; additional consultation with the Service may be required.

The Information in Your Species List:

The enclosed species list identifies federal trust species and critical habitat that may occur within the boundary that you entered into IPaC. For your species list to most accurately represent the species that may potentially be affected by the proposed project, the boundary that you input into IPaC should represent the entire "action area" of the proposed project by considering all the potential "effects of the action," including potential direct, indirect, and cumulative effects, to federally-listed species or their critical habitat as defined in 50 CFR 402.02. This includes effects of any "interrelated actions" that are part of a larger action and depend on the larger action for their justification and "interdependent actions" that have no independent utility apart from the action under consideration (e.g.; utilities, access roads, etc.) and future actions that are reasonably certain to occur as a result of the proposed project (e.g.; development in response to a new road). If your project is likely to have significant indirect effects that extend well beyond the project footprint (e.g., long-term impacts to water quality), we highly recommend that you

coordinate with the Service early to appropriately define your action area and ensure that you are evaluating all the species that could potentially be affected.

We must advise you that our database is a compilation of collection records made available by various individuals and resource agencies available to the Service and may not be all-inclusive. This information is seldom based on comprehensive surveys of all potential habitats and, thus, does not necessarily provide conclusive evidence that species are present or absent at a specific locality. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please note that “critical habitat” refers to specific areas identified as essential for the conservation of a species that have been designated by regulation. Critical habitat usually does not include all the habitat that the species is known to occupy or all the habitat that may be important to the species. Thus, even if your project area does not include critical habitat, the species on the list may still be present.

Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and associated information. To re-access your project in IPaC, go to the IPaC web site (https://ecos.fws.gov/ipac/), select “Need an updated species list?”, and enter the consultation code on this letter.

ESA Obligations for Federal Projects:

Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

If a Federal project (a project authorized, funded, or carried out by a federal agency) may affect federally-listed species or critical habitat, the Federal agency is required to consult with the Service under section 7 of the ESA, pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). Recommended contents of a Biological Assessment are described at 50 CFR 402.12. For projects other than major construction activities, the Service suggests that a biological evaluation

similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat.

ESA Obligations for Non-federal Projects:

Proposed projects that do not have a federal nexus (non-federal projects) are not subject to the obligation to consult under section 7 of the ESA. However, section 9 of the ESA prohibits certain activities that directly or indirectly affect federally-listed species. These prohibitions apply to all individuals subject to the jurisdiction of the United States. Non-federal project proponents can request technical assistance from the Service regarding recommendations on how to avoid and/or minimize impacts to listed species. The project proponent can choose to implement avoidance, minimization, and mitigation measures in a proposed project design to avoid ESA violations.

Additional Species-specific Information:

In addition to the species list, IPaC also provides general species-specific technical assistance that may be helpful when designing a project and evaluating potential impacts to species. To access this information from the IPaC site (https://ecos.fws.gov/ipac/), click on the text "My Projects" on the left of the black bar at the top of the screen (you will need to be logged into your account to do this). Click on the project name in the list of projects; then, click on the "Project Home" button that appears. Next, click on the "See Resources" button under the "Resources" heading. A list of species will appear on the screen. Directly above this list, on the right side, is a link that will take you to pdfs of the "Species Guidelines" available for species in your list. Alternatively, these documents and a link to the "ECOS species profile" can be accessed by clicking on an individual species in the online resource list.

Next Steps:

Requests for additional technical assistance or consultation from the Kentucky Field Office should be submitted following guidance on the following page http://www.fws.gov/frankfort/PreDevelopment.html and the document retrieved by clicking the "outline" link at that page. When submitting correspondence about your project to our office, please include the Consultation Tracking Number in the header of this letter. (There is no need to provide us with a copy of the IPaC-generated letter and species list.)

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Kentucky Ecological Services Field Office
J C Watts Federal Building, Room 265
330 West Broadway
Frankfort, KY 40601-8670
(502) 695-0468

Project Summary

Consultation Code: 04EK1000-2019-SLI-1551

Event Code: 04EK1000-2019-E-04503

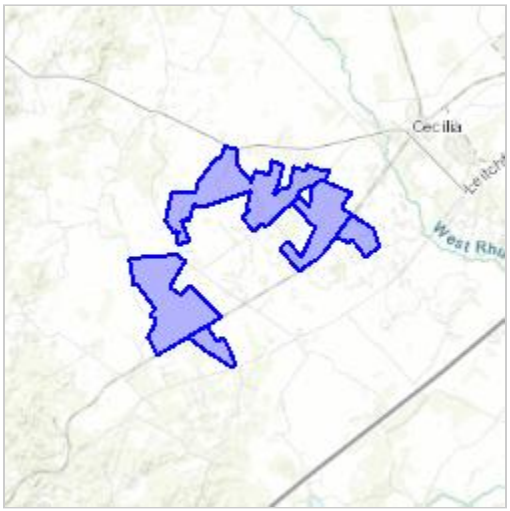
Project Name: Rhudes Creek Solar

Project Type: ** OTHER **

Project Description: Phase 1 survey and cultural resource survey

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.65468699900006N86.0037050458914W



Counties: Hardin, KY

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Gray Bat *Myotis grisescens*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6329
General project design guidelines:
https://ecos.fws.gov/ipac/guideline/design/population/21/office/42431.pdf

Indiana Bat *Myotis sodalis*	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
This species only needs to be considered under the following conditions:
- All activities in this location should consider possible effects to this species. The project area includes "potential" habitat.

Species profile: https://ecos.fws.gov/ecp/species/5949
General project design guidelines:
https://ecos.fws.gov/ipac/guideline/design/population/1/office/42431.pdf

Northern Long-eared Bat *Myotis septentrionalis*	Threatened

No critical habitat has been designated for this species.
This species only needs to be considered under the following conditions:
- The specified area includes areas in which incidental take would not be prohibited under the 4(d) rule. For reporting purposes, please use the "streamlined consultation form," linked to in the "general project design guidelines" for the species.

Species profile: https://ecos.fws.gov/ecp/species/9045
General project design guidelines:
https://ecos.fws.gov/ipac/guideline/design/population/10043/office/42431.pdf

Clams

NAME	STATUS
Snuffbox Mussel *Epioblasma triquetra*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4135

Insects

NAME	STATUS
Rattlesnake-master Borer Moth *Papaipema eryngii*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7863

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX C

KDFW List of Protected Species for Hardin County, KY

State Listed Rare, Threatened, or Endangered Species Hardin County, Kentucky*			
Species	Protection Status	Habitat	Habitat within Project?
Mammals			
Gray myotis (*Myotis grisescens*)	T	Roost sites are nearly exclusively restricted to caves throughout the year, though only a few percent of available caves are suitable.	Unknown. Site visit will provide more reliable information on the presence of nearby caves.
Northern long-eared Bat (*Myotis septentrionalis*)	E	Most summer roosts occur in tree cavities and under exfoliating bark but have also been found in buildings and behind shutters. During winter, northern long-eared bats hibernate in tight crevices in caves and mines. Foraging is done primarily on forested hillsides and ridges.	Potentially, site visit will provide more reliable information on habitat
Indiana Bat (*Myotis sodalis*)	E	Hibernates primarily in caves, also in mines and in one dam and one tunnel. Maternity sites are generally behind loose bark of dead or dying trees or in tree cavities. Foraging habitats include riparian areas, upland forests, ponds, and fields.	Yes, foraging habitat and potentially breeding habitat present. Significant if caves are located nearby.
Mollusks			
Snuffbox (*Epioblasma triquetra*)	E	This species is found in riffles of small and medium creeks, in large rivers, and in shoals and wave-washed shores of lakes. Except when spawning, adults are usually burrowed deep in sand, gravel or cobble substrates	Yes, numerous creeks are located in the site, but many have been manipulated for agriculture and might no longer be suitable habitat.
Clubshell (*Pleurobema clava)*	E	Small to medium sized rivers and streams. Found mostly in sand and fine gravel and is deeply buried.	Yes, numerous creeks are located in the site, but many have been manipulated for agriculture and might no longer be suitable habitat.
*County maps obtained by reviewing county range maps by species provided by the Kentucky Department of Fish and Wildlife Resources: https://fw.ky.gov/Wildlife/Pages/Wildlife-Diversity.aspx			

APPENDIX D

Hardin County Ordinances 239 and 304

BOOK 0070 PAGE 486 BOOK 0004 PAGE 041

HARDIN COUNTY, KENTUCKY
ORDINANCE NO. 239, SERIES 2005

AN ORDINANCE RELATING TO EROSION PREVENTION AND SEDIMENT CONTROL IN HARDIN COUNTY, KENTUCKY

Section I. Introduction / Purpose

WHEREAS, Hardin County Fiscal Court (Court) was issued a Stormwater Phase II General Permit (KPDES No. KYG200003) by the KY Division of Water on September 2, 2003. The permit states that the Court must develop and implement an ordinance to require erosion and sediment controls on construction sites of one acre or more, and from projects that disturb less than 1 acre if they are part of a larger common plan of development that disturbs one acre or more.

WHEREAS, the purpose of this ordinance is to protect property, prevent damage to the environment, and promote the public welfare by guiding, regulating, and controlling the design, construction, use, and maintenance of activities that disturb or move soil. During the construction process, soil is highly vulnerable to erosion by wind and water. Eroded soil endangers water resources by reducing water quality and causing the siltation of aquatic habitat for fish and other desirable species. Eroded soil also necessitates repair of sewers and ditches and the dredging of lakes. Streets and roads with sediment deposits are slick and hazardous to the public. In addition, clearing and grading during construction cause the loss of native vegetation necessary for terrestrial and aquatic habitat.

NOW, THEREFORE, BE IT ORDAINED by the Fiscal Court of County of Hardin, Commonwealth of Kentucky:

Section II. Definitions

Best Management Practice (BMP) – A measure that is implemented to protect water quality and reduce the potential for pollution associated with stormwater runoff consistent with the Hardin County Fiscal Court Best Management Practices Handbook, which is hereby adopted by reference as if set out in full and made a part hereof, as may be duly amended or modified. This includes but is not limited to detention ponds, extended detention ponds, swales, bioretention systems, vegetated filters, and hydrodynamic separators.

County – as referenced herein shall mean a county elected official, county employee, representative or designated person or agency. It may include the County Engineer, Road Supervisor, Code Enforcement Officer, Deputy Judge/Executive, Employee of the Planning Commission such as the Director, Planner or Building Inspector.

Erosion – The process by which the ground surface is worn away by the action of wind or water.

Excavation or Cut – Any act by which soil or rock is cut into, dug, quarried, uncovered, removed, displaced, or relocated, including the conditions resulting from such activities.

Fill – A deposit of soil, rock, or other non-deteriorating material used by man to replace or supplement the original soil or sub-soil.

Floodplain – That land adjacent to a stream, channel, or body of water, which has been or may be hereafter covered by floodwater during the 100-year storm.

Grading – Any stripping, excavating, filling, stockpiling of soil, or any combination thereof, and shall include the land in its excavated or filled condition.

Notice of Intent (NOI) – A formal notice to the KY Division of Water that a construction project is seeking coverage under the KPDES General Permit for Stormwater Point Source Discharges – Construction Activities.

Notice of Termination (NOT) – A formal notice to the KY Division of Water that the original operator of the site is no longer the operator, or that construction activity on the site has ceased.

Phasing – Clearing a parcel of land in distinct phases, with the stabilization of each phase completed before the clearing of the next.

Sediment – Any solid material that is a product of erosion, whether mineral or organic, and that is in suspension, is being transported, or has been moved from its site of origin, whether by air, water, or gravity.

Slope – Any inclined, exposed surface of a fill, excavation, or natural terrain.

Soil – All earth material of whatever origin that overlies bedrock and may include the decomposed zone of bedrock that can be readily excavated by mechanical equipment.

Stabilization – The use of Best Management Practices to prevent erosion and keep sediment on the construction site.

Stormwater Manual – The Stormwater Manual adopted herewith by the County and incorporated into this Ordinance by reference to provide standards for the design, review, construction, and inspection of stormwater facilities. From time to time, the County may revise, modify, or amend the Stormwater Manual as provided by law. When referenced in this Ordinance, the current edition, latest revision of the Stormwater Manual shall be used.

Stream – Any river, creek, or channel in which water flows for substantial periods of the year.

Stripping – Any activity that removes or significantly disturbs the vegetative surface cover, including clearing and grubbing operations.

Section III. Scope of Coverage

A) Proposals for Subdivision Plats and Development Plans as required by the County's land use ordinance and subdivision regulations and building permits as required by the Kentucky Building Code plus any development activity that involve land disturbance of one acre or more shall submit the following to the County prior to any construction activity:

1. Best Management Practices (BMP) Plan prepared in accordance with the KPDES General Permit for Stormwater Point Source Discharges – Construction Activities.
2. Copy of the Notice of Intent sent to the KY Division of Water before beginning construction.
3. Copy of the Notice of Termination sent to the KY Division of Water when construction has ceased.
4. Copies of permits required by the Kentucky Division of Water and the US Army Corps of Engineers related to construction in or along a stream or wetland.

B) A BMP Plan is not required for the following activities:

1. Any emergency activity that is immediately necessary for the protection of life, property, or natural resources.
2. Existing nursery and agricultural operations conducted as a permitted main or accessory use. However, permitting through regional, state, and federal agencies may be required.
3. Construction activities for building additions or accessory structures that involve disturbance of less than one acre and do not require Stormwater General Permit from the KY Division of Water.

C) Each BMP Plan shall bear the name, telephone information, electronic contact information, and address of the owner/developer of the site, contractor, and design engineer.

D) Fees – Applicants proposing development activities covered by this ordinance shall pay a fee as established by a Fee Schedule adopted by the County.

Section IV. Review of BMP Plan

A) The County shall review each BMP Plan to determine its conformance with the provisions of this ordinance. Acceptance indicates that minimum requirements or intent are met and does not imply a guarantee of performance. Based on this review, the County will:

1. Accept the BMP Plan, or

2. Accept the BMP Plan subject to such reasonable conditions as may be necessary to meet the requirements/intent of this ordinance, or
3. Reject the BMP Plan, indicating the reason and procedure for submitting a revised Plan

B) The County reserves the right to inspect the site prior to any construction activity in furtherance of the review process.

C) The County's review of the BMP Plan is for general compliance with this ordinance. The design engineer is ultimately responsible for the details of design of the BMP Plan, and the property owner is responsible for implementation.

Section V. Contents of Best Management Practices Plan

A) The BMP Plan shall describe and ensure the implementation of practices that are to be used to reduce the pollutants in stormwater. The Plan shall be completed before submitting the Notice of Intent to the KY Division of Water, and it shall be implemented when construction begins. The Plan should be developed and signed by a professional engineer licensed in Kentucky. The Plan requirements are contained in the KPDES General Permit for Stormwater Point Source Discharges – Construction Activities and are summarized below:

1) Site Description

The BMP Plan shall include a clear description of the:

- nature of the construction activity
- order of major soil disturbing activities
- estimates of the total project area and the total disturbed area
- post construction runoff coefficient
- existing data describing soil condition or discharge quality
- receiving water name
- site map indicating drainage patterns and approximate slopes after grading, areas of disturbance, the location of control measures, surface waters or wetlands, and stormwater discharge locations

2) Erosion and Sediment Control Measures

The BMP Plan shall include a clear description of the erosion and sediment control measures to be used and when they will be implemented. The following measures shall be used at a minimum:

- Soil stabilization such as seeding, mulching, placing sod, and using erosion control blanket. All disturbed areas shall be stabilized within 14 days of reaching final grade. Areas that will be inactive for 21 days

or more shall be stabilized within 14 days of reaching temporary grade.

- Perimeter structural practices such as silt fence, sediment basins, sediment traps, check dams, inlet protection, etc. Sediment basins shall be used where the disturbed drainage area is more than 10 acres. The sediment storage capacity of the basin shall be 3,600 cubic feet per disturbed acre.

- Stormwater management devices to control the pollutants in stormwater after construction has been completed. Velocity dissipation devices shall be installed at pipe outlets and along channels to prevent erosion. Other devices shall be used to remove 80 percent of the total suspended solids that exceed predevelopment levels. This includes devices such as detention ponds, wet ponds, vegetated swales, velocity dissipation at culvert outlets, etc.

3) Other Control Measures

Controls shall be implemented to prevent the discharge of solids, including building materials, to streams and lakes. Tracking of sediment off-site and dust generation shall be minimized.

4) Other State and Local Permits

The Plan shall include any local requirements. The implementation and inspections shall be included with the administration of the KENTUCKY BUILDING CODE. At the requested times to perform a building inspection (footer, framing and final) an inspection of the implementation of the BMP Plan will be conducted. If the elements of the BMP Plan for erosion and sediment controls are not in place or maintained, the building inspection may be denied and a Stop Work Order imposed.

5) Maintenance

The Plan shall describe the maintenance procedures that will be used.

6) Inspections

The Owner shall have qualified personnel inspect the BMPs every 7 days and within 24 hours of every rainfall 0.5 inches or greater. Areas that have been permanently or temporarily stabilized shall be inspected once a month. All inspections and corrective actions taken shall be documented.

7) Non-Stormwater Discharges

The Plan shall include measures for preventing the discharge of non-stormwater pollutants.

8) Contractors and Subcontractors

The BMP Plan shall clearly state the contractor or subcontractors that will implement each control measure identified in the BMP Plan. All contractors and subcontractors identified in the BMP Plan shall sign a copy of the certification statement below before conducting any work at the site:

> "I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification."

The certification shall include the name and title of the person providing the signature, the name, address, and telephone number of the contracted firm, the address, or other identifying description of the site, and the date the certification is made. All certification statements shall be included in the BMP Plan.

B) Modifications to the Plan shall be processed and accepted or denied in the same manner as Section IV of this ordinance and may be authorized by the County by written authorization, and shall include:

1) Major amendments of the BMP Plan require an engineer's signature and shall be submitted to the County Engineer for acceptance.

2) Field modifications of a minor nature shall require an engineer's signature and shall be noted and dated on the BMP Plan and available for review by the County.

Section VI. Erosion and Sediment Control Requirements

A) Sites regulated by this ordinance shall meet the design criteria set forth in the most recent version of the County Stormwater Manual.

B) Cut and fill slopes shall be no greater than 3:1, except as approved by the County to meet other community or environmental objectives.

C) Clearing, except that necessary to construct sediment control devices, shall not begin until all sediment control devices have been installed and have been stabilized.

D) Phasing shall be required on all sites disturbing greater than 50 acres, with the size of each phase to be established at plan review and as approved by the Planning Commission.

E) Erosion Prevention BMP requirements:

1) Soil stabilization shall be completed within fourteen days of final grade. Areas that will be inactive for 21 days or more shall be stabilized within 14 days of reaching temporary grade.

2) A stabilized construction entrance shall be constructed where vehicles leave the site to enter a public road.

3) Special techniques such as riprap, turf reinforcement, and other methods shall be used on steep slopes and channels to ensure stabilization.

4) Soil stockpiles shall be stabilized or covered and/or have sediment control measures in place to control sediment. Stockpiles shall have temporary vegetation established if it is going to be left for 21 days or more.

5) During the winter months when there is no construction activity, the entire site shall be stabilized using a heavy mulch layer or other methods that do not require germination to control sediment and prevent erosion.

6) Clearing and grading shall be limited to the smallest possible area.

7) Existing vegetation and trees shall be preserved to the maximum extent possible.

8) Areas to be left undisturbed during construction shall be clearly shown on the plans and marked in the field.

9) Vegetive buffer strips in combination with other perimeter controls shall be used for the protection of adjacent properties, streams, and rights of way.

10) Best management practices shall be used to minimize sedimentation of drainage structures, receiving water bodies, natural karst features, roads, rights-of-way, and adjacent properties.

F) Sediment Control BMP requirements:

1) Dust control techniques shall be used to prevent the blowing of dust during land disturbance, demolition, and other construction activities.

2) Diversion of upland runoff past disturbed slopes shall be implemented when necessary.

3) Settling basins, sediment traps, and/or perimeter controls shall be implemented to control sediment.

4) Effective debris and trash management shall be required.

G) Stream and channel protection requirements:

1) A temporary stream crossing shall be installed for construction vehicles.

2) A no-disturbance vegetative buffer strip shall be established along streams having a drainage area of 100 acres or more. The buffer strip shall be 25 feet wide on each side of the stream, measured from the stream bank.

3) Constructed channels shall be stabilized before, during, and after any in-channel work.

4) Constructed channels shall be designed in accordance with the County Stormwater Manual.

5) Inlets and outlets of pipes and paved channels shall be stabilized.

Section VII. Inspection

A) BMP Plans accepted by the County for grading, stripping, excavating, and filling work shall be maintained on site throughout the duration of the work. .

B) The County shall be contacted for a Preconstruction Inspection after erosion and sediment control measures have been installed. The Owner may begin site construction upon completion of the Preconstruction Inspection by the County.

C) The County or designated agent shall make inspections as deemed necessary to ensure that erosion and sediment controls are being properly implemented and maintained during construction. If they are not being maintained, the Owner shall be notified and enforcement actions may be taken.

D) The Owner shall have qualified personnel make regular inspections of all control measures to determine the overall effectiveness of the BMP Plan and the need for additional control measures. The frequency of these inspections shall be once every seven (7) calendar days and after storm events of a half-inch (1/2") of precipitation or more. All inspections shall be documented in written form and kept on the construction site. Reports shall be available for the County or State Inspectors to review upon request during a site inspection.

E) The County or designated agent shall enter the property of the applicant as deemed necessary to make regular inspections to ensure the validity of the reports filed under sub-section D above.

Section VIII. Submission of Financial Security

The County shall not accept a BMP Plan until the Owner has posted an irrevocable letter of credit or cashiers check in an amount determined by the County as being sufficient to ensure the provision of the following on the site:

A) Re-grading of the site as might be necessary to correct any slopes that do not meet the standards of this ordinance.

B) Installation of erosion and sediment control measures to protect adjoining or on-site streams and waterways.

C) Seeding and mulching of the site as would be needed to stabilize the soil.

D) Conversion of any temporary basins to properly operating permanent stormwater best management practices.

Section IX. Enforcement

A) Whenever the County finds that a person has violated a prohibition or has failed to meet a requirement of this Ordinance, the County may order compliance by sending a written notice of violation to the property owner. All violations shall be corrected within the time period specified in the notice, but in no case shall such time period be less than twenty-four (24) hours. The notice of violation shall be mailed to the property owner, or by personally serving, or by causing to be personally served, the property owner with a written notice of violation. If the violation is not corrected as specified, the County may, without limitation:

1) Order such work as is necessary to leave the site in a safe condition and to achieve compliance with this Ordinance and the Stormwater Manual.

2) Order the stoppage of work that is determined to have created, or to have contributed to, any dangerous conditions.

3) Call the letter of credit that was posted for the site and initiate corrective action by work forces under control of the County, with the cost of such work being recoverable from the letter of credit.

B) Penalties – The County may commence appropriate legal action and/or seek equitable relief, including injunctive relief, against any person who fails to abate a violation and/or to restore an affected property prior to the deadline established in the notice of violation. Any person who conducts grading, stripping, excavation, filling, or other disturbance of the natural ground cover in violation of this Ordinance, or who violates, neglects, omits, or refuses to comply with any provision of this Ordinance shall, upon conviction, be fined not less than $10.00 nor more than $500.00 for each offense. The time of violation shall be measured from the time written notice to correct is given to the owner. Each day a violation is maintained shall constitute a separate offense. Any recoverable cost of corrective action shall be in addition to fines imposed as a penalty. The imposition of any penalty shall not exempt the violator from compliance with the provisions of this Ordinance.

C) Stop-Work Order; Revocation of Building Permit – In the event that any person holding a building permit violates the terms of this ordinance, or implements site development in such a manner as to materially adversely affect the health, welfare, or safety of the public near the development site or vicinity so as to be materially detrimental to the public welfare or injurious to property or improvements in the vicinity, the County may suspend or revoke the building permit.

Section X. Separability

The provisions and sections of this ordinance shall be deemed to be separable, and the invalidity of any portion of this ordinance shall not affect the validity of the remainder.

Section XI. Effective Date

The effective date of this Ordinance shall be January 1, 2006.

Section XII. Conflicts

All ordinance or parts of ordinances in conflict herewith are hereby repealed to the extent of said conflict.

Given First Reading on this the 22nd day of November, 2005.

Given Second Reading on this the 13th day of December, 2005.

Adopted on this the 13th day of December, 2005.

HARRY L. BERRY
HARDIN COUNTY JUDGE/EXECUTIVE

Attested by:

KENNETH L. TABB
HARDIN COUNTY COURT CLERK

Approved as to legal form:

KEN M. HOWARD
HARDIN COUNTY ATTORNEY
F:\05-018.Ordinance\ErosionPreventionandSedimentControl

HARDIN COUNTY, KENTUCKY
ORDINANCE NO. 304, SERIES 2016

AN ORDINANCE RELATING TO POST-CONSTRUCTION RUNOFF CONTROL IN HARDIN COUNTY, KENTUCKY AMENDING ORDINANCE NO. 240 SERIES 2005

Section I. Introduction / Purpose

WHEREAS, Hardin County Fiscal Court (Court) was issued a Stormwater Phase II General Permit (KPDES No. KYG200003) by the KY Division of Water on September 2, 2003. The permit states that the Court must develop and implement an ordinance that addresses post-construction runoff from new development and redevelopment projects that disturb one acre or more, and from projects that disturb less than 1 acre if they are part of a larger common plan of development that disturbs one acre or more.

WHEREAS, the purpose of this ordinance is comply with the KPDES permit, protect water quality, and promote the public welfare by regulating the design and construction of stormwater facilities in new development and redevelopment projects.

NOW, THEREFORE, BE IT ORDAINED by the Fiscal Court of County of Hardin, Commonwealth of Kentucky:

Section II. Definitions

Best Management Practice (BMP) – A measure that is implemented to protect water quality and reduce the potential for pollution associated with stormwater runoff consistent with the Hardin County Best Management Practices Handbook, which is hereby adopted by reference as if set out in full and made a part hereof, as may be duly amended or modified. This includes but is not limited to detention ponds, extended detention ponds, swales, bioretention systems, vegetated filters, and hydrodynamic separators.

County – As referenced herein, County shall mean Hardin County, a county elected official, county employee, representative or designated person or agency. It may include the County Engineer, Road Supervisor, Code Enforcement Officer, Deputy Judge/Executive, Employee of the Planning Commission such as the Director, Planner or Building Inspector.

Stormwater Manual – The Stormwater Manual adopted herewith by the County and incorporated into this Ordinance by reference to provide standards for the design and construction of stormwater facilities. From time to time, the County may revise, modify, or amend the Stormwater Manual as provided by law. When referenced in this Ordinance, the current edition, latest revision of the Stormwater Manual shall be used.

Stream – Any river, creek, or channel in which water flows for substantial periods of the year.

Section III. Scope of Coverage

A) Proposals for Subdivision Plats and Development Plans as required by the County's land use ordinance and subdivision regulations, building permits as required by the Kentucky Building Code, and any other development activity, that involve land disturbance of one acre or more, shall submit the following to the County prior to any construction activity:

1. Stormwater Management Plan showing location of post-construction Best Management Practices.

B) A Stormwater Management Plan is not required for the following activities:

1. Any emergency activity that is immediately necessary for the protection of life, property, or natural resources.
2. Existing nursery and agricultural operations conducted as a permitted main or accessory use. However, permitting through regional, state, and federal agencies may be required.
3. Building additions or accessory structures that involve disturbance of less than one acre and are not part of a larger common plan of development that will disturb one acre or more of land.

C) Each Stormwater Management Plan shall bear the name, telephone information, electronic contact information, and address of the owner/developer of the site and design engineer.

D) Fees – Applicants proposing development activities covered by this ordinance shall pay a fee as established by a Fee Schedule adopted by the County.

Section IV. Review of Stormwater Management Plan

A) The County shall review each Stormwater Management Plan and determine its conformance with the provisions of this ordinance. Acceptance indicates that minimum requirements or intent are met and does not imply a guarantee of performance. Based on this review, the County will:

1. Accept the Plan, or
2. Accept the Plan subject to such reasonable conditions as may be necessary to meet the requirements/intent of this ordinance, or
3. Reject the Plan, indicating the reason and procedure for submitting a revised Plan

B) The County reserves the right to inspect the site prior to any construction activity in furtherance of the review process.

C) The County's review of the Stormwater Management Plan is for general compliance with this ordinance. The design engineer is ultimately responsible for the details of design, and the property owner is responsible for implementation.

Section V. Contents of Stormwater Management Plan

A) The Plan requirements are contained in the County Stormwater Manual. The Plan shall be developed and signed by a professional engineer licensed in Kentucky.

B) Modifications to the Plan shall be processed and accepted or denied in the same manner as Section IV of this ordinance as follows:

1) Major amendments of the Plan require an engineer's signature and shall be submitted to the County for acceptance.

2) Field modifications of a minor nature shall require an engineer's signature and shall be noted and dated on the Plan and available for review by the County.

Section VI. Post-Construction Runoff Control Requirements

A) Sites regulated by this ordinance shall meet the design criteria set forth in the most recent version of the County Stormwater Manual.

B) Where required by the Planning Commission, stormwater quantity BMPs shall be designed to reduce peak flows to pre-development levels for the storms contained in the Stormwater Manual.

C) Stormwater quality BMPs as described in the Stormwater Manual shall be designed to treat the first 0.6 inches of runoff.

D) Stream and channel protection requirements:

1) A no-disturbance vegetative buffer strip shall be established along streams having a drainage area of 100 acres or more. The buffer strip shall be 25 feet wide on each side of the stream, measured from the stream bank.

Section VII. Inspection

A) Plans accepted by the County shall be maintained on site throughout the duration of the work.

B) The Owner shall notify the County when the stormwater BMPs have been installed. .

C) The County may inspect the BMPs to confirm they have been constructed and are operating properly. If they have not been constructed or if they are not operating properly, the Owner shall be notified and enforcement actions may be taken.

D) The County may enter the property of the applicant as deemed necessary to make regular inspections.

Section VIII. Submission of Irrevocable Letter of Credit

A) The County shall not accept a Stormwater Management Plan until the Owner has posted an irrevocable letter of credit in an amount estimated by a licensed engineer and determined by the County as being sufficient to construct the stormwater management facilities.

B) The County may reduce the letter of credit to an amount sufficient for mitigation when the County determines that the BMPs have been constructed and operating properly. The letter of credit shall be released after the BMPs are operating properly and there is adequate vegetative cover to prevent erosion.

Section IX. Enforcement

A) Whenever the County finds that a person has violated a prohibition or has failed to meet a requirement of this Ordinance, the County may order compliance by sending a written notice of violation to the property owner. All violations shall be corrected within the time period specified in the notice, but in no case shall such time period be less than twenty-four (24) hours. The notice of violation shall be mailed to the property owner, or by personally serving, or by causing to be personally served, the property owner with a written notice of violation. If the violation is not corrected as specified, the County may, without limitation:

1) Order such work as is necessary to leave the site in a safe condition and to achieve compliance with this Ordinance and the Stormwater Manual.

2) Order the stoppage of work that is determined to have created, or to have contributed to, any dangerous conditions.

3) Call the letter of credit that was posted for the site and initiate corrective action by work forces under control of the County, with the cost of such work being recoverable from the letter of credit.

B) Penalties – The County may commence appropriate legal action and/or seek equitable relief, including injunctive relief, against any person who fails to abate a violation and/or to restore an affected property prior to the deadline established in the notice of violation. Any person who violates, neglects, omits, or refuses to comply with any provision of this Ordinance shall, upon conviction, be fined not less than $10.00 nor more than $500.00 for each offense. The time of violation

shall be measured from the time written notice to correct is given to the owner. Each day a violation is maintained shall constitute a separate offense. Any recoverable cost of corrective action shall be in addition to fines imposed as a penalty. The imposition of any penalty shall not exempt the violator from compliance with the provisions of this Ordinance.

C) Stop-Work Order; Revocation of Building Permit – In the event that any person holding a building permit violates the terms of this ordinance, or implements site development in such a manner as to materially adversely affect the health, welfare, or safety of the public near the development site or vicinity so as to be materially detrimental to the public welfare or injurious to property or improvements in the vicinity, the County may suspend or revoke the building permit.

Section X. Separability

The provisions and sections of this ordinance shall be deemed to be separable, and the invalidity of any portion of this ordinance shall not affect the validity of the remainder.

Section XI. Effective Date

The effective date of this Ordinance shall be May 1, 2016.

Section XII. Conflicts

All ordinance or parts of ordinances in conflict herewith are hereby repealed to the extent of said conflict.

Given First Reading on this the 12th day of April, 2016

Given Second Reading on this the 26th day of April 2016.

Adopted on this the26th day of April, 2016

HARRY L. BERRY
HARDIN COUNTY JUDGE/EXECUTIVE

Attested by:

DEBBIE DONNELLY, HARDIN COUNTY COURT CLERK

Approved as to legal form:

JENNIFER OLDHAM, HARDIN COUNTY ATTORNEY

Published

The News-Enterprise

April 14, 2016

PUBLIC NOTICE

Hardin County Fiscal Court, in its regular meeting on 12 April 2016, had the first reading of Ordinance No. 304, Series 2016 entitled:

AN ORDINANCE RELATING TO POST-CONSTRUCTION RUNOFF CONTROL IN HARDIN COUNTY, KENTUCKY AMENDING ORDINANCE NO. 240 SERIES 2005

A copy of the full text of the ordinance is available in the office of Hardin County Judge/ Executive's Office, 150 North Provident Way, Suite 314, Elizabethtown, Kentucky, Monday through Friday from 8:00 a.m. to 4:30 p.m.

\s\ Harry L. Berry
Hardin County Judge/Executive